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**SUBSURFACE INVESTIGATION REPORT**


*Wash Time Laundromat  
1815 Park Boulevard  
Oakland, California*

PREPARED FOR:

*CW Investment Group  
132 9<sup>th</sup> Street #200  
Oakland, California 94607*

ALLWEST PROJECT NO. 25087.23  
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## SUBSURFACE INVESTIGATION REPORT

*Wash Time Laundromat  
1815 Park Boulevard  
Oakland, California*

### I. EXECUTIVE SUMMARY

AllWest conducted a subsurface investigation on May 24, 2005 at a former dry cleaning facility, currently Wash Time Laundromat, 1815 Park Boulevard, Oakland, California (Figure 1). The purpose of the investigation was to evaluate the areal extent and magnitude of groundwater impacted by the dry cleaning solvent tetrachloroethene (PCE) and its common breakdown products and to assess if residual chemicals detected at the site pose a threat to the human health of either on-site or off-site commercial and industrial tenants. Analytical results from this investigation and a previous investigation performed by AEI Consultants (AEI) were compared to Site-Specific Target Levels (SSTLs) published by the City of Oakland and Environmental Screening Levels (ESLs) published by the San Francisco Bay Regional Water Quality Control Board (RWQCB).

*This executive summary is provided solely for the purpose of overview. Any party who relies on this report must read the full report. The executive summary omits a number of details, any one of which could be crucial to the proper understanding and risk assessment of the subject matter.*

An approximately 1,000 square foot, coin-operated laundromat currently operates at the property. The facility is located in a slab-on-grade, cement block and wood frame building. The laundromat occupies the southern portion of the five unit building. Adjacent properties consist of commercial business buildings to the north and west, an asphalt paved parking lot to the northwest and public sidewalks and streets to the east and south. No monitoring or groundwater supplies wells were observed on the subject or adjacent properties.

Based on previous work performed by AEI and information provided by the property owner CW Investments, the site was occupied by a dry cleaning facility from circa 1967 through 1997. The property has subsequently been used as a coin operated laundromat. A specific area or location where PCE entered the subsurface has not been identified. The dry cleaning machine was reportedly located toward the rear, along the western side of the tenant space. Chemical storage is assumed to have been toward the rear of the unit.

The subsurface investigation performed by AllWest included the drilling and sampling of six soil boreholes (AWB-1 through AWB-6) and analyzing soil and "grab" groundwater samples for halogenated volatile organic compounds (VOCs) including the dry cleaning

solvent PCE. Two borings were drilled within the interior of the building and four borings were drilled at exterior locations in the inferred downgradient direction from the PCE source area (Figure 2). Prior to subsurface activities the necessary drilling permits were obtained from the Alameda County Department of Environmental Health (ACDEH). The boreholes were advanced by a limited access drill rig to depths of 12 to 14 feet below ground surface (bgs). Soil and "grab" groundwater samples collected were forwarded to a California State certified laboratory and analyzed for VOCs.

PCE was detected in two of four soil samples analyzed. PCE was detected in soil samples collected from 3-4 feet bgs in borings AWB-1 and AWB-2 at concentrations of 490 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ), equivalent to 490 parts per billion (ppb) and 2,200 ppb, respectively (Figure 3). Analysis of soil samples collected from these borings at 7-8 feet bgs did not detect PCE. No other VOCs were detected. Soil analytical results are summarized in Table 1.

PCE was detected in three of the six groundwater samples at concentrations ranging from 1.2 micrograms per liter ( $\mu\text{g}/\text{L}$ ), equivalent to 1.2 parts per billion (ppb) in sample AWB-3W, to 77 ppb detected in sample AWB-2W. TCE, a breakdown product of PCE, was detected at concentrations of 13 ppb and 4.2 ppb in groundwater samples collected from borings AWB-1W and AWB-2W. The breakdown product cis-1,2-DCE was detected at concentrations of 14 ppb, 7.1 ppb and 0.86 ppb in groundwater samples collected from borings AWB-1W, AWB-2W and AWB-3W (Figure 4). Low levels of vinyl chloride and chloroform were also detected in the same groundwater samples. No VOCs were detected in groundwater samples collected from borings AWB-4, AWB-5 or AWB-6. These three samples were collected from the assumed down-gradient direction of the former dry cleaning operations. Groundwater analytical results are summarized in Table 2.

TCE, cis-1,2-DCE and vinyl chloride, which are breakdown constituents of PCE, were detected in groundwater samples collected from borings AWB-1, 2 and 3. The detection of the breakdown products in the groundwater samples indicates natural attenuation of PCE is occurring at the subject site. It is reasonable to presume concentrations of PCE and its breakdown products in soil and groundwater will decline over time through the processes of biodegradation, volatilization, dispersion and dilution.

As part of the environmental assessment AllWest reviewed soil and groundwater analytical data generated by AEI Consultants. A copy of their report is attached as Appendix C. AEI collected soil and groundwater samples from six (6) soil borings drilled on the property on January 12 and March 14, 2005. PCE was detected in three soil samples, at a maximum concentration of 3,100 ppb in sample SB-4-4' (Figure 3) and in three groundwater samples, at a maximum concentration of 230  $\mu\text{g}/\text{L}$ , or 230 ppb in sample SB-4W (Figure 4). Based on data collected, AEI concluded a "release of solvents had occurred in the area of the former dry cleaning operation." AEI recommended that "further investigation would be necessary to determine the extent of impacted soil and to

evaluate whether the PCE posed a risk to occupants of the property or adjacent properties. AEI estimated the local groundwater flow was to the west, concurrent with surface topography and towards Lake Merritt.

To evaluate the impacts of the PCE on human health at the property, site specific maximum soil and groundwater values were compared to Site-Specific Target Levels (SSTLs) developed by the City of Oakland Environmental Services Division (COESD), as presented in the *Oakland Risk-Based Corrective Action (RBCA): Technical Background Document, Update January 1, 2000*. The Oakland Tier 2 SSTLs are intended to address human health concerns at the majority of sites in Oakland where commonly found contaminants are present. Site specific maximum soil and groundwater values were also compared to Environmental Screening Levels (ESLs) developed by the State of California Regional Water Quality Control Board, San Francisco (RWQCB), as presented. Under most circumstances, the presence of a chemical at a concentration below the corresponding SSTL or ESL for commercial settings can be presumed to not pose a significant threat to human health and the environment.

Based on the site location; a dense, built-up urban environment and the shallow depth to groundwater, it is reasonable to presume the first encountered groundwater in the vicinity of the subject property is not considered as a current or potential drinking water source. The most likely exposure route for groundwater contamination at 1815 Park Blvd impacting site and neighboring tenants is the off-gasing of VOCs from soil and groundwater into indoor air and inhalation by people at the subject property. Other exposure routes including ingestion and direct contact are considered unlikely given the location and nature of the site.

As presented on Table 1, the maximum concentrations of PCE detected in soil of 3,100 ppb (SB-4-4') and 2,200 ppb (AWB-2-4') were compared to commercial setting SSTLs and ESL values for potential indoor impacts. The SSTL for PCE in subsurface soil that is a Merritt sand type in a commercial setting is 48,000 ppb. The ESL for PCE in shallow soil ( $\leq 3$  meters) in a commercial setting is 240 ppb. The maximum detected concentrations of PCE in site soil are below the commercial SSTL but above the commercial ESL.

As presented on Table 2, the maximum concentrations of PCE detected in groundwater of 230 ppb (SB-4W) and 77 ppb (AWB-2W) were compared to SSTLs and ESLs for potential indoor impacts. The SSTL for PCE in groundwater in a commercial setting is 50,000 ppb. The ESL for PCE in groundwater that is not a current or potential drinking water source in a commercial setting is 120 ppb. The maximum detected concentrations of PCE in site groundwater are well below the commercial SSTLs. Although the maximum concentration of PCE in site groundwater detected by AEI in March 2005 (230 ppb) exceeds the RWQCB ESL of 120 ppb, the value is within the same order of magnitude. Furthermore, AllWest's maximum detected PCE value, 77 ppb, is an order of

magnitude below the ESL (120 ppb) value.

The maximum concentrations of the PCE breakdown products TCE and cis-1,2-DCE are well below their respective SSTLs and ESLs for soil and groundwater. Based on the magnitude and range of sampling data collected by AllWest and AEI, the maximum concentrations of PCE and its breakdown products detected at the site are unlikely to pose a threat to human health.

In summary, based on the sampling data and comparison to SSTLs and ESLs, the following conclusions are offered:

- Historic operations at a former dry cleaner resulted in a release of PCE that impacted subsurface conditions at the property. No ongoing source is present;
- A spatially limited chlorinated solvent plume exists beneath the current structure. Its lateral extent has been reasonably defined with the highest concentration centered on the location of the former dry cleaning operation;
- Elevated levels of PCE in soil are limited to near surface soils, below a concrete slab floor and in the vicinity of the former dry cleaning operations;
- Concentrations of PCE and its breakdown products in site soil and groundwater are below commercial SSTLs for on and off-site receptors;
- The maximum PCE groundwater concentration detected is within the same order of magnitude as the ESL. PCE groundwater concentrations averaged across the site are an order of magnitude below the ESL value;
- Residual concentrations of VOCs will decrease due to natural attenuation.

Based on site specific results and comparison with Oakland SSTLs and RWQCB ESLs, it is unlikely that the residual chlorinated solvents in the site soil and groundwater pose an unacceptable risk to human health or the environment. Based on the analytical results of the investigations performed, acceptable results with comparison to SSTLs and ESLs, and our understanding of site conditions, AllWest recommends submitting this report and a request for regulatory "site closure" or a "no further action" letter from the City of Oakland and the Alameda County Department of Environmental Health.

## II. INTRODUCTION

AllWest conducted a subsurface investigation on May 24, 2005 at Wash Time Laundromat, 1815 Park Boulevard, Oakland, California. The purpose of the investigation was to evaluate the areal extent and magnitude of the dry cleaning solvent tetrachloroethene (PCE) and its common breakdown products in soil and groundwater and to assess if residual chemicals detected at the site pose a threat to the human health of either on-site or off-site commercial and industrial tenants.

The subsurface investigation performed by AllWest included the drilling and sampling of six soil boreholes (AWB-1 through AWB-6) and analyzing soil and "grab" groundwater

samples for halogenated volatile organic compounds (VOCs) including the dry cleaning solvent PCE. Two borings were drilled within the interior of the building and four borings were drilled at exterior locations in the inferred downgradient direction from the PCE source area (Figure 2).

#### **A. Site Background**

The subject property is located at 1815 Park Boulevard, Oakland, California on the north side of Park Blvd and immediately east of East 18<sup>th</sup> Street. The location of the subject property is graphically depicted in Figures 1 and 2. The property is located in a mixed commercial and residential area of Oakland.

An approximately 1,000 square foot, coin-operated laundromat currently operates at the property. The facility is located in a slab-on-grade, cement block and wood frame building. The laundromat occupies the southern portion of the five unit building. Adjacent properties consist of commercial business buildings to the north and west, an asphalt paved parking lot to the northwest and public sidewalks and streets to the east and south. No monitoring or groundwater supplies wells were observed on the subject or adjacent properties.

According to a March 2005 subsurface investigation report by AEI Consultants of Walnut Creek, CA (AEI), a dry cleaning facility occupied the subject building from circa 1967 through 1997. An environmental disclosure document from 1989 confirmed the presence of the dry cleaning facility and onsite use of chlorinated solvents. The former dry cleaning machine was reportedly located toward the back, and along the western side of the tenant space. AEI assumed that the solvents were stored near the dry cleaning machine.

To assess if subsurface conditions were impacted from historical use of the dry cleaning solvent, AEI collected soil and groundwater samples from six (6) soil borings drilled on the property on January 12 and March 14, 2005. PCE was detected in three soil samples, at a maximum concentration of 3,100 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ), equivalent to 3,100 parts per billion (ppb) at boring SB-4, and in five groundwater samples, at a maximum concentration of 230 micrograms per liter ( $\mu\text{g}/\text{L}$ ), equivalent to 230 parts per billion (ppb) at boring SB-4 (Figures 3 and 4). Based on data collected, AEI concluded a "release of solvents had occurred in the area of the former dry cleaning operation." AEI recommended that "further investigation would be necessary to determine the extent of impacted soil and to evaluate whether the PCE posed a risk to occupants of the property or nearby properties."

## **B. Purpose and Scope of Work**

The purpose of the investigation was to further define the extent of soil and groundwater impacts by a release of chlorinated solvents previously identified at the site. The scope of work as outlined in AllWest's proposal of April 11, 2005, consisted of the following tasks:

- Develop a Site Specific Health and Safety Plan for the planned subsurface investigation and obtain the necessary permit from Alameda County Public Works Agency (ACPWA);
- Arrange underground utility clearing through Underground Service Alert (USA) and a private line locator;
- Engage a qualified drilling contractor to perform borehole advancement;
- Advance six (6) soil boreholes using a limited access drilling rig at selected areas of the site. Collect representative soil and "grab" groundwater samples from the boreholes for analytical testing;
- Submit soil and groundwater samples to a California Department of Health Services certified laboratory;
- Analyze four soil and six groundwater samples for halogenated volatile organic compounds (VOCs); and
- Interpret the data and present findings in a written report describing the field activities, summarizing the analytical results, and providing conclusions and recommendations.

## **III. PROJECT INITIATION**

### **A. Underground Utility Clearing**

To avoid damage to underground utility installations during the course of the subsurface investigation, AllWest contacted Underground Service Alert (USA), an organization for public utility information, on the pending subsurface investigation. USA then notified each of the public and private entities that maintained underground utilities within the vicinity of the site to locate and mark their installations for field identification.

A private underground utility locator, *GeoTech Utility Locating*, of El Cerrito, California, was also employed by AllWest to conduct a magnetometer sweep of the investigation area to locate the marked and unmarked underground utilities.



All final sampling locations were cleared of known underground utilities. The main sewer drain line at the site was located and is depicted in Figure 2.

#### IV. FIELD INVESTIGATION AND SAMPLING METHODOLOGY

##### A. Soil Borehole Advancement

A total of six borings, AWB-1 through AWB-6, were advanced at the subject site during this surface investigation. Borings AWB-1 and AWB-2 were located inside the building and along the south side of main sewer line for the building. Borings AWB-3 and AWB-4 were located down-gradient and at the sidewalk curb along East 18<sup>th</sup> Street. Borings AWB-5 and AWB-6 were located in the assumed down-gradient direction and along the east edge of an adjacent parking lot. Borehole locations are graphically presented in Figure 2.

The borehole advancement was performed by *Environmental Control Associates, Inc.* (ECA) of Aptos, California, a licensed C-57 California drilling contractor. The soil boreholes were advanced by limited access drilling equipment utilizing the direct push, Geoprobe process. The standard procedure for borehole advancement, as presented in Appendix B, were followed. During the borehole advancement operation, a project technician from *AllWest* was present to collect representative soil and groundwater samples, to conduct field screening and to maintain a continuous log of drilling activities. All work was performed under the supervision of a California Professional Geologist.

The boring logs contained pertinent information on borehole advancement and soil conditions, in particular the lithology of site soils and physical characteristics. Copies of the boring logs, log legends, and a copy of the Unified Soil Classification System (USCS) are included in Appendix C.

##### B. Soil Sampling

Discrete soil samples for chemical analysis were collected from each borehole at approximate depths of 3 to 4 feet below ground surface (bgs) and 7 to 8 feet bgs. Additional soil samples were also collected for lithological purposes. The standard geoprobe soil sampling procedures, as presented in Appendix B, were followed. A total of 14 soil samples for possible chemical analysis were collected during the subsurface investigation.

### C. Groundwater Sampling

Groundwater was first identified in borings at approximate depths of 5 to 6 feet bgs. A distinct color change of the sediments from a brown to a dark grey occurred at this horizon. After the borings reached a total depth of 7 to 12 feet, clean PVC plastic casings and screen were lowered into the boreholes and used as a temporary well screen. A new Teflon disposable bailer was used to collect groundwater samples. All water samples were transferred to appropriate sample bottles furnished by the analytical laboratory. Samples for VOC analysis were collected in three 40 milliliter(ml) VOA vials. All VOA sample bottles had a Teflon lined septum/cap and were filled such that no headspace was present. All sample bottles were labeled and immediately placed on ice.

After the completion of soil and groundwater sampling activities all borings were backfilled to the surface with a "neat" cement grout.

### V. SUBSURFACE CONDITION

Site soils encountered were predominately a silty sand with fine gravel near the surface. The soil was generally brown at the surface becoming black or dark gray at depths of 6 to 8 feet. Moisture content increased with depth. Groundwater was encountered in all borings at an approximate depth of 5 to 6 feet bgs. Some saturated silty and clayey sand lenses were encountered. Based on the site location and local topography, a groundwater flow direction is estimated to the west-northwest, towards Lake Merritt.

### VI. LABORATORY ANALYSES

Six groundwater and four soil samples were submitted to *STL Analytical, Inc.*(STL), Pleasanton, California. STL is a California Department of Health Services (DHS) certified analytical laboratory for the analysis requested. All of the samples were analyzed for halogenated volatile organic compounds (HVOCs) per EPA Method 8260B.

#### Soil

PCE was detected in two of four soil samples analyzed. PCE was detected in soil samples collected from 3-4 feet bgs in borings AWB-1 and AWB-2 at concentrations of 490 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ), equivalent to 490 parts per billion (ppb) and 2,200 ppb, respectively (Figure 3). Analysis of soil samples collected from these boring at 7-8 feet bgs did not detect any PCE. No other VOCs were detected. Soil analytical results are summarized in Table 1.

## Groundwater

PCE was detected in three of the six groundwater samples at concentrations ranging from 1.2 micrograms per liter ( $\mu\text{g/L}$ ), equivalent to 1.2 parts per billion (ppb) in sample AWB-3W, to 77 ppb detected in sample AWB-2W. TCE, a breakdown product of PCE, was detected at concentrations of 13 ppb and 4.2 ppb in groundwater samples collected from borings AWB-1W and AWB-2W. The breakdown product cis-1,2-DCE was detected at concentrations of 14 ppb, 7.1 ppb and 0.86 ppb in groundwater samples collected from borings AWB-1W, AWB-2W and AWB-3W (Figure 4). Low levels of vinyl chloride and chloroform were also detected in the same groundwater samples. No VOCs were detected in groundwater samples collected from borings AWB-4, AWB-5 or AWB-6. These samples were collected from the assumed down-gradient direction of the former dry cleaning operations. Groundwater analytical results are summarized in Table 2.

## VII. DISCUSSION OF FINDINGS

Chemical analysis of samples collected during the current and previous investigation detected relatively low levels of the dry cleaning solvent PCE in soil and groundwater samples collected in the vicinity of the dry cleaning machine and along the main sewer line for the building. A specific area or location where PCE entered the subsurface has not been identified. However, based on the distribution and concentration of VOCs, the source area is likely located in the vicinity of the former dry cleaning operation. Dry cleaning solvents can enter the subsurface through surface spills and handling practices.

TCE, cis-1,2-DCE and vinyl chloride, which are breakdown constituents of PCE, were detected in groundwater samples collected from borings AWB-1, 2 and 3. The detection of the breakdown products in the groundwater samples indicates biodegradation of PCE is occurring at the subject site. It is reasonable to presume concentrations of PCE and its breakdown products in soil and groundwater will decline over time through the processes of dispersion, dilution, sorption, biodegradation and volatilization.

### *Oakland Tier 2 Site-Specific Target Levels*

Site specific maximum groundwater values were compared to Site-Specific Target Levels (SSTLs) developed by the City of Oakland Environmental Services Division (COESD), as presented in the *Oakland Risk-Based Corrective Action (RBCA): Technical Background Document, Update January 1, 2000*. The Oakland RBCA approach is the result of extensive work by the Urban Land Redevelopment (ULR) Program and Technical Advisory Committee, consisting of representatives from the Alameda County Department of Environmental Health (ACDEH), the Department of Toxic Substances Control (DTSC), the San Francisco Regional Water Quality Control Board (RWQCB), the United States Environmental Protection Agency (U.S. EPA), Spence Environmental Engineering, volunteer environmental consultants, and the City of Oakland.

The Oakland Tier 2 SSTLs are intended to address human health concerns at the majority of sites in Oakland where commonly found contaminants are present. Under most circumstances, the presence of a chemical at a concentration below the corresponding SSTL can be assumed to not pose a significant threat to human health and the environment. These conservative levels assume that the following factors exist at the subject site:

- ▶ There is no continuing, primary source of chlorinated solvents at the site;
- ▶ There is a minimal amount of mobile or potentially-mobile free product;
- ▶ There are no more than five chemicals of concern at the site at a concentration greater than the lowest applicable Oakland RBCA level;
- ▶ There are no preferential vapor migration pathways that are potential conduits for the migration, on-site or off-site, of a volatilized chemical of concern;
- ▶ Inhalation of volatilized chemicals of concern or ingestion of groundwater are not pathways of concern;
- ▶ There is a slab-on-grade foundation greater than 6 inches thick at the site and there are no existing on-site or off-site structures intended for future use where exposure to indoor air vapors from either soil or groundwater is of concern;
- ▶ There are no immediate, acute health risks to humans associated with contamination at the site, including explosive levels of any chemicals of concern; and
- ▶ There are no complete exposure pathways to nearby ecological receptors or protected areas.

*What does  
this mean?*

The subject site meets the above criteria.

As presented on Tables 1 and 2, the maximum concentrations of PCE detected in soil of 3,100 ppb (SB-4-4') and 2,200 ppb (AWB-2-4') and groundwater of 230 ppb (SB-4W) and 77 ppb (AWB-2W) were compared to SSTLs for potential indoor impacts. The SSTL for PCE in subsurface soil that is a Merritt sand type in a commercial setting is 48,000 ppb (Oakland RBCA January 2000 Technical Background Document, Table 6). The SSTL for PCE in groundwater in a commercial setting is 50,000 ppb (Oakland RBCA January 2000 Technical Background Document, Table 6). The maximum detected concentrations of PCE in site soil and groundwater are well below the commercial SSTLs.

The maximum concentrations of the PCE breakdown products TCE and cis-1,2-DCE are also well below their respective SSTLs. Tables 1 and 2 summarize soil and groundwater analytical results along with SSTLs for indoor air impacts. Based on these comparisons the maximum concentrations of PCE and its breakdown products detected at the site do not pose a threat to human health.

## ***Regional Water Quality Control Board Environmental Screening Levels***

Site specific maximum groundwater values were compared to Environmental Screening Levels (ESLs), developed to address environmental protection goals presented in the *Water Quality Control Plan for the San Francisco Bay Basin* ("Basin Plan," RWQCBSF 1995) of the San Francisco Bay Regional Water Quality Control Board (RWQCB). These goals include:

### Surface Water and Groundwater:

- ▶ Protection of drinking water resources;
- ▶ Protection of aquatic habitats;
- ▶ Protection against vapor intrusion into buildings;
- ▶ Protection against adverse nuisance conditions.

### Soil:

- ▶ Protection of human health (direct-exposure);
- ▶ Protection against vapor intrusion into buildings;
- ▶ Protection against leaching and subsequent impacts to groundwater;
- ▶ Protection of terrestrial biota;
- ▶ Protection against adverse nuisance conditions.

The ESLs are considered to be conservative. Under most circumstances, and within the limitations described, the presence of a chemical in soil, soil gas or groundwater at concentrations below the corresponding ESL can be assumed to not pose a significant, long-term (chronic) threat to human health and the environment. Additional evaluation will generally be necessary at sites where a chemical is present at concentrations above the corresponding ESL.

Based on the site location; the site setting is a dense, built-up urban environment and the shallow depth to groundwater, it is reasonable to presume the first encountered groundwater in the vicinity of the property is not considered as a current or potential drinking water source.

As presented on Tables 1 and 2, the maximum concentrations of PCE detected in soil of 3,100 ppb (SB-4-4') and 2,200 ppb (AWB-2-4') and groundwater of 230 ppb (SB-4W) and 77 ppb (AWB-2W) were compared to the commercial ESL for potential environmental impacts. The ESL for PCE in shallow soil ( $\leq 3$  meters) in a commercial setting is 240 ppb (RWQCB February 2005, Summary Tier 1 Lookup Table B). The ESL for PCE in groundwater that is not a current or potential drinking water source in a commercial setting is 120 ppb (RWQCB February 2005, Summary Tier 1 Lookup Table A).

The maximum detected concentrations of PCE in site soil detected by AllWest and AEI exceed the RWQCB commercial ESL. Although the maximum concentration of PCE in site groundwater detected by AEI in March 2005 (230 ppb) exceeds the RWQCB ESL of 120 ppb, the value is within the same order of magnitude. Furthermore, AllWest's maximum detected PCE value, 77 ppb, is an order of magnitude below the ESL (120 ppb) value.

The maximum concentrations of the PCE breakdown products TCE and cis-1,2-DCE from all samples taken are well below their respective SSTLs and ESLs for soil and groundwater.

Ratios of the chlorinated solvents are commonly used to assess the likely source and age of contaminant releases. This is based on the assumption that most PCE plumes originate as a pure product of PCE as the result from leakage or spillage from dry cleaning facilities, and through time, the PCE will naturally biodegrade to TCE and cis-1,2-DCE and ultimately vinyl chloride as the plume disperses in the down gradient flow direction. Ratios of the original solvent, PCE, to its degradational products, TCE, cis-1,2-DCE and vinyl chloride indicate the solvents are naturally attenuating through the process of biodegradation (reductive dechlorination). Concentrations of chlorinated solvents are also attenuating with time due to the processes of dilution (recharge) and advection/dispersion, sorption and volatilization. Therefore, it is reasonable to presume the concentrations of VOCs at and downgradient of the subject site will decrease with time, reducing overall risk.

Based on these comparisons and the assumption the site groundwater is not a current or potential drinking water source, it is unlikely that the residual contamination at the site poses an unacceptable risk to human health or the environment.

## VIII. CONCLUSIONS AND RECOMMENDATIONS

Results from the previous and current investigation indicate that a limited release of the dry cleaning solvent PCE has occurred in the vicinity of the dry cleaning facility and has impacted site soil and groundwater. The exact nature of the release is unknown, however, possible release scenarios include spillage of PCE during previous dry cleaning operations.

In summary, based on the sampling data and comparison to SSTLs and ESLs, the following conclusions are offered:

- Historic operations at a former dry cleaner resulted in a release of PCE that impacted subsurface conditions at the property. No ongoing source is present;
- A spatially limited chlorinated solvent plume exists beneath the current structure. Its lateral extent has been reasonably defined with the highest concentration centered on the location of the former dry cleaning operation;

- Elevated levels of PCE in soil are limited to near surface soils, below a concrete slab floor and in the vicinity of the former dry cleaning operations;
- Concentrations of PCE and its breakdown products in site soil and groundwater are below commercial SSTLs for on and off-site receptors;
- The maximum PCE groundwater concentration detected is within the same order of magnitude as the ESL. PCE concentrations averaged across the site are an order of magnitude below the ESL value;
- Residual concentrations of VOCs will decrease due to natural attenuation.

Based on site specific results and comparison with Oakland SSTLs and RWQCB ESLs, it is unlikely that the residual chlorinated solvents in the site soil and groundwater pose an unacceptable risk to human health or the environment. Based on the analytical results of the investigations performed, acceptable results with comparison to SSTLs and ESLs, and our understanding of site conditions, AllWest recommends submitting this report and a request for regulatory "site closure" or a "no further action" letter from the City of Oakland and the Alameda County Department of Environmental Health.

## **IX. REPORT LIMITATIONS**

The work described in this report is performed in accordance with the Environmental Consulting Agreements between CW Investment Group and AllWest Environmental, Inc, dated April 22, 2005. AllWest has prepared this report for the exclusive use of CW Investment Group for this particular project and in accordance with generally accepted practices at the time of the work. No other warranties, certifications or representation, either expressed or implied are made as to the professional advice offered. The services provided CW Investment Group were limited to their specific requirements; the limited scope allows for AllWest to form no more than an opinion of the actual site conditions. No matter how much research and sampling may be performed the only way to know about the actual composition and condition of the subsurface of a site is through excavation.

The conclusions and recommendations contained in this report are made based on observed conditions existing at the site, laboratory test results of the submitted samples, and interpretation of a limited data set. It must be recognized that changes can occur in subsurface conditions due to site use or other reasons. Furthermore, the distribution of chemical concentrations in the subsurface can vary spatially and over time. The results of chemical analysis are valid as of the date and at the sampling location only. AllWest cannot be held accountable for the accuracy of the test data from an independent laboratories nor for any analyte quantities falling below the recognized standard detection limits for the method utilized by the independent laboratories.

# TABLES



TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS

1815 Park Blvd  
Oakland, California

Sample ID	Sample Date	Sample Depth (Feet)	PCE	TCE	All other VOCs
SB-1-4'	1/12/05	3-4	ND (<5 ppb)	ND (<5)	ND
SB-2-5'	1/12/05	4-5	86 ppb	ND (<5)	ND
SB-3-4'	1/12/05	3-4	6.3 ppb	ND (<5)	ND
SB-4-4'	3/14/05	3-4	3,100 ppb	ND (<200)	ND
SB-5-4'	3/14/05	3-4	510 ppb	ND (<33)	ND
SB-6-3'	3/14/05	2-3	23 ppb	ND (<5)	ND
AWB-1-4'	5/24/05	3-4	490 ppb	ND (<16)	ND
AWB-1-8'	5/24/05	7-8	ND (<5 ppb)	ND (<5)	ND
AWB-2-4'	5/24/05	3-4	2,200 ppb	ND (<250)	ND
AWB-2-8'	5/24/05	7-8	ND (<5) ppb	ND (<5)	ND
AWB-2-12'	5/24/05	11-12	NA	NA	NA
AWB-3-4'	5/24/05	3-4	NA	NA	NA
AWB-3-8'	5/24/05	7-8	NA	NA	NA
AWB-4-4'	5/24/05	3-4	NA	NA	NA
AWB-4-8'	5/24/05	7-8	NA	NA	NA
AWB-5-4'	5/24/05	3-4	NA	NA	NA
AWB-5-8'	5/24/05	7-8	NA	NA	NA
AWB-6-4'	5/24/05	3-4	NA	NA	NA
AWB-6-8'	5/24/05	7-8	NA	NA	NA
AWB-6-12'	5/24/05	11-12	NA	NA	NA
Oakland Tier 2 SSTLS for Merritt Sands	Commercial <i>Residential</i>	-----	48,000 ppb ✓ <i>3,000</i>	170,000 ppb ✓ <i>11,000</i> <i>730</i>	-----
RWQCB Tier 1 ESLs for Shallow Soil	Commercial <i>Residential</i>	-----	240 ppb ✓ <i>826VI</i>	460 ppb <i>926VI</i>	-----

Vinyl Chloride

19VI

Notes:

1. PCE = tetrachloroethene
2. TCE = trichloroethene
3. VOCs = Volatile Organic Compounds
4. AllWest sample concentrations for soils analyses are in units of µg/kg, equivalent to parts per billion (ppb) for VOCs.
5. SSTL = Site-Specific Target Levels for VOCs (City of Oakland, January 2000); Oakland Tier 2 SSTLS are applied at this site where Merritt sands are the prevailing soil type, in µg/kg.
6. ESL = Environmental Screening Levels (San Francisco Bay Regional Water Quality Control Board, 1995), in µg/L.
7. ND = Not detected at or above the laboratory method reporting limit (MRI).
8. Analytical methods for VOCs were by U.S. EPA method 8260B. Analytical results reported by STL Analytical, Inc.
9. Samples identified with SB were collected by AEI Consultants with results expressed in milligrams per kilogram, mg/kg, equivalent to parts per million, ppm and converted by AllWest to ppb.
10. Samples identified with AWB were collected by AllWest Environmental with results expressed in micrograms per kilogram, µg/kg, equivalent to parts per billion, ppb.
11. NA = Not analyzed.

Region 9 PRG

480 ppb Res.  
1,300 ppb Industrial

CHSSL

180 µg/m<sup>3</sup> PCE in soil gas

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

1815 Park Blvd  
Oakland, California

Sample ID	Sample Date	PCE	TCE	cis-1,2-DCE	All other VOCs
SB-1W	1/12/05	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
SB-2W	1/12/05	13	ND (<0.5)	ND (<0.5)	ND (<0.5)
SB-3W	1/12/05	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)
SB-4W	3/14/05	230	14	25	vinyl chloride @ 7.6
SB-5W	3/14/05	7.9	ND (<0.5)	ND (<0.5)	ND (<0.5)
SB-6W	3/14/05	1.5	ND (<0.5)	0.54	ND (<0.5)
AWB-1W	5/24/05	67	13	14	vinyl chloride @ 1.3
AWB-2W	5/24/05	77	4.2	7.1	vinyl chloride @ 9.6
AWB-3W	5/24/05	1.2	ND (<0.5)	0.86	chloroform @ 4.8
AWB-4W	5/24/05	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (varies)
AWB-5W	5/24/05	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (varies)
AWB-6W	5/24/05	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (varies)
Oakland Tier 2 SSTLs for Merritt Sands	Commercial SSTL <i>Residential</i>	50,000 ✓ <i>3,100</i>	150,000 ✓	1,200,000 ✓ <i>1,000,000</i>	----
RWQCB Tier 1 ESLs for GW is NOT a current or potential drinking source	Commercial <i>Residential</i>	<del>420</del> <i>120</i>	360 <i>530</i>	590	vinyl chloride is not listed chloroform is 330

VC

13  
3.8

Notes:

1. PCE= tetrachloroethene
2. TCE = trichloroethene
3. cis-1,2-DCE = cis-1,2-dichloroethene
4. VOCs= Volatile Organic Compounds
5. SSTL = Site-Specific Target Levels (City of Oakland, January 2000); Oakland Tier 2SSTLs are applied at this site where Merritt sands are the prevailing soil type, in µg/L.
6. ESL = Environmental Screening Levels (San Francisco Bay Regional Water Quality Control Board, 1995), in µg/L.
7. Concentrations for groundwater analyses are in units of µg/L equivalent to parts per billion (ppb) for VOCs.
8. ND = Not detected at or above the laboratory method reporting limit (MRL) as indicated in the parenthesis.
9. Analytical methods for VOCs were by U.S. EPA method 8260B. Analytical results reported by STL Analytical, Inc.
10. Samples identified with SB were collected by AEI Consultants and samples identified with AWB were collected by AllWest Environmental; all results are expressed in micrograms per liter, µg/L, equivalent to parts per billion, ppb.

MCL 5µg/L

Soil gas - µg/m<sup>3</sup>

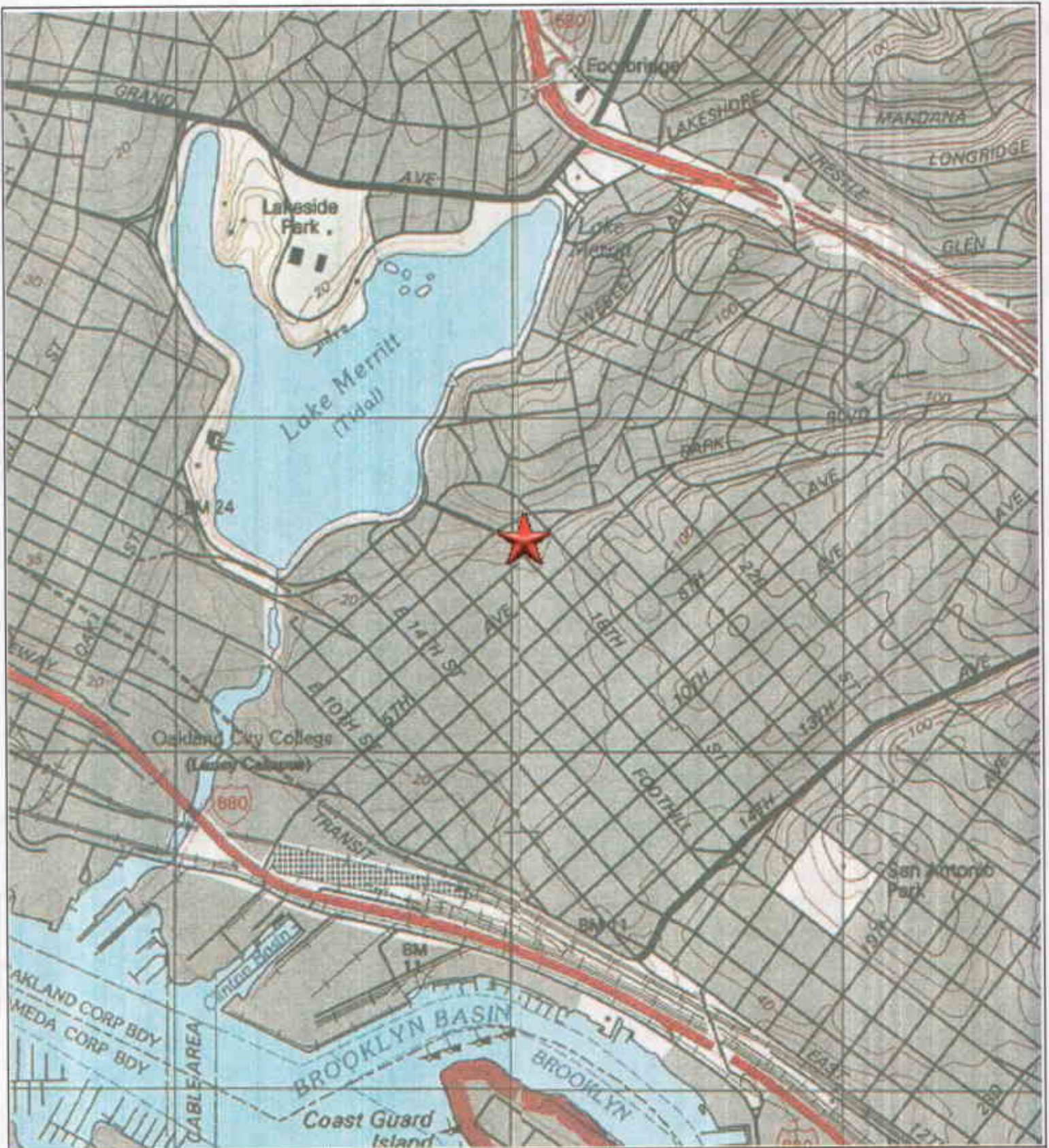
~~Residential~~  
Commercial

PCE - Oakland 2.1E+07

PCE - ESL 1.4E+03

~~Commercial~~  
Residential  
1.3E+06  
4.1E+02

# FIGURES



**LEDGEND**



- SITE LOCATION



NOT TO SCALE



PROJECT NO.  
25087.23

**SITE LOCATION MAP**

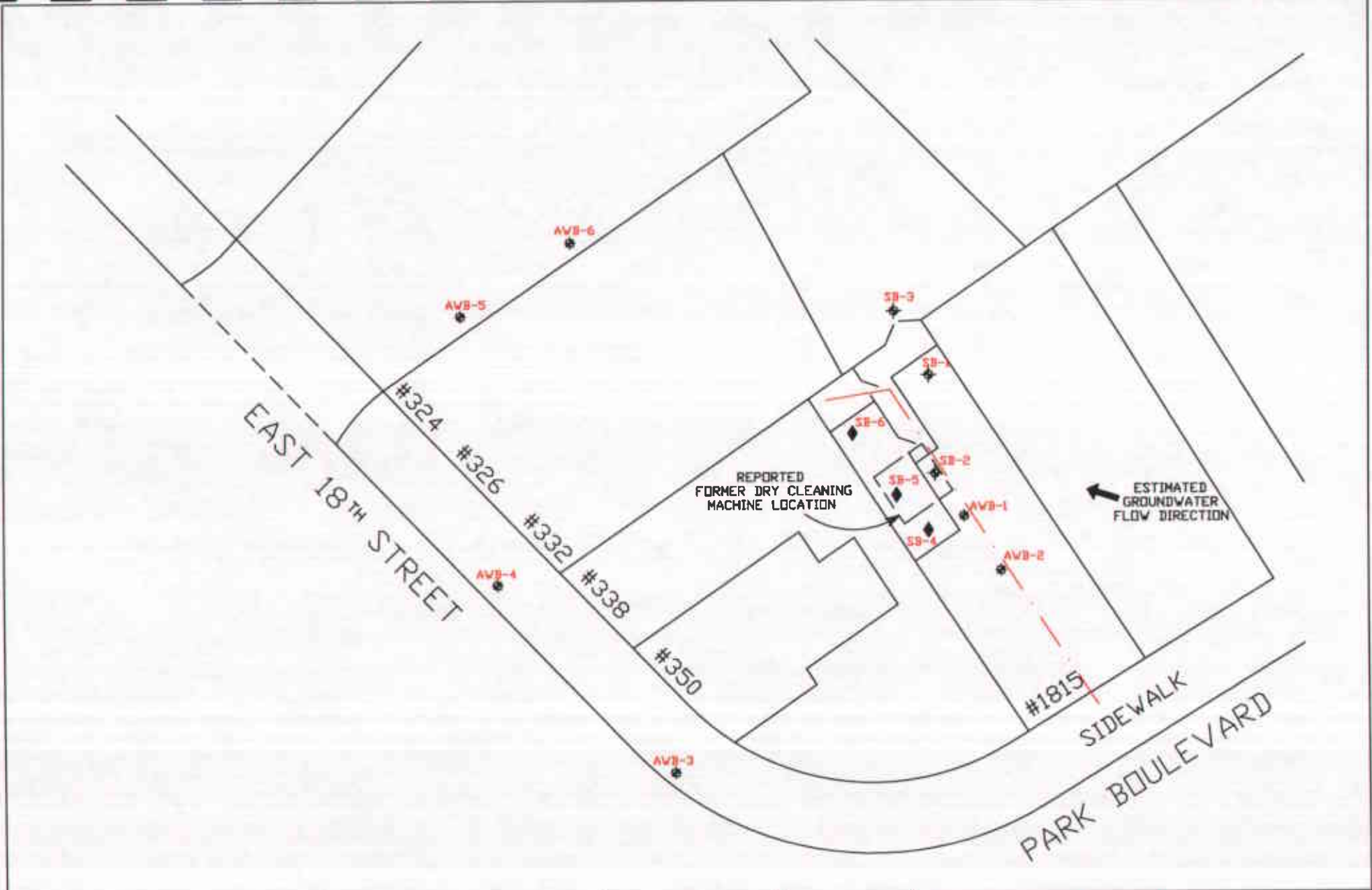
**FIGURE 1**



1815 PARK BOULEVARD

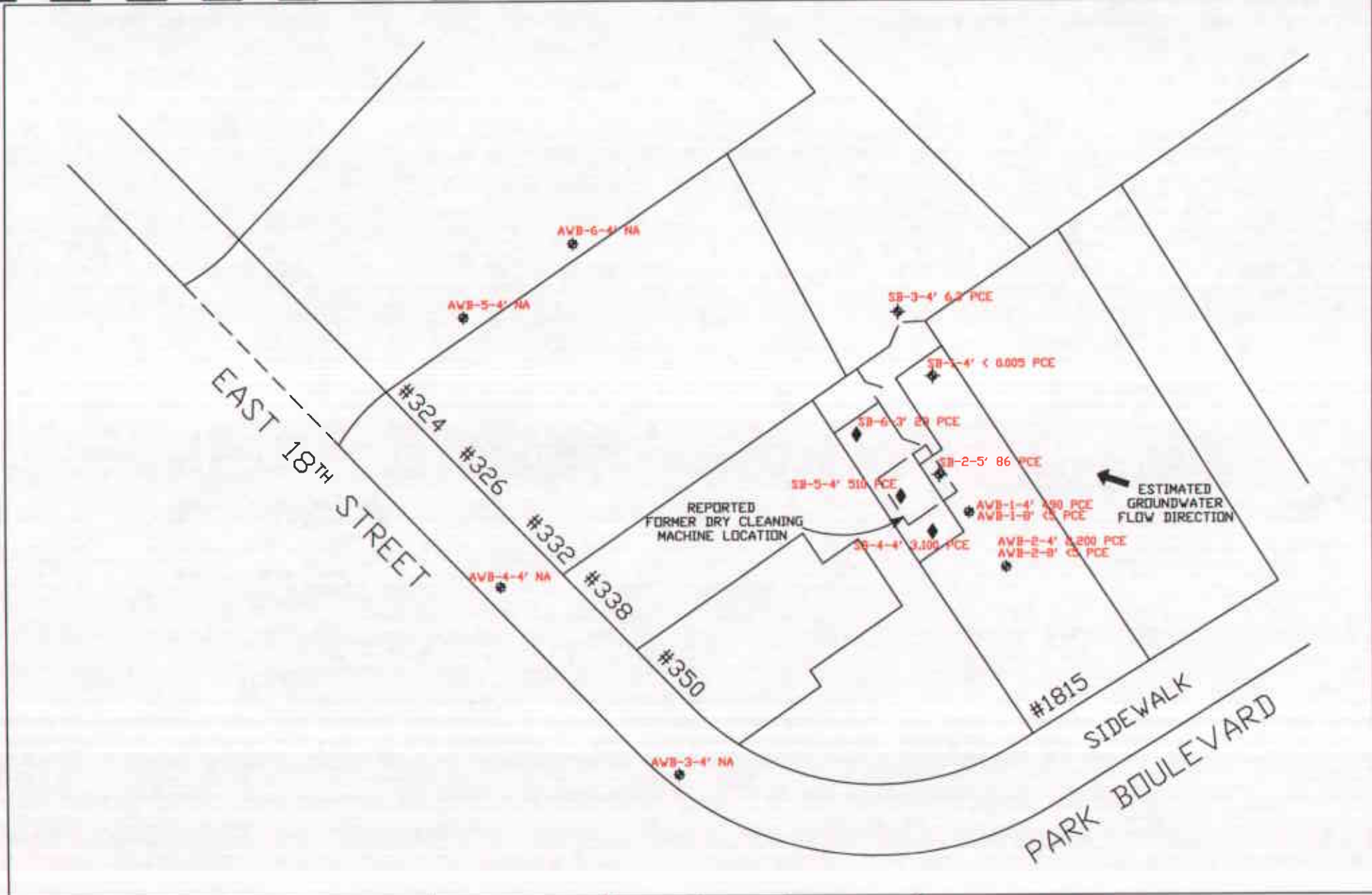
OAKLAND, CALIFORNIA

SOURCE: TOPOI

PREPARED BY: N. SABELNIK (06/01/05)



<p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li> SB-1 AEI Consultants' Soil Boring (01/12/05)</li> <li> SB-4 AEI Consultants' Soil Boring (3/14/05)</li> <li> AWB-1 AllWest Soil Boring (5/24/05)</li> <li> Sewer Line</li> </ul>	 <p>1" = 30' APPROXIMATE SCALE</p>	 <p><b>AllWest</b></p> <p>PROJECT NO. 25087.23</p>	<p><b>SITE PLAN AND BORING LOCATION MAP</b></p> <p><b>FIGURE 2</b></p> <p>1815 PARK BOULEVARD</p> <p>OAKLAND, CALIFORNIA</p> <p>SOURCE: ALLWEST</p> <p>PREPARED BY: N. SABELNIK (06/01/05)</p>
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<b>LEGEND</b> SB-1-4' AEI Consultants' Soil Boring (01/12/05) SB-4-4' AEI Consultants' Soil Boring (3/14/05) AVB-1-4' AllWest Soil Boring (5/24/05)	All results are in $\mu\text{g}/\text{kg}$ , equivalent to parts per billion (ppb)  NA = Not Analyzed	 1" = 30' APPROXIMATE SCALE	 <b>PROJECT NO.</b> 25087.23	<b>PCE Concentrations in Soil Map</b>
				<b>FIGURE 3</b> 1815 PARK BOULEVARD OAKLAND, CALIFORNIA SOURCE: ALLWEST PREPARED BY: N. SABELNIK (06/01/05)

PCE	TCE	OTHER VOCs
< 0.5	< 0.5	< 0.5

PCE	TCE	OTHER VOCs
< 0.5	< 0.5	< 0.5

PCE	TCE	OTHER VOCs
< 0.5	< 0.5	< 0.5

PCE	TCE	OTHER VOCs
< 0.5	< 0.5	< 0.5

PCE	TCE	OTHER VOCs
13	< 0.5	< 0.5

PCE	TCE	chs-L, 2-DCE	OTHER VOCs
1.5	< 0.5	0.54	< 0.5

PCE	TCE	OTHER VOCs
7.9	< 0.5	< 0.5

PCE	TCE	chs-L, 2-DCE	VC	OTHER VOCs
67	13	14	13	< 0.5

REPORTED FORMER DRY CLEANING MACHINE LOCATION

ESTIMATED GROUNDWATER FLOW DIRECTION

PCE	TCE	OTHER VOCs
< 0.5	< 0.5	< 0.5

PCE	TCE	chs-L, 2-DCE	VC	OTHER VOCs
77	42	7.1	9.6	< 0.5

PCE	TCE	chs-L, 2-DCE	VC	OTHER VOCs
230	14	25	7.6	< 0.5

PCE	TCE	chs-L, 2-DCE	CHLOROFORM	OTHER VOCs
1.2	< 0.5	0.66	4.8	< 0.5

NOTE: Isocontours of 100 and 10 ppb  
  
 Concentrations are the summation of PCE, TCE, DCE and VC

LEGEND

- SB-1V AEI Consultants' Soil Boring (01/12/05)
- SB-4V AEI Consultants' Soil Boring (3/14/05)
- AWB-1V AllWest Soil Boring (5/24/05)

All results are in  $\mu\text{g/l}$ , equivalent to parts per billion (ppb)



1" = 30'  
APPROXIMATE SCALE



PROJECT NO. 25087.23

VOC Concentrations in Groundwater Map  
**FIGURE 4**  
 1815 PARK BOULEVARD  
 OAKLAND, CALIFORNIA  
 SOURCE: ALLWEST  
 PREPARED BY: N. SABELNIK (06/01/05)

# Appendix A





**AllWest**

## STANDARD GEOPROBE SAMPLING PROCEDURES

### Soil Sampling

Soil core sampling is accomplished using a nominal 4-foot long, 3-inch diameter galvanized steel drive probe and extension rods. The drive probe is equipped with nominal 1-1/2 inch diameter clear plastic poly tubes that line the interior of the probe. The probe and insert tubes are together pneumatically driven using a percussion hammer in 4-foot intervals. After each drive intervals the drive probe and rods are retrieved to the surfaced. The poly tube containing subsurface soil is then removed. The drive probe is then cleaned, equipped with a new poly tube and reinserted into the boring with extension rods as required. The apparatus is then driven following the above procedure until the desire depth is obtained. The poly tubes and soil are inspected after each drive interval with lithologic and relevant drilling observations recorded. Soil samples are screened for organic vapors using an organic vapor meter (OVM) or other appropriate device. OVM readings, soil staining and other relevant observations are recorded. Selected soil samples intervals can be cut from the 4-foot intervals for possible analytical or geotechnical testing or other purposes.

The soils contained in the sample liners are then classified according to the Uniform Soil Classification System and recorded on the soil boring logs.

Each sample liner selected for laboratory analyses are sealed with Teflon sheets, plastic end caps, and silicon tape. The sealed sample liner is then labeled, sealed in a plastic bag, and placed in an ice chest cooled to 4°C with crushed ice for temporary field storage and transportation. The standard chain-of-custody protocol is maintained for all soil samples from the time of collection to arrival at the laboratory.

### Groundwater Sampling

Groundwater sampling is performed after the completion of soil sampling and when the boring has reached its desired depth. The steel probe and rods are then removed from the boring and new, nominal 1-1/2 inch diameter PVC solid and perforated temporary casing is lowered into the borehole. Depth to water is then measured using an electronic groundwater probe. Groundwater samples will be collected using a stainless steel bailer or a Teflon disposable bailer.

After the retrieval of the bailer, groundwater samples contained in the bailer are decanted into laboratory provided containers. The containers are then sealed with Teflon coated caps with no headspace, labeled, and placed in an ice chest for field storage and transportation to a state certified analytical laboratory. The standard chain-of-custody protocols are followed from sample collection to delivery to the laboratory. A new bailer is used for each groundwater sampling location to avoid cross contamination.



### ALAMEDA COUNTY PUBLIC WORKS AGENCY

**WATER RESOURCES SECTION**  
399 ELMHURST ST. HAYWARD CA. 94542-1395  
PHONE (510) 670-6633 James Yoo  
FAX (510) 782-1939

www.acfwwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS  
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

#### DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT: 1815-1825 Park Blvd.  
Oakland, CA 94606

PERMIT NUMBER: W05-0514  
WELL NUMBER: \_\_\_\_\_  
APN: \_\_\_\_\_

#### PERMIT CONDITIONS

Circled Permit Requirements Apply

##### A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

##### B. WATER SUPPLY WELLS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

##### C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet

##### D. GEOTECHNICAL/CONTAMINATION

Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

##### E. CATHODIC

Fill hole anode zone with concrete placed by tremie.

##### F. WELL DESTRUCTION

Send a map of work site. A separate permit is required for wells deeper than 45 feet.

##### G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

CR#5537

APPROVED: \_\_\_\_\_

DATE: 5-3-05

#### CLIENT

Name: CW Investment Group  
Address: 122 North St. #200 Phone: 510-891-7060  
City: Oakland, CA 94607 Zip: \_\_\_\_\_

#### APPLICANT

Name: Michael Stembieda Sr. Pres. Mar.  
Address: Allwest Environmental Inc Fax: 415-391-2008  
Address: 520 Howard St. #4300 Phone: 415-391-2510  
City: San Francisco, CA 94105 Zip: \_\_\_\_\_

#### TYPE OF PROJECT

Well Construction	Geotechnical Investigation
Cathodic Protection	General
Water Supply	Contamination <input checked="" type="checkbox"/>
Maintaining	Well Destruction

#### PROPOSED WATER SUPPLY WELL USE

New Domestic	Replacement Domestic	Industrial
Municipal	Irrigation	Other
Industrial		<u>N/A</u>

#### DRILLING METHOD:

Mud Rotary	Air Rotary	Auger
Cable	Other	<input checked="" type="checkbox"/> Geoprobe Direct Push

DRILLER'S NAME: Environmental Control Associates (ECA)

DRILLER'S LICENSE NO: 057-695970

#### WELL PROJECTS N/A

Drill Hole Diameter	in.	Maximum
Casing Diameter	in.	Depth
Surface Seal Depth	ft.	Owner's Well Number

#### GEOTECHNICAL/CONTAMINATION PROJECTS

Number of Borings	Maximum
Hole Diameter	Depth
<u>6</u>	<u>10 ft.</u>

STARTING DATE: 5/5/05

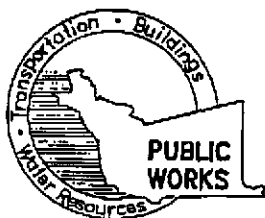
COMPLETION DATE: 5/5/05

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-08

APPLICANT'S SIGNATURE: \_\_\_\_\_ DATE: 5/4/05

PLEASE PRINT NAME: Michael L. Stembieda REV 5/1/04

RG. 4007



## ALAMEDA COUNTY PUBLIC WORKS AGENCY

### WATER RESOURCES SECTION

399 ELMHURST ST. HAYWARD, CA. 94544-1395  
PHONE (510) 670-6633 James Yoo FAX (510) 782-1939

**PERMIT NO. W05-0514**

---

WATER RESOURCES SECTION  
GROUNDWATER PROTECTION ORDINANCE  
**B#1-GENERAL CONDITIONS: GEOTECHNICAL & CONTAMINATION BOREHOLES**

1. Prior to any drilling activities, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that Federal, State, County or to the City and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permitte, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
4. Permit is valid only for the purpose specified herein **May 5 to May 5, 2005** changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.
5. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.
6. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
7. Applicant shall contact Mike Chun for a inspection time at 510-670-5786 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.1



Log of Boring: *AWB-1*

Project Address: *1815 PARK BLVD, OAKLAND, CA*

Project Number: *25087.23*

Drilling Date: *MAY 24, 2005*

Drilling Contractor: *ECA*

Sampler: *J. Koniuto 1" Polytube*

Drill Rig: *DIRECT PUSH GEOPROBE*

Hammer:

Auger: *2"*

Logged By: *J. Koniuto*

Blow Count	OVM Reading	Sample Interval	Depth in Feet	Well Profile	USCS Code	Soil Description
	Not Collected		1 -			CONCRETE
			2 -		CL (Fill)	CLAY - light brown, rocks and concrete debris (Fill)
		AWB-1-4'	3 -		CL	CLAY - brown, soft and moist, with some sand and gravel.
			4 -			
			5 -			
			6 -		SC	SAND - dark brown, wet, some clay sand is fine to medium grained
		AWB-1-8'	7 -		CL	CLAY - dark gray, moist, some sand, plastic.
			8 -			
			9 -			TOTAL DEPTH 8 FEET
			10 -			- Boring back filled with neat cement grout.
			11 -			
			12 -			
			13 -			
			14 -			
			15 -			
			16 -			
			17 -			
			18 -			
			19 -			
			20 -			
			21 -			

Notes:

Reviewed By:

Drawn By:

*ML SIEMSEN*



Log of Boring: ANB-2

Project Address: 1815 PARK BLVD, OAKLAND, CA

Project Number: 25087.23

Drilling Date: MAY 24, 2005

Drilling Contractor: ECA

Sampler: J. KONIUTO 1" POLYTUBE

Drill Rig: DIRECT PUSH GEOPROBE

Hammer:

Auger: 2"

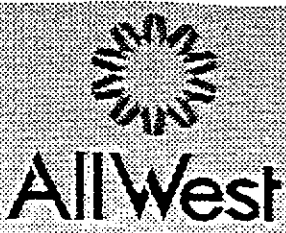
Logged By: J. KONIUTO

Blow Count	OVM Reading	Sample Interval	Depth in Feet	Well Profile	USCS Code	Soil Description
	Not Collected		1		CL	CONCRETE CLAY - gray, rocks and concrete debris
			2		(Fill)	(Fill)
		ANB-2-4	3		CL	CLAY - light brown, dry with some sand and gravel.
			4			
			5		SC	SAND - dark brown, wet, some clay sand is fine to medium grained
			6			
		ANB-2-8	7			
			8		SC	SAND - dark gray, moist, some clay sand is fine to medium grained
			9			
			10			
		ANB-2-12	11			
			12			
			13			TOTAL DEPTH 12 FEET
			14			- Boring backfilled with neat cement grout.
			15			
			16			
			17			
			18			
			19			
			20			
			21			

Notes:

Reviewed By: ML SIEMSEN

Drawn By:



Log of Boring: AWB-3

Project Address: 1815 PARK BLVD, OAKLAND, CA

Project Number: 25087.23

Drilling Date: MAY 24, 2005

Drilling Contractor: ECA

Drill Rig: DIRECT PUSH GEOPROBE

Auger: 2"

Sampler: J. KONIUTO 1" Polytube

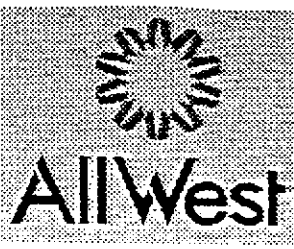
Hammer:

Logged By: J. KONIUTO

Blow Count	OVM Reading	Sample Interval	Depth in Feet	Well Profile	USCS Code	Soil Description
	Not Collected		1 -			CONCRETE
			2 -		SP (F11)	SAND - light brown, with gravel and concrete (F11)
		AWB-3-4'	3 -		SP	SAND - brown, slightly moist, some gravel, no fines sand is medium to coarse grained
			4 -			
			5 -			
			6 -		SC	SAND - dark brown, slightly moist, some clay sand is fine to medium grained
		AWB-3-8'	7 -			
			8 -			
			9 -			
			10 -			
			11 -			
			12 -			
			13 -			
			14 -			
			15 -			
			16 -			
			17 -			
			18 -			
			19 -			
			20 -			
			21 -			
						TOTAL DEPTH 8 FEET
						- boring backfilled with neat cement grout

Notes:

Reviewed By: ML SIEMSEN  
 Drawn By:



Log of Boring: AWB-4

Project Address: 1815 PARK BLVD, OAKLAND, CA

Project Number: 25087.23

Drilling Date: MAY 24, 2005

Drilling Contractor: ECA  
 Drill Rig: DIRECT PUSH GEOPROBE  
 Auger: 2"

Sampler: J. KONIUTO 1" polytube  
 Hammer:  
 Logged By: J. KONIUTO

Blow Count	OVM Reading	Sample Interval	Depth in Feet	Well Profile	USCS Code	Soil Description
			1			CONCRETE
			2		SP (Fill)	SAND - light brown, with gravel and concrete (Fill)
		AWB-4-4	3		SP	SAND - brown, moist, some gravel, no fines sand is medium to coarse grained
			4			
			5		SC	SAND - dark brown to gray, very moist, some clay sand is fine to medium grained
			6			
		AWB-4-8'	7			
			8			TOTAL DEPTH 8 FEET
			9			- boring backfilled with neat cement grout.
			10			
			11			
			12			
			13			
			14			
			15			
			16			
			17			
			18			
			19			
			20			
			21			

Notes:

Reviewed By: ML SIEMSEN

Drawn By:



Log of Boring: AWB-5

Project Address: 1815 PARK BLVD, OAKLAND, CA

Project Number: 25087.23

Drilling Date: MAY 24, 2005

Drilling Contractor: ECA

Sampler: J. KONIUTO 1" polytube

Drill Rig: DIRECT PUSH GEOPROBE

Hammer:

Auger: 2"

Logged By: J. KONIUTO

Blow Count	OVM Reading	Sample Interval	Depth in Feet	Well Profile	USCS Code	Soil Description
	Not Collected		1 -			ASPHALT
			2 -		CL (Fill)	CLAY - dark brown, with sand and gravel (Fill)
		AWB-S-4'	3 -		SC	SAND - dark brown, slightly moist, some clay. sand is fine to medium grained
			4 -			
			5 -			
			6 -		CL	CLAY - dark brown to gray, moist, some sand, plastic
		AWB-S-8'	7 -			
				8 -		
			9 -			- boring backfilled with neat cement grout.
			10 -			
			11 -			
			12 -			
			13 -			
			14 -			
			15 -			
			16 -			
			17 -			
			18 -			
			19 -			
			20 -			
			21 -			

Notes: Reviewed By: ML SIEMSEN Drawn By:





Log of Boring: AWB-6

Project Address: 1815 PARK BLVD, OAKLAND, CA

Project Number: 25087.23

Drilling Date: MAY 24, 2005

Drilling Contractor: ECA  
Drill Rig: DIRECT PUSH GEOPROBE  
Auger:

Sampler: J. KONIUTO 1" polytube  
Hammer:  
Logged By: J. KONIUTO

Blow Count	OVM Reading	Sample Interval	Depth in Feet	Well Profile	USCS Code	Soil Description
			1 -			ASPHALT
		AWB-6-4'	2 -		SP (Fill)	SAND - light brown, with rocks and gravel (Fill) sand is coarse grained
			3 -		SP	SAND - brown to grayish brown, moist and soft sand is fine to medium grained
			4 -			
		AWB-6-8'	5 -		SC	SAND - dark gray, moist and firm, some clay sand is fine grained
			6 -			
			7 -			
		AWB-6-12'	8 -		CL	CLAY - dark gray, moist, some sand, plastic
			9 -			
			10 -			
			11 -			
			12 -			TOTAL DEPTH 8 FEET
			13 -			- boring backfilled with neat cement grout.
			14 -			
			15 -			
			16 -			
			17 -			
			18 -			
			19 -			
			20 -			
			21 -			

Notes: Reviewed By: ML SIEMSEN Drawn By:

## UNIFIED SOIL CLASSIFICATION SYSTEM

PRIMARY DIVISIONS		GROUP SYMBOL	SECONDARY DIVISIONS
C O A R S E  G R A I N E D  S O I L	GRAVELS	Clean gravels (less than 5% of fines)	GW Well graded gravel-sand mixtures, little or no fines.
	More than half of course fraction is larger than No. 4 sieve.	Gravel with fines	GP Poorly graded gravels or gravel-sand mixtures, little or no fines.
			GM Silty gravels or gravel-sand-silt mixtures, with non-plastic fines.
	SANDS	Clean sands (less than 5% of fines)	SW Well graded sands or gravelly sands, little or no fines.
			SP Poorly graded sands or gravelly sands, little or no fines.
		Sands with fines	SM Silty sands or sand-silt mixtures, with non-plastic fines.
			SC Clayey sands or sand-clay mixtures, with plastic fines.
	F I N E  G R A I N E D  S O I L	SILTS AND CLAYS	
Liquid Limit less than 50%		CL Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	
		OL Organic silts and organic silty clays of low plasticity.	
SILTS AND CLAYS		MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.	
Liquid Limit greater than 50%		CH Inorganic clays of high plasticity, fat clays.	
		OH Organic clays of medium to high plasticity, organic silts.	
HIGHLY ORGANIC SOILS		PT Peat and other highly organic soils.	

### BORING LOG LEGEND

Sampler Drive Interval

Relatively Undisturbed Sample Recovered and Preserved

Sampler Driven, No Sample Recovery

Disturbed Sample Recovered and Preserved

# Appendix B

Allwest Environmental

May 31, 2005

530 Howard Street, Suite #300  
San Francisco, CA 94105

Attn.: James Koniuto

Project#: 25087.23

Project: Park DC Sub

Attached is our report for your samples received on 05/24/2005 14:30

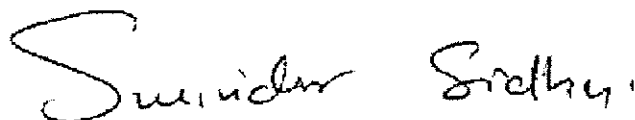
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 07/08/2005 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

You can also contact me via email. My email address is: [ssidhu@stl-inc.com](mailto:ssidhu@stl-inc.com)

Sincerely,



Surinder Sidhu  
Project Manager

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
AWB-1-4'	05/24/2005 11:30	Soil	7
AWB-1-8'	05/24/2005 11:30	Soil	8
AWB-2-8'	05/24/2005 11:30	Soil	10

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Prep(s): 5030B/5035 Test(s): 8260B  
Sample ID: AWB-1-4 Lab ID: 2005-05-0670 - 7  
Sampled: 05/24/2005 11:30 Extracted: 5/27/2005 14:00  
Matrix: Soil QC Batch#: 2005/05/27-1C.70  
Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	31	ug/Kg	3.14	05/27/2005 14:00	
Vinyl chloride	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Chloroethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Trichlorofluoromethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,1-Dichloroethene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Methylene chloride	ND	31	ug/Kg	3.14	05/27/2005 14:00	
trans-1,2-Dichloroethene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
cis-1,2-Dichloroethene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,1-Dichloroethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Chloroform	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,1,1-Trichloroethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Carbon tetrachloride	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,2-Dichloroethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Trichloroethene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,2-Dichloropropane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Bromodichloromethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
trans-1,3-Dichloropropene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
cis-1,3-Dichloropropene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,1,2-Trichloroethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Tetrachloroethene	490	16	ug/Kg	3.14	05/27/2005 14:00	
Dibromochloromethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Chlorobenzene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Bromoform	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,1,2,2-Tetrachloroethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,3-Dichlorobenzene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,4-Dichlorobenzene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
1,2-Dichlorobenzene	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Trichlorotrifluoroethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
Chloromethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

---

Prep(s):	5030B/5035	Test(s):	8260B
Sample ID:	<b>AWB-1-4</b>	Lab ID:	2005-05-0670 - 7
Sampled:	05/24/2005 11:30	Extracted:	5/27/2005 14:00
Matrix:	Soil	QC Batch#:	2005/05/27-1C.70
Analysis Flag: L2 ( See Legend and Note Section )			

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Bromomethane	ND	16	ug/Kg	3.14	05/27/2005 14:00	
<b>Surrogate(s)</b>						
4-Bromofluorobenzene	105.0	60-130	%	3.14	05/27/2005 14:00	
1,2-Dichloroethane-d4	96.7	60-140	%	3.14	05/27/2005 14:00	
Toluene-d8	92.2	70-130	%	3.14	05/27/2005 14:00	

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

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Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Prep(s): 5030B/5035                      Test(s): 8260B  
Sample ID: **AWB-1-8**                      Lab ID: 2005-05-0670 - 8  
Sampled: 05/24/2005 11:30              Extracted: 5/27/2005 14:33  
Matrix: Soil                                  QC Batch#: 2005/05/27-1C.70

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	10	ug/Kg	1.00	05/27/2005 14:33	
Vinyl chloride	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Chloroethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Trichlorofluoromethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,1-Dichloroethene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Methylene chloride	ND	10	ug/Kg	1.00	05/27/2005 14:33	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,1-Dichloroethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Chloroform	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Carbon tetrachloride	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,2-Dichloroethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Trichloroethene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,2-Dichloropropane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Bromodichloromethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Tetrachloroethene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Dibromochloromethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Chlorobenzene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Bromoform	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Chloromethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	
Bromomethane	ND	5.0	ug/Kg	1.00	05/27/2005 14:33	



**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

---

Prep(s): 5030B/5035	Test(s): 8260B
Sample ID: <b>AWB-1-8</b>	Lab ID: 2005-05-0670 - 8
Sampled: 05/24/2005 11:30	Extracted: 5/27/2005 14:33
Matrix: Soil	QC Batch#: 2005/05/27-1C.70

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
<b>Surrogate(s)</b>						
4-Bromofluorobenzene	115.3	60-130	%	1.00	05/27/2005 14:33	
1,2-Dichloroethane-d4	97.3	60-140	%	1.00	05/27/2005 14:33	
Toluene-d8	91.7	70-130	%	1.00	05/27/2005 14:33	

**Halogenated Volatile Organic Compounds by 8021B/8260B**

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Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Prep(s): 5030B/5035 Test(s): 8260B  
Sample ID: AWB-2-8 Lab ID: 2005-05-0670 - 10  
Sampled: 05/24/2005 11:30 Extracted: 5/26/2005 18:37  
Matrix: Soil QC Batch#: 2005/05/26-1A.70

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	10	ug/Kg	1.00	05/26/2005 18:37	
Vinyl chloride	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Chloroethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Trichlorofluoromethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,1-Dichloroethene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Methylene chloride	ND	10	ug/Kg	1.00	05/26/2005 18:37	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,1-Dichloroethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Chloroform	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Carbon tetrachloride	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,2-Dichloroethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Trichloroethene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,2-Dichloropropane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Bromodichloromethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Tetrachloroethene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Dibromochloromethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Chlorobenzene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Bromoform	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Chloromethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	
Bromomethane	ND	5.0	ug/Kg	1.00	05/26/2005 18:37	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

05/31/2005 11:51

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Prep(s): 5030B/5035	Test(s): 8260B
Sample ID: <b>AWB-2-8'</b>	Lab ID: 2005-05-0670 - 10
Sampled: 05/24/2005 11:30	Extracted: 5/26/2005 18:37
Matrix: Soil	QC Batch#: 2005/05/26-1A.70

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
<b>Surrogate(s)</b>						
4-Bromofluorobenzene	97.5	60-130	%	1.00	05/26/2005 18:37	
1,2-Dichloroethane-d4	103.9	60-140	%	1.00	05/26/2005 18:37	
Toluene-d8	102.7	70-130	%	1.00	05/26/2005 18:37	

Severn Trent Laboratories, Inc.

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05/31/2005 11:51

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Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B/5035

Test(s): 8260B

Method Blank

Soil

QC Batch # 2005/05/26-1A.70

MB: 2005/05/26-1A.70-014

Date Extracted: 05/26/2005 10:14

Compound	Conc.	RL	Unit	Analyzed	Flag
Bromodichloromethane	ND	5.0	ug/Kg	05/26/2005 10:14	
Bromoform	ND	5.0	ug/Kg	05/26/2005 10:14	
Bromomethane	ND	5.0	ug/Kg	05/26/2005 10:14	
Carbon tetrachloride	ND	5.0	ug/Kg	05/26/2005 10:14	
Chlorobenzene	ND	5.0	ug/Kg	05/26/2005 10:14	
Chloroethane	ND	5.0	ug/Kg	05/26/2005 10:14	
Chloroform	ND	5.0	ug/Kg	05/26/2005 10:14	
Chloromethane	ND	5.0	ug/Kg	05/26/2005 10:14	
Dibromochloromethane	ND	5.0	ug/Kg	05/26/2005 10:14	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	05/26/2005 10:14	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	05/26/2005 10:14	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	05/26/2005 10:14	
Dichlorodifluoromethane	ND	10.0	ug/Kg	05/26/2005 10:14	
1,1-Dichloroethane	ND	5.0	ug/Kg	05/26/2005 10:14	
1,2-Dichloroethane	ND	5.0	ug/Kg	05/26/2005 10:14	
1,1-Dichloroethene	ND	5.0	ug/Kg	05/26/2005 10:14	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	05/26/2005 10:14	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	05/26/2005 10:14	
1,2-Dichloropropane	ND	5.0	ug/Kg	05/26/2005 10:14	
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	05/26/2005 10:14	
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	05/26/2005 10:14	
Methylene chloride	ND	10.0	ug/Kg	05/26/2005 10:14	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	05/26/2005 10:14	
Tetrachloroethene	ND	5.0	ug/Kg	05/26/2005 10:14	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	05/26/2005 10:14	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	05/26/2005 10:14	
Trichloroethene	ND	5.0	ug/Kg	05/26/2005 10:14	
Trichlorofluoromethane	ND	5.0	ug/Kg	05/26/2005 10:14	
Trichlorotrifluoroethane	ND	5.0	ug/Kg	05/26/2005 10:14	
Vinyl chloride	ND	5.0	ug/Kg	05/26/2005 10:14	

Severn Trent Laboratories, Inc.

05/31/2005 11:51

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B/5035

Method Blank

MB: 2005/05/26-1A.70-014

Soil

Test(s): 8260B

QC Batch # 2005/05/26-1A.70

Date Extracted: 05/26/2005 10:14

Compound	Conc.	RL	Unit	Analyzed	Flag
<b>Surrogates(s)</b>					
4-Bromofluorobenzene	99.0	60-130	%	05/26/2005 10:14	
1,2-Dichloroethane-d4	97.5	60-140	%	05/26/2005 10:14	
Toluene-d8	92.5	70-130	%	05/26/2005 10:14	

Severn Trent Laboratories, Inc.

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05/31/2005 11:51

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

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530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B/5035

Method Blank

MB: 2005/05/27-1C.70-044

Soil

Test(s): 8260B

QC Batch # 2005/05/27-1C.70

Date Extracted: 05/27/2005 10:44

Compound	Conc.	RL	Unit	Analyzed	Flag
Bromodichloromethane	ND	5.0	ug/Kg	05/27/2005 10:44	
Bromoform	ND	5.0	ug/Kg	05/27/2005 10:44	
Bromomethane	ND	5.0	ug/Kg	05/27/2005 10:44	
Carbon tetrachloride	ND	5.0	ug/Kg	05/27/2005 10:44	
Chlorobenzene	ND	5.0	ug/Kg	05/27/2005 10:44	
Chloroethane	ND	5.0	ug/Kg	05/27/2005 10:44	
Chloroform	ND	5.0	ug/Kg	05/27/2005 10:44	
Chloromethane	ND	5.0	ug/Kg	05/27/2005 10:44	
Dibromochloromethane	ND	5.0	ug/Kg	05/27/2005 10:44	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	05/27/2005 10:44	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	05/27/2005 10:44	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	05/27/2005 10:44	
Dichlorodifluoromethane	ND	10.0	ug/Kg	05/27/2005 10:44	
1,1-Dichloroethane	ND	5.0	ug/Kg	05/27/2005 10:44	
1,2-Dichloroethane	ND	5.0	ug/Kg	05/27/2005 10:44	
1,1-Dichloroethene	ND	5.0	ug/Kg	05/27/2005 10:44	
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	05/27/2005 10:44	
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	05/27/2005 10:44	
1,2-Dichloropropane	ND	5.0	ug/Kg	05/27/2005 10:44	
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	05/27/2005 10:44	
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	05/27/2005 10:44	
Methylene chloride	ND	10.0	ug/Kg	05/27/2005 10:44	
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	05/27/2005 10:44	
Tetrachloroethene	ND	5.0	ug/Kg	05/27/2005 10:44	
1,1,1-Trichloroethane	ND	5.0	ug/Kg	05/27/2005 10:44	
1,1,2-Trichloroethane	ND	5.0	ug/Kg	05/27/2005 10:44	
Trichloroethene	ND	5.0	ug/Kg	05/27/2005 10:44	
Trichlorofluoromethane	ND	5.0	ug/Kg	05/27/2005 10:44	
Trichlorotrifluoroethane	ND	5.0	ug/Kg	05/27/2005 10:44	
Vinyl chloride	ND	5.0	ug/Kg	05/27/2005 10:44	

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05/31/2005 11:51

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B/5035

Method Blank

MB: 2005/05/27-1C.70-044

Soil

Test(s): 8260B

QC Batch # 2005/05/27-1C.70

Date Extracted: 05/27/2005 10:44

Compound	Conc.	RL	Unit	Analyzed	Flag
<i>Surrogates(s)</i>					
4-Bromofluorobenzene	102.8	60-130	%	05/27/2005 10:44	
1,2-Dichloroethane-d4	98.5	60-140	%	05/27/2005 10:44	
Toluene-d8	95.5	70-130	%	05/27/2005 10:44	

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05/31/2005 11:51

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

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Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B/5035

Test(s): 8260B

Laboratory Control Spike

Soil

QC Batch # 2005/05/26-1A.70

LCS 2005/05/26-1A.70-042

Extracted: 05/26/2005

Analyzed: 05/26/2005 09:42

LCSD

Compound	Conc. ug/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Chlorobenzene	102		100	102.0			61-121	20		
1,1-Dichloroethene	88.6		100	88.6			65-125	20		
Trichloroethene	82.8		100	82.8			74-134	20		
<b>Surrogates(s)</b>										
4-Bromofluorobenzene	513		500	102.6			60-130			
1,2-Dichloroethane-d4	450		500	90.0			60-140			
Toluene-d8	452		500	90.4			70-130			

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**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental  
Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B/5035

Test(s): 8260B

Laboratory Control Spike

Soil

QC Batch # 2005/05/27-1C.70

LCS 2005/05/27-1C.70-012

Extracted: 05/27/2005

Analyzed: 05/27/2005 10:12

LCSD

Compound	Conc. ug/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Chlorobenzene	104		100	104.0			61-121	20		
1,1-Dichloroethene	96.0		100	96.0			65-125	20		
Trichloroethene	88.2		100	88.2			74-134	20		
<b>Surrogates(s)</b>										
4-Bromofluorobenzene	486		500	97.2			60-130			
1,2-Dichloroethane-d4	473		500	94.6			60-140			
Toluene-d8	456		500	91.2			70-130			

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Halogenated Volatile Organic Compounds by 8021B/8260B

Allwest Environmental  
Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008  
Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Batch QC Report

Prep(s): 5030B/5035

Test(s): 8260B

Matrix Spike ( MS / MSD )

Soil

QC Batch # 2005/05/26-1A.70

MS/MSD

Lab ID: 2005-05-0588 - 006

MS: 2005/05/26-1A.70-005

Extracted: 05/26/2005

Analyzed: 05/26/2005 12:05

Dilution: 1.00

MSD: 2005/05/26-1A.70-038

Extracted: 05/26/2005

Analyzed: 05/26/2005 12:38

Dilution: 1.00

Compound	Conc. ug/Kg		Spk.Level	Recovery %			Limits %		Flags		
	MS	MSD		Sample	ug/Kg	MS	MSD	RPD	Rec.	RPD	MS
Chlorobenzene	102	100.0	ND	98.4252	103.7	102.2	1.5	61-121	20		
1,1-Dichloroethene	100	105	ND	98.4252	101.6	107.3	5.5	65-125	20		
Trichloroethene	83.0	85.3	ND	98.4252	84.3	87.2	3.4	74-134	20		
<b>Surrogate(s)</b>											
4-Bromofluorobenzene	546	557		500	109.3	111.4		60-130			
1,2-Dichloroethane-d4	509	538		500	101.7	107.6		60-140			
Toluene-d8	409	422		500	81.8	84.4		70-130			

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental  
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San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B/5035

Test(s): 8260B

**Matrix Spike ( MS / MSD )**

**Soil**

**QC Batch # 2005/05/27-1C.70**

MS/MSD

Lab ID: 2005-05-0640 - 018

MS: 2005/05/27-1C.70-050

Extracted: 05/27/2005

Analyzed: 05/27/2005 11:50

Dilution: 1.00

MSD: 2005/05/27-1C.70-022

Extracted: 05/27/2005

Analyzed: 05/27/2005 12:22

Dilution: 1.00

Compound	Conc. ug/Kg		Spk.Level	Recovery %			Limits %		Flags		
	MS	MSD		Sample	ug/Kg	MS	MSD	RPD	Rec.	RPD	MS
Chlorobenzene	96.4	104	ND	94.697	101.8	107.5	5.4	61-121	20		
1,1-Dichloroethene	99.3	102	ND	94.697	104.9	105.5	0.6	65-125	20		
Trichloroethene	81.5	80.5	ND	94.697	86.1	83.2	3.4	74-134	20		
<b>Surrogate(s)</b>											
4-Bromofluorobenzene	529	536		500	105.8	107.2		60-130			
1,2-Dichloroethane-d4	502	510		500	100.5	101.9		60-140			
Toluene-d8	443	433		500	88.6	86.6		70-130			

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**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300

San Francisco, CA 94105

Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23

Park DC Sub

Received: 05/24/2005 14:30

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**Legend and Notes**

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**Analysis Flag**

L2

Reporting limits were raised due to high level of analyte present  
in the sample.

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**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

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San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
AWB-1W	05/24/2005	Water	1
AWB-2W	05/24/2005	Water	2
AWB-3W	05/24/2005	Water	3
AWB-4W	05/24/2005	Water	4
AWB-5W	05/24/2005	Water	5
AWB-6W	05/24/2005	Water	6



Halogenated Volatile Organic Compounds by 8021B/8260B

Allwest Environmental

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Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Prep(s): 5030B	Test(s): 8260B
Sample ID: AWB-1W	Lab ID: 2005-05-0670 - 1
Sampled: 05/24/2005	Extracted: 5/25/2005 19:08
Matrix: Water	QC Batch#: 2005/05/25-1A.71

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
<b>Surrogate(s)</b>						
4-Bromofluorobenzene	96.4	79-118	%	1.00	05/25/2005 19:08	
1,2-Dichloroethane-d4	96.9	78-117	%	1.00	05/25/2005 19:08	
Toluene-d8	99.3	77-121	%	1.00	05/25/2005 19:08	

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05/26/2005 15:10

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

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 San Francisco, CA 94105  
 Phone: (415) 391-2510 Fax: (415) 391-2008

 Project: 25087.23  
 Park DC Sub

Received: 05/24/2005 14:30

Prep(s):	5030B	Test(s):	8260B
Sample ID:	<b>AWB-2W</b>	Lab ID:	2005-05-0670 - 2
Sampled:	05/24/2005	Extracted:	5/25/2005 19:42
Matrix:	Water	QC Batch#:	2005/05/25-1A.71

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	05/25/2005 19:42	
Vinyl chloride	9.6	0.50	ug/L	1.00	05/25/2005 19:42	
Chloroethane	ND	1.0	ug/L	1.00	05/25/2005 19:42	
Trichlorofluoromethane	ND	1.0	ug/L	1.00	05/25/2005 19:42	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Methylene chloride	ND	5.0	ug/L	1.00	05/25/2005 19:42	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	05/25/2005 19:42	
cis-1,2-Dichloroethene	7.1	0.50	ug/L	1.00	05/25/2005 19:42	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Chloroform	ND	0.50	ug/L	1.00	05/25/2005 19:42	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Carbon tetrachloride	ND	0.50	ug/L	1.00	05/25/2005 19:42	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Trichloroethene	4.2	0.50	ug/L	1.00	05/25/2005 19:42	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Bromodichloromethane	ND	0.50	ug/L	1.00	05/25/2005 19:42	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	05/25/2005 19:42	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	05/25/2005 19:42	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Tetrachloroethene	77	0.50	ug/L	1.00	05/25/2005 19:42	
Dibromochloromethane	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Chlorobenzene	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Bromoform	ND	2.0	ug/L	1.00	05/25/2005 19:42	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	05/25/2005 19:42	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	05/25/2005 19:42	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	05/25/2005 19:42	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	05/25/2005 19:42	
Chloromethane	ND	1.0	ug/L	1.00	05/25/2005 19:42	
Bromomethane	ND	1.0	ug/L	1.00	05/25/2005 19:42	

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05/26/2005 15:10

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**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental  
Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Prep(s): 5030B	Test(s): 8260B
Sample ID: <b>AWB-2W</b>	Lab ID: 2005-05-0670 - 2
Sampled: 05/24/2005	Extracted: 5/25/2005 19:42
Matrix: Water	QC Batch#: 2005/05/25-1A.71

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
<b>Surrogate(s)</b>						
4-Bromofluorobenzene	97.4	79-118	%	1.00	05/25/2005 19:42	
1,2-Dichloroethane-d4	98.0	78-117	%	1.00	05/25/2005 19:42	
Toluene-d8	99.7	77-121	%	1.00	05/25/2005 19:42	









**Halogenated Volatile Organic Compounds by 8021B/8260B**

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 Project: 25087.23  
 Park DC Sub

Received: 05/24/2005 14:30

Prep(s):	5030B	Test(s):	8260B
Sample ID:	<b>AWB-5W</b>	Lab ID:	2005-05-0670 - 5
Sampled:	05/24/2005	Extracted:	5/25/2005 21:22
Matrix:	Water	QC Batch#:	2005/05/25-1A.71

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Dichlorodifluoromethane	ND	1.0	ug/L	1.00	05/25/2005 21:22	
Vinyl chloride	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Chloroethane	ND	1.0	ug/L	1.00	05/25/2005 21:22	
Trichlorofluoromethane	ND	1.0	ug/L	1.00	05/25/2005 21:22	
1,1-Dichloroethene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Methylene chloride	ND	5.0	ug/L	1.00	05/25/2005 21:22	
trans-1,2-Dichloroethene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
cis-1,2-Dichloroethene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
1,1-Dichloroethane	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Chloroform	ND	0.50	ug/L	1.00	05/25/2005 21:22	
1,1,1-Trichloroethane	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Carbon tetrachloride	ND	0.50	ug/L	1.00	05/25/2005 21:22	
1,2-Dichloroethane	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Trichloroethene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
1,2-Dichloropropane	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Bromodichloromethane	ND	0.50	ug/L	1.00	05/25/2005 21:22	
trans-1,3-Dichloropropene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
cis-1,3-Dichloropropene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
1,1,2-Trichloroethane	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Tetrachloroethene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Dibromochloromethane	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Chlorobenzene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Bromoform	ND	2.0	ug/L	1.00	05/25/2005 21:22	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1.00	05/25/2005 21:22	
1,3-Dichlorobenzene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
1,4-Dichlorobenzene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
1,2-Dichlorobenzene	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Trichlorotrifluoroethane	ND	0.50	ug/L	1.00	05/25/2005 21:22	
Chloromethane	ND	1.0	ug/L	1.00	05/25/2005 21:22	
Bromomethane	ND	1.0	ug/L	1.00	05/25/2005 21:22	

Severn Trent Laboratories, Inc.

05/26/2005 15:10

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Page 10 of 17

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
 San Francisco, CA 94105  
 Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
 Park DC Sub

Received: 05/24/2005 14:30

Prep(s):	5030B	Test(s):	8260B
Sample ID:	AWB-5W	Lab ID:	2005-05-0670 - 5
Sampled:	05/24/2005	Extracted:	5/25/2005 21:22
Matrix:	Water	QC Batch#:	2005/05/25-1A.71

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
<b>Surrogate(s)</b>						
4-Bromofluorobenzene	95.8	79-118	%	1.00	05/25/2005 21:22	
1,2-Dichloroethane-d4	104.6	78-117	%	1.00	05/25/2005 21:22	
Toluene-d8	100.3	77-121	%	1.00	05/25/2005 21:22	





**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

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San Francisco, CA 94105  
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Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Prep(s): 5030B	Test(s): 8260B
Sample ID: <b>AWB-6W</b>	Lab ID: 2005-05-0670 - 6
Sampled: 05/24/2005	Extracted: 5/25/2005 21:56
Matrix: Water	QC Batch#: 2005/05/25-1A.71

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
<b>Surrogate(s)</b>						
4-Bromofluorobenzene	107.4	79-118	%	1.00	05/25/2005 21:56	
1,2-Dichloroethane-d4	99.0	78-117	%	1.00	05/25/2005 21:56	
Toluene-d8	99.5	77-121	%	1.00	05/25/2005 21:56	

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental

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San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch # 2005/05/25-1A.71

MB: 2005/05/25-1A.71-024

Date Extracted: 05/25/2005 10:24

Compound	Conc.	RL	Unit	Analyzed	Flag
Bromodichloromethane	ND	0.5	ug/L	05/25/2005 10:24	
Bromoform	ND	2.0	ug/L	05/25/2005 10:24	
Bromomethane	ND	1.0	ug/L	05/25/2005 10:24	
Carbon tetrachloride	ND	0.5	ug/L	05/25/2005 10:24	
Chlorobenzene	ND	0.5	ug/L	05/25/2005 10:24	
Chloroethane	ND	1.0	ug/L	05/25/2005 10:24	
Chloroform	ND	0.5	ug/L	05/25/2005 10:24	
Chloromethane	ND	1.0	ug/L	05/25/2005 10:24	
Dibromochloromethane	ND	0.5	ug/L	05/25/2005 10:24	
1,2-Dichlorobenzene	ND	0.5	ug/L	05/25/2005 10:24	
1,3-Dichlorobenzene	ND	0.5	ug/L	05/25/2005 10:24	
1,4-Dichlorobenzene	ND	0.5	ug/L	05/25/2005 10:24	
Dichlorodifluoromethane	ND	1.0	ug/L	05/25/2005 10:24	
1,1-Dichloroethane	ND	0.5	ug/L	05/25/2005 10:24	
1,2-Dichloroethane	ND	0.5	ug/L	05/25/2005 10:24	
1,1-Dichloroethene	ND	0.5	ug/L	05/25/2005 10:24	
cis-1,2-Dichloroethene	ND	0.5	ug/L	05/25/2005 10:24	
trans-1,2-Dichloroethene	ND	0.5	ug/L	05/25/2005 10:24	
1,2-Dichloropropane	ND	0.5	ug/L	05/25/2005 10:24	
cis-1,3-Dichloropropene	ND	0.5	ug/L	05/25/2005 10:24	
trans-1,3-Dichloropropene	ND	0.5	ug/L	05/25/2005 10:24	
Methylene chloride	ND	5.0	ug/L	05/25/2005 10:24	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	05/25/2005 10:24	
Tetrachloroethene	ND	0.5	ug/L	05/25/2005 10:24	
1,1,1-Trichloroethane	ND	0.5	ug/L	05/25/2005 10:24	
1,1,2-Trichloroethane	ND	0.5	ug/L	05/25/2005 10:24	
Trichloroethene	ND	0.5	ug/L	05/25/2005 10:24	
Trichlorofluoromethane	ND	1.0	ug/L	05/25/2005 10:24	
Trichlorotrifluoroethane	ND	0.5	ug/L	05/25/2005 10:24	
Vinyl chloride	ND	0.5	ug/L	05/25/2005 10:24	

Severn Trent Laboratories, Inc.

05/26/2005 15:10

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

## Halogenated Volatile Organic Compounds by 8021B/8260B

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

## Batch QC Report

Prep(s): 5030B

Method Blank

MB: 2005/05/25-1A.71-024

Water

Test(s): 8260B

QC Batch # 2005/05/25-1A.71

Date Extracted: 05/25/2005 10:24

Compound	Conc.	RL	Unit	Analyzed	Flag
<b>Surrogates(s)</b>					
4-Bromofluorobenzene	96.7	79-118	%	05/25/2005 10:24	
1,2-Dichloroethane-d4	94.1	78-117	%	05/25/2005 10:24	
Toluene-d8	100.4	77-121	%	05/25/2005 10:24	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

05/26/2005 15:10

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental  
Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike

Water

QC Batch # 2005/05/25-1A.71

LCS 2005/05/25-1A.71-051

Extracted: 05/25/2005

Analyzed: 05/25/2005 09:51

LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Chlorobenzene	19.3		20	96.5			61-121	20		
1,1-Dichloroethene	17.1		20	85.5			65-125	20		
Trichloroethene	17.3		20	86.5			74-134	20		
<b>Surrogates(s)</b>										
4-Bromofluorobenzene	481		500	96.2			79-118			
1,2-Dichloroethane-d4	493		500	98.6			78-117			
Toluene-d8	502		500	100.4			77-121			

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

05/26/2005 15:10

**Halogenated Volatile Organic Compounds by 8021B/8260B**

Allwest Environmental  
Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Matrix Spike ( MS / MSD )**

**Water**

**QC Batch # 2005/05/25-1A.71**

MS/MSD

Lab ID: 2005-05-0582 - 004

MS: 2005/05/25-1A.71-010

Extracted: 05/25/2005

Analyzed: 05/25/2005 12:10

Dilution: 8.00

MSD: 2005/05/25-1A.71-043

Extracted: 05/25/2005

Analyzed: 05/25/2005 12:43

Dilution: 8.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Chlorobenzene	155	157	ND	160	96.9	98.1	1.2	61-121	20		
1,1-Dichloroethene	248	249	119	160	80.6	81.3	0.9	65-125	20		
Trichloroethene	405	416	284	160	75.6	82.5	8.7	74-134	20		
<b>Surrogate(s)</b>											
4-Bromofluorobenzene	473	485		500	94.6	97.0		79-118			
1,2-Dichloroethane-d4	474	478		500	94.8	95.6		78-117			
Toluene-d8	497	505		500	99.4	101.0		77-121			

Severn Trent Laboratories, Inc.

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Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

05/26/2005 15:10

**Volatile Organic Compounds by 8260B (High Level)**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Samples Reported**

Sample Name	Date Sampled	Matrix	Lab #
AWB-2-4	05/24/2005 11:30	Soil	9

**Volatile Organic Compounds by 8260B (High Level)**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Prep(s): 5035 Test(s): 8260B  
Sample ID: **AWB-2-4'** Lab ID: 2005-05-0670 - 9  
Sampled: 05/24/2005 11:30 Extracted: 5/27/2005 16:06  
Matrix: Soil QC Batch#: 2005/05/27-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Bromodichloromethane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Bromoform	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Bromomethane	ND	500	ug/Kg	1.00	05/27/2005 16:06	
Carbon tetrachloride	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Chlorobenzene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Chloroethane	ND	500	ug/Kg	1.00	05/27/2005 16:06	
Chloroform	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Chloromethane	ND	500	ug/Kg	1.00	05/27/2005 16:06	
Dibromochloromethane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
1,2-Dichlorobenzene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
1,3-Dichlorobenzene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
1,4-Dichlorobenzene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Dichlorodifluoromethane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
1,1-Dichloroethane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
1,2-Dichloroethane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
1,1-Dichloroethene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
cis-1,2-Dichloroethene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
trans-1,2-Dichloroethene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
1,2-Dichloropropane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
cis-1,3-Dichloropropene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
trans-1,3-Dichloropropene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Methylene chloride	ND	2500	ug/Kg	1.00	05/27/2005 16:06	
1,1,2,2-Tetrachloroethane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Tetrachloroethene	2200	250	ug/Kg	1.00	05/27/2005 16:06	
1,1,1-Trichloroethane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
1,1,2-Trichloroethane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Trichloroethene	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Vinyl chloride	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Trichlorotrifluoroethane	ND	250	ug/Kg	1.00	05/27/2005 16:06	
Trichlorofluoromethane	ND	1000	ug/Kg	1.00	05/27/2005 16:06	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

05/31/2005 11:52

**Volatile Organic Compounds by 8260B (High Level)**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

Prep(s): 5035	Test(s): 8260B
Sample ID: <b>AWB-2-4</b>	Lab ID: 2005-05-0670 - 9
Sampled: 05/24/2005 11:30	Extracted: 5/27/2005 16:06
Matrix: Soil	QC Batch#: 2005/05/27-01.60

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
<b>Surrogate(s)</b>						
4-Bromofluorobenzene	104.4	70-130	%	1.00	05/27/2005 16:06	
1,2-Dichloroethane-d4	102.9	70-130	%	1.00	05/27/2005 16:06	
Toluene-d8	99.2	70-130	%	1.00	05/27/2005 16:06	



**Volatile Organic Compounds by 8260B (High Level)**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5035  
Method Blank  
MB: 2005/05/27-01.60-010

Soil

Test(s): 8260B  
QC Batch # 2005/05/27-01.60  
Date Extracted: 05/27/2005 11:10

Compound	Conc.	RL	Unit	Analyzed	Flag
Bromodichloromethane	ND	250	ug/Kg	05/27/2005 11:10	
Bromoform	ND	250	ug/Kg	05/27/2005 11:10	
Bromomethane	ND	500	ug/Kg	05/27/2005 11:10	
Carbon tetrachloride	ND	250	ug/Kg	05/27/2005 11:10	
Chlorobenzene	ND	250	ug/Kg	05/27/2005 11:10	
Chloroethane	ND	500	ug/Kg	05/27/2005 11:10	
Chloroform	ND	250	ug/Kg	05/27/2005 11:10	
Chloromethane	ND	500	ug/Kg	05/27/2005 11:10	
Dibromochloromethane	ND	250	ug/Kg	05/27/2005 11:10	
1,2-Dichlorobenzene	ND	250	ug/Kg	05/27/2005 11:10	
1,3-Dichlorobenzene	ND	250	ug/Kg	05/27/2005 11:10	
1,4-Dichlorobenzene	ND	250	ug/Kg	05/27/2005 11:10	
Dichlorodifluoromethane	ND	250	ug/Kg	05/27/2005 11:10	
1,1-Dichloroethane	ND	250	ug/Kg	05/27/2005 11:10	
1,2-Dichloroethane	ND	250	ug/Kg	05/27/2005 11:10	
1,1-Dichloroethene	ND	250	ug/Kg	05/27/2005 11:10	
cis-1,2-Dichloroethene	ND	250	ug/Kg	05/27/2005 11:10	
trans-1,2-Dichloroethene	ND	250	ug/Kg	05/27/2005 11:10	
1,2-Dichloropropane	ND	250	ug/Kg	05/27/2005 11:10	
cis-1,3-Dichloropropene	ND	250	ug/Kg	05/27/2005 11:10	
trans-1,3-Dichloropropene	ND	250	ug/Kg	05/27/2005 11:10	
Methylene chloride	ND	2500	ug/Kg	05/27/2005 11:10	
1,1,2,2-Tetrachloroethane	ND	250	ug/Kg	05/27/2005 11:10	
Tetrachloroethene	ND	250	ug/Kg	05/27/2005 11:10	
1,1,1-Trichloroethane	ND	250	ug/Kg	05/27/2005 11:10	
1,1,2-Trichloroethane	ND	250	ug/Kg	05/27/2005 11:10	
Trichloroethene	ND	250	ug/Kg	05/27/2005 11:10	
Vinyl chloride	ND	250	ug/Kg	05/27/2005 11:10	
Trichlorotrifluoroethane	ND	250	ug/Kg	05/27/2005 11:10	
Trichlorofluoromethane	ND	1000	ug/Kg	05/27/2005 11:10	

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

05/31/2005 11:52

## Volatile Organic Compounds by 8260B (High Level)

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

## Batch QC Report

Prep(s): 5035  
Method Blank  
MB: 2005/05/27-01.60-010

Soil

Test(s): 8260B  
QC Batch # 2005/05/27-01.60  
Date Extracted: 05/27/2005 11:10

Compound	Conc.	RL	Unit	Analyzed	Flag
<b>Surrogates(s)</b>					
4-Bromofluorobenzene	95.6	70-130	%	05/27/2005 11:10	
1,2-Dichloroethane-d4	80.8	70-130	%	05/27/2005 11:10	
Toluene-d8	93.6	70-130	%	05/27/2005 11:10	

**Volatile Organic Compounds by 8260B (High Level)**

Allwest Environmental

Attn.: James Koniuto

530 Howard Street, Suite #300  
San Francisco, CA 94105  
Phone: (415) 391-2510 Fax: (415) 391-2008

Project: 25087.23  
Park DC Sub

Received: 05/24/2005 14:30

**Batch QC Report**

Prep(s): 5035

Test(s): 8260B

**Laboratory Control Spike**

**Soil**

**QC Batch # 2005/05/27-01.60**

LCS 2005/05/27-01.60-003

Extracted: 05/27/2005

Analyzed: 05/27/2005 10:03

LCSD 2005/05/27-01.60-043

Extracted: 05/27/2005

Analyzed: 05/27/2005 11:43

Compound	Conc. ug/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Chlorobenzene	9610	10800	10000	96.1	108.0	11.7	61-121	20		
1,1-Dichloroethene	8910	9980	10000	89.1	99.8	11.3	65-125	20		
Trichloroethene	8460	9470	10000	84.6	94.7	11.3	74-134	20		
<b>Surrogates(s)</b>										
4-Bromofluorobenzene	251	272	250	100.4	108.8		70-130			
1,2-Dichloroethane-d4	218	234	250	87.2	93.6		70-130			
Toluene-d8	244	267	250	97.6	106.8		70-130			

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

05/31/2005 11:52



**Report To** **Analysis Request**

Attn: James Konwito  
 Company: ALLWEST ENVIRONMENTAL, INC.  
 Address: 530 HOWARD ST., STE 300, SF, CA  
 Phone: 415 341 2510 Email: James@allwest.com  
 Bill To: ALLWEST Sampled By: J. Konwito  
 Attn: J. Konwito Phone: 415 341 2510

<input type="checkbox"/> TPH EPA - 80158021 <input type="checkbox"/> 8260B	<input type="checkbox"/> Gas w/ <input type="checkbox"/> BTEX <input type="checkbox"/> MTBE	<input type="checkbox"/> Purgable Aromatics BTEX EPA - 8021 <input type="checkbox"/> 8260B	<input type="checkbox"/> TEPH EPA 8015V* <input type="checkbox"/> Silica Gel <input type="checkbox"/> Diesel <input type="checkbox"/> Motor Oil <input type="checkbox"/> Other	<input type="checkbox"/> Fuel Tests EPA 8260B: <input type="checkbox"/> Gas <input type="checkbox"/> BTEX <input type="checkbox"/> Five Oxynalates <input type="checkbox"/> DCA, EOB <input type="checkbox"/> Ethanol	<input type="checkbox"/> Purgable Halocarbons (H-VOCs) EPA 8021 by 8260B	<input type="checkbox"/> Volatile Organics GC/MS (VOCs) <input type="checkbox"/> EPA 8260B <input type="checkbox"/> 624	<input type="checkbox"/> Semivolatiles GC/MS <input type="checkbox"/> EPA 8270 <input type="checkbox"/> 625	<input type="checkbox"/> Oil and Grease <input type="checkbox"/> Petroleum (EPA 1664) <input type="checkbox"/> Total	<input type="checkbox"/> Pesticides <input type="checkbox"/> EPA 8081 <input type="checkbox"/> 608 <input type="checkbox"/> PCBs <input type="checkbox"/> EPA 8082 <input type="checkbox"/> 608	<input type="checkbox"/> PNAs by <input type="checkbox"/> 8270 <input type="checkbox"/> 8310	<input type="checkbox"/> CAM17 Metals (EPA 8010/7470/7471)	<input type="checkbox"/> Metals: <input type="checkbox"/> Lead <input type="checkbox"/> LUFT <input type="checkbox"/> RCRA <input type="checkbox"/> Other:	<input type="checkbox"/> Low Level Metals by EPA 200.86020 (ICP-MS):	<input type="checkbox"/> W.E.T. (STLC) TCLP	<input type="checkbox"/> Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)	<input type="checkbox"/> Spec Cond. <input type="checkbox"/> Alkalinity TSS <input type="checkbox"/> TDS <input type="checkbox"/>	<input type="checkbox"/> Anions: <input type="checkbox"/> Cl <input type="checkbox"/> SO <sub>4</sub> <input type="checkbox"/> NO <sub>3</sub> <input type="checkbox"/> F <input type="checkbox"/> Br <input type="checkbox"/> NO <sub>2</sub> <input type="checkbox"/> PO <sub>4</sub>
Sample ID	Date	Time	Mat rix	Pres erv.													
AWB-1-4'	5/24/05	11:30	Soil	-													
AWB-1-8'				-													
AWB-2-4'				-													
AWB-2-8'				-													
AWB-2-12'				-													
AWB-3-4'				-													
AWB-3-8'				-													
AWB-4-4'				-													
AWB-4-8'				-													

**Project Info.** Project Name: Pak DC Sub  
 Project#: 25087.23  
 PO#: 25087.23  
 Credit Card#: \_\_\_\_\_

**Sample Receipt** # of Containers: 9  
 Head Space: \_\_\_\_\_  
 Temp: 23°C  
 Conforms to record: \_\_\_\_\_

1) Relinquished by:  
James S. Konwito 14:30  
 Signature \_\_\_\_\_ Time \_\_\_\_\_  
 Printed Name \_\_\_\_\_ Date 5/24/05  
 Company ALLWEST

2) Relinquished by:  
 Signature \_\_\_\_\_ Time \_\_\_\_\_  
 Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
 Company \_\_\_\_\_

3) Relinquished by:  
 Signature \_\_\_\_\_ Time \_\_\_\_\_  
 Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
 Company \_\_\_\_\_

T A T 5 Day 72h 48h 24h Other: \_\_\_\_\_

Report:  Routine  Level 3  Level 4  EOD  State Tank Fund EDF  
 Special Instructions / Comments:  Global ID \_\_\_\_\_

1) Received by:  
T. Bullock 14:30  
 Signature \_\_\_\_\_ Time \_\_\_\_\_  
 Printed Name \_\_\_\_\_ Date 5/24/05  
 Company STL-SF

2) Received by:  
 Signature \_\_\_\_\_ Time \_\_\_\_\_  
 Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
 Company \_\_\_\_\_

3) Received by:  
 Signature \_\_\_\_\_ Time \_\_\_\_\_  
 Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
 Company \_\_\_\_\_

SEVERN  
TRENT

STL

STL San Francisco Chain of Custody  
1220 Quarry Lane • Pleasanton CA 94566-4756  
Phone: (925) 484-1919 • Fax: (925) 484-1096  
Email: [sflogin@stl-inc.com](mailto:sflogin@stl-inc.com)

Reference #: 115346

Date 5/24/05 Page 3 of 3

Report To					Analysis Request															Number of Containers				
Attn:	Company:	Address:	Phone:	Email:	TPH EPA - 8015/8021	Purgeable Aromatics BTEX EPA - 8021	TERP EPA 8015M*	Fuel Tests EPA 8260B	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs)	Semivolatiles GC/MS	Oil and Grease (EPA 1664)	Pesticides PCBs	PNAs by	CAM17 Metals (EPA 6010/7470/7471)	Metals: Lead LUFT RCRA Other	Low Level Metals by EPA 200.86020 (ICP-MS)	W.E.T (STLC) TCLP	Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)		Spec Cond TSS	Alkalinity TDS	Anions: Cl SO <sub>4</sub> NO <sub>3</sub> Br NO <sub>2</sub> PO <sub>4</sub>	
Sample ID	Date	Time	Mat rx	Pres erv.	<input type="checkbox"/> Gas w/ <input type="checkbox"/> BTEX <input type="checkbox"/> MTBE	<input type="checkbox"/> 8260B	<input type="checkbox"/> Silica Gel <input type="checkbox"/> Motor Oil <input type="checkbox"/> Other	<input type="checkbox"/> Gas <input type="checkbox"/> BTEX <input type="checkbox"/> DCA <input type="checkbox"/> EDB <input type="checkbox"/> Ethanol	<input type="checkbox"/> EPA 8021	<input type="checkbox"/> EPA 8260B <input type="checkbox"/> 824	<input type="checkbox"/> EPA 8270 <input type="checkbox"/> 625	<input type="checkbox"/> Total	<input type="checkbox"/> EPA 8081 <input type="checkbox"/> 608 <input type="checkbox"/> EPA 8082 <input type="checkbox"/> 608	<input type="checkbox"/> 8310	<input type="checkbox"/> EPA 6010/7470/7471	<input type="checkbox"/> Lead <input type="checkbox"/> LUFT <input type="checkbox"/> RCRA <input type="checkbox"/> Other	<input type="checkbox"/> EPA 200.86020 (ICP-MS)	<input type="checkbox"/> W.E.T (STLC) <input type="checkbox"/> TCLP	<input type="checkbox"/> Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)	<input type="checkbox"/> Spec Cond <input type="checkbox"/> TSS	<input type="checkbox"/> Alkalinity <input type="checkbox"/> TDS	<input type="checkbox"/> Anions: <input type="checkbox"/> Cl <input type="checkbox"/> SO <sub>4</sub> <input type="checkbox"/> NO <sub>3</sub> <input type="checkbox"/> Br <input type="checkbox"/> NO <sub>2</sub> <input type="checkbox"/> PO <sub>4</sub>		
AWB-5-4'	5/24/05	1130	SOIL	-																				
AWB-5-8'				-																				
AWB-6-4'				-																				
AWB-6-8'				-																				
AWB-6-12'				-																				

Project Info.				Sample Receipt		1) Relinquished by:		2) Relinquished by:		3) Relinquished by:	
Project Name: Park DC Sub	# of Containers: 5			Head Space:		Signature: <i>James S. Koniuto</i>	Time: 1430	Signature:	Time:	Signature:	Time:
Project#: 25087.23	Temp: 23°C			Conforms to record:		Printed Name: James S. Koniuto	Date: 5/24/05	Printed Name:	Date:	Printed Name:	Date:
PO#: 25087.23	Credit Card#:			Company: AllWest		Company:		Company:		Company:	
T A T	5 Day	72h	48h	24h	Other:	1) Received by: <i>Frank Bullock</i> 1430		2) Received by:		3) Received by:	
Report: <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Level 3 <input type="checkbox"/> Level 4 <input type="checkbox"/> EDD <input type="checkbox"/> State Tank Fund EDF <input type="checkbox"/> Global ID	Special Instructions / Comments:					Signature: <i>T. Bullock</i>	Time: 5/24/05	Signature:	Time:	Signature:	Time:
Company: STL-STF						Company:		Company:		Company:	

Sample Receipt Checklist

Submission #: 2005- 05-0670

Checklist completed by: <u>SA</u>		DATE: <u>5/24/05</u>
Courier: <input type="checkbox"/> STL SF	Courier <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> Other	Client <input checked="" type="checkbox"/>
Log-In Details		Yes No Comments
1. Custody seals intact on shipping container/samples	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Chain of custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Chain of custody signed when relinquished and received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Picked-Up at Secure Location.	<input type="checkbox"/> Client signed-off at time prior to pick-up
4. All samples checked when COC relinquished	<u>SA</u> <input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Chain of custody agrees with sample labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Samples in proper container/bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Sample containers intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Sufficient sample volume for indicated test?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. All samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Cooler Temperature Compliance Check

Temperature Blank Reading:	If no trip blank is submitted individual temperatures must be taken as per SOP.	Cooler Sample Temperature			
		#1	#2	#3	Average
		<u>22</u>	<u>23</u>	<u>23</u>	<u>23°C</u>
Reason for Elevated Temperature:		Samples with Temp > 6°C - Comments			
<input type="checkbox"/> - Ice Melted <input type="checkbox"/> Insufficient Ice <input type="checkbox"/> <input type="checkbox"/> Samp. in boxes <input checked="" type="checkbox"/> Sampled < 4hr. <input type="checkbox"/> Ice not req.					

VOA Sample Inspection

Are bubbles present in any of the VOA vials?	Sample #	Small	Med.	Large	Samples with broken, cracked or leaking containers
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes	No	Samples with Unacceptable pH		
	<input type="checkbox"/>	<input type="checkbox"/>			

pH adjusted- Preservative used:  HNO<sub>3</sub>  HCl  H<sub>2</sub>SO<sub>4</sub>  NaOH  ZnOAc -Lot #(s) \_\_\_\_\_

Comments:

Project Management [Routing for instruction of indicated discrepancy(ies)]

Project Manager: (initials) \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/05 Client contacted: Yes  No

Summary of discussion:

Corrective Action (per PM/Client):

# Appendix C



March 22, 2005

**SOIL AND GROUNDWATER  
INVESTIGATION REPORT**

1815 Park Boulevard  
Oakland, California

Project No. 10316

Prepared For

Mr. William Phua  
INT USA, Inc.  
821 Jefferson Street  
Oakland, CA 94607

Prepared By

**AEI Consultants**  
2500 Camino Diablo, Suite 200  
Walnut Creek, CA 94597  
(925) 283-6000

**AEI**



March 22, 2005

Mr. William Phua  
INT USA, Inc.  
821 Jefferson Street  
Oakland, CA 94607

**Subject: Soil and Groundwater Investigation**  
1815 Park Boulevard  
Oakland, California  
AEI Project No. 10316

Dear Mr. Phua:

The following letter report describes the activities and results of the subsurface investigation performed by AEI Consultants at the above referenced property (Figure 1: Site Location Map). The investigation included the collection and analyses of soil and groundwater samples from three (3) additional shallow soil borings advanced on the property. The investigation was designed to further investigate whether the property had been significantly impacted by a release of tetrachloroethylene (PCE) that was identified during a limited Phase II Subsurface Investigation performed in January 2005.

## I Background

The subject property (hereinafter referred to as the "site" or "property") is one suite in a commercial building located on the north side of Park Boulevard, just east of 18<sup>th</sup> Street. The site is located in a mixed commercial / residential area of Oakland.

AEI performed a Phase I Environmental Site Assessment (ESA) of the property 1815 – 1825 Park Boulevard in December 2004. Historical resources, including reverse street directories and City of Oakland Building Department records, revealed that one of the units of the building (1815 Park Boulevard) had been occupied by a dry-cleaning facility from approximately 1967 through 1992. An environmental disclosure document from 1989 confirmed the presence of the dry-cleaning facility and use of solvents onsite. No detailed information on the layout of dry-cleaning operation was available; however, according to a representative who used to work at the facility, the dry-cleaning machine was located toward the back, along the western side of the unit. Chemical storage is assumed to have been toward the back of the unit, as is typical of dry-cleaning operations. Based on the long-term historical operation of dry-cleaning on the property, the ESA recommended that a subsurface investigation be performed.

On January 12, 2005, AEI collected soil and groundwater samples from three (3) soil borings (labeled SB-1 to SB-3) on the property. PCE was detected in two soil samples, up to 0.086 mg/kg and in groundwater up to 13 µg/l. Although the concentrations detected were low, the presence of PCE indicated that a release had occurred. Based on the limited scope of the

preliminary Phase II investigation, additional soil and groundwater sampling was recommended around the former dry-cleaning location and in the assumed down-gradient (westerly) direction.

This report presents the findings of the additional soil and groundwater investigation conducted on March 14, 2005.

## **II Investigative Efforts**

Prior to mobilization onsite, a drilling permit (# W05-0261) was obtained from the Alameda County Public Works Agency (ACPWA). Underground Service Alert North was notified to identify public utilities in the planned work area.

AEI performed the additional subsurface investigation at the property on March 14, 2005. A total of three (3) soil borings (SB-4 to SB-6) were advanced. The borings were placed along the western wall of the building, in the assumed area of the former dry-cleaning plant. The locations of the soil borings are shown on Figure 2.

### ***Soil Sample Collection***

The borings were advanced with a limited-access direct-push drilling rig. In each location, a core was cut in the concrete surfacing and the boring hand cleared to a depth of 2 to 3 feet below ground surface (bgs). The borings were then drilled to a depth of 12 feet bgs each.

Soil cores were continuously collected in 2" diameter acrylic liners and logged by the onsite AEI geologist. At selected depths, six-inch samples were cut from the liners. Soil samples were screened in the field with a portable organic vapor meter (OVM). Soil samples were collected at approximately 2 to 5 foot intervals. Selected samples were sealed with Teflon tape and plastic caps, labeled with a unique identifier, and placed in a cooler with wet ice to await transportation to the laboratory.

No obvious chemical odor or OVM readings were observed during the drilling activities. Field observations and screening data is presented on the borings logs in Attachment A.

### ***Groundwater Sample Collection***

Upon encountering saturated sediments, a temporary 3/4" diameter factory-slotted PVC casing was inserted into each boring to facilitate collection of groundwater samples.

Groundwater samples were collected with a drop tube equipped with a check valve into 40-ml volatile organic analysis (VOA) vials. The groundwater samples were capped so that there was no head space or visible air bubbles within the vials, labeled with a unique identifier, and placed in a cooler with wet ice to await transportation to the laboratory.

### ***Boring Destruction***

Upon completion of sampling and measurement activities, all temporary casing was removed from the boreholes. Each boring was then backfilled with neat cement grout. After allowing for settlement, each was then finished with concrete to existing grade.

### ***Laboratory Analysis***

On March 14, 2005, the soil and groundwater samples were transported to McCampbell Analytical Inc. (Department of Health Services Certification #1644) under chain of custody protocol for analysis. Analytical results and chain of custody documents are included as Attachment B.

Three soil samples and three groundwater samples were selected for analyses; the remainder of the samples was placed on hold at the laboratory. The six samples were analyzed for halogenated volatile organic compounds (HVOCs) by EPA method 8260B.

### **III Findings**

Near surface sediments generally consisted of clay deposits with varying amounts of sand and gravel, from ground surface to boring termination, consistent with the first three borings. Saturated sediments were encountered at approximately 11 feet bgs, although shallower soils were moist. Groundwater was present in the temporary casings at between 5.5 and 6 feet bgs. Refer to Attachment A for detailed logs of the borings.

PCE was detected in the three soil samples, ranging from 0.023 mg/kg (SB-6 3') to 3.1 mg/kg (SB-4 4'). No other target HVOCs were detected in any of the soil samples. Soil sample analytical data is summarized in Table 1.

PCE was detected in each of the three groundwater samples, ranging from 1.5 µg/l (SB-6W) to 230 µg/l (SB-4W). In addition, trichloroethylene (TCE) was detected in SB-4 W at 14 µg/l. Cis-1,2 Dichloroethylene and vinyl chloride were detected up to 25 µg/l and 7.6 µg/l, respectively, in this sample. Groundwater sample analytical data is summarized in Table 2.

### **IV Conclusions and Recommendations**

This additional soil and groundwater investigation was performed to further assess the extent of the release of PCE identified during the first investigation.

Based on the detection of 3.1 mg/kg of PCE in the soil sample SB-4 4', a significant release had occurred in the area of the former dry-cleaning operation. Further investigation will be necessary to determine the extent of impacted soil and evaluate whether the PCE present in the soil poses a risk to occupants of the property or to neighboring property occupants. The detection of higher concentrations of PCE in groundwater indicates that a dissolved phase plume exists and may have migrated off-site. Groundwater is expected to flow in a westerly direction.

Although the concentration of PCE detected in groundwater (up to 230 µg/l) may not require mitigation, a groundwater investigation and monitoring will be necessary to determine whether water resources are significantly threatened.

Because the release of hazardous materials may pose a threat to human health and has impacted groundwater, this report should be presented to the appropriate regulatory authority, the Alameda County Health Care Services Agency and/or the San Francisco Bay Regional Water Quality Control Board. Further investigation of the release, including an evaluation of the risk to human health and groundwater resources, would be required to determine whether active cleanup is necessary.

#### **V Report Limitation**

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide the required information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work.

If you have any questions regarding our investigation, please do not hesitate to contact Mr. McIntyre at (925) 283-6000, extension 104.

Sincerely,  
**AEI Consultants**

Adrian Angel  
Staff Geologist

Peter J. McIntyre, P.G.  
Senior Project Manager

1815 Park Boulevard, Oakland, CA  
AEI Project # 10316  
March 22, 2005  
Page 5

**Figures**

*Figure 1: Site Map*

*Figure 2: Site Plan*

**Tables**

*Table 1: Soil Sample Analytical Data*

*Table 2: Groundwater Sample Analytical Data*

**Attachments**

*Attachment A: Soil Boring Logs*

*Attachment B: Sample Analytical Documentation*

224

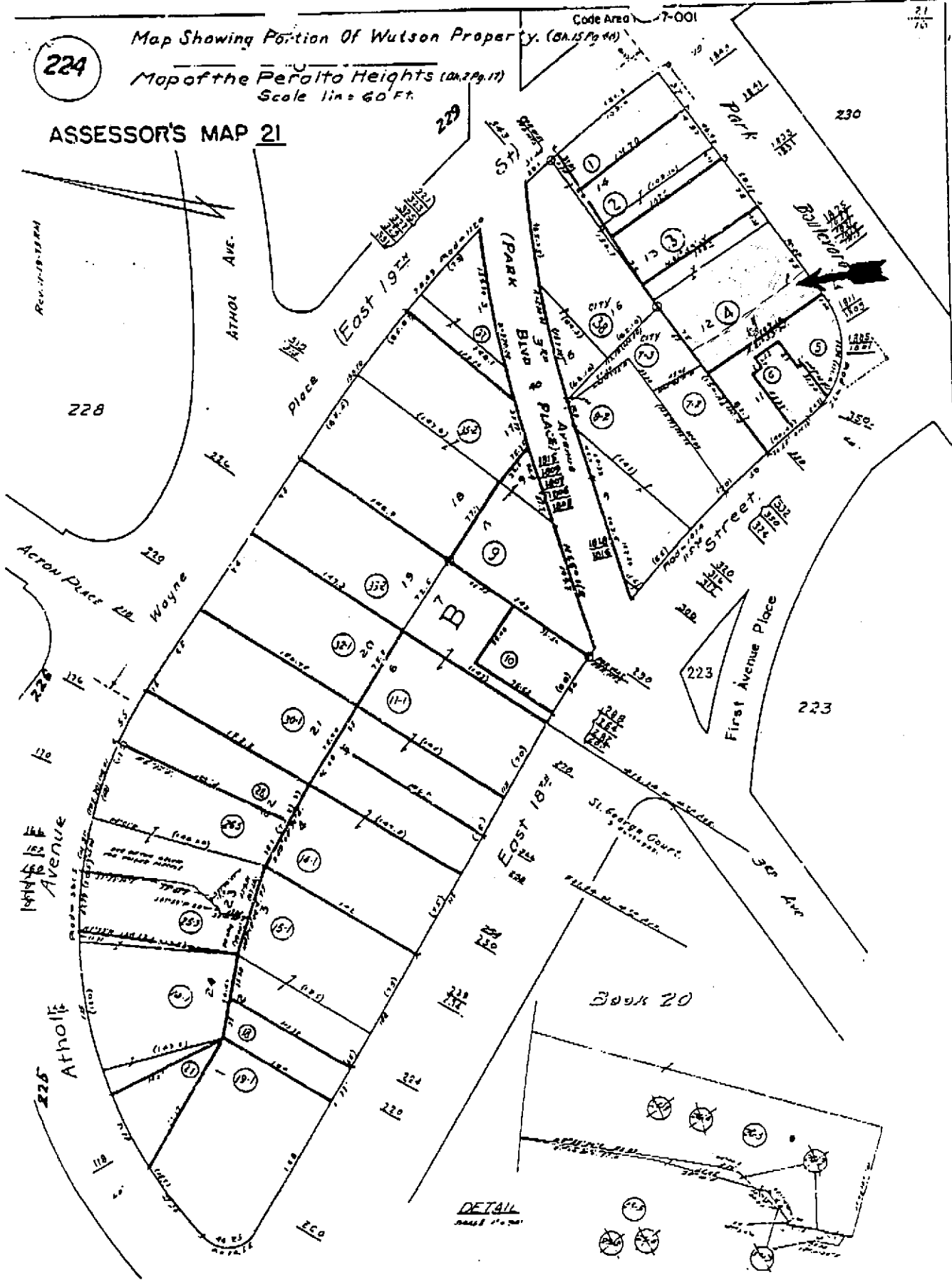
Map Showing Portion Of Watson Property. (G.A.S.P. 44)

Map of the Peralto Heights (G.A.S.P. 17)  
Scale 1 in = 60 Ft.

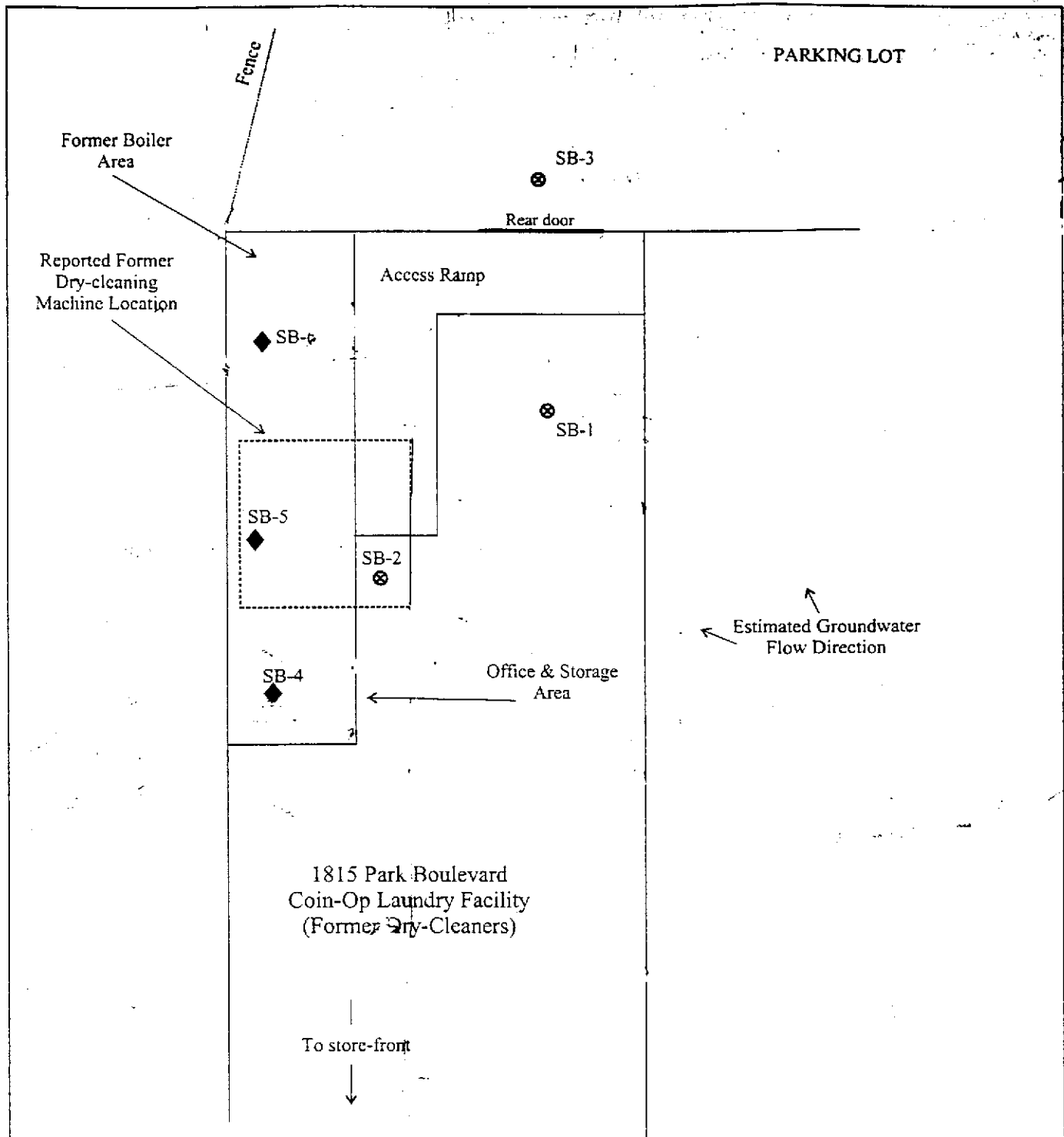
Code Area 7-001

21  
1/10

ASSESSOR'S MAP 21



"This plat is for your aid in locating your land with reference to streets and other parcels. While this plat is believed to be correct, the Company assumes no liability for any loss occurring by reason of reliance thereon."  
FIDELITY NATIONAL TITLE INS. CO.



- ⊗ Soil Boring 1/12/05
- ◆ Soil Boring 3/14/05



0' 5' 10'  
 Scale: 1 in = 10 ft

Revised: March 2005

<b>AEI CONSULTANTS</b> 2500 CAMINO DIABLO, STE 200 WALNUT CREEK, CA 94597	
<b>SITE PLAN</b>	
1815 PARK BOULEVARD OAKLAND, CA	<b>FIGURE 2</b> PROJECT No. 10316



**Table 1**  
**Soil Sample Analytical Data**

Sample ID	Sample Date	PCE mg/kg <i>(EPA Method 8260)</i>	Other VOCs mg/kg
SB-1 4'	1/12/05	<0.005	All < 0.005
SB-2 5'	1/12/05	<b>0.086</b>	All < 0.005
SB-3 4'	1/12/05	<b>0.0063</b>	All < 0.005
SB-4 4'	3/14/05	<b>3.1</b>	All < 0.20
SB-5 4'	3/14/05	<b>0.51</b>	All < 0.033
SB-6 3'	3/14/05	<b>0.023</b>	All < 0.005
MDL		0.005	varies

Notes: ~~mg~~ <sup>milli</sup>g/kg = micrograms per kilogram  
PCE - Tetrachloroethene  
VOCs - Volatile Organic Compounds  
MDL - Method detection limit, see Appendix B for MDLs for all 8260 target VOCs

**Table 2**  
**Groundwater Sample Analytical Data**

Sample ID	Sample Date	PCE	TCE	cis-1,2-DCE	Vinyl Chloride	Other VOCs
		µg/l		(EPA Method 8260)		µg/l
SB-1W	1/12/05	<0.5	<0.5	<0.5	<0.5	All < MDL
SB-2W	1/12/05	<b>13</b>	<0.5	<0.5	<0.5	All < MDL
SB-3 W	1/12/05	<0.5	<0.5	<0.5	<0.5	All < MDL
SB-4W	3/14/05	<b>230</b>	<b>14</b>	<b>25</b>	<b>7.6</b>	All < MDL
SB-5W	3/14/05	<b>7.9</b>	<0.5	<0.5	<0.5	All < MDL
SB-6W	3/14/05	<b>1.5</b>	<0.5	<b>0.54</b>	<0.5	All < MDL
MDL		0.5	0.5	0.5	0.5	Varies

**Notes:**

µg/l - micrograms per liter

VOCs - Volatile Organic Compounds

PCE - Tetrachloroethylene

TCE - Trichloroethylene

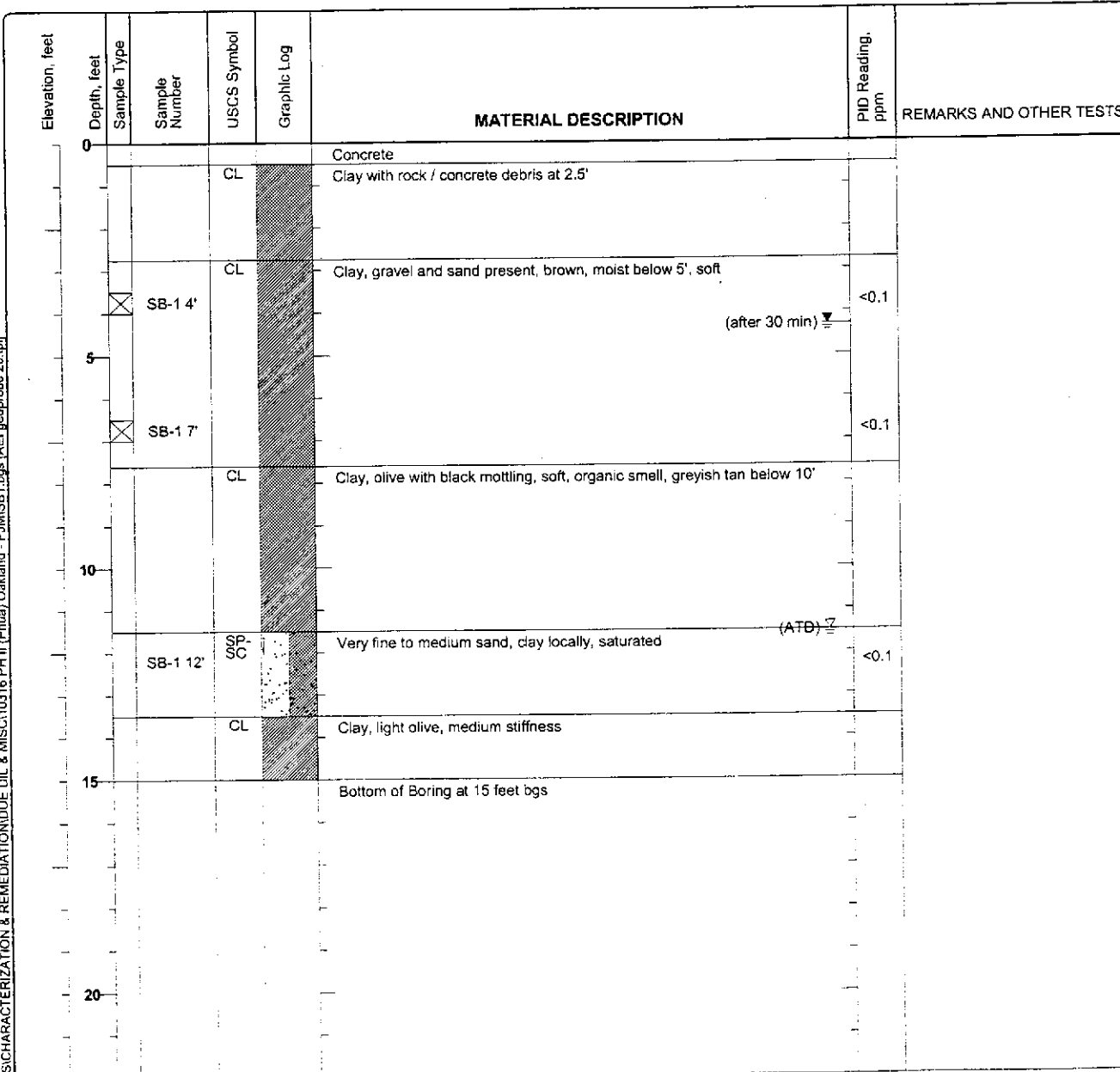
cis-1,2-DCE - cis-1,2 Dichloroethylene

MDL - Method detection limit, see Appendix B for MDLs for all 8260 target VOCs

Project: W. Phua  
 Project Location: 1815 Park Boulevard, Oakland  
 Project Number: 10316

**Log of Boring SB-1**  
 Sheet 1 of 1

Date(s) Drilled	January 12, 2005	Logged By	Peter McIntyre	Checked By	Robert Flory
Drilling Method	Direct Push	Drill Bit Size/Type		Total Depth of Borehole	15 feet bgs
Drill Rig Type	GeoProbe	Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured	11.5 feet ATD, 4.3 feet after 30 min	Sampling Method(s)	Tube	Well Permit.	
Borehole Backfill	Cement Slurry	Location			









Figure

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Project: W. Phua  
 Project Location: 1815 Park Boulevard, Oakland  
 Project Number: 10316

**Log of Boring SB-2**  
 Sheet 1 of 1

Date(s) Drilled	January 12, 2005	Logged By	Peter McIntyre	Checked By	Robert Flory
Drilling Method	Direct Push	Drill Bit Size/Type		Total Depth of Borehole	12 feet bgs
Drill Rig Type	GeoProbe	Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured	10.5 feet ATD, 5.5 feet after 10 min	Sampling Method(s)	Tube	Well Permit.	
Borehole Backfill	Cement Slurry	Location			







Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0				CL		Concrete		
				CL		Clay with rock / concrete debris at 2.5'		
				CL		Tan clay, wet sand & gravel stringer at 6.5'		
	5	X	SB-2 5'				<0.1	(after 10 min) 
				CL		Soft olive-grey clay, black mottling, grading downward to gravelly and sandy clay, saturated below 10.5'		
	10	X	SB-2 9'				<0.1	(ATD) 
						Bottom of Boring at 15 feet bgs	<0.1	
15								
20								

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Project: W. Phua  
 Project Location: 1815 Park Boulevard, Oakland  
 Project Number: 10316

**Log of Boring SB-3**  
 Sheet 1 of 1

Date(s) Drilled	January 12, 2005	Logged By	Peter McIntyre	Checked By	Robert Flory
Drilling Method	Direct Push	Drill Bit Size/Type		Total Depth of Borehole	12 feet bgs
Drill Rig Type	GeoProbe	Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured	8.5 feet ATD, 5 feet after 5 min	Sampling Method(s)	Tube	Well Permit.	
Borehole Backfill	Cement Slurry	Location			

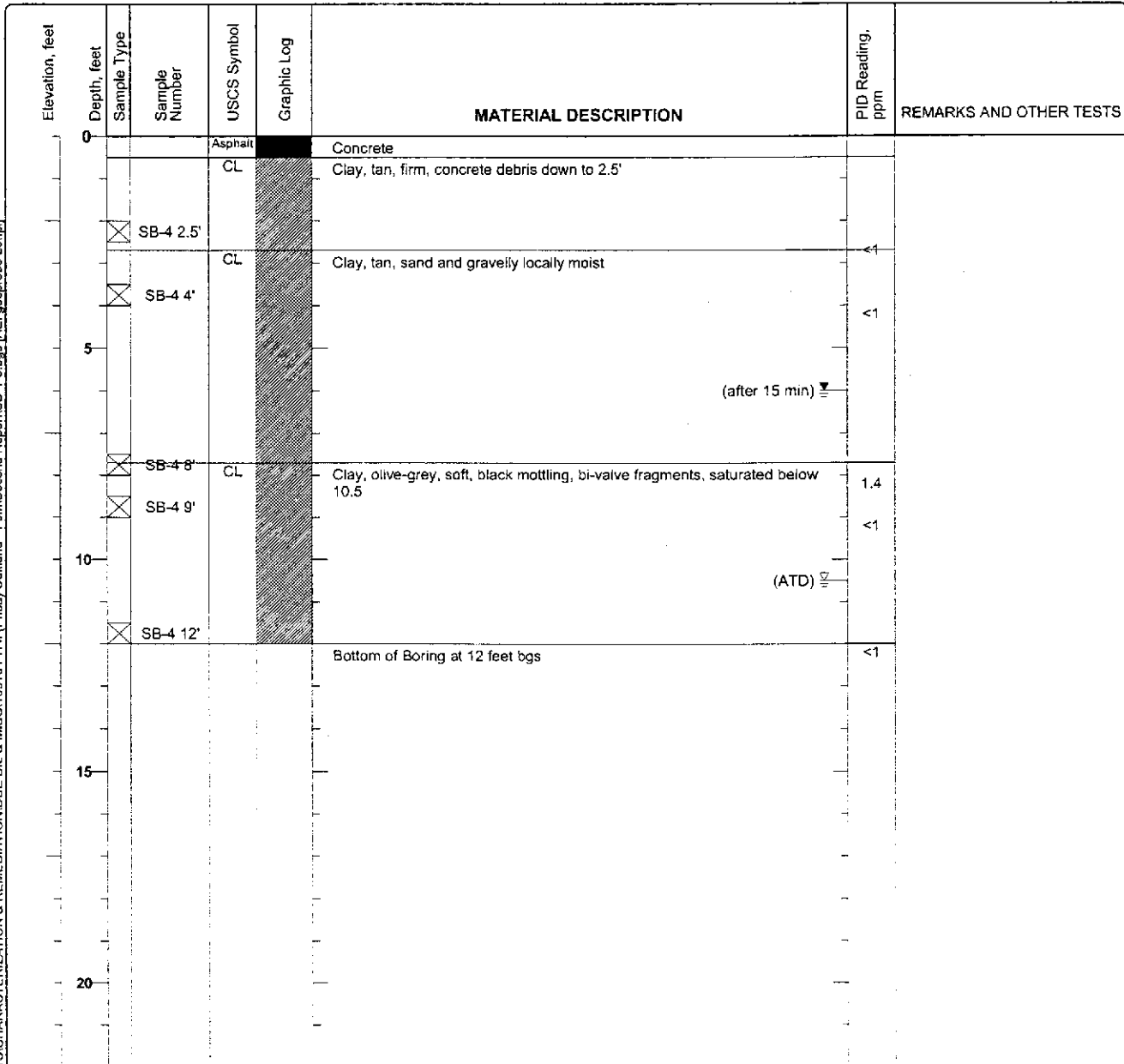
Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0				CL		Asphalt Gravelly clay		
	3.4	X	SB-3 4'	CL		Sandy clay, medium stiff, tan, soft below 5'	<0.1	
	5					(after 5 min) 		
	8	X	SB-3 8'				<0.1	
	10			SP-SC		Fine to medium sand with clay locally, saturated, olive grey		(ATD) 
	10			CL		Clay, very soft, calcarious fragments		
	12					Bottom of Boring at 12 feet bgs		
	15							
	20							

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Project: Bill Phua  
 Project Location: Park Blvd., Oakland  
 Project Number: 10316

**Log of Boring SB-4**  
 Sheet 1 of 1

Date(s) Drilled	March 14, 2005	Logged By	Adrian Angel	Checked By	Peter McIntyre
Drilling Method	Direct Push	Drill Bit Size/Type		Total Depth of Borehole	12 feet bgs
Drill Rig Type	Geoprobe 5410	Drilling Contractor	ECA	Approximate Surface Elevation	
Groundwater Level and Date Measured	10.5 feet ATD, 6 feet after 15 min	Sampling Method(s)	Tube	Well Permit.	
Borehole Backfill	Cement Slurry	Location			



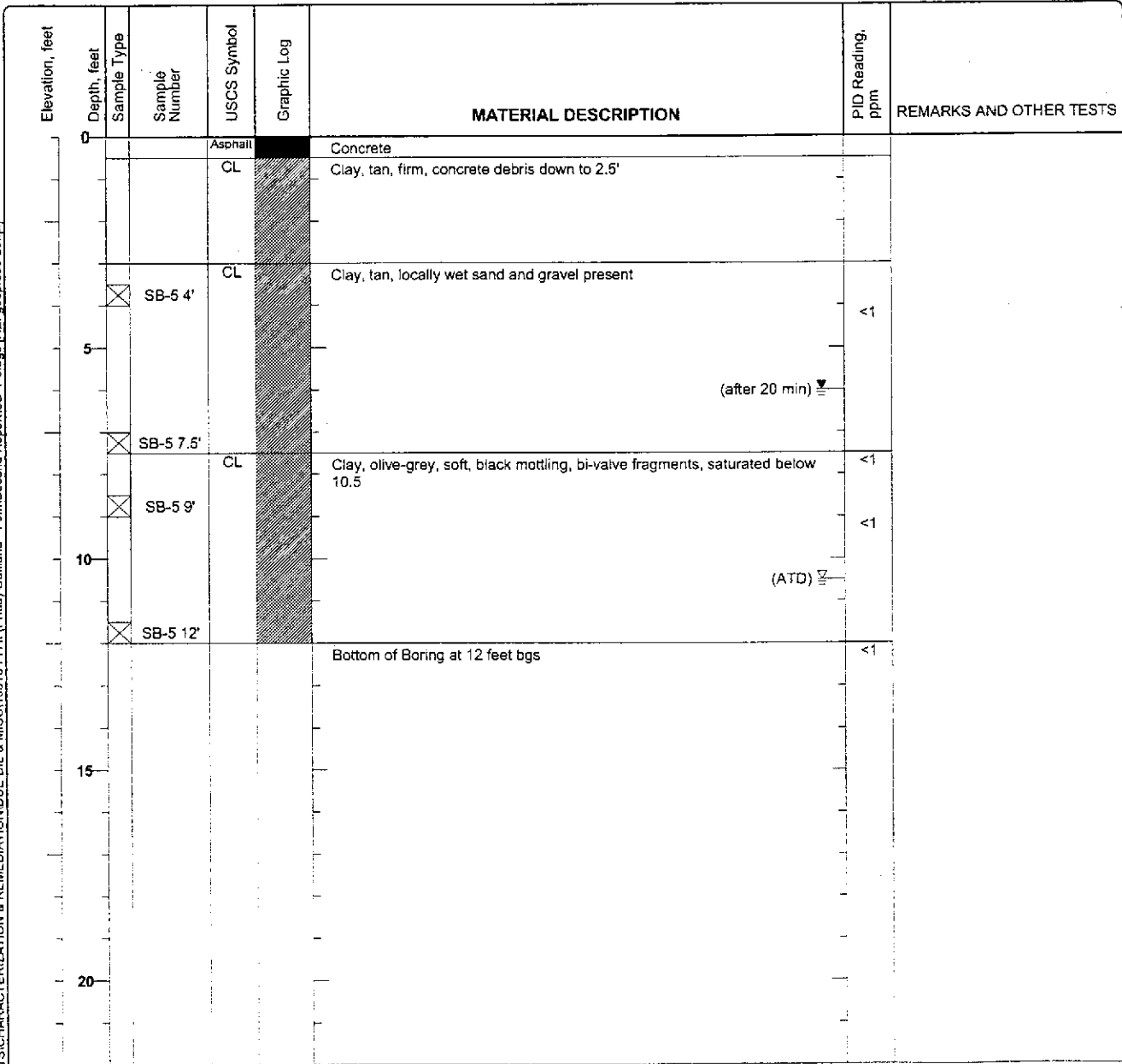
Figure

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Project: Bill Phua  
 Project Location: Park Blvd., Oakland  
 Project Number: 10316

**Log of Boring SB-5**  
 Sheet 1 of 1

Date(s) Drilled	March 14, 2005	Logged By	Adrian Angel	Checked By	Peter McIntyre
Drilling Method	Direct Push	Drill Bit Size/Type	2 3/4 inch	Total Depth of Borehole	12 feet bgs
Drill Rig Type	Geoprobe 5410	Drilling Contractor	ECA	Approximate Surface Elevation	
Groundwater Level and Date Measured	10.5 feet ATD, 6 feet after 20 min.	Sampling Method(s)	Tube	Well Permit.	
Borehole Backfill	Cement Slurry	Location			



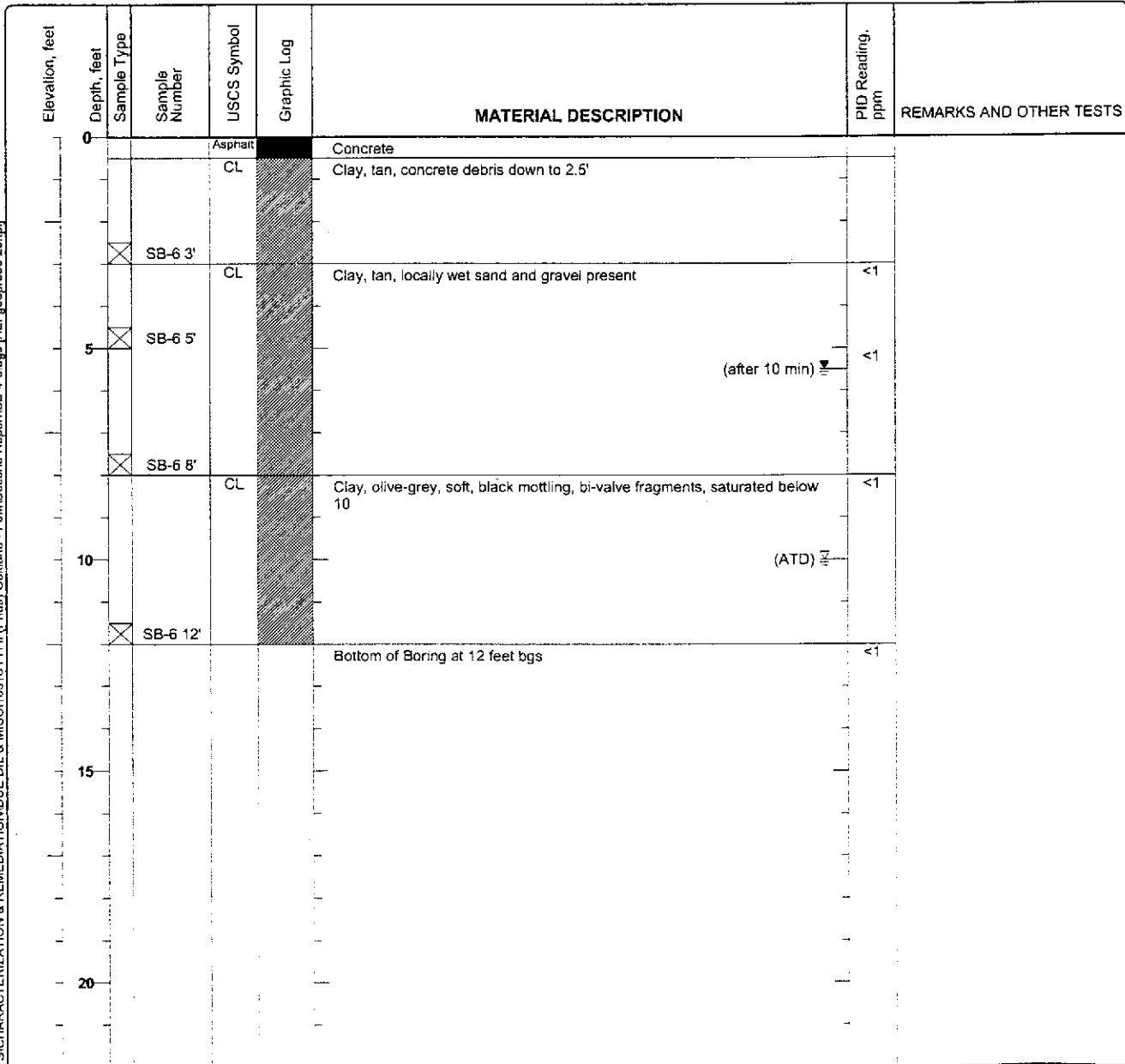
Figure

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Project: Bill Phua  
 Project Location: Park Blvd., Oakland  
 Project Number: 10316

**Log of Boring SB-6**  
 Sheet 1 of 1

Date(s) Drilled	March 14, 2005	Logged By	Adrian Angel	Checked By	Peter McIntyre
Drilling Method	Direct Push	Drill Bit Size/Type		Total Depth of Borehole	12 feet bgs
Drill Rig Type	Geoprobe 5410	Drilling Contractor	ECA	Approximate Surface Elevation	
Groundwater Level and Date Measured	10 feet ATD, 5.5 feet after 10 min	Sampling Method(s)	Tube	Well Permit.	
Borehole Backfill	Cement Slurry	Location			



Figure