



# SALEM Engineering Group, Inc.

February 29, 2012

Job No. 1-412-0103

**Mr. Jeffrey Olsen**

The Kroger Company  
1100 West Artesia Boulevard  
Compton, CA 90220

**Re: Phase II Environmental Site Assessment  
Proposed FoodsCo Supermarket #536  
Hahn Property  
NEC West Grand Avenue and Myrtle Street  
Oakland, California**

Dear Mr. Olsen:

At your request and authorization, SALEM Engineering Group, Inc. (SALEM) has prepared this Phase II Environmental Site Assessment for the Hahn Property, located along the southern portion of the lot bounded by Myrtle Street to the west, Market Street to the east, and West Grand Avenue to the south in Oakland, California.

We appreciate the opportunity to assist you with this project. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (909) 980-6455.

Respectfully submitted,

**SALEM Engineering Group, Inc.**

James Robert, L.G., L.H.G.  
Senior Hydrogeologist

**Geotechnical • Environmental • Geology • Materials Testing & Inspection • Forensic • Laboratory**

4055 West Shaw Avenue, Suite 110 • Fresno, CA 93722 • (559) 271-9700 • Fax (559) 275-0827  
2321 Perseus Court • Bakersfield, CA 93308 • (661) 393-9711 • Fax (661) 393-9710  
11650 Mission Park Dr., #108 • Rancho Cucamonga, CA 91730 • (909) 980-6455 • Fax (909) 980-6435  
3850 North Wilcox Road, Suite F • Stockton, CA 95215 • (209) 931-2226 • Fax (209) 931-2227



# **SALEM** Engineering Group, Inc.

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**PHASE II ENVIRONMENTAL SITE ASSESSMENT**

**PROPOSED FOODS CO. SUPERMARKET NO. 536  
"HAHN PROPERTY"**

**NORTHEAST CORNER OF WEST GRAND AVENUE AND MYRTLE STREET  
OAKLAND, CALIFORNIA**

*PREPARED FOR:*

**MR. JEFFREY OLSEN  
THE KROGER COMPANY  
1100 WEST ARTESIA BOULEVARD  
COMPTON, CA 90220**

*PREPARED BY:*

**SALEM ENGINEERING GROUP, INC.  
11650 MISSION PARK DRIVE, SUITE 108  
RANCHO CUCAMONGA, CA 91730  
(909) 980-6455**

**JOB NO. 1-412-0103  
FEBRUARY 29, 2012**

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February 29, 2012

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## PHASE II ENVIRONMENTAL SITE ASSESSMENT

### PROPOSED FOODS CO. SUPERMARKET NO. 536 "HAHN PROPERTY"

NORTHEAST CORNER OF WEST GRAND AVENUE AND MYRTLE STREET  
OAKLAND, CALIFORNIA

#### 1.0 EXECUTIVE SUMMARY

Salem Engineering Group, Inc. (SALEM) conducted a Phase II Environmental Site Assessment (ESA) on behalf of The Kroger Company (Kroger) to investigate the proposed FoodsCo Supermarket No. 536 site (Hahn Property) located on the northeast corner of West Grand Avenue and Myrtle Street in Oakland, California (subject property). See Figure 1 Site Vicinity Map. The investigation was performed in general accordance with SALEM's Proposal No. P4-412-0168 dated February 7, 2012.

The proposal was prepared in response to conclusions detailed in SALEM's Phase I Environmental Site Assessment report, dated January 25, 2011 that identified Recognized Environmental Conditions (RECs) associated with former use of the subject property as a gasoline station, its current use for auto repair services, and the former presence of a rail spur that bisected the southern portion of the property.

Based upon the RECs identified during the performance of the Phase I ESA, SALEM recommended conducting a Limited Soils Assessment (LSA) for the purpose of assessing potential environmental impacts associated with current and historical on-site property utilization. Please note that additional information regarding historic assessment activities performed at the subject site in March 2005 was provided to SALEM field personnel during the performance of our February 2012 Phase II investigation. This information was not known or provided for SALEM's review during the performance of SALEM's January 2011 Phase I ESA. Information from the historic assessment activities is summarized in this report and a copy of the report is included as Appendix A.

**Geotechnical • Environmental • Geology • Materials Testing & Inspection • Forensic • Laboratory**

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11650 Mission Park Dr., #108 • Rancho Cucamonga, CA 91730 • (909) 980-6455 • Fax (909) 980-6435  
3850 North Wilcox Road, Suite F • Stockton, CA 95215 • (209) 931-2226 • Fax (209) 931-2227

The following data summary is based on a review of the April 2005 Report of Soil and Groundwater Assessment (Aqua Science Engineers, Inc.) and field and laboratory data obtained during SALEM's Phase II ESA investigation of the subject property that included a February 15 and 16, 2012 geophysical survey, soil investigation, and soil vapor survey:

- Depth to groundwater is approximately 11 feet below ground surface (bgs) in the vicinity of the subject property as noted in the third quarter 2011 groundwater monitoring report prepared for the Arco service station located approximately 100 feet southeast of the subject property. The most recent groundwater monitoring event indicated that the direction of subsurface groundwater flow was to the northeast at a gradient of 0.003 foot per foot (ft/ft); however, groundwater flow directions have historically been to the northwest toward the subject property. The Arco site has known significant petroleum hydrocarbon impacts to soil and groundwater and is reportedly in the process of continuing assessment of the down-gradient (off-site) extent of impacts to the northwest of the Arco facility. The reported presence of utilities in the public right-of-ways and an inability to gain access to off-site properties has thus far precluded Arco from continuing their off-site investigation.
- Groundwater was not encountered to the maximum depth investigated of 10 feet bgs during the performance of this investigation. Groundwater was encountered at a depth of 12 feet bgs during the March 2005 fieldwork performed by Aqua Science.
- Aqua Science's 2005 investigation included the collection of soil samples from two feet bgs in seven borings. Total petroleum hydrocarbons as gasoline, diesel, and motor oil (TPH-G/D/O), volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs) were not detected in these soil samples. Total lead concentrations ranged from 8.1 to 37 milligrams per kilogram (mg/kg). Two additional soil borings were advanced along the southern property boundary to 16 feet bgs. The 11.5-foot bgs soil sample collected from the boring advanced south of the tire shop (BH-A) did not contain detectable concentrations of TPH-G/D/O, VOCs, or PCBs. The 11.5-foot bgs soil sample collected from the southwest corner of the property (BH-B, near the former gas station) contained ethylbenzene, total xylenes, naphthalene, and TPH-G/D above Environmental Screening Levels (ESLs) established by the California Regional Water Quality Control Board, San Francisco Bay Region (CRWQCB-SF). The grab groundwater sample collected from BH-A exceeded ESLs for TPH-O and the grab groundwater sample collected from BH-B exceeded ESLs for TPH-G/D, dissolved lead, ethylbenzene, total xylenes, and naphthalene.
- SALEM performed a limited geophysical survey in February 2012. A complete survey was not possible due to the presence of numerous vehicles and equipment/materials that precluded access to a majority of the subject property. The vehicles also generated magnetic readings that interfered with the ability of the equipment to detect buried metallic objects (such as underground storage tanks [USTs] and pipes). The parking lot area of the 914 West Grand Avenue property was the primary area accessible for the limited geophysical survey. A possible non-metallic UST was identified in the northwest corner of the parking lot area. A possible UST excavation and general disturbance were identified along the southwestern corner and eastern portion of the parking lot, respectively. Another "disturbance" was identified adjacent to Myrtle Street in the JAC Truck Repair parking lot; however, the origin of the disturbance was not able to be interpreted due to interference from parked vehicles surrounding the geophysical survey area.



- Seven soil borings (B-1 through B-7) were installed to depths of 10 feet bgs in accessible areas of the 914 West Grand Avenue, 2236 Myrtle Street, and 2271 Market Street properties. The borings were converted to nested soil vapor wells, with probes installed at depths of 5 and 10 feet bgs in each boring. The 902 West Grand Avenue building was not accessible.
- Trace to low concentrations of total arsenic and lead were detected in the five analyzed soil samples; however, concentrations did not exceed ESLs. Based on a review of soil analytical results, the former rail spur is not suspected to have significantly impacted soil at the subject property and does not require further investigation.
- Aromatic hydrocarbon compounds typically associated with fuel hydrocarbons such as gasoline were detected in the majority of the soil vapor samples. The primary VOCs detected were toluene and total xylenes; however, benzene, ethylbenzene, n-propylbenzene, isopropylbenzene, n-butylbenzene, sec-butylbenzene, and tetrachloroethene (PCE), were also detected in analyzed soil vapor samples. The highest concentrations of VOCs were identified in the 10-foot bgs soil vapor sample collected from B-3, located in the 914 West Grand Avenue parking lot near the suspected non-metallic UST location.
- VOCs were not detected in nested probes B-2 and B-4, located south of the tire shop and along the southwest corner of the 914 West Grand parking area, respectively.
- PCE was detected at a concentration of 84 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) in the 10-foot bgs sample collected from B-5, located along the western portion of the JAC Truck Repair facility. PCE and other chlorinated solvents were not detected in any other soil vapor samples. The possible origin of the PCE result is unknown.
- VOCs detected in soil vapor could be the result of historic on-site operations (gasoline station and auto repair) or from off-gassing from contaminated groundwater that has migrated beneath the subject property from the nearby Arco leaking underground storage tank (LUST) site.
- The maximum detected concentrations of detected VOCs in soil vapor were lower than the commercial/industrial CHHSLs for these compounds; however, benzene exceeded the commercial/industrial CHHSL of  $122 \mu\text{g}/\text{m}^3$  in the soil vapor sample collected from B-3 at 10 feet bgs. As such, a vapor intrusion model was used to further assess the benzene concentrations detected at the subject property. After applying selected site-specific values for model parameters, and using the highest benzene concentration at 10 feet bgs to conservatively estimate potential worst-case vapor concentrations from below the building ( $520 \mu\text{g}/\text{m}^3$ ), SALEM's analysis for best estimate of indoor air risk using the USEPA Screening Level Johnson & Ettinger vapor intrusion model results in a cancer risk value of  $9.50 \times 10^{-7}$ , which is less than the  $10^{-5}$  value applied to commercial settings. Therefore, the likelihood of vapor intrusion of benzene into the existing or proposed structures at concentrations that may present an unacceptable health risk appears to be low provided the subject property remains utilized as a commercial/industrial property.
- The source(s) of aromatic and chlorinated hydrocarbon constituents in soil vapor is not known; however, data suggests that off-gassing from contaminated groundwater, release(s) to soil from historic on-site operations, or a combination of both may be responsible for contaminants identified during the performance of this investigation.



Based on the results of the soil and soil vapor survey, SALEM believes that existing site conditions do not represent an undue risk to human health or the environment, and no remediation appears warranted at this time. SALEM recommends that the suspect on-site UST and areas with general disturbances be investigated further using excavation and visual inspection, and that a more comprehensive geophysical survey be performed at the subject property once surface obstructions such as vehicles, tires, and other metallic debris have been removed. Buried appurtenances such as USTs, piping, sumps, clarifiers, and hydraulic hoists will need to be addressed before or during redevelopment of the subject property. SALEM also recommends that a Soil Management Plan be prepared if excavation is to be performed at the subject property during redevelopment activities. Groundwater conditions beneath the subject property may also require further assessment.

## 2.0 INTRODUCTION

SALEM conducted a Phase II ESA on behalf of Kroger to investigate a portion of the proposed FoodsCo Supermarket No. 536 site (Hahn Property) located along the southern portion of the lot bounded by Myrtle Street to the west, Market Street to the east, and West Grand Avenue to the south in Oakland, California (subject site – see Figure 1). The investigation was performed in general accordance with SALEM's Proposal No. P4-412-0168 dated February 7, 2012, and focused on identification of subsurface anomalies typically associated with the presence of USTs, soils that may have been impacted by release(s) from the historical on-site fuel distribution and auto repair operations, and soil vapor that may have been impacted by release(s) from historic use and storage of petroleum hydrocarbons and solvents.

The subject property consists of six parcels (Alameda County Assessor's Parcel Nos. [APNs] 005-0431-023; 005-0431-021-04; 005-0431-015-04; 005-0431-017-01; 005-0431-018-03; and 005-0431-019-02) totaling approximately 1.06 acres, located on the north side of West Grand Avenue, between Myrtle Street to the west and Market Street to the east. At the time of SALEM's February 2012 field investigation, the northwest quadrant of the subject property was occupied by JAC Truck Repair and associated asphalt-paved parking lot at 2236 Myrtle Street. The southern portion of the property was occupied by Enrique's Tire Repair at 914 West Grand Avenue and a two-story commercial building (occupant unknown, access not available). The northeast quadrant of the subject property was occupied by a single-story commercial building, currently utilized as a nightclub, at 2271 Market Street. The subject property is located within Section 36, Township 1 North, Range 7 West, Mount Diablo Baseline and Meridian, U.S. Geological Survey 7.5 Minute Topographic Map, Oakland West, California Quadrangle, 1959, photo-revised 1980. A Site Plan is included as Figure 2.



## 2.1 Background

SALEM's findings of the Phase I ESA revealed the following evidence of RECs in connection with the subject property as defined by ASTM E-1527-05:

- Leon's Mohawk Service gasoline station at 914 West Grand Avenue occupied the southwest corner of the property from at least 1963 to 1970. No information was identified in regulatory agency files regarding removal and closure of the USTs and other buried appurtenances (hoists, piping, clarifiers, oil/water separators).
- Several vehicle maintenance businesses have historically occupied the facility. There is a moderate potential that past on-site operators utilized USTs, hoists, oil/water separators that may have impacted the subject property.
- SALEM's aerial photograph review identified the presence of a railroad spur along the southern portion of the property. Arsenic and lead are commonly detected in soil near railroad spurs.

Because of the REC summarized above, SALEM recommended conducting a Phase II ESA at the subject property. This investigation was conducted to address the recommendation for additional subsurface investigation.

During the performance of the Phase II ESA, the property owner indicated that site assessment activities were performed in 2005 and supplied SALEM field personnel with a copy of a report entitled "*Report of Soil and Groundwater Assessment at Habn Project, 2271-2281 Market Street, 2220-2236 Myrtle Street, and 914 West Grand Avenue*", dated April 11, 2005 and prepared by Aqua Science Engineers, Inc. A copy of the report is included as Appendix A and a summary of the scope of work and results is included below:

- Seven soil borings (BH-C through BH-I) were advanced using a Geoprobe direct-push rig to depths of four feet bgs, with soil samples collected from a two-foot bgs sample interval in each boring analyzed for VOCs, TPH-G/D/O, total lead, and PCBs. Six of the borings were advanced at the JAC Truck Repair property (four in the parking lot and two inside the shop building), and one was installed in the parking area north of the 2271 Market Street building. The results of soil analyses did not indicate the presence of VOCs, TPH-G/D/O, or PCBs above laboratory method detection limits. Total lead concentrations ranged from 7.8 to 37 mg/kg.
- One soil boring (BH-A) was advanced to 16 feet bgs in the parking lot located south of the Enrique's Tire Repair building (adjacent to West Grand Avenue). The 11.5-foot bgs soil sample collected from this boring was analyzed for VOCs, TPH-G/D/O, total lead, and PCBs. VOCs, TPH-G/D/O, and PCBs were not detected in the soil sample. Total lead was detected at a concentration of 7.1 mg/kg. Groundwater was encountered at a depth of 12 feet bgs and a temporary monitoring well was installed and sampled (grab sample). TPH-D and TPH-O were detected at concentrations of 550 and 3,300 micrograms per liter (ug/L), respectively. TPH-G, dissolved lead, and PCBs were not identified above laboratory method detection limits. Detected VOCs included ethylbenzene (1.0 ug/L), total xylenes (3.4 ug/L), and naphthalene (1.1 ug/L). Constituents of potential concern did not exceed the CRWQCB-SF ESLs for soil or groundwater.





- One soil boring (BH-B) was advanced to 16 feet bgs in the parking lot located southwest of the Enrique's Tire Repair building (near the former Mohawk Service Station location). The 11.5-foot bgs soil sample collected from this boring was analyzed for VOCs, TPH-G/D/O, total lead, and PCBs. TPH-O and PCB's were not identified in the soil sample above laboratory method detection limits. Detected constituents of concern included total lead (20 mg/kg), TPH-G (2,100 mg/kg), TPH-D (370 mg/kg), n-butylbenzene (14 mg/kg), isopropylbenzene (5.7 mg/kg), ethylbenzene (27 mg/kg), total xylenes, (6.1 mg/kg), 1,2,4-trimethylbenzene (2.7 mg/kg), sec-butylbenzene (3.8 mg/kg), naphthalene (20 mg/kg), and n-propylbenzene (24 mg/kg). Concentrations of ethylbenzene, total xylenes, naphthalene, TPH-G, and TPH-D exceeded CRWQCB-SF ESLs for soil. Groundwater was encountered at a depth of 12 feet bgs and a temporary monitoring well was installed and sampled (grab sample). TPH-G and TPH-D were detected at concentrations of 40,000 and 150,000 micrograms per liter (ug/L), respectively. Dissolved lead was detected at a concentration of 42 ug/L. TPH-O and PCBs were not identified above laboratory method detection limits. Detected VOCs included n-butylbenzene (180 ug/L), isopropylbenzene (190 ug/L), ethylbenzene (4,500 ug/L), total xylenes (1,800 ug/L), 1,2,4-trimethylbenzene (1,800 ug/L), 1,3,5-trimethylbenzene (300 ug/L), naphthalene (820 ug/L), and n-propylbenzene (850 ug/L). Concentrations of TPH-G/D, dissolved lead, ethylbenzene, total xylenes, and naphthalene exceeded CRWQCB-SF ESLs.
- The source of petroleum hydrocarbons identified in soil and groundwater in BH-B was not identified; however, data suggests that the source may be associated with the historic Mohawk Service Station. Although the Arco station located southeast (up-gradient) from the subject property has known off-site groundwater contamination, the groundwater sample collected from BH-A is also located down-gradient from this site and did not contain any significant petroleum hydrocarbon impacts.

## 2.2 Phase II ESA Objectives

The objective of SALEM's Phase II ESA scope of work was to assess of whether or not contaminant concentrations in excess of DTSC CHHSLs for soil vapor or CRWQCB-SF ESLs for soil have impacted the subsurface media at the subject property. If those screening levels were exceeded, a more-detailed preliminary risk analysis of indoor air quality was to be conducted based on site-specific, rather than simplified screening level, parameters. The Phase II ESA, as discussed herein, is not designed as a detailed study to identify the vertical or lateral extent of potential contamination at the subject property.

## 3.0 SCOPE OF WORK

The Phase II ESA scope of services included the following:

- Coordination of pre-field activities including procurement of contracts (e.g., driller and laboratory) and contact with site tenants;
- Development of a site-specific Health and Safety Plan;
- Performance of subsurface utility screening using public and private underground utility locating services;



- Performance of a geophysical survey in accessible areas at the JAC Truck Repair facility (2236 Myrtle Street) and the Enrique's Tire Repair (914 West Grand Avenue) in an effort to identify potential underground appurtenances (USTs, piping, sumps, clarifiers);
- Subsurface exploration including drilling and sampling of seven soil borings (B-1 through B-7) in the parking areas of the JAC Truck Repair and tire repair facilities (near historic fuel distribution operations and identified subsurface appurtenances), and inside the 2271 Market Street building to 10 feet bgs, and installation of nested vapor well locations with probes at depths of 5 and 10 feet bgs in each location;
- Analytical testing of soil samples using a stationary laboratory and soil vapor samples using a mobile laboratory; and
- Preparation of a report that documents field analytical results and summarizes the findings.

### **3.1 Pre-Field Activities**

#### **3.1.1 Site Safety**

SALEM completed a Site Health and Safety Plan (HSP) for the work proposed at the subject property in accordance with the requirements of Title 8 of the California Code of Regulations, Section 5192. A copy of the HSP was kept on-site during field activities. The HSP detailed the work to be performed, safety precautions, emergency response procedures, nearest hospital information, hospital route maps, emergency contact numbers, and onsite personnel responsible for managing emergency situations (intended to protect on-site workers and the public).

#### **3.1.2 Permits**

Permits for the soil vapor survey soil borings were not required before implementing this project.

#### **3.1.3 Underground Utilities**

An attempt was made prior to conducting subsurface activities to locate underground utilities. Underground Service Alert (US Alert) was contacted at least 48 hours prior to starting work, as required by California State law. In addition, Spectrum ESI performed private utility locating services to clear underground utilities at each proposed probe location. The locations of proposed soil borings were modified (as needed) in the field if an underground utility was identified during the field clearance activities.

SALEM utilized Spectrum to conduct a geophysical survey for potential buried fuel USTs of 500 gallon capacity or greater and associated appurtenances, or a backfilled UST cavity, as well as other sub-grade structures of environmental concern (hoists, clarifiers, and sumps). Spectrum employed EM-61 high sensitivity metal detection, shallow focus terrain conductivity, ground penetrating radar, and electromagnetic utility-locating methods.



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## 4.0 SOIL VAPOR SURVEY METHODOLOGY

Field work for the soil vapor survey was performed on February 15 and 16, 2012. Locations for the soil borings/vapor probes installed during the investigation are provided on Figure 2, Site Plan. A summary table of soil analytical results is included as Table 2 and soil vapor analytical results are presented in Table 3 in Appendix B. Laboratory analytical results and chain-of-custody documentation are provided in Appendix C.

### 4.1 Drilling And Soil Vapor Probe Installation

SALEM supervised the advancement and sampling of seven soil borings (B-1 through B-7) to 10 feet bgs along the western, southern, and eastern portions of the subject property, with boring locations placed in close proximity to suspected historic fuel distribution operations and buried appurtenances identified during the performance of the geophysical survey. Two of the borings were installed in the 2271 Market Street building where historic occupancy information was lacking during the performance of the Phase I ESA (Figure 2, Site Plan). The borings were sampled at depths of 1, 5 and 10 feet bgs, with soil samples collected using a clean, 2-foot long, stainless-steel sampler lined with clean acetate sleeves. As each sample was retrieved, a 6-inch length of sample from the appropriate depth interval was sealed at both ends with Teflon sheets and clean plastic end caps, labeled (ID number, date, time) for possible laboratory analysis, sealed in a plastic bag, and placed in a blue ice-chilled cooler.

In addition to the samples identified above, a second aliquot of soil from each sampled interval was placed in a zip-lock plastic bag for field screening. Relative total organic vapor (TOV) concentrations were measured in the headspace of each sample using a photo-ionization detector (PID). The PID was calibrated in accordance with the manufacturer's instructions using a hexane gas standard of 100 parts per million by volume (ppmv). The maximum measured TOV concentration was recorded on the boring log as the TOV reading for each sample.

Each boring was converted to a nested vapor well with soil vapor probes at depths of 5 feet and 10 feet bgs in each location (B-1 through B-7). The soil boring and soil vapor probe installation was performed by Vironex of Concord, California using a truck-mounted direct push rig (Geoprobe 5410) for exterior borings, and a limited access direct-push rig (Geoprobe 540M) for borings advanced in the 2271 Market Street building. A&R Laboratories of Riverside, California, supplied a California-certified mobile environmental laboratory to analyze the soil vapor samples for VOCs using EPA Method 8260B in the field. The 1-foot bgs soil sample from borings B-1 through B-5 were also analyzed for total lead and arsenic by EPA Method 6010B at Sierra Analytical's stationary laboratory at Laguna Hills, California. Drilling was supervised by an experienced geologist, under the supervision of a California-registered geologist.



Before arriving at the Site, the drill rig, tools, and accessories were thoroughly decontaminated with a steam cleaner. Downhole drilling tools and sampling equipment, such as bits, rods, sample barrels, and split spoons, were manually washed/rinsed, pressure washed, and/or steam cleaned between boreholes/wells and sample intervals at the designated decontamination area.

Soil vapor probes consisted of a steel probe point attached to a 1/4-inch Nylaflo<sup>TM</sup> sampling tube that was lowered to the desired depth (5 or 10 feet bgs). The lower 2-inches of the tubing installed were slotted. The end of the tubing at the surface was then capped. Approximately 6 to 12 inches of clean, graded (#3), kiln-dried RMC Lonestar sand was poured around the slotted section of Nylaflo<sup>TM</sup> sample tubing to allow for diffusion of soil vapors. The remainder of the annular space was filled to the surface with bentonite granules that were hydrated in successive lifts.

The soil vapor survey was performed in accordance with the joint DTSC/LARWQCB "Advisory – Active Soil Gas Investigations" January 2003 Guidance (Guidance) dated January 28, 2003. Information on the probe locations, sample collection depths, and analytical methods used for the soil vapor sampling program are summarized on Table 1.

**Table 1: Soil and Soil Vapor Survey Program**

Sample No.	Sample Depth (ft, bgs)	Analytical Method	Location
B-1	1 (soil) 5 and 10 (vapor)	6010B, 8260B	Eastern portion of south parking lot at Enrique's Tire Repair
B-2	1 (soil) 5 and 10 (vapor)	6010B, 8260B	Western portion of south parking lot at Enrique's Tire Repair, east of disturbance identified during geophysical survey
B-3	1 (soil) 5 and 10 (vapor)	6010B, 8260B	Parking lot at 914 West Grand Avenue property, east of suspected non-metallic UST
B-4	1 (soil) 5 and 10 (vapor)	6010B, 8260B	Southwest corner of 914 West Grand Avenue parking lot, adjacent to possible excavation identified during geophysical survey
B-5	1 (soil) 5 and 10 (vapor)	6010B, 8260B	Western parking lot of JAC Truck Repair, adjacent to disturbance identified during geophysical survey
B-6	5 and 10 (vapor)	6010B, 8260B	Central western portion of the 2271 Market Street building
B-7	5 and 10 (vapor)	6010B, 8260B	Central eastern portion of the 2271 Market Street building

#### 4.2 Soil Vapor Sampling

Purging of the soil vapor probes was completed using a vacuum pump with a purge flow rate set for 200 milliliters per minute or less. A calibrated flow meter and/or vacuum gauge were used in the sampling collection system. Upon completion of the soil vapor purging, samples were collected using a



decontaminated gas-tight syringe inserted into the purge line positioned between the sample point and the vacuum pump. A total of 18 soil vapor samples (including purge volume tests, a syringe blank, and one duplicate sample) were collected as part of this investigation to comply with the above-referenced guidance documents.

Site-specific probe purging and sample volume calibrations were initially performed at probe B-3 at 5 feet bgs to evaluate the appropriate volume of gas to be purged from each probe before sample collection. A time series sampling was done to evaluate the volume to be purged at each location and seven volumes were purged from subsequent probes.

Immediately following collection, the samples were introduced into the purge and trap system for automated processing. Soil vapor samples were analyzed in the field by EPA Method 8260B using a gas chromatograph/mass spectrometer (GC/MS) for VOCs and TPH-G as specified in the Guidance Document. A series of quality assurance/quality control (QA/QC) analyses were performed before, during, and following the analysis of the soil vapor samples (Appendix C). One blank and one duplicate were collected and analyzed as part of QA/QC in accordance with the DTSC/LARWQCB Guidance.

During sampling, a tracer gas (isopropanol) was used to confirm that the soil vapor monitoring probes and sample train were leak free. This compound was then analyzed by the analytical laboratory to determine if there were surface leaks into the subsurface due to improper installation of the vapor inlet probe. The soil vapor samples were recorded onto a chain-of-custody document that accompanied the samples from the point of collection to the analytical laboratory.

Once the soil vapor samples were collected and analyzed, the sample tubing was withdrawn from the probe hole and the probe hole was sealed as described below.

### **4.3 Probe Hole Sealing**

At the completion of sampling and verification of vapor sample integrity, probe hole sealing was accomplished by pulling the sample tubing out of the hydrated bentonite seal, letting the water-saturated bentonite expand to close the space previously occupied by the tubing. The top of each location was then sealed using neat cement slurry applied to match existing grade.



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## 5.0 LABORATORY ANALYSES

Mobile laboratory analytical services, provided by A&R of Riverside, California, were used for soil vapor samples during the field investigation. Stationary laboratory analytical services for soil samples were provided by Sierra Analytical of Laguna Hills, California. Soil samples collected from the 1-foot bgs sampling intervals of B-1 through B-5 were analyzed by the stationary laboratory for total arsenic and lead using EPA Method 6010B. Soil vapor samples collected from B-1 through B-7 at 5 and 10 feet bgs were analyzed by the mobile laboratory for VOCs using EPA Method 8260B. Selected QA/QC samples were also collected and analyzed. The analytical results from the mobile laboratory are discussed in Section 6.0.

## 6.0 FINDINGS

### 6.1 Geology and Hydrogeology

According to the East Bay Plain Groundwater Basin Beneficial Use Evaluation Report (CRWQCB-SF, June 1999), the subject property is located within the Oakland Sub-Area of the East Bay Plain of the San Francisco Basin. The Oakland Sub-Area contains a sequence of alluvial fans. The alluvial fill thickness ranges from 300 to 700 feet deep and does not have any well-defined aquitards. The Merrit sand in West Oakland was historically an important part of Oakland's water supply due to its shallow depth (~60 feet); however, septic systems contaminated the water supply wells before 1900.

Water level contours throughout most of the Alameda County portion of the East Bay Plain, from Hayward north to Albany, show that the general direction of groundwater flow is from east to west (from the Hayward Fault to the San Francisco Bay). The nearest natural drainage is Glen Echo Creek, located approximately 0.85-mile east of the subject property. Glen Echo Creek flows generally north to south near the subject property vicinity.

The subject property elevation is approximately 16 feet above mean sea level. The water table in the subject property vicinity fluctuates seasonally. Historically, depth to groundwater measurements have ranged from approximately seven to 13 feet bgs in the subject property vicinity. The groundwater flow direction in the subject property vicinity is predominantly to the northwest (toward the Hahn Property) at the Arco station #2169 located approximately 100 feet southeast of the subject property; however, the most recent groundwater monitoring event indicated that the direction of subsurface groundwater flow was to the northeast at a gradient of 0.003 foot per foot (ft/ft).



Soils encountered during SALEM's February 2012 site consisted primarily of clayey silt to the total explored depth of approximately 10 feet bgs. Groundwater was not encountered during the performance of this investigation.

## 6.2 Field Observations

At the time of SALEM's February 15 and 16, 2012 field reconnaissance, the northwest quadrant of the subject property was occupied by JAC Truck Repair and an associated parking lot (2236 Myrtle Street). The single-story 2,500 square foot building at this location was of metal construction with a metal roof on a concrete slab-on-grade foundation. The southwestern portion of the subject property was occupied by Enrique's Tire Repair (914 West Grand Avenue) and a fenced parking/storage lot. This facility comprised two single-story buildings (1,250 and 1,125 square feet) of wood frame construction with asphalt shingle roofs on a concrete slab-on-grade foundation, with the westernmost building suspected as being the former gasoline station canopy. A 3,400 square foot two-story building is located along the southeast corner of the property at 902 West Grand Avenue. The building was of wood frame construction with stucco exterior walls and slab-on-grade construction. The occupant or historic usage was not identified due to access restrictions. The building along the northeastern portion of the subject property (2271 Market Street) is approximately 6,250 square feet and was of wood frame construction with stucco exterior walls on a concrete slab-on-grade foundation. The building was occupied by a nightclub at the time of SALEM's investigation.

The results of the geophysical survey identified the following:

- The limited geophysical survey was not able to be performed across a majority of the subject property due to the presence of numerous vehicles and stored materials (such as tires). Areas investigated were restricted to the southwestern and southern parking lot areas of the 914 West Grand Avenue property and the western edge of the 2236 Myrtle Street parking lot.
- A suspected non-metal UST (fiberglass) was identified in the northwestern corner of the 914 West Grand Avenue parking area. A suspected excavated area was identified immediately south of the suspected UST location.
- General "disturbances" were identified in the eastern portion of the 914 West Grand Avenue parking lot area and along the western edge of the 2236 Myrtle Street parking lot. Interference from parked vehicles made accurate identification of the disturbances impossible.

Please note that the geophysical survey report had not been completed by Spectrum at the time this report was prepared. The geophysical survey report will be submitted under separate cover upon receipt.



During the visual observations of the subject property several 55-gallon drums and an above-ground storage tank (AST) were observed on the portion of the subject property occupied by JAC Truck Repair. No other obvious evidence (vent pipes, fill pipes, dispensers, etc.) or underground storage tanks was noted within the area observed. No standing water or major depressions were observed on the subject property. SALEM did not observe evidence of contaminated soil (e.g., odors) during the installation of the soil borings.

### 6.3 Soil Analytical Results

A trace concentration of arsenic (2.8 mg/kg) was detected in the 1-foot bgs soil sample collected from B-1. Arsenic was not identified above laboratory method detection limits in the 1-foot bgs soil samples collected from borings B-2 through B-5. Concentrations of total lead ranged from 5.4 to 11 mg/kg. Soil analytical results are summarized in Table 2 in Appendix B. A copy of the soil analytical laboratory report is presented in Appendix C.

### 6.4 Soil Vapor Analytical Results

A summary of the detected concentrations in the soil vapor samples is provided in Table 3 in Appendix B. A copy of the laboratory report and chain-of-custody documentation is included in Appendix C. Laboratory analytical results for VOCs were as follows:

- Benzene was detected in one soil vapor sample (B-3 at 10 feet bgs) at a concentration of 520  $\mu\text{g}/\text{m}^3$ . This boring was located immediately east of the suspected UST identified during the performance of the geophysical survey.
- Ethylbenzene (110  $\mu\text{g}/\text{m}^3$ ), isopropylbenzene (2,500  $\mu\text{g}/\text{m}^3$ ), n-propylbenzene (3,800  $\mu\text{g}/\text{m}^3$ ), n-butylbenzene (670  $\mu\text{g}/\text{m}^3$ ), and sec-butylbenzene (2,200  $\mu\text{g}/\text{m}^3$ ) were also detected in the 10-foot bgs sample collected from B-3 but were not detected in any other soil vapor samples.
- Toluene was detected in 7 of the 14 primary soil vapor samples at concentrations ranging from 51 to 220  $\mu\text{g}/\text{m}^3$ .
- Total xylenes were detected in 2 of the 14 primary soil vapor samples at concentrations ranging from 120 to 293  $\mu\text{g}/\text{m}^3$ .
- PCE was detected at a concentration of 84  $\mu\text{g}/\text{m}^3$  in the 10-foot bgs soil vapor sample collected from B-5. PCE was not identified above laboratory method detection limits in any other soil vapor samples.
- No other VOCs were detected above laboratory method detection limits.
- The sampling tracer compound isopropanol was not detected above laboratory method detection limits in any of the samples, indicating that the vapor monitoring probes and sample train were leak free.





- The maximum detected concentrations of VOCs were lower than the commercial/industrial CHHSLs for these compounds. However, concentrations of benzene exceeded the commercial/industrial CHHSL of  $122 \mu\text{g}/\text{m}^3$  in the soil vapor sample collected from B-3 at 10 feet bgs. Please note that ethylbenzene, isopropylbenzene, n-propylbenzene, n-butylbenzene, and sec-butylbenzene do not have established CHHSLs.

### 6.5 Johnson & Ettinger Model Results

The CHHSL screening values use an attenuation factor that is applied to the measured vapor concentration at 5 feet below the slab-on-grade to predict an indoor air concentration above the subgrade and slab system. Soil vapor CHHSLs presented in Table 3 reflect USEPA methods for evaluation of vapor intrusion concerns, including the well-known Johnson & Ettinger (1991) model. This model results in a prediction of an attenuation factor for each chemical constituent modeled, and incorporates myriad physicochemical, and site-specific parameters. The default values for site-specific parameters such as soil properties, building characteristics, and exposure parameters are generally conservative in nature.

The USEPA provides an on-line tool for evaluating soil vapor intrusion — this tool is available at: [http://www.epa.gov/Athens/learn2model/part-two/onsite/JnE\\_lite\\_forward.htm](http://www.epa.gov/Athens/learn2model/part-two/onsite/JnE_lite_forward.htm). The on-line calculator implements the Johnson and Ettinger (J&E) simplified model to evaluate the vapor intrusion pathway into buildings. This J&E model replicates the implementation that the US EPA Office of Solid Waste and Emergency Response (OSWER) used in developing its draft vapor intrusion guidance (USEPA, 2003).

SALEM applied this model to the subject site benzene soil vapor concentrations. Model input and output are presented in Appendix D. SALEM used default (conservative) input values except as follows:

- A maximum benzene soil vapor concentration at 5 feet bgs of  $520 \mu\text{g}/\text{m}^3$ , from the highest concentration at 10 feet bgs but applied to the model as a conservative “worst-case” concentration;
- Average soil temperature of  $67^\circ \text{F}$  (from USEPA reference linked to above model);
- Soil type (clayey silt), observed in the soil borings advanced at the subject site
- Building mixing height of 2.44 meters;
- Building floor and foundation area of  $55 \text{ m}^2$  (area of 914 West Grand Avenue building);
- Averaging time of 70 and 25 years for carcinogens and non-carcinogens, respectively;
- Exposure duration of 250 days/year for 25 years.

Using a conservative benzene concentration of  $520 \mu\text{g}/\text{m}^3$  at a depth of 5 feet bgs, and based on the default and site-specific values, the model calculated a best-estimate indoor air Cancer Risk of  $9.50 \times 10^{-7}$ , which is less than the target value excess Cancer Risk value of  $1 \times 10^{-5}$  for a commercial setting. This represents a soil vapor to indoor air attenuation factor of  $9.5 \times 10^{-4}$ , which is approximately an order of magnitude greater attenuation than the “rule-of-thumb” value of  $10^{-3}$ . A copy of the Johnson & Ettinger modeling results is included in Appendix D.



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## 7.0 CONCLUSIONS & RECOMMENDATIONS

The following conclusions were based on the observations and data obtained during this investigation of the subject property, and upon our modeling efforts:

- Although the geophysical survey was not comprehensive due to the presence of vehicles, tires, and other business-related equipment and material, it did identify the presence of a suspected UST, a suspected excavation, and a general disturbance in the 914 West Grand Avenue parking lot, and a general disturbance in the western edge of the 2236 Myrtle Street parking lot. The geophysical contractor suggested that these areas be investigated further using excavation and visual inspection and that an additional survey be performed once the property has been cleared of aboveground obstructions and metallic debris to address areas that were inaccessible during the performance of the original investigation.
- The water table in the subject property vicinity fluctuates seasonally. Historically, depth to groundwater measurements range from approximately 7 to 13 feet bgs. The groundwater flow direction at Arco Station #2169, located approximately 100 feet southeast of the subject property, is predominantly to the northwest. Groundwater was not encountered during to the maximum depth investigated of 10 feet bgs during the performance of SALEM's February 2012 site investigation.
- Soils encountered during drilling activities generally consisted of grayish brown, slightly moist, clayey silts with slight plasticity.
- Trace to low concentrations of arsenic and lead detected in analyzed soil samples suggest that the historic rail spur location is not an area of potential environmental concern at the subject property.
- Aromatic hydrocarbons were observed in a majority of the soil vapor samples collected during this investigation; however, the highest concentrations were observed in boring B-3, located adjacent to the suspected UST location at the 914 West Grand Avenue property (former Leon's Mohawk service station). The concentrations of constituents of concern increased at depth in this boring. The elevated aromatic hydrocarbon concentrations in soil vapor also closely correlated with elevated petroleum hydrocarbon concentrations identified in soil boring BH-B, advanced by Aqua Science Engineers in 2005.
- Borings B-6 and B-7, installed in the 2271 Market Street building, had only low concentrations of toluene and total xylenes in the vapor samples.
- The source of aromatic hydrocarbon compounds in soil vapor was not identified; however, data suggests that it may be the result of historic fuel distribution and storage at Leon's Mohawk service station, off-gassing from hydrocarbon-affected groundwater originating from Arco Station #2169, or a combination of both.
- PCE was only detected in one soil vapor sample (B-5 at 10 feet bgs in the JAC Truck Repair parking area). The source of PCE was not identified; however, PCE has historically been detected in groundwater samples collected from the up-gradient Arco Station #2169.
- Soil vapor concentrations for benzene exceeded the DTSC CHHSL shallow soil screening level target value. As such, a vapor intrusion model was used to further assess the benzene concentration detected at the subject property. After applying selected site-specific values for parameters including soil type and building mixing (interior) height and floor area, and using the worst case 5-foot deep benzene concentration, the associated calculated excess cancer risk value for this concentration was  $9.50 \times 10^{-7}$ .



which is below the  $10^{-5}$  value commonly used for commercial/industrial settings. Therefore, the likelihood of vapor intrusion of benzene into the existing buildings at concentrations that may present an unacceptable health risk appears to be low.

Based on these findings, SALEM believes that mitigation measures are not necessary related to vapor intrusion to indoor air. SALEM notes that a potential site purchaser or lessee should be aware that USTs may be present at the subject property, that hydrocarbon-affected soil may be encountered during UST removal and/or site redevelopment, and that a petroleum and chlorinated hydrocarbon soil vapor plume and groundwater plume exists on-site and may also extend off-site. The source of the plume has not been identified. Groundwater conditions beneath the subject property may require further assessment.

## 8.0 LIMITATIONS

This Phase II ESA Report has been prepared for the exclusive use of The Kroger Company and its affiliates. Unauthorized use of or reliance on the information contained in this report, unless given express written consent by SALEM, is strictly prohibited.

The purpose of an environmental site assessment is to reasonably evaluate the potential for adverse impact from past practices at a given property or neighboring properties. In performing an environmental site assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. The professional opinions in this report are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at locations not sampled. Due to the current site conditions and accessibility, this Phase II ESA was limited in nature and was not intended to identify all environmental issues and eliminate all risk.

The environmental services provided by SALEM were performed in accordance with generally accepted practice of professionals performing comparable work in California at the time of the investigation. It is possible that variations in conditions at the Site could exist at points not explored during the course of this investigation. Also, changes in conditions may occur over time due to variations in rainfall, temperature, or other factors not apparent at the time of the field investigation. Therefore, no warranty, expressed or implied, is made.

The property owners are solely responsible for notifying all governmental agencies and the public of the existence, release, or disposal of any hazardous materials/wastes or petroleum products at the subject property, whether before, during, or after the performance of SALEM's services. SALEM assumes neither



responsibility nor liability for any claim, loss of property value, damage, or injury which results from hazardous materials, wastes or petroleum products being present or encountered at a given site.

## 9.0 REFERENCES

The following list summarizes the references utilized in preparing this report:

- Broadbent & Associates, Inc. (2011) Third Quarter 2011 Monitoring Report, Atlantic Richfield Company Station #2169, 889 West Grand Avenue, Oakland, California dated October 31, 2011.
- California Environmental Protection Agency (2005) Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January 2005. Available at: <http://calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf>
- Department of Toxic Substances Control (DTSC) and Los Angeles Regional Water Quality Control Board (LARWQCB) (2003) Soil Gas Advisory; dated January 2003; [http://www.dtsc.ca.gov/policyAndProcedures/SiteCleanup/SMBR\\_ADV\\_activesoilgasinvs\\_t.pdf](http://www.dtsc.ca.gov/policyAndProcedures/SiteCleanup/SMBR_ADV_activesoilgasinvs_t.pdf)
- Johnson, P. C, and R. A. Ettinger. 1991. Heuristic Model for Predicting the Intrusion Rate of Contaminant Vapors in Buildings. Environ. Sci. Technol. 25: 1445-1452.
- Salem Engineering Group, Inc. (2011) AAI Phase I Environmental Site Assessment, Vacant Industrial Property, 2101 Barrington Avenue, Los Angeles, CA dated November 17, 2011.

If you have any questions, or if we can be of further assistance, please do not hesitate to contact our office at (909) 980-6455.

Respectfully submitted,

**SALEM Engineering Group, Inc.**

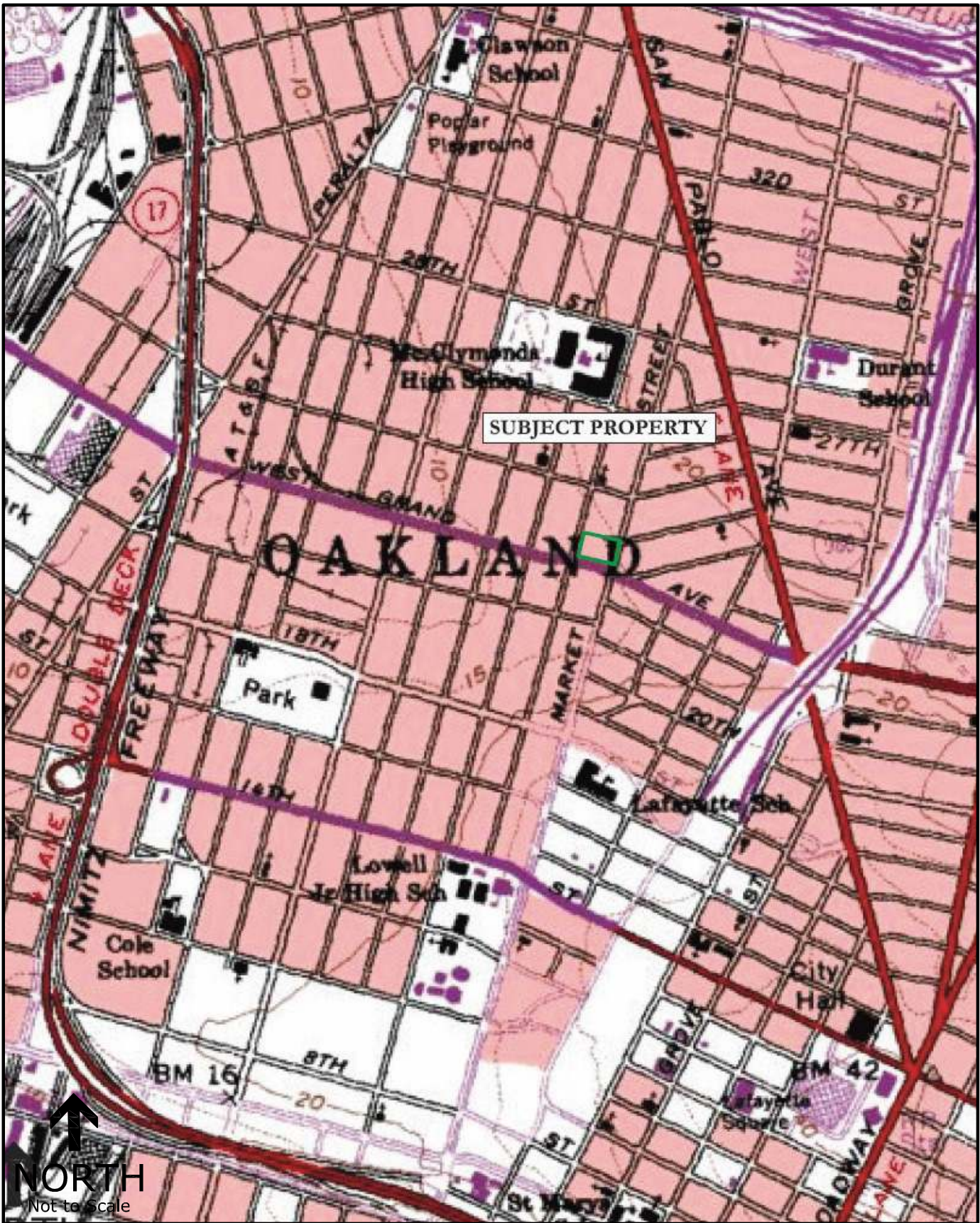


James S. Robert, L.G., L.H.G.  
Senior Hydrogeologist



R. Sammy Salem, MS, PE, GE, REA  
Principal Engineer  
RCE 52762 / RGE 2549





**SALEM** Engineering Group, Inc

11650 Mission Park Drive, Suite 108  
 Rancho Cucamonga, California 91730

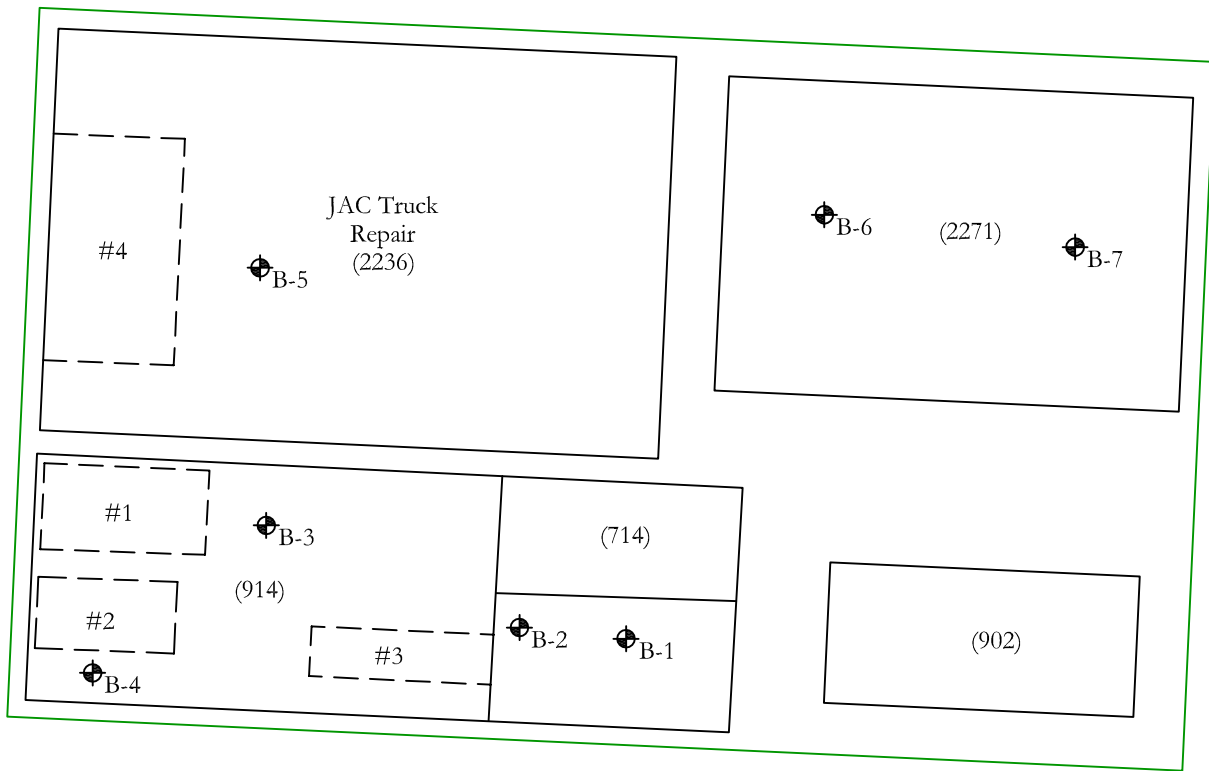
Salem Job No.  
 4-412-0103

Date:  
 February 2012

**SITE VICINITY MAP**

PROPOSED FOODS CO. SUPERMARKET NO. 536  
 NEC W. GRAND AVENUE & MYRTLE STREET  
 OAKLAND, CA

Figure:  
 1



West Grand Avenue and Myrtle Street

**LEGEND**



**NORTH**  
Not to Scale

- ⊕ Approximate location of soil boring/vapor probe
- #1 Approximate location of possible non-metal tanks
- #2 Approximate location of possible excavation
- #3 Approximate location of general "disturbance"
- #4 Approximate location of disturbance



11650 Mission Park Drive, Suite 108  
Rancho Cucamonga, California 91730

**SAMPLE LOCATION MAP**

PROPOSED FOODS CO. SUPERMARKET NO. 536  
NEC W. GRAND AVENUE & MYRTLE STREET  
OAKLAND, CA

Salem Job No.  
4-412-0103

Date:  
February 2012

Figure:  
2

# A





April 11, 2005

REPORT  
of  
SOIL AND GROUNDWATER ASSESSMENT  
ASE JOB NO. 4010  
at  
Hahn Project  
2271-2281 Market Street, 2220-2236 Myrtle Street,  
and 914 West Grand Avenue  
Oakland, California

Submitted by:  
AQUA SCIENCE ENGINEERS, INC.  
208 West El Pintado  
Danville, CA 94526  
(925) 820-9391



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FOR SOIL AND GROUNDWATER SAMPLES

## 1.0 INTRODUCTION

This report presents Aqua Science Engineers, Inc. (ASE)'s soil and groundwater assessment for the property located at 2271-2277 Market Street, 2220-2236 Myrtle Street, and 914 West Grand Avenue in Oakland, California (Figures 1 and 2). The scope of work for this assessment was prepared by Assessco, Inc. in their Phase I Environmental Site Assessment for the site dated May 16, 2004. ASE has not reviewed the entire Phase I Report since only the executive summary was provided to us. Therefore, ASE's scope of work was based on the specific scope of work suggested in the Phase I and ASE makes no warranty as to the appropriateness of their recommendations.

## 2.0 SCOPE OF WORK (SOW)

The purpose of this assessment was to determine whether soil and groundwater contamination exists at the site prior to the transfer of the property. The specific scope of work for this project was to:

- 1) Obtain a drilling permit from the Alameda County Public Works Agency (ACPWA).
- 2) Drill nine (9) soil borings at the site using a Geoprobe drill rig. Two borings were drilled into groundwater for the collection of soil and groundwater samples, and the remaining borings were drilled to a depth of 4-feet below ground surface (bgs) for the collection of soil samples only.
- 3) Analyze one soil sample from each boring (9 total) for the following:
  - Total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 8015M
  - Total petroleum hydrocarbons as diesel (TPH-D) by EPA Method 8015M
  - Volatile organic compounds (VOCs) by EPA Method 8260
  - PCBs by EPA Method 8082
  - Total lead by EPA Method 7420
- 4) Analyze one groundwater sample from each boring drilled into groundwater (2 total) for the following:
  - TPH-G by EPA Method 8015M
  - TPH-D by EPA Method 8015M

- VOCs by EPA Method 8260
  - PCBs by EPA Method 8082
  - Total lead by EPA Method 7420
- 5) Following collection of the soil and groundwater samples, backfill the borings with neat cement.
  - 6) Prepare a report presenting results from this assessment.

### **3.0 DRILL SOIL BORINGS AND COLLECT SAMPLES**

#### 3.1 Obtain Necessary Permits

Prior to drilling, ASE obtained a drilling permit from the ACPWA. ASE also notified Underground Service Alert (USA) to have underground utility lines marked in the site vicinity. A copy of the drilling permit is presented in Appendix A.

#### 3.2 Drilling and Soil Sample Collection

On March 23, 2005, Vironex, Inc. of San Leandro, California drilled soil borings BH-A through BH-I at the site using a Geoprobe hydraulic sampling rig. The boring locations are shown on Figure 2. Borings BH-A and BH-B were drilled to groundwater for the collection of both soil and groundwater samples. Borings BH-C through BH-I were drilled to a depth of 4-feet bgs for the collection of soil samples only. The drilling was directed by ASE geologist Robert E. Kitay, R.G., R.E.A.

Undisturbed soil samples were collected continuously as drilling progressed for lithologic and hydrogeologic description and for possible chemical analysis. The samples were collected by driving a sampler lined with acetate tubes using hydraulic direct push methods. Selective soil samples were immediately cut, sealed with Teflon squares and plastic end caps, and labeled with the site location, sample designation, date and time the sample was collected, and the initials of the person collecting the sample. The samples were placed into an ice chest containing wet ice for delivery under chain of custody to a CAL-DHS certified analytical laboratory under chain of custody documentation. Soil from the remaining tubes was described by the site geologist using the Unified Soil Classification System (USCS).

### 3.3 Groundwater Sample Collection

A temporary PVC well casing was driven into place in borings BH-A and BH-B for the collection of groundwater samples. Groundwater samples were removed from the boring with a pre-cleaned bailer. The groundwater samples to be analyzed for volatile compounds were contained in 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid, and sealed without headspace. The samples to be analyzed for non-volatile compounds were placed into 1-liter amber glass bottles. The samples were then labeled and stored in an ice chest with wet ice for transport to the analytical laboratory under chain of custody.

### 3.4 Decontamination and Borehole Backfilling

Drilling equipment was cleaned with an Alconox solution between sampling intervals and between borings to prevent potential cross-contamination. Following collection of the soil and groundwater samples, each boring was backfilled with neat cement to the ground surface.

## **4.0 LITHOLOGY AND HYDROGEOLOGY**

Boring logs are presented in Appendix B. In general, low permeability clayey silt and/or silty clay was encountered from beneath the concrete or asphalt surface to approximately 12-feet below ground surface (bgs), higher permeability silty sand was encountered from 12-feet to 14-feet bgs, and low permeability clayey silt was encountered from 14-feet bgs to the total depth explored of 16-feet. Groundwater was generally encountered at 12-feet bgs.

## **5.0 ANALYTICAL RESULTS FOR SOIL AND GROUNDWATER SAMPLES**

### 5.1 Soil Sample Analysis

The soil samples collected from 11.5-feet bgs in borings BH-A and BH-B and 2-feet bgs in BH-C through BH-I were analyzed by Severn Trent Laboratories (STL) of Pleasanton, California (CA DHS ELAP #2496) for TPH-G by modified EPA Method 8015, TPH-D and TPH-MO by modified EPA Method 8015, VOCs by EPA Method 8260B, total lead by EPA Method 6010C, and PCBs by EPA Method 8082A. The analytical results are tabulated in Tables One and Two. The certified analytical report and chain of custody are presented in Appendix C.

The soil sample collected from 11.5-foot bgs in boring BH-B contained several VOCs at concentrations exceeding Environmental Screening Levels (ESLs). These ESLs are established by the California Regional Water Quality Control Board, San Francisco Bay Region and are presented in the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" dated July 2003. VOC concentrations that exceeded ESLs included ethylbenzene, total xylenes and naphthalene. In addition, tetrachloroethene (PCE) was detected at a concentration of 0.012 parts per million (ppm) in the soil sample collected from boring BH-F and MTBE was detected at a concentration of 0.0018 ppm in the soil sample collected from BH-I. Although concentrations of both of these compounds did not exceed ESLs, the presence of these compounds in soil may indicate that these compounds may be present in groundwater. No groundwater samples were collected in either of these borings, and groundwater samples from downgradient boring BH-B contained raised detection limits due to the presence of elevated petroleum hydrocarbon concentrations.

## 5.2 Groundwater Sample Analysis

Both of the groundwater samples were analyzed by STL for TPH-G by modified EPA Method 8015, TPH-D and TPH-MO by modified EPA Method 8015, VOCs by EPA Method 8260B, dissolved lead by EPA Method 200.8, and PCBs by EPA Method 8082A. The analytical results are tabulated in Tables Three and Four. The certified analytical report and chain of custody are presented in Appendix C.

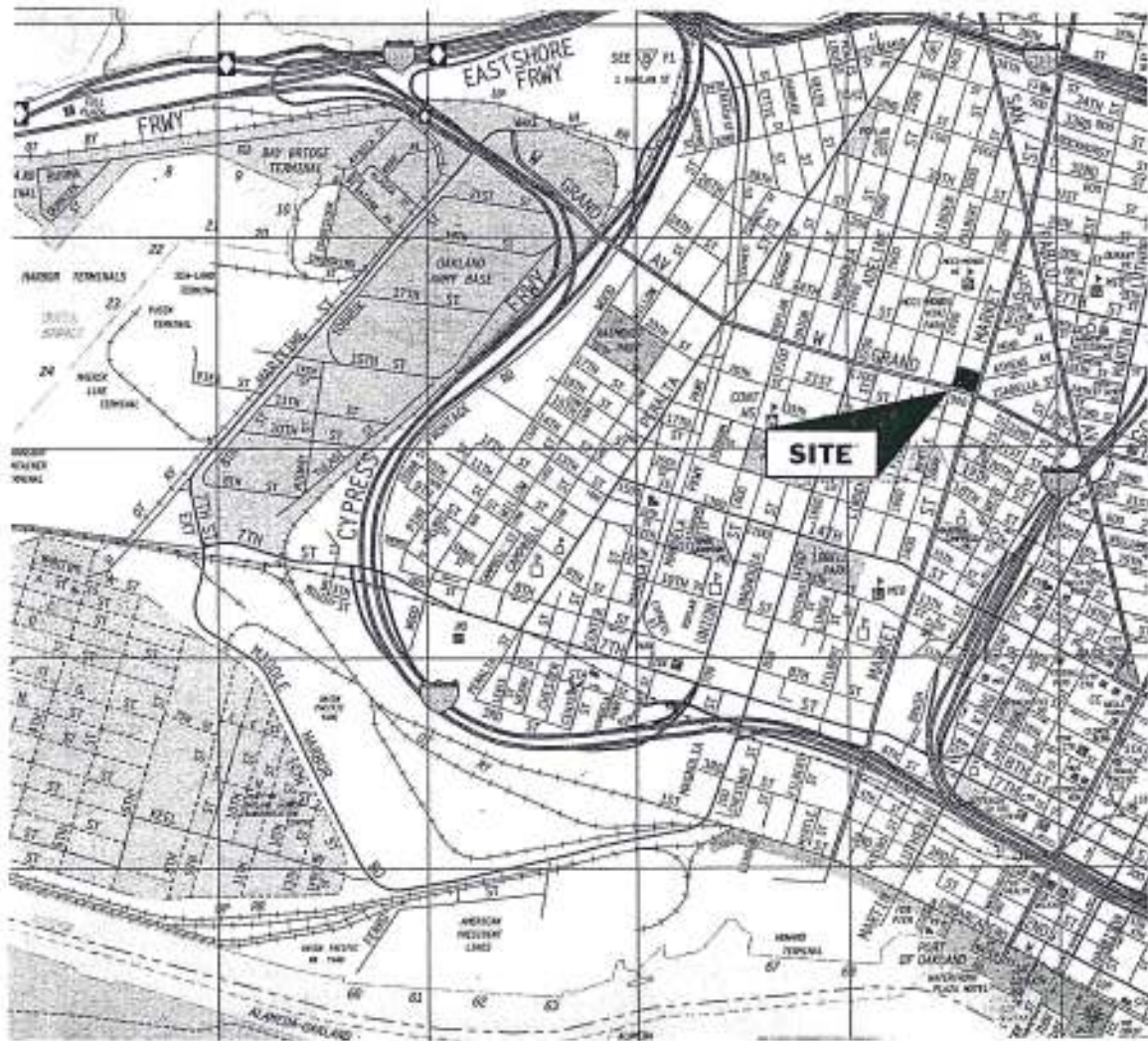
TPH-D and TPH-MO concentrations exceeded ESLs in groundwater samples collected from boring BH-A. Concentrations of TPH-G, TPH-D, TPH-MO, ethylbenzene, total xylenes, naphthalene, and dissolved lead exceeded ESLs in groundwater samples collected from boring BH-B.

## **6.0 CONCLUSIONS**

Elevated concentrations of TPH-G, TPH-D, TPH-MO, ethylbenzene, total xylenes, naphthalene, and dissolved lead were detected in groundwater samples collected from boring BH-B. Most of these compounds (except lead) were also detected in soil samples collected from the capillary zone in this boring at elevated concentrations. Free-product was also found in this boring. Elevated TPH-D and TPH-MO were also detected in groundwater samples collected from boring BH-A.



NORTH



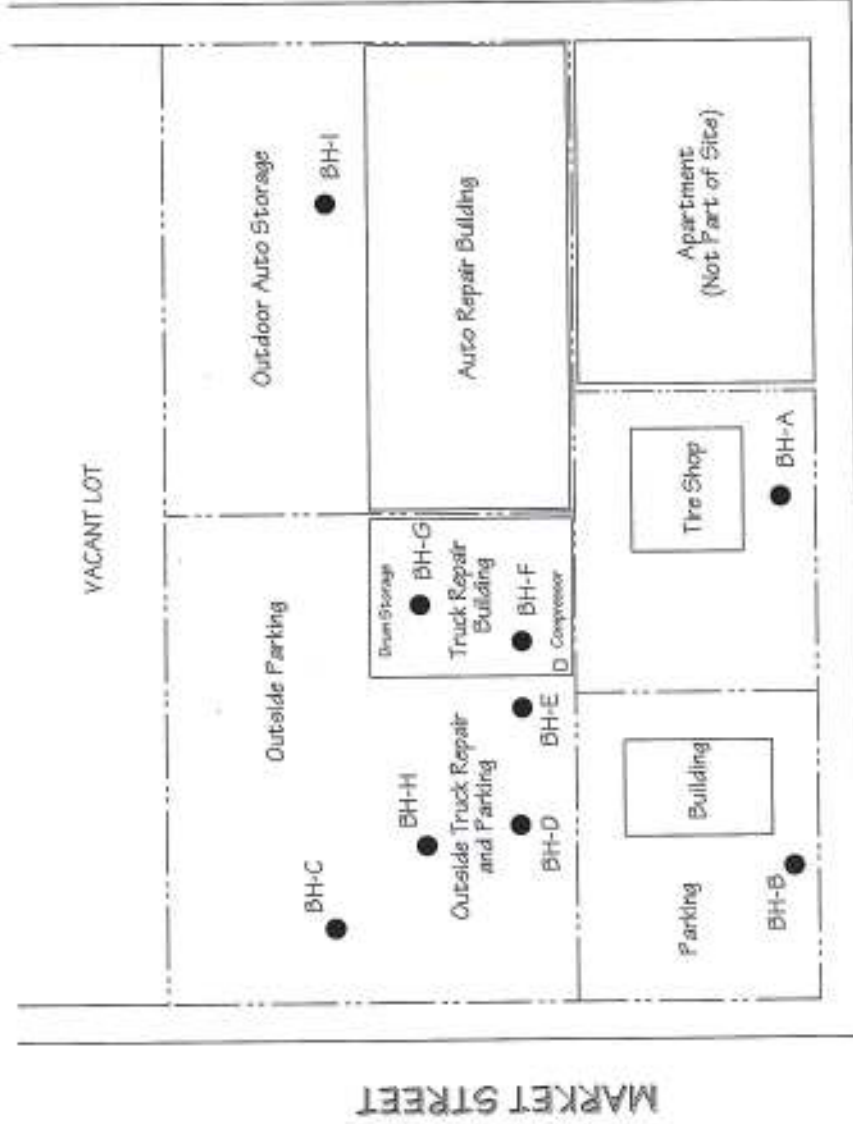
**SITE LOCATION MAP**

Hahn Project  
West Grand Avenue, Myrtle Street  
and Market Street  
Oakland, California



NORTH

1" = 50'



MYRTLE STREET

MARKET STREET

WEST GRAND AVENUE

**BORING LOCATION MAP**

Hahn Project  
 West Grand Avenue, Myrtle Street  
 and Market Street  
 Oakland, California

AQUA SCIENCE ENGINEERS, INC. Figure 2



## **TABLES**

**TABLE ONE**  
**Summary of Analytical Results of SOIL Samples**  
**Total Petroleum Hydrocarbons, Dissolved Lead and PCBs**  
**West Grand Avenue, Oakland, California**  
**Results are in parts per million (ppm)**

Boring	Sample Depth (feet)	TPH Gasoline	TPH Diesel	TPH Motor Oil	Total Lead	All PCBs
BH-A	11.5	<1.0	<1.0	<5.0	7.1	<0.025
BH-B	11.5	<b>2,100</b>	<b>370</b>	<50	20	<0.025
BH-C	2.0	<1.0	<1.0	<5.0	28	<0.025
BH-D	2.0	<1.0	<1.0	<5.0	8.1	<0.025
BH-E	2.0	<1.0	<1.0	<5.0	37	<0.025
BH-F	2.0	<1.0	<1.0	<5.0	9.1	<0.025
BH-G	2.0	<1.0	<1.0	<5.0	28	<0.025
BH-H	2.0	<1.0	<1.0	<5.0	7.8	<0.025
BH-I	2.0	<1.0	<1.0	<5.0	24	<0.025
ESL		100	100	100	200	0.22

Notes:

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Concentrations in **BOLD** exceed the ESL.

ESL = Environmental Screening Levels presented in the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) dated July 2003.

**TABLE TWO**  
**Summary of Analytical Results of SOIL Samples**  
**Volatile Organic Compounds (VOCs) by EPA Method 8260B**  
**West Grand Avenue, Oakland, California**  
**Results are in parts per million (ppm)**

Well/ Boring	Sample Depth (feet)	n-butyl Benzene	isopropyl benzene	Ethyl Benzene	Total Xylenes	MTBE	1,2,4- trimethyl benzene	1,3,5- trimethyl benzene	sec-butyl benzene	naphthalene	n-propyl benzene	PCE	Other VOCs
BH-A	11.5	<0.005	<0.005	<0.005	0.0054	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 - <0.1
BH-B	11.5	14	5.7	27	6.1	<1.0	2.7	<1.0	3.8	20	24	<1.0	<1 - <20
BH-C	2.0	<0.005	<0.005	<0.005	0.018	<0.005	0.0079	0.0052	<0.005	<0.005	<0.005	<0.005	<0.005 - <0.1
BH-D	2.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 - <0.1
BH-E	2.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 - <0.1
BH-F	2.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.012	<0.005 - <0.1
BH-G	2.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 - <0.1
BH-H	2.0	<0.005	<0.005	<0.005	<0.005	0.0058	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 - <0.1
BH-I	2.0	<0.005	<0.005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005 - <0.1
ESL		NE	NE	3.3	1.5	0.023	NE	NE	NE	0.52	NE	0.088	VARIABLES

**Notes:**

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Concentrations in **BOLD** exceed the ESL.

NE = No ESL has been established.

ESL = Environmental Screening Levels presented in the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) dated July 2003.

TCE - trichloroethene

MTBE - methyl tertiary butyl ether

VOCs - volatile organic compounds

**TABLE THREE**  
 Summary of Analytical Results of GROUNDWATER Samples  
 Total Petroleum Hydrocarbons, Dissolved Lead and PCBs  
 West Grand Avenue, Oakland, California  
 Results are in parts per billion (ppb)

Boring	TPH Gasoline	TPH Diesel	TPH Motor Oil	Dissolved Lead	All PCBs
BH-A	< 50	<b>550</b>	<b>3,300</b>	< 0.5	< 2.5
BH-B	<b>40,000</b>	<b>150,000</b>	< 5,000	<b>42</b>	< 2.5
ESL	100	100	100	2.5	0.014

**Notes:**

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Concentrations are **BOLD** exceed the ESL.

ESL = Environmental Screening Levels presented in the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) dated July 2003.

**TABLE FOUR**  
**Summary of Analytical Results of GROUNDWATER Samples**  
**Volatile Organic Compounds (VOCs) by EPA Method 8260B**  
**West Grand Avenue, Oakland, California**  
**Results are in parts per billion (ppb)**

Well/ Boring	n-butyl Benzene	isopropyl benzene	Ethyl Benzene	Total Xylenes	MTBE	1,2,4- trimethyl benzene	1,3,5- trimethyl benzene	sec-butyl benzene	naphthalene	n-propyl benzene	PCE	Other VOCs
BH-A	< 0.5	< 0.5	1.0	3.4	< 0.5	< 0.5	< 0.5	< 0.5	1.1	< 0.5	< 0.5	< 0.5 - < 10
BH-B	180	190	<b>4,500</b>	<b>1,800</b>	< 100	1,800	300	< 100	<b>820</b>	850	< 100	< 100 - < 2,000
ESL	NE	NE	3.0	13	5.0	NE	NE	NE	17	NE	5.0	VARIES

Notes:

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Concentrations in **BOLD** exceed the ESL.

ESL = Environmental Screening Levels presented in the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) dated July 2003.

PCE - tetrachloroethene

MTBE - methyl tertiary butyl ether

VOCs - volatile organic compounds

# **APPENDIX A**

Drilling Permit

APR-30-01 MON 10:19 AM ALAMEDA COUNTY PWA RM239

FORM NO. 010/02/03/04

P. 02



# ALAMEDA COUNTY PUBLIC WORKS AGENCY

**WATER RESOURCES SECTION**  
199 KILMIST ST. BAYVIEW CA. 94544-1391  
PHONE (510) 670-5866 **6633**  
FAX (510) 783-1935

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 2271-2277 Market St  
2320-2336 Bay St and 304 1/2 St  
Grand Ave, Oakland

PERMIT NUMBER WRS-0283  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

**CLIENT**

Name Shing Hahn  
Address 5855 Royal Drive Way Phone \_\_\_\_\_  
City Dublin, CA Zip 94568

**APPLICANT**

Name Agua Siente Engineering  
Address 269 W. El Estero Phone 925-826-7271  
City Danville, CA Zip 94526

**TYPE OF PROJECT**

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

**PROPOSED WATER SUPPLY WELL USE**

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

**DRILLING METHOD:**

Hot Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input type="checkbox"/>
Cable	<input type="checkbox"/>	Cable	<input checked="" type="checkbox"/>	# Compensator	

DRILLER'S NAME VITONAK

DRILLER'S LICENSE NO. C-57 705927

**WELL PROJECTS**

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

**GEOTECHNICAL PROJECTS**

Number of Borings	<u>9</u>	Maximum	_____ ft.
Hole Diameter	<u>2</u> in.	Depth	<u>20</u> ft.

ESTIMATED STARTING DATE 3-27-05  
ESTIMATED COMPLETION DATE 3-27-05

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 15-03

APPLICANT'S SIGNATURE Robert E. Kirby DATE 3-7-05

PLEASE PRINT NAME Robert E. Kirby Rev 5-15-00

**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 has 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 grout/sand mixture

**E. CATHODIC**

Fill hole inside casing 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** BAI

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

APPROVED

DATE

3-10-05



# 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. W05-0283**

**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 **March 23 to March 23, 2005**. No 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, property damage, personal injury and wrongful death.
7. **Applicant shall contact George Bolton for a inspection time at 510-670-5594 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.**



## **APPENDIX B**

Boring Logs

**SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS**

BORING: BH-A

Project Name: Hahn Project

Project Location: West Grand Ave, Oakland, CA

Page 1 of 1

Driller: Vironex

Type of Rig: Geoprobe

Size of Drill: 2.0" Diameter

Logged By: Robert E. Kitay, R.G.

Date Drilled: March 23, 2005

Checked By: Robert E. Kitay, R.G.

**WATER AND WELL DATA**

Depth of Water First Encountered: 12'

Total Depth of Well Completed: NA

Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 16.0'

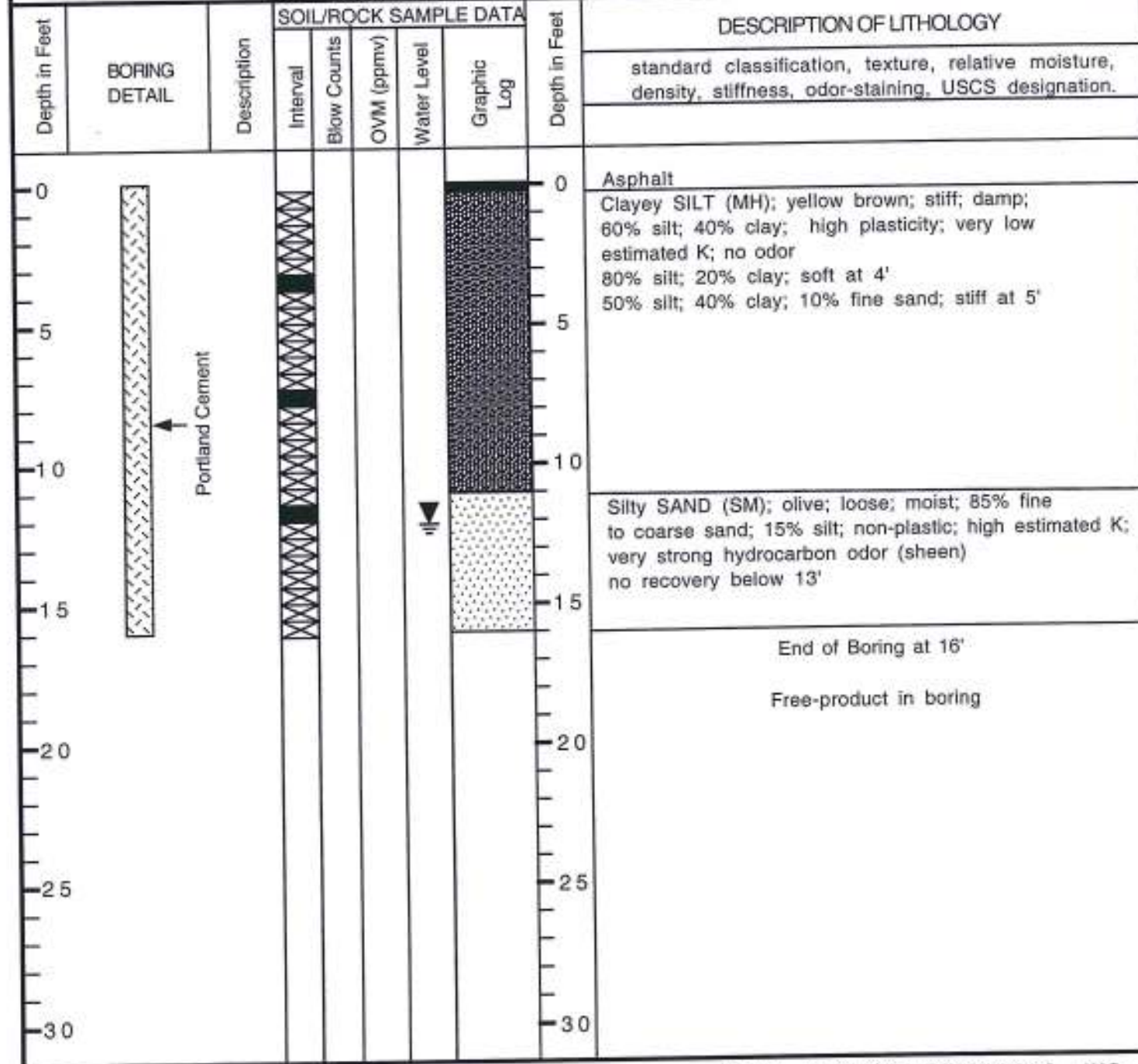
Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler

Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Graphic Log	Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Counts	OVM (ppmv)	Water Level			standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	<p>Portland Cement</p>							0	<b>Asphalt</b> Sandy SILT (ML); dark yellow brown; medium stiff; damp; 50% silt; 40-45% fine to medium sand; 5-10% clay; low plasticity; medium estimated K; no odor Clayey SILT (MH); dark yellow brown; stiff; damp; 60% silt; 40% clay; moderate to high plasticity; very low estimated K; no odor 80% silt; 20% clay; soft at 4' 50% silt; 40% clay; 10% fine sand; stiff at 5' Clayey SAND (SC); light brown; medium dense; damp; 70% fine to coarse sand; 30% clay; low-plasticity; low estimated K; no odor Silty CLAY (CH); yellow brown; stiff; damp; 80% clay; 20% silt; high plasticity; very low estimated K; no odor mottled blue at 7.5'; no mottling at 10' Silty SAND (SM); yellow brown; loose; wet; 85% fine to medium sand; 15% silt; non-plastic; high estimated K; no odor Clayey SILT (MH); yellow brown; stiff; damp; 70-80% silt; 20-30% clay; medium to high plastic; very low estimated K; no odor End of Boring at 16'
5								5	
10								10	
15								15	
20								20	
25								25	
30	30								

<b>SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS</b>	<b>BORING: BH-B</b>
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Project Name: Hahn Project	Project Location: West Grand Ave, Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Robert E. Kitay, R.G.	Date Drilled: March 23, 2005	Checked By: Robert E. Kitay, R.G.


<b>WATER AND WELL DATA</b>	Total Depth of Well Completed: NA
Depth of Water First Encountered: 12'	Well Screen Type and Diameter: NA
Static Depth of Water in Well: NA	Well Screen Slot Size: NA
Total Depth of Boring: 16.0'	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler







<b>SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS</b>	<b>BORING: BH-C</b>
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Project Name: Hahn Project	Project Location: West Grand Ave, Oakland, CA	Page 1 of 1
Driller: Vironex	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Robert E. Kitay, R.G.	Date Drilled: March 23, 2005	Checked By: Robert E. Kitay, R.G.



<b>WATER AND WELL DATA</b>	Total Depth of Well Completed: NA
Depth of Water First Encountered: Not encountered	Well Screen Type and Diameter: NA
Static Depth of Water in Well: NA	Well Screen Slot Size: NA
Total Depth of Boring: 4.0'	Type and Size of Soil Sampler: 2.0' I.D. Macro Sampler

Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA					Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Counts	OVM (ppmv)	Water Level	Graphic Log		standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	 ← Portland Cement		0				0	Concrete	
5			5				5	Clayey SILT (MH); yellow brown; medium stiff; damp; 70% silt; 30% clay; high plasticity; low estimated K; no odor	
10			10				10	End of Boring at 4'	
15			15				15		
20			20				20		
25			25				25		
30			30				30		




SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS							BORING: BH-D		
Project Name: Hahn Project			Project Location: West Grand Ave, Oakland, CA				Page 1 of 1		
Driller: Vironex			Type of Rig: Geoprobe		Size of Drill: 2.0" Diameter				
Logged By: Robert E. Kitay, R.G.			Date Drilled: March 23, 2005		Checked By: Robert E. Kitay, R.G.				
<b>WATER AND WELL DATA</b>							Total Depth of Well Completed: NA		
Depth of Water First Encountered: Not encountered							Well Screen Type and Diameter: NA		
Static Depth of Water in Well: NA							Well Screen Slot Size: NA		
Total Depth of Boring: 4.0'							Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler		
Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY	
			Interval	Blow Counts	OVM (ppmv)	Water Level		Graphic Log	standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0		Portland Cement						0	Concrete
5								5	Clayey SILT (MH); black; medium stiff; damp; 70% silt; 30% clay; high plasticity; low estimated K; no odor
10								10	End of Boring at 4'
15								15	
20								20	
25								25	
30								30	

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS							BORING: BH-E	
Project Name: Hahn Project			Project Location: West Grand Ave, Oakland, CA				Page 1 of 1	
Driller: Vironex			Type of Rig: Geoprobe		Size of Drill: 2.0" Diameter			
Logged By: Robert E. Kitay, R.G.			Date Drilled: March 23, 2005		Checked By: Robert E. Kitay, R.G.			
<b>WATER AND WELL DATA</b>							Total Depth of Well Completed: NA	
Depth of Water First Encountered: Not encountered							Well Screen Type and Diameter: NA	
Static Depth of Water in Well: NA							Well Screen Slot Size: NA	
Total Depth of Boring: 4.0'							Type and Size of Soil Sampler: 2.0' I.D. Macro Sampler	
Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Counts	OV/M (ppmv)	Water Level		Graphic Log
0	 Portland Cement						0	Concrete
5							5	Clayey SILT (MH); black; medium stiff; damp; 70% silt; 30% clay; high plasticity; low estimated K; no odor
10							10	End of Boring at 4'
15						15		
20						20		
25							25	
30							30	

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS							BORING: BH-F	
Project Name: Hahn Project			Project Location: West Grand Ave, Oakland, CA				Page 1 of 1	
Driller: Vironex			Type of Rig: Geoprobe		Size of Drill: 2.0" Diameter			
Logged By: Robert E. Kitay, R.G.			Date Drilled: March 23, 2005		Checked By: Robert E. Kitay, R.G.			
<b>WATER AND WELL DATA</b>							Total Depth of Well Completed: NA	
Depth of Water First Encountered: Not encountered							Well Screen Type and Diameter: NA	
Static Depth of Water in Well: NA							Well Screen Slot Size: NA	
Total Depth of Boring: 4.0'							Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler	
Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Counts	OVM (ppmv)	Water Level		Graphic Log
0		Portland Cement					0	Concrete
5							5	Clayey SILT (MH); black; medium stiff; damp; 70% silt; 30% clay; high plasticity; low estimated K; no odor
10							10	End of Boring at 4'
15							15	
20							20	
25							25	
30							30	

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS							BORING: BH-G	
Project Name: Hahn Project			Project Location: West Grand Ave, Oakland, CA				Page 1 of 1	
Driller: Vironex			Type of Rig: Geoprobe		Size of Drill: 2.0" Diameter			
Logged By: Robert E. Kitay, R.G.			Date Drilled: March 23, 2005		Checked By: Robert E. Kitay, R.G.			
<b>WATER AND WELL DATA</b>					Total Depth of Well Completed: NA			
Depth of Water First Encountered: Not encountered					Well Screen Type and Diameter: NA			
Static Depth of Water in Well: NA					Well Screen Slot Size: NA			
Total Depth of Boring: 4.0'					Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler			
Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Counts	OMV (ppmv)	Water Level		Graphic Log
0		Portland Cement					0	Concrete
5							5	Clayey SILT (MH); yellow brown; medium stiff; damp; 70% silt; 30% clay; high plasticity; low estimated K; no odor no recovery from 2 to 4'
10							10	End of Boring at 4'
15							15	
20							20	
25							25	
30							30	



SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS							BORING: BH-H		
Project Name: Hahn Project			Project Location: West Grand Ave, Oakland, CA				Page 1 of 1		
Driller: Vironex			Type of Rig: Geoprobe		Size of Drill: 2.0" Diameter				
Logged By: Robert E. Kitay, R.G.			Date Drilled: March 23, 2005		Checked By: Robert E. Kitay, R.G.				
<b>WATER AND WELL DATA</b>					Total Depth of Well Completed: NA				
Depth of Water First Encountered: Not encountered					Well Screen Type and Diameter: NA				
Static Depth of Water in Well: NA					Well Screen Slot Size: NA				
Total Depth of Boring: 4.0'					Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler				
Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY	
			Interval	Blow Counts	OVM (ppmv)	Water Level		Graphic Log	standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0		Portland Cement						0	Concrete
5							5	Clayey SILT (MH); black; medium stiff; damp; 70% silt; 30% clay; high plasticity; low estimated K; no odor	
10							10	End of Boring at 4'	
15							15		
20							20		
25							25		
30							30		

**SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS**

BORING: BH-1

Project Name: Hahn Project

Project Location: West Grand Ave, Oakland, CA

Page 1 of 1

Driller: Vironex

Type of Rig: Geoprobe

Size of Drill: 2.0" Diameter

Logged By: Robert E. Kitay, R.G.

Date Drilled: March 23, 2005

Checked By: Robert E. Kitay, R.G.

**WATER AND WELL DATA**

Total Depth of Well Completed: NA

Depth of Water First Encountered: Not encountered



Well Screen Type and Diameter: NA

Static Depth of Water in Well: NA

Well Screen Slot Size: NA

Total Depth of Boring: 4.0'

Type and Size of Soil Sampler: 2.0' I.D. Macro Sampler

Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA					Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Counts	OVM (ppmv)	Water Level	Graphic Log		standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	 Portland Cement						0	Concrete	
5							Clayey SILT (MH); black; medium stiff; damp; 70% silt; 30% clay; high plasticity; low estimated K; no odor		
							5	End of Boring at 4'	
							10		
							15		
							20		
							25		
							30		

## **APPENDIX C**

Analytical Report and Chain of Custody Forms  
For Soil and Groundwater Samples



**McC Campbell Analytical, Inc.**

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
Website: www.mccampbell.com E-mail: main@mccampbell.com

Aqua Science Engineers, Inc. 208 West El Pintado Road Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Reported: 03/31/05
	Client P.O.:	Date Completed: 03/31/05

**WorkOrder: 0503431**

March 31, 2005

Dear Robert:

Enclosed are:

- 1). the results of 12 analyzed samples from your **Hahn project**,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 Telephone : 925-798-1620 Fax : 925-798-1622  
 Website: www.mccampbell.com E-mail: main@mccampbell.com

Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05-03/29/05
	Client P.O.:	Date Analyzed: 03/25/05-03/29/05

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*

Extraction method: SW5030B

Analytical methods: SW8015Cm

Work Order: 0503431

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
003A	BH-A 11.5'	S	ND	1	85
006A	BH-B 11.5'	S	2100,b,m	200	109
007A	BH-C 2.0'	S	ND	1	90
009A	BH-D 2.0'	S	ND	1	87
011A	BH-E 2.0'	S	ND	1	82
013A	BH-F 2.0'	S	ND	1	85
015A	BH-G 2.0'	S	ND	1	92
016A	BH-H 2.0'	S	ND	1	88
018A	BH-I 2.0'	S	ND	1	83
020D	BH-A	W	ND,j	1	108
021D	BH-B	W	40,000,a,h,i	100	97

Reporting Limit for DF =1;  
 ND means not detected at or  
 above the reporting limit

W

50

µg/L

S

1.0

mg/Kg

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 Telephone : 925-798-1620 Fax : 925-798-1622  
 Website: www.mccampbell.com E-mail: main@mccampbell.com

Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/25/05-03/29/05

### Diesel (C10-23) and Oil (C18+) Range Extractable Hydrocarbons as Diesel and Motor Oil\*

Extraction method: SW3510C/SW3550C

Analytical methods: SW8015C

Work Order: 0503431

Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS
0503431-003A	BH-A 11.5'	S	ND	ND	1	101
0503431-006A	BH-B 11.5'	S	370,d	ND<50	10	—#
0503431-007A	BH-C 2.0'	S	ND	ND	1	91
0503431-009A	BH-D 2.0'	S	ND	ND	1	92
0503431-011A	BH-E 2.0'	S	ND	ND	1	92
0503431-013A	BH-F 2.0'	S	ND	ND	1	92
0503431-015A	BH-G 2.0'	S	ND	ND	1	90
0503431-016A	BH-H 2.0'	S	ND	ND	1	98
0503431-018A	BH-I 2.0'	S	ND	ND	1	101
0503431-020D	BH-A	W	550,g,b,i	3300	1	106
0503431-021D	BH-B	W	150,000,d,h,i	ND<5000	20	106

Reporting Limit for DF = 1;  
 ND means not detected at or  
 above the reporting limit

W  
 S

50  
 1.0

250  
 5.0

µg/L  
 mg/Kg

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel (asphalt?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



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 Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Aqua Science Engineers, Inc.  
 208 West El Pintado Road  
 Danville, CA 94526

Client Project ID: Hahn

Date Sampled: 03/23/05

Date Received: 03/24/05

Client Contact: Robert Kitay

Date Extracted: 03/24/05

Client P.O.:

Date Analyzed: 03/29/05

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0503431

Lab ID: 0503431-003A

Client ID: BH-A 11.5'

Matrix: Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.025
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	0.0054	1.0	0.005

#### Surrogate Recoveries (%)

%SS1:	98	%SS2:	104
%SS3:	108		

#### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.





Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/29/05

**Volatile Organics by P&T and GC/MS (Basic Target List)\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0503431

Lab ID	0503431-006A
Client ID	BH-B 11.5'
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<1.0	200	0.05	Acrolein (Propenal)	ND<1.0	200	0.05
Acrylonitrile	ND<4.0	200	0.02	tert-Amyl methyl ether (TAME)	ND<1.0	200	0.005
Benzene	ND<1.0	200	0.005	Bromobenzene	ND<1.0	200	0.005
Bromochloromethane	ND<1.0	200	0.005	Bromodichloromethane	ND<1.0	200	0.005
Bromoform	ND<1.0	200	0.005	Bromomethane	ND<1.0	200	0.005
2-Butanone (MEK)	ND<4.0	200	0.02	t-Butyl alcohol (TBA)	ND<5.0	200	0.025
n-Butyl benzene	14	200	0.005	sec-Butyl benzene	3.8	200	0.005
tert-Butyl benzene	ND<1.0	200	0.005	Carbon Disulfide	ND<1.0	200	0.005
Carbon Tetrachloride	ND<1.0	200	0.005	Chlorobenzene	ND<1.0	200	0.005
Chloroethane	ND<1.0	200	0.005	2-Chloroethyl Vinyl Ether	ND<2.0	200	0.01
Chloroform	ND<1.0	200	0.005	Chloromethane	ND<1.0	200	0.005
2-Chlorotoluene	ND<1.0	200	0.005	4-Chlorotoluene	ND<1.0	200	0.005
Dibromochloromethane	ND<1.0	200	0.005	1,2-Dibromo-3-chloropropane	ND<1.0	200	0.005
1,2-Dibromoethane (EDB)	ND<1.0	200	0.005	Dibromomethane	ND<1.0	200	0.005
1,2-Dichlorobenzene	ND<1.0	200	0.005	1,3-Dichlorobenzene	ND<1.0	200	0.005
1,4-Dichlorobenzene	ND<1.0	200	0.005	Dichlorodifluoromethane	ND<1.0	200	0.005
1,1-Dichloroethane	ND<1.0	200	0.005	1,2-Dichloroethane (1,2-DCA)	ND<1.0	200	0.005
1,1-Dichloroethene	ND<1.0	200	0.005	cis-1,2-Dichloroethene	ND<1.0	200	0.005
trans-1,2-Dichloroethene	ND<1.0	200	0.005	1,2-Dichloropropane	ND<1.0	200	0.005
1,3-Dichloropropane	ND<1.0	200	0.005	2,2-Dichloropropane	ND<1.0	200	0.005
1,1-Dichloropropene	ND<1.0	200	0.005	cis-1,3-Dichloropropene	ND<1.0	200	0.005
trans-1,3-Dichloropropene	ND<1.0	200	0.005	Diisopropyl ether (DIPE)	ND<1.0	200	0.005
Ethylbenzene	27	200	0.005	Ethyl tert-butyl ether (ETBE)	ND<1.0	200	0.005
Freon 113	ND<20	200	0.1	Hexachlorobutadiene	ND<1.0	200	0.005
Hexachloroethane	ND<1.0	200	0.005	2-Hexanone	ND<1.0	200	0.005
Isopropylbenzene	5.7	200	0.005	4-Isopropyl toluene	ND<1.0	200	0.005
Methyl-t-butyl ether (MTBE)	ND<1.0	200	0.005	Methylene chloride	ND<1.0	200	0.005
4-Methyl-2-pentanone (MIBK)	ND<1.0	200	0.005	Naphthalene	20	200	0.005
Nitrobenzene	ND<20	200	0.1	n-Propyl benzene	24	200	0.005
Styrene	ND<1.0	200	0.005	1,1,1,2-Tetrachloroethane	ND<1.0	200	0.005
1,1,2,2-Tetrachloroethane	ND<1.0	200	0.005	Tetrachloroethene	ND<1.0	200	0.005
Toluene	ND<1.0	200	0.005	1,2,3-Trichlorobenzene	ND<1.0	200	0.005
1,2,4-Trichlorobenzene	ND<1.0	200	0.005	1,1,1-Trichloroethane	ND<1.0	200	0.005
1,1,2-Trichloroethane	ND<1.0	200	0.005	Trichloroethene	ND<1.0	200	0.005
Trichlorofluoromethane	ND<1.0	200	0.005	1,2,3-Trichloropropane	ND<1.0	200	0.005
1,2,4-Trimethylbenzene	2.7	200	0.005	1,3,5-Trimethylbenzene	ND<1.0	200	0.005
Vinyl Chloride	ND<1.0	200	0.005	Xylenes	6.1	200	0.005

**Surrogate Recoveries (%)**

%SS1:	86	%SS2:	108
%SS3:	104		

**Comments:**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than -1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.





Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/28/05

**Volatile Organics by P&T and GC/MS (Basic Target List)\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0503431

Lab ID	0503431-007A
Client ID	BH-C 2.0'
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.025
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	0.0079	1.0	0.005	1,3,5-Trimethylbenzene	0.0052	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	0.018	1.0	0.005

**Surrogate Recoveries (%)**

%SS1:	97	%SS2:	106
%SS3:	115		

**Comments:**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/29/05

**Volatile Organics by P&T and GC/MS (Basic Target List)\***

Extraction Method: SWS030B

Analytical Method: SWR260B

Work Order: 0503431

Lab ID	0503431-009A
Client ID	BH-D 2.0'
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.025
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	ND	1.0	0.005

**Surrogate Recoveries (%)**

%SS1:	94	%SS2:	107
%SS3:	117		

**Comments:**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
	Client Contact: Robert Kitay	Date Received: 03/24/05
	Client P.O.:	Date Extracted: 03/24/05
		Date Analyzed: 03/28/05

**Volatile Organics by P&T and GC/MS (Basic Target List)\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0503431

Lab ID	0503431-011A
Client ID	BH-E 2.0'
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.025
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	ND	1.0	0.005

**Surrogate Recoveries (%)**

%SS1:	99	%SS2:	105
%SS3:	112		

**Comments:**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/29/05

**Volatile Organics by P&T and GC/MS (Basic Target List)\***

Extraction Method: SW50908

Analytical Method: SW8260B

Work Order: 0503431

Lab ID	0503431-013A
Client ID	BH-F 2.0'
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.025
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	0.012	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	ND	1.0	0.005

**Surrogate Recoveries (%)**

%SS1:	99	%SS2:	107
%SS3:	106		

**Comments:**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/29/05

**Volatile Organics by P&T and GC/MS (Basic Target List)\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0503431

Lab ID	0503431-015A
Client ID	BH-G 2.0'
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.025
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	ND	1.0	0.005

**Surrogate Recoveries (%)**

%SS1:	94	%SS2:	108
%SS3:	119		

**Comments:**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encoee sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



Aqua Science Engineers, Inc.  
 208 West El Pintado Road  
 Danville, CA 94526

Client Project ID: Hahn

Date Sampled: 03/23/05

Date Received: 03/24/05

Client Contact: Robert Kitay

Date Extracted: 03/24/05

Client P.O.:

Date Analyzed: 03/28/05

**Volatile Organics by P&T and GC/MS (Basic Target List)\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0503431

Lab ID		0503431-016A					
Client ID		BH-H 2.0'					
Matrix		Soil					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.025
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	0.0058	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	ND	1.0	0.005

**Surrogate Recoveries (%)**

%SS1:	98	%SS2:	107
%SS3:	113		

**Comments:**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



Aqua Science Engineers, Inc.  
 208 West El Pintado Road  
 Danville, CA 94526

Client Project ID: Hahn

Date Sampled: 03/23/05

Date Received: 03/24/05

Client Contact: Robert Kitay

Date Extracted: 03/24/05

Client P.O.:

Date Analyzed: 03/28/05

**Volatile Organics by P&T and GC/MS (Basic Target List)\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0503431

Lab ID: 0503431-018A

Client ID: BH-1 2.0'

Matrix: Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.025
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	0.018	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	ND	1.0	0.005

**Surrogate Recoveries (%)**

%SS1:	98	%SS2:	107
%SS3:	118		

**Comments:**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 Telephone: 925-798-1620 Fax: 925-798-1622  
 Website: www.mccampbell.com E-mail: main@mccampbell.com

Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/29/05

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0503431

Lab ID	0503431-020A
Client ID	BH-A
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromochloromethane	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	1.0	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl toluene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	1.1	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	3.4	1.0	0.5

#### Surrogate Recoveries (%)

%SS1:	95	%SS2:	105
%SS3:	111		

Comments: i

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.





Aqua Science Engineers, Inc.

Client Project ID: Hahn

Date Sampled: 03/23/05

208 West El Pintado Road

Date Received: 03/24/05

Danville, CA 94526

Client Contact: Robert Kitay

Date Extracted: 03/24/05

Client P.O.:

Date Analyzed: 03/30/05

**Volatile Organics by P&T and GC/MS (Basic Target List)\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0503431

Lab ID

0503431-021A

Client ID

BH-B

Matrix

Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<1000	200	5.0	Acrolein (Propenal)	ND<1000	200	5.0
Acrylonitrile	ND<400	200	2.0	tert-Amyl methyl ether (TAME)	ND<100	200	0.5
Benzene	ND<100	200	0.5	Bromobenzene	ND<100	200	0.5
Bromochloromethane	ND<100	200	0.5	Bromodichloromethane	ND<100	200	0.5
Bromoform	ND<100	200	0.5	Bromomethane	ND<100	200	0.5
2-Butanone (MEK)	ND<400	200	2.0	t-Butyl alcohol (TBA)	ND<1000	200	5.0
n-Butyl benzene	180	200	0.5	sec-Butyl benzene	ND<100	200	0.5
tert-Butyl benzene	ND<100	200	0.5	Carbon Disulfide	ND<100	200	0.5
Carbon Tetrachloride	ND<100	200	0.5	Chlorobenzene	ND<100	200	0.5
Chloroethane	ND<100	200	0.5	2-Chloroethyl Vinyl Ether	ND<200	200	1.0
Chloroform	ND<100	200	0.5	Chloromethane	ND<100	200	0.5
2-Chlorotoluene	ND<100	200	0.5	4-Chlorotoluene	ND<100	200	0.5
Dibromochloromethane	ND<100	200	0.5	1,2-Dibromo-3-chloropropane	ND<100	200	0.5
1,2-Dibromoethane (EDB)	ND<100	200	0.5	Dibromomethane	ND<100	200	0.5
1,2-Dichlorobenzene	ND<100	200	0.5	1,3-Dichlorobenzene	ND<100	200	0.5
1,4-Dichlorobenzene	ND<100	200	0.5	Dichlorodifluoromethane	ND<100	200	0.5
1,1-Dichloroethane	ND<100	200	0.5	1,2-Dichloroethane (1,2-DCA)	ND<100	200	0.5
1,1-Dichloroethene	ND<100	200	0.5	cis-1,2-Dichloroethene	ND<100	200	0.5
trans-1,2-Dichloroethene	ND<100	200	0.5	1,2-Dichloropropane	ND<100	200	0.5
1,3-Dichloropropane	ND<100	200	0.5	2,2-Dichloropropane	ND<100	200	0.5
1,1-Dichloropropene	ND<100	200	0.5	cis-1,3-Dichloropropene	ND<100	200	0.5
trans-1,3-Dichloropropene	ND<100	200	0.5	Diisopropyl ether (DIPE)	ND<100	200	0.5
Ethylbenzene	4500	200	0.5	Ethyl tert-butyl ether (ETBE)	ND<100	200	0.5
Freon 113	ND<2000	200	10	Hexachlorobutadiene	ND<100	200	0.5
Hexachloroethane	ND<100	200	0.5	2-Hexanone	ND<100	200	0.5
Isopropylbenzene	190	200	0.5	4-Isopropyl toluene	ND<100	200	0.5
Methyl-t-butyl ether (MTBE)	ND<100	200	0.5	Methylene chloride	ND<100	200	0.5
4-Methyl-2-pentanone (MIBK)	ND<100	200	0.5	Naphthalene	820	200	0.5
Nitrobenzene	ND<2000	200	10	n-Propyl benzene	850	200	0.5
Styrene	ND<100	200	0.5	1,1,1,2-Tetrachloroethane	ND<100	200	0.5
1,1,2,2-Tetrachloroethane	ND<100	200	0.5	Tetrachloroethene	ND<100	200	0.5
Toluene	ND<100	200	0.5	1,2,3-Trichlorobenzene	ND<100	200	0.5
1,2,4-Trichlorobenzene	ND<100	200	0.5	1,1,1-Trichloroethane	ND<100	200	0.5
1,1,2-Trichloroethane	ND<100	200	0.5	Trichloroethene	ND<100	200	0.5
Trichlorofluoromethane	ND<100	200	0.5	1,2,3-Trichloropropane	ND<100	200	0.5
1,2,4-Trimethylbenzene	1800	200	0.5	1,3,5-Trimethylbenzene	300	200	0.5
Vinyl Chloride	ND<100	200	0.5	Xylenes	1800	200	0.5

**Surrogate Recoveries (%)**

%SS1:	99	%SS2:	101
%SS3:	102		

Comments: h,i

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP &amp; SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 Telephone : 925-798-1620 Fax : 925-798-1622  
 Website: www.mccampbell.com E-mail: main@mccampbell.com

Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/24/05-03/25/05

### Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD\*

Extraction Method: SW3550C

Analytical Method: SW8082A

Work Order: 0503431

Lab ID	0503431-003A	0503431-006A	0503431-007A	0503431-009A	Reporting Limit for DF =1	
Client ID	BH-A 11.5'	BH-B 11.5'	BH-C 2.0'	BH-D 2.0'		
Matrix	S	S	S	S		
DF	1	1	1	1		

Compound	Concentration				mg/kg	ug/L
Aroclor1016	ND	ND	ND	ND	0.025	NA
Aroclor1221	ND	ND	ND	ND	0.025	NA
Aroclor1232	ND	ND	ND	ND	0.025	NA
Aroclor1242	ND	ND	ND	ND	0.025	NA
Aroclor1248	ND	ND	ND	ND	0.025	NA
Aroclor1254	ND	ND	ND	ND	0.025	NA
Aroclor1260	ND	ND	ND	ND	0.025	NA
PCBs, total	ND	ND	ND	ND	0.025	NA

### Surrogate Recoveries (%)

%SS:	99	103	97	97	
Comments	o				

\* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >=1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florasil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see case narrative.



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110 2nd Avenue South, MD7, Pacheco, CA 94553-5560  
 Telephone : 925-798-1620 Fax : 925-798-1622  
 Website: www.mccampbell.com E-mail: main@mccampbell.com

Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/24/05-03/25/05

### Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD\*

Extraction Method: SW3550C

Analytical Method: SW8082A

Work Order: 0503431

Lab ID	0503431-011A	0503431-013A	0503431-015A	0503431-016A	Reporting Limit for DF = 1	
Client ID	BH-E 2.0'	BH-F 2.0'	BH-G 2.0'	BH-H 2.0'		
Matrix	S	S	S	S		
DF	1	1	1	1		

Compound	Concentration				mg/kg	ug/L
Aroclor1016	ND	ND	ND	ND	0.025	NA
Aroclor1221	ND	ND	ND	ND	0.025	NA
Aroclor1232	ND	ND	ND	ND	0.025	NA
Aroclor1242	ND	ND	ND	ND	0.025	NA
Aroclor1248	ND	ND	ND	ND	0.025	NA
Aroclor1254	ND	ND	ND	ND	0.025	NA
Aroclor1260	ND	ND	ND	ND	0.025	NA
PCBs, total	ND	ND	ND	ND	0.025	NA

### Surrogate Recoveries (%)

%SS:	97	96	96	96		
Comments						

\* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >= 1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see case narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacifico, CA 94553-5560  
 Telephone : 925-798-1620 Fax : 925-798-1622  
 Website: www.mccampbell.com E-mail: main@mccampbell.com

Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/25/05

### Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD\*

Extraction Method: SW3550C

Analytical Method: SW8082A

Work Order: 0503431

Lab ID	0503431-018A				Reporting Limit for DF = 1	
Client ID	BH-I 2.0'					
Matrix	S					
DF	10					
					S	W
<b>Compound</b>	<b>Concentration</b>				<b>mg/kg</b>	<b>ug/L</b>
Aroclor1016	ND<0.25				0.025	NA
Aroclor1221	ND<0.25				0.025	NA
Aroclor1232	ND<0.25				0.025	NA
Aroclor1242	ND<0.25				0.025	NA
Aroclor1248	ND<0.25				0.025	NA
Aroclor1254	ND<0.25				0.025	NA
Aroclor1260	ND<0.25				0.025	NA
PCBs, total	ND<0.25				0.025	NA

### Surrogate Recoveries (%)

%SS:	121			
Comments	j			

\* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >=1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see case narrative.



# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 Telephone : 925-798-1620 Fax : 925-798-1622  
 Website: www.mccampbell.com E-mail: main@mccampbell.com

Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/25/05

### Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD\*

Extraction Method: SW3510C

Analytical Method: SW8082A

Work Order: 0503431

Lab ID	0503431-020B	0503431-021B		Reporting Limit for DF =1
Client ID	BH-A	BH-B		
Matrix	W	W		
DF	5	5		

Compound	Concentration			ug/kg	ug/L
Aroclor1016	ND<2.5	ND<2.5		NA	0.5
Aroclor1221	ND<2.5	ND<2.5		NA	0.5
Aroclor1232	ND<2.5	ND<2.5		NA	0.5
Aroclor1242	ND<2.5	ND<2.5		NA	0.5
Aroclor1248	ND<2.5	ND<2.5		NA	0.5
Aroclor1254	ND<2.5	ND<2.5		NA	0.5
Aroclor1260	ND<2.5	ND<2.5		NA	0.5
PCBs, total	ND<2.5	ND<2.5		NA	0.5

### Surrogate Recoveries (%)

%SS:	103	105		
Comments	j,o,i	j,h,o,i		

\* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >=1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see case narrative.



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Aqua Science Engineers, Inc.  
208 West El Pintado Road  
Danville, CA 94526

Client Project ID: Hahn

Date Sampled: 03/23/05

Date Received: 03/24/05

Client Contact: Robert Kitay

Date Extracted: 03/24/05

Client P.O.:

Date Analyzed: 03/25/05

### Metals\*

Extraction method: E200.8

Analytical methods: E200.8

Work Order: 0503431

Lab ID	Client ID	Matrix	Extraction	Lead	DF	% SS
0503431-020C	BH-A	W	DISS.	ND	1	N/A
0503431-021C	BH-B	W	DISS.	42	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	DISS.	0.5	µg/L
	S	TTLIC	NA	mg/kg

\*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

# means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLIC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.

Angela Rydelius, Lab Manager



# McC Campbell Analytical, Inc.

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 Telephone : 925-798-1620 Fax : 925-798-1622  
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Aqua Science Engineers, Inc.  208 West El Pintado Road  Danville, CA 94526	Client Project ID: Hahn	Date Sampled: 03/23/05
		Date Received: 03/24/05
	Client Contact: Robert Kitay	Date Extracted: 03/24/05
	Client P.O.:	Date Analyzed: 03/25/05

### Lead by ICP\*

Extraction method: SW3050B

Analytical methods: 6010C

Work Order: 0503431

Lab ID	Client ID	Matrix	Extraction	Lead	DF	% SS
0503431-003A	BH-A 11.5'	S	TTLC	7.1	1	114
0503431-006A	BH-B 11.5'	S	TTLC	20	1	111
0503431-007A	BH-C 2.0'	S	TTLC	28	1	111
0503431-009A	BH-D 2.0'	S	TTLC	8.1	1	113
0503431-011A	BH-E 2.0'	S	TTLC	37	1	116
0503431-013A	BH-F 2.0'	S	TTLC	9.1	1	112
0503431-015A	BH-G 2.0'	S	TTLC	28	1	112
0503431-016A	BH-H 2.0'	S	TTLC	7.8	1	111
0503431-018A	BH-I 2.0'	S	TTLC	24	1	112

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	mg/L
	S	TTLC	5.0	mg/Kg

\*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

# means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0503431

EPA Method: SW8021B/8015Cm		Extraction: SW5030B			BatchID: 15542		Spiked Sample ID: 0503413-001A			
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) <sup>E</sup>	ND	0.60	97.9	100	2.12	102	106	4.01	70 - 130	70 - 130
MTBE	ND	0.10	94.6	119	22.6	83.5	84.6	1.34	70 - 130	70 - 130
Benzene	ND	0.10	104	109	4.83	109	114	4.05	70 - 130	70 - 130
Toluene	ND	0.10	82.8	87.9	6.04	90.4	92.5	2.34	70 - 130	70 - 130
Ethylbenzene	ND	0.10	102	108	5.87	115	118	2.41	70 - 130	70 - 130
Xylenes	ND	0.30	90	95.3	5.76	100	107	6.45	70 - 130	70 - 130
%SS:	101	0.10	110	109	0.789	109	109	0	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 15542 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-003A	3/23/05 10:18 AM	3/24/05 7:46 PM	3/25/05 12:04 PM	0503431-006A	3/23/05 11:35 AM	3/24/05 7:46 PM	3/25/05 11:31 AM
0503431-007A	3/23/05 12:29 PM	3/24/05 7:46 PM	3/25/05 12:37 PM	0503431-009A	3/23/05 12:46 PM	3/24/05 7:46 PM	3/25/05 1:11 PM
0503431-011A	3/23/05 1:03 PM	3/24/05 7:46 PM	3/26/05 3:24 AM	0503431-013A	3/23/05 1:13 PM	3/24/05 7:46 PM	3/26/05 4:29 AM
0503431-015A	3/23/05 1:27 PM	3/24/05 7:46 PM	3/29/05 3:27 AM	0503431-016A	3/23/05 1:38 PM	3/24/05 7:46 PM	3/26/05 6:38 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 \* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 E TPH(btex) = sum of BTEX areas from the FID.  
 # cluttered chromatogram; sample peak coelutes with surrogate peak.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer





QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0503431

EPA Method: SW8021B/8015Cm		Extraction: SW5030B			BatchID: 15577			Spiked Sample ID: 0503431-018A		
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) <sup>‡</sup>	ND	0.60	95.3	101	5.49	97.5	98.1	0.607	70 - 130	70 - 130
MTBE	ND	0.10	100	96.8	3.70	93.4	87.5	6.59	70 - 130	70 - 130
Benzene	ND	0.10	111	112	0.360	118	112	5.62	70 - 130	70 - 130
Toluene	ND	0.10	85.8	90.4	5.21	95.6	88.2	7.97	70 - 130	70 - 130
Ethylbenzene	ND	0.10	107	111	3.54	116	111	4.43	70 - 130	70 - 130
Xylenes	ND	0.30	91	96.3	5.69	100	96.7	3.39	70 - 130	70 - 130
%SS:	83	0.10	112	102	9.35	117	113	3.48	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method R.L. with the following exceptions:  
NONE

BATCH 15577 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-018A	3/23/05 2:23 PM	3/24/05 7:46 PM	3/26/05 7:10 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 \* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 ‡ TPH(btex) = sum of BTEX areas from the FID.  
 # cluttered chromatogram; sample peak coelutes with surrogate peak.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0503431

EPA Method: SW8021B/8015Cm		Extraction: SW5030B			BatchID: 15579			Spiked Sample ID: 0503436-001A		
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) <sup>E</sup>	ND	60	93.2	97.1	4.06	92.5	93.3	0.893	70 - 130	70 - 130
MTBE	ND	10	92.8	98.4	5.79	97.8	98.5	0.755	70 - 130	70 - 130
Benzene	ND	10	102	108	5.88	108	107	0.416	70 - 130	70 - 130
Toluene	ND	10	104	107	3.13	100	102	1.55	70 - 130	70 - 130
Ethylbenzene	ND	10	104	106	2.28	103	106	2.85	70 - 130	70 - 130
Xylenes	ND	30	91.3	95.3	4.29	91	91.3	0.366	70 - 130	70 - 130
%SS:	108	10	107	112	4.02	109	110	0.328	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 15579 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-021D	3/23/05 11:50 AM	3/26/05 9:17 PM	3/26/05 9:17 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 \* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 E TPH(btex) = sum of BTEX areas from the FID.  
 # cluttered chromatogram; sample peak coelutes with surrogate peak.  
 N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer



QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0503431

EPA Method: SW8015C	Extraction: SW3550C			BatchID: 15544			Spiked Sample ID: 0503413-001A			
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	ND	20	97.8	97.4	0.414	95.6	88	8.18	70 - 130	70 - 130
%SS:	97	50	96	95	0.856	108	89	19.7	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 15544 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-006A	3/23/05 11:35 AM	3/24/05 7:44 PM	3/29/05 9:01 AM	0503431-007A	3/23/05 12:29 PM	3/24/05 7:44 PM	3/26/05 12:11 AM
0503431-009A	3/23/05 12:46 PM	3/24/05 7:44 PM	3/26/05 1:16 AM	0503431-011A	3/23/05 1:03 PM	3/24/05 7:44 PM	3/26/05 2:21 AM
0503431-013A	3/23/05 1:13 PM	3/24/05 7:44 PM	3/26/05 3:26 AM	0503431-015A	3/23/05 1:27 PM	3/24/05 7:44 PM	3/25/05 11:06 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer



QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0503431

EPA Method: SW8015C		Extraction: SW3550C			BatchID: 15576			Spiked Sample ID: 0503431-016A		
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	ND	20	102	98.5	3.47	90.1	89.3	0.917	70 - 130	70 - 130
%SS:	98	50	97	95	1.40	95	93	2.19	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 15576 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-003A	3/23/05 10:18 AM	3/24/05 7:45 PM	3/26/05 1:56 AM	0503431-016A	3/23/05 1:38 PM	3/24/05 7:45 PM	3/25/05 12:17 PM
0503431-018A	3/23/05 2:23 PM	3/24/05 7:45 PM	3/26/05 8:46 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer



QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0503431

EPA Method: SW8015C		Extraction: SW3510C			BatchID: 15560			Spiked Sample ID: N/A		
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	107	101	6.10	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	86	87	1.15	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 15560 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-020D	3/23/05 10:45 AM	3/24/05 7:52 PM	3/25/05 8:30 PM	0503431-021d	3/23/05 11:50 AM	3/24/05 7:52 PM	3/29/05 3:36 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 \* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer

**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0503431

EPA Method: SW8260B		Extraction: SW5030B				BatchID: 15545			Spiked Sample ID: 0503413-001A	
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
tert-Amyl methyl ether (TAME)	ND	0.050	115	118	2.30	103	112	8.73	70 - 130	70 - 130
Benzene	ND	0.050	111	96.9	13.2	110	110	0	70 - 130	70 - 130
t-Butyl alcohol (TBA)	ND	0.25	99	92.5	6.81	89.3	97	8.29	70 - 130	70 - 130
Chlorobenzene	ND	0.050	112	102	8.77	110	110	0	70 - 130	70 - 130
1,2-Dibromoethane (EDB)	ND	0.050	105	111	6.04	95.1	102	7.19	70 - 130	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	0.050	119	119	0	114	120	5.23	70 - 130	70 - 130
1,1-Dichloroethene	ND	0.050	110	91.7	18.4	115	110	4.99	70 - 130	70 - 130
Diisopropyl ether (DIPE)	ND	0.050	115	114	0.659	114	120	4.80	70 - 130	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	0.050	119	117	1.60	106	114	7.93	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	0.050	117	120	2.49	101	111	9.56	70 - 130	70 - 130
Toluene	ND	0.050	102	90.8	12.0	105	103	1.67	70 - 130	70 - 130
Trichloroethene	ND	0.050	100	86.8	14.3	102	100	1.99	70 - 130	70 - 130
%SS1:	95	0.050	101	106	4.71	100	101	1.87	70 - 130	70 - 130
%SS2:	102	0.050	98	96	2.61	100	98	1.28	70 - 130	70 - 130
%SS3:	109	0.050	108	108	0	110	107	2.43	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 15545 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-003A	3/23/05 10:18 AM	3/24/05 7:50 PM	3/29/05 7:09 PM	0503431-006A	3/23/05 11:35 AM	3/24/05 7:50 PM	3/29/05 11:02 PM
0503431-007A	3/23/05 12:29 PM	3/24/05 7:50 PM	3/28/05 10:14 PM	0503431-009A	3/23/05 12:46 PM	3/24/05 7:50 PM	3/29/05 3:16 AM
0503431-011A	3/23/05 1:03 PM	3/24/05 7:50 PM	3/28/05 8:47 PM	0503431-013A	3/23/05 1:13 PM	3/24/05 7:50 PM	3/29/05 6:26 PM
0503431-015A	3/23/05 1:27 PM	3/24/05 7:50 PM	3/29/05 1:49 AM	0503431-016A	3/23/05 1:38 PM	3/24/05 7:50 PM	3/28/05 9:30 PM
0503431-018A	3/23/05 2:23 PM	3/24/05 7:50 PM	3/28/05 10:57 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogeneous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0503431

EPA Method: SW8260B		Extraction: SW5030B				BatchID: 15559			Spiked Sample ID: 0503423-006B	
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
tert-Amyl methyl ether (TAME)	ND	10	103	100	2.69	98	108	9.57	70 - 130	70 - 130
Benzene	ND	10	102	101	0.703	100	105	4.60	70 - 130	70 - 130
t-Butyl alcohol (TBA)	ND	50	91.3	93.9	2.83	88.5	91.5	3.28	70 - 130	70 - 130
Chlorobenzene	ND	10	109	105	4.11	103	108	5.05	70 - 130	70 - 130
1,2-Dibromoethane (EDB)	ND	10	97.1	94.4	2.77	91.3	99.4	8.52	70 - 130	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	112	111	1.36	111	117	5.41	70 - 130	70 - 130
1,1-Dichloroethene	ND	10	99.1	101	2.31	101	103	1.48	70 - 130	70 - 130
Diisopropyl ether (DIPE)	ND	10	113	111	2.14	109	119	8.76	70 - 130	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	107	105	2.10	103	113	9.66	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	104	102	2.14	99.2	109	9.05	70 - 130	70 - 130
Toluene	ND	10	102	100	1.34	95.9	101	4.85	70 - 130	70 - 130
Trichloroethene	ND	10	94.8	92.3	2.64	91.5	95.4	4.15	70 - 130	70 - 130
%SS1:	107	10	100	103	2.92	102	102	0	70 - 130	70 - 130
%SS2:	100	10	102	101	1.34	100	99	0.686	70 - 130	70 - 130
%SS3:	115	10	115	118	2.48	115	114	1.16	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 15559 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-020A	3/23/05 10:45 AM	3/29/05 8:08 PM	3/29/05 8:08 PM	0503431-021A	3/23/05 11:50 AM	3/30/05 12:50 AM	3/30/05 12:50 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



QC SUMMARY REPORT FOR SW8082A

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0503431

EPA Method: SW8082A		Extraction: SW3510C				BatchID: 15578			Spiked Sample ID: N/A	
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
PCBs, total	N/A	3.75	N/A	N/A	N/A	102	102	0	N/A	80 - 120
%SS:	N/A	2.5	N/A	N/A	N/A	96	97	0.980	N/A	80 - 120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 15578 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-020B	3/23/05 10:45 AM	3/24/05 7:51 PM	3/25/05 6:33 AM	0503431-021B	3/23/05 11:50 AM	3/24/05 7:51 PM	3/25/05 7:27 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 \* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.





**QC SUMMARY REPORT FOR SW8082A**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0503431

EPA Method: SW8082A		Extraction: SW3550C			BatchID: 15552			Spiked Sample ID: 0503418-001A		
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
PCBs, total	ND<0.12	0.075	125	107	15.5	118	120	1.12	70 - 130	80 - 120
%SS:	100	0.050	105	96	8.88	94	95	1.41	80 - 120	80 - 120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

**BATCH 15552 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-003A	3/23/05 10:18 AM	3/24/05 7:49 PM	3/25/05 5:39 AM	0503431-006A	3/23/05 11:35 AM	3/24/05 7:49 PM	3/25/05 4:44 AM
0503431-007A	3/23/05 12:29 PM	3/24/05 7:49 PM	3/24/05 10:25 PM	0503431-009A	3/23/05 12:46 PM	3/24/05 7:49 PM	3/24/05 11:19 PM
0503431-011A	3/23/05 1:03 PM	3/24/05 7:49 PM	3/25/05 12:14 AM	0503431-013A	3/23/05 1:13 PM	3/24/05 7:49 PM	3/25/05 1:08 AM
0503431-015A	3/23/05 1:27 PM	3/24/05 7:49 PM	3/25/05 2:02 AM	0503431-016A	3/23/05 1:38 PM	3/24/05 7:49 PM	3/25/05 2:56 AM
0503431-018A	3/23/05 2:23 PM	3/24/05 7:49 PM	3/25/05 5:01 PM				

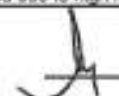
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2)

\* MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

 QA/QC Officer



QC SUMMARY REPORT FOR E200.8

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0503431

EPA Method: E200.8		Extraction: E200.8			BatchID: 15563			Spiked Sample ID: 0503424-001C		
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Lead	ND	50	96.9	100	3.25	103	101	1.41	75 - 125	85 - 115
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE										

BATCH 15563 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-020C	3/23/05 10:45 AM	3/24/05 7:52 PM	3/25/05 6:20 AM	0503431-021C	3/23/05 11:50 AM	3/24/05 7:52 PM	3/25/05 6:26 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 \* Acceptance Criteria for MS / MSD is between 70% and 130%. MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not applicable to this method.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

*JM* QA/QC Officer



QC SUMMARY REPORT FOR 6010C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0503431

EPA Method: 6010C		Extraction: SW3050B			BatchID: 15556			Spiked Sample ID: N/A		
Analyte	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Lead	N/A	50	N/A	N/A	N/A	96	103	6.84	N/A	80 - 120
%SS:	N/A	250	N/A	N/A	N/A	105	109	3.75	N/A	80 - 120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 15556 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0503431-003A	3/23/05 10:18 AM	3/24/05 7:47 PM	3/25/05 9:15 PM	0503431-006A	3/23/05 11:35 AM	3/24/05 7:47 PM	3/25/05 9:17 PM
0503431-007A	3/23/05 12:29 PM	3/24/05 7:47 PM	3/25/05 9:19 PM	0503431-009A	3/23/05 12:46 PM	3/24/05 7:47 PM	3/25/05 9:21 PM
0503431-011A	3/23/05 1:03 PM	3/24/05 7:47 PM	3/25/05 9:23 PM	0503431-013A	3/23/05 1:13 PM	3/24/05 7:47 PM	3/25/05 9:25 PM
0503431-015A	3/23/05 1:27 PM	3/24/05 7:47 PM	3/25/05 9:27 PM	0503431-016A	3/23/05 1:38 PM	3/24/05 7:47 PM	3/25/05 9:29 PM
0503431-018A	3/23/05 2:23 PM	3/24/05 7:47 PM	3/25/05 9:31 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 \* Acceptance Criteria for MS / MSD is between 70% and 130%. MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not applicable to this method.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

# McC Campbell Analytical, Inc.

110 Second Avenue South, #D7  
 Pacheco, CA 94553-5560  
 (925) 796-1620



# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0503431 ClientID: ASED

**Report to:**

Robert Kilay  
 Aqua Science Engineers, Inc.  
 208 West El Pintado Road  
 Danville, CA 94526

TEL: (925) 820-8391  
 FAX: (925) 837-4853  
 ProjectNo: Hahn  
 PO:

**Bill to:**

Accounts Payable  
 Aqua Science Engineers, Inc.  
 208 West El Pintado Road  
 Danville, CA 94526

Requested TAT: 5 days

Date Received: 03/24/2005  
 Date Printed: 03/24/2005

Sample ID	ClientSampleID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

0503431-003	BH-A 11.5'	Soil	3/23/05 10:18:00	<input type="checkbox"/>	A		A																				
0503431-006	BH-B 11.5'	Soil	3/23/05 11:35:00	<input type="checkbox"/>	A		A																				
0503431-007	BH-C 2.0'	Soil	3/23/05 12:29:00	<input type="checkbox"/>	A		A																				
0503431-009	BH-D 2.0'	Soil	3/23/05 12:46:00	<input type="checkbox"/>	A		A																				
0503431-011	BH-E 2.0'	Soil	3/23/05 1:03:00 PM	<input type="checkbox"/>	A		A																				
0503431-013	BH-F 2.0'	Soil	3/23/05 1:13:00 PM	<input type="checkbox"/>	A		A																				
0503431-015	BH-G 2.0'	Soil	3/23/05 1:27:00 PM	<input type="checkbox"/>	A		A																				
0503431-016	BH-H 2.0'	Soil	3/23/05 1:38:00 PM	<input type="checkbox"/>	A		A																				
0503431-018	BH-I 2.0'	Soil	3/23/05 2:23:00 PM	<input type="checkbox"/>	A		A																				
0503431-020	BH-A	Water	3/23/05 10:45:00	<input type="checkbox"/>		B		A							D	C											
0503431-021	BH-B	Water	3/23/05 11:50:00	<input type="checkbox"/>		B		A							D	C											

**Test Legend:**

1	8082A_PCB_S	2	8082A_PCB_W	3	8260B_S	4	8260B_W	5	G-MBTEX_S
6	G-MBTEX_W	7	METALSMS_DISS	8	PB_S	9	PRDISSOLVED	10	
11		12		13		14		15	

Prepared by: Rosa Venegas

**Comments:**

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



APPENDIX

# B



**TABLE II**  
 Soil Quality Data, Arsenic and Lead  
 Proposed FoodsCo Supermarket No. 536  
 Oakland, California  
 SALEM Project No. 4-412-0103

Date Sampled	Sample Collection Point	Arsenic (mg/kg)	Lead (mg/kg)
2/15/2012	B-1 @ 1'	2.8	11
2/15/2012	B-2 @ 1'	ND (3.5)	9.9
2/15/2012	B-3 @ 1'	ND (3.5)	8.5
2/16/2012	B-4 @ 1'	ND (3.5)	5.4
2/16/2012	B-5 @ 1'	ND (3.5)	8.0

Notes:

mg/kg = Milligrams per kilogram

ND = Not detected above analytical method detection limit

All samples analyzed by EPA Method 6010B

**TABLE III**  
 Soil Vapor Quality Data, Mobile Laboratory, Volatile Organic Constituents  
 Proposed FoodsCo Supermarket No. 536  
 Oakland, California  
 SALEM Project No. 4-412-0103

Date Sampled	Sample Collection Point	Benzene (µg/m <sup>3</sup> )	Ethylbenzene (µg/m <sup>3</sup> )	Isopropylbenzene (µg/m <sup>3</sup> )	n-Propylbenzene (µg/m <sup>3</sup> )	n-Butylbenzene (µg/m <sup>3</sup> )	Butylbenzene (µg/m <sup>3</sup> )	Tetrachloroethene (µg/m <sup>3</sup> )	Toluene (µg/m <sup>3</sup> )	Xylenes (µg/m <sup>3</sup> )	VOCs* (µg/m <sup>3</sup> )
2/15/2012	B-1 @5'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	51	ND (150)	ND
2/15/2012	B-1 @10'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (150)	ND
2/15/2012	B-2 @5'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (150)	ND
2/15/2012	B-2 @10'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (150)	ND
2/15/2012	B-3 @5'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	98	ND (150)	ND
	1 Volume										
2/15/2012	B-3 @5'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	190	170	ND
	3 Volumes										
2/15/2012	B-3 @5'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	160	293	ND
	7 Volumes										
2/15/2012	B-3 @10'	520	110	2,500	3,800	670	2,200	ND (50)	220	ND (150)	ND
2/16/2012	B-4 @5'	ND (72)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (300)	ND
2/16/2012	B-4 @5'	ND (72)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (300)	ND
	(Duplicate)										
2/16/2012	B-4 @10'	ND (72)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (300)	ND
2/16/2012	B-5 @5'	ND (40)	ND (55)	ND (55)	ND (55)	ND (55)	ND (55)	ND (55)	ND (55)	ND (165)	ND
2/16/2012	B-5 @10'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	84	ND (50)	ND (150)	ND
2/16/2012	B-6 @5'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	63	ND (150)	ND
2/16/2012	B-6 @10'	ND (72)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	110	ND (300)	ND
2/16/2012	B-7 @5'	ND (36)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	150	120	ND
2/16/2012	B-7 @10'	ND (72)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	150	ND (300)	ND
Shallow Soil Gas CHHSL - Commercial/Industrial Land Use		122	NE	NE	NE	NE	NE	603	3.78 E+5	8.79 E+5	NA

Notes:

- µg/m<sup>3</sup> = Micrograms per cubic meter air
- ND = Not detected above analytical method detection limit
- All samples analyzed by EPA Method 8260B by gas chromatograph/mass spectrometer
- VOCs\* = All other volatile organic compounds not detected above respective method detection limits
- NE = Not established



# C



Laboratory Analytical Results and Chain-of-Custody

Laboratory Job No: 1202-00144



# A & R Laboratories

Formerly Microbac Southern California

1401 RESEARCH PARK DRIVE, SUITE 100  
RIVERSIDE CA, 92507

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

## CASE NARRATIVE

Authorized Signature Name / Title (print)

Ken Zheng, President

Signature / Date

Ken Zheng, President  
02/20/2012 16:03:38

Laboratory Job No. (Certificate of Analysis No.)

1202-00144

Project Name / No.

914 W. GRAND AVE., OAKLAND, CA

Dates Sampled (from/to)

02/15/12 To 02/15/12

Dates Received (from/to)

02/15/12 To 02/15/12

Dates Reported (from/to)

02/20/12 To 2/20/2012

Chains of Custody Received

Yes

Comments:

Where there was little to no flow, 1 purge volume was used to obtain sample.

### Subcontracting

Organic Analyses

No analyses sub-contracted

### Sample Condition(s)

001 No Flow

002 Low Flow

003 No Flow

004 No Flow

All other samples intact



# A & R Laboratories

Formerly Microbac Southern California

1401 RESEARCH PARK DRIVE, SUITE 100  
RIVERSIDE CA, 92507

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

## CERTIFICATE OF ANALYSIS

1202-00144

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 001 <b>B1-10'</b>												Date & Time Sampled: 02/15/12 @ 10:55	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
[VOCs by GCMS]													
Acetone	<5.0	5	10	µg/L	<5,000	5,000	10,000	µg/m3	1.0		EPA 8260B	02/15/12	HXE
t-Amyl Methyl Ether (TAME)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Benzene	<0.036	0.036	0.050	µg/L	<36	36	50	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Bromobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Bromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Bromodichloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Bromoform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Bromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0		EPA 8260B	02/15/12	HXE
t-Butanol (TBA)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0		EPA 8260B	02/15/12	HXE
2-Butanone (MEK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0		EPA 8260B	02/15/12	HXE
n-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
sec-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
tert-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Carbon Disulfide	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Carbon Tetrachloride	<0.025	0.025	0.050	µg/L	<25	25	50	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Chlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Chloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Chloroform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Chloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0		EPA 8260B	02/15/12	HXE
2-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
4-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Dibromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
1,2-Dibromoethane (EDB)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
1,2-Dibromo-3-Chloropropane	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0		EPA 8260B	02/15/12	HXE
Dibromomethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
1,2-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE
1,3-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/15/12	HXE

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FAX 951-779-0344

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1202-00144

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 001 <b>B1-10'</b>												Date & Time Sampled: 02/15/12 @ 10:55	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
1,4-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dichlorodifluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
cis-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
trans-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
cis-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
trans-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Diisopropyl Ether (DIPE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Hexachlorobutadiene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Hexanone	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Isopropylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Isopropyltoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methylene Chloride	<1.0	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Naphthalene	<0.032	0.032	0.050	µg/L	<32	32	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
n-Propylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Styrene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,1,2-Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 001 <b>B1-10'</b> Date & Time Sampled: 02/15/12 @ 10:55													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
1,1,2,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Tetrachloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Toluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,1-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,2-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorofluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorotrifluoroethane	<0.20	0.2	0.20	µg/L	<200	200	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3,5-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Vinyl Chloride	<0.013	0.013	0.050	µg/L	<13	13	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
m,p-Xylenes	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
o-Xylene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<10	10	10	µg/L	<10,000	10,000	10,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	104		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Toluene-D8	96		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Bromofluorobenzene	94		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Sample: 002 <b>B1-5'</b> Date & Time Sampled: 02/15/12 @ 11:11													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
[VOCs by GCMS]													
Acetone	<5.0	5	10	µg/L	<5,000	5,000	10,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 002 <b>B1-5'</b>												Date & Time Sampled: 02/15/12 @ 11:11	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
t-Amyl Methyl Ether (TAME)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Benzene	<0.036	0.036	0.050	µg/L	<36	36	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromodichloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromoform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
t-Butanol (TBA)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Butanone (MEK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
n-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
sec-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
tert-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Carbon Disulfide	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Carbon Tetrachloride	<0.025	0.025	0.050	µg/L	<25	25	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloroform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dibromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromoethane (EDB)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromo-3-Chloropropane	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dibromomethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,4-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 002 <b>B1-5'</b> Date & Time Sampled: 02/15/12 @ 11:11													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
Dichlorodifluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
cis-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
trans-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
cis-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
trans-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Diisopropyl Ether (DiPE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Hexachlorobutadiene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Hexanone	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Isopropylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Isopropyltoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methylene Chloride	<1.0	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Naphthalene	<0.032	0.032	0.050	µg/L	<32	32	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
n-Propylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Styrene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,1,2-Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,2,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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RIVERSIDE CA, 92507

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FAX 951-779-0344

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## CERTIFICATE OF ANALYSIS

1202-00144

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 002 <b>B1-5'</b> Date & Time Sampled: 02/15/12 @ 11:11													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
Tetrachloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Toluene	<b>0.051</b>	0.05	0.10	µg/L	<b>51</b>	50	100	µg/m3	J 1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,1-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,2-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorofluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorotrifluoroethane	<0.20	0.2	0.20	µg/L	<200	200	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3,5-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Vinyl Chloride	<0.013	0.013	0.050	µg/L	<13	13	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
m,p-Xylenes	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
o-Xylene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<10	10	10	µg/L	<10,000	10,000	10,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	104		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Toluene-D8	97		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Bromofluorobenzene	95		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Sample: 003 <b>B2-5'</b> Date & Time Sampled: 02/15/12 @ 12:05													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
[VOCs by GCMS]													
Acetone	<5.50	5.5	11	µg/L	<5,500	5,500	11,000	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00144

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730  
Project: 914 W. GRAND AVE., OAKLAND, CA

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 003 <b>B2-5'</b>											Date & Time Sampled: 02/15/12 @ 12:05		
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
Benzene	<0.04	0.0396	0.055	µg/L	<40	40	55	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Bromobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Bromochloromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Bromodichloromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Bromoform	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Bromomethane	<0.11	0.11	0.22	µg/L	<110	110	220	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
t-Butanol (TBA)	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
2-Butanone (MEK)	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
n-Butylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
sec-Butylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
tert-Butylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Carbon Disulfide	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Carbon Tetrachloride	<0.03	0.0275	0.055	µg/L	<28	28	55	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Chlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Chloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Chloroform	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Chloromethane	<0.11	0.11	0.22	µg/L	<110	110	220	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
2-Chlorotoluene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
4-Chlorotoluene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Dibromochloromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,2-Dibromoethane (EDB)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,2-Dibromo-3-Chloropropane	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Dibromomethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,2-Dichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,3-Dichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,4-Dichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Dichlorodifluoromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00144

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 003 <b>B2-5'</b>												Date & Time Sampled: 02/15/12 @ 12:05	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
1,1-Dichloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,2-Dichloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
cis-1,2-Dichloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
trans-1,2-Dichloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,2-Dichloropropane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,3-Dichloropropane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
2,2-Dichloropropane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,1-Dichloropropene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
cis-1,3-Dichloropropene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
trans-1,3-Dichloropropene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Diisopropyl Ether (DiPE)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Ethylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Hexachlorobutadiene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
2-Hexanone	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Isopropylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
4-Isopropyltoluene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Methylene Chloride	<1.10	1.1	2.2	µg/L	<1,100	1,100	2,200	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Naphthalene	<0.04	0.0352	0.055	µg/L	<35	35	55	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
n-Propylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Styrene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,1,1,2-Tetrachloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,1,1,2,2-Tetrachloroethane	<0.11	0.11	0.22	µg/L	<110	110	220	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Tetrachloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	

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SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 003 <b>B2-5'</b> Date & Time Sampled: 02/15/12 @ 12:05													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: 1													
.....continued													
Toluene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,2,3-Trichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,2,4-Trichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,1,1-Trichloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,1,2-Trichloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Trichloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,2,3-Trichloropropane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Trichlorofluoromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Trichlorotrifluoroethane	<0.22	0.22	0.22	µg/L	<220	220	220	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,2,4-Trimethylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
1,3,5-Trimethylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
Vinyl Chloride	<0.01	0.0143	0.055	µg/L	<14	14	55	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
m,p-Xylenes	<0.11	0.11	0.22	µg/L	<110	110	220	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
o-Xylene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<11.00	11	11	µg/L	<11,000	11,000	11,000	µg/m3	1.1	EPA 8260B	02/15/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	104		70-130	%REC					1.1	EPA 8260B	02/15/12	HXE	
Toluene-D8	98		70-130	%REC					1.1	EPA 8260B	02/15/12	HXE	
Bromofluorobenzene	96		70-130	%REC					1.1	EPA 8260B	02/15/12	HXE	
Sample: 004 <b>B2-10'</b> Date & Time Sampled: 02/15/12 @ 12:52													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: 1													
[VOCs by GCMS]													
Acetone	<6.00	6	12	µg/L	<6,000	6,000	12,000	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Benzene	<0.04	0.0432	0.060	µg/L	<43	43	60	µg/m3	1.2	EPA 8260B	02/15/12	HXE	

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RIVERSIDE CA, 92507

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

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## CERTIFICATE OF ANALYSIS

1202-00144

**SALEM ENGINEERING GROUP**  
**RICHARD OPP**  
**11650 MISSION PARK DRIVE**  
**SUITE 105**  
**RANCHO CUCAMONGA, CA 91730**  
**Project: 914 W. GRAND AVE., OAKLAND, CA**

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 004 <b>B2-10'</b>												Date & Time Sampled: 02/15/12 @ 12:52	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
Bromobenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Bromochloromethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Bromodichloromethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Bromoform	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Bromomethane	<0.12	0.12	0.24	µg/L	<120	120	240	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
t-Butanol (TBA)	<0.60	0.6	1.2	µg/L	<600	600	1,200	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
2-Butanone (MEK)	<0.60	0.6	1.2	µg/L	<600	600	1,200	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
n-Butylbenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
sec-Butylbenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
tert-Butylbenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Carbon Disulfide	<0.60	0.6	1.2	µg/L	<600	600	1,200	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Carbon Tetrachloride	<0.03	0.03	0.060	µg/L	<30	30	60	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Chlorobenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Chloroethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Chloroform	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Chloromethane	<0.12	0.12	0.24	µg/L	<120	120	240	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
2-Chlorotoluene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
4-Chlorotoluene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Dibromochloromethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,2-Dibromoethane (EDB)	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,2-Dibromo-3-Chloropropane	<0.60	0.6	1.2	µg/L	<600	600	1,200	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Dibromomethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,2-Dichlorobenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,3-Dichlorobenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,4-Dichlorobenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Dichlorodifluoromethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00144

**SALEM ENGINEERING GROUP**  
**RICHARD OPP**  
**11650 MISSION PARK DRIVE**  
**SUITE 105**  
**RANCHO CUCAMONGA, CA 91730**  
**Project: 914 W. GRAND AVE., OAKLAND, CA**

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 004 <b>B2-10'</b>												Date & Time Sampled: 02/15/12 @ 12:52	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
1,2-Dichloroethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
cis-1,2-Dichloroethene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
trans-1,2-Dichloroethene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,2-Dichloropropane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,3-Dichloropropane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
2,2-Dichloropropane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,1-Dichloropropene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
cis-1,3-Dichloropropene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
trans-1,3-Dichloropropene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Diisopropyl Ether (DiPE)	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Ethylbenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Hexachlorobutadiene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
2-Hexanone	<0.60	0.6	1.2	µg/L	<600	600	1,200	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Isopropylbenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
4-Isopropyltoluene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Methylene Chloride	<1.20	1.2	2.4	µg/L	<1,200	1,200	2,400	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.60	0.6	1.2	µg/L	<600	600	1,200	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Naphthalene	<0.04	0.0384	0.060	µg/L	<38	38	60	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
n-Propylbenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Styrene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,1,1,2-Tetrachloroethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,1,2,2-Tetrachloroethane	<0.12	0.12	0.24	µg/L	<120	120	240	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Tetrachloroethene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Toluene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00144

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 004 <b>B2-10'</b> Date & Time Sampled: 02/15/12 @ 12:52													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
1,2,3-Trichlorobenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,2,4-Trichlorobenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,1,1-Trichloroethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,1,2-Trichloroethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Trichloroethene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,2,3-Trichloropropane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Trichlorofluoromethane	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Trichlorotrifluoroethane	<0.24	0.24	0.24	µg/L	<240	240	240	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,2,4-Trimethylbenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
1,3,5-Trimethylbenzene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
Vinyl Chloride	<0.02	0.0156	0.060	µg/L	<16	16	60	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
m,p-Xylenes	<0.12	0.12	0.24	µg/L	<120	120	240	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
o-Xylene	<0.06	0.06	0.12	µg/L	<60	60	120	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<12.00	12	12	µg/L	<12,000	12,000	12,000	µg/m3	1.2	EPA 8260B	02/15/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	106		70-130	%REC					1.2	EPA 8260B	02/15/12	HXE	
Toluene-D8	98		70-130	%REC					1.2	EPA 8260B	02/15/12	HXE	
Bromofluorobenzene	94		70-130	%REC					1.2	EPA 8260B	02/15/12	HXE	
Sample: 005 <b>B3-5' 1PV</b> Date & Time Sampled: 02/15/12 @ 15:13													
Sample Matrix:													
Purge Volume Sampled: <b>1</b>													
[VOCs by GCMS]													
Acetone	<5.0	5	10	µg/L	<5,000	5,000	10,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Benzene	<0.036	0.036	0.050	µg/L	<36	36	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 005 B3-5' 1PV												Date & Time Sampled: 02/15/12 @ 15:13	
Sample Matrix:													
Purge Volume Sampled: 1													
.....continued													
Bromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromodichloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromoform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
t-Butanol (TBA)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Butanone (MEK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
n-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
sec-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
tert-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Carbon Disulfide	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Carbon Tetrachloride	<0.025	0.025	0.050	µg/L	<25	25	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloroform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dibromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromoethane (EDB)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromo-3-Chloropropane	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dibromomethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,4-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dichlorodifluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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FAX 951-779-0344

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## CERTIFICATE OF ANALYSIS

1202-00144

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730  
Project: 914 W. GRAND AVE., OAKLAND, CA

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 005 <b>B3-5' 1PV</b>												Date & Time Sampled: 02/15/12 @ 15:13	
Sample Matrix:													
Purge Volume Sampled: 1													
.....continued													
1,1-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
cis-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
trans-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
cis-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
trans-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Diisopropyl Ether (DiPE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Hexachlorobutadiene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Hexanone	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Isopropylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Isopropyltoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methylene Chloride	<1.0	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Naphthalene	<0.032	0.032	0.050	µg/L	<32	32	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
n-Propylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Styrene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,1,2-Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,2,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Tetrachloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Toluene	<b>0.098</b>	0.05	0.10	µg/L	<b>98</b>	50	100	µg/m3	J 1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00144

**SALEM ENGINEERING GROUP**  
**RICHARD OPP**  
**11650 MISSION PARK DRIVE**  
**SUITE 105**  
**RANCHO CUCAMONGA, CA 91730**  
**Project: 914 W. GRAND AVE., OAKLAND, CA**

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 005 <b>B3-5' 1PV</b> <span style="float: right;">Date &amp; Time Sampled: 02/15/12 @ 15:13</span> Sample Matrix: Purge Volume Sampled: 1 .....continued													
1,2,4-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,1-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,2-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorofluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorotrifluoroethane	<0.20	0.2	0.20	µg/L	<200	200	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3,5-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Vinyl Chloride	<0.013	0.013	0.050	µg/L	<13	13	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
m,p-Xylenes	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
o-Xylene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<10	10	10	µg/L	<10,000	10,000	10,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	98		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Toluene-D8	102		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Bromofluorobenzene	95		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Sample: 006 <b>B3-5' 3PV</b> <span style="float: right;">Date &amp; Time Sampled: 02/15/12 @ 15:40</span> Sample Matrix: <b>Soil Vapor</b> Purge Volume Sampled: 3													
[VOCs by GCMS]													
Acetone	<5.0	5	10	µg/L	<5,000	5,000	10,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Benzene	<0.036	0.036	0.050	µg/L	<36	36	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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FAX 951-779-0344

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## CERTIFICATE OF ANALYSIS

1202-00144

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 006 <b>B3-5' 3PV</b>												Date & Time Sampled: 02/15/12 @ 15:40	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>3</b>													
.....continued													
Bromodichloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromoform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
t-Butanol (TBA)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Butanone (MEK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
n-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
sec-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
tert-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Carbon Disulfide	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Carbon Tetrachloride	<0.025	0.025	0.050	µg/L	<25	25	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloroform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dibromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromoethane (EDB)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromo-3-Chloropropane	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dibromomethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,4-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dichlorodifluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 006 <b>B3-5' 3PV</b>												Date & Time Sampled: 02/15/12 @ 15:40	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>3</b>													
.....continued													
cis-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
trans-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
cis-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
trans-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Diisopropyl Ether (DiPE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Hexachlorobutadiene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Hexanone	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Isopropylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Isopropyltoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methylene Chloride	<1.0	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Naphthalene	<0.032	0.032	0.050	µg/L	<32	32	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
n-Propylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Styrene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,1,2-Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,2,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Tetrachloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Toluene	<b>0.19</b>	0.05	0.10	µg/L	<b>190</b>	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00144

Date Reported 02/20/12

Date Received 02/15/12

Invoice No. 66968

Cust # S176

Permit Number

Customer P.O.

SALEM ENGINEERING GROUP

RICHARD OPP

11650 MISSION PARK DRIVE

SUITE 105

RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 006 <b>B3-5' 3PV</b>												Date & Time Sampled:	02/15/12 @ 15:40
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>3</b>													
.....continued													
1,1,1-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,2-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorofluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorotrifluoroethane	<0.20	0.2	0.20	µg/L	<200	200	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3,5-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Vinyl Chloride	<0.013	0.013	0.050	µg/L	<13	13	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
m,p-Xylenes	<b>0.17</b>	0.1	0.20	µg/L	<b>170</b>	100	200	µg/m3	J 1.0	EPA 8260B	02/15/12	HXE	
o-Xylene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<10	10	10	µg/L	<10,000	10,000	10,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	97		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Toluene-D8	110		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Bromofluorobenzene	96		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Sample: 007 <b>B3-5' 7PV</b>												Date & Time Sampled:	02/15/12 @ 16:05
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
[VOCs by GCMS]													
Acetone	<5.0	5	10	µg/L	<5,000	5,000	10,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Benzene	<0.036	0.036	0.050	µg/L	<36	36	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromodichloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00144

**SALEM ENGINEERING GROUP**  
**RICHARD OPP**  
**11650 MISSION PARK DRIVE**  
**SUITE 105**  
**RANCHO CUCAMONGA, CA 91730**  
**Project: 914 W. GRAND AVE., OAKLAND, CA**

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 007 <b>B3-5' 7PV</b>												Date & Time Sampled: 02/15/12 @ 16:05	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
Bromoform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Bromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
t-Butanol (TBA)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Butanone (MEK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
n-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
sec-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
tert-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Carbon Disulfide	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Carbon Tetrachloride	<0.025	0.025	0.050	µg/L	<25	25	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloroform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Chloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dibromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromoethane (EDB)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromo-3-Chloropropane	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dibromomethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,4-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Dichlorodifluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
cis-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00144

Date Reported 02/20/12

Date Received 02/15/12

Invoice No. 66968

Cust # S176

Permit Number

Customer P.O.

SALEM ENGINEERING GROUP

RICHARD OPP

11650 MISSION PARK DRIVE

SUITE 105

RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 007 <b>B3-5' 7PV</b>											Date & Time Sampled: 02/15/12 @ 16:05		
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
trans-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
cis-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
trans-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Diisopropyl Ether (DiPE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Hexachlorobutadiene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
2-Hexanone	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Isopropylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Isopropyltoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methylene Chloride	<1.0	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Naphthalene	<0.032	0.032	0.050	µg/L	<32	32	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
n-Propylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Styrene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,1,2-Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,2,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Toluene	<b>0.16</b>	0.05	0.10	µg/L	<b>160</b>	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,1,1-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	

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SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 007 <b>B3-5' 7PV</b>												Date & Time Sampled: 02/15/12 @ 16:05	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
1,1,2-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorofluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Trichlorotrifluoroethane	<0.20	0.2	0.20	µg/L	<200	200	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
1,3,5-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
Vinyl Chloride	<0.013	0.013	0.050	µg/L	<13	13	50	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
m,p-Xylenes	<b>0.23</b>	0.1	0.20	µg/L	<b>230</b>	100	200	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
o-Xylene	<b>0.063</b>	0.05	0.10	µg/L	<b>63</b>	50	100	µg/m3	J 1.0	EPA 8260B	02/15/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<10	10	10	µg/L	<10,000	10,000	10,000	µg/m3	1.0	EPA 8260B	02/15/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	95		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Toluene-D8	109		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	
Bromofluorobenzene	97		70-130	%REC					1.0	EPA 8260B	02/15/12	HXE	

Sample: 008 <b>B3-10'</b>												Date & Time Sampled: 02/15/12 @ 16:53	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
[VOCs by GCMS]													
Acetone	<10.00	10	20	µg/L	<10,000	10,000	20,000	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Benzene	<b>0.52</b>	0.072	0.10	µg/L	<b>520</b>	72	100	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Bromobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Bromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Bromodichloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Bromoform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	

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RIVERSIDE CA, 92507

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FAX 951-779-0344

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## CERTIFICATE OF ANALYSIS

1202-00144

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Date Reported 02/20/12  
Date Received 02/15/12  
Invoice No. 66968  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 008 <b>B3-10'</b>	Date & Time Sampled: 02/15/12 @ 16:53												
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
Bromomethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
t-Butanol (TBA)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
2-Butanone (MEK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
n-Butylbenzene	<b>0.67</b>	0.1	0.20	µg/L	<b>670</b>	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
sec-Butylbenzene	<b>2.2</b>	0.1	0.20	µg/L	<b>2,200</b>	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
tert-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Carbon Disulfide	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Carbon Tetrachloride	<0.05	0.05	0.10	µg/L	<50	50	100	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Chlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Chloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Chloroform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Chloromethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
2-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
4-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Dibromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromoethane (EDB)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,2-Dibromo-3-Chloropropane	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Dibromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,2-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,3-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,4-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Dichlorodifluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,2-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
cis-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
trans-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00144

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Cust # S176

Permit Number

Customer P.O.

SALEM ENGINEERING GROUP

RICHARD OPP

11650 MISSION PARK DRIVE

SUITE 105

RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 008 <b>B3-10'</b>											Date & Time Sampled: 02/15/12 @ 16:53		
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
1,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,3-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
2,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,1-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
cis-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
trans-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Diisopropyl Ether (DIPE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Ethylbenzene	<b>0.11</b>	0.1	0.20	µg/L	<b>110</b>	100	200	µg/m3	J 2.0	EPA 8260B	02/15/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Hexachlorobutadiene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
2-Hexanone	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Isopropylbenzene	<b>2.5</b>	0.1	0.20	µg/L	<b>2,500</b>	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
4-Isopropyltoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Methylene Chloride	<2.00	2	4.0	µg/L	<2,000	2,000	4,000	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Naphthalene	<0.06	0.064	0.10	µg/L	<64	64	100	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
n-Propylbenzene	<b>3.8</b>	0.1	0.20	µg/L	<b>3,800</b>	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Styrene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,1,1,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,1,2,2-Tetrachloroethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Tetrachloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Toluene	<b>0.22</b>	0.1	0.20	µg/L	<b>220</b>	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,1,1-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,1,2-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	

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RIVERSIDE CA, 92507

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## CERTIFICATE OF ANALYSIS

1202-00144

Date Reported 02/20/12

Date Received 02/15/12

Invoice No. 66968

Cust # S176

Permit Number

Customer P.O.

SALEM ENGINEERING GROUP

RICHARD OPP

11650 MISSION PARK DRIVE

SUITE 105

RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 008 <b>B3-10'</b>	Date & Time Sampled: 02/15/12 @ 16:53												
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
Trichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,2,3-Trichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Trichlorofluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Trichlorotrifluoroethane	<0.40	0.4	0.40	µg/L	<400	400	400	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,2,4-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
1,3,5-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
Vinyl Chloride	<0.03	0.026	0.10	µg/L	<26	26	100	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
m,p-Xylenes	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
o-Xylene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<20.00	20	20	µg/L	<20,000	20,000	20,000	µg/m3	2.0	EPA 8260B	02/15/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	98		70-130	%REC					2.0	EPA 8260B	02/15/12	HXE	
Toluene-D8	113		70-130	%REC					2.0	EPA 8260B	02/15/12	HXE	
Bromofluorobenzene	91		70-130	%REC					2.0	EPA 8260B	02/15/12	HXE	

Respectfully Submitted:

Ken Zheng - President

### QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL  
 B1= BOD blank is over specifications . The reported result may be biased high.  
 D = Surrogate recoveries are not calculated due to sample dilution  
 E = Estimated value  
 H = Analyte was prepared and/or analyzed outside of the analytical method holding time  
 I = Matrix Interference  
 J = Analyte concentration detected between RL and MDL

### ABBREVIATIONS

DF = Dilution Factor  
 RL = Reporting Limit  
 MDL = Method Detection Limit  
 Qual = Qualifier  
 Tech = Technician



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*For any feedback concerning our services, please contact Marilu Escher, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at [arlab@arlaboratories.com](mailto:arlab@arlaboratories.com).*



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## QUALITY CONTROL DATA REPORT

SALEM ENGINEERING GROUP

1202-00144

RICHARD OPP

Date Reported 02/20/2012

11650 MISSION PARK DRIVE

Date Received 02/15/2012

SUITE 105

Date Sampled 02/15/2012

RANCHO CUCAMONGA, CA 91730

Invoice No. 66968

Project: 914 W. GRAND AVE., OAKLAND, CA

Customer # S176

Customer P.O.

Method # EPA 8260B

QC Reference # 33661 Date Analyzed: 2/15/2012 Technician: HXE

Samples 001 002 003 004 005 006 007 008

### Results

	LCS %REC	BLKSRR% REC
1,1-Dichloroethene	103	
Benzene	95	
Bromofluorobenzene		95
Chlorobenzene	106	
Dibromofluoromethan		99
Toluene	97	
Toluene-D8		96
Trichloroethene	98	

### Control Ranges

LCS %REC	BLKSRR%REC
70 - 130	
70 - 130	
	70 - 130
70 - 130	
	70 - 130
70 - 130	
	70 - 130
70 - 130	



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## QUALITY CONTROL DATA REPORT

SALEM ENGINEERING GROUP

RICHARD OPP

1202-00144

Date Reported

02/20/2012

Date Received

02/15/2012

Date Sampled

02/15/2012

Project: 914 W. GRAND AVE., OAKLAND, CA

### Method blank results

Ref	Test Name	Result	Qualif	Units	MDL	Ref	Test Name	Result	Qualif	Units	MDL
33661	Acetone	<5.0		µg/L	5.0		Isopropylbenzene	<0.050		µg/L	0.050
	t-Amyl Methyl Ether (TAME)	<0.050		µg/L	0.050		4-Isopropyltoluene	<0.050		µg/L	0.050
	Benzene	<0.036		µg/L	0.036		Methylene Chloride	<1.0		µg/L	1.0
	Bromobenzene	<0.050		µg/L	0.050		4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	0.50
	Bromochloromethane	<0.050		µg/L	0.050		Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	0.050
	Bromodichloromethane	<0.050		µg/L	0.050		Naphthalene	<0.032		µg/L	0.032
	Bromoform	<0.050		µg/L	0.050		n-Propylbenzene	<0.050		µg/L	0.050
	Bromomethane	<0.10		µg/L	0.10		Styrene	<0.050		µg/L	0.050
	t-Butanol (TBA)	<0.50		µg/L	0.50		1,1,1,2-Tetrachloroethane	<0.050		µg/L	0.050
	2-Butanone (MEK)	<0.50		µg/L	0.50		1,1,2,2-Tetrachloroethane	<0.10		µg/L	0.10
	n-Butylbenzene	<0.050		µg/L	0.050		Tetrachloroethene	<0.050		µg/L	0.050
	sec-Butylbenzene	<0.050		µg/L	0.050		Toluene	<0.050		µg/L	0.050
	tert-Butylbenzene	<0.050		µg/L	0.050		1,2,3-Trichlorobenzene	<0.050		µg/L	0.050
	Carbon Disulfide	<0.50		µg/L	0.50		1,2,4-Trichlorobenzene	<0.050		µg/L	0.050
	Carbon Tetrachloride	<0.025		µg/L	0.025		1,1,1-Trichloroethane	<0.050		µg/L	0.050
	Chlorobenzene	<0.050		µg/L	0.050		1,1,2-Trichloroethane	<0.050		µg/L	0.050
	Chloroethane	<0.050		µg/L	0.050		Trichloroethene	<0.050		µg/L	0.050
	Chloroform	<0.050		µg/L	0.050		1,2,3-Trichloropropane	<0.050		µg/L	0.050
	Chloromethane	<0.10		µg/L	0.10		Trichlorofluoromethane	<0.050		µg/L	0.050
	2-Chlorotoluene	<0.050		µg/L	0.050		Trichlorotrifluoroethane	<0.20		µg/L	0.20
	4-Chlorotoluene	<0.050		µg/L	0.050		1,2,4-Trimethylbenzene	<0.050		µg/L	0.050
	Dibromochloromethane	<0.050		µg/L	0.050		1,3,5-Trimethylbenzene	<0.050		µg/L	0.050
	1,2-Dibromoethane (EDB)	<0.050		µg/L	0.050		Vinyl Chloride	<0.013		µg/L	0.013
	1,2-Dibromo-3-Chloropropane	<0.50		µg/L	0.50		m,p-Xylenes	<0.10		µg/L	0.10
	Dibromomethane	<0.050		µg/L	0.050		o-Xylene	<0.050		µg/L	0.050
	1,2-Dichlorobenzene	<0.050		µg/L	0.050		Isopropanol (IPA)	<10		µg/L	10
	1,3-Dichlorobenzene	<0.050		µg/L	0.050						
	1,4-Dichlorobenzene	<0.050		µg/L	0.050						
	Dichlorodifluoromethane	<0.050		µg/L	0.050						
	1,1-Dichloroethane	<0.050		µg/L	0.050						
	1,2-Dichloroethane	<0.050		µg/L	0.050						
	1,1-Dichloroethene	<0.050		µg/L	0.050						
	cis-1,2-Dichloroethene	<0.050		µg/L	0.050						
	trans-1,2-Dichloroethene	<0.050		µg/L	0.050						
	1,2-Dichloropropane	<0.050		µg/L	0.050						
	1,3-Dichloropropane	<0.050		µg/L	0.050						
	2,2-Dichloropropane	<0.050		µg/L	0.050						
	1,1-Dichloropropene	<0.050		µg/L	0.050						
	cis-1,3-Dichloropropene	<0.050		µg/L	0.050						
	trans-1,3-Dichloropropene	<0.050		µg/L	0.050						
	Diisopropyl Ether (DiPE)	<0.050		µg/L	0.050						
	Ethylbenzene	<0.050		µg/L	0.050						
	Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	0.050						
	Hexachlorobutadiene	<0.050		µg/L	0.050						
	2-Hexanone	<0.50		µg/L	0.50						



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## QUALITY CONTROL DATA REPORT

SALEM ENGINEERING GROUP

RICHARD OPP

**1202-00144**

**Date Reported**

**02/20/2012**

**Date Received**

**02/15/2012**

**Date Sampled**

**02/15/2012**

**Project: 914 W. GRAND AVE., OAKLAND, CA**

*Respectfully Submitted:*

Ken Zheng - President

*For any feedback concerning our services, please contact Marilu Escher, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at arlab@arlaboratories.com.*



Southern California Division

1401 Research Park Drive, Suite 100
Riverside, CA 92507
V: 951.779.0310 • 800.798.9336 F: 951.779.0344
3299 Hill Street, Suite 305
Signal Hill, CA 90755
V: 562.498.7005 F: 562.498.8617

Chain of Custody Rec

1202 - 144

www.microbac.com social@microbac.com

Page 1 of 1

Project No:
Project Name: 914 W. Grand Ave. Oakland, CA
Project Manager:
Phone:
Fax:
Customer Name: (Report and Billing) Salem
Address: (Report and Billing)
Email:

Table with columns for analyses requested: Micro: Plate Cnt., Coliform, E. Coli; Chem: BOD, TSS, TDS, pH; Chem: Cyanide, Ammonia, TKN, Oil & Grease; IC: Br, SO4, PO4, NO3, Cl; Metals: Title 22(CAM) or RCRA; LUFT Gas or 8015 GRO or C4-C12; LUFT Diesel or 8015 DRO or C13-C40; VOCs by GCMS: 8260 or 624; VOCs by GCMS: BTEX, OXYs; SVOCs: 8270 or 625; Pest. &/or PCBs: 608 or 8081/8082

Turn Around
24hr RUSH\*
48hr RUSH\*
Normal
Other

\*PRIOR approval, additional fee, work received after 4 pm will be processed next work day.

Table with columns: Lab # (Lab use only), Sample ID (As it should appear on report), Grab/Comp, Date sampled, Time sampled, Sample matrix, Container # & Type. Includes handwritten entries for samples 1-8.

1) Relinquished by: (Sampler's Signature) Date: 2/16/12 Time: 15:46
2) Received by: Date: 2/16/12 Time: 15:46
3) Relinquished by:
4) Received by:
5) Relinquished by:
6) Received for Laboratory by:

Disposal
Return
Lab Disposal

This Section is to be completed by Laboratory personnel:
Samples Chilled: Yes/No/From Field
Custody Seals: Yes/No
Samples Intact: Yes/No
Temp C
Delivery: Courier/Walk In/UPS/Fed Ex

Report Delivery Formats
Paper EMAIL XLS
EDD, Type
EDF, EPA Site ID

Unless other arrangements are made samples will be disposed of 60 days after receipt.

Laboratory Notes:

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The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.



Laboratory Analytical Results and Chain-of-Custody

Laboratory Job No: 1202-00146



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1401 RESEARCH PARK DRIVE, SUITE 100  
RIVERSIDE CA, 92507

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

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FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

## CASE NARRATIVE

Authorized Signature Name / Title (print)

Ken Zheng, President

Signature / Date

Ken Zheng, President  
02/20/2012 16:05:28

Laboratory Job No. (Certificate of Analysis No.)

1202-00146

Project Name / No.

914 W. GRAND AVE., OAKLAND, CA

Dates Sampled (from/to)

02/16/12 To 02/16/12

Dates Received (from/to)

02/16/12 To 02/16/12

Dates Reported (from/to)

02/20/12 To 2/20/2012

Chains of Custody Received

Yes

Comments:

Where there was little to no flow, 1 purge volume was used to obtain sample.

### Subcontracting

Organic Analyses

No analyses sub-contracted

### Sample Condition(s)

003 No Flow

004 No Flow

005 No Flow

007 Low Flow

All other samples intact



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## CERTIFICATE OF ANALYSIS

1202-00146

Date Reported 02/20/12

Date Received 02/16/12

Invoice No. 66969

Cust # S176

Permit Number

Customer P.O.

SALEM ENGINEERING GROUP

RICHARD OPP

11650 MISSION PARK DRIVE

SUITE 105

RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 001 <b>B5-10'</b>											Date & Time Sampled: 02/16/12 @ 9:44		
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
[VOCs by GCMS]													
Acetone	<5.0	5	10	µg/L	<5,000	5,000	10,000	µg/m3	1.0		EPA 8260B	02/16/12	HXE
t-Amyl Methyl Ether (TAME)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Benzene	<0.036	0.036	0.050	µg/L	<36	36	50	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Bromobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Bromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Bromodichloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Bromoform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Bromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0		EPA 8260B	02/16/12	HXE
t-Butanol (TBA)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0		EPA 8260B	02/16/12	HXE
2-Butanone (MEK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0		EPA 8260B	02/16/12	HXE
n-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
sec-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
tert-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Carbon Disulfide	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Carbon Tetrachloride	<0.025	0.025	0.050	µg/L	<25	25	50	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Chlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Chloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Chloroform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Chloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0		EPA 8260B	02/16/12	HXE
2-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
4-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Dibromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
1,2-Dibromoethane (EDB)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
1,2-Dibromo-3-Chloropropane	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0		EPA 8260B	02/16/12	HXE
Dibromomethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
1,2-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE
1,3-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0		EPA 8260B	02/16/12	HXE

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951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

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## CERTIFICATE OF ANALYSIS

1202-00146

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 001 B5-10'											Date & Time Sampled: 02/16/12 @ 9:44		
Sample Matrix: Soil Vapor													
Purge Volume Sampled: 7													
.....continued													
1,4-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Dichlorodifluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
cis-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
trans-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,3-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
cis-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
trans-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Diisopropyl Ether (DIPE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Ethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Hexachlorobutadiene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2-Hexanone	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Isopropylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
4-Isopropyltoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Methylene Chloride	<1.0	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Naphthalene	<0.032	0.032	0.050	µg/L	<32	32	50	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
n-Propylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Styrene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,1,2-Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	

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1202-00146

Date Reported 02/20/12  
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SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 001 <b>B5-10'</b>												Date & Time Sampled: 02/16/12 @ 9:44	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
1,1,2,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Tetrachloroethene	<b>0.084</b>	0.05	0.10	µg/L	<b>84</b>	50	100	µg/m3	J 1.0	EPA 8260B	02/16/12	HXE	
Toluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,1-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,2-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Trichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Trichlorofluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Trichlorotrifluoroethane	<0.20	0.2	0.20	µg/L	<200	200	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,3,5-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Vinyl Chloride	<0.013	0.013	0.050	µg/L	<13	13	50	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
m,p-Xylenes	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
o-Xylene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<10	10	10	µg/L	<10,000	10,000	10,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	103		70-130	%REC					1.0	EPA 8260B	02/16/12	HXE	
Toluene-D8	98		70-130	%REC					1.0	EPA 8260B	02/16/12	HXE	
Bromofluorobenzene	95		70-130	%REC					1.0	EPA 8260B	02/16/12	HXE	
Sample: 002 <b>B5-5'</b>												Date & Time Sampled: 02/16/12 @ 10:05	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
[VOCs by GCMS]													
Acetone	<5.50	5.5	11	µg/L	<5,500	5,500	11,000	µg/m3	1.1	EPA 8260B	02/16/12	HXE	

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www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

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## CERTIFICATE OF ANALYSIS

1202-00146

Date Reported 02/20/12

Date Received 02/16/12

Invoice No. 66969

Cust # S176

Permit Number

Customer P.O.

SALEM ENGINEERING GROUP

RICHARD OPP

11650 MISSION PARK DRIVE

SUITE 105

RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 002 <b>B5-5'</b>												Date & Time Sampled: 02/16/12 @ 10:05	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
t-Amyl Methyl Ether (TAME)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Benzene	<0.04	0.0396	0.055	µg/L	<40	40	55	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Bromobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Bromochloromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Bromodichloromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Bromoform	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Bromomethane	<0.11	0.11	0.22	µg/L	<110	110	220	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
t-Butanol (TBA)	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
2-Butanone (MEK)	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
n-Butylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
sec-Butylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
tert-Butylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Carbon Disulfide	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Carbon Tetrachloride	<0.03	0.0275	0.055	µg/L	<28	28	55	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Chlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Chloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Chloroform	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Chloromethane	<0.11	0.11	0.22	µg/L	<110	110	220	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
2-Chlorotoluene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
4-Chlorotoluene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Dibromochloromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,2-Dibromoethane (EDB)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,2-Dibromo-3-Chloropropane	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Dibromomethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,2-Dichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,3-Dichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,4-Dichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00146

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730  
Project: 914 W. GRAND AVE., OAKLAND, CA

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 002 <b>B5-5'</b>	Date & Time Sampled: 02/16/12 @ 10:05												
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
Dichlorodifluoromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,2-Dichloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
cis-1,2-Dichloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
trans-1,2-Dichloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,2-Dichloropropane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,3-Dichloropropane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
2,2-Dichloropropane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,1-Dichloropropene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
cis-1,3-Dichloropropene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
trans-1,3-Dichloropropene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Diisopropyl Ether (DiPE)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Ethylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Hexachlorobutadiene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
2-Hexanone	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Isopropylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
4-Isopropyltoluene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Methylene Chloride	<1.10	1.1	2.2	µg/L	<1,100	1,100	2,200	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.55	0.55	1.1	µg/L	<550	550	1,100	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Naphthalene	<0.04	0.0352	0.055	µg/L	<35	35	55	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
n-Propylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Styrene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,1,1,2-Tetrachloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,1,2,2-Tetrachloroethane	<0.11	0.11	0.22	µg/L	<110	110	220	µg/m3	1.1	EPA 8260B	02/16/12	HXE	

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RIVERSIDE CA, 92507

951-779-0310

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## CERTIFICATE OF ANALYSIS

1202-00146

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 002 <b>B5-5'</b> Date & Time Sampled: 02/16/12 @ 10:05													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
Tetrachloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Toluene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,2,3-Trichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,2,4-Trichlorobenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,1,1-Trichloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,1,2-Trichloroethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Trichloroethene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,2,3-Trichloropropane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Trichlorofluoromethane	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Trichlorotrifluoroethane	<0.22	0.22	0.22	µg/L	<220	220	220	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,2,4-Trimethylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
1,3,5-Trimethylbenzene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
Vinyl Chloride	<0.01	0.0143	0.055	µg/L	<14	14	55	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
m,p-Xylenes	<0.11	0.11	0.22	µg/L	<110	110	220	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
o-Xylene	<0.06	0.055	0.11	µg/L	<55	55	110	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<11.00	11	11	µg/L	<11,000	11,000	11,000	µg/m3	1.1	EPA 8260B	02/16/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	104		70-130	%REC					1.1	EPA 8260B	02/16/12	HXE	
Toluene-D8	97		70-130	%REC					1.1	EPA 8260B	02/16/12	HXE	
Bromofluorobenzene	95		70-130	%REC					1.1	EPA 8260B	02/16/12	HXE	
Sample: 003 <b>B4-10'</b> Date & Time Sampled: 02/16/12 @ 10:42													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
[VOCs by GCMS]													
Acetone	<10.00	10	20	µg/L	<10,000	10,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 003 <b>B4-10'</b>												Date & Time Sampled: 02/16/12 @ 10:42	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
Benzene	<0.07	0.072	0.10	µg/L	<72	72	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromodichloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromoform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromomethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Butanol (TBA)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Butanone (MEK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
n-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
sec-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
tert-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Disulfide	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Tetrachloride	<0.05	0.05	0.10	µg/L	<50	50	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloromethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromoethane (EDB)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromo-3-Chloropropane	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,4-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dichlorodifluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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RIVERSIDE CA, 92507

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

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## CERTIFICATE OF ANALYSIS

### 1202-00146

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 003 <b>B4-10'</b>											Date & Time Sampled: 02/16/12 @ 10:42		
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
1,1-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
cis-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
trans-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
cis-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
trans-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Diisopropyl Ether (DiPE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Ethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Hexachlorobutadiene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Hexanone	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Isopropylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Isopropyltoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Methylene Chloride	<2.00	2	4.0	µg/L	<2,000	2,000	4,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Naphthalene	<0.06	0.064	0.10	µg/L	<64	64	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
n-Propylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Styrene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,1,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,2,2-Tetrachloroethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Tetrachloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00146

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 003 <b>B4-10'</b> Date & Time Sampled: 02/16/12 @ 10:42 Sample Matrix: <b>Soil Vapor</b> Purge Volume Sampled: 1 .....continued													
Toluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,1-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,2-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorofluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorotrifluoroethane	<0.40	0.4	0.40	µg/L	<400	400	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3,5-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Vinyl Chloride	<0.03	0.026	0.10	µg/L	<26	26	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
m,p-Xylenes	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
o-Xylene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<20.00	20	20	µg/L	<20,000	20,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	104		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Toluene-D8	98		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Bromofluorobenzene	97		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Sample: 004 <b>B4-5'</b> Date & Time Sampled: 02/16/12 @ 11:10 Sample Matrix: <b>Soil Vapor</b> Purge Volume Sampled: 1													
[VOCs by GCMS]													
Acetone	<10.00	10	20	µg/L	<10,000	10,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Benzene	<0.07	0.072	0.10	µg/L	<72	72	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00146

**SALEM ENGINEERING GROUP**  
**RICHARD OPP**  
**11650 MISSION PARK DRIVE**  
**SUITE 105**  
**RANCHO CUCAMONGA, CA 91730**  
**Project: 914 W. GRAND AVE., OAKLAND, CA**

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 004 <b>B4-5'</b> Date & Time Sampled: 02/16/12 @ 11:10													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
Bromobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromodichloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromoform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromomethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Butanol (TBA)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Butanone (MEK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
n-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
sec-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
tert-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Disulfide	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Tetrachloride	<0.05	0.05	0.10	µg/L	<50	50	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloromethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromoethane (EDB)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromo-3-Chloropropane	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,4-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dichlorodifluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00146

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730  
Project: 914 W. GRAND AVE., OAKLAND, CA

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
----------	--------	-----	----	-------	--------	-----	----	-------	------	----	--------	------	------

Sample: 004 **B4-5'**

Sample Matrix: **Soil Vapor**

Date & Time Sampled: 02/16/12 @ 11:10

Purge Volume Sampled: **1**

.....continued

1,2-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
1,1-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
cis-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
trans-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
1,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
1,3-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
2,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
1,1-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
cis-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
trans-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Diisopropyl Ether (DiPE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Ethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Ethyl-t-Butyl Ether (EtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Hexachlorobutadiene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
2-Hexanone	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Isopropylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
4-Isopropyltoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Methylene Chloride	<2.00	2	4.0	µg/L	<2,000	2,000	4,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE
4-Methyl-2-Pentanone (MIBK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Methyl-t-butyl Ether (MtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Naphthalene	<0.06	0.064	0.10	µg/L	<64	64	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE
n-Propylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Styrene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
1,1,1,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
1,1,2,2-Tetrachloroethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Tetrachloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE
Toluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE

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www.arlaboratories.com

FAX 951-779-0344

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## CERTIFICATE OF ANALYSIS

1202-00146

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730  
Project: 914 W. GRAND AVE., OAKLAND, CA

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 004 <b>B4-5'</b>												Date & Time Sampled: 02/16/12 @ 11:10	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
1,2,3-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,1-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,2-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorofluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorotrifluoroethane	<0.40	0.4	0.40	µg/L	<400	400	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3,5-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Vinyl Chloride	<0.03	0.026	0.10	µg/L	<26	26	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
m,p-Xylenes	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
o-Xylene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<20.00	20	20	µg/L	<20,000	20,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	104		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Toluene-D8	95		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Bromofluorobenzene	95		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Sample: 005 <b>B4-5' DUP</b>												Date & Time Sampled: 02/16/12 @ 11:10	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
[VOCs by GCMS]													
Acetone	<10.00	10	20	µg/L	<10,000	10,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Benzene	<0.07	0.072	0.10	µg/L	<72	72	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

### 1202-00146

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 005 <b>B4-5' DUP</b>												Date & Time Sampled: 02/16/12 @ 11:10	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
Bromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromodichloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromoform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromomethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Butanol (TBA)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Butanone (MEK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
n-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
sec-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
tert-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Disulfide	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Tetrachloride	<0.05	0.05	0.10	µg/L	<50	50	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloromethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromoethane (EDB)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromo-3-Chloropropane	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,4-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dichlorodifluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00146

Date Reported 02/20/12

Date Received 02/16/12

Invoice No. 66969

Cust # S176

Permit Number

Customer P.O.

SALEM ENGINEERING GROUP

RICHARD OPP

11650 MISSION PARK DRIVE

SUITE 105

RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 005 <b>B4-5' DUP</b>												Date & Time Sampled: 02/16/12 @ 11:10	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
1,1-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
cis-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
trans-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
cis-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
trans-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Diisopropyl Ether (DiPE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Ethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Hexachlorobutadiene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Hexanone	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Isopropylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Isopropyltoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Methylene Chloride	<2.00	2	4.0	µg/L	<2,000	2,000	4,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Naphthalene	<0.06	0.064	0.10	µg/L	<64	64	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
n-Propylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Styrene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,1,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,2,2-Tetrachloroethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Tetrachloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Toluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00146

Date Reported 02/20/12  
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Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 005 <b>B4-5' DUP</b> Date & Time Sampled: 02/16/12 @ 11:10													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>1</b>													
.....continued													
1,2,4-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,1-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,2-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorofluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorotrifluoroethane	<0.40	0.4	0.40	µg/L	<400	400	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3,5-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Vinyl Chloride	<0.03	0.026	0.10	µg/L	<26	26	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
m,p-Xylenes	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
o-Xylene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<20.00	20	20	µg/L	<20,000	20,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	104		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Toluene-D8	96		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Bromofluorobenzene	98		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Sample: 006 <b>B6-10'</b> Date & Time Sampled: 02/16/12 @ 13:07													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
[VOCs by GCMS]													
Acetone	<10.00	10	20	µg/L	<10,000	10,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Benzene	<0.07	0.072	0.10	µg/L	<72	72	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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RIVERSIDE CA, 92507

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

FDA#	2030513
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## CERTIFICATE OF ANALYSIS

1202-00146

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 006 <b>B6-10'</b>											Date & Time Sampled: 02/16/12 @ 13:07		
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
Bromodichloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromoform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromomethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Butanol (TBA)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Butanone (MEK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
n-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
sec-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
tert-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Disulfide	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Tetrachloride	<0.05	0.05	0.10	µg/L	<50	50	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloromethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromoethane (EDB)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromo-3-Chloropropane	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,4-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dichlorodifluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

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SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 006 <b>B6-10'</b>											Date & Time Sampled: 02/16/12 @ 13:07		
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
cis-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
trans-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
cis-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
trans-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Diisopropyl Ether (DiPE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Ethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Hexachlorobutadiene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Hexanone	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Isopropylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Isopropyltoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Methylene Chloride	<2.00	2	4.0	µg/L	<2,000	2,000	4,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Naphthalene	<0.06	0.064	0.10	µg/L	<64	64	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
n-Propylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Styrene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,1,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,2,2-Tetrachloroethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Tetrachloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Toluene	<b>0.11</b>	0.1	0.20	µg/L	<b>110</b>	100	200	µg/m3	J 2.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00146

**SALEM ENGINEERING GROUP**  
**RICHARD OPP**  
**11650 MISSION PARK DRIVE**  
**SUITE 105**  
**RANCHO CUCAMONGA, CA 91730**  
**Project: 914 W. GRAND AVE., OAKLAND, CA**

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 006 <b>B6-10'</b>												Date & Time Sampled: 02/16/12 @ 13:07	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
1,1,1-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,2-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorofluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorotrifluoroethane	<0.40	0.4	0.40	µg/L	<400	400	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3,5-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Vinyl Chloride	<0.03	0.026	0.10	µg/L	<26	26	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
m,p-Xylenes	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
o-Xylene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<20.00	20	20	µg/L	<20,000	20,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	102		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Toluene-D8	98		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Bromofluorobenzene	96		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Sample: 007 <b>B6-5'</b>												Date & Time Sampled: 02/16/12 @ 13:28	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
[VOCs by GCMS]													
Acetone	<5.0	5	10	µg/L	<5,000	5,000	10,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Benzene	<0.036	0.036	0.050	µg/L	<36	36	50	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Bromobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Bromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Bromodichloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	

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Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 007 <b>B6-5'</b> Date & Time Sampled: 02/16/12 @ 13:28													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
Bromoform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Bromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
t-Butanol (TBA)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2-Butanone (MEK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
n-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
sec-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
tert-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Carbon Disulfide	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Carbon Tetrachloride	<0.025	0.025	0.050	µg/L	<25	25	50	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Chlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Chloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Chloroform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Chloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
4-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Dibromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromoethane (EDB)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromo-3-Chloropropane	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Dibromomethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,3-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,4-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Dichlorodifluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
cis-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	

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RIVERSIDE CA, 92507

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

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## CERTIFICATE OF ANALYSIS

1202-00146

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 007 <b>B6-5'</b> Date & Time Sampled: 02/16/12 @ 13:28													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
trans-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,3-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
cis-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
trans-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Diisopropyl Ether (DiPE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Ethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Hexachlorobutadiene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2-Hexanone	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Isopropylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
4-Isopropyltoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Methylene Chloride	<1.0	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Naphthalene	<0.032	0.032	0.050	µg/L	<32	32	50	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
n-Propylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Styrene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,1,2-Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,2,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Toluene	<b>0.063</b>	0.05	0.10	µg/L	<b>63</b>	50	100	µg/m3	J 1.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,1-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00146

**SALEM ENGINEERING GROUP**  
**RICHARD OPP**  
**11650 MISSION PARK DRIVE**  
**SUITE 105**  
**RANCHO CUCAMONGA, CA 91730**  
**Project: 914 W. GRAND AVE., OAKLAND, CA**

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 007 <b>B6-5'</b> Date & Time Sampled: 02/16/12 @ 13:28													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
1,1,2-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Trichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Trichlorofluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Trichlorotrifluoroethane	<0.20	0.2	0.20	µg/L	<200	200	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,3,5-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Vinyl Chloride	<0.013	0.013	0.050	µg/L	<13	13	50	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
m,p-Xylenes	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
o-Xylene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<10	10	10	µg/L	<10,000	10,000	10,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	103		70-130	%REC					1.0	EPA 8260B	02/16/12	HXE	
Toluene-D8	96		70-130	%REC					1.0	EPA 8260B	02/16/12	HXE	
Bromofluorobenzene	96		70-130	%REC					1.0	EPA 8260B	02/16/12	HXE	
Sample: 008 <b>B7-10'</b> Date & Time Sampled: 02/16/12 @ 14:38													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
[VOCs by GCMS]													
Acetone	<10.00	10	20	µg/L	<10,000	10,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Benzene	<0.07	0.072	0.10	µg/L	<72	72	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromodichloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Bromoform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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Cust # S176

Permit Number

Customer P.O.

SALEM ENGINEERING GROUP

RICHARD OPP

11650 MISSION PARK DRIVE

SUITE 105

RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 008 <b>B7-10'</b>	Date & Time Sampled: 02/16/12 @ 14:38												
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
Bromomethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
t-Butanol (TBA)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Butanone (MEK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
n-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
sec-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
tert-Butylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Disulfide	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Carbon Tetrachloride	<0.05	0.05	0.10	µg/L	<50	50	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloroform	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Chloromethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Chlorotoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromochloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromoethane (EDB)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromo-3-Chloropropane	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dibromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,4-Dichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Dichlorodifluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
cis-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
trans-1,2-Dichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 008 <b>B7-10'</b>											Date & Time Sampled: 02/16/12 @ 14:38		
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
1,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2,2-Dichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
cis-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
trans-1,3-Dichloropropene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Diisopropyl Ether (DIPE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Ethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Hexachlorobutadiene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
2-Hexanone	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Isopropylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Isopropyltoluene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Methylene Chloride	<2.00	2	4.0	µg/L	<2,000	2,000	4,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<1.00	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Naphthalene	<0.06	0.064	0.10	µg/L	<64	64	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
n-Propylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Styrene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,1,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,2,2-Tetrachloroethane	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Tetrachloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Toluene	<b>0.15</b>	0.1	0.20	µg/L	<b>150</b>	100	200	µg/m3	J 2.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trichlorobenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,1-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,1,2-Trichloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	

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## CERTIFICATE OF ANALYSIS

1202-00146

**SALEM ENGINEERING GROUP**  
**RICHARD OPP**  
**11650 MISSION PARK DRIVE**  
**SUITE 105**  
**RANCHO CUCAMONGA, CA 91730**  
**Project: 914 W. GRAND AVE., OAKLAND, CA**

Date Reported 02/20/12  
Date Received 02/16/12  
Invoice No. 66969  
Cust # S176  
Permit Number  
Customer P.O.

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 008 <b>B7-10'</b> Date & Time Sampled: 02/16/12 @ 14:38													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
Trichloroethene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichloropropane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorofluoromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Trichlorotrifluoroethane	<0.40	0.4	0.40	µg/L	<400	400	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
1,3,5-Trimethylbenzene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
Vinyl Chloride	<0.03	0.026	0.10	µg/L	<26	26	100	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
m,p-Xylenes	<0.20	0.2	0.40	µg/L	<200	200	400	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
o-Xylene	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<20.00	20	20	µg/L	<20,000	20,000	20,000	µg/m3	2.0	EPA 8260B	02/16/12	HXE	
[VOC Surrogates]													
Dibromofluoromethane	102		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Toluene-D8	98		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Bromofluorobenzene	97		70-130	%REC					2.0	EPA 8260B	02/16/12	HXE	
Sample: 009 <b>B7-5'</b> Date & Time Sampled: 02/16/12 @ 15:04													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
[VOCs by GCMS]													
Acetone	<5.0	5	10	µg/L	<5,000	5,000	10,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
t-Amyl Methyl Ether (TAME)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Benzene	<0.036	0.036	0.050	µg/L	<36	36	50	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Bromobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Bromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Bromodichloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Bromoform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Bromomethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	

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Date Received 02/16/12

Invoice No. 66969

Cust # S176

Permit Number

Customer P.O.

SALEM ENGINEERING GROUP

RICHARD OPP

11650 MISSION PARK DRIVE

SUITE 105

RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 009 <b>B7-5'</b> Date & Time Sampled: 02/16/12 @ 15:04													
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
t-Butanol (TBA)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2-Butanone (MEK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
n-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
sec-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
tert-Butylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Carbon Disulfide	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Carbon Tetrachloride	<0.025	0.025	0.050	µg/L	<25	25	50	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Chlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Chloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Chloroform	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Chloromethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
4-Chlorotoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Dibromochloromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromoethane (EDB)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dibromo-3-Chloropropane	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Dibromomethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,3-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,4-Dichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Dichlorodifluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
cis-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
trans-1,2-Dichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	

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SALEM ENGINEERING GROUP  
RICHARD OPP  
11650 MISSION PARK DRIVE  
SUITE 105  
RANCHO CUCAMONGA, CA 91730

Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 009 <b>B7-5'</b>												Date & Time Sampled: 02/16/12 @ 15:04	
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
1,3-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2,2-Dichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
cis-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
trans-1,3-Dichloropropene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Diisopropyl Ether (DiPE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Ethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Ethyl-t-Butyl Ether (EtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Hexachlorobutadiene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
2-Hexanone	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Isopropylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
4-Isopropyltoluene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Methylene Chloride	<1.0	1	2.0	µg/L	<1,000	1,000	2,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
4-Methyl-2-Pentanone (MIBK)	<0.50	0.5	1.0	µg/L	<500	500	1,000	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Methyl-t-butyl Ether (MtBE)	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Naphthalene	<0.032	0.032	0.050	µg/L	<32	32	50	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
n-Propylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Styrene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,1,2-Tetrachloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,2,2-Tetrachloroethane	<0.10	0.1	0.20	µg/L	<100	100	200	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Tetrachloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Toluene	<b>0.15</b>	0.05	0.10	µg/L	<b>150</b>	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2,3-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,2,4-Trichlorobenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,1-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
1,1,2-Trichloroethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	
Trichloroethene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	EPA 8260B	02/16/12	HXE	

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Project: 914 W. GRAND AVE., OAKLAND, CA

Analysis	Result	MDL	RL	Units	Result	MDL	RL	Units	Qual	DF	Method	Date	Tech
Sample: 009 <b>B7-5'</b>											Date & Time Sampled: 02/16/12 @ 15:04		
Sample Matrix: <b>Soil Vapor</b>													
Purge Volume Sampled: <b>7</b>													
.....continued													
1,2,3-Trichloropropane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	1.0	EPA 8260B	02/16/12	HXE
Trichlorofluoromethane	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	1.0	EPA 8260B	02/16/12	HXE
Trichlorotrifluoroethane	<0.20	0.2	0.20	µg/L	<200	200	200	µg/m3	1.0	1.0	EPA 8260B	02/16/12	HXE
1,2,4-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	1.0	EPA 8260B	02/16/12	HXE
1,3,5-Trimethylbenzene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	1.0	EPA 8260B	02/16/12	HXE
Vinyl Chloride	<0.013	0.013	0.050	µg/L	<13	13	50	µg/m3	1.0	1.0	EPA 8260B	02/16/12	HXE
m,p-Xylenes	<b>0.12</b>	0.1	0.20	µg/L	<b>120</b>	100	200	µg/m3	J	1.0	EPA 8260B	02/16/12	HXE
o-Xylene	<0.050	0.05	0.10	µg/L	<50	50	100	µg/m3	1.0	1.0	EPA 8260B	02/16/12	HXE
[VOC Vapor Sampling Tracer]													
Isopropanol (IPA)	<10	10	10	µg/L	<10,000	10,000	10,000	µg/m3	1.0	1.0	EPA 8260B	02/16/12	HXE
[VOC Surrogates]													
Dibromofluoromethane	103		70-130	%REC					1.0	1.0	EPA 8260B	02/16/12	HXE
Toluene-D8	97		70-130	%REC					1.0	1.0	EPA 8260B	02/16/12	HXE
Bromofluorobenzene	95		70-130	%REC					1.0	1.0	EPA 8260B	02/16/12	HXE

Respectfully Submitted:

Ken Zheng - President

### QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL  
 B1= BOD blank is over specifications . The reported result may be biased high.  
 D = Surrogate recoveries are not calculated due to sample dilution  
 E = Estimated value  
 H = Analyte was prepared and/or analyzed outside of the analytical method holding time  
 I = Matrix Interference  
 J = Analyte concentration detected between RL and MDL

### ABBREVIATIONS

DF = Dilution Factor  
 RL = Reporting Limit  
 MDL = Method Detection Limit  
 Qual = Qualifier  
 Tech = Technician



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*As regulatory limits change frequently, Microbac advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.*

*For any feedback concerning our services, please contact Marilu Escher, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at [arlab@arlaboratories.com](mailto:arlab@arlaboratories.com).*



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## QUALITY CONTROL DATA REPORT

SALEM ENGINEERING GROUP

1202-00146

RICHARD OPP

Date Reported

02/20/2012

11650 MISSION PARK DRIVE

Date Received

02/16/2012

SUITE 105

Date Sampled

02/16/2012

RANCHO CUCAMONGA, CA 91730

Invoice No.

66969

Project: 914 W. GRAND AVE., OAKLAND, CA

Customer #

S176

Customer P.O.

Method # EPA 8260B

QC Reference # 33662

Date Analyzed: 2/16/2012

Technician: HXE

Samples 001 002 003 004 005 006 007 008 009

### Results

	LCS %REC	BLKSRR% REC
1,1-Dichloroethene	114	
Benzene	99	
Bromofluorobenzene		94
Chlorobenzene	105	
Dibromofluoromethan		103
Toluene	100	
Toluene-D8		97
Trichloroethene	100	

### Control Ranges

LCS %REC	BLKSRR%REC
70 - 130	
70 - 130	
	70 - 130
70 - 130	
	70 - 130
70 - 130	
	70 - 130
70 - 130	



# A & R Laboratories

Formerly Microbac Southern California

1401 RESEARCH PARK DRIVE, SUITE 100  
RIVERSIDE CA, 92507

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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## QUALITY CONTROL DATA REPORT

SALEM ENGINEERING GROUP

RICHARD OPP

1202-00146

Date Reported

02/20/2012

Date Received

02/16/2012

Date Sampled

02/16/2012

Project: 914 W. GRAND AVE., OAKLAND, CA

### Method blank results

Ref	Test Name	Result	Qualif	Units	MDL	Ref	Test Name	Result	Qualif	Units	MDL
33662	Acetone	<5.0		µg/L	5.0		Isopropylbenzene	<0.050		µg/L	0.050
	t-Amyl Methyl Ether (TAME)	<0.050		µg/L	0.050		4-Isopropyltoluene	<0.050		µg/L	0.050
	Benzene	<0.036		µg/L	0.036		Methylene Chloride	<1.0		µg/L	1.0
	Bromobenzene	<0.050		µg/L	0.050		4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	0.50
	Bromochloromethane	<0.050		µg/L	0.050		Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	0.050
	Bromodichloromethane	<0.050		µg/L	0.050		Naphthalene	<0.032		µg/L	0.032
	Bromoform	<0.050		µg/L	0.050		n-Propylbenzene	<0.050		µg/L	0.050
	Bromomethane	<0.10		µg/L	0.10		Styrene	<0.050		µg/L	0.050
	t-Butanol (TBA)	<0.50		µg/L	0.50		1,1,1,2-Tetrachloroethane	<0.050		µg/L	0.050
	2-Butanone (MEK)	<0.50		µg/L	0.50		1,1,2,2-Tetrachloroethane	<0.10		µg/L	0.10
	n-Butylbenzene	<0.050		µg/L	0.050		Tetrachloroethene	<0.050		µg/L	0.050
	sec-Butylbenzene	<0.050		µg/L	0.050		Toluene	<0.050		µg/L	0.050
	tert-Butylbenzene	<0.050		µg/L	0.050		1,2,3-Trichlorobenzene	<0.050		µg/L	0.050
	Carbon Disulfide	<0.50		µg/L	0.50		1,2,4-Trichlorobenzene	<0.050		µg/L	0.050
	Carbon Tetrachloride	<0.025		µg/L	0.025		1,1,1-Trichloroethane	<0.050		µg/L	0.050
	Chlorobenzene	<0.050		µg/L	0.050		1,1,2-Trichloroethane	<0.050		µg/L	0.050
	Chloroethane	<0.050		µg/L	0.050		Trichloroethene	<0.050		µg/L	0.050
	Chloroform	<0.050		µg/L	0.050		1,2,3-Trichloropropane	<0.050		µg/L	0.050
	Chloromethane	<0.10		µg/L	0.10		Trichlorofluoromethane	<0.050		µg/L	0.050
	2-Chlorotoluene	<0.050		µg/L	0.050		Trichlorotrifluoroethane	<0.20		µg/L	0.20
	4-Chlorotoluene	<0.050		µg/L	0.050		1,2,4-Trimethylbenzene	<0.050		µg/L	0.050
	Dibromochloromethane	<0.050		µg/L	0.050		1,3,5-Trimethylbenzene	<0.050		µg/L	0.050
	1,2-Dibromoethane (EDB)	<0.050		µg/L	0.050		Vinyl Chloride	<0.013		µg/L	0.013
	1,2-Dibromo-3-Chloropropane	<0.50		µg/L	0.50		m,p-Xylenes	<0.10		µg/L	0.10
	Dibromomethane	<0.050		µg/L	0.050		o-Xylene	<0.050		µg/L	0.050
	1,2-Dichlorobenzene	<0.050		µg/L	0.050		Isopropanol (IPA)	<10		µg/L	10
	1,3-Dichlorobenzene	<0.050		µg/L	0.050						
	1,4-Dichlorobenzene	<0.050		µg/L	0.050						
	Dichlorodifluoromethane	<0.050		µg/L	0.050						
	1,1-Dichloroethane	<0.050		µg/L	0.050						
	1,2-Dichloroethane	<0.050		µg/L	0.050						
	1,1-Dichloroethene	<0.050		µg/L	0.050						
	cis-1,2-Dichloroethene	<0.050		µg/L	0.050						
	trans-1,2-Dichloroethene	<0.050		µg/L	0.050						
	1,2-Dichloropropane	<0.050		µg/L	0.050						
	1,3-Dichloropropane	<0.050		µg/L	0.050						
	2,2-Dichloropropane	<0.050		µg/L	0.050						
	1,1-Dichloropropene	<0.050		µg/L	0.050						
	cis-1,3-Dichloropropene	<0.050		µg/L	0.050						
	trans-1,3-Dichloropropene	<0.050		µg/L	0.050						
	Diisopropyl Ether (DiPE)	<0.050		µg/L	0.050						
	Ethylbenzene	<0.050		µg/L	0.050						
	Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	0.050						
	Hexachlorobutadiene	<0.050		µg/L	0.050						
	2-Hexanone	<0.50		µg/L	0.50						





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## QUALITY CONTROL DATA REPORT

SALEM ENGINEERING GROUP

RICHARD OPP

1202-00146

Date Reported

02/20/2012

Date Received

02/16/2012

Date Sampled

02/16/2012

Project: 914 W. GRAND AVE., OAKLAND, CA

Respectfully Submitted:

Ken Zheng - President

For any feedback concerning our services, please contact Marilu Escher, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at [arlab@arlaboratories.com](mailto:arlab@arlaboratories.com).



**Southern California Division**

1401 Research Park Drive, Suite 100  
Riverside, CA 92507  
V: 951.779.0310 • 800.798.9336 F: 951.779.0344  
3299 Hill Street, Suite 305  
Signal Hill, CA 90755  
V: 562.498.7005 F: 562.498.8617

**Chain of Custody Reco**

1202 - 146

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Page 1 of 1

<b>Project No:</b>		<b>Project Name:</b> 914 W. Grand Ave. Oakland, CA					<b>Analyses Requested</b> (circle appropriate)	<b>Turn Around</b>											
<b>Project Manager:</b>		<b>Phone:</b> <b>Fax:</b>						<input type="radio"/> 24hr RUSH* <input type="radio"/> 48hr RUSH* <input type="radio"/> Normal <input type="radio"/> Other _____											
<b>Customer Name:</b> (Report and Billing) Salem			<b>Address:</b> (Report and Billing)			*PRIOR approval, additional fee, work received after 4 pm will be processed next work day. <b>Special Instructions</b>													
<b>Email:</b>																			
Lab # <small>(Lab use only)</small>	Sample ID <small>(As it should appear on report)</small>	Grab/Comp	Date sampled	Time sampled	Sample matrix	Container # & Type	Preserved	Micro: Plate Cnt., Coliform, E.Coli	Chem: BOD, TSS, TDS, pH	Chem: Cyanide, Ammonia, TKN, Oil & Grease	IC: Br, SO4, PO4, NO3, Cl	Metals: Title 22(CAM) or RCRA	LUFT Gas or 8015 GRO or C4-C12	LUFT Diesel or 8015 DRO or C13-C40	VOCs by GCMS 8260 or 624	VOCs by GCMS: BTEX, OXYs	SVOCs: 8270 or 625	Rest. &/or PCBs: 608 or 8081/8082	
1	B5-10'	grab	2/16/12	9:44	Soil Vapor	250cc glass bulb													
2	B5-5'			10:05															
3	B4-10'			10:42															
4	B4-5'			11:10															
5	B4-5' DUP			11:10															
6	B6-10'			13:07															
7	B6-5'			13:28															
8	B7-10'			14:38															
9	B7-5'			15:04															
1) Relinquished by (Sampler's Signature)		Date:	Time:	3) Relinquished by:		Date:	Time:	5) Relinquished by:		Date:	Time:	6) Received for Laboratory by:		Date:	Time:	<b>Disposal</b> <input type="radio"/> Return <input type="radio"/> Lab Disposal Unless other arrangements are made samples will be disposed of 60 days after receipt.			
2) Received by:		Date:	Time:	4) Received by:		Date:	Time:			Date:	Time:			Date:	Time:				
<small>This Section is to be completed by Laboratory personnel:</small>																			
Samples Chilled <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> From Field		Custody Seals <input type="radio"/> Yes <input type="radio"/> No		Samples Intact <input type="radio"/> Yes <input type="radio"/> No		Temp C <input type="text"/>		Delivery <input type="radio"/> Courier <input type="radio"/> Walk In <input type="radio"/> UPS/Fed Ex				Report Delivery Formats <input type="checkbox"/> Paper <input type="checkbox"/> EMAIL <input type="checkbox"/> XLS <input type="checkbox"/> EDD, Type _____ <input type="checkbox"/> EDF, EPA Site ID _____							
<b>Laboratory Notes:</b>																			

Laboratory Analytical Results and Chain-of-Custody

Dated: February 23, 2012



SALEM Engineering Group  
11650 Mission Park Ste 108  
Rancho Cucamonga CA, 91730

Project: Oakland  
Project Number: 4-412-0103  
Project Manager: Jim Robert

**Reported:**  
02/23/12 10:40

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-1-1'	1202222-01	Soil	02/15/12 09:45	02/17/12 10:00
B-2-1'	1202222-02	Soil	02/15/12 11:00	02/17/12 10:00
B-3-1'	1202222-03	Soil	02/15/12 14:05	02/17/12 10:00
B-4-1'	1202222-04	Soil	02/15/12 14:55	02/17/12 10:00
B-5-1'	1202222-05	Soil	02/15/12 16:35	02/17/12 10:00

#### CASE NARRATIVE

**SAMPLE RECEIPT:** Samples were received intact, at 4 °C, and accompanied by chain of custody documentation.  
**PRESERVATION:** Samples requiring preservation were verified prior to sample preparation and analysis.  
**HOLDING TIMES:** All holding times were met, unless otherwise noted in the report with data qualifiers.  
**QA/QC CRITERIA:** All quality objective criteria were met, except as noted in the report with data qualifiers.

---

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



SALEM Engineering Group  
 11650 Mission Park Ste 108  
 Rancho Cucamonga CA, 91730

Project: Oakland  
 Project Number: 4-412-0103  
 Project Manager: Jim Robert

**Reported:**  
 02/23/12 10:40

**Metals by EPA 6000/7000 Series Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>B-1-1' (1202222-01) Soil    Sampled: 02/15/12 09:45    Received: 02/17/12 10:00</b>									
Arsenic	2.8	2.8	mg/kg	1	B2B2115	02/21/12	02/21/12 19:54	EPA 6010B	
Lead	11	2.4	"	"	"	"	"	"	
<b>B-2-1' (1202222-02) Soil    Sampled: 02/15/12 11:00    Received: 02/17/12 10:00</b>									
Arsenic	ND	3.5	mg/kg	1	B2B2115	02/21/12	02/21/12 20:00	EPA 6010B	
Lead	9.9	3.0	"	"	"	"	"	"	
<b>B-3-1' (1202222-03) Soil    Sampled: 02/15/12 14:05    Received: 02/17/12 10:00</b>									
Arsenic	ND	3.5	mg/kg	1	B2B2115	02/21/12	02/21/12 20:05	EPA 6010B	
Lead	8.5	3.0	"	"	"	"	"	"	
<b>B-4-1' (1202222-04) Soil    Sampled: 02/15/12 14:55    Received: 02/17/12 10:00</b>									
Arsenic	ND	3.5	mg/kg	1	B2B2115	02/21/12	02/21/12 20:10	EPA 6010B	
Lead	5.4	3.0	"	"	"	"	"	"	
<b>B-5-1' (1202222-05) Soil    Sampled: 02/15/12 16:35    Received: 02/17/12 10:00</b>									
Arsenic	ND	3.0	mg/kg	1	B2B2115	02/21/12	02/21/12 20:15	EPA 6010B	
Lead	8.0	2.6	"	"	"	"	"	"	

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SALEM Engineering Group  
 11650 Mission Park Ste 108  
 Rancho Cucamonga CA, 91730

Project: Oakland  
 Project Number: 4-412-0103  
 Project Manager: Jim Robert

**Reported:**  
 02/23/12 10:40

**Metals by EPA 6000/7000 Series Methods - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch B2B2115 - EPA 3050B**

**Blank (B2B2115-BLK1)**

Prepared & Analyzed: 02/21/12

Arsenic	ND	3.5	mg/kg							
Lead	ND	3.0	"							

**LCS (B2B2115-BS1)**

Prepared & Analyzed: 02/21/12

Arsenic	100	3.5	mg/kg	100		100	78-122			
Lead	105	3.0	"	100		105	80-120			

**Matrix Spike (B2B2115-MS1)**

Source: 1202214-01

Prepared & Analyzed: 02/21/12

Arsenic	91.6	3.5	mg/kg	98.0	ND	93.5	70-130			
Lead	194	3.0	"	98.0	96	100	70-130			

**Matrix Spike Dup (B2B2115-MSD1)**

Source: 1202214-01

Prepared & Analyzed: 02/21/12

Arsenic	90.0	3.5	mg/kg	95.7	ND	94.0	70-130	1.76	20	
Lead	154	3.0	"	95.7	96	60.6	70-130	23.0	30	QM-07

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



SALEM Engineering Group  
11650 Mission Park Ste 108  
Rancho Cucamonga CA, 91730

Project: Oakland  
Project Number: 4-412-0103  
Project Manager: Jim Robert

**Reported:**  
02/23/12 10:40

### Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

---

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*







**SIERRA ANALYTICAL**  
 TEL: 949 • 348 • 9389  
 FAX: 949 • 348 • 9115  
 26052 Merit Circle • Suite 105 • Laguna Hills, CA • 92653

**CHAIN OF CUSTODY RECORD**

Date: 2/16/12 Page: 2 of 2  
 Lab Work Order No.: 1202222

**Client:** Selena  
**Client Address:** 11650 Mission Park #108  
Rancho Cucamonga CA 91730

**Client Tel. No.:** 909-485-0414  
**Client Fax No.:** \_\_\_\_\_  
**Client Proj. Mgr.:** Jim Robert

**Client Project ID:** 4-412-0103

**Turn Around Time Requested:**  
 Immediate  24 Hour  
 48 Hour  72 Hour  
 4 Day  5 Day  
 Normal  Mobile

Client Sample ID	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers
B-3-10'	11	2-15-12	1415	Soil	None	Seal	1
B-4-5'	12		1500				
B-4-10'	13		1505				
B-5-5'	14		1640				
B-5-10'	15		1645				
B-6-5'	16	2-16-12	1140				
B-6-10'	17		1305				
B-7-5'	18		1300				
B-7-10'	19		1315				

**Analyses Requested:** \_\_\_\_\_

**Geotracker EDD Info:** \_\_\_\_\_

**Client LOGCODE:** \_\_\_\_\_

**Site Global ID:** \_\_\_\_\_

**Field Point Names / Comments:** Hold Sample

**Sample Disposal:**  
 Return to Client  
 Lab Disposal \*  
 Archive \_\_\_\_\_  
 Other \_\_\_\_\_

**Total Number of Containers Submitted to Laboratory:** 19

**Total Number of Containers Received by Laboratory:** 19

**FOR LABORATORY USE ONLY - Sample Receipt Conditions:**  
 Inapt  Chilled - Temp (C) \_\_\_\_\_  
 Sample Seals  Preservatives - Verified By \_\_\_\_\_  
 Properly Labelled  Other \_\_\_\_\_  
 Appropriate Sample Container  Storage Location \_\_\_\_\_

**Special Instructions:** HOLD 8260 samples

**Signature Section:**  
 Shipped Via: FedEx  
 Received By: [Signature] Date: 2/17/12  
 Company: SIERRA Time: 1000  
 Received By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_ Time: \_\_\_\_\_

APPENDIX

# D



# INDOOR AIR SIMULATION RESULTS



## Screening-Level Johnson and Ettinger Model

Site Name:

Report Date: Tue Feb 21 14:22:52 PST 2012

Report Generated From: [http://www.epa.gov/athens/learn2model/part-two/onsite/JnE\\_lite\\_forward.htm](http://www.epa.gov/athens/learn2model/part-two/onsite/JnE_lite_forward.htm)

Type of sample: SOIL GAS Concentration = 520[ $\mu\text{g}/\text{m}^3$ ]

Depth of soil gas sample: 10ft +/- 0ft

Average soil/ground water temperature: 67F

### CHEMICAL PROPERTIES

Chemical of Concern: Benzene CAS Number: 71432

Molecular Weight: 78.11 [g/mole] Henrys Constant: 0.1783058 [unitless]

Diffusivity in Air: 8.800e-2 [ $\text{cm}^2/\text{sec}$ ] Diffusivity in Water: 9.800e-6 [ $\text{cm}^2/\text{sec}$ ]

Unit Risk Factor: 0.0000078 [ $(\mu\text{g}/\text{m}^3)^{-1}$ ] Reference Concentration: 0 [ $\text{mg}/\text{m}^3$ ]

### SOIL PROPERTIES

Soil Type: Loam Total Porosity: 0.399

Unsaturated Zone Moisture Content:

low= 0.061 best estimate= 0.148 high= 0.24

Capillary Zone Moisture Content: 0.332 Height of Capillary Rise: 0.375 [m]

Soil-Gas Flow Rate into Building: 5 [L/min]

### BUILDING PROPERTIES

Building Type: Slab-on-Grade Air Exchange Rate: 0.25[ $\text{hr}^{-1}$ ]

Building Mixing Height: 2.44[m] Building Footprint Area: 55[ $\text{m}^2$ ]

Subsurface Foundation Area: 55[ $\text{m}^2$ ] Building Crack Ratio: 0.00038[unitless]

Foundation Slab Thickness: 0.1[m]

### EXPOSURE PARAMETERS

Exposure Duration: carcinogens 25 [years] non-carcinogens: 25 [years]

Exposure Frequency: carcinogens 250 [days/year] non-carcinogens: 250 [days/year]

Averaging Time: carcinogens 70 [years] non-carcinogens: 25 [years]

### JOHNSON & ETTINGER SIMULATION RESULTS

Effective Diffusion Coefficient ( $D_{\text{eff}}$ ): 0.00554[ $\text{cm}^2/\text{s}$ ]

Soil Gas to Indoor Air Attenuation Factor ( $\alpha_{\text{SG}}$ ) = 0.0009578

<sup>1</sup>Low Indoor Air Prediction: 0.1191 [ $\mu\text{g}/\text{m}^3$ ] or 0.03731 [ppbv]

Cancer Risk of this concentration: 2.273e-7 Hazard Risk of this concentration: 0.

Best Estimate Indoor Air Prediction: 0.4980[ $\mu\text{g}/\text{m}^3$ ] or 0.1560 [ppbv]

Cancer Risk of this concentration: 9.503e-7 Hazard Risk of this concentration: 0.

<sup>2</sup>High Indoor Air Prediction: 1.136[ $\mu\text{g}/\text{m}^3$ ] or 0.3557 [ppbv]

Cancer Risk of this concentration: 2.167e-6 Hazard Risk of this concentration: 0.

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

<sup>1</sup>"Low Prediction" concentrations produced with HIGHEST moisture content.

<sup>2</sup>"High Prediction" concentrations produced with LOWEST moisture content.

Building Footprint Area is outside the recommended range for this building type.  
Subsurface Foundation Area is outside the recommended range for this building type.  
Exposure Frequency for carcinogens has been changed from default value of 350 days/year.  
Exposure Duration for carcinogens has been changed from default value of 30 years.