



# SALEM Engineering Group, Inc.

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## SITE ASSESSMENT REPORT

PROPOSED FOODS CO. SUPERMARKET #536  
HAHN PROPERTY  
NEC WEST GRAND AVENUE AND MYRTLE STREET  
OAKLAND, CA

*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

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June 12, 2012

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## SITE ASSESSMENT REPORT

### PROPOSED FOODS CO. SUPERMARKET #536 HAHN PROPERTY NEC WEST GRAND AVENUE AND MYRTLE STREET OAKLAND, CALIFORNIA

#### 1.0 INTRODUCTION

SALEM Engineering Group, Inc. (SALEM) was contracted by Jeffrey Olsen of The Kroger Company (Kroger) to provide environmental consulting services related to a portion of the proposed FoodsCo Supermarket No. 536 site (Hahn Property) located in the southern portion of the proposed parking lot area adjacent to Myrtle Street, Market Street, and West Grand Avenue in Oakland, California (the Site; Figure 1). The investigation was performed in general accordance with SALEM's Proposal No. P5-412-0561 dated May 16, 2012.

#### 1.1 Project Objectives

The purpose of the assessment was to further evaluate the potential presence of subsurface features of potential environmental concern (underground storage tanks [USTs], sumps, clarifiers, vehicle hoists) in areas that were inaccessible during SALEM's February 2012 investigation, excavate the suspect areas identified during the performance of the geophysical survey(s) and determine the source of the anomalies, and to evaluate groundwater conditions beneath the subject property.

#### 1.2 Report Organization

This Site Assessment Report is organized as follows:

- Section 2 presents a description of the subject property and a summary of the facility's historic operations and layout
- Section 3 summarizes the subject property history and investigations previously performed at the subject property
- Section 4 presents a description of the physical setting of the subject property vicinity, including topography, geology, and hydrogeology of the region
- Section 5 describes site assessment field activities
- Section 6 presents findings associated with the May and June 2012 investigation
- Section 7 presents conclusions based on findings from the May and June investigation and previous investigations
- Section 8 presents future activities that are recommended for the subject property
- Section 9 summarizes reference material cited in this report

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## 2.0 SITE DESCRIPTION

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 June 2012 field investigation, the northwest quadrant of the property was occupied by JAC Truck Repair and associated concrete-paved parking lot at 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 southern portion of the subject property was occupied by Enrique's Auto Repair and West Oakland Tire Repair at 914 West Grand Avenue. This portion of the subject property was occupied by two single-story buildings (1,250 and 1,125 square feet) of wood frame construction with asphalt shingle roofs on concrete slab-on-grade foundations and a fenced parking/storage lot. The southwestern corner of this portion of the subject property is suspected as being the location of the former gasoline service station's USTs and fuel dispensers. The building located along the northeastern portion of the subject property (2271 Market Street) encompasses approximately 6,250 square feet and is of wood frame construction with stucco exterior on a concrete slab-on-grade foundation. The building was occupied by a nightclub at the time of SALEM's investigation. The building located on the hard northwest corner of West Grand Avenue and Market Street (3,400 square-foot two-story building located at 902 West Grand Avenue, adjoining the subject property to the south-southeast) has not been included in any of SALEM's Phase I or II investigations and is reportedly not included in Kroger's prospective property purchase.

The subject property is bounded to the north by concrete and asphalt-paved parking areas, to the south by West Grand Avenue, to the west by Myrtle Street, and to the east by Market Street. The closest residential property is located approximately 150 feet north of the subject property. A Site Plan is included as Figure 2.

## 3.0 SITE HISTORY

During the course of SALEM's Phase I Environmental Site Assessment (ESA), SALEM identified evidence of several Recognized Environmental Conditions (RECs) in connection with the subject property as defined by ASTM E-1527-05. The primary RECs of concern included the former use of the southwest corner of the subject property (914 West Grand Avenue) as a gasoline service station from 1963 through 1970, and the operation of several vehicle maintenance businesses at the subject property. These vehicle maintenance businesses commonly utilize petroleum and chlorinated hydrocarbons and may have utilized USTs and other buried appurtenances (hoists, piping, clarifiers, oil/water separators). SALEM's Phase II ESA investigation of the subject property included a February 15 and 16, 2012 geophysical survey, limited soil investigation, and soil vapor survey which identified the following issues:

- 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 Hahn 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

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directions have historically been to the northwest toward the Hahn 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 their site. The 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 the off-site investigation.

- 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 USTs and associated piping). The parking area of Enrique's Auto Repair (southwest corner of the subject property) was the primary area accessible for the geophysical survey. A possible non-metallic UST was identified in the northwest corner of the parking area. A possible excavation and "general disturbance" were identified along the southwestern corner and eastern portion of the 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 vehicles surrounding the survey area.
- The subject property had at least one suspected UST that was identified during the performance of the geophysical survey. The suspected UST was identified along the southwest corner of the subject property. Several areas of "disturbed soil" that could potentially be associated with former UST locations or other buried appurtenances were identified during the performance of the geophysical survey. Please note that the geophysical survey was not able to be completed due to the presence of vehicles and other obstructions across the majority of the subject property; therefore, SALEM recommended that an additional geophysical survey be performed once the surface obstructions had been cleared.
- Aqua Science performed a Phase II investigation at the subject property in 2005 that included the collection of samples from 2 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 West Oakland Tire Repair facility (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 subject property (BH-B, near the former gasoline service 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. The source(s) and extent of petroleum hydrocarbons was not identified.
- Aromatic hydrocarbon compounds typically associated with fuel hydrocarbons such as gasoline, were detected in the majority of the soil vapor samples collected during SALEM's February 2012

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soil vapor survey. 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 detected in soil vapor could be the result of historic on-site operations (gasoline service 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 source(s) of aromatic and chlorinated hydrocarbon constituents in soil vapor and groundwater 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 the site investigations.

#### 4.0 PHYSICAL SETTING

##### 4.1 Site Topography

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. This topographic quadrangle map was reviewed and showed that the subject property has an approximate elevation of 15 above mean sea level. Regionally, the topography slopes gently to the southwest toward the Oakland Harbor. Surface grading suggests that surface water sheet flow would be to the west or south, toward Grand Avenue and/or Myrtle Street.

##### 4.2 Regional Geology And Hydrogeology

The subject property is located on the eastern flank of the San Francisco Basin, a broad Franciscan Complex depression. Soils encountered beneath the subject property generally consist of silt from grade to depths of approximately 12 feet bgs, underlain by sandy silt to 20 feet bgs, the total depth explored. Groundwater was encountered at a depth of 11 feet bgs during groundwater monitoring well installation activities. Soil boring logs are included as Appendix A.

The subject property is located within the Oakland subarea of the East Bay Plain groundwater basin. Groundwater flow direction in the basin typically flows along surface topography. Topography is relatively flat at an elevation of approximately 20 feet above mean sea level. The nearest surface water is Lake Merritt, which is located approximately ½-mile east of the site. Lake Merritt drains into Oakland Inner Harbor. The water table in the site vicinity fluctuates seasonally. Historically, depth to groundwater measurements have ranged from approximately 7 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 LUST site 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 ft/ft.

## 5.0 SITE ASSESSMENT FIELD ACTIVITIES

Before initiating the site assessment activities, the following tasks were completed:

- SALEM prepared a site-specific Health and Safety Plan (HASP) and task-specific Job Safety Analysis (JSA).
- Groundwater monitoring well installation permits were secured with the Alameda County Public Works Agency.
- Underground Service Alert (USA) was notified and a private geophysical utility survey was performed to clear the proposed drilling locations.
- A geophysical survey was performed in areas that were not accessible during the February 2012 geophysical survey.
- An air knife rig was utilized to excavate and clear the location of well borings to a depth of 6 feet bgs.

Field procedures and investigation results are discussed in the following subsections.

### 5.1 Geophysical Survey

SALEM utilized a geophysical contractor (Spectrum Geophysics, Inc. of Los Angeles, California) 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. The contractor employed EM-61 high sensitivity metal detection, shallow focus terrain conductivity, ground penetrating radar, and electromagnetic utility-locating methods. This investigation was performed on May 21, 2012 in an effort to clear areas that were inaccessible during the February 2012 geophysical investigation. The geophysical survey was also performed near the four subsurface anomalies detected in February 2012. One anomaly, previously identified along the western edge of the JAC Truck Repair facility, was removed as a potential risk since no suspect anomalies were identified in the May 2012 survey. The operator indicated that the previous anomaly was likely due to the presence of vehicles and other debris that interfered with the original February 2012 geophysical survey.

In an effort to further define the three remaining geophysical anomalies identified during SALEM's February 2012 geophysical survey, SALEM performed a pothole investigation of each area. These areas were all identified in the Enrique's Auto Repair parking lot along the southwestern corner of the subject property (suspected former gasoline service station location) and included a suspected non-metallic UST and two areas with "disturbed soil" that could be indicative of backfilled areas. Excavation locations are shown on Figure 3. The scope of work included saw cutting, demolition, removal and disposal of concrete paving, excavation of soil from the anomalies using a backhoe (approximately 3 feet x 10 feet wide to a depth of 6 feet bgs), observation and documentation of subsurface conditions within the excavation, backfill and compaction of the excavation with existing soils, and resurfacing each excavation with 6 inches of concrete paving. Soils unable to be returned to the excavations were temporarily stockpiled on-site then disposed by American Integrated Services, Inc. (AIS).



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## 5.2 Well Boring Installation

A total of three soil borings were advanced during SALEM's June 2012 site assessment. All borings were advanced to depths of 20 feet bgs. Well boring locations are shown on Figure 3. Well boring locations were as follows:

- Well boring MW-1 was advanced in the Enrique's Auto Repair parking lot, located along the southwest corner of the subject property.
- Well boring MW-2 was advanced in the JAC Truck Repair driveway.
- Well boring MW-3 was advanced in West Oakland Tire Repair's parking lot (along the southern/central portion of the subject property).

Before arriving at the subject property, 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. All decontamination wash/rinse water was placed into 55-gallon drums for and stored on-site pending classification and disposal.

Well borings MW-1 through MW-3 were advanced using a CME-75 hollow stem auger drill rig operated by Cascade Drilling, Inc. (Cascade Drilling) of Concord, California. Cascade Drilling advanced the boreholes to a total depth of 20 feet bgs and collected soil samples at 5-foot intervals. At each sample interval, a California-modified split spoon sampler lined with 2-inch O.D. stainless-steel sleeves was attached to the bottom of a 140-pound sliding drive hammer, and lowered to the sample depth. The sampler was then driven approximately 1.5 feet into the underlying soil by repeatedly raising and dropping the hammer a distance of 30 inches. The sampler was then retrieved and the sample sleeves were removed. A qualified geologist was onsite to record a description of the soil samples on field boring logs in general accordance with the USCS, including: lithology, texture, classification, and color. An aliquot of soil from each sample interval was placed in a zip-lock style plastic bag and allowed to equilibrate to ambient temperature. The soil headspace was then field screened for total organic volatile (TOV) concentrations using a photo-ionization detector (PID) calibrated relative to a 100 parts per million isobutylene standard. Soil descriptions and TOV measurements were recorded on the boring logs included in Appendix A.

## 5.3 Groundwater Monitoring Well Completion Procedures

Monitoring wells MW-1 through MW-3 were constructed using 4-inch inside diameter (I.D.), flush-threaded, Schedule 40 PVC blank and slotted casing. The screened portion of the wells consisted of approximately 15 feet of 0.01-inch machine-cut slotted casing from 5 to 20 feet bgs. Number 2-12 silica sand was utilized as material for the sand filter pack and placed approximately 1 foot above the screened interval. The wells were surged using a surge block to help settle the sand pack. Approximately 2 feet of bentonite pellets were poured through the auger and hydrated to form an annular seal above the sand pack. Bentonite grout filled the annular space to a depth of approximately 1 foot bgs. An Alameda County Department of Public Works representative was present on-site to inspect and certify the well completion. The top of the wells were enclosed in a traffic-rated flush-mounted well box set in concrete. The locations of the groundwater monitoring wells are shown on Figure 3.



#### 5.4 Groundwater Monitoring Well Development and Sampling

Well development was performed in accordance with California Department of Water Resources (DWR) Well Standards. The groundwater levels and the total depths of MW-1 through MW-3 were measured before and after completion of development. The wells were developed by initially surging the well across the screened interval using a surge block, followed by the removal of approximately eight casing volumes of water, and developed until the purge water was clear to the extent practicable and parameters of temperature, pH, and specific conductance had stabilized. All development tools were thoroughly decontaminated before arriving at the subject property.

Sampling of the three groundwater monitoring wells was performed on June 4, 2012, more than 72 hours after development of the wells.

Before sampling, the depth to liquid, depth to water and total depth of the wells were measured using an electronic interphase probe. The probe and tape were decontaminated before each use with a non-phosphate-containing detergent-water solution and rinsed with distilled water. The probe and measuring tape were then air dried before the next use. The depth to water was recorded on individual field sampling forms.

Wells were purged using a down-hole electric pump. The pump discharge tubing was connected to a flow-through cell, which was equipped to measure field parameters during well purging activities. The pump was placed approximately mid screen in each well. Upon correct pump placement, the pump was turned on and operated at a rate of approximately 1 gallon per minute. Field parameters consisting of pH, temperature, specific conductance were measured with a Horiba U-22 field meter.

Approximately one casing volume of groundwater was purged from each well before recording the first field parameter measurement. Field parameters were collected at one casing volume increments. At least three measurements were recorded to ensure stabilization of field parameters. Field parameter measurements were recorded on the sampling forms at each well. Groundwater purging was discontinued when either the field parameters stabilize (i.e. pH 0.1 pH unit; temperature 0.1 degree Celsius; specific conductance and turbidity 10 percent) and/or three casing volumes of groundwater had been removed, whichever occurred first. The wells were allowed to stand for a sufficient period of time to allow groundwater to recover to within 80% of the initial groundwater level before collecting samples. Copies of the field data sheets are included in Appendix B.

Groundwater samples were collected with new, unused, disposable bailers to fill the sample containers. All sample containers were supplied by the laboratory. Attempts were made to minimize agitation of the samples during filling of the sample containers. Care was also taken to prevent overfilling and to ensure proper preservation of the sample. In addition to the groundwater samples, one trip blank and one duplicate sample (collected from MW-3) were analyzed for QA/QC purposes in the June 4, 2012 sampling event.

The sample containers were labeled, recorded on a chain-of-custody document, placed on ice in a sample cooler, and submitted to Sierra Analytical Laboratory, Inc. (Sierra) in Laguna Hills, California, a California-certified laboratory, for analysis of TPH-G/D and VOCs using EPA Methods 8015B and 8260B, respectively. All samples were transferred to the laboratory under strict chain-of-custody protocol.

### 5.5 Well Surveying

The top of casing, well-box rim, and ground surface elevation at each well were surveyed relative to a registered benchmark by Dulin & Boynton of Signal Hill, California, a California-licensed surveyor. The relative elevations of locations of the wells on the subject property were measured within 0.01 ft. In addition, the spatial (XY) location of each well was surveyed relative to the California Spatial Reference System-Horizontal (CSRS-H).

## 6.0 FINDINGS

Considerable data was collected during the site assessment activities performed by SALEM in May and June 2012. Site lithology, geophysical survey and excavation results, and groundwater quality data are discussed below.

### 6.1 Site Lithology and Hydrogeology

The study area is generally underlain by medium grey, dry, slightly plastic silts to 12 feet bgs, underlain by medium grey, wet, sandy silts to 18 feet bgs, underlain by light grey, medium plasticity clays to the maximum depth investigated of 20 feet bgs. Groundwater was encountered in each well boring at depths of 11 feet bgs. Copies of boring logs are included in Appendix A.

### 6.2 Geophysical Survey and Excavation of Suspect Areas Results

The results of SALEM's May 2012 geophysical survey did not identify any suspect sub-grade structures of environmental concern other than those previously identified in the February 2012 survey. The May 2012 survey also indicated that the anomaly previously identified along the western edge of the JAC Truck Repair facility was likely caused by metallic interference from vehicles parked in close proximity to the investigated area. The May 2012 geophysical survey, performed with all surface obstructions removed, did not identify the presence of any sub-grade structures of environmental concern, suggesting that no additional investigation was necessary in this area.

Excavation of the three sub-grade anomalies identified during the February 2012 geophysical survey indicated the presence of fill material, primarily medium-grained sands that differ significantly from undisturbed sediments at the subject property (silt). The fill material was grey and had odors similar to degraded petroleum hydrocarbons. No USTs or other buried sub-grade appurtenances were identified during the performance of the excavations. Data suggests that these three areas formerly contained USTs associated with the historic operation of a gasoline service station on this portion of the subject property, and that the former gasoline station's USTs had been previously removed.

### 6.3 Monitoring Well Gauging and Gradient

Static groundwater levels were measured in monitoring wells MW-1 through MW-3 on June 4, 2012. Field data sheets from the groundwater monitoring events are included in Appendix B. The depth to groundwater ranged from 10.07 feet bgs in MW-2 to 11.50 feet bgs in MW-3. The direction of subsurface groundwater flow was to the northwest at a gradient of 0.001 ft/ft. A site plan showing groundwater levels and flow direction from the June 4, 2012 monitoring event is included as Figure 4.

### 6.4 Groundwater Sampling Results

Groundwater analytical results are summarized in Table 2. Concentrations of constituents of concern from the June 4, 2012 sampling event are shown on Figure 5. Laboratory results and chain-of-custody documentation are included in Appendix C. Groundwater analytical results are summarized below:

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- TPH-D was not detected above laboratory method detection limits in MW-1, MW-2, or MW-3.
  - TPH-G was not detected above laboratory method detection limits in MW-2 and MW-3. TPH-G was detected in MW-1 at a concentration of 3,300 micrograms per liter ( $\mu\text{g/L}$ ).
  - Benzene ( $1.2 \mu\text{g/L}$ ), sec-butylbenzene ( $3.7 \mu\text{g/L}$ ), ethylbenzene ( $79 \mu\text{g/L}$ ), isopropylbenzene ( $10 \mu\text{g/L}$ ), p-isopropyltoluene ( $3.0 \mu\text{g/L}$ ), naphthalene ( $37 \mu\text{g/L}$ ), n-propylbenzene ( $29 \mu\text{g/L}$ ), toluene ( $1.5 \mu\text{g/L}$ ), 1,2,4-trimethylbenzene ( $110 \mu\text{g/L}$ ), 1,3,5-trimethylbenzene ( $59 \mu\text{g/L}$ ), and total xylenes ( $188 \mu\text{g/L}$ ) were detected in the groundwater sample collected from MW-1. No other VOCs were detected above laboratory method detection limits in this sample.
  - The results of laboratory analyses of the groundwater sample collected from MW-3 indicated the presence of 1,1-dichloroethane (1,1-DCA) at a concentration of  $3.8 \mu\text{g/L}$ , cis-1,2-dichloroethene (cis-1,2-DCE) at  $110 \mu\text{g/L}$ , trans-1,2-dichloroethene (t-1,2-DCE) at  $14 \mu\text{g/L}$ , methyl tert-butyl ether (MTBE) at  $3.6 \mu\text{g/L}$ , and trichloroethene (TCE) at  $11 \mu\text{g/L}$ . No other VOCs were detected above laboratory method detection limits.
  - VOCs were not detected in the groundwater sample collected from MW-2 or the trip blank sample.

## 7.0 CONCLUSIONS

The following conclusions are based on results of the May through June 2012 SALEM investigations, and previous investigations performed by SALEM and others:

- Subsurface soils generally consist of medium grey, dry, slightly plastic silts to 12 feet bgs, underlain by medium grey, wet, sandy silts to 18 feet bgs, underlain by light grey, medium plasticity clays to the maximum depth investigated of 20 feet bgs. Groundwater was encountered in each well boring at depths of 11 feet bgs.
- The groundwater flow direction beneath the subject property was to the northwest at a gradient of 0.001 ft/ft during the June 4, 2012 groundwater monitoring event. Groundwater flow direction and gradient appear to be similar to other sites located within a 1-mile radius of the subject property reviewed in the CRWQCB's Geotracker database.
- A geophysical survey was completed at the subject property in areas that were inaccessible during SALEM's February 2012 investigation. No sub-grade geophysical anomalies were detected during the May 2012 geophysical survey that were indicative of disturbed soil, USTs, sumps, clarifiers, or historic fuel piping. Excavations performed at the sub-grade anomaly locations identified during the February 2012 geophysical survey did not reveal any USTs, sumps, or clarifiers; however, soil in their vicinity (sand) was not typical of native soils and suggests that these anomalies were associated with former UST locations. The results of the geophysical surveys and excavation activities indicate that there are no suspected buried items of environmental concern at the subject property in the areas explored and that the former USTs and fuel piping for the former gasoline station appear to have been removed.
- MW-1 was installed in the southwestern corner of the subject property in the parking area used by the auto repair facility. This area is in close proximity to the location of the former on-site

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USTs that were used by the former gasoline service station that operated at the subject property from 1963 through 1970.

- MW-2 was installed in the driveway/parking area of the JAC Auto Repair facility. This location is in an area down-gradient from the Hahn property's former UST locations.
- MW-3 was installed in the parking lot area of the West Oakland Tire Repair facility. It is located in an area that is suspected to be down-gradient from the Arco gas station LUST site that has known elevated petroleum hydrocarbon impacts in groundwater. It is also located down-gradient from the Burke Property (949 Grand Avenue), a former dry cleaner site that had several USTs that contained petroleum hydrocarbons. A Phase II investigation performed at the Burke Property in 2000 identified elevated concentrations of petroleum hydrocarbons and chlorinated solvents in soil and groundwater. The CRWQCB-SF requested that additional assessment be performed; however, no additional assessment information was available in the databases reviewed by SALEM.
- According to the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report*, the City of Oakland does not have "any plans to develop local groundwater resources for drinking water purposes, because of existing or potential saltwater intrusion, contamination, or poor or limited quantity." Due to the presence of silt in the water-bearing zone encountered during drilling at the Site, low yields observed during development and sampling, and the lack of any plans by the City of Oakland to develop local groundwater resources, SALEM believes that the CRWQCB-SF's ESL's for "Shallow Soils (<3 meters bgs), Groundwater is not a Current or Potential Source for Drinking Water" are applicable to the subject property.
- The groundwater sample collected from MW-1 had TPH-G at a concentration of 3,300 µg/L. This well is located in close proximity to the suspected former UST locations at the subject property. Based on the presence of hydrocarbon-affected soils identified during the pothole excavation investigation in this area, data suggests that the former USTs are likely the source of hydrocarbons identified in soil and groundwater proximate to this location.
- Regulatory drinking water standards for TPH and petroleum in general have not been developed. The CRWQCB-SF has assigned the TPH-diesel taste and odor threshold of 100 µg/L referenced in *A Compilation of Water Quality Goals* (RWQCBCV 2003) as the drinking water screening level for all categories of TPH, meaning that the screening level for TPH-G would be 100 µg/L for the Hahn Property site as well. Screening levels for benzene and related light-weight hydrocarbon compounds are considered to provide adequate additional protection of drinking water concerns for gasoline-contaminated groundwater when used in conjunction with the TPH screening level of 100 µg/L. In general, sites may exceed the TPH screening level if carcinogenic compounds detected in the groundwater sample (primarily benzene) are low.
- Detectable concentrations of aromatic volatiles (benzene, ethylbenzene, naphthalene, and total xylenes) in the groundwater sample collected from MW-1 did not exceed ESLs under the existing land use and exposure scenario (groundwater is not a current or potential source of drinking water). Although the TPH-G concentration in MW-1 exceeds the ESL, aromatic volatiles are present at concentrations below the ESL. Given the proposed future use of the property as a

parking lot, and presence of carcinogenic VOCs at concentrations below ESLs, data suggests that remediation of this area is unnecessary and unlikely to be required.

- TPH-G, TPH-D, and VOCs were not detected in MW-2, suggesting that the plume of hydrocarbon-affected groundwater near the former on-site gasoline service station has not migrated beneath the JAC Truck Repair property.
- TPH-G, TPH-D, and aromatic hydrocarbons typically associated with gasoline (other than MTBE) were not detected in the groundwater sample collected from MW-3, located to the east of the former on-site gasoline service station. A trace MTBE concentration was detected in this well; however, the concentration was below ESL's and likely originated from an off-site source to the south of the subject property.
- Chlorinated solvents commonly associated with dry cleaning facilities were detected in the groundwater sample collected from MW-3; however, the concentrations were all below ESL's. Chlorinated solvents identified in MW-3 are suspected to originate from the Burke Property, a former dry cleaner with known chlorinated solvent impacts in soil and groundwater, located approximately 80 feet south of the subject property. Because the concentrations are below ESL's, are not suspected to originate from on-site, and because chlorinated solvents were not detected in soil vapor samples collected from this location during SALEM's February 2012 site investigation, it is unlikely that the presence of chlorinated solvents in groundwater will negatively impact the proposed development of the subject property as a parking lot.
- No further sampling or assessment is recommended for the subject property. On-site impacts and off-site sources have been adequately defined and are not anticipated to require further actions other than those recommended in Section 8.

## 8.0 PROPOSED FUTURE ACTIVITIES

Based on field observations, laboratory results, and available information for the subject property, SALEM believes that no further investigation or remediation is necessary. SALEM recommends that the existing groundwater monitoring wells be protected and maintained for potential future use should interested parties require additional groundwater monitoring events. SALEM also recommends that a Soil Management Plan be prepared to address identification, segregation, storage, sampling, and disposal of petroleum hydrocarbon-affected soils that are likely to be encountered during grading and/or utility installation in the vicinity of the former on-site gasoline station.

## 9.0 REFERENCES

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

- San Francisco Bay Regional Water Quality Control Board Groundwater Committee, East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Final Report, June 8, 2012.
- Salem Engineering Group, Inc. (2012) Phase II Environmental Site Assessment, Proposed FoodsCo Supermarket #536, Hahn Property, NEC West Grand Avenue and Myrtle Street, Oakland, CA dated February 28, 2012.

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, LG, LHG  
Senior Hydrogeologist



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

2c: herewith

**TABLE I**  
**GROUNDWATER FIELD DATA**  
Proposed FoodsCo Supermarket No. 536  
Oakland, California  
SALEM Project No. 4-412-0103

Well	Date of Measurement	Elevation of Well Casing (ft-msl)	Depth to Groundwater (ft-bmp)	Product Thickness (ft)	Groundwater Elevation (ft-msl)
MW-1	6/4/2012	12.77	10.07	0.00	2.70
MW-2	6/4/2012	13.62	10.96	0.00	2.66
MW-3	6/4/2012	14.28	11.50	0.00	2.78

Definitions

ft-msl = Feet above mean sea level

ft-bmp = Feet below measured point (notched point along north edge of PVC casing)

ft = Feet



**TABLE II**  
**GROUNDWATER QUALITY DATA**  
Proposed FoodsCo Supermarket #536  
NEC West Grand Avenue and Myrtle Street  
Oakland, California  
SALEM Project No. 4-412-0103

Date Sampled	Sample Collection Point	TPH-G (µg/L)	TPH-D (mg/L)	Benzene (µg/L)	Butylbenzene (µg/L)	Ethylbenzene (µg/L)	Isopropyl-benzene (µg/L)	p-Isopropyl-toluene (µg/L)	Naphthalene (µg/L)	n-Propyl-benzene (µg/L)	Toluene (µg/L)	1,2,4-Trimethyl-benzene (µg/L)	1,3,5-Trimethyl-benzene (µg/L)	Xylenes (µg/L)	1,1-DCA (µg/L)	cis-1,2-DCE (µg/L)	DCE (µg/L)	MTBE (µg/L)	TCE (µg/L)	VOCs* (µg/L)
6/4/2012	MW-1	3,300	ND (0.05)	1.2	3.7	79	10	3.0	37	29	1.5	110	59	188	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND
6/4/2012	MW-2	ND (50)	ND (0.05)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND
6/4/2012	MW-3	ND (50)	ND (0.05)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	3.8	110	14	3.6	11	ND
6/4/2012	Duplicate (MW-3)	ND (50)	ND (0.05)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	120	16	3.4	11	ND
6/4/2012	Trip Blank	NA	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND

Notes:

µg/L = micrograms per liter

mg/L = milligrams per liter

ND = not detected above analytical method detection limit

NA = not analyzed

TPH-G = Total Petroleum Hydrocarbons as Gasoline using EPA Method 8015B

TPH-D = Total Petroleum Hydrocarbons as Diesel using EPA Method 8015B

1,1-DCA = 1,1-Dichloroethane

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

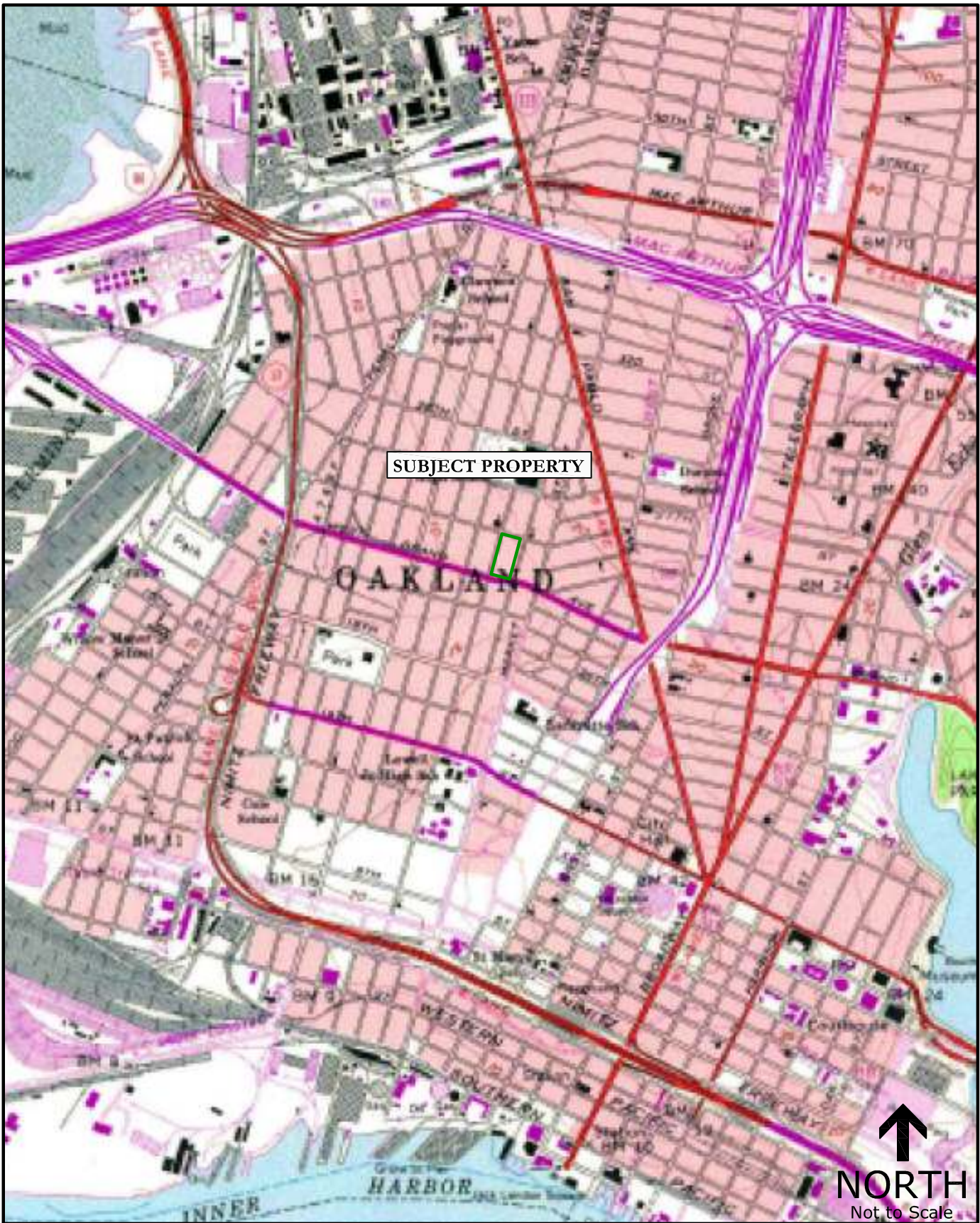
t-1,2-DCE = trans-1,2-Dichloroethene

TCE = Trichloroethene

MTBE = Methyl tert-butyl ether

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



**SALEM** Engineering Group, Inc.

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

Salem Job No.  
 1-412-0103

Date:  
 June 2012

**TOPOGRAPHIC MAP**

PROPOSED FOODSCO SUPERMARKET NO. 536  
 NWC OF WEST GRAND AVENUE AND MYRTLE STREET  
 OAKLAND, CALIFORNIA

Figure:  
 1



**SALEM** Engineering Group, Inc.

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

**SITE PLAN**

PROPOSED FOODSCO SUPERMARKET NO. 536  
 NWC OF WEST GRAND AVENUE AND MYRTLE STREET  
 OAKLAND, CALIFORNIA

Salem Job No.  
 1-412-0103

Date:  
 June 2012

Figure:  
 2



**LEGEND**

MW-1 ● Approximate Location of Groundwater Monitoring Well

□ □ Approximate Location of Geophysical Anomaly & Excavation



**SALEM Engineering Group, Inc.**

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

**GROUNDWATER MONITORING WELL LOCATIONS**

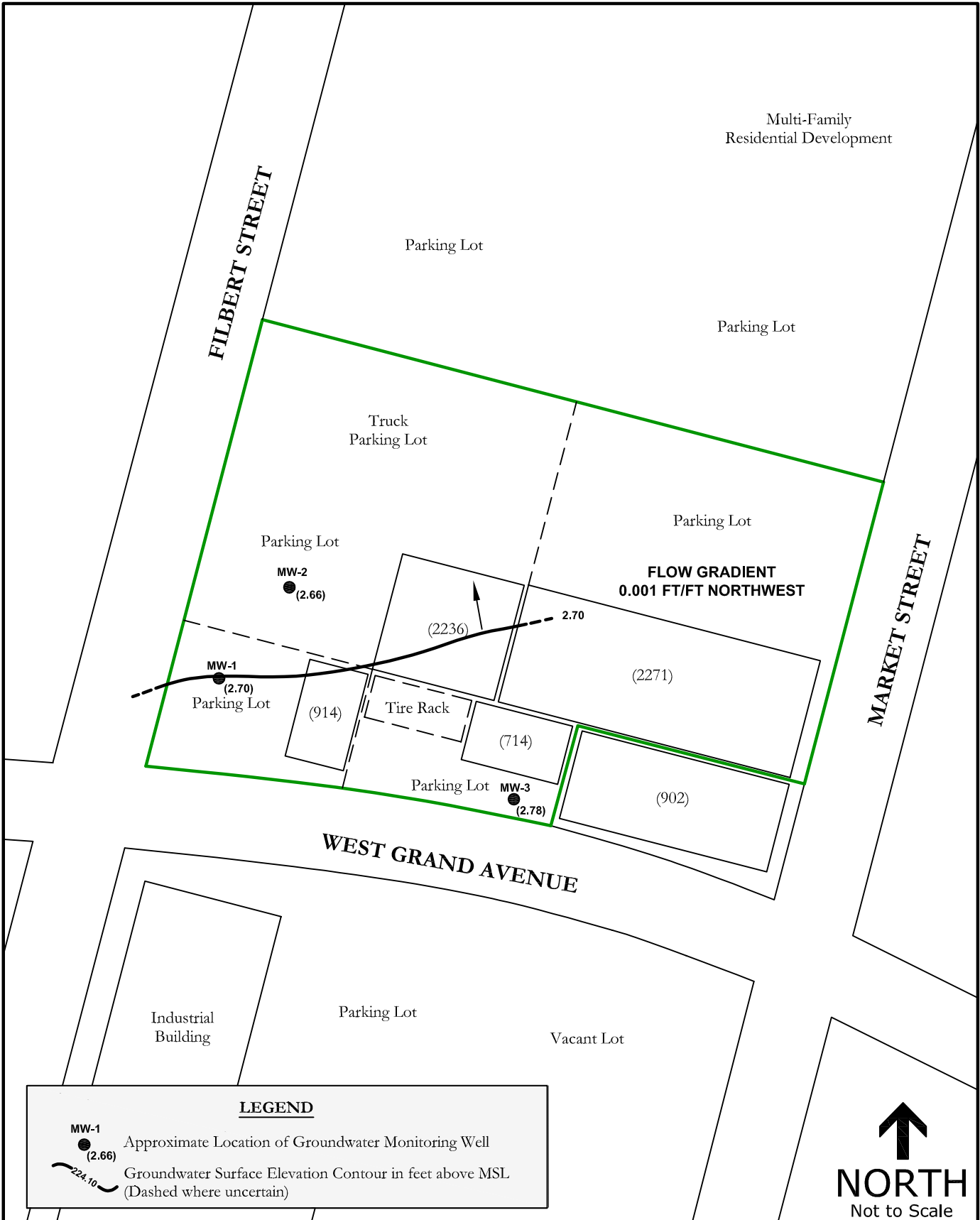
PROPOSED FOODSCO SUPERMARKET NO. 536  
NWC OF WEST GRAND AVENUE AND MYRTLE STREET  
OAKLAND, CALIFORNIA

Salem Job No.  
1-412-0103

Date:  
June 2012

Figure:  
3





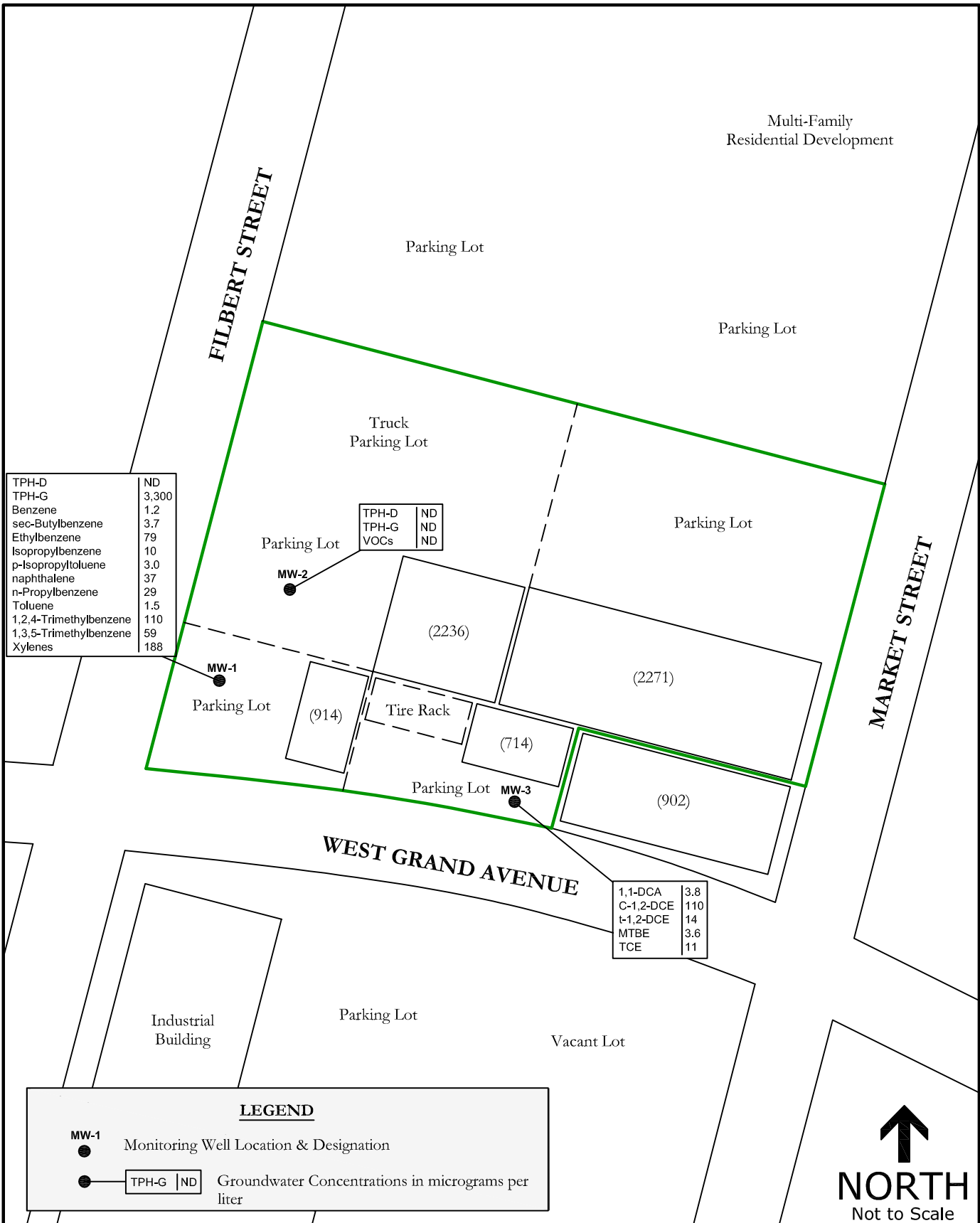
**LEGEND**

MW-1  
● (2.66) Approximate Location of Groundwater Monitoring Well

— (2.24.10) Groundwater Surface Elevation Contour in feet above MSL  
(Dashed where uncertain)



<b>SALEM Engineering Group, Inc.</b> 11650 Mission Park Drive, Suite 108 Rancho Cucamonga, California 91730		<b>GROUNDWATER ELEVATION MAP</b> PROPOSED FOODSCO SUPERMARKET NO. 536 NWC OF WEST GRAND AVENUE AND MYRTLE STREET OAKLAND, CALIFORNIA
Salem Job No. 1-412-0103	Date: June 2012	Figure: 4



**LEGEND**

MW-1 ● Monitoring Well Location & Designation

● — [TPH-G | ND] Groundwater Concentrations in micrograms per liter



**SALEM Engineering Group, Inc.**  
 11650 Mission Park Drive, Suite 108  
 Rancho Cucamonga, California 91730

**GROUNDWATER QUALITY DATA SUMMARY**  
 PROPOSED FOODSCO SUPERMARKET NO. 536  
 NWC OF WEST GRAND AVENUE AND MYRTLE STREET  
 OAKLAND, CALIFORNIA

Salem Job No.  
1-412-0103

Date:  
June 2012

Figure:  
5

A





## Log of Boring MW-1

**Project:** Hahn Property, Oakland

**Project No.** 5-412-0561

**Client:** Kroger Foods

**Figure No.**

**Location** SW Parking Lot

**Logged By:** Jim Robert

**Depth of Water - 11'**

**Initial:** JR

**At Completion:**

SUBSURFACE PROFILE		SAMPLE				
Depth (ft)	Blow Count	SOIL DESCRIPTION	Type	Recovery	PID	Water Level
2						
5	9,11,16	SILT (ML), trace clay, medium grey, dry, slight plasticity, very stiff	ML	█	45.0	
10	6,9,14	SILT (ML), as above, wet	ML	█	30.0	
15	8,13,14	Sandy SILT (SM), fine-grained sand, medium grey, wet, slight plasticity, very stiff	SM	█	4.0	
20	7,10,12	CLAY (CL), trace silt and fine-grained sand, brownish grey, wet, medium plasticity, hard	CL	█	0.2	
25		Boring completed at 20 feet bgs. Groundwater encountered at 11 feet bgs. Groundwater monitoring well installed. Well is 4" diameter Schedule 40 PVC, 0.01" slotted from 5-20 feet bgs, #2-12 sand from 4 to 20 feet bgs, bentonite chips from 3-4 feet bgs, grout from 1-3 feet bgs. Flush-mounted well box sealed with concrete at surface.				

### Salem Engineering Group, Inc.

**Drill Rig:** CME-75

**Drill Date:** ####

**Drill Method:** Hollow-stem auger

**Hole Size:** 10.25"

**Driller:** Cascade Drilling

**Sheet:** 1

## Log of Boring MW-2

**Project:** Hahn Property, Oakland  
**Client:** Kroger Foods  
**Location:** JAC Truck Repair Driveway  
**Depth of Water - 11'**

**Project No.** 5-412-0561  
**Figure No.**  
**Logged By:** Jim Robert  
**At Completion:**

**Initial:** JR

SUBSURFACE PROFILE		SAMPLE				
Depth (ft)	Blow Count	SOIL DESCRIPTION	Type	Recovery	PID	Water Level
2						
5	7, 12, 12	SILT (ML), trace clay, medium grey, dry, slight plasticity, very stiff	ML	█	4.0	
10	7,9,13	SILT (ML), as above, wet	ML	█	3.0	
15	6,8,10	Sandy SILT (SM), fine-grained sand, medium grey, wet, slight plasticity, very stiff	SM	█	4.0	
20	14,22,30	GRAVEL (GW), sub-angular gravel 0.5-1.5" in size, trace medium-grained sand, light grey, wet, very dense	GW	█	0.0	
25		Boring completed at 20 feet bgs. Groundwater encountered at 11 feet bgs. Groundwater monitoring well installed. Well is 4" diameter Schedule 40 PVC, 0.01" slotted from 5-20 feet bgs, #2-12 sand from 4 to 20 feet bgs, bentonite chips from 3-4 feet bgs, grout from 1-3 feet bgs. Flush-mounted well box sealed with concrete at surface.				

### Salem Engineering Group, Inc.

**Drill Rig:** CME-75  
**Drill Method:** Hollow-stem auger  
**Driller:** Cascade Drilling

**Drill Date:** ####  
**Hole Size:** 10.25"  
**Sheet:** 1

## Log of Boring MW-2

**Project:** Hahn Property, Oakland  
**Client:** Kroger Foods  
**Location:** JAC Truck Repair Driveway  
**Depth of Water - 11'**

**Project No.** 5-412-0561  
**Figure No.**  
**Logged By:** Jim Robert  
**At Completion:**

**Initial:** JR

SUBSURFACE PROFILE		SAMPLE				
Depth (ft)	Blow Count	SOIL DESCRIPTION	Type	Recovery	PID	Water Level
2						
5	7, 12, 12	SILT (ML), trace clay, medium grey, dry, slight plasticity, very stiff	ML	█	4.0	
10	7,9,13	SILT (ML), as above, wet	ML	█	3.0	
15	6,8,10	Sandy SILT (SM), fine-grained sand, medium grey, wet, slight plasticity, very stiff	SM	█	4.0	
20	14,22,30	GRAVEL (GW), sub-angular gravel 0.5-1.5" in size, trace medium-grained sand, light grey, wet, very dense	GW	█	0.0	
25		Boring completed at 20 feet bgs. Groundwater encountered at 11 feet bgs. Groundwater monitoring well installed. Well is 4" diameter Schedule 40 PVC, 0.01" slotted from 5-20 feet bgs, #2-12 sand from 4 to 20 feet bgs, bentonite chips from 3-4 feet bgs, grout from 1-3 feet bgs. Flush-mounted well box sealed with concrete at surface.				

### Salem Engineering Group, Inc.

**Drill Rig:** CME-75  
**Drill Method:** Hollow-stem auger  
**Driller:** Cascade Drilling

**Drill Date:** ####  
**Hole Size:** 10.25"  
**Sheet:** 1

APPENDIX

# B



















## PURGE DRUM INVENTORY LOG

CLIENT Salem

SITE ADDRESS 914 W. Grand, Oakland.

### STATUS OF DRUM(S) UPON ARRIVAL

DATE							
6/4/12							
Number of drum(s) empty:							
Number of drum(s) 1/4 full:							
Number of drum(s) 1/2 full:							
Number of drum(s) 3/4 full:							
Number of drum(s) full:	9-5011 1-Decon 3-Dev. Wastes 13						
Total drum(s) on site:							
Are the drum(s) properly labeled?	Y						
Drum ID & Contents:							

### STATUS OF DRUM(S) UPON DEPARTURE

DATE							
6/4/12							
Number of drum(s) empty:							
Number of drum(s) 1/4 full:							
Number of drum(s) 1/2 full:							
Number of drum(s) 3/4 full:							
Number of drum(s) full:	9-5011 1-Decon 3-Dev. Wastes 14						
Total drum(s) on site:	14						
Are the drum(s) properly labeled?	Y						
Drum ID & Contents:	see above						

### LOCATION OF DRUM(S)

Describe location of drum(s): 'Enriquez' lot, near fence

### FINAL STATUS

Number of new drum(s) left on site this event:	1						
Date of inspection:	6/4/12						
Logged by BTS Field Technician:	PF						
Office reviewed by:	MW						

# C





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

Project: 914 Grand Ave, Oakland, CA  
Project Number: BTS # 120604-PCI  
Project Manager: Sheila Rogan

**Reported:**  
06/06/12 08:49

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-1	1206043-01	Liquid	06/04/12 08:00	06/05/12 09:50
MW-1	1206043-02	Liquid	06/04/12 09:58	06/05/12 09:50
MW-2	1206043-03	Liquid	06/04/12 10:30	06/05/12 09:50
MW-3	1206043-04	Liquid	06/04/12 09:20	06/05/12 09:50
DUP-1	1206043-05	Liquid	06/04/12 00:00	06/05/12 09:50

#### 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: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

**Reported:**  
 06/06/12 08:49

**Total Volatile Petroleum Hydrocarbons (TVPH) by GC/FID**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>TB-1 (1206043-01) Liquid    Sampled: 06/04/12 08:00    Received: 06/05/12 09:50</b>									
Gasoline Range Hydrocarbons (C4-C12)	ND	50	µg/L	1	B2F0502	06/05/12	06/05/12 10:25	EPA 8015B	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		115 %	70-125		"	"	"	"	
<b>MW-1 (1206043-02) Liquid    Sampled: 06/04/12 09:58    Received: 06/05/12 09:50</b>									
Gasoline Range Hydrocarbons (C4-C12)	3300	50	µg/L	1	B2F0502	06/05/12	06/05/12 10:25	EPA 8015B	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		111 %	70-125		"	"	"	"	
<b>MW-2 (1206043-03) Liquid    Sampled: 06/04/12 10:30    Received: 06/05/12 09:50</b>									
Gasoline Range Hydrocarbons (C4-C12)	ND	50	µg/L	1	B2F0502	06/05/12	06/05/12 10:25	EPA 8015B	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		116 %	70-125		"	"	"	"	
<b>MW-3 (1206043-04) Liquid    Sampled: 06/04/12 09:20    Received: 06/05/12 09:50</b>									
Gasoline Range Hydrocarbons (C4-C12)	ND	50	µg/L	1	B2F0502	06/05/12	06/05/12 10:25	EPA 8015B	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		93.0 %	70-125		"	"	"	"	
<b>DUP-1 (1206043-05) Liquid    Sampled: 06/04/12 00:00    Received: 06/05/12 09:50</b>									
Gasoline Range Hydrocarbons (C4-C12)	ND	50	µg/L	1	B2F0502	06/05/12	06/05/12 10:25	EPA 8015B	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		85.0 %	70-125		"	"	"	"	

*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: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

**Reported:**  
 06/06/12 08:49

**Total Petroleum Hydrocarbons (TPH) by GC/FID**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (1206043-02) Liquid    Sampled: 06/04/12 09:58    Received: 06/05/12 09:50</b>									
Diesel Range Organics (C10-C24)	ND	0.050	mg/L	1	B2F0102	06/05/12	06/05/12 13:36	EPA 8015B	
<i>Surrogate: o-Terphenyl</i>		98.3 %	60-175		"	"	"	"	
<b>MW-2 (1206043-03) Liquid    Sampled: 06/04/12 10:30    Received: 06/05/12 09:50</b>									
Diesel Range Organics (C10-C24)	ND	0.050	mg/L	1	B2F0102	06/05/12	06/05/12 13:48	EPA 8015B	
<i>Surrogate: o-Terphenyl</i>		71.4 %	60-175		"	"	"	"	
<b>MW-3 (1206043-04) Liquid    Sampled: 06/04/12 09:20    Received: 06/05/12 09:50</b>									
Diesel Range Organics (C10-C24)	ND	0.050	mg/L	1	B2F0102	06/05/12	06/05/12 14:00	EPA 8015B	
<i>Surrogate: o-Terphenyl</i>		98.3 %	60-175		"	"	"	"	
<b>DUP-1 (1206043-05) Liquid    Sampled: 06/04/12 00:00    Received: 06/05/12 09:50</b>									
Diesel Range Organics (C10-C24)	ND	0.050	mg/L	1	B2F0102	06/05/12	06/05/12 14:12	EPA 8015B	
<i>Surrogate: o-Terphenyl</i>		85.0 %	60-175		"	"	"	"	

*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: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>TB-1 (1206043-01) Liquid    Sampled: 06/04/12 08:00    Received: 06/05/12 09:50</b>										
Benzene	ND	1.0		µg/L	1	B2F0503	06/05/12	06/05/12 11:01	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	
Bromochloromethane	ND	1.0		"	"	"	"	"	"	
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	
Bromoform	ND	1.0		"	"	"	"	"	"	
Bromomethane	ND	1.0		"	"	"	"	"	"	
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	
Chlorobenzene	ND	1.0		"	"	"	"	"	"	
Chloroethane	ND	1.0		"	"	"	"	"	"	
Chloroform	ND	1.0		"	"	"	"	"	"	
Chloromethane	ND	1.0		"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	
Dibromomethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0		"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>TB-1 (1206043-01) Liquid    Sampled: 06/04/12 08:00    Received: 06/05/12 09:50</b>									
p-Isopropyltoluene	ND	1.0	µg/L	1	B2F0503	06/05/12	06/05/12 11:01	EPA 8260B	
Methylene chloride	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	1.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
m,p-Xylene	ND	1.0	"	"	"	"	"	"	
o-Xylene	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		97.2 %		86-118	"	"	"	"	
Surrogate: Toluene-d8		98.0 %		88-110	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %		86-115	"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								

**MW-1 (1206043-02) Liquid** Sampled: 06/04/12 09:58 Received: 06/05/12 09:50

<b>Benzene</b>	<b>1.2</b>	1.0	µg/L	1	B2F0503	06/05/12	06/05/12 11:39	EPA 8260B	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
<b>sec-Butylbenzene</b>	<b>3.7</b>	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>79</b>	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
<b>Isopropylbenzene</b>	<b>10</b>	1.0	"	"	"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>MW-1 (1206043-02) Liquid Sampled: 06/04/12 09:58 Received: 06/05/12 09:50</b>									
<b>p-Isopropyltoluene</b>	<b>3.0</b>	1.0	µg/L	1	B2F0503	06/05/12	06/05/12 11:39	EPA 8260B	
Methylene chloride	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>37</b>	1.0	"	"	"	"	"	"	
<b>n-Propylbenzene</b>	<b>29</b>	1.0	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	1.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
<b>Toluene</b>	<b>1.5</b>	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Trichloroethene	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>110</b>	1.0	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>59</b>	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
<b>m,p-Xylene</b>	<b>160</b>	1.0	"	"	"	"	"	"	
<b>o-Xylene</b>	<b>28</b>	1.0	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		96.6 %		86-118	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.6 %		88-110	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.8 %		86-115	"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2 (1206043-03) Liquid Sampled: 06/04/12 10:30 Received: 06/05/12 09:50</b>										
Benzene	ND	1.0		µg/L	1	B2F0503	06/05/12	06/05/12 12:18	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	
Bromochloromethane	ND	1.0		"	"	"	"	"	"	
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	
Bromoform	ND	1.0		"	"	"	"	"	"	
Bromomethane	ND	1.0		"	"	"	"	"	"	
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	
Chlorobenzene	ND	1.0		"	"	"	"	"	"	
Chloroethane	ND	1.0		"	"	"	"	"	"	
Chloroform	ND	1.0		"	"	"	"	"	"	
Chloromethane	ND	1.0		"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	
Dibromomethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0		"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2 (1206043-03) Liquid Sampled: 06/04/12 10:30 Received: 06/05/12 09:50</b>										
p-Isopropyltoluene	ND	1.0		µg/L	1	B2F0503	06/05/12	06/05/12 12:18	EPA 8260B	
Methylene chloride	ND	1.0		"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	
Styrene	ND	1.0		"	"	"	"	"	"	
Tert-amyl methyl ether	ND	1.0		"	"	"	"	"	"	
Tert-butyl alcohol	ND	5.0		"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	
Tetrachloroethene	ND	1.0		"	"	"	"	"	"	
Toluene	ND	1.0		"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	
Trichloroethene	ND	1.0		"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
Vinyl chloride	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	1.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		95.2 %		86-118		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		94.8 %		88-110		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.6 %		86-115		"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
Project Number: BTS # 120604-PCI  
Project Manager: Sheila Rogan

Reported:  
06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>MW-3 (1206043-04) Liquid Sampled: 06/04/12 09:20 Received: 06/05/12 09:50</b>									
Benzene	ND	1.0	µg/L	1	B2F0503	06/05/12	06/05/12 12:57	EPA 8260B	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0	"	"	"	"	"	"	
<b>1,1-Dichloroethane</b>	<b>3.8</b>	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
<b>cis-1,2-Dichloroethene</b>	<b>110</b>	1.0	"	"	"	"	"	"	
<b>trans-1,2-Dichloroethene</b>	<b>14</b>	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	1.0	"	"	"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-3 (1206043-04) Liquid Sampled: 06/04/12 09:20 Received: 06/05/12 09:50</b>										
p-Isopropyltoluene	ND	1.0		µg/L	1	B2F0503	06/05/12	06/05/12 12:57	EPA 8260B	
Methylene chloride	ND	1.0		"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>3.6</b>	1.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	
Styrene	ND	1.0		"	"	"	"	"	"	
Tert-amyl methyl ether	ND	1.0		"	"	"	"	"	"	
Tert-butyl alcohol	ND	5.0		"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	
Tetrachloroethene	ND	1.0		"	"	"	"	"	"	
Toluene	ND	1.0		"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	
<b>Trichloroethene</b>	<b>11</b>	1.0		"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
Vinyl chloride	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	1.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		104 %		86-118		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.6 %		88-110		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		86-115		"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
Project Number: BTS # 120604-PCI  
Project Manager: Sheila Rogan

Reported:  
06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>DUP-1 (1206043-05) Liquid Sampled: 06/04/12 00:00 Received: 06/05/12 09:50</b>										
Benzene	ND	1.0		µg/L	1	B2F0503	06/05/12	06/05/12 13:36	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	
Bromochloromethane	ND	1.0		"	"	"	"	"	"	
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	
Bromoform	ND	1.0		"	"	"	"	"	"	
Bromomethane	ND	1.0		"	"	"	"	"	"	
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	
Chlorobenzene	ND	1.0		"	"	"	"	"	"	
Chloroethane	ND	1.0		"	"	"	"	"	"	
Chloroform	ND	1.0		"	"	"	"	"	"	
Chloromethane	ND	1.0		"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	
Dibromomethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	
<b>cis-1,2-Dichloroethene</b>	<b>120</b>	1.0		"	"	"	"	"	"	
<b>trans-1,2-Dichloroethene</b>	<b>16</b>	1.0		"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0		"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>DUP-1 (1206043-05) Liquid    Sampled: 06/04/12 00:00    Received: 06/05/12 09:50</b>									
p-Isopropyltoluene	ND	1.0	µg/L	1	B2F0503	06/05/12	06/05/12 13:36	EPA 8260B	
Methylene chloride	ND	1.0	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>3.4</b>	1.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	
Styrene	ND	1.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	1.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	
Toluene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	
<b>Trichloroethene</b>	<b>11</b>	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
m,p-Xylene	ND	1.0	"	"	"	"	"	"	
o-Xylene	ND	1.0	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		95.6 %		86-118	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		92.2 %		88-110	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		86-115	"	"	"	"	

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

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

**Reported:**  
 06/06/12 08:49

**Total Volatile Petroleum Hydrocarbons (TVPH) by GC/FID - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B2F0502 - EPA 5030B P & T**

<b>Blank (B2F0502-BLK1)</b>										
										Prepared & Analyzed: 06/05/12
Gasoline Range Hydrocarbons (C4-C12)	ND	50	µg/L							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	23.8		"	20.0		119	70-125			
<b>LCS (B2F0502-BS1)</b>										
										Prepared & Analyzed: 06/05/12
Gasoline Range Hydrocarbons (C4-C12)	574	50	µg/L	600		95.7	80-120			
<b>Matrix Spike (B2F0502-MS1)</b>										
		<b>Source: 1206043-01</b>			Prepared & Analyzed: 06/05/12					
Gasoline Range Hydrocarbons (C4-C12)	726	50	µg/L	600	ND	121	50-150			
<b>Matrix Spike Dup (B2F0502-MSD1)</b>										
		<b>Source: 1206043-01</b>			Prepared & Analyzed: 06/05/12					
Gasoline Range Hydrocarbons (C4-C12)	731	50	µg/L	600	ND	122	50-150	0.686	30	

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 11650 Mission Park Ste 108  
 Rancho Cucamonga CA, 91730

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

**Reported:**  
 06/06/12 08:49

**Total Petroleum Hydrocarbons (TPH) by GC/FID - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B2F0102 - EPA 3510C Sep Funnel**

<b>Blank (B2F0102-BLK1)</b>		Prepared: 05/29/12 Analyzed: 05/30/12								
Diesel Range Organics (C10-C24)	ND	0.050	mg/L							
<i>Surrogate: o-Terphenyl</i>	<i>0.0790</i>		"	<i>0.100</i>		<i>79.0</i>	<i>60-175</i>			
<b>LCS (B2F0102-BS1)</b>		Prepared: 05/29/12 Analyzed: 05/30/12								
Diesel Range Organics (C10-C24)	0.494	0.050	mg/L	0.500		98.8	80-120			
<b>LCS (B2F0102-BS2)</b>		Prepared: 05/29/12 Analyzed: 05/30/12								
Diesel Range Organics (C10-C24)	0.464	0.050	mg/L	0.500		92.8	80-120			
<b>LCS Dup (B2F0102-BSD1)</b>		Prepared: 05/29/12 Analyzed: 05/30/12								
Diesel Range Organics (C10-C24)	0.486	0.050	mg/L	0.500		97.2	80-120	1.63	30	

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 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B2F0503 - EPA 5030B P & T**

**Blank (B2F0503-BLK1)**

Prepared & Analyzed: 06/05/12

Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	"							
Bromochloromethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Bromoform	ND	1.0	"							
Bromomethane	ND	1.0	"							
n-Butylbenzene	ND	1.0	"							
sec-Butylbenzene	ND	1.0	"							
tert-Butylbenzene	ND	1.0	"							
Carbon tetrachloride	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
Chloroethane	ND	1.0	"							
Chloroform	ND	1.0	"							
Chloromethane	ND	1.0	"							
2-Chlorotoluene	ND	1.0	"							
4-Chlorotoluene	ND	1.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
Dibromomethane	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
Dichlorodifluoromethane	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
1,1-Dichloroethene	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
2,2-Dichloropropane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							
Di-isopropyl ether	ND	1.0	"							
Ethyl tert-butyl ether	ND	1.0	"							

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 Rancho Cucamonga CA, 91730

Project: 914 Grand Ave, Oakland, CA  
 Project Number: BTS # 120604-PCI  
 Project Manager: Sheila Rogan

Reported:  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B2F0503 - EPA 5030B P & T**

**Blank (B2F0503-BLK1)**

Prepared & Analyzed: 06/05/12

Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	1.0	"							
Isopropylbenzene	ND	1.0	"							
p-Isopropyltoluene	ND	1.0	"							
Methylene chloride	ND	1.0	"							
Methyl tert-butyl ether	ND	1.0	"							
Naphthalene	ND	1.0	"							
n-Propylbenzene	ND	1.0	"							
Styrene	ND	1.0	"							
Tert-amyl methyl ether	ND	1.0	"							
Tert-butyl alcohol	ND	5.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							
Toluene	ND	1.0	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
Trichloroethene	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Vinyl chloride	ND	1.0	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	1.0	"							
Surrogate: Dibromofluoromethane	48.5		"	50.0		97.0	86-118			
Surrogate: Toluene-d8	48.9		"	50.0		97.8	88-110			
Surrogate: 4-Bromofluorobenzene	45.9		"	50.0		91.8	86-115			

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 Rancho Cucamonga CA, 91730

Project: 914 Grand Ave, Oakland, CA  
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**Reported:**  
 06/06/12 08:49

**Volatile Organics & Fuel Oxygenates (GC/MS) by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B2F0503 - EPA 5030B P & T**

**LCS (B2F0503-BS1)**

Prepared & Analyzed: 06/05/12

Benzene	49.1	1.0	µg/L	50.0		98.2	80-120			
Chlorobenzene	53.6	1.0	"	50.0		107	80-120			
1,1-Dichloroethene	44.6	1.0	"	50.0		89.2	80-120			
Toluene	47.8	1.0	"	50.0		95.6	80-120			
Trichloroethene	49.5	1.0	"	50.0		99.0	80-120			

**Matrix Spike (B2F0503-MS1)**

Source: 1206043-01

Prepared & Analyzed: 06/05/12

Benzene	44.5	1.0	µg/L	50.0	ND	89.0	37-151			
Chlorobenzene	51.6	1.0	"	50.0	ND	103	37-160			
1,1-Dichloroethene	38.9	1.0	"	50.0	ND	77.8	50-150			
Toluene	49.5	1.0	"	50.0	ND	99.0	47-150			
Trichloroethene	43.1	1.0	"	50.0	ND	86.2	71-157			

**Matrix Spike Dup (B2F0503-MSD1)**

Source: 1206043-01

Prepared & Analyzed: 06/05/12

Benzene	50.7	1.0	µg/L	50.0	ND	101	37-151	13.0	30	
Chlorobenzene	62.7	1.0	"	50.0	ND	125	37-160	19.4	30	
1,1-Dichloroethene	46.1	1.0	"	50.0	ND	92.2	50-150	16.9	30	
Toluene	50.2	1.0	"	50.0	ND	100	47-150	1.40	30	
Trichloroethene	51.0	1.0	"	50.0	ND	102	71-157	16.8	30	

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Rancho Cucamonga CA, 91730

Project: 914 Grand Ave, Oakland, CA  
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Project Manager: Sheila Rogan

**Reported:**  
06/06/12 08:49

### Notes and Definitions

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

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