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# DEEPER AQUIFER SOIL & GROUNDWATER INVESTIGATION REPORT

807 - 75th Avenue Oakland, California

Project No. 115483 Fuel leak Case No. RO000508

Prepared For

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# **1.0** INTRODUCTION

AEI Consultants (AEI) has prepared this Deeper Zone Soil and Groundwater Investigation Report on behalf of Allen Kanady, Omega Termite Control, Inc. (Omega) for the facility located at 807 75<sup>th</sup> Avenue in the City of Oakland, Alameda County, California. AEI has been retained by Omega to provide environmental engineering and consulting services for the subject property. A release of petroleum products occurred at the property, from previously removed underground storage tanks (USTs), which has impacted soil and groundwater of the site.

This investigation was performed to characterize the extent of petroleum hydrocarbons released from the former USTs, which were removed from the subject property in August 1995 and June 2000. This investigation was requested by Jerry Wickham, Hazardous Materials Specialist with Alameda County Environmental Health (ACEH) in a September 25, 2005 letter to Mr. Kanady of Omega. The AEI workplan was approved in a letter from the ACEH to Mr. Kanady dated January 5, 2006. The environmental activities performed at the site and outlined in the below report include:

- Evaluating preferential pathways and <sup>1</sup>/<sub>2</sub> mile radius well survey;
- Installing one 2-inch diameter groundwater monitoring well to a depth of 14 feet bgs at a location north of MW-2;
- Installing four 2-inch diameter groundwater monitoring wells (30 feet bgs) at locations twinning existing wells MW-1 through MW-3 and backfill well TW-5.
- developing, surveying, and sampling the monitoring wells;
- disposal of all soil cuttings and groundwater generated during monitoring well installation and sampling; and
- submitting a report detailing the findings of the investigation at the subject site.

# 2.0 SITE DESCRIPTION AND HISTORY

The site is located in an industrial area of the City of Oakland, on the northern corner of the intersection of 75<sup>th</sup> Avenue and Snell Street, just east of San Leandro Street. The property is approximately 10,000 square feet in size and currently developed with two buildings, occupied by Omega.

On September 15, 1996, AEI removed three gasoline underground storage tanks (USTs) from the subject property. The tanks consisted of one 8,000-gallon UST, one 1,000-gallon UST, and one 500-gallon UST. The former locations of the tanks are shown in Figure 2 (Site Plan). A total of five soil samples (Figure 3, Table 2) and one groundwater sample collected during the tank removal activities revealed that a release had occurred from the tank system. Total petroleum hydrocarbons as gasoline (TPH-g), benzene, and MTBE were detected up to 4,300 mg/kg, 13 mg/kg, and 25 mg/kg, respectively in soil samples. The excavation was not backfilled. Soil removed from the excavation was stockpiled on the northern portion of the property. In 1999 soil samples collected from the stockpiled soil contained non-detectable to minor concentrations of



TPH as gasoline. Mr. Barney Chan of the ACEH approved the stockpiled soil for reuse in the excavation.

In October 1997, soil and groundwater samples were collected from six soil borings (BH-1 through BH-6). In June 1999, four groundwater monitoring wells (MW-1 through MW-4) were also installed by AEI (Figure 3, Tables 2& 3).

Under the direction of ACEH, additional soil was removed from the excavation in March 2000. The excavation was extended to 29 by 48 feet in size and 8 feet deep at the east end of the excavation and 11.5 at the west end. During excavation activities, an additional 500 gallon UST was discovered at the eastern end of the excavation. This tank was removed under the direction of Oakland Fire Services Agency (OFSA). A total of six additional soil samples were collected from the sidewalls and bottom of the excavation (Figure 3, Table 2).

The resulting excavation was then backfilled with pea gravel to bridge the water table, with the remainder of the excavation being filled with the previously aerated soil and later with imported fill. At the time the excavation was backfilled, a 4-inch PVC casing was installed in the backfill, TW-5. The newly excavated soil was stockpiled on the northern portion of the property. A total of 7,400 gallons of hydrocarbon impacted groundwater was pumped from the excavation, treated on-site, and discharged under EBMUD permit to the sanitary sewer system.

On October 9 and 10, 2003, eight soil borings (SB-7 through SB-14) were advanced on the site and adjacent properties. Borings SB-7 through SB-13 were advanced to depths ranging from 15 to 20 feet bgs to evaluate the lateral extent of soil and groundwater contamination in the first groundwater encountered (Shallow Zone) at the site. Boring SB-14 was advanced to a depth of 30 feet bgs to determine if the hydrocarbon release had impacted the second aquifer at the site. Borings SB-7, SB-9, SB-1, SB-11 SB-12, and SB-13 essentially defined the horizontal extent of the hydrocarbon plume in the groundwater to the west, south and east. Soil boring SB-14 encountered a thin clayey sand at a depth of 20 feet bgs (Intermediate Zone) with hydrocarbon odor, but which gave up no water into the push probe boring. Permeable gravel (Deeper Zone) was encountered at a depth of approximately 29 feet bgs. The groundwater sample from this interval contained 2,300 micrograms per liter (µg/L) TPH-g, and 72,000 µg/L total petroleum hydrocarbons as diesel (TPH-d), indicating that the Deeper Zone had been impacted significantly by hydrocarbons. The average hydrostatic head in the Shallow Zone was 5.26 above mean sea level (msl) on October 13, 2006, while the apparent hydrostatic head in the Deeper Zone was approximately 15 feet lower at 20.5 feet bgs or approximately 9.5 feet below msl. The report summarizing this site investigation was submitted to Amir Gholami, ACEH on November 18, 2003 and re-submitted to Jerry Wickham, ACEHS on September 23, 2005.

The locations of boreholes and monitoring wells are shown on Figure 2. The construction details of onsite wells are present in Table 1. Historical soil and groundwater sample analytical data is presented in Tables 2 and 4. Historical water table elevation data is presented in, Tables 5.

# **3.0** GEOLOGY AND HYDROLOGY

The site is located at an elevation approximately 11 feet above mean sea level (msl). The site is essentially flat; however' the general topography of the area slopes gently to the west. The surface sediments at the site are mapped as Holocene natural levee and basin deposits (Qhl and Qhb, OF 97-97, E.J. Helley and R.W. Graymer). The Natural Levee Deposits (Holocene) are described as "Loose, moderately to well-sorted sandy or clayey silt grading to sandy or silty clay. The Basin Deposits (Holocene) are described as "Very fine silty clay to clay deposits occupying flat-floored basins at the distal edge of alluvial fans adjacent to the bay mud (Qhbm)". The presence of gravels in several of the onsite soil borings indicate that stream channel deposits are also present.

Based on the soil borings advanced by AEI, the near surface sediments beneath the site can be divided into several water bearing zones which are separated by clay layers. Sediments immediately below the surface consist of black to gray brown to olive brown silty clay depths ranging from 7.5 to 10 feet bgs. No groundwater was encountered during drilling of this interval.

The surface clay is underlain by variable and somewhat discontinuous silty sand and clayey silt, which make up the Shallow Zone. The Shallow Zone extends from the base of the surface clay to depths ranging from 18 to 21 feet bgs. This zone has low to medium permeability. Groundwater is typically seen in the first permeable silt or sand encountered during drilling of this interval. Once encountered, groundwater level typically stabilizes at a depth of 5 feet bgs or less, indicating the zone is at least a semi-confined aquifer. Water is sometimes not seen while drilling through the some of the lower permeability portions of this unit, wells installed in these zones produce water

The shallow zone is underlain by several feet of moderately dry light olive brown to yellowish brown clay except in MW-7, which was drilled through the former tank hold. In MW-7, obviously contaminated and reduced dark greenish gray clay was encountered

At depths ranging from 18 ft (MW-9) to 21 feet (MW-8) bgs a second (intermediate) discontinuous water bearing zone (Intermediate Zone) is present. The Intermediate Zone consists of discontinuous gravel, clayey gravel, and silty sand, clayey sand, and clayey silt which are interbedded with clay layers. Permeability in the intermediate zone ranges from high (gravel) to poor (clayey silt).

The intermediate zone is separated from the lower permeable zone by a layer of brown silty clay that ranges in thickness of 2 to 7 feet.

A third water bearing zone (Deeper Zone) was encountered at a depth of approximately 27 to 28 feet bgs. The lower permeable zone is made up of clayey silt, clayey sand, clean sand and sandy gravel.

Figure 4 shows the locations of the two stratigraphic cross sections (Cross Section A-A', Figure 5 and Cross Section B-B', Figure 6), which show the current interpretation of the subsurface stratigraphy.



Historically, groundwater elevations in the groundwater monitoring wells MW-1 through MW-4 (shallow zone) have ranged from 5.07 feet (MW-1 7/30/99) below ground surface (bgs) to 8.08 (MW-1 2/32/01). Water levels measurements indicate a highly variable flow direction. Shallow zone historical flow directions and gradients are summarized in Table 5 and 5a.

On March 13, 2006, the average groundwater elevation in wells MW-1 through MW-6 (Shallow Zone) was 6.96 above msl. The shallow zone flow direction was to the northeast with a gradient of 0.0004 ft/ft.

On March 13, 2006, the average groundwater elevation in wells MW-7 through MW-10 (Deeper Zone) was 7.23 above msl, slightly higher (0.28 feet) than the average groundwater elevation in shallow zone wells. The Deeper Zone flow direction was to the south with a gradient of 0.036 ft/ft.

The nearest surface water body is Arroyo Creek, which is located on the northern property boundary, approximately 75 feet north of well MW-6.

## 4.0 MONITORING WELL INSTALLATION

One 2-inch diameter shallow zone well (MW-6) and four 2-inch diameter Deeper Zone wells (MW- 7 thru MW-10) were installed on the site. Prior to initiating drilling activities, well construction permits (permit numbers W2006-0091 through W2006-0095) were obtained from the Alameda County Public Works Agency (ACPWA). A copy of the drilling permit is attached in Appendix A. Following permit approval, drilling activities were scheduled and Underground Utility Services (USA North) was notified to locate possible underground utilities in the area.

On February 15 and February 16, 2006, AEI advanced five soil borings (MW-6 through MW-10) on the site, and completed the borings as groundwater monitoring wells. The Monitoring wells were drilled with a Marl 2.5 D drilling rig. Shallow zone well MW-6 and Deeper Zone wells MW-7 through MW-10, were drilled with nominal 8-inch diameter hollow stem augers. Well MW-7, which was located near boring SB-14 that had contained LNAPL in sandy gravel, was originally planned to have been completed as a 4-inch diameter well to allow its use as an extraction well. However, field examination of the lower zone sediments in MW-7 found no gravel and no evidence of LNAPL. The decision was made not to over drill the boring to 10 ½-inches and the MW-7 was installed as a 2-inch diameter monitoring well.

The boreholes were advanced to a total depths ranging from 14 to 33 bgs. The borings were continuously sampled through zones of interest using a California modified split spoon sampler advanced ahead of the auger bit. Soil samples were described by AEI personnel and logged using the Unified Soil Classification System and screened in the field using a photo ionization detector (PID)

Soil samples from MW-6 were collected essentially continuously (4.5 feet of each 5 feet drilled) from 5 feet bgs to the boring total depth (TD) 14 feet bgs. Soil samples from MW-7, which was drilled through the backfilled tank excavation, were collected essentially continuously from 17 feet



bgs to the boring TD of 33 feet bgs. Soil samples from wells MW-8 through MW-10 were sampled at depths of 5 feet and 10 feet bgs and essentially continuously from 15 feet bgs to the boring TD of 30 to 31 feet bgs. Field observations, sampling intervals and screening data is presented on the borings logs in Appendix B.

Sampling equipment, including sampling barrels and other equipment, were decontaminated between samples using a triple rinse system containing  $Alconox^{TM}$  or similar detergent. Rinse water was contained in sealed, labeled DOT approved 55-gallon drums in a secure location on-site pending proper disposal.

Selected soil samples were retained for possible laboratory analysis, were sealed with Teflon tape, plastic caps, and labeled with a unique identifier. The samples were then placed in a cooler filled with water ice, and transported under appropriate chain-of-custody documentation for analysis to McCampbell Analytical Inc., (DOHS Certification Number 1644) of Pacheco, California. Select soil samples were analyzed for TPHg by EPA method 8015 Modified, benzene, toluene, ethylbenzene, and xylenes (collectively referred to as BTEX), and MTBE by EPA method 8021B.

Following sampling activities, each borehole was converted into a monitoring well using 2-inch diameter schedule 40 PVC casing. Factory slotted 0.010-inch casing was selected to match the fine grain sizes (silt – clayey sand – fine sand) encountered in the lower zone.

The screen intervals, which were based on observed field conditions during drilling, were as follows:

- MW-6 Total Depth 14 feet, screened interval 4.0 14.0 feet
- MW-7 Total Depth 33 feet, screened interval 26.0 33.0 feet
- MW-8 Total Depth 33 feet, screened interval 26.0 31.0 feet
- MW-9 Total Depth 30 feet, screened interval 25.0 30.0 feet
- MW-10 Total depth 30 feet, screened interval 25.0 30.0 feet

An annular sand pack (consisting of clean #2/12 Monterey Sand) was installed through the augers to approximately 1 foot above the screened interval. Two feet of bentonite pellets were placed above the sand pack in all wells except MW-6, which has a one foot layer of pellets. The bentonite was hydrated with 5 gallons of clean tap water and the remainder of each boring was sealed with neat cement grout. A flush mounted traffic rated well box was installed over the casing, and an expanding, locking inner cap was placed on the casing top. The drilling and well installation work was performed under the ACPWA permit. DWR well registration forms (DWR Form 188) have been completed for each of the wells and were forwarded to the DWR. The construction details for wells MW-6 through MW-10 are included on Table 1 (Well Construction Details).

Cuttings generated during the drilling and well installation activities were stored on-site in 55-gallon drums, pending characterization and disposal.



# 5.0 WELL DEVELOPMENT AND SAMPLING

The newly installed monitoring wells were developed by surging, bailing, and purging the wells to remove accumulated fines from the casing and stabilize the sand pack on February 20, 2006. Each well was purged until the purge water was clear or until approximately ten well volumes had been purged.

On March 13, 2006, AEI measured the depth to groundwater in the existing and newly installed monitoring wells. The well caps were removed from each well and the wells were allowed to equilibrate with atmospheric pressure. The depth to groundwater was measured with an electric water level indicator, and each well was checked for free product using a bailer. On April 26, 2006 depth to water in all wells except MW-4 and MW-7 were re-measured for comparison.

A minimum of three well volumes was purged from wells MW-1 through MW-10 using a submersible pump. During purging activities, the groundwater parameters: temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured. A visual evaluation of turbidity was noted. Groundwater parameters measured in the field are reported on the field sampling forms included in Appendix C.

After recovery of water levels to at least 90% of the original level, water samples were collected from each well. Samples were collected using new, unused disposable plastic bailers. Samples were placed into 40 ml volatile organic analysis vials (VOAs) and 1-liter amber bottles. The VOAs were capped with zero headspace.

All samples were labeled with, at minimum, the project number, sample number, time, date, and sampler's name. The samples were then entered on an appropriate chain-of-custody form and placed on water ice in a pre-chilled cooler pending transportation to the laboratory. Samples were transported the same day collected on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (Department of Health Services Certification #1644).

Groundwater samples from ten (10) wells (MW-1 thru MW-4, TW-5 and MW-6 thru MW-10) were submitted for chemical analysis. These samples were analyzed for TPH as diesel (TPHd), TPHg, MTBE, and BTEX by method SW 8021B/8015Cm.

# 6.0 FIELD RESULTS

A hydrocarbon odor was detected in wells MW-1 through MW-9 and a hydrocarbon odor and sheen were noted in well MW-9. Shallow zone groundwater levels on March 13, 2006 ranged from 6.66 feet (MW-6) to 7.03 feet (MW-4) above mean sea level (amsl). These elevations are an average of 0.10 feet higher than at the time of the previous quarterly monitoring event. The groundwater gradient was 0.0004 ft/ft to the northwest. The depth to water in wells MW-1 thru MW-3, TW-5 and wells MW-7 thru MW-10 were gauged on April 26, 2006. Shallow zone groundwater levels measured on April 26, 2006 ranged from 6.46 feet (MW-6) to 6.59 feet (MW-



3) above mean sea level (amsl). These elevations are an average of 0.38 feet lower than on March 13, 2006. The groundwater gradient increased slightly to 0.0023 ft/ft to the northwest.

Deeper Zone groundwater levels on March 13, 2006 ranged from 6.90 feet (MW-9) to 7.80 feet (MW-7) amsl. The Deeper Zone groundwater gradient on March 13, 2006 was 0.036 ft/ft to the south. Deeper zone groundwater levels measured on April 26, 2006 ranged from 6.48 feet (MW-10) to 7.98 feet (MW-7) amsl. The Deeper Zone groundwater gradient was 0.063 ft/ft to the south.

Historically the gradient directions have been highly variable and have been toward all quadrants of the compass. Contaminant concentrations in well MW-2, located to the north of the former UST hold, have shown slow but consistent increases. This suggests that the net groundwater movement in the shallow aquifer is northward toward the creek channel, which runs along the northern border of the site.

On March 13, 2006, the groundwater conductivity in the Deeper Zone ranged from 1355 microsiemens/centimeter (mS/cm) (MW-9) to 1818 (MW-8) mS/cm with an average of 1598 mS/cm. The groundwater conductivity in the Shallow Zone ranged from 569 mS/cm (MW-1) to 1352 (MW-4) mS/cm. Conductivity in wells TW-5 and MW-6, with total depths of 14 feet or less and are completed only in the Shallow Zone have conductivities of 625 mS/cm and 728 mS/cm, significantly lower than the conductivity of Deeper Zone wells.

Groundwater elevation data are summarized in Table 2. The groundwater elevation contours and the groundwater flow direction for the Shallow and Deeper Zones are shown in Figures 7 and 8. Refer to Appendix C for the Groundwater Monitoring Well Field Sampling Forms.

## 7.0 SAMPLE ANALYTICAL RESULTS

#### 7.1 Soil Analytical Results

One or more soil samples were analyzed from each of the borings. The following soil samples were analyzed for TPH-g, TPH-d, TPH-mo, MTBE and BTEX. Petroleum hydrocarbons were detected in the soil as follows:

- MW6-10.5 TPH-d was reported at a concentration of 1.1 mg/kg, all other analytes were reported as ND at standard reporting limits.
- MW7-21.5 TPH-g, TPH-d, ethylbenzene and xylenes were reported at concentrations of 530 mg/kg, 1,500 mg/kg, 0.23 mg/kg, and 0.71 mg/kg, respectively. TPH-mo, MTBE, benzene, and toluene were reported as ND at reporting limits of 50 mg/kg, 2.0 mg/kg, 0.2 mg/kg, and 0.2 mg/kg, respectively.
- MW7-31 TPH-g, TPH-d, toluene, ethylbenzene, and xylenes were reported at concentrations of 4.0 mg/kg, 6.4 mg/kg, 0.0091 mg/kg, 0.0092 mg/kg and 0.0083 mg/kg,



respectively. TPH-mo, MTBE, and benzene were reported as ND at reporting limits of 5.0 mg/kg, 0.05 mg/kg, and 0.005 mg/kg, respectively.

- MW7-32 TPH-g, TPH-d, and BTEX were reported at concentrations of 15 mg/kg, 73mg/kg, 0.006 mg/kg, 0.026 mg/kg, 0.018 mg/kg and 0.023 mg/kg, respectively. TPH-mo and MTBE were reported as ND at reporting limits of 5.0 mg/kg, and 0.05 mg/kg, respectively.
- MW8-27 All analytes were reported as ND at standard reporting limits.
- MW9-29 All analytes were reported as ND at standard reporting limits.
- MW10-25 TPH-g, TPH-d, ethylbenzene and xylenes were reported at concentrations of 69 mg/kg, 290 mg/kg, 0.046 mg/kg, and 0.12 mg/kg, respectively. TPH-mo, MTBE, benzene, and toluene were reported as ND at reporting limits of 5.0 mg/kg, 0.05 mg/kg, 0.005 mg/kg, and 0.005 mg/kg, respectively.

#### 7.2 Groundwater Analytical Results

#### 7.2.1 Shallow Zone Wells

TPH-g and benzene concentrations in monitoring well MW-1 increased from 240  $\mu$ g/L to 840  $\mu$ g/L and from 93  $\mu$ g/L to 330  $\mu$ g/L, respectively. Toluene, ethylbenzene and xylenes also increased to detectable concentrations. The TPH-d concentration in MW-1 decreased to 260  $\mu$ g/L from 270  $\mu$ g/L, while TPH-mo remained at ND<250  $\mu$ g/L. MTBE was reported at ND<5.0 by method 8021B. Analysis by method 8260B reported MTBE, TBA and 1,2 DCA at concentrations of 0.89  $\mu$ g/L, 6.1  $\mu$ g/L, and 3.6  $\mu$ g/L, respectively.

The TPH-g and TPH-mo concentrations in well MW-2 remained the same at 3,400  $\mu$ g/L and ND<250  $\mu$ g/L, while TPH-d decreased from 1,700  $\mu$ g/L to 1,200  $\mu$ g/L. The benzene concentration increased from 18  $\mu$ g/L to 20  $\mu$ g/L, while toluene, ethylbenzene and xylenes concentrations decreased slightly. MTBE was reported by method 8260B at a concentration of 0.76  $\mu$ g/L.

TPH-g and TPH-d concentrations in monitoring well MW-3 increased from 740  $\mu$ g/L to 1,300  $\mu$ g/L and from 260  $\mu$ g/L to 380  $\mu$ g/L, respectively, while TPH-mo remained at ND<250  $\mu$ g/L. Benzene decreased slightly, toluene remained the same, while ethylbenzene and xylenes increased. MTBE was reported at ND<17 by method 8021B and at a concentration 1.1  $\mu$ g/L by method 8260B.

TPH-g, BTEX, and MTBE by methods 8021 and 8260 were reported ND at standard reporting limits, in well TW-5. TPH-d and TPH-mo decreased from 680  $\mu$ g/L to 180  $\mu$ g/L and from 550  $\mu$ g/L to 260  $\mu$ g/L, respectively.



TPH-g, TPH-d and TPH-mo were reported in well MW-6 at concentrations of 87  $\mu$ g/L, 160  $\mu$ g/L, and 310  $\mu$ g/L, respectively. Toluene, ethylbenzene and xylenes were reported in MW-6 at concentrations of 0.83  $\mu$ g/L, 1.2  $\mu$ g/L, and 0.8  $\mu$ g/L, respectively. MTBE was reported at as ND by both method 8021 and 8260.

## 7.2.2 Deeper Zone wells

TPH-g, TPH-d and TPH-mo were reported in well MW-7 at concentrations of 460  $\mu$ g/L, 3,500  $\mu$ g/L, and 360  $\mu$ g/L, respectively. BTEX was reported in MW-7 at concentrations of 2.5  $\mu$ g/L, 1.0  $\mu$ g/L, ND<0.5  $\mu$ g/L, and 3.3  $\mu$ g/L, respectively. MTBE was reported at as ND<5.0 and ND<0.5 by methods 8021 and 8260, respectively.

TPH-g, TPH-d and TPH-mo were reported in well MW-8 at concentrations of 280  $\mu$ g/L, 130  $\mu$ g/L, and ND<250  $\mu$ g/L, respectively. BTEX was reported in MW-8 at concentrations of ND<0.5  $\mu$ g/L, 2.0  $\mu$ g/L, ND<0.5  $\mu$ g/L, and 1.3  $\mu$ g/L, respectively. MTBE was reported at as ND<5.0 and ND<0.5 by methods 8021 and 8260, respectively.

TPH-g, TPH-d and TPH-mo were reported in well MW-9 at concentrations of 1,100  $\mu$ g/L, 14,000  $\mu$ g/L, and 4,100  $\mu$ g/L, respectively. BTEX was reported in MW-9 at concentrations of 85  $\mu$ g/L, 1.8  $\mu$ g/L, 0.64  $\mu$ g/L, and 100  $\mu$ g/L, respectively. MTBE was reported at as ND<0.5 and 2.4 by methods 8021 and 8260, respectively. Although not seen during drilling operations, the laboratory reported LNAPL in the MW-9 water sample.

TPH-g, TPH-d and TPH-mo were reported in well MW-10 at concentrations of ND<50  $\mu$ g/L, 220  $\mu$ g/L, and ND<250  $\mu$ g/L, respectively. BTEX was reported in MW-10 as ND<0.5  $\mu$ g/L. MTBE was reported at as ND<0.5 and 2.7  $\mu$ g/L by methods 8021 and 8260, respectively.

Laboratory results and chain of custody documents are included in Appendix D. The results of analyses on groundwater samples are summarized on Figure 11. Isopleth maps of TPH-g and TPH-d in the Shallow Zone are included as Figures 12 and 13. Isopleth maps of TPH-g and TPH-d in the Deeper Zone are included as Figures 14 and 15.

# 8.0 SITE/WELL SURVEY

On March 2, 2006, the well box and well casing elevations were surveyed by Morrow Surveying, West Sacramento, California; a California Registered Land Surveyor (LS No. LS 4650). Data from the survey was uploaded to the state GeoTracker database as required by Assembly Bill 592 and Senate Bill 1189. A copy of the well survey is included in Appendix E.

# 9.0 PREFERENTIAL PATHWAY AND WELL SURVEY

As part of current and past drilling operations AEI located sanitary sewer, storm drains, gas and water lines in the adjacent streets. A map showing the approximate locations of these lines is included in Appendix F, Preferential Pathway and Well Survey. The trenches for sanitary sewer,



storm drains and water mains, which may have trenches as deep as 10 feet bgs, do not appear to intersect the shallowest parts of the shallow zone. The area where the top of the shallow zone is above ten feet bgs is in the central portion of the site away from utility trenches. No deep utility trenched are located in this area.

AEI made copies of the State of California Department of Water Resources (DWR) well files at the DWR officesto locate potential vertical conduits in the area surrounding the subject site. Department of Water resources files contained records for 106 wells at 20 sites within a  $\frac{1}{2}$  mile radius of the subject site. The wells within  $\frac{1}{2}$  mile of the subject site are listed on the Well Survey Table and on Well survey plot located in Appendix F. The majority of these wells are shallow wells (less than 40 feet bgs), however deeper wells are located at Site # 1 – General Electric (71 feet bgs) located just under  $\frac{1}{2}$  to the northwest, site # 7 – the Oakland Coliseum (74 to 107 feet bgs) located approximately 1/3 mile to the west southwest, site # 8 – AeroQuality Plating/DHS (66.5 to 69.9 feet bgs) located approximately 800 feet to west southwest, and Site # 9 - American Brass & Foundry (510 feet bgs) located approximately  $\frac{1}{4}$  mile to the south.

Arroyo Creek, which appears to intersect the upper portion of the shallow zone, should be considered a potential sensitive receptor. The residential areas to the north of the site can be considered sensitive receptors, however their cross gradient and up gradient location makes it unlikely that these areas could be impacted by the subject site.

## **10.0 SUMMARY**

Soil and groundwater data from Shallow Zone indicate low levels of hydrocarbons are present as far north as well MW-6. Based on current and previously collected data, impact to the shallow zone is limited to the subject property. TPH-g is the predominant Shallow Zone contaminant.

High concentrations of Hydrocarbons are present in the Deeper Zone along a line between wells MW-10, previous boring SB-14, MW-7 and MW-9 where the Deeper Zone consists of sediments with good to moderate permeability. Hydrocarbons are present in significantly lower concentrations in the low permeability clay and siltstone penetrated in MW-8 to the north. Only TPH-g was present at detectable concentrations in well MW-10 to the south. TPH-d is the predominant contaminant in the Deeper Zone

Shallow Zone gradients typically from 0.001 to 0.006, although occasionally have been an order of magnitude higher or lower. It is assumed that the highly variable direction of the groundwater flow in the Shallow Zone is in part due to interaction with water levels in the immediately adjacent creek. However, no regular changes in direction are apparent that would seem to suggest fluctuations due to tides, annual fluctuations in rainfall and/or stream levels. The low gradient combined with measurement accuracy of  $\pm$  0.01 ft could in some cases result in significant changes in apparent flow direction. Another source of the flow direction fluctuations may be the difficulty fitting all the Shallow Zone wells to a relatively simple surface. Typically data from at least one well is dropped to produce a simple surface. The highly variable lithology and



permeability with resultant variability in capillary fringe thickness can also be expected to produce a variable and complex groundwater surface.

Recent increases in contaminant concentrations in well MW-2 suggest a net flow of groundwater in the Shallow Zone to the north away from the former tank hold.

The groundwater gradient in the Deeper Zone appears anomalously steep for flat lying bay margin sediments. Monitoring wells MW-7 and MW-8 had elevation within a 0.01 to 0.02 feet range of each other. Well MW-9 and MW-10 have groundwater elevations over a foot lower that fall within a range of 0.10 to 0.13 feet of each other. Wells MW-7 and MW-8 are completed in relatively low permeability sediments while wells MW-9 and MW-10 are completed in relatively high permeability sediments. The groundwater elevation in the Deeper Zone in March and April, 2006 is 15 feet higher than was measured in boring SB-14 (October 10, 2003) towards the end of the 2003 dry season.

Groundwater parameters differ slightly between the Shallow zone and Deeper Zones which suggests the two zones are separate aquifers. Groundwater conductivity in deeper zone wells ranges from 1355 micro-siemens/centimeter ( $\mu$ S/cm) to 1818  $\mu$ S/cm. Shallow well MW-6 and backfill well TW-5 have groundwater conductivities of 728  $\mu$ S/cm and 625  $\mu$ S/cm, respectively. Wells MW-1 thru MW-4, which may be completed in both the Shallow Zone and upper portion of the low permeability Intermediate Zone have conductivities that range from 565  $\mu$ S/cm (MW-1) to 1352  $\mu$ S/cm (MW-3). Groundwater temperatures in the deeper wells range from 18 to 19 degrees Celsius, while Shallow Zone wells range from 15 degrees Celsius (TW-5) to 17 degrees Celsius, except for MW-4 which has a temperature of over 18 degrees Celsius.

The variability of groundwater parameters in the wells MW-1 thru MW-4 which fall into the range of values seen in wells 14 feet or less (TW-5 and MW-6) and Deeper Zone wells suggest groundwater in these wells represents varying contributions of water from the Shallow and Intermediate Zones.

The distribution and lateral limits of hydrocarbons (primarily TPH-g) in the Shallow Zone appears to have been established to a reasonable extent by earlier soil borings and existing monitoring wells. However, current data indicates a significant amount of hydrocarbon contamination still remains in the clay underlying the former tank hold (MW-7). This contaminated soil continues to act as a continuing source for groundwater contamination. This hydrocarbon residual is the probable source for the increasing contaminant concentrations seen in well MW-2.

The lateral extent of hydrocarbons (primarily TPH-d) in the Deeper Zone have been established to the south (MW-10) and hydrocarbon concentrations in well MW-8 suggest significant hydrocarbon impact does not extent much farther to the north. However, LNAPL has been encountered in permeable sediments in both boring SB-14 and well MW-9 and the lateral extent of impacted groundwater contamination has not been established to the east of boring SB-14 and west of MW-9.

As shown on cross sections A-A' and B-B,' the lithology underlying the site is variable and moderately discontinuous. As a consequence the resulting variability in permeability/ transmissivity can be expected to render aggressive approaches to remediation such pump and treat, combined soil vapor extraction/air sparging difficult and with the attendant high capitol costs, not particularly cost effective. The currently available data suggests insitu chemical oxidation (ISCO) which involves injection of chemical oxidants such as permanganate, hydrogen peroxide, ozone or oxygen resulting in physical and molecular level diffusion of oxygen/oxidants through out the sediments may be more cost effective.

#### **11.0 RECOMMENDATIONS**

In light of the presence of LNAPL in the Deeper Zone, AEI recommends the following;

- Next groundwater monitoring event in June 2006 with analyses for TPH-g/d/mo, BTEX and fuel oxygenates
- Install two additional Deeper Zone wells, one at the property east of boring SB-14 and one at the property line west of well MW-9.
- Complete these wells with 4-inch diameter casing if the Deeper Zone is a permeable sand or gravel, or as 2-inch diameter casing if low permeability sediments such as clayey silt is encountered.
- Based on existing information, AEI recommends remediation by ozone sparging in both the Deeper and Shallow Zones. This approach is relatively low cost, both in capital and O&M, and can be expected to readily degrade residual TPH (TPH-g, TPH-d and TPH-mo) and residual VOCs. Based on AEI's experience closure levels may be obtained in 12 to 18 months from startup.

#### 12.0 REPORT LIMITATIONS AND SIGNATURES

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

These services were performed in accordance with generally accepted practices in the environmental engineering and construction field that existed at the time and location of the work. AEI requests comment and concurrence with this plan. If you have any questions regarding this report, we can be reached at (925) 944-2899.

Sincerely, **AEI** Consultants No. 5825 Robert F. Elory Project Manage Peter J. McIntvre, PG Senior Project Manager

**Report Distribution:** 

Mr. Allan Kanady Omega Termite Control, Inc. 807 75<sup>th</sup> Avenue Oakland, California

Alameda County Environmental Health Services (ACEHS) Attn: Mr. Jerry Wickham 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

GeoTracker



As shown on cross sections A-A' and B-B,' the lithology underlying the site is variable and moderately discontinuous. As a consequence the resulting variability in permeability/ transmissivity can be expected to render aggressive approaches to remediation such pump and treat, combined soil vapor extraction/air sparging difficult and with the attendant high capitol costs, not particularly cost effective. The currently available data suggests insitu chemical oxidation (ISCO) which involves injection of chemical oxidants such as permanganate, hydrogen peroxide, ozone or oxygen resulting in physical and molecular level diffusion of oxygen/oxidants through out the sediments may be more cost effective.

#### **11.0 RECOMMENDATIONS**

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- Based on existing information, AEI recommends remediation by ozone sparging in both the Deeper and Shallow Zones. This approach is relatively low cost, both in capital and O&M, and can be expected to readily degrade residual TPH (TPH-g, TPH-d and TPH-mo) and residual VOCs. Based on AEI's experience closure levels may be obtained in 12 to 18 months from startup.

**FIGURES** 

































TABLES

# Table 1:Monitoring Well Construction DetailsOmega Termite, 807 75th Ave., Oakland, CA

Well ID	Date Installed	Box Elevation (feet)	Top of Casing (feet)	Water Depth (3/11/06)	Casing Material	Total Depth (feet)	Well Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (feet)	Slot Size (inches)	Filter Pack Interval (feet)	Filter Pack Material (feet)	Bentonite Seal (feet)	Grout Seal (feet)
MW-1	06/25/99	11.28	10.68	3.76	PVC	20	20	8 1/4	2	20.0-5.0	0.020	20.0-3.5	#3 sand	3.5-2.5	2.5-0.5
MW-2	06/25/99	12.55	12.15	5.24	PVC	20	20	8 1/4	2	20.0-5.0	0.020	20.0-3.5	#3 sand	3.5-2.5	2.5-0.5
MW-3	06/25/99	10.67	10.40	3.47	PVC	20	20	8 1/4	2	20.0-5.0	0.020	20.0-3.5	#3 sand	3.5-2.5	2.5-0.5
MW-4	06/25/99	10.56	10.31	3.28	PVC	20	20	8 1/4	2	20.0-5.0	0.020	20.0-3.5	#3 sand	3.5-2.5	2.5-0.5
TW-5	March 2000	11.69	11.58	4.51	PVC	10	10	NA	4	10.0-5.0	1/4" drilled	NA	NA	NA	2.0-0.5
MW-6	02/15/06	12.74	12.35	5.39	PVC	14	14	8 1/4	2	14.0-5.0	0.010	14.0-4.5	# 2/12	4.5-3.5	3.5-0.5
MW-7	02/16/06	11.64	11.16	3.36	PVC	33	33	8 1/4	2	33.0-26.0	0.010	33.0-25.0	# 2/12	25.0-23.0	23.0-0.5
MW-8	02/15/06	12.57	12.42	4.64	PVC	31	31	8 1/4	2	31.0-26.0	0.010	31.0-25.0	# 2/12	25.0-23.0	23.0-0.5
MW-9	02/16/06	11.41	11.22	4.32	PVC	30	30	8 1/4	2	30.0-25.0	0.010	30.0-24.0	# 2/12	24.0-22.0	22.0-0.5
MW-10	02/15/06	10.60	10.31	3.28	PVC	30	30	8 1/4	2	30.0-25.0	0.010	30.0-24.0	# 2/12	24.0-22.0	22.0-0.5
Omega Termite, 807 - 75th Street, Oakland, CA															
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Sample ID	Date	TPHg	TPHd	TPHmo	MTBE	Benzene	Toluene	Ethyl- benzene	Xylenes	TotaL Lead					
			Method 8015				Method 8021E	5							
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
MW6-10.5	2/15/06	ND<1.0	1.1	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005						
MW7-21.5	2/16/06	350	1,500	ND<50	ND<2.0	ND<0.2	ND<0.2	0.23	0.71						
MW7-31	2/16/06	4.0	6.4	ND<5.0	ND<0.05	ND<0.005	0.0091	0.0092	0.0083						
MW7-32	2/16/06	15	73	ND<5.0	ND<0.05	0.0060	0.026	0.018	0.023						
MW8-27	2/15/06	ND<1.0	ND<1.0	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005						
MW9-29	2/16/06	ND<1.0	ND<1.0	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005						
MW10-25	2/15/06	69	290	ND<5.0	ND<0.05	ND<0.005	ND<0.005	0.046	0.12						
SB7-10	10/09/03	ND<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005						
SB8-15	10/09/03	ND<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005						
SB9-15	10/09/03	ND<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005						
SB10-15	10/09/03	ND<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005						
SB11-15	10/09/03	ND<1.0	ND<1.0		ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005						
SB12-15	10/10/03	ND<1.0	ND<1.0	ND <5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005						
SB13-14	10/10/03	ND<1.0			ND<0.05	0.049	ND<0.005	0.014	0.019						
SB14-4.5	10/10/03	360	130	ND <5.0	ND<2.5	1.4	1.5	8.0	37						
SB14-9.5	10/10/03	800	240	8.2	ND<2.0	2.9	3.5	16	71						
SB14-28.0	10/10/03	37	45	ND <5.0	ND<0.05	ND<0.005	ND<0.005	0.015	0.11						
AEI SW South 8'	3/20/00	290			ND<0.5	0.84	2.0	6.3	1.3	9.1					
AEI SW North 8'	3/20/00	1.8			ND<0.05	ND<0.005	ND<0.005	0.007	0.008	7.3					
AEI SW East 8'	3/20/00	1800			ND<5.0	12	65	32	160	7.4					
AEI EB 7'	3/20/00	560	220	100	ND<1.0	0.59	4.9	7.3	40	7.5					
AEI EB West 11.5'	3/20/00	280			ND<0.21	2.7	6.6	5.2	23	5.9					

Table 2

Historical soil data

	C									
Sample ID	Date	TPHg	TPHd	TPHmo	МТВЕ	Benzene	Toluene	Ethyl- benzene	Xylenes	TotaL Lead
		Method 8015					Method 8021E	6		
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MW-1 10'	6/25/99	<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005	6.4
MW-1 15'	6/25/99	3.4			ND<0.05	0.092	0.022	0.054	0.14	4.8
MW-2 10'	6/25/99	420			<2	ND<0.1	2.7	4.8	8.2	6.6
MW-2 15'	6/25/99	<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005	6.9
MW-3 10'	6/25/99	14			ND<0.05	0.3	0.091	0.29	0.28	6.6
MW-3 15'	6/25/99	<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005	8.5
MW-4 10'	6/25/99	3.6			ND<0.05	0.71	ND<0.005	0.19	ND<0.005	6.6
MW-4 15'	6/25/99	<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005	8.5
BH-1 10'	1/31/97	4.1			ND<5.0	0.078	0.009	0.11	0.17	5.6
BH-2 10'	1/31/97	23			0.13	0.46	0.05	0.089	0.061	7.7
BH-3 10'	1/31/97	280			1.8	3.2	3.0	3.8	12	6.6
BH-4 10'	1/31/97	4.6			ND<5.0	0.03	0.025	0.36	0.46	7.8
BH-5 10'	1/31/97	800			5.0	4.3	23	15	65	6.7
BH-6 10'	1/31/97	110			0.53	3.0	0.25	0.95	0.53	5.6
8KEW (10')	9/15/96	64			0.16	1.8	1.2	1.4	2.9	11
8KWW (10')	9/15/96	2600			25	2.8	15	37	120	24
8KNWW (10')	9/15/96	360			2.5	2.5	0.83	8.5	2.4	110
1KE (9')	9/15/96	41			ND<0.1	0.077	0.99	0.86	4.7	8.5
K (9')	9/15/96	4300			ND<10	13	83	71	310	9.8

Historical soil data Omega Termite, 807 - 75th Street, Oakland, CA

TPHg Total petroleum hydrocarbons as gasoline

TPHd Total petroleum hydrocarbons as diesel

TPHmo Total petroleum hydrocarbons as motor oil

MTBE methyl tert-butyl ether

Table 2

--- Sample not analyzed by this method

Sample	Date	TPHg	TPHd	TPHmo	MTBE	Benzene	Toluene	Ethyl-	Xylenes	TotaL
ID								benzene		Lead
			Method 8015				Method 8021E			
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MW-1 10'	6/25/99	<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005	6.4
MW-1 15'	6/25/99	3.4			ND<0.05	0.092	0.022	0.054	0.14	4.8
MW-2 10'	6/25/99	420			<2	ND<0.1	2.7	4.8	8.2	6.6
MW-2 15'	6/25/99	<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005	6.9
MW-3 10'	6/25/99	14			ND<0.05	0.3	0.091	0.29	0.28	6.6
MW-3 15'	6/25/99	<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005	8.5
MW-4 10'	6/25/99	3.6			ND<0.05	0.71	ND<0.005	0.19	ND<0.005	6.6
MW-4 15'	6/25/99	<1.0			ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005	8.5
BH-1 10'	1/31/97	4.1			ND<5.0	0.078	0.009	0.11	0.17	5.6
BH-2 10'	1/31/97	23			0.13	0.46	0.05	0.089	0.061	7.7
BH-3 10'	1/31/97	280			1.8	3.2	3.0	3.8	12	6.6
BH-4 10'	1/31/97	4.6			ND<5.0	0.03	0.025	0.36	0.46	7.8
BH-5 10'	1/31/97	800			5.0	4.3	23	15	65	6.7
BH-6 10'	1/31/97	110			0.53	3.0	0.25	0.95	0.53	5.6
8KFW (10')	9/15/96	64			0.16	1.8	12	14	29	11
8KWW(10)	9/15/96	2600			25	2.8	1.2	37	120	24
$\frac{10}{8}$	9/15/96	360			25	2.6	0.83	85	24	110
1 K E (0')	0/15/06				2.5 ND<0.1	0.077	0.05	0.5	2. <del>7</del> 17	85
$\frac{1 \text{ KE} (9)}{V (0!)}$	9/15/90	4200			MD < 10	12	0.22	71	<del>4</del> ./	0.5
<b>N</b> (9)	9/13/90	4300			ND~10	15	00	/ 1	510	9.0

#### Omega Termite, 807 - 75th Street, Oakland, CA

TPHg Total petroleum hydrocarbons as gasoline

TPHd Total petroleum hydrocarbons as diesel

TPHmo Total petroleum hydrocarbons as motor oil

MTBE methyl tert-butyl ether

Table 2Historical soil data

--- Sample not analyzed by this method

Sample ID	Sample	Depth to	TPH-g	TPH-d	TPH-mo	MTBE <sup>1</sup>	MTBE	Benzene	Toluene	Ethyl	Xvlenes
1	Date	Water	8							benzene	J
			EPA	Method	8015	8260B		EPA	Method 80	21B	
			(µg/L)	(µg/L)	(µg/L)		(µg/L)	(µg/L)	$(\mu g/L)$	(µg/L)	(µg/L)
MW-1	07/30/99	5.82	2.700				ND<10	920	5.5	18	130
	11/09/99	5.70	1.800				ND<20	430	1.5	26	60
	02/23/00	2.84	3.800				ND<10	1.500	56	-s 78	35
	05/26/00	5.50	7.100				ND<10	2.800	70	220	81
	10/10/00	5.70	980				ND<5.0	260	2.9	10	11
	02/07/01	5.25	570				ND<5.0	150	1.8	4.9	9.3
	05/25/01	5.25	18.000				ND<100	3.800	350	550	620
	09/19/01	5.51	840				ND<5.0	190	4.0	4.6	5.3
	05/17/02	5.30	13.000	920			ND<5.0	4.500	29	50	58
	08/20/02	5.39	2.100	740	ND<5.000		ND<15	820	4.5	6.4	9.6
	01/10/03	4.11	95	260	ND<5.000		ND<5.0	23	0.66	3.9	6.5
	04/14/03	4.85	340	310			ND<5.0	<u>-</u> 2 87	1.3	4.3	5.6
	07/14/03	5.08	750	700			ND<10	420	0.84	3.7	6.0
	10/14/03	5.63	200	930	460.0		ND<5.0	62	0.83	2.2	2.7
	01/13/04	4.53	510	440	ND<250		ND<5.0	190	1.7	11	18.0
	04/15/04	5.14	740	490	ND<250		ND<10	240	ND<0.5	5.0	9.6
	07/15/04	5.42	250	420	260		ND<5.0	78	ND<0.5	5.0	4.4
	10/18/04	5.42	170	510	290		ND<5.0	33	0.75	1.7	3.5
	01/25/05	4.47	240	390	ND<250		ND<5.0	86	0.82	1.3	3.0
	04/19/05	4.66	5.100	460	ND<250		ND<50	2.100	5.2	13	84
	07/18/05	4.91	3.300	700	350		ND<45	1.500	2.8	13	24
	10/18/05	5.24	560	550	330		ND<5.0	190	ND<0.5	3.0	8.6
	01/11/06	4.08	240	270	ND<250		ND<5.0	93	ND<0.5	1.3	3.4
	03/13/06	3.76	840	260	ND<250	0.89	ND<5.0	330	1.3	5.1	17
MW_2	07/30/00	6.64	1 200				ND<10	20	2.5	51	100
141 44 -2	11/00/00	6.42	1,200				ND < 30	29	2.5	55	32
	02/23/00	3 31	5,000				ND < 10	20	1.1	300	32 440
	05/26/00	634	2 700				ND < 10	200 69	13	83	68
	10/10/00	6.52	2,700 810				ND < 10	17	47	42	46
	$\frac{10}{10}$	5.90	2 600				ND < 10	70	15	80	100
	05/25/01	6.08	2,000 2,400				ND < 5.0	70	15	85	100
	09/19/01	6.53	1 200				ND < 5.0	10	85	46	55
	02/06/02	5.72	1,200				ND < 50	10	11	58	59
	05/17/02	6.17	2 000	860			8 1	19	11	0.75	88
	01/10/03	5.12	2,000	910	ND<5000		ND<50	11	1.1	96	100
	04/14/03	4 98	2,000 2,400	800	-		ND<10	16	10	100	73
	07/14/03	5 99	1 900	970	-		ND<15	18	48	79	78
	10/14/03	6.43	1,600	1.300	ND<250		ND<10	14	5.9	87	78
	01/13/04	5.72	2,900	960	ND<250		ND<50	26	13	190	150
	04/15/04	6.02	2,700	1,100	ND<250		ND<15	28	11	120	100
	07/15/04	5.27	2.300	1,000	ND<250		ND<10	8.8	3.8	96	84
	10/18/04	5.27	2,400	910	ND<250		ND<10	8.6	8.9	68	72
	01/25/05	5.41	3,500	1,200	ND<250		ND<50	21	11	170	120
	04/19/05	5.61	3,400	1,700	ND<250		ND<15	15	7.4	150	94

# Table 3:Historical Groundwater Sample Analytical Data<br/>Omega Termite, 807 75th Ave., Oakland, CA

Sample ID	Sample	Depth to	TPH-g	TPH-d	TPH-mo	MTBE <sup>1</sup>	MTBE	Benzene	Toluene	Ethvl	Xvlenes
I.	Date	Water	8		_					benzene	J
	2		EPA	Method	8015	8260B		EPA Method 8021B			
		-	(ug/L)	(ug/L)	(ug/L)		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
		I I									(i C /
MW-2	07/18/05	5.84	3,400	1,400	ND<250		ND<5.0	11	9.7	100	89
continued	10/18/05	6.17	3,000	2,000	270		ND<5.0	8.4	6.7	88	86
	01/11/06	5.11	3,400	1,700	ND<250		ND<90	18	9.4	170	87
	03/13/06	5.24	3,400	1,200	ND<250	0.76	ND<50	20	9.4	110	80
NAXY 2	07/20/00	5 2 5	2 700				ND <10	220	15	120	220
IVI VV-3	0//30/99	5.55	2,700				ND<10	220	13	150	230
	11/09/99	3.11 2.27	5,100				15 ND<15	440	0.0	130	90 70
	02/25/00	2.57	1,800				ND<13	140	11	62 60	(2)
	10/10/00	4.98	1,000				0.4 ND<10	140	10	69	05 51
	10/10/00	5.24	1,100				ND<10	110	4.4	03	51
	02/07/01	4.75	1,100				ND < 10	130	5.1	08	05
	05/25/01	4./3	1,200				ND<6.0	120	5.4	69	64 27
	09/19/01	5.07	800				<5.0	/8	3.5	52	3/
	02/06/02	4.69	1,100				ND<10	130	4./	1/	/1
	05/1//02	4.80	2,800	810		2.0	ND<50	410	23	160	210
	08/20/02	4.97	780	270	ND<5000 <sup>-</sup>		ND<10	110	2.8	63	41
	01/10/03	3.59	1,100	510	ND<5000 <sup>-</sup>		ND<20	160	3.4	98	84
	04/14/03	5.40	690	230	-		ND<5.0	60	2.3	44	34
	07/14/03	4.69	900	380	-		ND<5.0	130	2.0	70	43
	10/14/03	5.16	500	200	ND<250		ND<10	50	2.3	37	18
	01/13/04	4.15	1,500	400	ND<250		ND<30	200	6.2	120	88
	04/15/04	4.73	1,100	280	ND<250		ND<15	130	3.7	75	53
	07/15/04	5.03	610	240	ND<250		ND<5.0	73	2.1	51	29
	10/18/04	5.03	370	270	ND<250		ND<5.0	45	1.2	47	28
	01/25/05	4.13	840	300	ND<250		ND<5.0	85	2.4	68	45
	04/19/05	4.23	1,100	380	ND<250		ND<5.0	140	4.0	95	59
	07/18/05	4.66	740	290	ND<250		ND<5.0	98	2.0	70	35
	10/18/05	4.82	420	220	ND<250		ND<5.0	38	1.1	35	16
	01/11/06	3.73	740	260	ND<250		ND<5.0	75	2.5	60	32
	03/13/06	3.76	1,300	380	ND<250	1.1	ND<17	90	2.5	87	72
MW-4	07/30/99	5.45	340				ND<10	57	2.2	8.5	6.8
	11/09/99	5.31	1.000				ND<10	220	< 0.5	17	7.1
	02/23/00	2.72	980				ND<5.0	260	7	33	27
	05/26/00	5.07	760				5.7	170	4.8	22	13
	10/10/00	5.32	520				ND<10	130	2.3	22	10
	02/07/01	4.73	680				ND<8.0	180	3.7	29	21
	05/25/01	4.90	1.700				ND<10	510	9.6	44	46
	09/19/01	5.16	680				ND<10	200	2.6	33	12
	02/06/02	4.65	710				ND<15	220	2.8	40	21
	05/17/02	4.90	1.300	190		3.3	ND<10	330	5.6	61	51
	08/20/02	5.02	580	120	ND<5.000		ND<5.0	160	17	34	13
	01/10/03	3 78	800	85	ND<5.000		ND<20	240	2.5	46	28
	04/14/03	4.11	850	120			ND<10	220	2.7	47	26
	07/14/03	4 75	780	170			ND<20	220	14	44	23
	10/14/03	5.25	420	110	ND<250		ND<5.0	120	0.95	31	8.2

# Table 3:Historical Groundwater Sample Analytical Data<br/>Omega Termite, 807 75th Ave., Oakland, CA

Sample ID	Sample	Depth to	TPH-g	TPH-d	TPH-mo	MTBE <sup>1</sup>	MTBE	Benzene	Toluene	Ethyl	Xylenes
I.	Date	Water	8			MIDL				benzene	<b>J</b>
			EP	4 Method 8	8015	8260B		EPA	Method 80	21B	
			$(\mu g/L)$	(µg/L)	$(\mu g/L)$		$(\mu g/L)$	$(\mu g/L)$	$(\mu g/L)$	(µg/L)	$(\mu g/L)$
MW-4	01/13/04	4.07	120	69	ND<250		ND<10	30	0.52	8.1	4.7
continued	04/15/04	4.70	660	120	ND<250		ND<25	200	2.2	39	24
	07/15/04	5.09	500	92	ND<250		ND<5.0	130	1.3	35	15
	10/18/04	5.09	350	18	ND<250		ND<5.0	76	0.68	22	4.9
	01/25/05	4.02	580	110	ND<250		ND<5.0	140	1.2	37	20
	04/19/05	4.17	790	130	ND<250		ND<5.0	200	1.7	51	28
	07/18/05	4.49	490	140	ND<250		ND<5.0	140	0.99	36	11
	10/18/05	4.83	320	84	ND<250		ND<5.0	72	0.59	20	4.4
	01/11/06	3.58	310	98	ND<250		ND<5.0	88	0.65	26	9.0
	03/13/06	3.58	490	77	ND<250	1.9	ND<5.0	92	0.88	31	15
<b>TW-5</b>	10/10/00		5,800	2,900	ND<250		ND<50	650	60	190	230
	02/07/01		720	650	450		ND<5.0	6.0	4.5	3.2	4.5
	05/25/01		370	420	ND<250		ND<5.0	13.0	4.1	1.6	1.3
	09/19/01	6.59	15,000	2,700,000	1,100,000		530	29	2.7	14	240
	02/06/02		280	55,000	18,000		ND<5.0	2.3	0.74	ND<0.5	0.70
	05/17/02	6.56	480	41,000		ND<5.0	ND<5.0	1.6	1.1	0.8	ND<0.5
	08/20/02	6.62	240	21,000	ND<5,000		ND<5.0	8.0	1.2	1.1	0.54
	01/10/03	4.66	ND<50	1,300	ND<5,000		ND<5.0	5.4	0.58	ND<0.5	1.10
	4/14/2003	5.30	160	2,300			ND<5.0	18	5.7	5.9	16
	7/14/2003	5.84	100	16,000			ND<5.0	1.2	0.77	0.63	1.2
	10/14/03	6.08	120	10,000	4.600		ND<5.0	1.6	1.6	ND<0.5	1.2
	01/13/04	4.83	110	2.100	1.400		ND<5.0	8.4	1.2	ND<0.5	3.9
	04/15/04	5.64	170	2.200	1.100		ND<5.0	2.5	1.2	ND<0.5	5.1
	07/15/04	5.89	81	3.000	1.600		ND<5.0	5	1.3	0.85	4.1
	10/18/04	5.89	230	3.700	1.600		ND<5.0	0.54	3.4	ND<0.5	0.93
	01/25/05	5.13	63	750	640		ND<5.0	ND<0.5	0.78	ND<0.5	1.3
	04/19/05	5.27	ND<50	1,100	660		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	07/18/05	5.76	ND<50	770	490		ND<5.0	ND<0.5	0.88	ND<0.5	ND<0.5
	10/18/05	6.04	78	1.600	1.100		ND<5.0	ND<0.5	1.6	ND<0.5	ND<0.5
	01/11/06	4 72	ND<50	680	550	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	03/13/06	4.51	ND<50	180	260	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-6	03/13/06	5.69	87	160	310	ND<0.5	ND<5.0	ND<0.5	0.83	1.3	0.80
MW 7	02/12/06	2 26	160	2 500	260	ND-0 5	ND~5 0	25	1.0	ND-0 5	2.2
1 <b>V1 VV - /</b>	03/13/00	3.30	400	3,300	300	11D-0.5	11D~3.0	2.3	1.0	11D-0.5	3.3
MW-8	03/13/06	4.64	280	130	ND<250	ND<0.5	ND<5.0	ND<0.5	2.0	ND<0.5	1.3
MW-9	03/13/06	4.32	1,100	14,000 <sup>2</sup>	4,100	2.4	ND<5.0	85	1.8	0.64	100
<b>MW-10</b>	03/13/06	3.28	ND<50	220	ND<250	2.7	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5

# Table 3:Historical Groundwater Sample Analytical Data<br/>Omega Termite, 807 75th Ave., Oakland, CA

## Table 3:Historical Groundwater Sample Analytical DataOmega Termite, 807 75th Ave., Oakland, CA

Sample ID	Sample	Depth to	TPH-g	TPH-d	TPH-mo	MTBE <sup>1</sup>	MTBE	Benzene	Toluene	Ethyl	Xylenes
	Date	Water								benzene	
			EPA	EPA Method 8015		8260B		EPA Method 8021B			
			$(\mu g/L)$	$(\mu g/L)$	(µg/L)		(µg/L)	$(\mu g/L)$	$(\mu g/L)$	(µg/L)	$(\mu g/L)$
SB7-W-15	10/09/03		ND <50				ND <5.0	ND <0.5	ND <0.5	ND <0.5	ND <0.5
SB8-W-20	10/09/03		1,700				8.3	940	2.7	0.58	2.2
SB9-W-20	10/09/03		ND <50				ND <5.0	ND <0.5	ND < 0.5	ND <0.5	ND <0.5
SB10-W-15	10/09/03		ND <50				ND <5.0	ND <0.5	ND < 0.5	ND <0.5	ND <0.5
SB11-W-15	10/09/03		ND <50				ND <5.0	ND <0.5	ND < 0.5	ND <0.5	ND <0.5
SB12-W-15	10/09/03		ND <50	150	320		ND <5.0	ND <0.5	ND < 0.5	ND <0.5	ND <0.5
SB13-W-20	10/10/03		89				ND <5.0	27	0.53	2.4	6.2
SB14-W-30	10/10/03		2,300	72,000	ND <5000		45	120	7.8	35	100
GW	9/15/96			4,800			<130	4,100	3,500	21,000	6,400
BH-1	1/31/97			13,000			<60	770	67	530	1,800
BH-4	1/31/97			25,000			<50	1,300	110	1,200	2,400
BH-6	1/31/97			27,000			230	5,000	410	1,100	2,400

#### Notes

1 = See Table 5 for complete fuel additive fuel additive data

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

TPH-mo = total petroleum hydrocarbons as motor oil

2 =light non aqueous phase liquid

 $\mu g/L =$  micrograms per liter (parts per billion) ----- not sampled

ND = not detected

Sample	Sample	TAME	TBA	EDB	1,2-DCA	DIPE	ETBE	MTBE				
ID	Collection		EPA method 8260									
	Date	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l				
MW-1	3/13/2006	ND<0.5	6.1	ND<0.5	3.6	ND<0.5	ND<0.5	0.89				
MW-2	3/13/2006	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.76				
MW-3	3/13/2006	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.1				
MW-4	3/13/2006	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.9				
TW-5	3/13/2006	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5				
MW-6	3/13/2006	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5				
MW-7	3/13/2006	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5				
MW-8	3/13/2006	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5				
MW-9	3/13/2006	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.4				
MW-10	3/13/2006	ND<0.5	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.7				

## Table 4:Groundwater Analytical Data - Fuel OxygenatesOmega Termite, 807 75th Ave., Oakland, CA

TAME = tert-Amyl methyl ether

TBA = tert-Butyl alchohol

EDB = 1,2-Dibromoethane

1,2-DCA = 1,2-Dichloroethane

 $DIPE = Diisopropyl \ ether$ 

ETBE = Ethyl tert-butyl ether

MTBE = methyl tert-butyl ether mg/l = micrograms per liter (ppb)

Well ID	Date	Well Elevation *	Depth to Water	Groundwater Elevation	Elevation Change
		(ft amsl)	(ft)	(ft amsl)	(ft)
	07/30/00	10.68	5.82	186	
141 44 -1	11/09/99	10.08	5.82	4.80	0.12
	02/23/00	10.08	2.84	7.84	2.86
	05/26/00	10.08	5 50	7.8 <del>4</del> 5.18	2.60
	10/10/00	10.08	5.30	2.18 4 98	-0.20
	02/07/01	10.68	5.70	5.43	0.45
	05/25/01	10.68	5.25	5 43	0.45
	09/19/01	10.68	5.25	5.17	-0.26
	02/06/02	10.68	NM	NM	NM
	05/17/02	10.68	5 30	5 38	
	08/20/02	10.68	5 39	5.29	-0.09
	01/10/03	10.68	4 11	6.57	1.28
	04/14/03	10.68	4 85	5.83	-0.74
	07/14/03	10.68	5.08	5.60	-0.23
	10/14/03	10.68	5.63	5.00	-0.55
	01/13/04	10.68	4 53	6.15	1 10
	04/15/04	10.68	5.14	5 54	-0.61
	07/15/04	10.68	5.42	5.26	-0.28
	10/18/04	10.68	5.12	5 44	0.18
	01/25/05	10.68	4 47	6.21	0.77
	04/19/05	10.68	4 66	6.02	-0.19
	07/18/05	10.68	4 91	5.77	-0.25
	10/18/05	10.68	5 24	5 44	-0.33
	11/03/05	10.68	5 31	5 37	-0.07
	01/11/06	10.68	4.08	6.60	1.23
	03/13/06	10.68	3.76	6.92	0.32
	04/26/06	10.68	4.19	6.49	-0.43
	0= 10 0 10 0	10.15			
<b>MW-2</b>	07/30/99	12.15	6.64	5.51	
	11/09/99	12.15	6.42	5.73	0.22
	02/23/00	12.15	3.31	8.84	3.11
	05/26/00	12.15	6.34	5.81	-3.03
	10/10/00	12.15	6.52	5.63	-0.18
	02/07/01	12.15	5.90	6.25	0.62
	05/25/01	12.15	6.08	6.07	-0.18
	09/19/01	12.15	0.5 <i>3</i>	5.62	-0.45
	02/06/02	12.15	5.72	6.4 <i>3</i>	0.81
	05/1//02	12.15	0.1 /	5.98 NM	-0.45
	08/20/02	12.15	INIM 5.12		INIM
	01/10/03	12.15	5.12	7.03	
	04/14/03	12.15	4.98	/.1/	0.14
	0//14/03	12.15	5.99	0.10	-1.01
	10/14/03	12.15	0.43	5.72	-0.44
	01/13/04	12.15	5.42	0./3	1.01
	04/15/04	12.15	0.02	0.13	-0.00
	0//15/04	12.13	5.27	0.88	0./3
	10/18/04	12.13	0.12	0.03	-0.83
	04/19/05	12.15	5.01	0.34	0.31
	0//18/05	12.15	5.84	0.31	-0.23

## Table 5:Historical Groundwater Elevation DataOmega Termite, 807 75th Ave., Oakland, CA

Well ID	Date	Well Elevation *	Depth to Water	Groundwater Elevation	Elevation Change
		(ft amsl)	(ft)	(ft amsl)	(ft)
MW-2	10/19/05	12.15	6.17	5.98	-0.33
continued	11/03/05	12.15	6.21	5.94	-0.04
	01/11/06	12.15	5.11	7.04	1.10
	03/13/06	12.15	5.24	6.91	-0.13
	04/26/06	12.15	5.69	6.46	-0.45
MW-3	07/30/99	10.40	5.35	5.05	
	11/09/99	10.40	5.11	5.29	0.24
	02/23/00	10.40	2.37	8.03	2.74
	05/26/00	10.40	4.98	5.42	-2.61
	10/10/00	10.40	5.24	5.16	-0.26
	02/07/01	10.40	4.73	5.67	0.51
	05/25/01	10.40	4.73	5.67	0.00
	09/19/01	10.40	5.07	5.33	-0.34
	02/06/02	10.40	4.69	5.71	0.38
	05/17/02	10.40	4.80	5.60	-0.11
	08/20/02	10.40	4.97	5.43	-0.17
	01/10/03	10.40	3.59	6.81	1.38
	04/14/03	10.40	5.40	5.00	-1.81
	07/14/03	10.40	4.69	5.71	0.71
	10/14/03	10.40	5.16	5.24	-0.47
	01/13/04	10.40	4.15	6.25	1.01
	04/15/04	10.40	4.73	5.67	-0.58
	07/15/04	10.40	5.03	5.37	-0.30
	10/18/04	10.40	4.85	5.55	0.18
	01/25/05	10.40	4.13	6.27	0.72
	04/19/05	10.40	4.23	6.17	-0.10
	07/18/05	10.40	4.56	5.84	-0.33
	10/18/05	10.40	4.82	5.58	-0.26
	11/03/05	10.40	4.87	5.53	-0.05
	01/11/06	10.40	3.62	6.78	1.25
	03/13/06	10.40	3.47	6.93	0.15
	04/26/06	10.40	3.81	6.59	-0.34
<b>MW-4</b>	07/30/99	10.31	5.45	4.86	
	11/09/99	10.31	5.31	5.00	0.14
	02/23/00	10.31	2.72	7.59	2.59
	05/26/00	10.31	5.07	5.24	-2.35
	10/10/00	10.31	5.32	4.99	-0.25
	02/07/01	10.31	4.73	5.58	0.59
	05/25/01	10.31	4.90	5.41	-0.17
	09/19/01	10.31	5.16	5.15	-0.26
	02/06/02	10.31	4.65	5.66	0.51
	05/17/02	10.31	4.90	5.41	-0.25
	08/20/02	10.31	5.02	5.29	-0.12
	01/10/03	10.31	3.78	6.53	1.24
	04/14/03	10.31	4.11	6.20	-0.33
	0//14/03	10.31	4.75	5.56	-0.64
	10/14/03	10.31	5.28	5.03	-0.53
	01/13/04	10.31	4.07	6.24	1.21

## Table 5:Historical Groundwater Elevation DataOmega Termite, 807 75th Ave., Oakland, CA

Well ID	Date	Well Elevation *	Depth to Water	Groundwater Elevation	Elevation Change
		(ft amsl)	(ft)	(ft amsl)	(ft)
MW-4	04/15/04	10.31	4.70	5.61	-0.63
continued	07/15/04	10.31	5.09	5.22	-0.39
	10/18/04	10.31	4.86	5.45	0.23
	01/25/05	10.31	4.02	6.29	0.84
	04/19/05	10.31	4.17	6.14	-0.15
	07/18/05	10.31	4.49	5.82	-0.32
	10/18/05	10.31	4.83	5.48	-0.34
	11/03/05	10.31	4.88	5.43	-0.05
	01/11/06	10.31	3.58	6.73	1.30
	03/13/06	10.31	3.28	7.03	0.30
TW-5	09/19/01		6 59		
1 11-5	05/17/02		6.56		0.03
	08/20/02		6.62		-0.05
	01/10/03		4 66		-0.00
	01/10/03		5.30		0.64
	07/14/03		5.84		-0.04
	07/14/03		5.84		-0.34
	10/14/03		5.04		0.00
	01/12/04		0.08		-0.24
	01/15/04		4.0 <i>3</i> 5.6 <i>1</i>		0.81
	07/15/04		5.80		-0.81
	10/18/04		5.05		-0.23
	10/18/04		5.95		-0.00
	01/23/03		5.15		0.82
	04/19/05		5.27		-0.14
	0//18/05		5.70		-0.49
	10/18/03		6.04		-0.28
	01/11/06		0.09		-0.03
	01/11/00		4.72		1.57
	03/13/06 04/26/06		4.51 5.02		-0.51
<b>MW-6</b>	03/13/06	12.35	5.69	6.66	
MW_7	03/13/06	11 16	3 36	7 80	
141 44 - 7	04/26/06	11.16	3.18	7.98	0.18
MW-8	03/13/06	12.42	4 64	7 78	
THE VIO	04/26/06	12.42	4.45	7.97	0.19
MW-9	03/13/06	11.22	4.32	6.90	
	04/26/06	11.22	4.74	6.48	-0.42
MW-10	03/13/06	10.31	3.28	7.03	
	04/26/06	10.31	3.73	6.58	-0.45

## Table 5:Historical Groundwater Elevation DataOmega Termite, 807 75th Ave., Oakland, CA

\* Original wells surveyed 12/9/02 by Morrow Surveying, resurveyed on 3/02/06 Morrow Surveying Depth to water measured from the top of well casing NM - not monitored

ft amsl = feet above mean sea level

Episode #	Date	Average Elevation (ft)	Elevation Change (ft)	Flow Direction / Gradient
1	07/30/99	5.07	<u> </u>	
2	11/09/99	5.25	0.18	0.0056 / SW
3	02/23/00	8.08	2.83	0.008 / S
4	05/26/00	5.41	-2.66	0.003 / SW
5	10/10/00	5.19	-0.22	0.0036 / S
6	02/07/01	5.73	0.54	0.008 / S
7	05/25/01	5.65	-0.09	0.006 / S
8	09/19/01	5.32	-0.33	0.004 / S
9	02/06/02	5.93	0.62	0.005 / SE
10	05/17/02	5.59	-0.34	0.003 / SW
11	08/20/02	5.34	-0.26	0.002 / S
12	01/10/03	6.74	1.40	0.006 / E-NE
13	04/14/03	6.05	-0.69	0.016 / E-NE
14	07/14/03	5.76	-0.29	.0017 / S-SE
15	10/14/03	5.26	-0.50	0.003 / SE
16	01/13/04	6.34	1.08	0.001 / W
17	04/15/04	5.74	-0.60	0.001 / W
18	07/15/04	5.68	-0.05	0.001 / W
19	10/18/04	5.62	-0.07	0.002 / N
20	01/25/05	6.33	0.71	0.002 / N
21	04/19/05	6.16	-0.17	0.001 / N
22	07/18/05	5.85	-0.31	0.0004 / S
23	10/18/05	5.61	-0.24	0.0017 / SW
24	01/11/06	6.79	1.18	0.0047 / N
25	3/13/06	6.89	0.10	Shallow Zone .0004 / NW
	3/13/06	7.38		Deeper zone 0.036 / S
	4/26/06	6.51	-0.38	Shallow Zone .0004 / NW
	4/26/06	7.37		Deeper zone 0.063 / S

## Table 5a:Groundwater Flow Summary<br/>Omega Termite, 807 75th Ave., Oakland, CA

Average water table elevation calculated using Microsoft Excel Only wells MW-1 through MW-4 used in average elevation calculations

### **APPENDIX A**

### **Well Permits**

#### Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street							
Hayward, CA 94544-1395							
Telephone: (510)670-6633 Fax:(510)782-1939							

#### Application Approved on: 02/02/2006 By suel Permits Issued: W2006-0091 to W2006-0095

PUBLIC

Receipt Number: WR2006-0051 Permits Valid from 02/13/2006 to 02/14/2006

Application Id: Site Location:	1138743867314 807 75th Street	City of Project Site:Oakland			
Project Start Date:	Oakland, CA 02/13/2006	Complet	ion Date:02/14/2006		
Applicant:	AEI Consultants - Robert Flory	04507	Phone: 925-944-2899		
Property Owner:	Allan Kanady 807 75th Street, Oakland, CA 94611	4 94597	Phone: 510-562-1333		
Client: Contact:	** same as Property Owner ** Robert Flory		Phone: 925-944-2899 Cell: 925-457-7517		

Total Due:	\$1500.00
Total Amount Paid:	\$1500.00
Paid By: VISA	PAID IN FULL

#### Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 5 Wells Driller: Greg Drilling - Lic #: 485165 - Method: hstem

#### Specifications Permit # Issued Date Expire Date Owner Well Hole Diam. Casing Seal Depth Max. Depth ld Diam. W2006-02/02/2006 05/14/2006 MW-10 8.25 in. 2.00 in. 20.00 ft 40.00 ft 0091 W2006-02/02/2006 05/14/2006 MW-6 8.25 in. 2.00 in. 4.00 ft 18.00 ft 0092 W2006-02/02/2006 05/14/2006 MW-7 10.50 in. 4.00 in. 20.00 ft 40.00 ft 0093 W2006-02/02/2006 05/14/2006 MW-8 8.25 in. 2.00 in. 20.00 ft 40.00 ft 0094 W2006-02/02/2006 05/14/2006 MW-9 8.25 in. 2.00 in. 20.00 ft 40.00 ft

#### **Specific Work Permit Conditions**

0095

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. 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 statutes 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.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits

Work Total: \$1500.00

#### Alameda County Public Works Agency - Water Resources Well Permit

and requirements have been approved or obtained.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

5. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.

6. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

7. Minimum surface seal thickness is two inches of cement grout placed by tremie

8. Minimum seal depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.

9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

10. Applicant shall contact George Cashen for an inspection time at 510-670-6610 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/Well Logs** 

## Log of Boring MW-6

Sheet 1 of 1

Date(s) Drilled February 15, 2006	Logged By Robert F. Flory	Checked By Adrian Angel
Drilling Method Hollow Stem Auger	Drill Bit Size/Type	Total Depth of Borehole 14 feet bgs
Drill Rig Type Marl 2.5 D	Drilling Contractor Gregg Drilling	Surface Elevation 12.74 feet
Groundwater Level and Date Measured	Sampling Method(s) <b>California</b>	
Borehole Backfill Well Completion	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol		Graphic Log		MATERIAL DESCRIPTION	PID Reading	bbm	Well Log	REMARKS AND OTHER TESTS
0			GW-GC		×¥		Base Rock, gray - dark gray 2.5Y 5/1 - 4/1, firm dry, FILL	$\downarrow$			- TOC 12.35 ft
				V	///	4	Sandy Clay, dark brown 2.5Y 3/3, firm, slightly moist	_		K 🕅	
_			CL	$\mathbb{V}$		1/2	Silty Clay, black - olive gray 2.5Y 2.5/1 - 5Y 4/2, firm, slightly moist	- 0	).1	XX XX	- Neat cement grout
-				$\mathbb{V}$		1	-	_	ſ	▩ ◀ᢁ	Blank 2" schedule 40
_						A			13	UN UN	PVC casing
_				$\mathbb{V}$			-		1.5	<i>[]]]</i>	Bentonite chip
5		-	CL	V				-		k∵ ⊨ …	-
_						1	<ul> <li>becoming slightly plastic</li> </ul>	- 1	1.1	目 .	·0.010 slotted, 2"
_				V			_	_ 1	12	l∵⊟	schedule 40 PVC
			CL			$\langle \rangle$	Silty Clay, Black N 2.5/, moderately stiff, moist, plastic				casing
-			ML	ÍÍÍ	Π	ÍÍ	Clayey Silt, locally becoming Silty Clay, dark olive gray - olive 5Y 3/2 - 4/4, moist	1		*	+ # 2/12 Monterey sand
-							-	- 1	6.5	k⊟…	
10								_	ſ	▶ 目:	
_		MW6-10.5	ML				Silty Sand, very dark grayish green 5G 3/7 dark olive gray 5Y 3/1 - olive 5Y 4/3, occasional	_ 1	5.6	目:	
			S\M	Ш	Щ	Щ	gravel, soft, wet	_		:目:::	
-			SC	1	V		<ul> <li>Sand, yellowish brown 10YR 5/6 with dark gray 10GY 4/1 mottling, predominantly coarse grained, occasionally fine grained to fine gravel, clavey, moderately firm, wet</li> </ul>	1	1.5	…甘…	
-		NUNC 40 5	ML	hi			Clavey Silt vellowish brown 10YR 5/6 occasionally floating coarse sand grains				
-		10100-13.5		μ		Щ	moderately firm, very moist	+		¦`·⊟··‴	
15							Bottom of Boring at 14 feet bgs		ſ		
15									ſ		
_	1						-	-			
-						-	-	-	ſ		
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### Log of Boring MW-7

Sheet 1 of 1

Date(s) Drilled February 16, 2006	Logged By Robert F. Flory	Checked By Adrian Angel
Drilling Method Hollow Stem Auger	Drill Bit Size/Type <b>8 1/4 inch</b>	Total Depth of Borehole <b>33 feet bgs</b>
Drill Rig Type Marl 2.5 D	Drilling Contractor Gregg Drilling	Surface Elevation 11.64 feet
Groundwater Level and Date Measured	Sampling Method(s) <b>California</b>	
Borehole Backfill Well Completion	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbo	Graphic Log	MATERIAL DESCRIPTION	PID Reading,	bpm		Well Log	REMARKS OTHER T
0 			GW- GC		Crushed Gravel clay mix, gray - dark gray 2.5Y 5/1 - 4/1, firm, dry, FILL – dry –	-				TOC 11.16 ft
- 5					becoming wet 	_				
-			GP		Pea Gravel, dark grav 2./5Y 4/1, fine gravel, clean, wet	_				Neat cement gr
10— - -						_				blank 2" schedu PVC casing
15					- - 	_				
-		MW7-17.5			Silty Clay, 10GY 4/1 dark greenish gray, firm, very moist, hydrocarbon odor 	21	8			
20			GC	· `\ <b>_</b>	Clayey Sand, dark greenish gray, 105 4/1, firm, wet, strong hydrocarbon odor Clayey Gravel, 10GY 4/1 dark greenish gray, firm - hard, wet, hydrocarbon odor	_		*		8
_			CL		<ul> <li>Silty Clay, light olive brown 2.5 5/4 olive gray, stiff, moist</li> </ul>	- 18	.2	*		8
_		MW7-21.5	CL-ML		<ul> <li>Silty Clay - Clayey Silt, Yellow olive brown - olive brown 2.5Y 5/4 - 4/7 with some greenish gray 5G 6/1, dark stained vertical fractures and pores,</li> </ul>	-		*		8
25		MW7-24	CL-ML		Silty Clay - Clayey Silt, very dark grayish brown 2.5 3/2 - dark green gray 10Y 4/1, _ moderately stiff, moist	_				Bentonite chip
23			CL		Silty Clay, dark greenish gray 10GY 4/1 - 5G 4/1, moderately stiff, moist, slightly plastic, hydrocarbon odor	_				
_		MW7-28	CL-ML		Silty Clay - Clayey Silt, yellowish brown,moderately firm, moist	-	-			schedule 40 P\ casing
30 		MW7-31	SC		odor Clayey Sand - Clayey Gravel, light yellowish brown, fine gravel, firm, very moist, hydrocarbon odor	- 0.	2			+ # 2/12 Montere
_			SP	///////////////////////////////////////	_ Sand, brownish gray, fine grained, moderately firm, wet, hydrocarbon odor	-				
_		- <del>MIV7-32.5</del>	CL		Silty Clay, yellowish brown 10YR 5/6, stiff, moist, slight hydrocarbon odor Bottom of Boring at 33 feet bgs	-	9.	•••	⊟.:	<i>:</i>



## Log of Boring MW-8

Sheet 1 of 1

Date(s) Drilled February 15, 2006	Logged By Robert F. Flory	Checked By Adrian Angel
Drilling Method Hollow Stem Auger	Drill Bit Size/Type <b>8 1/4 inch</b>	Total Depth of Borehole <b>31 feet bgs</b>
Drill Rig Type Marl 2.5 D	Drilling Contractor Gregg Drilling	Surface Elevation 12.57 feet
Groundwater Level and Date Measured	Sampling Method(s) <b>California</b>	
Borehole Backfill Well Completion	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	Well Log	REMARKS AND OTHER TESTS
0			GC/GM		Crushed Gravel clay mix, gray - dark gray 2.5Y 5/1 - 4/1, firm dry, FILL			- TOC 12.42 ft
- - 5 -		MW8-5	CL		<ul> <li>Silty Clay, dark gray - grayish brown 2.5Y 4/1 - 5/2, stiff, slightly moist</li> <li></li> <li></li> <li></li> <li>becoming very dark gray - dark grayish brown</li> <li></li> </ul>	7.5		Neat cement grout
-			SC/SM		<ul> <li>Silty Sand, olive brown - olive gray 2.5Y 4/3 - 4/2, firm, slightly moist, slight hydrocarbon odor</li> <li>a/a becoming moist</li> </ul>			
10		M\//8-10	CL		Silty Clay, dark gray - greenish gray N 2.5/ - 10Y 4/1 with olive brown 2.5Y 4/4, mottling,	80	1	Blank 2" schedule 40 PVC casing
-		<u>IVIVVO-IU</u>	ML		Clayey Silt, olive brown 2.5Y 4/4, stiff, moist			_
		MW8-16 MW8-18	CL			21		
20		MM/0 20	CL		Silty Clay, light olive brown 2.5Y 5/4, stiff, slightly moist			
-		MVV8-20	CL-ML		Silty Clay w/s becoming Clayey Silt, yellowish brown 10YR 5/6, stiff, moist -	20.7		Bentonite chip
25 -			CL		Silty Clay, yellow brown - strong brown 10YR 5/6 - 7.5YR 5/6, stiff, moist 	52.1		
-		<del>- MW8-27</del> -	CL-ML		Silty Clay - Clayey Silt, yellow brown - strong brown 10YR 5/6 - 7.5YR 5/6 occasionalllight brown gray 10YR 6/2 mottling, moderately stiff, moist - wet, slight HC odor	27		0.010" slotted schedule 40 PVC casing # # 2/12 Monterey Sand
30— - -					Bottom of Boring at 31 feet bgs	_		

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## Log of Boring MW-9

Sheet 1 of 1

Date(s) Drilled February 16, 2006	Logged By Robert F. Flory	Checked By Adrian Angel
Drilling Method Hollow Stem Auger	Drill Bit Size/Type <b>8 1/4 inch</b>	Total Depth of Borehole <b>30 feet bgs</b>
Drill Rig Type Marl 2.5 D	Drilling Contractor Gregg Drilling	Surface Elevation 11.41 feet
Groundwater Level and Date Measured	Sampling Method(s) <b>California</b>	
Borehole Backfill Well Completion	Location	

Depth. feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION		PID Reading, ppm		Well Log	REMARKS AND OTHER TESTS
0-			GC CL		Base Rock, gray - dark gray 2.5Y 5/1 - 4/1, firm, dry, FILL	7		Series de la construction de		- IOC 11.22 ft
					<ul> <li>Silty Clay, light olive brown - dark gray 2.5Y 5/3 - 4/1, stiff, moist</li> </ul>	_				
	-				-	-				
5			SW		Gravelly Sand, olive gray - greenish gray y 4/3 - 10GY 4/1, silty, clayey, firm, slightly moist					
<b></b> C		MW9-5			-	_				
					-	_				- Neat cement grout
					-	_				
10-	$\vdash$	-	CL		Silty Clay, olive - olive brown 5Y 5/4 - 2.5Y 4/4, stiff, moist	_				- Blank 2" schedule 40
		MW9-10.5			-	_				PVC casing
-			ML		Clayey Silt, light olive brown - olive 2.5Y 5/4 - 5Y 5/4, firm, moist	_	36.7			
	-			-	-	_				
15		MW9-15.5			_					
			CL		Silty Clay, light olive brown, 2.5Y 5/4, stiff moist	_	30.1			
-	ļ		SM		Silly Sand light alive brown, alive valley 2 5V 5/3, 6/8 with some light area 10VP 7/1					
			SM		mottling, firm, moist	_	0.5			
20			Ŝþ		Clayey Sandy Gravel, light olive brown - yellowish brown 2.5Y 5/6 - 10YR 5/6, hard, moist	1				
			CL		Sand, dark grayish brown - gray 10YR 4/2 - 5/1, fine - very fine grained, soft, loose poorly graded, wet		0.8			
		MVV9-22			Silty Clay, yellowish brown 10YR 5/6, stiff, moist					- Benonitie chip
					-	-	0.2			·
25			CL-ML		Silty Clay, yellowish brown 10YR 5/6, stiff, slightly moist		0.6			
	L	•	00				0.0			- 0.010" slotted schedule
			SC		Clayey Sand, yellowish brown 10YR 5/6, firm, moist		55		<u></u>	40 PVC casing
		MW9-29	SC		Silty Clay localy becoming sandy, yellowish brown 10YR 5/6, stiff, slightly moist		175			- # 2/12 Monterey sand
30-			-		Bottom of Boring at 30 feet has			···.	<b>∃</b> ∷	
	-				-	-				
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					-					
					the second se					

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X:/PROJECTS/CHARACTERIZATION & REMEDIATION/CHARACTERIZATION/115483 SGWI (Omega Termite) Oakland (RFF)/Deeper zone Inv/Graphics/Wells MW6\_MW10.bgs [auger well 33.tp]

## Log of Boring MW-10

Sheet 1 of 1

Date(s) Drilled February 15, 2006	Logged By Robert F. Flory	Checked By Adrian Angel
Drilling Method Hollow Stem Auger	Drill Bit Size/Type <b>8 1/4 inch</b>	Total Depth of Borehole <b>30 feet bgs</b>
Drill Rig Type Marl 2.5 D	Drilling Contractor Gregg Drilling	Surface Elevation 10.6 feet
Groundwater Level and Date Measured	Sampling Method(s) <b>California, Grab</b>	
Borehole Backfill Well Completion	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION		PID Reading, ppm		Well Log	REMARKS AND OTHER TESTS
U			Other		Concrete			*		
			CE		Crushed Gravel clay mix, gray - dark gray 2.5Y 5/1 - 4/1, firm dry, FILL	$\pi$				- TOC 10.31 ft
-			CL		Silty Clay, very dark gravish brown 101 3/2, iim, moist	/†			1 🕅	
+		-			becoming black downward	А	1.5		1 📖	
-					<ul> <li>Silty Clay, black N 2.4/, very stiff, slightly moist</li> </ul>	-			🔛	
5		-			_	_			🕅	
_		MW10-5			-	_			1 📖	
_									💥	- Neat cement grout
			CL		Silty Clay, dark gray - dark olive gray 5Y 3/1- 5Y 3/2, stiff, moist				1 📖	fical comon groat
			CL		Gravelly Sand Clay, dark gray - dark olive gray 5Y 3/1- 5Y 3/2, stiff, moist				1 📖	
	-		CL	<i>\/////</i>	Silty Clay, dark gray - dark olive gray 5Y 3/1- 5Y 3/2, stiff, moist	+		×	🏼	
10						_	00.4			<ul> <li>Blank, 2" schedule 40</li> <li>PVC casing</li> </ul>
-		1010010-10.5	SM		Clayey Sand, dark olive gray 5Y 3/2, firm, moist - wet	$\nearrow$	<u>dU.1</u>	×	1 📖	TOCA
-						-	15.5		💹	- 100 11
_					_	-			1 📖	
_									1 📖	
15					Silty Clay, olive - olive gray 5Y 5/3 - 5/2, stiff, moist	_			🕅	
15		MW10-15.5					1.5		1 🕅	
					-				1 📖	
_					-	-			1 🕅	
-			CL/ML		Silty Clay - Clayey Silt, light olive brown - olive yellow 2.5Y 5/3 - 6/8, stiff, moist				1 🕅	
-			ML		Clavey Silt vellowish brown 10YR 5/6 soft moist				1 📖	
20		-	CL		- Sandy Silty Clay, light olive brown - yellowish brown 2.5Y 5/6 - 10YR 5/6, hard, moist	_			1 🕅	
_		MW10-20	SP		Clayey Sand, yellowish brown 10YR 5/6, fine grained, moderately soft, poorly graded, wet,		2.0		1 🕅	
_	Γ		CL		no odor			X	1 📖	
					Sity Clay, yenowish brown 10 FR 5/6, still, moist					Rontonito china
										Dentonne chips
-					-	1	1.5			
25		NN440.0-				-			目 :	
-		WW 10-25		V////	-	+	1.0	: :	目	
_		MM/10 07	ML	<i>\//////</i>	Clavey Silt alive area 57 5/2 stiff slightly maist slight 2 ador		0.0		目…	
_		WW10-27	SP	ļili		+	0.3		≣.⊶	- # 2/12 Monterey Sand
_			J.		Sand, yellowish brown 10YR 5/6 with light gray 10YR //1 mottling, clayey, very fine grained, moderately firm, very moist - wet					- 0.010" slotted, 2"
30									≝∵	schedule 40 PVC
50					Bottom of Boring at 30 feet bgs					casing
-					_	1				
-	1				-	1				
-					-	-				
					AEI					

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### **APPENDIX C**

Groundwater Monitoring Well Field Sampling Forms

		Mor	nitoring Well Number:	MW-1					
Project Name:	Omega Termite		Date of Sampling:	3/13/2006					
Job Number:	115483		Name of Sampler:	Adrian Nieto					
Project Address:	807 75th Avenue Oakland	d							
	MONITORIN	<u>G WELL DA</u>							
Well Casing Diame	eter (2"/4"/6")		2						
Wellhead Conditio	n	ОК		-					
Elevation of Top o	f Casing (feet above msl)	10.68							
Depth of Well		20.00							
Depth to Water (fro	om top of casing)	3.76							
Water Elevation (fe	eet above msl)	6.92							
Well Volumes Purg	ged		3						
Calculated Call	ana Dummadu famoula uslistantu famousium								

Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	7.8					
Actual Volume Purged (gallons)		8.0				
Appearance of Purge Water	clears quickly					
Free Product Present?	No	Thickness (ft): NA				

#### **GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 - 40ml VOAs, 1 L Amber			
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	2	16.59	7.69	435	6.51	-374.7	
	4	16.81	7.48	481	5.35	-371.0	
	6	17.16	7.32	519	4.07	-373.2	
	8	17.48	7.16	565	2.70	-377.6	

### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Initially dark brown, strong hydrocarbon odor.

		Mor	nitoring Well Number:	MW-2					
Project Name:	Omega Termite		Date of Sampling:	3/13/2006					
Job Number:	115483		Name of Sampler:	Adrian Nieto					
Project Address:	807 75th Avenue Oakland								
			L						
	MONITORING WELL DATA								
Well Casing Diam	eter (2"/4"/6")		2						
Wellhead Condition	n	ОК							
Elevation of Top o	f Casing (feet above msl)	12.15							
Depth of Well		20.00							
Depth to Water (fr	om top of casing)	5.24							
Water Elevation (f	eet above msl)	6.91							
Well Volumes Pur	ged	3							
Calculated Gall sizes of 2" (.16	ons Purged: formula valid only for casing gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	7.1							

sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)			
Actual Volume Purged (gallons)		8.0	
Appearance of Purge Water	clears quickly		
Free Product Present?	No	Thickness (ft):	NA

#### **GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 - 40ml VOAs, 1 L Amber			
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	2	17.25	7.12	993	5.51	-458.5	
	4	17.30	7.09	1010	3.16	-442.9	
	6	17.72	7.07	999	2.23	-459.5	
	8	17.96	7.05	998	1.90	-458.3	

### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Initially light gray, with strong hydrocarbon odor.

		Mon	<mark>iitoring Well Number:</mark>	MW-3						
Project Name:	Omega Termite		Date of Sampling:	3/13/2006						
Job Number:	115483		Name of Sampler:	Adrian Nieto						
Project Address:	807 75th Avenue Oakland	·								
	MONITORIN	<u>G WELL DA</u>	TA							
Well Casing Diam	eter (2"/4"/6")		2							
Wellhead Condition	n	Replaced lock ar	nd cap	-						
Elevation of Top o	f Casing (feet above msl)		10.40							
Wellhead Condition	n f Casing (feet above msl)	Replaced lock ar	nd cap 10.40							

Depth of Well		20.00	
Depth to Water (from top of casing)		3.47	
Water Elevation (feet above msl)		6.93	
Well Volumes Purged		3	
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)		7.9	
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	clears quickly		
Free Product Present?	No	Thickness (ft): NA	

#### **GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 - 40ml VOAs, 1 L Amber			
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	2	16.66	7.09	1247	6.70	-158.3	
	4	16.82	7.09	1248	5.89	-155.6	
	6	17.11	7.05	1293	4.50	-134.5	
	8	17.68	7.04	1309	3.51	-316.7	

### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Initially light gray, with hydrocarbon odor.

		Mor	itoring Well Number:	MW-4					
Project Name:	Omega Termite		Date of Sampling:	3/13/2006					
Job Number:	115483		Name of Sampler:	Adrian Nieto					
Project Address:	807 75th Avenue Oakland	d							
	MONITORIN	G WELL DA							
Well Casing Diame	eter (2"/4"/6")		2						
Wellhead Conditio	n	ОК		▼					
Elevation of Top o	f Casing (feet above msl)	10.31							
Depth of Well		20.00							
Depth to Water (fro	om top of casing)	3.28							
Water Elevation (fe	eet above msl)		7.03						
Well Volumes Purg	ged	3							
		1							

Well Volumes Purged		3	
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	8.0		
Actual Volume Purged (gallons)		9.0	
Appearance of Purge Water		clears quickly	
Free Product Present?	No	Thickness (ft): NA	

#### GROUNDWATER SAMPLES

Number of Samples/Container Size			3 - 40ml VOAs, 1 L Amber				
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	17.26	6.82	1332	11.35	112.5	
	3	17.35	7.18	1044	8.46	98.1	
	5	17.56	7.08	1248	7.04	146.7	
	7	18.13	7.03	1332	5.22	143.1	
	9	18.32	7.03	1352	4.11	118.3	

#### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Initially brown, clearing quickly, slight hydrocarbon odor.

		Mor	nitoring Well Number:	TW-5				
Project Name:	Omega Termite		Date of Sampling:	3/13/2006				
Job Number:	115483		Name of Sampler:	Adrian Nieto				
Project Address:	807 75th Avenue Oaklan	d						
-	MONITORIN	<u>G WELL DA</u>						
Well Casing Diam	eter (2"/4"/6")		4					
Wellhead Conditio	n	ОК		▼				
Elevation of Top o	f Casing (feet above msl)		11.58					
Depth of Well	Depth of Well		10.00					
Depth to Water (from top of casing)			4.51					
Water Elevation (f	eet above msl)		7.07					
Well Volumes Pur	ned	3						

vvaler Lievalion (leel above msi)		1.01	
Well Volumes Purged		3	
Caculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)		10.7	
Actual Volume Purged (gallons)		11.0	
Appearance of Purge Water		clear	
Free Product Present?	No	Thickness (ft): N	A

#### GROUNDWATER SAMPLES

Number of Samples/Container Size			3 - 40ml VOAs, 1 L Amber				
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	15.11	7.40	636	6.20	-383.8	
	3	15.08	7.31	628	4.00	-392.6	
	5	15.08	7.24	627	3.30	-392.8	
	7	15.07	7.19	625	2.56	-390.9	
	9	15.08	7.09	624	2.15	-387.5	
	11	15.09	7.00	625	1.93	-385.2	

#### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Initially clear, slight hydrocarbon odor.					

		Mor	nitoring Well Number:	MW-6
Project Name:	Omega Termite		Date of Sampling:	3/13/2006
Job Number:	115483		Name of Sampler:	Adrian Nieto
Project Address:	807 75th Avenue Oakland	d		
•			-	
	MONITORIN	G WELL DA	TA	
Well Casing Diame	eter (2"/4"/6")		2	
Wellhead Conditio	n	ОК		-
Elevation of Top o	f Casing (feet above msl)	12.35		
Depth of Well			14.00	
Depth to Water (fro	om top of casing)		5.39	
Water Elevation (fe	eet above msl)		6.96	

Well Volumes Purged

Actual Volume Purged (gallons)

Appearance of Purge Water

Calculated Gallons Purged: formula valid only for casing

sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)

Free Product Present?	No	Thickness (ft):				

3.9

5.0

very light brown

NA

Number of Samples/Container Size				3 - 40ml VOAs, 1 L Amber			
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	16.41	7.31	722	9.18	-323.9	
	3	16.45	7.27	726	7.21	-337.1	
	5	16.69	7.22	728	5.02	-341.1	

#### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Initally brown, clearing to light brown at 2.5 gallons, very light brown milky at 6 gallons, very slight hydrocarbon odor

		Mon	nitoring Well Number:	MW-7		
Project Name:	Omega Termite		Date of Sampling:	3/13/2006		
Job Number:	115483		Name of Sampler:	Adrian Nieto		
Project Address:	807 75th Avenue Oakland	d				
	MONITORIN	G WELL DA				
Well Casing Diame	eter (2"/4"/6")		4			
Wellhead Conditio	n	ОК		-		
Elevation of Top o	f Casing (feet above msl)		11.16			
Depth of Well		33.00				
Depth to Water (fro	om top of casing)	3.36				
Water Elevation (fe	eet above msl)	7.80				
Well Volumes Purged		3				
Calculated Gallo sizes of 2" (.16	ons Purged: formula valid only for casing gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)		15.1			

Actual Volume Purged (gallons)		16.0
Appearance of Purge Water		clear at 6.5 gallons
Free Product Present?	No	Thickness (ft): NA

#### **GROUNDWATER SAMPLES**

Number of Samples/Container Size			3 - 40ml VOAs, 1 L Amber				
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	3	18.71	7.10	1724	5.61	-349.9	
	6	18.73	7.05	1682	3.82	-352.9	
	9	18.74	7.03	1662	2.88	-354.1	
	12	18.76	7.01	1651	2.20	-354.6	
	15	18.77	7.01	1635	1.74	-355.0	
	16	18.77	7.01	1633	1.66	-354.8	

#### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Initially brown, light brown at 2 gallons, clear at 6.5 gallons, hydrocarbon odor

		Mor	nitoring Well Number:	MW-8				
Project Name:	Omega Termite		Date of Sampling:	3/13/2003				
Job Number:	115483		Name of Sampler:	Adrian Nieto				
Project Address:	807 75th Avenue Oakland	d						
	MONITORIN	G WELL DA	TA					
Well Casing Diame	eter (2"/4"/6")		2					
Wellhead Conditio	n	OK		-				
Elevation of Top or	f Casing (feet above msl)		12.42					
Depth of Well		30.00						
Depth to Water (fro	om top of casing)	4.64						
Water Elevation (feet above msl)		7.78						
Well Volumes Purg	ged		3					
Calculated Gallo	ons Purged: formula valid only for casing		44.5					

sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)		14:5
Actual Volume Purged (gallons)		15.0
Appearance of Purge Water		clear at 6.0 gallons
Free Product Present?	No	Thickness (ft): NA

#### **GROUNDWATER SAMPLES**

Number of Sample	es/Container S	Size			3 - 40ml \	/OAs, 1 L Am	ber
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	3	18.67	7.12	1794	3.42	-363.6	
	6	18.44	7.16	1783	2.66	-368.1	
	9	18.06	7.22	1767	208	-370.9	
	12	18.86	7.15	1804	1.53	-372.5	
	15	18.87	7.22	1818	1.55	-370.6	

#### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Initially brown, light brown at 3.5 gallons, clear at 6.0 gallons, very slight hydrocarbon odor

		Mor	nitoring Well Number:	MW-9
Project Name:	Omega Termite		Date of Sampling:	3/13/2006
Job Number:	115483		Name of Sampler:	Adrian Nieto
Project Address:	807 75th Avenue Oaklan	d		
-	MONITORIN	<u>G WELL DA</u>		
Well Casing Diame	eter (2"/4"/6")		2	
Wellhead Conditio	n	ОК		-
Elevation of Top o	f Casing (feet above msl)		11.22	
Depth of Well			30.00	
Depth to Water (fro	om top of casing)		4.32	
Water Elevation (fe	eet above msl)		6.90	
Well Volumes Purg	ged		3	
Coloulated Call	and Durgody formula valid only for againg			

sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)		14.7
Actual Volume Purged (gallons)		15.0
Appearance of Purge Water		light milky brown
Free Product Present?	No	Thickness (ft): Light sheen

#### **GROUNDWATER SAMPLES**

Number of Sample	es/Container S	Size			3 - 40ml \	/OAs, 1 L Am	ber
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	3	18.31	9.22	1147	3.37	-455.8	
	6	18.32	9.03	1239	2.21	-448.8	
	9	18.58	8.68	1313	1.68	-444.4	
	12	18.32	8.38	1353	1.39	-443.0	
	15	18.77	8.08	1355	1.26	-438.1	

#### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Initially brown, light brown at 4.5 gallons, strong hydrocarbon odor, light sheen

		Mor	nitoring Well Number:	MW-10
Project Name:	Omega Termite		Date of Sampling:	3/13/2006
Job Number:	115483		Name of Sampler:	Adrian Nieto
Project Address:	807 75th Avenue Oakland	d		
•				
	MONITORIN	<u>G WELL DA</u>	TA	
Well Casing Diame	eter (2"/4"/6")		2	
Wellhead Conditio	n	ОК		-
Elevation of Top or	f Casing (feet above msl)		10.31	
Depth of Well			30.00	
Depth to Water (fro	om top of casing)		3.28	
Water Elevation (fe	eet above msl)		7.03	
Well Volumes Purg	ged			
Calculated Gall	one Purged: formula valid only for easing			

sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)		15.2	
Actual Volume Purged (gallons)		16.0	
Appearance of Purge Water		Clear by 3.5 gallons	
Free Product Present?	No	Thickness (ft): N	A

#### **GROUNDWATER SAMPLES**

Number of Sample	es/Container S	Size			3 - 40ml \	/OAs, 1 L Am	ber
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	3	18.20	7.02	1427	4.81	-377.6	
	6	17.59	7.04	1384	3.85	-379.6	
	9	18.92	6.69	1635	2.66	-361.2	
	12	19.09	7.21	1621	8.58	-357.4	
	15	19.05	7.17	1575	7.82	-398.3	
	16	19.02	7.12	1588	7.41	-344.1	

#### COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No hydrocarbon odor noted.	Initially brown, clears by 3.5 gallons. Dry at 10 gallons (12:35) Recharged by 12:47, purged additional 6 gallons.	
	No hydrocarbon odor noted.	

### **APPENDIX D**

Laboratory Analyses With Chain of Custody Documentation



AEI Consultants	Client Project ID: #115483; Omega Termite	Date Sampled:	02/15/06
2500 Camino Diablo, Ste. #200		Date Received:	02/17/06
Walnut Creek, CA 94597	Client Contact: Robert Flory	Date Reported:	02/24/06
	Client P.O.:	Date Completed:	02/27/06

#### WorkOrder: 0602331

February 27, 2006

#### Dear Robert:

Enclosed are:

- 1). the results of 7 analyzed samples from your #115483; Omega Termite 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. McCampbell Analytical Laboratories strives for excellence

in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

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MW7-32		V	1134	/	11-1								X	X								-									
A CONTRACTOR																															
							+	-			+	+						-	-	-		-	-	-				_	+		
					-		-		_	-	+	-				-	-	-	+	-	-	-	-	-	-			-	-		_
-							_				-				_		_	-	-	_	_								-		
1																							1								
Relinquished By:	5	Date: 2/7/b6	Time: 40m	Rece	ived B	y w	a	a		1	2/	2														v	OAS	0&G		METALS	OTHER
Relinquished By:		Date:	Time:	Rece	ived B	y:						0		ICE/ GOO HEA	DD C	ON	DIT E A	ION	INT			API CO	PRO	PRI	ATI	DN_ E					
Relinquished By:		Date:	Time:	Rece	ived B	y:				_	-	-	1	DEC	HL	ORI	NAT	TED	IN	LAB		P	ERS	ER	VED	) IN	LAB				
## McCampbell Analytical, Inc.



110 Second Avenue South, #D7 Pacheco, CA 94553-5560 (925) 798-1620

# **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

(925) 798	3-1620			W	orkOr	der: 0	602331		Clie	ntID: .	AEL		EDI	F: NO			
Report to:							Bill to:						Req	juested	TAT:	5	i days
Robert Flory		TEL:	(925) 283-60	00			Joa	anne Br	yant								
AEI Consulta 2500 Camino Walnut Creek	nts 9 Diablo, Ste. #200 k, CA 94597	(925) 283-61 o: #115483; On	21 nega Termite			AE 250 Wa	I Consu 00 Cam alnut Cr	iltants ino Dia eek, C/	blo, Ste A 94597	e. #200 7		Dat Dat	te Rece te Prin	vived: ted:	02/17 02/17	/2006 //2006	
									Re	queste	d Tests	(See leg	gend be	low)			
Sample ID	ClientSampID		Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0602331-001	MW6-10.5		Soil	2/15/06 9:15:00 A	M	A	A	A							T		
0602331-004	MW10-25		Soil	2/15/06 10:40:00		Α		Α									
0602331-006	MW8-27		Soil	2/15/06 1:50:00 P	M 🗌	Α		Α									-
0602331-009	MW9-29		Soil	2/16/06 8:30:00 A	M	Α		Α									-
0602331-012	MW7-21.5		Soil	2/16/06 10:30:00		Α		Α									-
0602331-015	MW7-31		Soil	2/16/06 11:30:00		Α		Α	-						-		-
0602331-016	MW7-32		Soil	2/16/06 11:35:00		Α		Α								1	-

#### Test Legend:

1	G-MBTEX_S	2 PREDF REPORT	3 TPH(DMO)_S	4	5
6		7	8	9	10
11		12			

Prepared by: Melissa Valles

#### **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.

Æ	McCampbell A	nalyti	cal, Inc.			110 2nd A Telep Website: www	Avenue South, #D7 hone : 925-798-162 v.mccampbell.com	, Pacheco, CA 9455 0 Fax : 925-798-1 E-mail: main@mcca	3-5560 622 ampbell.com		
AEI Co	nsultants		Client Pro	ject ID:	#1154	483; Omega	Termite	Date Sample	ed: 02/15/06	5-02/1	6/06
2500 Ca	amino Diablo, Ste. #200							Date Receiv	ed: 02/17/06	,	
Walnut	Creek CA 94597		Client Cor	ntact: Ro	obert F	lory		Date Extract	ed: 02/17/06	,	
wantat	Creek, Crr 94397		Client P.C	).:				Date Analyz	ed: 02/18/06	5-02/2	21/06
Extraction	Gasoline R method: SW5030B	ange (C	6-C12) Vola Analy	t <b>ile Hyd</b> ytical method	l <b>rocarl</b> ds: SW8	<b>bons as Gas</b> 8021B/8015Cm	oline with <b>B</b>	FEX and MT	BE* Work Or	der: 06	02331
Lab ID	Client ID	Matrix	TPH(g)	MTB	BE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW6-10.5	S	ND	ND	)	ND	ND	ND	ND	1	84
004A	MW10-25	S	69,g,m	ND	)	ND	ND	0.046	0.12	1	116
006A	MW8-27	S	ND	ND	)	ND	ND	ND	ND	1	89
009A	MW9-29	S	ND	ND	)	ND	ND	ND	ND	1	89
012A	MW7-21.5	S	530,g,m	ND<2	2.0	ND<0.20	ND<0.20	0.23	0.71	40	99
015A	MW7-31	s	4.0,g,m	ND	)	ND	0.0091	0.0092	0.0083	1	97
016A	MW7-32	S	15,g,m	ND	)	0.0060	0.026	0.018	0.023	1	92
Rej	porting Limit for DF =1;	W	NA	NA		NA	NA	NA	NA	1	ug/L
ND al	means not detected at or bove the reporting limit	S	1.0	0.05	5	0.005	0.005	0.005	0.005	1	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/nonaqueous 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 McCampbell 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 nontarget isolated peaks subtracted out of the TPH(g) concentration at the client's request; o) results are reported on a dry weight basis.

DHS Certification No. 1644

above the reporting limit

1 mg/Kg

Me	Campbell Analytic	cal, ]	Inc.		110 2nd Ay Telepho Website: www.r	venue one : 9 mccar	South, #D7, Pacheco, CA 94: 925-798-1620 Fax : 925-798- npbell.com E-mail: main@mcc	553-5560 -1622 campbell.con	1
AEI Consultan	ts	Clien	nt Project II	D:	#115483; Omega		Date Sampled: 02/	15/06-02	/16/06
2500 Camino I	Diablo, Ste. #200						Date Received: 02/	17/06	
   Walnut Creek	CA 94597	Clie	nt Contact:	Rol	bert Flory		Date Extracted: 02/	17/06	
		Clie	nt P.O.:	_			Date Analyzed: 02/	18/06-02	/22/06
Extraction method: SV	Diesel (C10-23) and Oil ( W3550C	(C18+)	) Range Ext	ract ethods	able Hydrocarbons s: SW8015C	as D	viesel and Motor Oil*	Work Order	:: 0602331
Lab ID	Client ID		Matrix		TPH(d)		TPH(mo)	DF	% SS
0602331-001A	MW6-10.5		S		1.1,b		ND	1	108
0602331-004A	MW10-25		S		290,k		ND	1	106
0602331-006A	MW8-27		S	_	ND		ND	1	107
0602331-009A	MW9-29		S	_	ND		ND	1	87
0602331-012A	MW7-21.5		S		1500,k		ND<50	10	108
0602331-015A	MW7-31		S	_	6.4,k		ND	1	106
0602331-016A	MW7-32		S		73,k		ND	1	110
						<u> </u>			

Reporting Limit for DF =1; ND means not detected at or	W	NA	NA	ug/L
above the reporting limit	S	1.0	5.0	mg/Kg

\* water samples are reported in  $\mu g/L$ , wipe samples in  $\mu g/wipe$ , 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  $\mu g/L$ .

# 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 McCampbell 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/jet fuel; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

\_Angela Rydelius, Lab Manager



## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O.	Sample	Matrix:	Soil
------	--------	---------	------

QC Matrix: Soil

WorkOrder: 0602331

EPA Method: SW8021B/8015	Cm E	xtraction	: SW5030	В	Batch	nID: 20402	2	Spiked Sa	mple ID 0602	2331-009A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
, maryte	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex <sup>f</sup>	ND	0.60	111	120	7.81	113	111	1.76	70 - 130	70 - 130
MTBE	ND	0.10	100	96	4.44	97.2	98.7	1.50	70 - 130	70 - 130
Benzene	ND	0.10	101	99.4	1.95	95.3	95.7	0.351	70 - 130	70 - 130
Toluene	ND	0.10	99.9	100	0.434	95.1	94.5	0.643	70 - 130	70 - 130
Ethylbenzene	ND	0.10	103	102	0.600	98	97.6	0.411	70 - 130	70 - 130
Xylenes	ND	0.30	101	101	0	100	99.7	0.334	70 - 130	70 - 130
%SS:	89	0.10	104	107	2.84	101	98	2.61	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 20402 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0602331-001A	2/15/06 9:15 AM	2/17/06	2/21/06 5:49 PM	0602331-004A	2/15/06 10:40 AM	2/17/06	2/18/06 12:00 PM
0602331-006A	2/15/06 1:50 PM	2/17/06	2/18/06 12:33 PM	0602331-006A	2/15/06 1:50 PM	2/17/06	2/21/06 6:56 PM
0602331-009A	2/16/06 8:30 AM	2/17/06	2/18/06 1:06 PM	0602331-012A	2/16/06 10:30 AM	2/17/06	2/18/06 10:21 AM
0602331-015A	2/16/06 11:30 AM	2/17/06	2/18/06 6:53 AM	0602331-016A	2/16/06 11:35 AM	2/17/06	2/18/06 7:25 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.



### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0602331

EPA Method: SW8015C	E	xtraction	: SW3550	С	Batch	nID: 20401		Spiked Sa	mple ID 0602	2331-009a
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
, maij to	mg/Kg mg/Kg %			% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	ND	20	115	115	0	98.3	117	17.0	70 - 130	70 - 130
%SS:	87	50	102	101	0.734	86	104	19.4	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 20401 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0602331-001A	2/15/06 9:15 AM	2/17/06	2/18/06 10:06 PM	0602331-004A	2/15/06 10:40 AM	2/17/06	2/18/06 8:58 PM
0602331-006A	2/15/06 1:50 PM	2/17/06	2/19/06 12:21 AM	0602331-009A	2/16/06 8:30 AM	2/17/06	2/19/06 3:29 AM
0602331-012A	2/16/06 10:30 AM	2/17/06	2/22/06 1:50 AM	0602331-015A	2/16/06 11:30 AM	2/17/06	2/19/06 1:29 AM
0602331-016A	2/16/06 11:35 AM	2/17/06	2/22/06 4:06 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.



AEI Consultants	Client Project ID: #115483; Omega termite	Date Sampled:	03/13/06
2500 Camino Diablo, Ste. #200		Date Received:	03/13/06
Walnut Creek CA 94597	Client Contact: Robert Flory	Date Reported:	03/16/06
(funde Crook, C/1 )+557	Client P.O.:	Date Completed:	03/20/06

#### WorkOrder: 0603207

March 20, 2006

#### Dear Robert:

Enclosed are:

- 1). the results of 10 analyzed samples from your #115483; Omega termite 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. McCampbell Analytical Laboratories strives for excellence

in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

Telepho	McCAM	IPBELL 110 2 <sup>sd</sup> AV PACHEC 3-1620	ANAL ENUE SO O, CA 945	YT UTH, 53-55	ICA #D7 60 F	L IN	NC. 925	) 798	8-16	22			1	UF	rac	AR	ED				OI IE PDF	FC			CO Exc	D) 24 E		41 		te O	72 HR n (DW)	5 DAY
D	4 The sec		P	ill Te	. Sa	me	_		_	-	-	-	-				-	Ana	alvs	is R	equ	est	20	1	_			1	Other	r	Comm	ients
Report To: Rober	T Flory		D	mitt	); 3a	me				-			$\vdash$		~		-											-		T	Filter	
Company: AEIC	Comino Dial	blo Suite	200				_	_		-	_		6		3&F													List			Sampl	es for
Waln	at Creek C	A 94597	F	-Mai	il: rfle	rv@	aeico	nsult	ants	com	1		E		&F/4						S		310					1961			Metals	1
Tel: (025) 044-25	200 extensio	n 122	F	ax: (	925)	944	-289	95					15)/1		0 E	8.1)					E.B		0/8					0.Ta			Analy	SIS:
Project #-115483	in the second second	11 122	P	rojec	t Nar	ne: (	Ome	ga te	rmit	te			80		(552	(41		6			ED		827(					8010			Yes /	No
Project Location:	807 75 <sup>th</sup>			-				-					020	r oil	ase	pons	(ISI)	802			nct		25 /			(010)		B				
Sampler Signatur	e: Adrin	n I	11Cto			_		_					02/8(	ioto	95	ocarl	0101	02 /	8080		60 i		A 6.			2/6(		260				
Campion Signature	11914	SAMP	LING	N	lers	P	MAT	<b>FRIX</b>	(	M	SE	HOD	s Gas (6	csel / n	n Oil &	n Hydr	260 (80	(EPA 6	608/1	\$ / 8080	s by 82	0	s by EP	1s	8	21/239		OCs (8				
SAMPLE ID (Field Point Name)	LOCATION	Date	Time	# Container	Type Contair	Water	Soil	Alr Sludge	Other	Ice	HCI	HNO <sub>3</sub>	BTEX & TPH as	TPH (8015) di	Total Petroleun	Total Petroleun	HVOCs EPA 8	BTEX ONLY (	Pesticides EPA	PCBs EPA 608	Fuel Dditi8ves	EPA 625 / 827	PAH's/PNA'	CAM-17 Meta	LUFT 5 Metal	Lead (7240/74	RCI	Halogenated V				
MW-6-1		2-13-0h		4	VII	X				X	V		X	X					(=1		X											
MW-2 2		5-1100	-	Ì	I	X				X	V		~	X							X				6							
MW					11	C	-			X	2		C	X						1	X				-	-						
MW			-		++-	3	+			X	2			-							X											
MW-0 Y				+	++-	1	-	-		H			1	12	-						X											
MANNES STUF5					++	K	-	-	+ 1	N	£	-	1	12	-	-					×											
MW-10 6				++	++	K	-		-	Kľ	X	-	×	1	-		-	-	-		0	_		-	-	-	-			+		
MW-7			-		11	X	_	-	-	K	K	-	2	X	-	-		-	-		~			-	-		-	$\vdash$		+	-	
mw-B						X				KI		_	X	7	-			-	-		×	_	-	-	-	-	-			+		
MW 9						+				KD	(		X	X				_			K					-	-			-	-	
MNW-10		1		1	4	X				V	1	_	X	X							×			_			-			_	-	
New										2	1							-								_			_	-		_
							_				V	)																				
Relinquished By:	118+0	Date: 3-13-04	Time:	Rec	ceived	By:	2	V	d	L	k	2		ICE	/t°_	1	ND	TIC	N	~	/		PRI	ESE	RV	ATI	ON	/OAS	0&0	G	METALS	OTHE
Relinquished By:		Date:	Time:	Rec	reived	By:	-			-	-			GO HE DE	AD	SPA	CE IN/	AB	SEN D IN	T_NLA	√ B_			NTA	SER	ERS		LAI	3	_	į.	

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## McCampbell Analytical, Inc.



110 Second Avenue South, #D7 Pacheco, CA 94553-5560 (925) 798-1620

# **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

(925) 798-162	20		Wo	orkOrd	rkOrder: 0603207 ClientID: AEL				EDF	: YES						
Report to:						Bill to:						Req	uested	TAT:	5	days
Robert Flory		TEL: (925) 283-600	00	Joanne Bryant												
AEI Consultants		FAX: (925) 283-612	21	AEI Consultants												
2500 Camino Dia	ablo. Ste. #200	ProjectNo: #115483: Om	ega termite	2500 Camino Diablo, Ste. #200						Date Received:			03/13	/2006		
Walnut Creek. C	A 94597	PO:		Walnut Creek, CA 94597 Date Printed:					ed:	03/13/2006						
								,							00/10	/2000
								Re	quested T	ests (	See leg	end bel	ow)			
Sample ID	ClientSampID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0603207-001	MW-1	Water	3/13/06		В	A	A	С								
0603207-002	MW-2	Water	3/13/06		В	A		С								
0603207-003	MW-3	Water	3/13/06		В	A		С						1		
0603207-004	MW-4	Water	3/13/06		В	A	-	С								
0603207-005	TW-5	Water	3/13/06		В	A		С						1	-	
0603207-006	MW-6	Water	3/13/06		В	A		С						1	-	
0603207-007	MW-7	Water	3/13/06		В	A		С							-	
0603207-008	MW-8	Water	3/13/06		В	A		С							1	
0603207-009	MW-9	Water	3/13/06		В	A		С				1		<u> </u>	1	1
0603207-010	MW-10	Water	3/13/06		В	Α		С	1					1	1	

#### Test Legend:

1	5-OXYS+PBSCV_W	2 G-MBTEX_W	3 PREDF REPORT	4 TPH(DMO)_W	5
6		7	8	9	10
11		12			

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.

McCampbell An	McCampbell 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						
AEI Consultants		Client Pr	oject ID:	#11548	3; Omega	Date Sampled:	03/13/06						
2500 Camino Diablo, Ste. #200		termite				Date Received: 03/13/06							
Walnut Creek, CA 94597		Client Co	ontact: Ro	bert Fl	ory	Date Extracted:	03/14/06-0	3/15/06					
Wallat Creek, Cry 94597		Client P.0	D.:	Date Analyzed: 03/14/06-03/15/06									
Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*													
Extraction Method: SW5030B	0B		Work Orde	er: 0603207									
Lab ID	07-001B	0603207-	-002B	0603207-003B	0603207-004B								
Client ID	W-1	MW	-2	MW-3	MW-4	Reporting	Limit for						
Matrix W V					W	W	DF =1						
DF	DF 1 1				1	1	S	W					
Compound				Conce	entration		ug/kg	µg/L					
tert-Amyl methyl ether (TAME)	Ň	١D	ND		ND	ND	NA	0.5					
t-Butyl alcohol (TBA)	6	5.1	ND		ND	ND	NA	5.0					
1,2-Dibromoethane (EDB)	Ň	١D	ND		ND	ND	NA	0.5					
1,2-Dichloroethane (1,2-DCA)	3	.6	ND		ND	ND	NA	0.5					
Diisopropyl ether (DIPE)	Ň	١D	ND		ND	ND	NA	0.5					
Ethyl tert-butyl ether (ETBE)	Ň	١D	ND		ND	ND	NA	0.5					
Methyl-t-butyl ether (MTBE)	0.	.89	0.76	5	1.1	1.9	NA	0.5					
		Surr	ogate Rec	overie	s (%)								
%SS1:	1	02	101		100	101							
Comments													

\* water and vapor samples are reported in  $\mu g/L$ , 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  $\mu g/$ wipe.

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

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than  $\sim 1$  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.

McCampbell An	McCampbell 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						
AEI Consultants	C	Client Pro	oject ID: 7	#11548	3; Omega	Date Sampled:	03/13/06					
2500 Camino Diablo, Ste. #200	ter	ermite				Date Received: 03/13/06						
Walnut Creek, CA 94597	C	Client Co	ontact: Ro	obert Fl	ory	Date Extracted:	03/14/06-0	3/15/06				
Wanda Oreek, Orry 1057	C	Client P.C	P.O.: Date Analyzed: 03/14/06-03/15/06									
Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*												
Extraction Method: SW5030B	0603207	Anal	o603207	: SW826	0B	0603207 008B	Work Orde	er: 0603207				
	0003207-	-005B	0003207-	-000B	0003207-007B	0003207-008B						
Client ID	TW-:	-5	MW·	-6	MW-7	MW-8	Reporting Limit for					
Matrix W V					W	W	DF =1					
DF 1 1					1	1	S	W				
Compound				Conce	entration		ug/kg	μg/L				
tert-Amyl methyl ether (TAME)	ND	)	ND		ND	ND	NA	0.5				
t-Butyl alcohol (TBA)	ND	)	ND		ND	ND	NA	5.0				
1,2-Dibromoethane (EDB)	ND	)	ND		ND	ND	NA	0.5				
1,2-Dichloroethane (1,2-DCA)	ND	)	ND		ND	ND	NA	0.5				
Diisopropyl ether (DIPE)	ND	)	ND		ND	ND	NA	0.5				
Ethyl tert-butyl ether (ETBE)	ND	)	ND		ND	ND	NA	0.5				
Methyl-t-butyl ether (MTBE)	)	ND		ND	ND	NA	0.5					
		Surro	ogate Rec	overies	s (%)							
%SS1:	102	2	102	!	103	104						
Comments	i											

\* water and vapor samples are reported in  $\mu g/L$ , 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  $\mu g/$ wipe.

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

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than  $\sim 1$  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.

McCampbell Ana	alytical, 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							
AEI Consultants	Client Pro	ject ID: #11548	3; Omega	Date Sampled:	03/13/06					
2500 Camino Diablo, Ste. #200	termite			Date Received: 03/13/06						
Walnut Creek, CA 94597	Client Co	ntact: Robert Fl	ory	Date Extracted:	03/14/06-0	3/15/06				
Wallat Creek, CAT 94597	Client P.C	).:		Date Analyzed:	03/14/06-0	3/15/06				
Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*										
Extraction Method: SW5030B	50B	1	Work Orde	er: 0603207						
Lab ID	0603207-009B	0603207-010B								
Client ID MW-9 MW					Reporting	Limit for				
Matrix	W	W			DF	=1				
DF	1	1			S	W				
Compound			ug/kg	µg/L						
tert-Amyl methyl ether (TAME)	ND	ND			NA	0.5				
t-Butyl alcohol (TBA)	ND	ND			NA	5.0				
1,2-Dibromoethane (EDB)	ND	ND			NA	0.5				
1,2-Dichloroethane (1,2-DCA)	0.66	ND			NA	0.5				
Diisopropyl ether (DIPE)	ND	ND			NA	0.5				
Ethyl tert-butyl ether (ETBE)	ND	ND			NA	0.5				
Methyl-t-butyl ether (MTBE)	2.4	2.7			NA	0.5				
Surrogate Recoveries (%)										
%SS1:	102	104								
Comments	h									
* water and vapor samples are reported in	µg/L, soil/sludge/sol	id samples in mg/k	g, product/oil/non-a	aqueous liquid sample	es and all TC	LP & SPLP				

\* 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 coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than  $\sim 1$  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.

	McCampbell A		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								
AEI Co	onsultants		Client Proj	ect ID: #1	115483	3; Omega ter	rmite	Date Sample	ed: 03/13/06		
2500 Ca	amino Diablo, Ste. #200							Date Receive	ed: 03/13/06		
Wolnut	Crock CA 94597		Client Cor	ntact: Rob	ert Flo	ory		Date Extract	ed: 03/14/06	-03/15	i/06
w annut	CIEEK, CA 94397		Client P.O.	:				Date Analyz	ed: 03/14/06	-03/15	5/06
Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*   Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order										ler: 06	603207
Lab ID   Client ID   Matrix   TPH(g)   MTBE   Benzene   Toluene								Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	840,a,i	ND		330	1.3	5.1	17	1	118
002A	MW-2	w	3400,a	ND<50		20	9.4	110	80	10	119
003A	MW-3	w	1300,a	ND<17	,	90	2.5	87	72	3.3	105
004A	MW-4	W	490,a	ND		92	0.88	31	15	1	106
005A	TW-5	w	ND	ND		ND	ND	ND	ND	1	105
006A	MW-6	W	87,a,i	ND		ND	0.83	1.3	0.80	1	109
007A	MW-7	W	460,a	ND		2.5	1.0	ND	3.3	1	114
008A	MW-8	W	280,a	ND		ND	2.0	ND	1.3	1	115
009A	MW-9	W	1100,a,h	ND		85	1.8	0.64	100	1	99
010A	MW-10	w	ND	ND		ND	ND	ND	ND	1	94
-											
										<u> </u>	
Rep	Reporting Limit for DF =1; W			5.0		0.5	0.5	0.5	0.5	1	µg/L
ND ab	ND means not detected at or above the reporting limit			NA		NA	NA	NA	NA	1	mg/Kg

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/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 McCampbell 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.

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AEI Consultan	its	Client Pr	oject ID:	#115483; Omega	Date Sampled: 03/	13/06			
2500 Camino E	Diablo, Ste. #200				Date Received: 03/	13/06			
Walnut Creek,	CA 94597	Client C	ontact: R	obert Flory	Date Extracted: 03/	13/06			
		Client P.	0.:		Date Analyzed: 03/	13/06-03/	14/06		
Extraction method: S	Diesel (C10-23) and Oil (	C18+) Rai	nge Extra	ctable Hydrocarbons	as Diesel and Motor Oil*	Work Order	· 0603207		
Lab ID	Client ID	Ma	trix	TPH(d)	TPH(mo)	DF	% SS		
0603207-001C	MW-1	N	N	260,b,d,i	ND	1	99		
0603207-002C	MW-2	1	N	1200,d,b	ND	1	99		
0603207-003C	MW-3	V	N	380,d	ND	1	99		
0603207-004C	MW-4	V	N	77,d,b	ND	1	98		
0603207-005C	TW-5		N	180,g,b	260	1	100		
0603207-006C	MW-6		N	160,g,d,b,i	310	1	96		
0603207-007C	MW-7		N	3500,k	360	1	89		
0603207-008C	MW-8		N	130,d	ND	1	87		
0603207-009C	MW-9		N	11,000,a,h	4100	10	92		
0603207-010C	MW-10		N	220,k	ND	1	86		

Reporting Limit for $DF = 1$ ;	W	50	250	μg/L
ND means not detected at or	c	NA	NA	ma/V a
above the reporting limit	3	NA	INA	mg/Kg

\* water samples are reported in  $\mu$ g/L, wipe samples in  $\mu$ g/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / SPLP / TCLP extracts are reported in  $\mu$ g/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 McCampbell 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; 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;

DHS Certification No. 1644





## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water		QC Matrix: Water								WorkOrder: 0603207			
EPA Method: SW8260B	E	xtraction	: SW5030	В	Batch	nID: 20709	)	Spiked Sa	piked Sample ID 0603200-002B				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD Acceptance Criteria (%)					
, individ	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD			
tert-Amyl methyl ether (TAME	ND	10	110	109	0.158	109	105	3.91	70 - 130	70 - 130			
t-Butyl alcohol (TBA)	ND	50	84.6	88.5	4.45	85	90.3	6.04	70 - 130	70 - 130			
1,2-Dibromoethane (EDB)	ND	10	92.3	92.3	0	97.4	92.9	4.67	70 - 130	70 - 130			
1,2-Dichloroethane (1,2-DCA)	ND	10	111	114	2.82	114	120	4.71	70 - 130	70 - 130			
Diisopropyl ether (DIPE)	ND	10	120	117	2.54	116	119	2.53	70 - 130	70 - 130			
Ethyl tert-butyl ether (ETBE)	ND	10	113	112	1.30	112	107	4.51	70 - 130	70 - 130			
Methyl-t-butyl ether (MTBE)	ND	10	106	108	1.72	108	103	5.43	70 - 130	70 - 130			
%SS1:	100	10	110	111	0.637	113	111	2.33	70 - 130	70 - 130			
All target compounds in the Met NONE	hod Blank o	f this extra	ction batcl	n were ND	less than the r	nethod RL	with the f	following exc	eptions:				

#### BATCH 20709 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0603207-001B	3/13/06	5 3/14/06	3/14/06 5:13 PM	0603207-002B	3/13/06	3/14/06	3/14/06 5:55 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.

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



QA/QC Officer



## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water		QC Matrix: Water								WorkOrder: 0603207			
EPA Method: SW8260B	E	xtraction	: SW5030	В	Batcl	nID: 20717	,	Spiked Sample ID 0603210-006C					
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)			
, mary to	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD			
tert-Amyl methyl ether (TAME	ND	10	91.7	88.2	3.95	91.7	88.7	3.34	70 - 130	70 - 130			
t-Butyl alcohol (TBA)	ND	50	95	91.8	3.38	95	101	6.24	70 - 130	70 - 130			
1,2-Dibromoethane (EDB)	ND	10	103	104	1.60	113	109	3.60	70 - 130	70 - 130			
1,2-Dichloroethane (1,2-DCA)	ND	10	108	106	2.22	95.4	96.8	1.47	70 - 130	70 - 130			
Diisopropyl ether (DIPE)	ND	10	110	111	0.440	109	106	3.47	70 - 130	70 - 130			
Ethyl tert-butyl ether (ETBE)	ND	10	103	102	1.35	103	101	1.71	70 - 130	70 - 130			
Methyl-t-butyl ether (MTBE)	ND	10	101	101	0	101	100	0.508	70 - 130	70 - 130			
%SS1:	98	10	107	106	0.336	102	100	1.46	70 - 130	70 - 130			
All target compounds in the Met	All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:												

#### BATCH 20717 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0603207-003B	3/13/06	3/14/06	3/14/06 6:38 PM	0603207-004B	3/13/06	3/14/06	3/14/06 7:21 PM
0603207-005B	3/13/06	3/14/06	3/14/06 8:03 PM	0603207-006B	3/13/06	3/14/06	3/14/06 8:46 PM
0603207-007B	3/13/06	3/15/06	3/15/06 3:52 AM	0603207-008B	3/13/06	3/14/06	3/14/06 11:36 PM
0603207-009B	3/13/06	3/15/06	3/15/06 12:19 AM	0603207-010B	3/13/06	3/15/06	3/15/06 1:01 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.



QA/QC Officer



## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0603207

EPA Method: SW8021B/8015	EPA Method: SW8021B/8015Cm Extraction: SW5030B						BatchID: 20702 Spiked Sample ID			
Analyte	Sample	e Spiked MS M		MSD	MS-MSD LCS		LCSD	LCS-LCSD	Acceptance Criteria (%)	
, indigite	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex <sup>f</sup>	ND	60	123	115	4.73	107	109	1.72	70 - 130	70 - 130
MTBE	10	10	79.6	80.9	0.738	95.1	91.5	3.84	70 - 130	70 - 130
Benzene	0.77	10	90.1	89.7	0.410	99	94.1	5.08	70 - 130	70 - 130
Toluene	ND	10	94.5	92.2	2.42	102	96	5.64	70 - 130	70 - 130
Ethylbenzene	ND	10	94.2	96.7	2.59	101	96.5	4.48	70 - 130	70 - 130
Xylenes	ND	30	96.3	100	3.74	103	99.3	3.95	70 - 130	70 - 130
%SS:	115	10	99	99	0	105	100	5.11	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 20702 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0603207-001A	3/13/06	3/14/06	3/14/06 7:20 AM	0603207-002A	3/13/06	3/14/06	3/14/06 7:52 AM
0603207-003A	3/13/06	3/14/06	3/14/06 4:51 PM	0603207-004A	3/13/06	3/14/06	3/14/06 8:57 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 applicable or not enough sample to perform matrix spike and matrix spike duplicate.





## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0603207

EPA Method: SW8021B/8015	BatchID: 20716			Spiked Sample ID 0603208-008A							
Analyte	Sample	e Spiked MS MS		MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance	Acceptance Criteria (%)	
, indigite	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD	
TPH(btex <sup>f</sup>	ND	60	108	107	0.669	108	105	2.72	70 - 130	70 - 130	
MTBE	ND	10	86.8	91.6	5.37	95.1	92.5	2.84	70 - 130	70 - 130	
Benzene	ND	10	94	101	7.21	100	96.8	3.64	70 - 130	70 - 130	
Toluene	ND	10	96.4	102	5.66	92.8	91.1	1.83	70 - 130	70 - 130	
Ethylbenzene	ND	10	98.5	101	2.57	99.7	97.3	2.48	70 - 130	70 - 130	
Xylenes	ND	30	100	100	0	95.3	94.7	0.702	70 - 130	70 - 130	
%SS:	103	10	100	102	2.54	100	101	0.103	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 20716 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0603207-005A	3/13/06	3/14/06	3/14/06 9:29 AM	0603207-006A	3/13/06	3/14/06	3/14/06 10:02 AM
0603207-007A	3/13/06	3/15/06	3/15/06 11:05 PM	0603207-008A	3/13/06	3/14/06	3/14/06 11:07 AM
0603207-009A	3/13/06	3/15/06	3/15/06 11:38 PM	0603207-010A	3/13/06	3/15/06	3/15/06 10:33 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.

£ 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.



## **APPENDIX E**

## Well Elevation Survey Data



## **APPENDIX F**

## Sensitive Receptor Survey Data





#### WELLS LOCATED WITHIN 1/2 MILE OF SUBJECT SITE AND SENSITIVE RECEPTORS

Omega Termite, 807 75th Ave., Oakland, CA

Site	Location	Site Name	Address	Well	Date	Boring	Well	Surface	Casing	Completion	DTW	Pump	Comments
Number				Number	Installed	Depth	Depth	Pipe	Diameter	· · · ·		Test	
						(feet)	(feet)	(feet)	(inches)		(feet)		
						( )	(,	( )			(,		
Wells Within 1/2 mile radius													
1	2S/3W/16G 01	General Electric Co	1034 66th Ave	1	NA	71	71		NA	NA	18.0		20' seal
2	28/3W/16G 02	City of Oakland	1016 66th Ave	MW-1	02/07/91	20	20		4	6.0 - 20.0	9.0		
-	28/3W/16G 04	City of Oakland	1010 00011100	MW-2	02/08/91	21	20		4	8.0-21.0	9.0		
	28/3W/16G 03			MW-3	02/07/91	20.5	20.5		4	10.0-20.0	10.0		
	2S/3W/16G 05			MW-4	07/15/91	21.4	21.4		4	6.0-21.4	5.0		
3	2S/3W/16K 01	Phillips	830-844 69th Ave		NA	17	17	10" unk	6	8.0-17.0			destroyed 4/15/91
4	28/2W/16L 01	UNIOCAL #2125	845 66th Ave	MW1	04/26/00	23	22		2	5 0 23 0	14.5		
4	25/3W/16L 01	UNOCAL # 5155	845 00th Ave	MW2	04/27/90	23	23		2	5.0-23.0	14.5		
	28/3W/16L 03			MW3	04/26/90	22	23		2	4 0-22 0	10.5		
	25/3W/16L 07			MW4	08/14/90	26	25		2	5.0-25.0	15		
	28/3W/16L 08			MW5	08/14/90	26	26		2	6.0-26.0	13.5		
	28/3W/16L 09			MW6	08/14/90	26	26		2	6.0-26.0	16.5		
	28/3W/16L 13			MW8	09/29/92	23	23		2	6.0-23.0	13.5		
	2S/3W/16L 14			MW9	09/28/92	23	23		2	6.0-23.0	13.5		
	28/3W/16L 15			MW10	09/28/92	23	23		2	5.0-23.0	13.5		
5	28/3W/16L.04	7-UP Bottling	6506 San Leandro Blvd	MW1	08/09/90	15.5	11		2	6.0-11.0	5.0		
Ū	28/3W/16L 05	, of Bolding	oboo ban Etanaro Biva	MW2	08/09/90	11.5	10.5		2	5.5-10.5	5.5		
	28/3W/16L 06			MW3	08/09/90	12	11		2	6.0-11.0	NA		
	28/3W/16L 10		6506 San Leandro St.	MW4	01/27/92	19.5	19.5	15	2/10	6.0-26.0	9.69		
	2S/3W/16L 11			MW5	01/27/92	30.5	30.5	15	2/10	6.0-26.0	10.72		
	28/3W/16L 12			MW6	01/27/92	19.5	19.5	15	2/10	6.0-26.0	10.56		
6	2S/3W/16M 01	McGuire and Hester	796 66th Ave	MW-1	NA	31	29		2	5.0-29.0	5.5		Destroyed
	2S/3W/16M 02			MW-2	NA	27	25		2	4.5-27.0	5.5		Destroyed
	2S/3W/16M 03			MW-3	NA	36	26		2	7.5-26	9.5		Destroyed
	DWR 740177	Cruise America	796 66th Ave	MW-1	09/18/02	14	14		4	4.5-14.0	3.90		
	DWR 740178			MW-2	09/18/02	14	14		2	4.5-14.0	4.59		
	DWR 740181			MW-3	09/18/02	14	14		2	4.5-14.0	4.44		
	DWR 740180			MW-4	09/18/02	14	14		2	4.5-14.0	4.11		
	DWR 740179			MW-5	09/18/02	14	14		2	4.5-14.0	4.23		Sparge wells
				S-1	04/17/04	20	18		3/4	15.5-18.0			Sparge wells
				S-2	04/17/04	18	18		3/4	15.5-18.0			Sparge wells
				S-3	04/17/04	18.5	18.5		3/4	16.0-18.5			Sparge wells
				S-4	04/17/04	18	18		3/4	15.5-18.0			Sparge wells
				S-5	04/17/04	18.5	18.5		3/4	16.0-18.5			Sparge wells
				S-6	04/17/04	18	17		3/4	14.5-17.0			Sparge wells
				S-7	04/18/04	16.5	16.5		3/4	14.0-16.5			Sparge wells
				S-8	04/18/04	15	14		3/4	12.5-14.0			Sparge wells
				S-9	04/18/04	16.5	16.5		3/4	14.0-16.5			Sparge wells
				S-10	04/18/04	18	15		3/4	13.5-15.0			Sparge wells
				S-11	04/18/04	17	17		3/4	15.5-17.0			Sparge wells
				S-12	04/18/04	15	13.5		3/4	11.0-13.5			Sparge wells

#### WELLS LOCATED WITHIN 1/2 MILE OF SUBJECT SITE AND SENSITIVE RECEPTORS Omega Termite, 807 75th Ave., Oakland, CA

Site Number	Location <sup>1</sup>	Site Name	Address	Well Number	Date Installed	Boring Denth	Well	Surface	Casing Diameter	Completion	DTW	Pump Test	Comments
Number				Number	Instaneu	(feet)	(feet)	(feet)	(inches)		(feet)	Test	
Wells W	ithin 1/2 mile r	adius											
7	2S/3W/16P 01	Oakland Coliseum	Hegenberger & I-880	OW-5A	09/07/90	74	74		4	54.0-74.0	NA	Yes	
	2S/3W/16P 02			OW-4A	09/06/90	100.5	100		4	80.0-100.0	18	Yes	
	2S/3W/16P 03			OW-1B	09/06/90	93.5	93		4	86.0-93.0	NA	Yes	
	2S/3W/16P 04			OW-5B	09/05/90	107	102		4	92.0-102.0	16.75	Yes	
	2S/3W/16P 05			OW-6B	09/09/90	77	72.5		4	50.5-7.25	18.85	Yes	
	2S/3W/16P 06			OW-2	09/04/90	86	82.5		4	62.0-82.0	14.44	Yes	
	2S/3W/16P 08			OW-1A	09/03/90	80	75.5	54.4	1/6	54.4-74.0	14.42	Yes	Double cased & perf
	2S/3W/16P 09			OW-4A	09/09/90	72	70	51	1/6	51.0-70.0	14.6	Yes	Double cased & perf
	2S/3W/16P 10			OW-7	09/10/90	100	72		4	52.0-72.0	NA		
	2S/3W/16P 11			OW-6A	09/06/90	100	97.5		4	77.5-97.5	18.6	Yes	
8	2S/3W/16Q 01	AeroQuality Plating/DHS		A-1	12/19/90	14.5	14.5		4	11.5-14.5	NA		
	2S/3W/16Q 02			A-2	12/20/90	27	24		4	14.5-24	NA		
	2S/3W/16Q 03			A-3	12/20/90	27	24		4	14.5-24	NA		
	2S/3W/16Q 04			B-1	01/18/91	66.5	63	25	4/12	53.0-63.0	NA		
	2S/3W/16Q 05			B-2	01/16/91	63	63	30	4/12	53.0-63.0	NA		
	2S/3W/16Q 06			B-3	01/16/91	69.5	67	30	4/12	57.0-67.0	NA		
9	2S/3W/16R 01	Amer. Brass & Foundry	7825 San Leandro St.	W-1429	04/04/77	510	495	50	14/30	176.0-495.0	92.5	1000 gpm	Water well
	2S/3W/16R 16	Amer. Brass & Iron		MW-1	02/09/93	23	20		2	10.0-20.0	5		
	2S/3W/16R 17			MW-2	02/09/93	17	17		2	8.0-17.0	5		
	2S/3W/16R 18			MW-3	02/09/93	19.5	19		2	9.0-19.0	NA		
	2S/3W/16R 19			MW-4	02/09/93	26.5	15		2	10.0-25.0	6.3		
	2S/3W/16R 23			MW-4	02/09/93	18	17		2	7.0-17.0	9.3		
10	28/3W/16R 02	County Recycling Services	800 77th Ave	GX-153A	01/27/84	26	26		8	6.0-26.0	8.8		
11	2S/3W/16R 03	Chip & Steak (Vao Cheney)	958 77th Ave	MW-1	08/09/89	19.8	18.5		2	7.0-18	7.3		
	2S/3W/16R 04			MW-2	08/09/89	24.5	23		2	8.0-23.0	7.45		
	2S/3W/16R 05			MW-3	08/09/89	24.5	24.5		2	9.0-24.5	7.61		
12	2S/3W/16R 08	Samura Trust	860 81st	MW-1	04/08/92	20	20		2	5.0-20	NA		
	2S/3W/16R 09			MW-2	04/08/92	20	20		2	5.0-20	NA		
	2S/3W/16R 10			MW-3	04/08/92	20	20		2	5.0-20	NA		
13	2S/3W/16R 11	Sunshine Biscuits	851 81st Ave.	MW-1	07/23/91	36	35		4	10.0-35.0	NA		
	2S/3W/16R 12			MW-2	07/23/91	36	35		4	9.0-34.0	NA		
	2S/3W/16R 13			MW-3	07/22/91	36	35		4	10.0-35.0	NA		
	2S/3W/16R 14			MW-4	07/22/91	36	35		4	10.0-35.0	NA		
14	2S/3W/16R 06	Mother Cookies	810 81nst Ave	MW-1	04/16/92	37	36.5		4	6.0-36.0	6.17		
	2S/3W/16R 07			MW-2	04/16/92	37	26.5		4	5.0-25.0	6.12		
	2S/3W/16R 15			MW-3	04/16/92	37	26.5		4	5.0-25.0	6.12		
	2S/3W/16R 20			MW-4	10/28/92	25	NA		2	NA	NA		
	2S/3W/16R 21			MW-5	10/28/92	26	24.5		2	4.5-24.5	3.5		

#### WELLS LOCATED WITHIN 1/2 MILE OF SUBJECT SITE AND SENSITIVE RECEPTORS Omega Termite, 807 75th Ave., Oakland, CA

Site	Location	Site Name	Address	Well	Date	Boring	Well	Surface	Casing	Completion	DTW	Pump	Comments
Number				Number	Installed	Depth	Depth	Pipe	Diameter (inches)		(feat)	Test	
						(leet)	(leet)	(leet)	(Inches)		(leet)		
Wells W	ithin 1/2 mile r	adius											
15	2S/3W/16R 23	Amer. Brass & Iron	865 77th Ave	MW-1	11/16/92	18	17		2	7.0-17.0	9.3		
16	2S/3W/21A 02	Mr. Nissin Saidian	8255 San Leandro St.	MW-1	06/24/93	15	15		2	3.0-15.0	NA		
17	2S/3W/21B 01	Former Morris Equipment Yard	8304 Baldwin St	MW-1	09/30/99	23	20		2	6.0-20.0	NA		
18	2S/3W/21C 01	Malibu Grand Prix	8000 S. Coliseum Dr.	MW-1	09/20/89	20	10.5		4	6.0-10.0	6.5		
	2S/3W/21C 02			MW-2	09/20/89	20	16		4	5.0-15.0	7.38		
	2S/3W/21C 03			MW-3	09/20/89	20	17		4	5.0-15.0	9.1		
	2S/3W/21C 04			MW-4	09/21/89	15	14		4	4.0-14.0	5.45		
	2S/3W/21C 05			MW-5	06/12/90	20	19.5		4	4.0-19.0	10.23		
	2S/3W/21C 06			MW-6	06/12/90	20	19		4	4.0-19.0	9.93		
	2S/3W/21C 07			MW-7	06/12/90	20	19.5		4	4.5-19.5	10.28		
	2S/3W/21C 08			MW-8	06/12/90	20	19.5		4	4.5-19.5	3.82		
	2S/3W/21C 09			MW-9	06/13/90	20	15		4	4.5-15.0	4.8		
	2S/3W/21C 10			MW-10	06/13/90	20	19		4	4.0-19.0	5.91		
	2S/3W/21C 11			MW-11	08/28/91	25	20		4	3.5-19.0	10 ?		
	2S/3W/21C 12			MW-12	08/28/91	25	20		4	4.5-20.0	10 ?		
	2S/3W/21C 13			MW-13	08/28/91	25	20		4	4.5-20.0	10 ?		
	2S/3W/21C 14			MW-14	08/27/91	25	20		4	4.5-20.0	10 ?		
	2S/3W/21C 15			MW-15	08/29/91	25	19		4	3.5-19.0	10 ?		
	2S/3W/21C 16			MW-16	08/29/91	20	18.5		4	3.5-18.5	10 ?		
	2S/3W/21C 17			MW-17	08/30/91	25	19.5		4	3.5-19.0	10 ?		
	2S/3W/21C 18			MW-18	08/29/91	21	21		4	5.0-20.0	10 ?		
19	2S/3W/22D 02	Lincoln Property Co	85th & San Leandro	MW-1	10/08/86	19.5	19.5		4	9.0-19.5	10.9		Destroyed
	2S/3W/22D 03			MW-2	10/08/86	19.5	19.5		4	9.0-19.5	8.5		Destroyed
	28/3W/22D 04			MW-3	10/08/86	19.5	19.5		4	9.0-19.5	8.25		Destroyed
20	2S/3W/22D 08	Crosby&Overton/Driesbach Assoc.	3410 Amelia St	MW-1	06/30/88	30	30		4	10.0-25.0	10.2		

1: Township, Range, Section

Sensitive Receptors Arroyo creek North Boundry of property

1



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http://sanborn.umi.com/sanborn/image/fetchimage?state=ca&reelid=reel75&lcid=727&im... 4/19/2006



1973 FIRST TERMITE CONTROL MORRIS GLADSTEIN 1979 FIRST TERMITE CONTROL MORRIS GLADSTEIN) 1985 OMEGA TERMITE CONTROL 1990 GWEGA REST CONTROL 1990 GWEGA REST CONTROL 2000 OMEGA REST CONTROL AUAN XANADY 2000 OMEGA REST CONTROL		Á. 19.06 OAKWIND PUBLIC LIBRARY 807 75th AVE, OAKWAND	city Directory
MOLPIS GLADSTEIN 1979 FIRST TERMINE CONTROL MOLPIS GLADSTEIN 1985 OMEGA TERMITE CONTROL 1990 GMEGA PEST CONTROL 1910 GMEGA PEST CONTROL 2000 OMEGA PEST CONTROL ALLAN KANADY 2000 OMEGA REST CONTROL	1973	FIRST TERMITE CONTROL	
1979 FIRST TELEWINE CONTROL MORELS CLADSTEIN) 1985 OMEGA TELMITE CONTROL 1990 OMEGA REST CONTROL 1990 OMEGA REST CONTROL 2000 OMEGA REST CONTROL ALLAN KANADY 2004 OMEGA REST CONTROL		MORRIS GLADSTEIN	
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## **APPENDIX G**

**Aerial Photos** 

## GeoSearch Aerial Photos Omega Termite, 807 75th Ave., Oakland, CA

Photo Date	Source	Scale	File Format
08/02/39	Fairchild	1' = 700'	PDF
07/29/46	USGS	1' = 700'	PDF
08/13/58	ASCS-USDA	1' = 700'	PDF
05/14/65	Cartwright Aerial Surveys	1' = 700'	PDF
07/05/82	USGS	1' = 700'	PDF
07/02/87	USGS	1' = 700'	PDF
7/10/1993	USGS	1' = 700'	PDF
9/13/1998	USGS	1' = 700'	PDF














