July 31, 2006

WELL AND OZONE MICRO-SPARGE SYSTEM INSTALLATION WORK PLAN

807 - 75th Avenue
Oakland, California

Project No. 115483
Fuel leak Case No. RO000508

Prepared For

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TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 SITE DESCRIPTION 1

3.0 SITE BACKGROUND 1

4.0 HYDROGEOLOGIC SETTING 3

5.0 ENVIRONMENTAL CONCERN 5

6.0 PROPOSED CORRECTIVE ACTION 6

6.1 System Components 7
6.2 Performance Monitoring 8
6.3 Reporting 8
6.4 Schedule 8

7.0 DEEPER ZONE MONITORING WELL INSTALLATION 9

7.1 Drilling 9
7.2 Soil Sampling and Analyses 9
7.3 Well Installation and Development 10
7.4 Groundwater Monitoring 10
7.5 Laboratory Analysis and Sample Storage 10

8.0 SPARGE POINT INSTALLATION 11

9.0 EQUIPMENT DECONTAMINATION, WASTE STORAGE 12

9.1 Equipment Decontamination 12
9.2 Waste Storage 12

10.0 SITE SAFETY 12

11.0 CLOSING STATEMENT AND SIGNATURES 12

LIST OF FIGURES

FIGURE 1	SITE LOCATION MAP
FIGURE 2	TANK EXCAVATION BORINGS AND SAMPLE LOCATIONS
FIGURE 3	SITE PLAN
FIGURE 4	MW-2: TPH-G & TPH-D VS. TIME
FIGURE 5	PROPOSED OZONE SPARGE POINT LOCATIONS
FIGURE 6	COMPONENT LOCATIONS
FIGURE 7	TYPICAL CONSTRUCTION OF DUAL DEPTH INJECTION POINTS

LIST OF TABLES

TABLE 1	SOIL SAMPLE ANALYTICAL DATA
TABLE 2	GROUNDWATER SAMPLE ANALYTICAL DATA
TABLE 3	GROUNDWATER MONITORING DATA
TABLE 4	FUEL OXYGENATE AND LEAD SCAVENGER DATA
TABLE 5	GROUNDWATER FLOW SUMMARY

1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this Well and Ozone Micro-Sparge System installation Work Plan on behalf of Allen Kanady, Omega Termite Control, Inc. (Omega), the owner of the property located at 807 75th Avenue in the City of Oakland, Alameda County, California (Figure 1). AEI has been retained by Omega to provide environmental engineering and consulting services related to the release of fuel hydrocarbons from previously removed underground storage tanks (USTs), which has impacted soil and groundwater of the site.

As requested by the Alameda County Health Care Services Agency (ACHCSA), AEI has prepared this Work Plan to present the planned scope of work to install two additional deeper zone monitoring wells and installation of an Ozone (O_3) sparging system to initiate mitigation of the fuel release. As outlined below, the primary contaminants present at the site is total petroleum hydrocarbons as gasoline (TPH-g), as diesel (THP-d), as motor oil (TPH-mo), benzene, toluene, ethylbenzene, and xylenes (BTEX) present in the shallow groundwater beneath the site. The selected method for contaminant removal from groundwater is low flow ozone sparging. This method will provide *in-situ* oxidation of the hydrocarbons present at the site and increase dissolved oxygen concentrations, which will in turn enhance natural biodegradation.

2.0 SITE DESCRIPTION

The site is located in an industrial area of the City of Oakland, on the northern corner of the intersection of 75th 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. The nearest surface water body is Arroyo Creek, which is located on the northern property boundary, approximately 75 feet north of well MW-6.

3.0 SITE BACKGROUND

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 (Tank Excavation Borings and Sample Locations). A total of five soil samples 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 results of soil analyses are summarized on Table 1. 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 ACHCSA 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), see Figure 2. The results of soil and groundwater analyses are summarized on Tables 1 and 2. In June 1999, four groundwater-monitoring wells (MW-1 through MW-4) were installed by AEI (Figure 3, Site Plan). The well construction details for wells MW-1 through MW-1 are summarized on Table 3.

Under the direction of ACHCSA, 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). This tank appeared to have been used for storage of waste oil. A total of six additional soil samples were collected from the sidewalls and bottom of the excavation. One sample, AEI EB 7', from near the waste oil tank was analyzed for TPH-d and TPH-mo in addition to TPH-g/BTEX as has been past practice at the site. This analysis reported TPH-d at a concentration of 220 mg/kg. This indicates that diesel was probably stored in one of the removed USTs. The results of soil and groundwater analyses are summarized on Tables 1 and 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. Analysis of the October 10, 2006 groundwater sample from TW-5 reported diesel at a concentration of 2,900 µg/L.

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 results of soil and groundwater analyses are summarized on Tables 1 and 2.

The report summarizing this site investigation was submitted to Amir Gholami, ACHCSA on November 18, 2003 and re-submitted to Jerry Wickham, ACHCSA on September 23, 2005.

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. Well MW-6 was completed as a shallow zone well and wells MW-7 through MW-10 were completed as Deeper Zone. The boreholes were advanced to a total depths ranging from 14 to 33 bgs. The constructions details of the new wells are include in Table 1 and the locations of wells MW-6 through MW-10 are shown on Figure 3.

Analysis of groundwater samples from deeper zone wells (MW-7 through MW-10) reported TPH-g at concentrations ranging from ND<50 μg/L (MW-10) to 1,100 μg/L (MW-9). TPH-d was reported at concentrations ranging from 130 μg/L (MW-8) to 14,000 μg/L (MW-9). TPH-mo was reported at concentrations ranging from ND<250 μg/L (MW-7, MW-8, MW-10)) to 4,100 μg/L (MW-9). The results of this investigation is detailed in the *Deeper Aquifer Soil & Groundwater Investigation Report*, dated April 28, 2006. The results of soil and groundwater analyses are summarized on Tables 1 and 2; the well construction details are contained on Table 3.

4.0 HYDROGEOLOGIC SETTING

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.

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 3 and 3a.

On April 26, 2006, the average groundwater elevation in wells MW-1 through MW-6 (Shallow Zone) was 6.51 above msl. The shallow zone flow direction was to the northeast with a gradient of 0.0004 ft/ft.

On April 26, 2006, the average groundwater elevation in wells MW-7 through MW-10 (Deeper Zone) was 7.37 above msl, slightly higher (0.67 feet) than the average groundwater elevation in shallow zone wells. The Deeper Zone flow direction was to the south with a gradient of 0.063 ft/ft.

As described above, the current groundwater level in the Shallow Zone was slightly lower than Deeper Zone at the time of the last quarterly monitoring event. On October 10, 2003, the groundwater level in the boring SB-14 was approximately 20.5 feet bgs or approximately 9.5 feet below mean seal level while the water level in the shallow zone was almost 15 feet higher at 5.26 above mean sea level. This suggests that during the dry season that the lower aquifer has a significantly lower water table with respect to the shallow zone. This difference in water levels would result in s significant downward gradient from the shallow zone to the deeper zone.

On June 15, 2006, the last quarterly monitoring event, conductivities measured in the shallow zone ranged from 898 micro Siemens per square centimeter ($\mu S/cm^2$) in MW-1 to 1507 $\mu S/cm^2$ in well MW-4 with an average of 1175 $\mu S/cm^2$. Conductivities measured in the deeper zone ranged from 1372 $\mu S/cm^2$ in MW-9 to 2054 $\mu S/cm^2$ in well MW-8with an average of 1568 $\mu S/cm^2$.

5.0 ENVIRONMENTAL CONCERN

Based on review of most recent groundwater sample analytical data, it is apparent that hydrocarbons in the gasoline, diesel, and motor oil ranges and BTEX are present in both the shallow zone and deeper zone groundwater beneath the site. The most recently reported monitoring data is included in Table 3. Figure 3 is a plot of hydrocarbon concentrations vs. time in MW-2 since monitoring began. High concentrations of hydrocarbons and light non aqueous phase liquid (LNAPL) are also present in the deeper zone in the areas of boring SB-14 and deeper well MW-9. Hydrocarbons are also present as an adsorbed phase in the soil underlying the former tank hold and soil in and adjacent to the shallow and deeper zone aquifers.

At the time the first USTs were removed the available verbal and written record indicated that 3 USTs were present and the available reports indicated they were used for storage of gasoline. At that time, no analyses of diesel or motor oil range hydrocarbons were done. In 2000, a fourth tank was discovered which was clearly used for waste oil. At that time analysis for diesel range and oil range hydrocarbons were added to the requested analyses and both were reported in the groundwater. Given the presence of light non-aqueous phase liquid (LNAPL) in the groundwater sample from TW-5 on September 19, 2001, which was predominantly diesel range hydrocarbons, it is logical to assume at least one of the previously removed UST had been used storage of diesel fuel.

The distribution of hydrocarbons in both the shallow and deeper zones are consistent with a release from onsite USTs with the highest reported gasoline, diesel and motor oil range hydrocarbons being reported in TW-5, the casing set into the backfilled tank pit. Analysis of TW-5 samples collected on September 19, 2001 reported TPH-g, TPH-d and TPH-mo at concentrations of 15,000µg/L, 2,700,00µg/L and 1,100,00µg/L, which are consistent with the reported presence of light non aqueous phase liquid (LNAPL).

Overall hydrocarbon concentrations have slowly declined in the shallow zone wells. The exception is well MW-2 where hydrocarbon concentrations have slow increased. The predominant hydrocarbons present in the shallow zone are gasoline range hydrocarbons.

High concentrations of dissolved hydrocarbons and LNAPL are also present in the deeper zone in the areas of boring SB-14 and deeper well MW-9. The predominant hydrocarbons in the deeper zone are diesel range hydrocarbons.

The presence of LNAPL in the Lower Zone appears anomalous and the cause is not clear at present, however currently available data suggests a likely transportation mechanism into the deeper sediments. When soil boring SB-14 was drilled on October 10, 2003, at the end of the dry season, the stable standing water level in the boring was at 20.5 feet bgs (approximately 10 feet below mean sea level).

The water level in the Shallow Zone typically is at and elevation of 5 feet or more above mean seal level for a difference of approximately 15 feet in 2003. In March, at the end of a very wet winter, groundwater levels in the Deep and Shallow Zones were roughly the same. Based on this data, it appears that during the dry seasons a downward gradient is likely present from the Shallow Zone and the underlying Deeper Zone. Analysis of soil sample MW7-21.5 (21.5 feet bgs, 15 feet below the top of the shallow zone) reported TPH-g and TPH-d at concentrations of 350 mg/kg and 1,500 mg/kg. These reported concentrations clearly indicate that vertical downward transport of hydrocarbons through the soil under the former tank hold. This suggests that at some time in the past a downward gradient sufficient to carry LNAPL has been present or that the Shallow Zone has been dry and the first wet horizon was at of below the Deeper Zone. This sort of relationship is commonly seen in the South Bay where water levels have recovered significantly over the last 20 years. However the presence of water year round at sea level in the adjacent arroyo Creek makes this an unlikely event at the subject site. It is more likely that the differences in groundwater levels observed in 2003 are typical of dry season relationships. This difference of approximately 15 feet in the hydraulic head between the Shallow and Deeper Zones, results in downward migration of groundwater and the associated hydrocarbons into the Deeper Zone.

Except for TW-5, shallow Zone wells typically have had higher concentrations of TPH-g than TPH-d. The lower viscosity and density of gasoline relative to diesel can explain this. Low viscosity/density hydrocarbons typically migrate horizontally with more easily with the movement of groundwater. Gasoline is less dense than diesel, hence has greater buoyancy than diesel. This buoyancy could result in less gasoline (relative to diesel) being carried to the Deeper Zone by groundwater flowing from the Shallow to Deeper Zone. It can be expected that more of the denser fuel than light gasoline would be carried into the Deeper Zone by the downward flow of groundwater. It is however, also just as probably that the higher diesel and motor oil concentrations in seen in Deeper Zone wells is the result of the higher diesel and motor oil concentrations and LNAPL in the overlying former tank pit.

In working with fuel UST which typically contain lighter than water products downward migration is seldom considered. However research on sites in dense non aqueous phase liquids (DNAPL) has shown that one of the most common vertical pathways, particularly in clays and clayey sediments are ubiquitous vertical fractures. These vertical fractures are commonly observed in non plastic clays found in the Bay Area if one looks for them and are a likely pathway for vertical migration of water which contained LNAPL

6.0 PROPOSED CORRECTIVE ACTION

As discussed above, dissolved and adsorbed phase carbons are considered the target for interim corrective action. O_3 sparging will be performed utilizing a system manufactured by H_20 Engineering, Inc. OSU20-52, to target both dissolved phase and adsorbed contaminants within the aquifer and smear zone. This method is as proven a cost effective off the shelf alternative to traditional groundwater extraction and above ground treatment (pump and treat). The method has been proven effective on sites with a wide variety of subsurface conditions. AEI is currently successfully operating a KVA C-sparge ™ system in much less optimum conditions (in predominately tight clay and bay mud) at a site approximately ½ mile away.

Ozone has a significant advantage over traditional air sparging in that the ozone directly oxidizes the contaminant but is also nearly 10 times more soluble in water than atmospheric oxygen. As ozone oxidizes hydrocarbons and aquifer materials, oxygen (O_2) is released. This increases the available oxygen in the aquifer, enhancing natural aerobic biodegradation of the hydrocarbons.

As noted above the site has multiple zones of permeable sediments. To optimize the effectiveness of the system Sparge points will be installed at two depths, at a depth of approximately 17 feet bgs (Shallow Zone) and at a depth of 35 feet bgs (Deeper Zone).

A conservative estimate for a bubble radius [radius of influence (ROI)] for the sparge wells of 1 to 1.5 foot per foot of depth below the water table has been selected. Based on this, sparge well spacing has been selected at 30 feet to provide adequate treatment of the most contaminated areas. Proposed sparge point` spacing is presented on Figure 5.

The O_3 micro-porous sparging point produces much smaller (3 to 200 micron) bubbles as compared to conventionally screened air sparge wells. The smaller bubbles provide a much larger ratio of bubble surface area to bubble volume, therefore allowing more ozone transfer into groundwater.

While traditional air sparging relies on high flow rates [>5-10 standard cubic feet per minute (SCFM)] per well to strip hydrocarbons from groundwater, the proposed system produces much lower flow rates (<2-3 SCFM) at any given time. The wells are pulsed individually for an initial duration of 6-15 minutes each. The pulsing reduces the water table “mounding” and also reduces potential for preferential flow and stagnation points that occur during constant higher flow rate sparging. Given the much lower flow rate and that the hydrocarbons are oxidized primarily in the groundwater and secondarily in the rising bubbles, vapor recover and treatment is not often necessary.

6.1 System Components

The treatment system will consist of a H_20 Engineering, Inc. Model OSU20-52 panel installed in the location shown on Figure 5. The compound will include the air compressor, ozone generator, sequencer (20 well control programmable timer), solenoids, cooling fans, outflow one-way check valves, temperature and ozone sensors and shutdowns, and isolator feet. The ozone generator and compressor are powered by a 110 volt / 30 amp circuit.

Air lines will run from the manifold to each well within 2” or larger diameter PVC conduit installed from the compressor compound to each well point (see Figure 6 for conduit locations). The lines will consist of 3/8” ozone compatible tubing connected to each well. The construction of the ozone sparge wells will be discussed in Section 8.0 below.

Initially, the system will be set to run each well point for 12 minutes per cycle 7 for cycles per day, for a total of 84 minutes per day per point or with 15 points, 1260 min per day. The system is designed for a minimum of 10% system rest time (144 minutes per day), with a 90% up time, for a total run time of 1296 minutes per day.

6.2 Performance Monitoring

A regularly monitoring event is scheduled on September 25, 2006, the data from which will service as a baseline for TPH-g, TPH-d, TPH-mo, and BTEX concentrations in the groundwater, along with existing data set from the monitoring wells. Prior to startup and at the end of the first week of operation, monitoring of water quality parameters including dissolved oxygen (DO) and oxidation-reduction potential (ORP) and sample analyses for TPH-g and BTEX will be performed on wells MW-1, MW-2, MW-3, MW-7, MW8, and MW-9. Thereafter, monthly monitoring and sample analyses of these 6 wells will occur. Upon completion of the 1st month, adjustments may be made to timing of sparging in selected wells to optimize treatment. Station run cycles and run times will be set for optimal system performance and will be focused on the most contaminated zones. As required, regular quarterly monitoring of all wells on site will continue with analyses for TPH-g, BTEX, MTBE, TPH-d, and TPH-mo.

6.3 Reporting

A summary of monitoring well activities and well logs will be included in the report of the third quarterly monitoring event which will be scheduled immediately following monitoring well installation.

On completion of the first month's operation, a report will be prepared for the ACHCSA. The report will include as-built diagrams of sparge well locations, piping and electrical systems, sparge well construction logs, and system operation data (timing, injection rates, up-time percent, etc.,) and sample analytical data.

At the completion of three months of system operations an evaluation of contaminant reduction rates and estimate treatment times will be including along with recommendations, if necessary, for changes alteration or expansion of treatment program. Treatment progress will also be evaluated in the startup report and in subsequent regular quarterly groundwater monitoring reports. This report will also include risk based goals to attain a unrestricted land use closure

6.4 Schedule

AEI will begin the process of scheduling and permitting the installation tasks upon workplan approval. The following schedule gives an approximate timeframe as to when installation and operation tasks will be completed. The ACHCSA will be notified of the scheduled startup date so that an inspection can be scheduled if needed.

- Installation of new monitoring wells and sparge points .... within 6 weeks of approval
- Electrical permitting complete .... within 6 weeks of approval
- Conduit installation and air line connection............................. within 8 weeks of approval
- Electrical service complete and well points installed .... within 8 weeks of approval
- Compound installation and startup .... within 8 weeks of approval
- Startup Report... within 10 weeks of approval
- Monthly monitoring .... Monthly, from start-up date
- Quarterly Monitoring .... Quarterly, from September 25, 2006 event

7.0 DEEPER ZONE MONITORING WELL INSTALLATION

The purpose of the installation of two additional deeper zone monitoring wells is to further delineate the lateral extent of the hydrocarbon plume in the deeper zone west of MW-9 and in the vicinity of boring SB-14 on the east side of the site. The proposed scope of work consists of the installing two (2) groundwater monitoring wells at locations shown on Figure 3: Site Plan.

The construction details as follows:

- One deeper zone 2-inch diameter groundwater monitoring well (35 feet bgs) located west of MW-9, to help delineate the western extent of the groundwater in the deeper zone.
- One deeper zone 2-inch diameter groundwater monitoring (35 feet bgs) located near soil boring SB-14 where LNAPL was identified in 2003.
- A summary of field activities and analytical results will be included in a in the report for the regularly scheduled September groundwater monitoring event.

7.1 Drilling

A drilling permit will be obtained for each well from the Alameda County Public Works Agency. Underground Service Alert will be notified to identify public utilities in the work area. A private utility locating service will be retained to clear boring locations and confirm location of sewer line and any other previously unidentified underground utilities.

7.2 Soil Sampling and Analyses

The soil borings for the groundwater monitoring wells will be sampled at a minimum of five foot intervals above 28.5 feet bgs. Below 28.5 feet the borings will be continuously sampled. Borehole logging, and sample collection will be performed under the direct supervision of an AEI California Professional Geologist.

At least one sediment sample will be retained from each 5 feet cored for possible chemical analysis. Additional samples may be retained at lithologic breaks as determined by at the onsite geologist. Selected samples will be sealed with Teflon tape and end caps, labeled with a unique identifier, entered onto chain of custody, and place in a cooler with water ice.

An adjacent sample will be placed in a 1-quart zipper locking plastic bag and used for field screening. The samples will be screened using a Mini-Rae photo ionization detector (PID).

Samples were transported on ice under appropriate chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (Department of Health Services Certification #1644).

7.3 Well Installation and Development

The wells will be installed in borings drilled with a standard rotary drilling rig, running nominal 8¼ inch hollow stem augers. Deep aquifer wells will be drilled to 35 feet bgs. The wells will be constructed with 2" diameter schedule 40 PVC well casing. The Deeper zone wells will be constructed with no more than 10 feet of screen, with no more than 2 feet of screen above the top of the second aquifer. Well screens will be constructed of factory slotted 0.010 inch well screen. The screen intervals shown above may be adjusted by the supervising Professional Geologist based on the data collected during drilling.

The well casings will be installed through the augers. The casing will be flush threaded PVC and fitted with a bottom cap. An annular sand pack will be installed through the augers, which will be lifted from the borehole in 1-foot lifts. A bentonite seal will be placed above the sand and the remainder of the boring will be sealed with cement grout.

The wells will be developed no sooner than 3 days after setting the well seals by surging, bailing, and purging to stabilize the sand pack and remove accumulated fines from the casing and sand pack.

Each new groundwater well and ozone sparge pointl will be surveyed relative to each other and mean sea level by a California licensed land surveyor, with accuracy appropriate for GeoTracker uploads. The survey will include property boundaries and onsite structures.

7.4 Groundwater Monitoring

Groundwater monitoring will continue on a quarterly basis. During each monitoring event, water levels will be measured in each well. Wells will be purged of at least 3 well volumes of water prior to sample collection. During purging the following water quality measurements will be collected: temperature, pH, specific conductivity, dissolved oxygen (DO) and oxidation-reduction potential (ORP). Groundwater samples will be collected with new, unused disposable bailers into appropriate laboratory-supplied containers.

7.5 Laboratory Analysis and Sample Storage

All samples will be sealed and labeled immediately upon collection. Samples will be placed in a cooler with water ice. Chain of custody documentation will be initiated prior to leaving the site. All samples will be delivered to a state certified laboratory on the day of collection. Soil and groundwater samples will be analyzed for TPH-g, BTEX and MTBE by Methods SW 8021B/8015Cm and TPH-d/mo by method 8015C

8.0 SPARGE POINT INSTALLATION

Eight O_3 sparge points will be at locations shown on Figure 5, six will be dual completions with the bottom of sparge points at approximately 35 feet and 17 feet bgs. The depth of the deeper zone sparge points may be adjusted based on data from the proposed deeper Zone wells MW-11 and MW-2.

The well construction will be as follows:

- Boreholes for the dual completion sparge points will be drilled with nominal 10 ½ inch hollow stem augers.
- Two 1-inch zone sparge point (diffuser) connected to 1-inch ozone compatible riser will be placed in each well. One sparge point will be placed with a bottom depth of approximately 35 feet bgs; the second sparge point will be placed with a bottom depth of approximately 17 feet bgs (Figure 7). The second sparge point in sparge well OZ-3, which is completed through the tank backfill, will be placed at 20 feet bgs to inject ozone in soil contamination chimney beneath the backfill and into the intermediate zone.
- The two sparge points will be installed as a single unit. The shallow sparge point will be attached to the riser of the deep sparge point with 2-inch spacers.
- The sparge point assembly will be installed inside the augers. A # 2/12 Sand pack will be placed to a depth of approximately one foot above the top of the deep sparge point.
- The annular space will be then filled to approximately 18 feet bgs and allowed to hydrate for 30 minutes before bentonite will be added to bring the level of bentonite to 17 feet bgs. (Figure 7)
- A # 2/12 Sand pack will be placed from the top of the bentonite to a depth of approximately one foot above the top of the shallow sparge point.
- Two feet of bentonite will be placed above the upper sand pack, and then the annular space will be grouted to a depth of approximately 18 inches below the ground surface.
- A traffic rated flush mount box will be installed over the sparge well.

Ozone lines will run from the generator manifold to each well within 2” diameter PVC conduit installed to each well point (see Figure 6 for conduit locations). The lines will consist of 3/8” tubing connected to each well as shown in Appendix A. The wells points will consist of 30 inches of 2” diameter micro-porous well screen with ¾ blank PVC risers.

9.0 EQUIPMENT DECONTAMINATION, WASTE STORAGE

9.1 Equipment Decontamination

Sampling equipment, including sampling barrels, drilling rods, augers, and other equipment used in sampling, will be decontaminated between samples using a steam cleaner and/or a triple rinse system containing Alconox ™ or similar detergent. Rinse water will be contained in sealed labeled DOT approved 55-gallon drums in a secure location onsite pending proper disposal.

9.2 Waste Storage

All investigation-derived waste (IDW) will be stored onsite in sealed, labeled 55-gallon drums. IDW will include soil cuttings, plastic sample liners, and other sampling disposables. Equipment rinse water will also be stored in a 55-gallond drum, separate from solid IDW. Upon receipt of analytical results, the waste will be profiled into appropriate disposal or recycling facilities and transported from the site under appropriate manifest. Copies of manifests will be made available once final copies are received from the disposal facility.

10.0 SITE SAFETY

AEI will prepare a site specific Health and Safety Plan conforming to Part 1910.120 (i) (2) of 29 CFR. Prior to commencement of field activities, a site safety meeting will be held at a designated command post near the working area. The Health and Safety Plan will be reviewed and emergency procedures will be outlined at this meeting, including an explanation of the hazards of the known or suspected chemicals of interest. All site personnel will be in Level D personal protection equipment, which is the anticipated maximum amount of protection needed. A working area will be established with barricades and warning tape to delineate the zone where hard hats, steel-toed shoes and safety glasses must be worn, and where unauthorized personnel will not be allowed. The site Health and Safety Plan will be on site at all times during the project.

11.0 CLOSING STATEMENT AND SIGNATURES

This plan has been prepared by AEI on behalf of Omega Termite. and outlines a scope of work to address the release of petroleum hydrocarbons from the former USTs removed from the property located at 807 75th Avenue in the City of Oakland. The recommendations rendered in this report were based on previous field investigations and laboratory testing of soil and groundwater samples. This report does not reflect subsurface variations that may exist between sampling points. These variations cannot be anticipated, nor could they be entirely accounted for, in spite of exhaustive additional testing. This plan should not be regarded as a guarantee that no further contamination, beyond that which could have been detected within the scope of this investigation is present beneath the said property or that all contamination present at the site will be treated or removed. Undocumented, unauthorized releases of hazardous material, the remains of which are not readily identifiable by visual inspection and are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation that may or may not become apparent at a later time. All specified work would be performed in accordance with generally accepted practices in geotechnical and environmental engineering, engineering geology, and hydrogeology and will be performed under the direction of appropriate registered professional(s).

We look forward to comment and concurrence with the scope of work outlined herein. Should you need additional information, please contact Mr. Robert F. Flory at (925) 944-2899

Sincerely,
AEI Consultants

PROFESSIONAL GEOLOGIST
ROBERT F. FLORY
No. 5825
10/31/06
STATE OF CALIFORNIA

Robert F. Flory, PG
Project Manager,

Peter J. McIntyre
Senior Project Manager

Report Distribution:

Mr. Allan Kanady
Omega Termite Control, Inc.
807 75th Avenue
Oakland, California

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

GeoTracker

FIGURES

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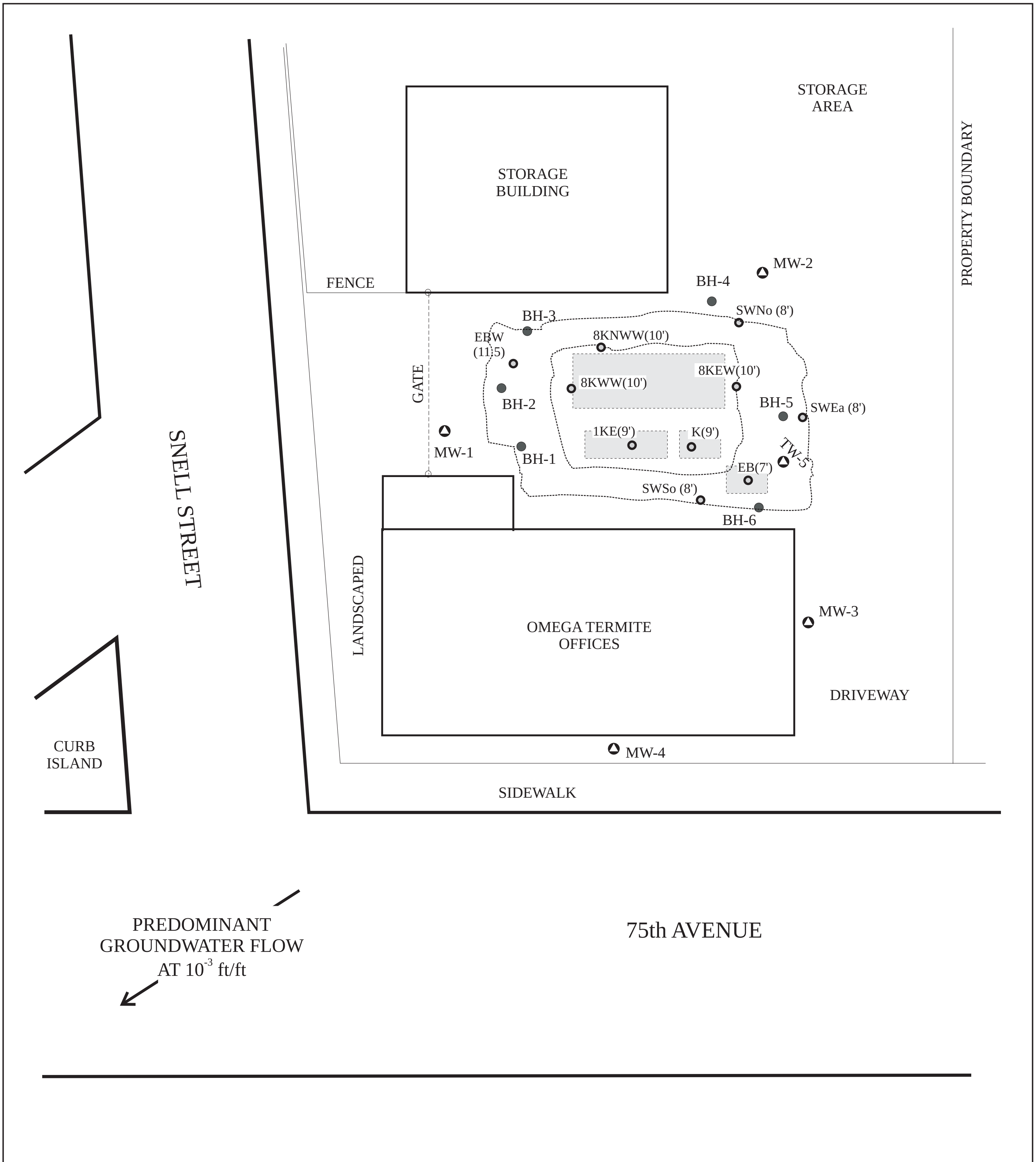
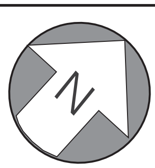
AEI CONSULTANTS 2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA	
SITE LOCATION MAP	
807 75th AVENUE OAKLAND, CALIFORNIA	**FIGURE 1** AEI PROJECT NO. 115483



LEGEND



SCALE: 1in = 20 ft

0' 10' 20'

- PREVIOUS TEMPORARY BOREHOLES (1/31/97)
- EXCAVATION SOIL SAMPLE COLLECTION POINTS (9/15/96 & 3/20/00)
- EXISTING WELLS

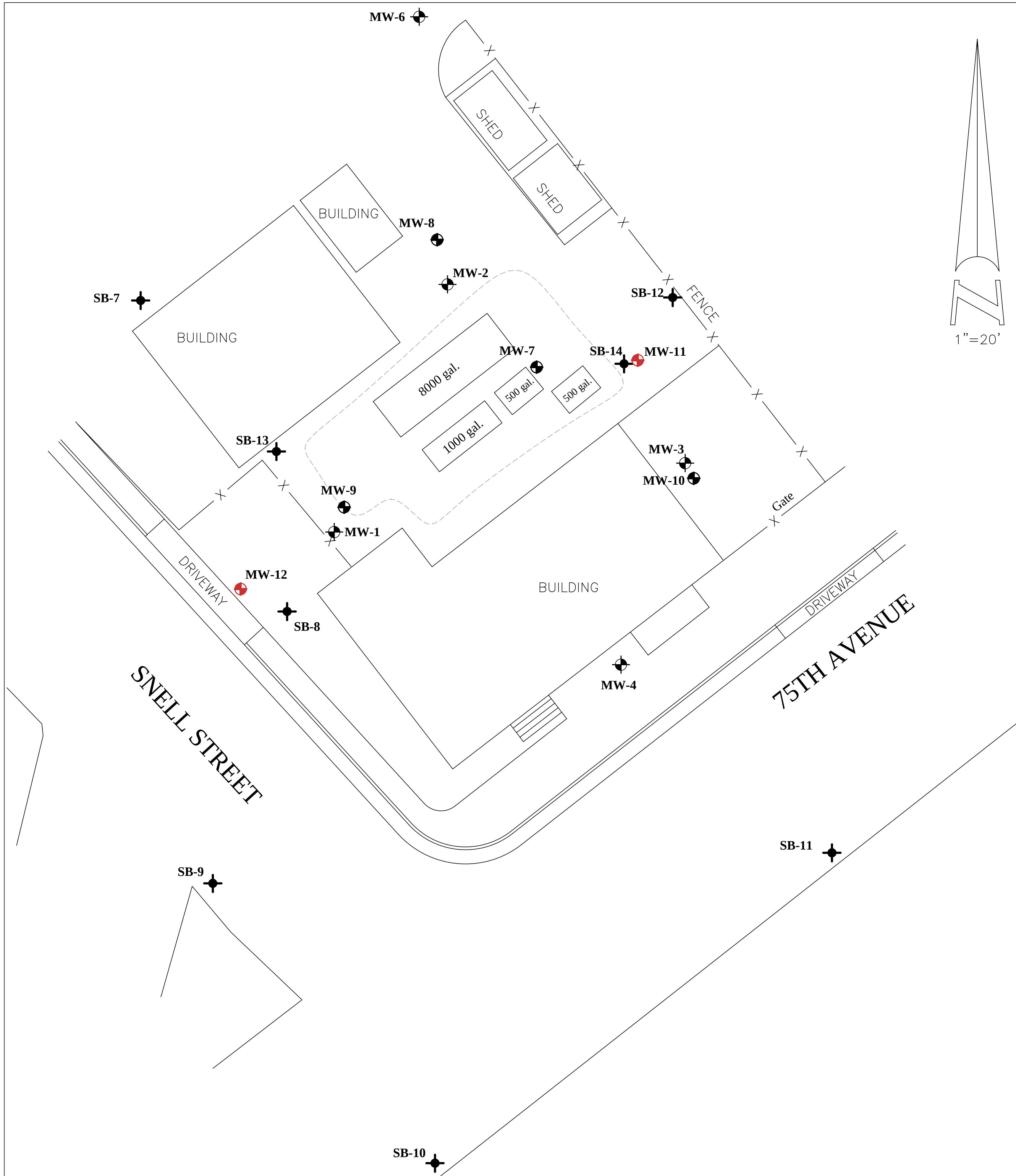
AEI CONSULTANTS

2500 CAMINO DIABLO, STE. 100, WALNUT CREEK, CA

TANK EXCAVATION
BORINGS AND SAMPLE LOCATIONS

807 75th AVENUE
OAKLAND, CALIFORNIA

FIGURE 2
AEI PROJECT No. 115483



LEGEND

- Groundwater Monitoring Well shallow (10 - 20 ft. deep, screened above 20 ft.)
- Groundwater Monitoring Well (30 - 33 feet deep, screened from 25' to total depth)
- Soil boring (2003)
- Proposed Groundwater Monitoring Well screened in Deeper Zone

AEI CONSULTANTS

2500 CAMINO DIABLO, STE. 100, WALNUT CREEK, CA

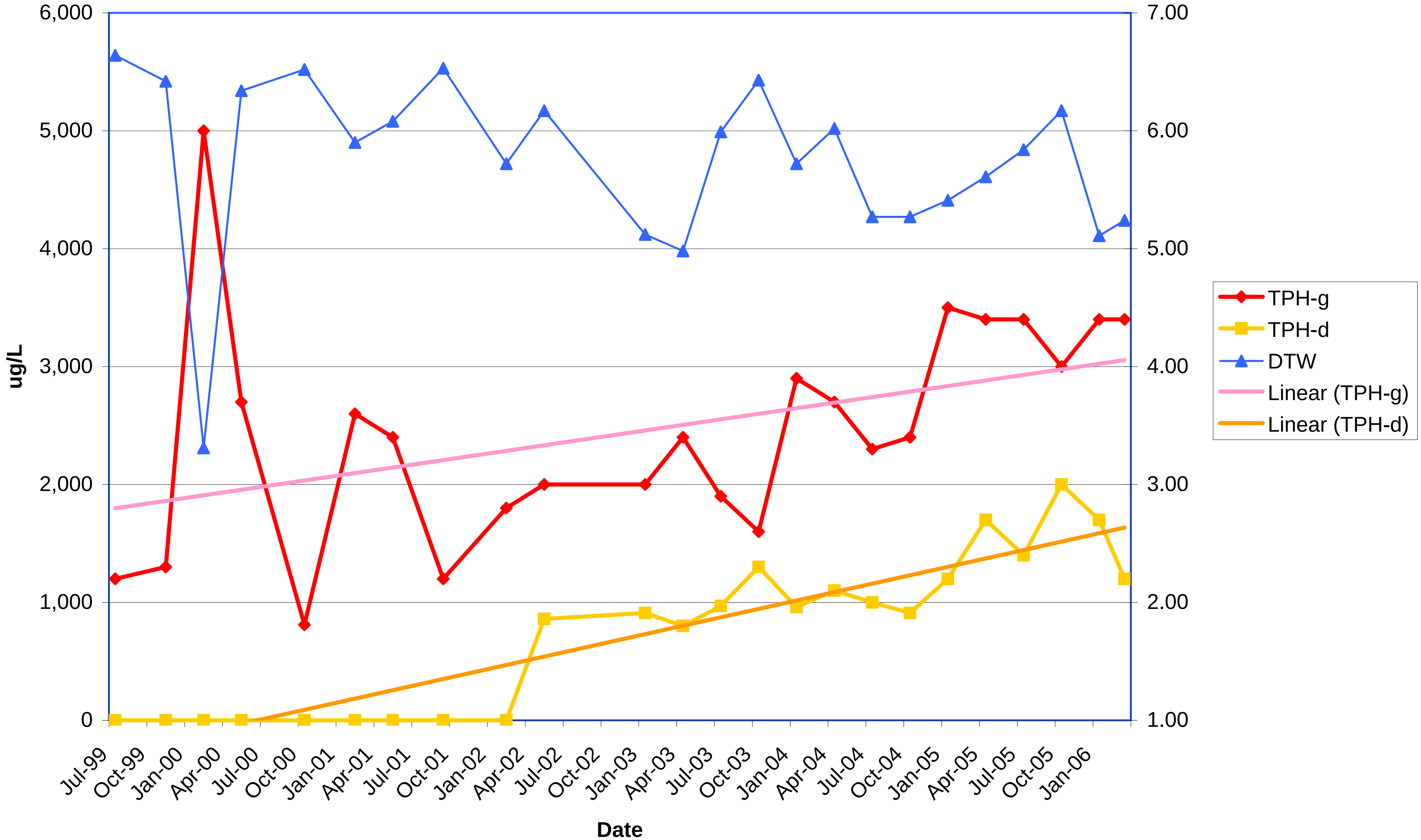
SITE PLAN

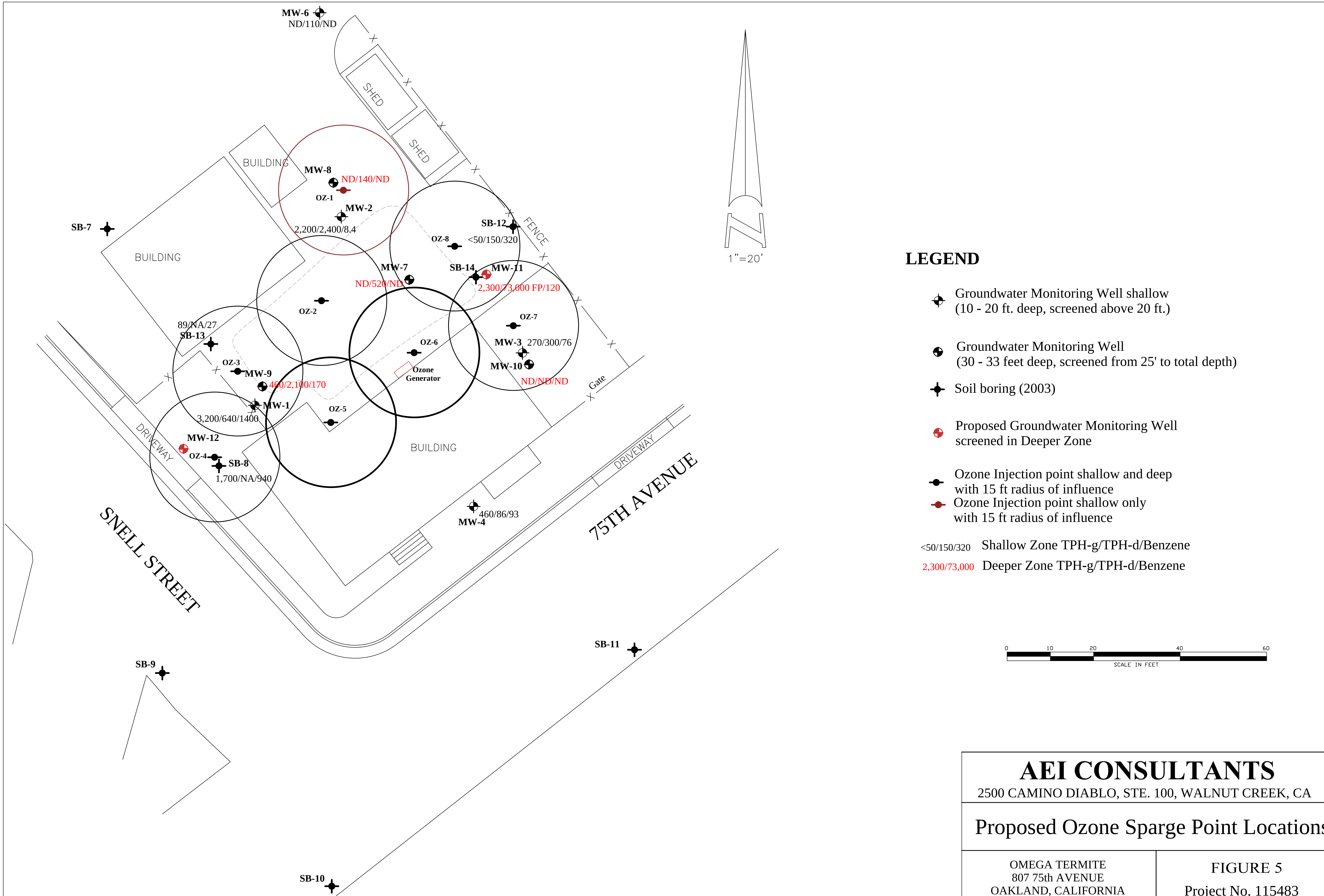
OMEGA TERMITE
807 75th AVENUE
OAKLAND, CALIFORNIA

FIGURE 3

Project No. 115483

Figure 4   MW-2 - TPH-g & TPH-d vs Time





AEI CONSULTANTS

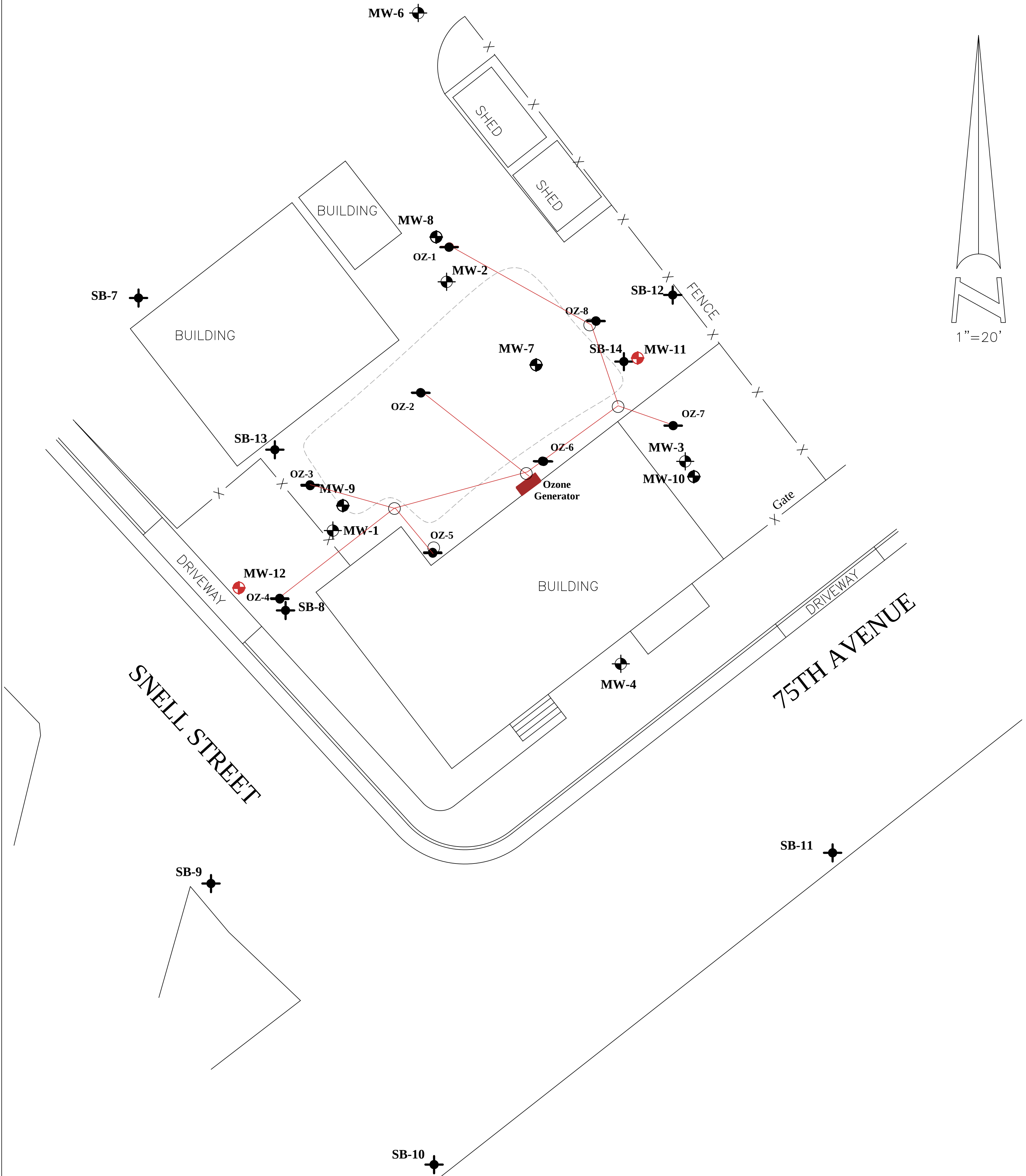
2500 CAMINO DIABLO, STE. 100, WALNUT CREEK, CA

Proposed Ozone Sparge Point Locations

OMEGA TERMITE
807 75th AVENUE
OAKLAND, CALIFORNIA

FIGURE 5

Project No. 115483



LEGEND

- Groundwater Monitoring Well shallow (10 - 20 ft. deep, screened above 20 ft.)
- Groundwater Monitoring Well (30 - 33 feet deep, screened from 25' to total depth)
- Soil boring (2003)
- Proposed Groundwater Monitoring Well screened in Deeper Zone
- Injection Point
- 2" schedule 40 PVC Conduit

0 10 20 40 60
SCALE IN FEET

AEI CONSULTANTS

2500 CAMINO DIABLO, STE. 100, WALNUT CREEK, CA

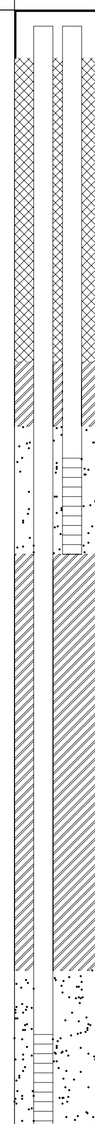
Component Locations

OMEGA TERMITE
807 75th AVENUE
OAKLAND, CALIFORNIA

FIGURE 6
Project No. 115483

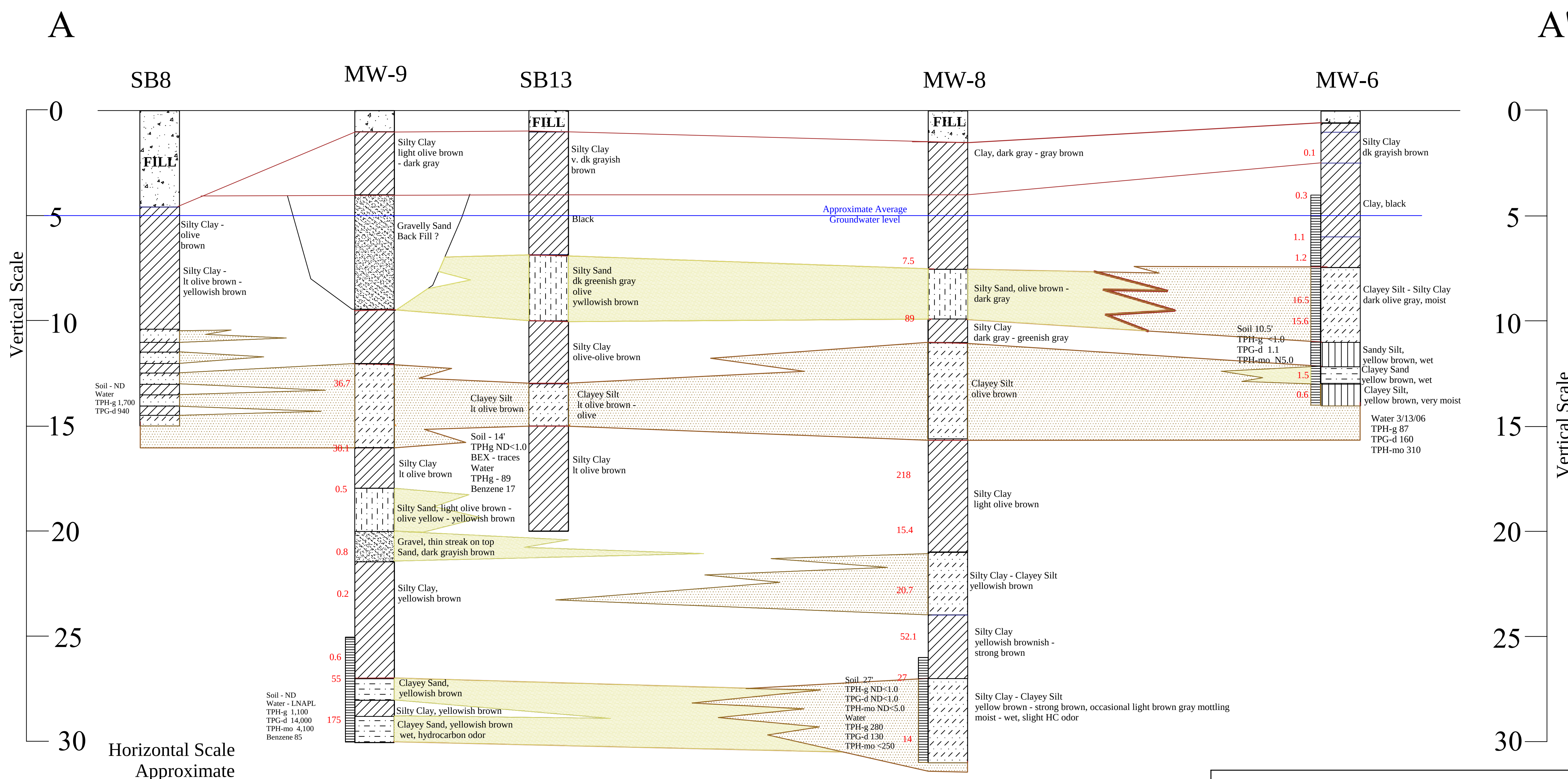
Project: Typical Construction Dual depth injection points Project Location: Omega Termite Project Number: 115483	FIGURE 7 Typical construction Sheet 1 of 1

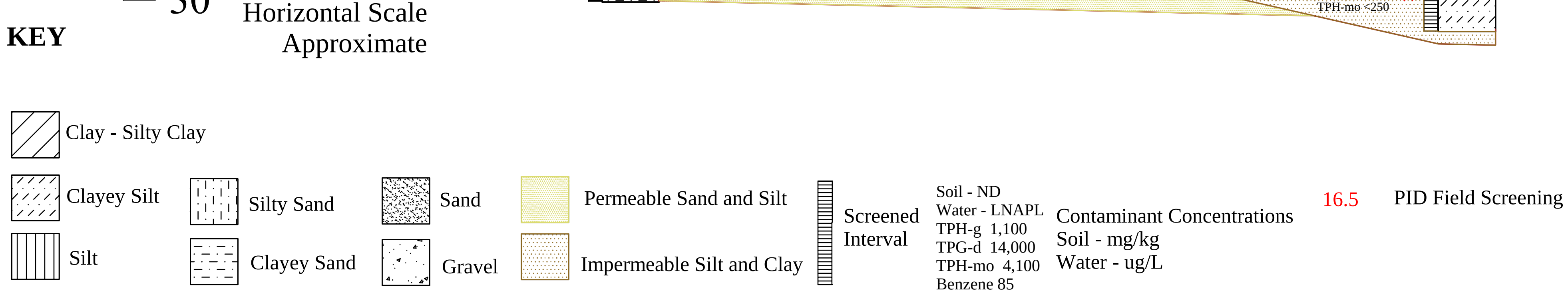
Date(s) Drilled	Logged By	Checked By
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole **35 feet bgs**
Drill Rig Type	Drilling Contractor	Surface Elevation **5 feet**
Groundwater Level and Date Measured	Sampling Method(s) **None**	
Borehole Backfill **Casing**	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	Well Log	REMARKS AND OTHER TESTS
0								
5								
10								
15								
20								
25								
30								
35					Bottom of Boring at 35 feet bgs			

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\115483 SGWI (Omega Termite) Oakland (RFF)\Ozone install_Work Plan\Typical Construction.bgs [auger well 33.tpl]

AEI CONSULTANTS
ENVIRONMENTAL & CIVIL ENGINEERING





Drafted 4/4/06 by RFF

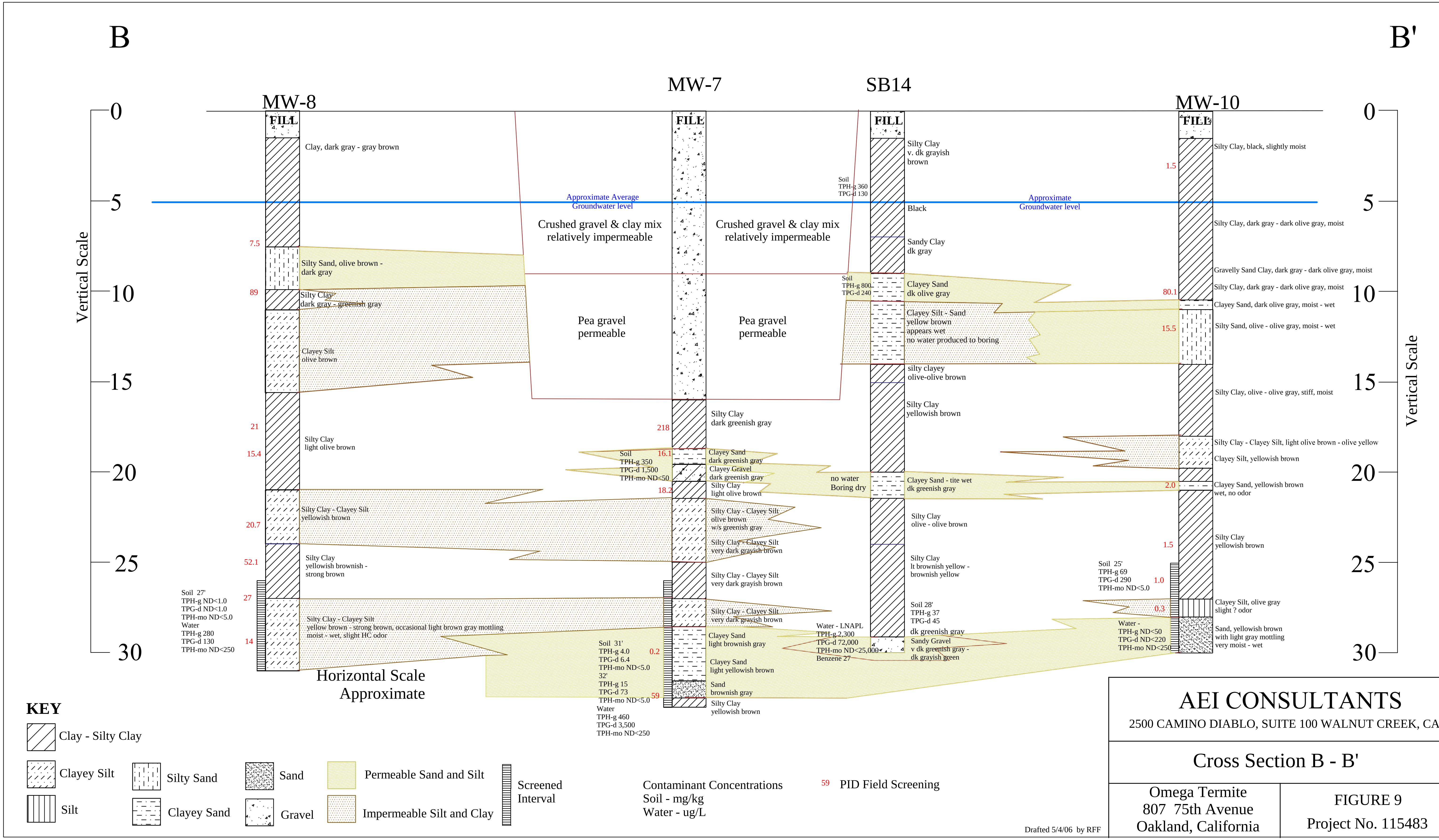
AEI CONSULTANTS

2500 CAMINO DIABLO, SUITE 100 WALNUT CREEK, CA

Cross Section A - A'

Omega Termite
807 75th Avenue
Oakland, California

FIGURE 8
Project No. 115483



B
B'
MW-8
MW-7
SB14
MW-10
FILL
Vertical Scale
0
5
10
15
20
25
30
Approximate Average Groundwater level
Approximate Groundwater level
Crushed gravel & clay mix relatively impermeable
Pea gravel permeable
Clay, dark gray - gray brown
Silty Sand, olive brown - dark gray
Silty Clay dark gray - greenish gray
Clayey Silt olive brown
Silty Clay light olive brown
Silty Clay - Clayey Silt yellowish brown
Silty Clay yellowish brownish - strong brown
Silty Clay - Clayey Silt yellow brown - strong brown, occasional light brown gray mottling moist - wet, slight HC odor
7.5
89
21
15.4
20.7
52.1
27
14
Soil 27'
TPH-g ND<1.0
TPG-d ND<1.0
TPH-mo ND<5.0
Water
TPH-g 280
TPG-d 130
TPH-mo ND<250
Silty Clay dark greenish gray
Clayey Sand dark greenish gray
Clayey Gravel dark greenish gray
Silty Clay light olive brown
Silty Clay - Clayey Silt olive brown w/s greenish gray
Silty Clay - Clayey Silt very dark grayish brown
Silty Clay - Clayey Silt very dark grayish brown
Silty Clay - Clayey Silt very dark grayish brown
Clayey Sand light brownish gray
Clayey Sand light yellowish brown
Sand brownish gray
Silty Clay yellowish brown
218
16.1
18.2
0.2
59
Soil
TPH-g 350
TPG-d 1,500
TPH-mo ND<50
Soil 31'
TPH-g 4.0
TPG-d 6.4
TPH-mo ND<5.0
32'
TPH-g 15
TPG-d 73
TPH-mo ND<5.0
Water
TPH-g 460
TPG-d 3,500
TPH-mo ND<250
Soil
TPH-g 360
TPG-d 130
Silty Clay v. dk grayish brown
Black
Sandy Clay dk gray
Soil
TPH-g 800
TPG-d 240
Clayey Sand dk olive gray
Clayey Silt - Sand yellow brown appears wet no water produced to boring
silty clayey olive-olive brown
Silty Clay yellowish brown
no water Boring dry
Clayey Sand - tite wet dk greenish gray
Silty Clay olive - olive brown
Silty Clay lt brownish yellow - brownish yellow
Soil 28'
TPH-g 37
TPG-d 45
dk greenish gray
Sandy Gravel v dk greenish gray - dk grayish green
Water - LNAPL
TPH-g 2,300
TPG-d 72,000
TPH-mo ND<25,000
Benzene 27
Silty Clay, black, slightly moist
Silty Clay, dark gray - dark olive gray, moist
Gravelly Sand Clay, dark gray - dark olive gray, moist
Silty Clay, dark gray - dark olive gray, moist
Clayey Sand, dark olive gray, moist - wet
Silty Sand, olive - olive gray, moist - wet
Silty Clay, olive - olive gray, stiff, moist
Silty Clay - Clayey Silt, light olive brown - olive yellow
Clayey Silt, yellowish brown
Clayey Sand, yellowish brown wet, no odor
Silty Clay yellowish brown
Clayey Silt, olive gray slight ? odor
Sand, yellowish brown with light gray mottling very moist - wet
1.5
80.1
15.5
2.0
1.5
1.0
0.3
Soil 25'
TPH-g 69
TPG-d 290
TPH-mo ND<5.0
Water -
TPH-g ND<50
TPG-d ND<220
TPH-mo ND<250
Horizontal Scale Approximate
KEY
Clay - Silty Clay
Clayey Silt
Silt
Silty Sand
Clayey Sand
Sand
Gravel
Permeable Sand and Silt
Impermeable Silt and Clay
Screened Interval
Contaminant Concentrations
Soil - mg/kg
Water - ug/L
59 PID Field Screening
Drafted 5/4/06 by RFF
AEI CONSULTANTS
2500 CAMINO DIABLO, SUITE 100 WALNUT CREEK, CA
Cross Section B - B'
Omega Termite
807 75th Avenue
Oakland, California
FIGURE 9
Project No. 115483

TABLES

Table 1 Soil Sample Analytical Data
Omega Termite, 807 - 75th Street, Oakland, CA

Sample ID	Date	TPHg	TPHd	TPHmo	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TotaL Lead
		Method 8015			Method 8021B					
		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 1 **Soil Sample Analytical Data**
Omega Termite, 807 - 75th Street, Oakland, CA

Sample ID	Date	TPHg	TPHd	TPHmo	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TotaL Lead
		Method 8015			Method 8021B					
		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

TPHg Total petroleum hydrocarbons as gasoline
TPHd Total petroleum hydrocarbons as diesel
TPHmo Total petroleum hydrocarbons as motor oil
MTBE methyl tert-butyl ether
--- Sample not analyzed by this method

Table 2: Historical Groundwater Sample Analytical Data
Omega Termite, 807 75th Ave., Oakland, CA

Sample ID	Sample Date	Depth to Water	TPH-g	TPH-d	TPH-mo	MTBE[1]	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			EPA Method 8015			*8260B*	*EPA Method 8021B*				
			(µg/L)	(µg/L)	(µg/L)		(µg/L)	(µg/L)	(µg/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	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	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
	06/15/06	**4.79**	**3,200**	**640**	**320**	---	**ND<25**	**1,400**	**3.1**	**10**	**71**
MW-2	07/30/99	6.64	1,200	---	---	---	ND<10	29	2.5	51	100
	11/09/99	6.42	1,300	---	---	---	ND<30	26	1.1	55	32
	02/23/00	3.31	5,000	---	---	---	ND<10	200	18	390	440
	05/26/00	6.34	2,700	---	---	---	ND<10	69	13	83	68
	10/10/00	6.52	810	---	---	---	ND<10	17	4.7	42	46
	02/07/01	5.90	2,600	---	---	---	ND<10	70	15	80	100
	05/25/01	6.08	2,400	---	---	---	ND<5.0	75	16	85	100
	09/19/01	6.53	1,200	---	---	---	ND<5.0	10	8.5	46	55
	02/06/02	5.72	1,800	---	---	---	ND<50	14	11	58	59
	05/17/02	6.17	2,000	860	---	---	8.1	19	1.1	0.75	88
	01/10/03	5.12	2,000	910	ND<5000	---	ND<50	11	11	96	100
	04/14/03	4.98	2,400	800	-	---	ND<10	16	10	100	73
	07/14/03	5.99	1,900	970	-	---	ND<15	18	4.8	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 2: Historical Groundwater Sample Analytical Data
Omega Termite, 807 75th Ave., Oakland, CA

Sample ID	Sample Date	Depth to Water	TPH-g	TPH-d	TPH-mo	MTBE[1]	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			EPA Method 8015			*8260B*	*EPA Method 8021B*				
			(µg/L)	(µg/L)	(µg/L)		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-2 continued	07/18/05	5.84	3,400	1,400	ND<250	---	ND<5.0	11	9.7	100	89
	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
	06/15/06	**6.23**	**2,200**	**2,400**	**270**	---	**ND<10**	**8.4**	**ND<1.0**	**81**	**72**
MW-3	07/30/99	5.35	2,700	---	---	---	ND<10	220	15	130	230
	11/09/99	5.11	3,100	---	---	---	15	440	8.8	150	96
	02/23/00	2.37	1,800	---	---	---	ND<15	180	11	82	79
	05/26/00	4.98	1,600	---	---	---	6.4	140	10	69	63
	10/10/00	5.24	1,100	---	---	---	ND<10	110	4.4	63	51
	02/07/01	4.73	1,100	---	---	---	ND<10	130	5.1	68	65
	05/25/01	4.73	1,200	---	---	---	ND<6.0	120	5.4	69	64
	09/19/01	5.07	800	---	---	---	<5.0	78	3.5	52	37
	02/06/02	4.69	1,100	---	---	---	ND<10	130	4.7	77	71
	05/17/02	4.80	2,800	810	---	2.0	ND<50	410	23	160	210
	08/20/02	4.97	780	270	ND<5000[2]	---	ND<10	110	2.8	63	41
	01/10/03	3.59	1,100	510	ND<5000[2]	---	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
	06/15/06	**4.38**	**670**	**300**	**ND<250**	---	**ND<5.0**	**76**	**1.3**	**60**	**40**
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	1.7	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

Table 2: Historical Groundwater Sample Analytical Data
Omega Termite, 807 75th Ave., Oakland, CA

Sample ID	Sample Date	Depth to Water	TPH-g	TPH-d	TPH-mo	MTBE[1]	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			EPA Method 8015			*8260B*	*EPA Method 8021B*				
			(μg/L)	(μg/L)	(μg/L)		(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)
MW-4 continued	07/14/03	4.75	780	170	---	---	ND<20	220	1.4	44	23
	10/14/03	5.25	420	110	ND<250	---	ND<5.0	120	0.95	31	8.2
	01/13/04	4.07	120	69	ND<250	---	ND<10	30	0.52	8.1	4.7
	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
	05/15/06	**4.37**	**460**	**86**	**ND<250**	---	**ND<25**	**93**	**ND<0.5**	**29**	**9.2**
TW-5	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**
	06/15/06	**Not sampled, well damaged - will be destroyed**									
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
	06/15/09	6.50	ND<50	110	ND<250	---	ND<5.0	ND<0.5	ND<0.5	1.0	0.58

Table 2: Historical Groundwater Sample Analytical Data
Omega Termite, 807 75th Ave., Oakland, CA

Sample ID	Sample Date	Depth to Water	TPH-g	TPH-d	TPH-mo	MTBE[1]	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			EPA Method 8015			*8260B*	*EPA Method 8021B*				
			(µg/L)	(µg/L)	(µg/L)		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-7	03/13/06	3.36	460	3,500	360	ND<0.5	ND<5.0	2.5	1.0	ND<0.5	3.3
	06/15/09	**3.95**	**ND<50**	**520**	**ND<250**	**--**	**ND<5.0**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**
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
	06/15/09	**5.21**	**ND<50**	**140**	**ND<250**	**--**	**ND<5.0**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**
MW-9	03/13/06	4.32	1,100	14,000[2]	4,100	2.4	ND<5.0	85	1.8	0.64	100
	06/15/09	**5.35**	**460**	**2100**	**710**	**--**	**ND<5.0**	**170**	**0.73**	**1.3**	**8.3**
MW-10	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
	06/15/09	**4.38**	**ND<50**	**ND<50**	**ND<250**	**--**	**ND<5.0**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**

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
µg/L = micrograms per liter (parts per billion)
----- not sampled
ND = not detected

Table 3: Monitoring Well Construction Details
Omega 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

Table 4: Historical Groundwater Elevation Data
Omega Termite, 807 75th Ave., Oakland, CA

Well ID	Date	Well Elevation * (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)	Elevation Change (ft)
MW-1	07/30/99	10.68	5.82	4.86	----
	11/09/99	10.68	5.70	4.98	0.12
	02/23/00	10.68	2.84	7.84	2.86
	05/26/00	10.68	5.50	5.18	-2.66
	10/10/00	10.68	5.70	4.98	-0.20
	02/07/01	10.68	5.25	5.43	0.45
	05/25/01	10.68	5.25	5.43	0.00
	09/19/01	10.68	5.51	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	5.05	-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	5.24	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
	06/15/06	**10.68**	**4.79**	**5.89**	**-1.03**
MW-2	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	6.53	5.62	-0.45
	02/06/02	12.15	5.72	6.43	0.81
	05/17/02	12.15	6.17	5.98	-0.45
	08/20/02	12.15	NM	NM	NM
	01/10/03	12.15	5.12	7.03	----
	04/14/03	12.15	4.98	7.17	0.14
	07/14/03	12.15	5.99	6.16	-1.01
	10/14/03	12.15	6.43	5.72	-0.44
	01/13/04	12.15	5.42	6.73	1.01
	04/15/04	12.15	6.02	6.13	-0.60
	07/15/04	12.15	5.27	6.88	0.75
	10/18/04	12.15	6.12	6.03	-0.85

Table 4: Historical Groundwater Elevation Data
Omega Termite, 807 75th Ave., Oakland, CA

Well ID	Date	Well Elevation * (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)	Elevation Change (ft)
MW-2 continued	04/19/05	12.15	5.61	6.54	0.51
	07/18/05	12.15	5.84	6.31	-0.23
	10/19/05	12.15	6.17	5.98	-0.33
	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
	06/15/06	**12.15**	**6.23**	**5.92**	**-0.99**
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
	06/15/06	**10.40**	**4.38**	**6.02**	**-0.91**
MW-4	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

Table 4: Historical Groundwater Elevation Data
Omega Termite, 807 75th Ave., Oakland, CA

Well ID	Date	Well Elevation * (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)	Elevation Change (ft)
MW-4 continued	01/10/03	10.31	3.78	6.53	1.24
	04/14/03	10.31	4.11	6.20	-0.33
	07/14/03	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
	04/15/04	10.31	4.70	5.61	-0.63
	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	1.60
	06/15/06	**10.31**	**4.37**	**5.94**	**-0.79**
TW-5	09/19/01	----	6.59	----	----
	05/17/02	----	6.56	----	0.03
	08/20/02	----	6.62	----	-0.06
	01/10/03	----	4.66	----	1.96
	04/14/03	----	5.30	----	-0.64
	07/14/03	----	5.84	----	-0.54
	07/14/03	----	5.84	----	0.00
	10/14/03	----	6.08	----	-0.24
	01/13/04	----	4.83	----	1.25
	04/15/04	----	5.64	----	-0.81
	07/15/04	----	5.89	----	-0.25
	10/18/04	----	5.95	----	-0.06
	01/25/05	----	5.13	----	0.82
	04/19/05	----	5.27	----	-0.14
	07/18/05	----	5.76	----	-0.49
	10/18/05	----	6.04	----	-0.28
	11/03/05	----	6.09	----	-0.05
	01/11/06	----	4.72	----	1.37
	03/13/06	----	4.51	----	0.21
	04/26/06	----	5.02	----	-0.51
	Sampling discontiuned - well damaged and being destroyed				
MW-6	03/13/06	12.35	5.69	6.66	----
	06/15/06	**12.35**	**6.50**	**5.85**	**-0.81**

Table 4: **Historical Groundwater Elevation Data**
Omega Termite, 807 75th Ave., Oakland, CA

Well ID	Date	Well Elevation * (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)	Elevation Change (ft)
MW-7	03/13/06	11.16	3.36	7.80	----
	06/15/06	**11.16**	**3.95**	**7.21**	**-0.59**
MW-8	03/13/06	12.42	4.64	7.78	----
	06/15/06	**12.42**	**5.21**	**7.21**	**-0.57**
MW-9	03/13/06	11.22	4.32	6.90	----
	06/15/06	**11.22**	**5.35**	**5.87**	**-1.03**
MW-10	03/13/06	10.31	3.28	7.03	----
	06/15/06	**10.31**	**4.34**	**5.97**	**-1.06**

* 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

Table 4: Historical Groundwater Elevation and Flow Direction Summary
Omega Termite, 807 75th Ave., Oakland, CA

Episode #	Date	Average Elevation (ft)	Elevation Change (ft)	Flow Direction / Gradient
1	07/30/99	5.07	-	
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**	**6.67**	**-0.12**	**Shallow Zone .0004 / NW**
	3/13/06	**7.38**	**----**	**Deeper zone 0.036 / S**
26	**6/15/06**	**5.94**	**-0.73**	**Shallow Zone .004 / SW**
	6/15/06	**6.76**	**-0.61**	**Deeper zone 0.06 / S**

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

APPENDIX A

Products - Well Head Connections

Ozone Sparge Units | Oxygen Sparge Units | Well Head Connections | In-situ Oxidation Points | Riser Pipe

H2O Engineering's Well Head Connections (WHC) are made from the highest quality materials available. The WHC features a kynar® compression fitting, and a type 316 stainless steel inlet tee in a sealed Schedule 80 PVC body. A ¼" FPT access port is included to accommodate a pressure gauge for accurate pressure readings where they count the most.

Well Head Connections are available for ½"or 1" H2O Engineering riser pipe sections. Any existing on-site 2" monitoring well casing can be easily modified using our 2" WHC fitting to accommodate our ozone sparge technology.

Specifications

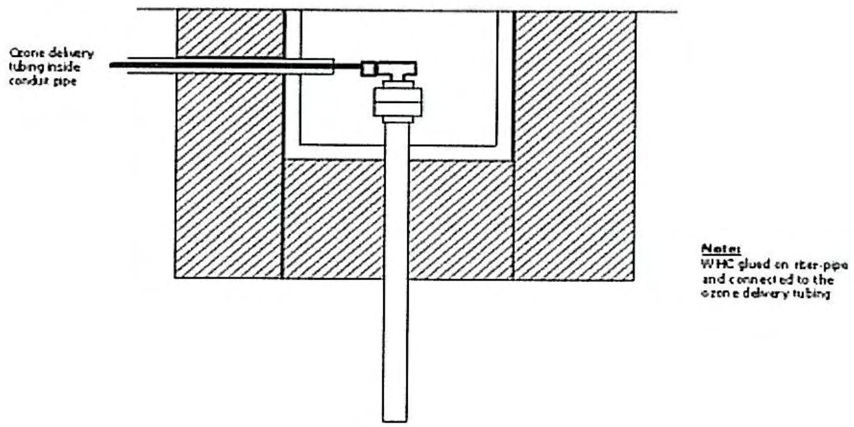
Part Number	Description
WHC05	Well head connection for 1/2" Pipe and 1/2"OD compression fitting for tubing
WHC10	Well head connection for 1" Pipe and 1/2"OD compression fitting for tubing
WHC20	Well head connection for 2" Pipe and 1/2"OD compression fitting for tubing

WHC 10

WHC 10 attached to the riser pipe

WHC20 with optional pressure gauge

Well Head Connection Fitting (WHC) Diagram



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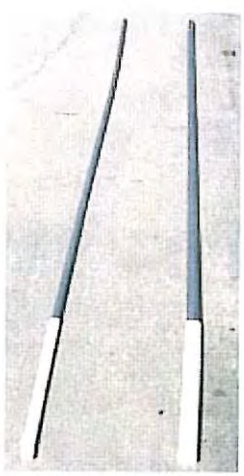
Products - In-Situ Oxidation Points

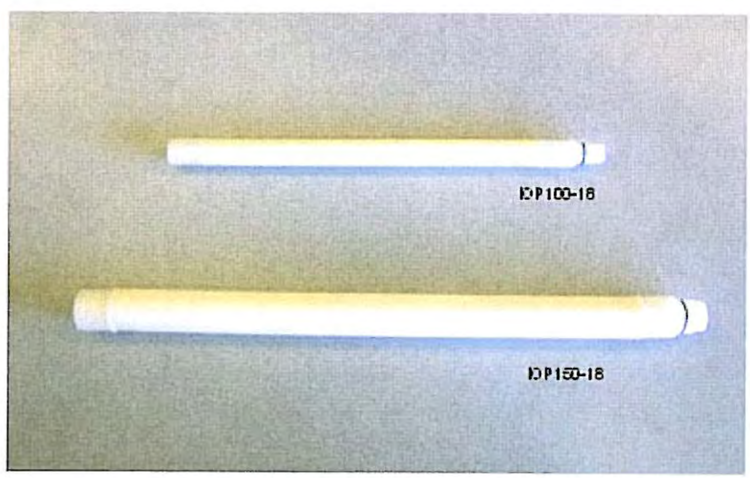
Ozone Sparge Units | Oxygen Sparge Units | Well Head Connections | In-situ Oxidation Points | Riser Pipe

H2O Engineering's In-situ Oxidation Points (IOP) were designed by our engineering staff exclusively for use with our ozone sparge units. Made from ozone-resistant PVDF (Kynar®), they are rigid by design and include a Viton® o-ring seal to assure the greatest radius of influence. These proprietary oxidation points provide maximum ozone transfer to the contaminated water table and soil. Efficient mass transfer means remediation takes place quickly and completely.

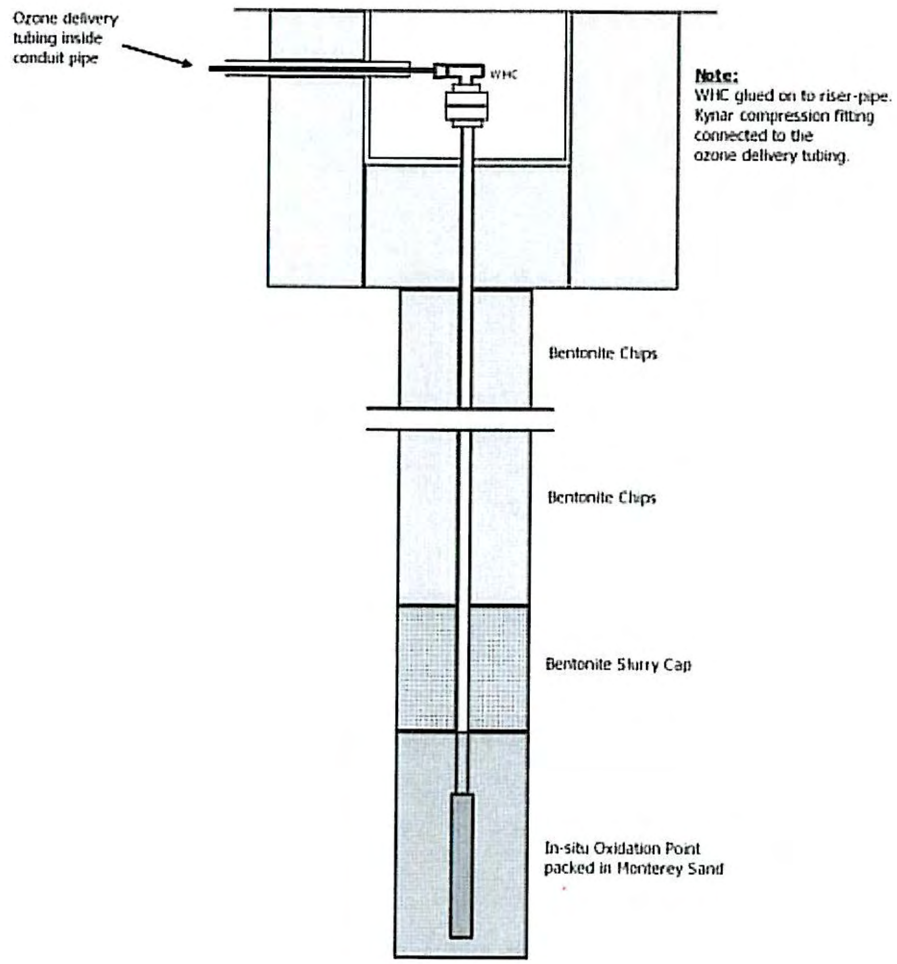
Specifications

Part Number	Description
IOP100-18	1.0" OD x 18.0"L, Viton® O-ring, and 1/2" x 8-TPI ASTM F-480 Male Flush Thread
IOP150-18	1.5" OD x 18.0"L, Viton® O-ring, and 1.0" x 8-TPI ASTM F-480 Male Flush Thread





Typical IOP Sparge Well Installation Diagram



** This is a typical sparge well installation. Please check your state and local requirements for an engineering sparge well standard in you area. This information is confidential, proprietary and/or privileged material. Any unauthorized review, distribution or other use of or the taking of any action in reliance upon this information is prohibited.

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top