February 20, 2008

SITE INVESTIGATION REPORT
AND
PILOT TEST WORKPLAN

3635 13th Avenue
Oakland, California 94602

Project No. 270852
ACEHS Toxics Case # RO000159

Prepared On Behalf Of

Mr. John Williamson
1511 Wellington Street
Oakland, California 94602

Prepared By

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

AEI

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1.0 INTRODUCTION

The following report has been prepared on behalf of Mr. John Williamson for the property located at 3635 13th Avenue, in the City of Oakland, Alameda County, California (Figure 1). AEI Consultants (AEI) has been retained by Mr. Williamson to provide environmental engineering and consulting services associated with a release of fuel petroleum hydrocarbons from underground storage tanks (USTs) formerly located on the property. The release at the property is currently receiving regulatory oversight from the Alameda County Health Care Services Agency (ACHCSA).

This investigation has been performed in order to characterize the current extent of petroleum hydrocarbons released from the former USTs system. The activities performed and outlined in this report include the following:

- Drilling and sampling of soil borings throughout the site;
- Installation of three (3) additional groundwater monitoring wells and sampling the wells;
- Completing and documenting a receptor well survey with the Department of Water Resources (DWR) and the Alameda County Public Works Agency (ACPWA);
- Compilation of site data and updating the site conceptual model (SCM) and;
- Review and update of previously proposed remedial action pilot test scope of work.

2.0 SITE DESCRIPTION AND HISTORY

The subject property (hereinafter referred to as the "site" or "property") is located in a residential area of the City of Oakland, on the west corner of 13th Avenue and Excelsior Street. The site is approximately 4,000 square feet in size and is currently vacant and un-improved. The site is surrounded by fencing. The site was previously developed with a gasoline service station. The adjacent property to the southwest is an apartment building; to the northwest and to the northeast across Excelsior Street are residential dwellings; and to the south across 13th Avenue is a City of Oakland Fire Station.

In December 1992, three underground storage tanks (USTs), one 250-gallon waste oil UST, one 500-gallon gasoline UST, and one 1,000-gallon gasoline UST were removed by Aqua Science Engineers, Inc. of San Ramon. Refer to Figure 2 for the former locations of the USTs. Soil samples collected beneath the former waste oil UST revealed concentrations of 8,200 mg/kg Total Oil and Grease (TOG), 290 mg/kg Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-g), and 225 mg/kg total lead. Soil samples collected from beneath the 1,000-gallon gasoline UST indicated maximum concentrations of 27 mg/kg TPH-g and 5.5 mg/kg benzene. Only minor concentrations of TPH as gasoline and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were found in samples collected beneath the 500-gallon gasoline UST.

In September 1993, AEI removed and disposed of approximately 360 cubic yards of contaminated soil from near the former waste oil UST. Sidewall samples collected from this excavation indicated that only minor contaminant concentrations remained in the soil. The former 250-gallon waste oil UST was concluded to not pose a significant threat to the groundwater.

Three monitoring wells (MW-1 through MW-3) were installed in March 1994. Soil samples analyzed during the well installations contained only minor concentration of petroleum hydrocarbons. The wells were monitored on a quarterly basis from November 1994 to August 1995, when the ACHCSA approved a change in monitoring frequency to a biannual schedule.

On November 16, 1995, AEI advanced a soil boring at each end of the former dispenser island to depths of 4.5 feet below ground surface (bgs) on the west end, and 10 feet bgs on the east. Soil samples were collected beneath the former dispensers at the request of the ACHCSA. Analysis of soil samples collected from the two borings indicated that concentrations of TPH-g and BTEX were below laboratory detection limits.

At the request of the ACHCSA, AEI prepared a workplan outlining a scope of work to further define the extent of impacted soil and groundwater beneath the site. This investigation was performed between August 1997 and January 1998. Nine soil borings (SB1 through SB9) were advanced on the property and down-gradient of the former gasoline USTs. Refer to Figure 2 for the locations of the borings. The investigation revealed significant concentrations of petroleum contaminants in soil and groundwater and that the release had spread off-site in a southerly direction.

An additional workplan was prepared, outlining the installation of two additional groundwater monitoring wells. However, due to the City of Oakland's requirement for liability insurance provided by the property owner for the wells, off-site monitoring wells could not be installed. A letter addendum to the workplan was prepared and approved to investigate the offsite extent of the release with temporary soil borings. Soil and groundwater samples were collected from six additional soil borings (SB-10 to SB-15) between August and October 2003, the results of which were presented in the *Soil and Groundwater Investigation Report*, dated October 30, 2003.

At the request of the ACHCSA, AEI prepared a *Remedial Investigation and Interim Correct Action Plan,* dated July 19, 2004, outlining a scope of work for additional site investigation and interim corrective action. An additional seven soil borings and two to three monitoring wells were proposed in the workplan to further investigate source area contamination. The workplan was approved by the ACHCSA in a letter dated, July 10, 2006, with the suggestion of the placement of one additional boring. AEI submitted the document *Workplan Revisions*, dated September 6, 2006, which addressed technical comments in the ACHCSA's July 10, 2006 letter. The workplan revisions were approved by the ACHCSA in letters dated October 2 and October 6, 2006.

This report presents the findings of the advancement of eight (8) additional soil borings and the installation of three (3) additional monitoring wells. In addition, this report includes a discussion of the previously proposed remedial action and presents a workplan for proposed ozone sparging pilot test.

3.0 GEOLOGY AND HYDROLOGY

The site is located at approximately 195 feet above mean seal level (msl). The site is located on a slight topographic rise, which slopes moderately to the southwest, toward Highway 580, approximately 200 feet southwest of the site.

Soil borings to date have revealed that native soils beneath the site generally consist of clayey sand and clay from near ground surface to between 14 and 18 feet bgs. Clayey sand and fine to medium grained sand is present below this depth to between 20 and 23 feet bgs. Saturated conditions were observed in the sandy zone. As requested by the ACPWA, several borings (SB-16, SB-20, SB-21, and SB-22) were extended deeper (a maximum of 35 feet bgs) to determine whether a secondary saturated water-bearing sediments were present beneath the lower clay. Stiff silty and sandy clay was encountered below the sand to totals borings depths of 26 feet bgs to 35 feet bgs. A Hydropunch™ groundwater sampler was employed in borings SB-19 and SB-22 and exposed at total depth however groundwater was not present. Based on these findings, the primary water bearing sediments are the identified sands above approximately 25 feet. Therefore wells MW-1 to MW-3, although installed with longer screens than is currently preferred, are not significantly diluted by intersecting separate water bearing zones.

Water levels were measured in the April 2007 borings at approximately 15.5 to 17 feet bgs. During October 2007 monitoring activities, water levels in the six wells were measured at depths ranging from approximately 17 feet bgs to 18 feet bgs. Since monitoring with the initial three wells, groundwater levels have fluctuated over a range of upwards of 10 feet, from approximately 5 feet to 15 feet bgs. Water level measurements have consistently identified a southerly/southeasterly groundwater flow direction. Recent groundwater monitoring using all of the wells also yielded a southeasterly flow direction. The hydraulic gradient calculated from monitoring data since January 2002 has been on the order of 0.05 ft/ft. Historical groundwater elevation data is presented in Table 4 and water table contours are graphically presented in Figure 6.

4.0 DRILLING ACTIVITIES

4.1 Soil Borings

Prior to drilling activities, a soil boring permit was obtained from the Alameda County Public Works Agency (ACPWA, Permit # W2007-0512). Permit copies are presented in Appendix A. Underground Utility Services (USA North) was notified to locate possible underground utilities in the drilling area at least 72 hours prior to drilling. On April 20 and April 23, 2007, AEI advanced eight (8) additional soil borings at the property to depths ranging from 25 feet bgs to 35 feet bgs. The soil boring locations were approved by ACHCSA and chosen to further assess the current magnitude and extent of the petroleum impact. Soil boring locations are presented on Figure 2.

4.2 Drilling and Soil Sampling

The borings were advanced with a truck-mounted Geoprobe model 5410 direct push drill rig. Drilling work was performed by Environmental Control Associates (ECA), California C57 license # 695970. The borings were continuously cored to total depth and soil samples were collected at regular intervals.

The samples were screened in the field using a photo-ionization detector (PID). Elevated PID readings, petroleum odors and staining were noted during sample collection from several of the borings. Field observation and screening data are presented on the boring logs found in Appendix B.

The soil borings were continuously cored using a drive sampler that contained 4-foot long, 1.5-inch diameter acrylic linters. Selected samples were sealed with Teflon tape and end caps, labeled with a unique identifier, entered onto chain of custody, and placed in a cooler with water-ice. The remainder of the core was examined and described by an AEI project geologist. The descriptions of the cores are included on the borings in Appendix B.

4.3 Groundwater Sampling

Groundwater was encountered in all of the borings at depths from approximately 18 feet bgs to 20 feet bgs. Upon encountering groundwater, a ¾" poly-vinyl chloride (PVC) temporary casing was installed to maintain an open hole and facilitate collection of groundwater. The temporary casing consisted of one 5-foot 0.010 inch slotted section and sections of blank ¾" PVC casing. A sheen and petroleum odors were noted during sample collection from in several of the borings. Depth to groundwater was measured at approximately 17 feet bgs once the temporary casings were inserted.

Groundwater was not immediately present inside boring SB-19 on April 20, 2007. Following discussion with Ms. Vicky Hamlin of the ACPWA, this boring was left open and sampled on April 23, 2007.

Groundwater samples were collected using a peristaltic pump. Each groundwater sample was collected into three 40-ml volatile organic analysis (VOA) vials and two 1-liter amber bottles. The VOA groundwater samples were capped so that there was no headspace or visible air bubbles. The samples were labeled with unique identifiers and then placed into a cooler with wet ice to await transportation to laboratory.

4.4 Laboratory Analysis

On April 20 and April 24, 2007, the soil and groundwater samples were transported to McCampbell Analytical Inc. (Department of Health Services Certification #1644)

under chain of custody protocol for analysis. Analysis results and chain of study documentation are included as Appendix E.

Thirty (30) soil samples and eight (8) groundwater samples were analyzed for TPH as gasoline (TPH-g) and TPH as diesel (TPH-d) by EPA method 8015, BTEX and MTBE by EPA method 8021; and for fuel additives by EPA method 8260B.

4.5 Borehole Destruction

On April 20 and 23, 2007, the temporary soil borings were backfilled via tremie method under the supervision of ACPWA inspector Ms. Vicky Hamlin.

5.0 WELL INSTALLATION

Prior to initiating well installation activities, well construction permits (# W2007-0933 to W2007-0935) were obtained from the ACPWA. Following permit approval, drilling activities were scheduled and USA North was notified.

On September 7, 2007, AEI advanced three soil borings (MW-4, MW-5, and MW-6) at the property, and converted the borings into groundwater monitoring wells. The new wells were drilled as boreholes with a standard rotary drilling rig, running 8¼-inch diameter hollow stem augers. The new wells were advanced to a total depth of approximately 22 feet bgs, based on logs of the prior soil borings. Following discussion with Steven Plunkett of the ACHCSA, soil sampling was not performed during the installation of the new wells (MW-4, MW-5, and MW-6), as these wells were twin borings of SB-18, SB-22, and SB-21, respectively.

Each borehole was converted into a monitoring well. The monitoring wells were constructed by placing a 2" diameter schedule 40 PVC casing with 5' of factory slotted 0.010-inch well screen through the augers to total depth. The screen intervals for the new wells were set from 17 feet bgs to 22 feet bgs. An annular sand pack (consisting of clean #2/12 Sand) was installed through the augers to approximately 1 foot above the screen. A 1 foot bentonite seal was placed above the sand and the remainder of each boring was sealed with 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. DWR well registration forms (DWR Form 188) have been completed for each of the wells and have been forwarded to the DWR. Following installation of the wells, the wells were surveyed by Morrow Surveying in a format appropriate for geotracker uploads.

Cuttings generated during the drilling and well installation activities were stored on-site in three (3) sealed, labeled 55-gallon drums pending disposal. The locations of the newly installed wells are presented on Figure 2 and well construction logs in Appendix B.

6.0 WELL DEVELOPMENT AND SAMPLING

The three newly installed wells were developed on September 11, 2007. The wells were developed by first using a surge block and bailer to clear the sand pack and screen of any fine sands, then a minimum of 10 well volumes of water was pumped from each well.

Groundwater samples were collected from all the wells (MW-1 through MW-6) on October 3, 2007. Depth to groundwater was measured in wells prior to sampling activities, ranging in depth from 16.71 (MW-2) feet bgs to 18.46 feet bgs (MW-6). A hydrocarbon odor was observed during the groundwater sampling of wells MW-2 and MW-4 through MW-6.

Prior to the collection of water samples, at least three well volumes of water were purged from each well. During purging the following groundwater quality parameters were recorded: temperature, pH, specific conductivity, dissolved oxygen (DO) and oxidation-reduction potential (ORP) along with a visual estimation of turbidity. These field parameters were recorded on the Groundwater Well Sampling Field Forms (Appendix D), which include details on the sampling of each well.

Following the recovery of water levels in the wells to within 90% of the initial depth, groundwater samples were collected from each well using poly tubing and a peristaltic pump. Samples were collected into 40 ml VOA vials and capped so that neither head space nor air bubbles were visible within the sample containers. The samples were also collected into 1-liter amber bottles and 250-cc poly-bottles. The samples were labeled and placed on ice and transported under chain of custody protocol for analysis to McCampell Analytical Inc. (DOHS Certification Number 1644) of Pittsburgh, California. Six (6) groundwater samples were analyzed for TPH-g, TPH-d, BTEX and MTBE, and fuel additives. In addition, two (2) groundwater samples were analyzed for Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), ferrous Iron [Fe (II)], Total Iron (Fe), Inorganic Carbon (IC), and Total Organic Carbon (TOC).

7.0 SAMPLE ANALYTICAL RESULTS

7.1 Soil Analytical Results

During drilling activities conducted in April 2007, soil samples were collected from a total of eight (8) soil borings advanced throughout the property. TPH-g was detected in samples collected from borings SB-18, SB-19, and SB-21 through SB-23 at concentrations ranging from 2.7 mg/kg up to 4,900 (SB-22-11'). TPH-d was detected in samples from the same borings at concentrations ranging from 4.7 mg/kg up to 1,400 mg/kg (SB-22-11). BTEX was detected in the same borings at maximum concentrations of 78 mg/kg, 280 mg/kg, 150 mg/kg, and 830 mg/kg, respectively. MTBE was detected in three samples at a maximum concentrations of 0.22 mg/kg (SB-18-19'). Tert-butyl alcohol (TBA) was detected in one sample at a concentration of 0.052 mg/kg (SB-18-

19'). No other TPH and fuel additives analytes were detected exceeding laboratory reporting limits in the rest of the soil samples analyzed.

7.2 Groundwater Analytical Results

The following contaminants were detected during the April 2007 investigation. TPH-g was detected in seven of the groundwater samples, at concentrations ranging from 66 µg/L to 210,000 µg/L. TPH-d was detected in six samples at concentrations ranging from 200 µg/L to 490,000 µg/L. Benzene was detected in seven samples at concentrations ranging from 0.96 µg/L to 4,200 µg/L. Toluene was detected in four samples at concentrations ranging from 230 µg/L to 890 µg/L. Ethylbenzene was detected in five samples at concentrations ranging from 8.3 µg/L to 2,100 µg/L. Xylenes was detected in only one sample, at a concentration of 81 µg/L. TBA was detected in one sample at a concentration of 81 µg/L. No other TPH or fuel additive analytes were detected in the rest of the groundwater samples analyzed.

The following contaminants were detected during the first groundwater monitoring episode for the six (6) monitoring well conducted on October 3, 2007. TPH-g was detected in wells MW-2, MW-4, MW-5, and MW-6 at concentrations of 8,600 µg/L, 11,000 µg/L, 8,800 µg/L, and 11,000 µg/L, respectively. TPH-d was detected in the same samples at concentrations of 1,500 µg/L, 2,000 µg/L, 680 µg/L, and 1,400 µg/L, respectively. BTEX was detected in wells MW-2, MW-4, MW-5, and MW-6 at maximum concentrations of 2,800 µg/L, 140 µg/L, 520 µg/L, and 1,300 µg/L, respectively. TBA was detected in MW-5 at a concentration of 1,300 µg/L. 1,2-Dichloroethane (1,2-DCA) was detected in MW-4 through MW-6 at concentrations of 6.4 µg/L, 66 µg/L, and 6.6 µg/L, respectively. Diisopropyl ether (DIPE) was detected in MW-5 at a concentration of 5.9 µg/L. Using method 8260, MTBE was detected in MW-1, MW-2, MW-4, MW-5, and MW-6 at concentrations of 7.4 µg/L, 77 µg/L, 230 µg/L, 150 µg/L, and 210 µg/L, respectively. No other TPH or fuel additive analytes were detected exceeding laboratory reporting limits in the groundwater samples analyzed.

In well MW-5, biological oxygen demand (BOD), chemical oxygen demand (COD), Fe (II), total Fe, inorganic carbon, and total organic carbon were detected at concentrations of less than 4 milligrams per kilogram (mg/L), 120 mg/L, less than 50 µg/L, 4,100 µg/L, 340 mg/L, and 50 µg/L, respectively. In well MW-6, BOD, COD, Fe (II), total Fe, inorganic carbon, and total organic carbon were detected at 6.9 mg/L, 63 mg/L, less than 50 µg/L, 760 µg/L, 220 mg/L, and 31 µg/L, respectively. Groundwater sample analytical data is presented in Tables 3 through 4.

8.0 SITE CONCEPTUAL MODEL

8.1 Release Occurrence and Site Contaminants

The recent investigation was performed to obtain current onsite soil and groundwater conditions immediately around and down-gradient of the release area. The sample data confirmed significant petroleum mass remains in the soil southwest of the former UST hold. The primary contaminants of concern (COCs) are gasoline, diesel, BTEX, and the fuel additives MTBE, TBA, 1,2-DCA, and DIPE. 1,2-DCA was detected for the first time at the site in wells MW-4 through MW-6. DIPE as detected for the first time at the site in well MW-5. Soil borings performed in 1997/1998 revealed high concentrations of petroleum contaminants in the area of boring SB-3. High concentrations of petroleum contamination in soil and groundwater were detected during the April 2007 investigation in boring SB-22 and SB-23. The release occurred from the UST and dispenser area at the northern end of the property, with the product migrating downward into the sandy saturated sediments, and laterally, primarily in a southerly direction.

The vertical extent of impact is defined, with the bulk of residual hydrocarbons primarily present above 15 feet and with the lower clay present below the saturated sand acting as a barrier to further downward migration. The high historical variability in water levels has resulted in petroleum hydrocarbon impact shallower than recently measured water levels.

8.2 Release Extent

The extent of impacted soil and groundwater is reasonably defined to non-detect to the northeast and northwest of the release location (MW-3 and SB-16) and to the southwest (MW-1). While the highest concentrations have been primarily detected onsite, impacted soil and groundwater has been detected offsite along 13th Avenue. Contaminant concentrations decrease with distance from the site; however the migration of fuel product that has occurred from the source area toward SB-23 suggests that it may continue to spread to the south. Refer to Figures 4 through 9 for sample data and concentration contours.

8.3 Receptor Study

AEI conducted a reconnaissance of the site vicinity and review of maps for surface water bodies and other potential groundwater receptors. The nearest surface water bodies are Central Reservoir and Lake Merritt. Central Reservoir is located approximately ½ mile southeast of the site, at approximately equal elevation as the site, across Interstate 580. Although based on the onsite groundwater flow direction, the reservoir is located down gradient, it is 0.5 miles away and on the other side of the Interstate which is expected to act as effective hydrologic divide between the release and the reservoir. Lake Merritt is located 1.2 miles west of the site. Based on the distance of the site from Lake Merritt, the release is not expected to cause a threat to water quality of the lake.

Well records for all wells within a ¼ mile radius of the site were collected from both the Alameda County Public Works Agency and the State of California Department of Water Resources. A map with the locations of the wells identified in the survey relative to the site is presented in Figure 1. The identified nearby wells are also presented in the table below.

Exhibit 1: Nearby Wells

Owner	Map ID #	Distance (ft)	Direction	Depth (ft)	Screen Interval (ft)	Use
EBMUD (1 well)	1	~ 1,000	Southwest	130	NA	Cathodic
Arco (7 wells)	2	~1,500	West	25	NA	Monitoring
Gerald Starrett (1 well)	3	~1,700	Southeast	40	NA	Monitoring
Desert Petroleum (5 wells)	4	~1,700	Northeast	20 - 39	9 - 39	Monitoring
Naomi/Tom English (3 wells)	5	~1,800	Southeast	20	NA	Monitoring

NA – Information not available Distances and direction from the site are approximate

No municipal well groups or water supply wells were identified during the course of the well survey.

In summary, based on the well survey, the distance of nearby wells and their uses; none of the identified wells appear at risk from the site release to act as vertical conduits nor does there appear to be active use of groundwater in the area that would be threatened by this release. The location of the identified wells relative to the subject site is presented on Figure 1.

Land use surrounding the site is residential, with a fire station located to the south. The release has primarily migrated to the south, away from the adjacent buildings. Further assessment relating to these adjacent buildings is proposed below as part of remedial action pilot testing.

8.4 Preferential Pathway Study

A utility survey was conducted to evaluate all subsurface utility lines which could potentially act as preferential pathways for contaminant migration.

Various subsurface utility lines were identified down-gradient of the site, within 13th Avenue. However, based on the shallow depth of the utility lines compared to the variations in height of the water table, it is unlikely that these lines are acting as a significant preferential groundwater migration pathways. At very high water levels (such as observed in 1996) it is possible that the water table intersects deeper utility trenches and may flow preferentially for short periods of time, however these high levels are anomalous based on the gauging data since 1994. An illustration of the results of this survey is presented in Figure 3.

8.5 Data Gaps

The down-gradient extent of the plume has not yet been defined. Additional monitoring wells are proposed to investigate the extent of impact. Soil vapor investigation has not been conducted at the site and is a potentially complete exposure pathway. Soil gas probes are also proposed.

9.0 PROPOSED ACTIVITIES

Based on the site assessment activities conducted and as previously discussed with ACHCSA, remedial action is warranted at the site. The following activities are proposed:

- Installation of three additional monitoring wells. MW-7 in the identified area of most significant impact onsite (near SB-23) and MW-8 and MW-9 on the southern side of 13th Avenue to assess the down-gradient release extent (assuming City of Oakland permits can be obtained)
- Installation of three nested soil gas probes (5 and 10 foot probe depths) to evaluate the potential for vapor intrusion and for use during proposed remedial action pilot testing
- Implementation of the previously proposed in situ chemical oxidation pilot test, modified based on the newer site data, using ozone sparging.

Proposed monitoring wells, soil gas probes, and sparge wells are shown on Figure 5.

10.0 MONITORING WELL INSTALLATION

The three (3) additional monitoring wells (MW-7 through MW-9) will be installed in borings drilled with a standard rotary drilling rig, running 8¼ diameter hollow stem augers. The boreholes will be advanced to depths of approximately 22 feet bgs. The wells will be constructed with 2" diameter well casing, with 5' of factory slotted 0.010 or 0.020 inch well screen. The screen interval of 17 feet to 22 feet bgs has been selected based on existing logs. Soil samples will be collected during the drilling of offsite wells at approximately 5 foot intervals with a California modified split spoon sampler to log the soil conditions and for chemical analyses; it is planned that 2 to 3 soil samples will be analyzed for site contaminants.

The well casings will be installed through the augers. The casing will be flush threaded PVC and fitted with a bottom sump. 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 drilling and well installation work will be performed under Alameda County Public Works Agency permit. DWR well registration forms (DWR Form 188) will be completed for each of the wells upon installation.

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 well will be surveyed relative to each other and mean sea level by a California licensed land surveyor for the Geotracker database and hydrologic calculations.

Soil samples will be collected at approximately 5' intervals, or at closer intervals, during drilling with a split spoon sampler advanced ahead of the auger bit. Samples will be utilized to characterize the sediments beneath the site and for possible chemical analyses. Selected samples will be analyzed for TPH-multi-range (g/d/mo) by EPA Method 8015C and MBTEX by Method SW8021B.

If significant difficulties are encountered during City of Oakland encroachment permitting of offsite monitoring (wells MW-8 and MW-9) due to their insurance requirements, ACEHSA will be notified; however it is planned that onsite activities not be delayed.

11.0 SOIL VAPOR PROBE INSTALLATION

Soil vapor probes will be installed for collecting baseline data on soil vapor chemistry, volatile COC concentrations, and to determine changes in soil gas chemistry during ozone sparging pilot test. This data will be used to assess the potential for vapor intrusion, aerobic petroleum hydrocarbon respiration, and effects of the sparging activities.

11.1 Permits & Clearances

Well installation permits will be obtained as needed from ACPWA for installing permanent soil vapor probes. The work area will be clearly identified with white marking paint and Underground Service Alert (USA) North will be notified at least three 3-days prior to drilling to identify underground utilities in the work area.

11.2 Soil Vapor Probe Construction

Three (3) nested soil vapor probes (SG-1 to SG-3) will be installed using a direct-push drilling rig with soil gas implants placed at depths of approximately 5 and 10 feet bgs. The nested soil vapor probes will be constructed of a 6-inch long stainless steel implant attached to a section of 1/4-inch outside diameter by 1/8-inch inside diameter Kynar® poly-vinylidene di-fluoride (PVDF), nylon, or equivalent tubing. Each soil vapor implant will be centered in a minimum of 18-inches of #2/16 Monterey sand with a minimum of 6-inches extending above and below each implant. A minimum of 2-feet of hydrated bentonite will be installed above the sandpack and the remainder of the borehole will be sealed to approximately 12-inches bgs with cement slurry or hydrated bentonite chips. The top of each soil gas implant will be completed with a 1/4-inch Swagelok ball valve and labeled with the corresponding probe location and depth. The wellhead will be completed to grade with traffic-rated well box. The soil gas probe locations are presented on Figure 5.

11.3 Soil Description, Sampling & Analyses

One soil sample will be collected from each vapor borehole at approximately 5 or 10 feet bgs by driving a soil core sampler with a direct push drilling rig. Soil samples will be characterized according to the Unified Soil Classification System (USCS) using the visual-manual procedure as described in ASTM Standard D2488 and by noting color, moisture content, texture, and grain-size and distribution.

Select soil samples retained for chemical analyses will be sealed with Teflon tape and plastic end caps, labeled with unique identifiers, entered on a chain of custody record, and placed in a pre-chilled cooler with water and ice pending transportation to the laboratory.

Samples will be transported on the same day of collection under proper chain of custody protocol to a DHS certified laboratory. Selected soil samples may be analyzed for TPH-multi-range by Method SW8015Cm, and MBTEX by Method SW8021B.

Soil vapor samples will be collected in 1-L Summa Canisters and analyzed for TPH-g and BTEX using analytical methods TO-3/TO-15.

11.4 Equipment Decontamination, Waste Storage & Disposal

Soil cuttings and other investigation-derived wastes (IDW) will be temporarily stored in 55-gallon drums pending the results of the sample analyses and arrangements for off-site disposal.

12.0 OZONE SPARGING PILOT TEST

As previously proposed, in situ treatment via ozone sparging was selected as a likely successful and cost-effective method of treating the source area as well as reducing offsite contaminant migration. Results of the April 2007 investigation and well installation confirm that remedial action is warranted. Ozone has ability to oxidize site COCs and significantly increase oxygen content of groundwater and vadose zone soils in the source area. In addition to reducing the concentrations of source area contaminants, this highly oxygenated groundwater will migrate down-gradient of the site, enhancing aerobic biodegradation of contaminants beneath 13th Avenue.

12.1 Pilot Test and Sparge Well Construction

The goal of the pilot test is to document feasibility of source area treatment using chemical oxidation by in-situ ozone sparging. The 2 to 4 month pilot test will verify the effectiveness of this technology at the site. This length is expected to be sufficient to evaluate changes to groundwater and soil gas conditions and the likelihood of long-term success of this approach. The duration of the pilot test will be determined as data

becomes available. If the method shows promise, the system may be scaled up and incorporated into the formal corrective action planning for the site.

Three (3) sparge well locations (S-1 to S-3) are proposed for the pilot test. In each location, a sparge point will be installed at the bottom of the water bearing deposits, at approximately 20 to 25 feet bgs. The locations will be selected such that the sparge points will be beneath areas of highest groundwater contamination and adjacent to monitoring wells, for monitoring of radius of influence (ROI) of sparging. As requested by the ACHSCA in the July 2006 letter, the sparge points will not be located more than 10 feet away from their associated well. S-1 would be located up-gradient of monitoring well MW-5; S-2 would be up-gradient of MW-2; and S-3 would be up-gradient of MW-7. Locations of the three sparge wells are presented on Figure 5.

The sparge wells will be constructed in borings advanced with standard 8 ¼" hollow stem augers. The borings will be logged as needed to determine the final depth of each point. The wells will be constructed with a fine screen sparge point, approximately 18" in length, with the remainder of the casing ¾" flush threaded PVC. A sand pack will be installed from the bottom of the sparge point to approximately 1 foot above. Above the sand pack, a 2 feet thick bentonite seal will be installed.

Temporary electrical service will be installed on the property. The proposed ozone generator, compressor, and panel controls require standard 110 volt / 30 amperage service. A licensed electrical contractor will be contracted to obtain the necessary City permits and coordinate the installation of electrical service with PG&E.

A small temporary enclose will be placed on the property. The treatment system will consist of an Ozone sparging unit from a reputable manufacturer. The compound will include the air compressor, ozone generator, sequencer, solenoids, cooling fans, outflow one-way check valves, temperature and ozone sensors and shut-downs.

During the pilot test, air tubing from the wellheads to the unit will be contained in 2" PVC or ABS conduit to avoid damage. Initially the conduit will be run over the ground surface, as the property is vacant and surrounded by approximately 12-foot high fence.

Select soil samples retained for chemical analyses will be sealed with Teflon tape and plastic end caps, labeled with unique identifiers, entered on a chain of custody record, and placed in a pre-chilled cooler with water and ice pending transportation to the laboratory. Selected soil samples will be analyzed for TPH-gasoline and diesel by Method SW8015Cm, and MBTEX by Method SW8021B.

12.2 Baseline Sampling

Prior to system startup, a groundwater and soil vapor monitoring event will be performed on all wells and vapor probes. Water quality parameters [pH, temperature, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP)] will be

measured and samples collected for analysis for site COCs from the monitoring wells. This data, particularly DO, ORP, and COC concentrations, will be used as a baseline for interpretation of ROI and effectiveness of COC destruction. Soil vapor samples collected during baseline sampling will also be analyzed for COCs by the method outlined in Section 11.3 for TPH-g and MBTEX by EPA methods TO-3/TO-15; and soil gas will be measured with a field meter for oxygen, carbon dioxide, and methane.

Baseline groundwater samples will also be analyzed for dissolved CAM-17 metals as well as hexavalent Chromium (Chromium VI) to monitor for the potential temporary mobilization of metals due to change in oxidation state caused by ozone injections. Although most studies show that increased metals solubility is temporary, metals concentrations will be monitored closely during the pilot test.

12.3 Startup and Pilot Test Monitoring

The system will initially be set to run for 20 minutes per well, with a 1 hour dwell time between cycles for a total of 12 cycles 2-hour cycles per day.

Site visits will be performed on a daily basis for the first week of operation, and weekly for the first month. After the first month, bi-weekly site visits and monthly sampling will be performed.

During each site visit, the unit will be inspected and pressure measurements recorded for each injection well. On a bi-weekly basis for the first month, and at the end of the second month, four selected monitoring wells will be purged, water quality parameters recorded, and samples collected for analyses for site COCs, CAM-17 metals, and hexavalent chromium. Soil vapor samples collected during each site visit will be analyzed for TPH-g and MBTEX by EPA methods TO-3 and TO-15; and soil gas will be measured with a field meter for oxygen, carbon dioxide, and methane.

During the first month, ozone monitoring will be performed on monitoring wells MW-2, MW-5, and MW-7 and all soil vapor probes with unsaturated screen sections to ensure that ozone is not accumulating in subsurface soils prior to degradation to oxygen and that hydrocarbon concentrations are not increasing.

12.4 Pilot Test Reporting

Upon completion of 2 to 4 months operation, monitoring and laboratory data, and verification soil samples, a progress report will be prepared for the ACHCSA. The report will include site plans, logs of boring and wells, operation times, data obtained, and contaminant concentrations trends. Any alterations made to this plan will be documented and discussed with ACHCSA.

Assuming adequate contaminant concentration reductions and effective ROI, scale-up of the system will be recommended. Scale-up specifications and site cleanup targets would be proposed in a corrective action plan (CAP) for the site.

13.0 TENTATIVE SCHEDULE

Once the ACHCSA has reviewed this plan, the monitoring well, soil vapor and sparge well install and site preparation work (electrical service, well construction, etc.) will begin. Electrical service, site preparation, and panel and equipment procurement is expected to take 5 to 10 weeks. The pilot test is schedule to run for 2 to 4 months following startup. The pilot test report will be prepared upon completion of the pilot test. ACHCSA will be notified of project scheduling specifics as the project proceeds. Regular quarterly groundwater monitoring is scheduled to continue.

14.0 REFERENCES

1. *Underground Storage Tank Removal Final Report*, January 20, 1993 – Aqua Science Engineers, Inc.
2. *Soil Boring and Monitoring Well Installation Report*, December 14, 1994 – All Environmental, Inc.
3. *Phase II Limited Subsurface Investigation*, December 11, 1995 – All Environmental, Inc.
4. *Phase II Subsurface Investigation Workplan*, June 5, 1997 – All Environmental, Inc.
5. *Phase II Subsurface Investigation Report*, January 20, 1999 – All Environmental, Inc.
6. *Contaminated Soil Over-excavation Final Report*, November 18, 1999 – All Environmental, Inc.
7. *Workplan*, December 3, 1999 – AEI Consultants
8. *Oakland Urban Land Use Redevelopment Program: Guidance Document,* January, 2000 – City of Oakland Public Works Department.
9. *Technical and Regulatory Guidance for In-Situ Chemical Oxidation of Contaminated Soil and Groundwater*, June 2001 – Interstate Technology and Regulatory Cooperation Work Group
10. Letter to Amir Gholami of the ACHCSA, September 9, 2002 – AEI Consultants
11. *Screening for Environmental Concerns at Site with Contaminated Soil and Groundwater, Interim Final,* July 2003 – San Francisco Bay Regional Water Quality Control Board
12. *Soil and Groundwater Investigation Report*, October 30, 2003 – AEI Consultants
13. *Remedial Investigation and Interim Corrective Action Plan,* July 19, 2004 – AEI Consultants
14. Letter to Steven Plunkett of the ACHCSA, September 6, 2006
15. Letter from Steven Plunkett of the ACHCSA, October 2, 2006
16. Letter from Steven Plunkett of the ACHCSA, October 6, 2006

15.0 CLOSING

This report has been prepared by AEI on behalf of the Mr. John Williamson relating to the release of petroleum hydrocarbons on the property located at 3635 13th Avenue in the City of Oakland, Alameda County, California. The discussion rendered in this report was based on field investigations and laboratory testing of material 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 report should not be regarded as a guarantee that no further contamination, beyond that which could have been detected within the scope of past investigations is present beneath the property or that all contamination present at the site will be identified, treated, or removed. Undocumented, unauthorized releases of hazardous material(s), the remains of which are not readily identifiable by visual inspection and/or are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation and may or may not become apparent at a later time. All specified work was performed in accordance with generally accepted practices in environmental engineering, geology, and hydrogeology and were performed under the direction of appropriate registered professional(s).

Please contact either of the undersigned with any questions or comments at (925) 283-6000.

Sincerely,
AEI Consultants

Adrian M. Angel
Project Geologist

Peter J. McIntyre, PG, REA
Senior Project Manager

REGISTERED GEOLOGIST
PETER J. MCINTYRE
6/30/08
No 7102
STATE OF CALIFORNIA

Distribution:

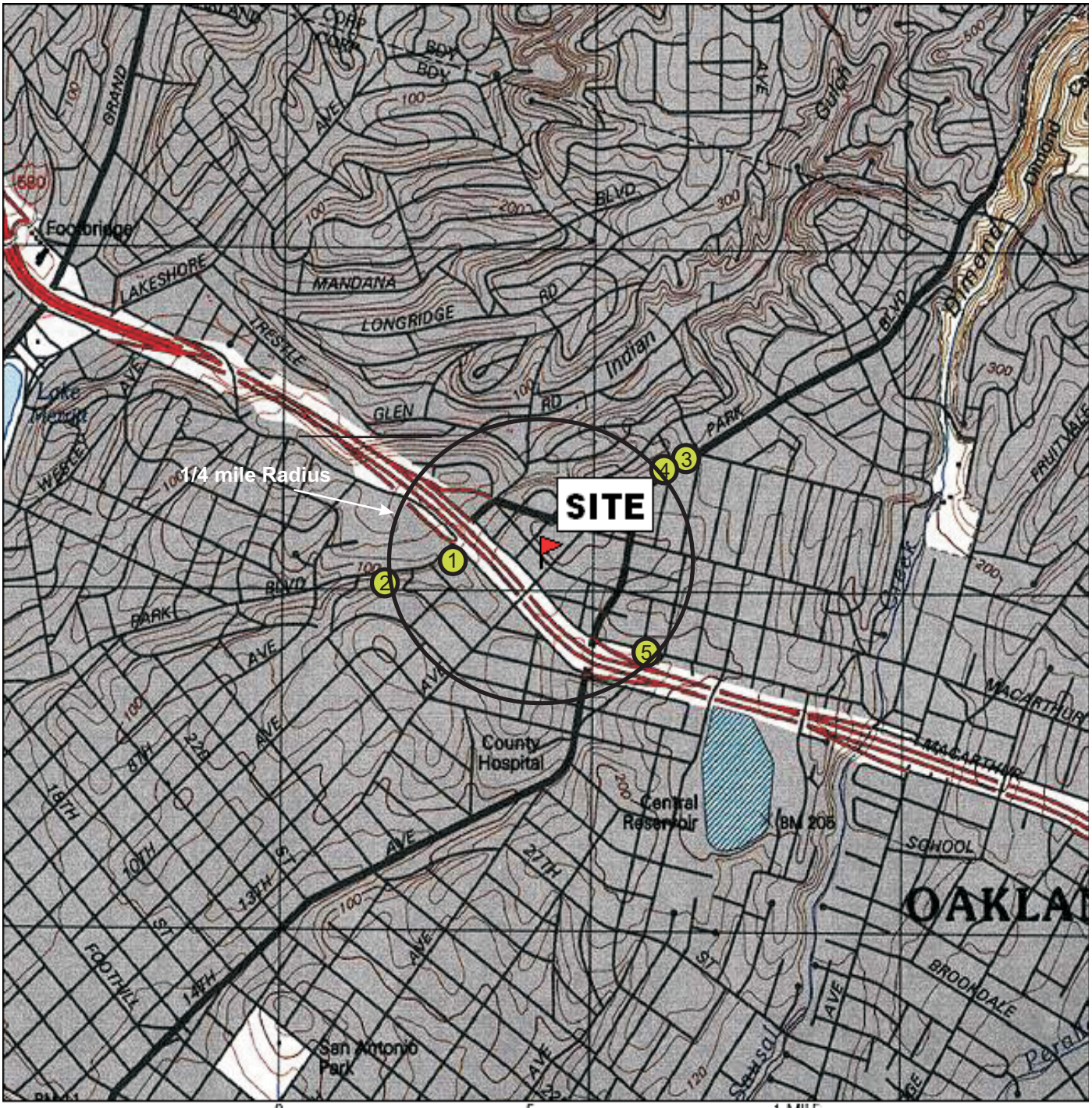
Mr. John Williamson
1511 Wellington Street, Oakland, CA 94602

Mr. Steven Plunkett, ACHCSA (FTP Upload)
1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502

Mr. Sunil Ramdass, UST Cleanup Fund
1001 I Street, Sacramento, CA 94224

GeoTracker (electronic)

FIGURES



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2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

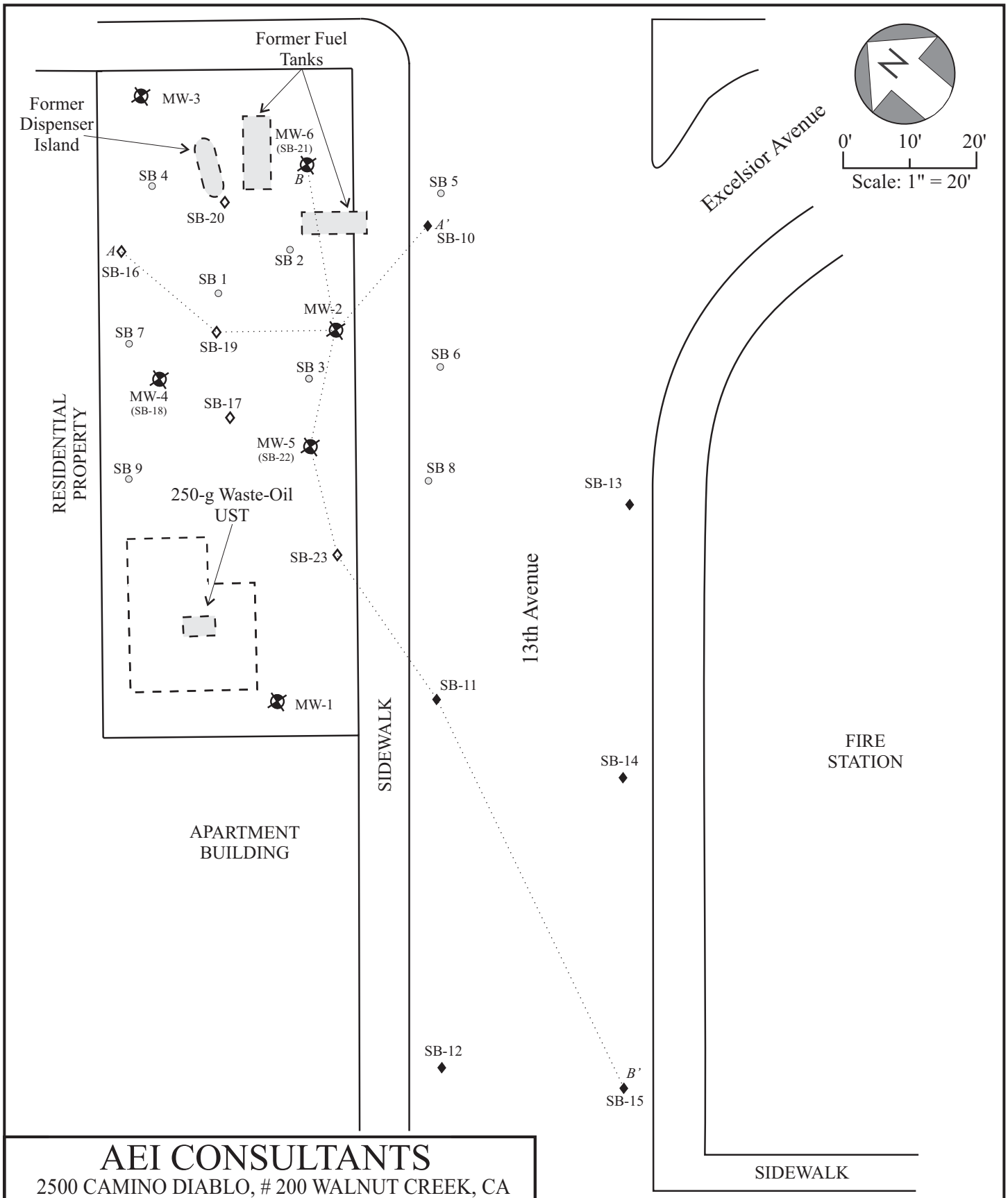
Well Survey Map

3635 13th Avenue
Oakland, California

FIGURE 1
AEI Project # 270852

LEGEND (REV. 12/07)

(#) Identified Well(s)
(Refer to Section 8.3 for more detailed information)



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2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

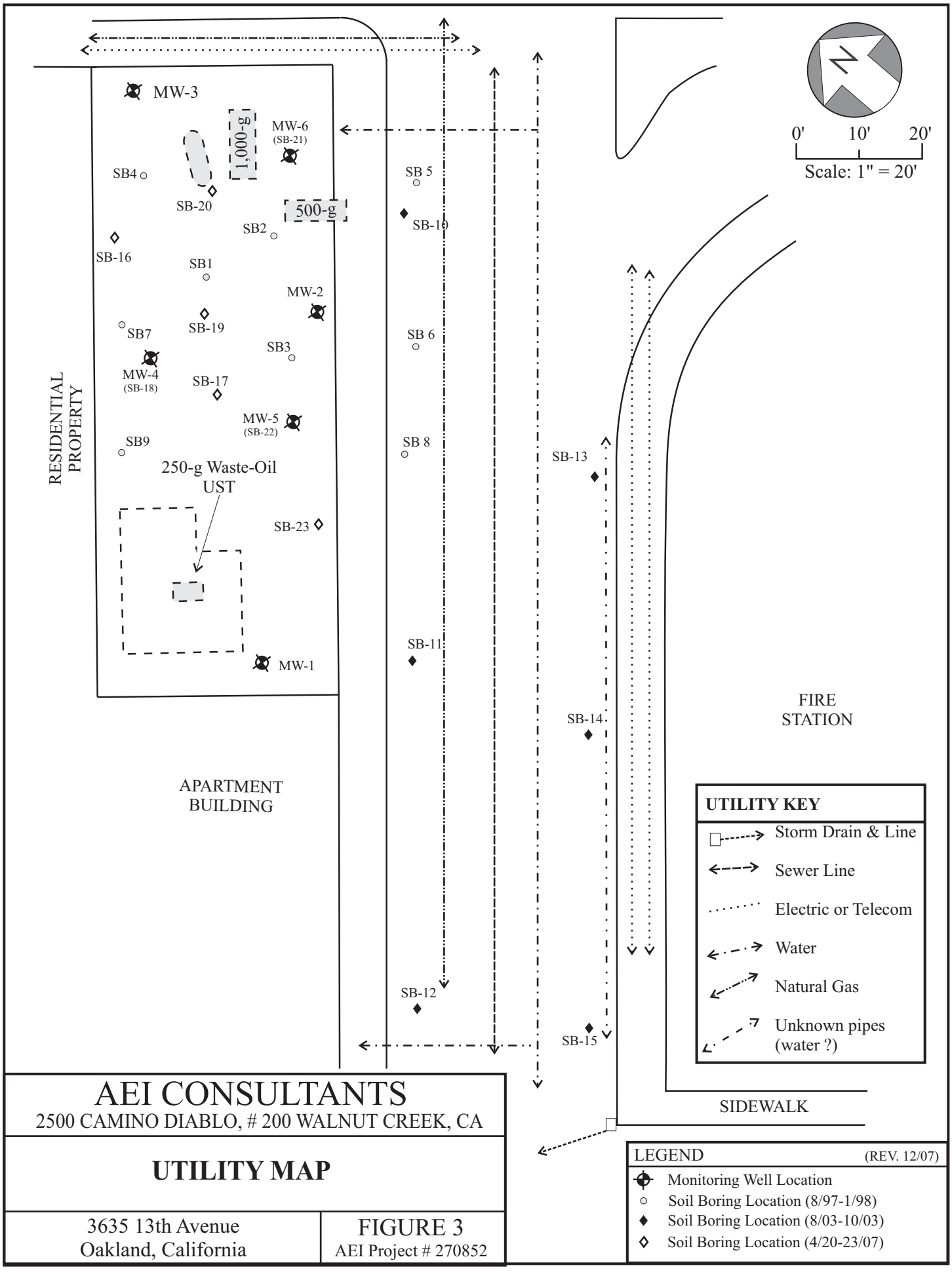
Site Plan

3635 13th Avenue
Oakland, California

FIGURE 2
AEI Project # 270852

LEGEND (REV. 12/07)

- Monitoring Well
- Soil Boring (4/07)
- Soil Boring (8/97 - 1/98)
- Fence Diagram Line (Figures 10 and 11)
- Soil Boring (8/03 - 10/03)



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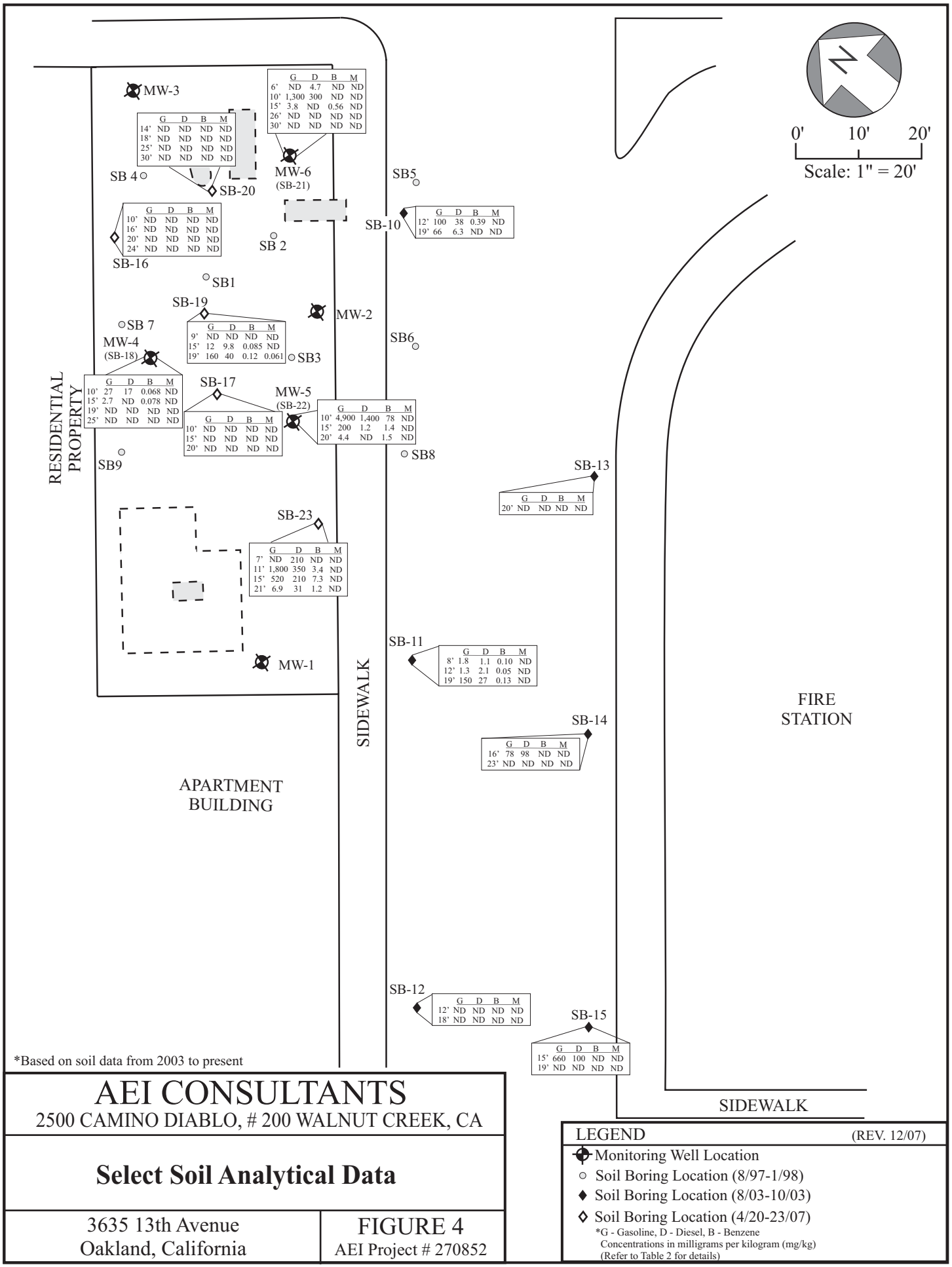
2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

UTILITY MAP

3635 13th Avenue Oakland, California	FIGURE 3 AEI Project # 270852



*Based on soil data from 2003 to present

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2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

Select Soil Analytical Data

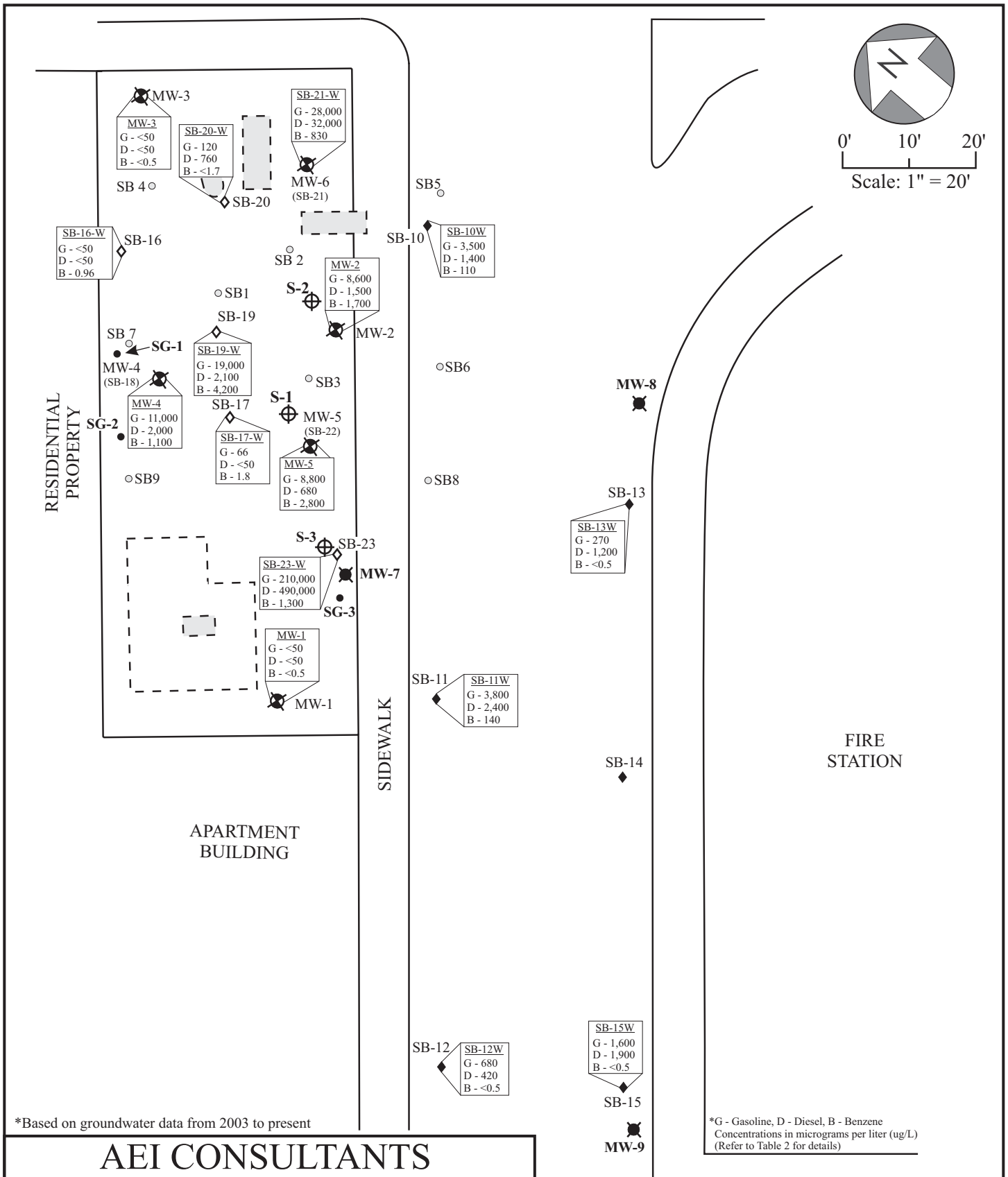
3635 13th Avenue
Oakland, California

FIGURE 4
AEI Project # 270852

LEGEND (REV. 12/07)

- Monitoring Well Location
- Soil Boring Location (8/97-1/98)
- Soil Boring Location (8/03-10/03)
- Soil Boring Location (4/20-23/07)

*G - Gasoline, D - Diesel, B - Benzene
Concentrations in milligrams per kilogram (mg/kg)
(Refer to Table 2 for details)



*Based on groundwater data from 2003 to present

*G - Gasoline, D - Diesel, B - Benzene
Concentrations in micrograms per liter (ug/L)
(Refer to Table 2 for details)

LEGEND (REV. 12/07)

- Monitoring Well Location
- Soil Boring Location (8/97-1/98)
- Soil Boring Location (8/03-10/03)
- Soil Boring Location (4/20-23/07)
- Proposed Monitoring Well Location
- Proposed Soil Vapor Probe
- Proposed Sparge Location

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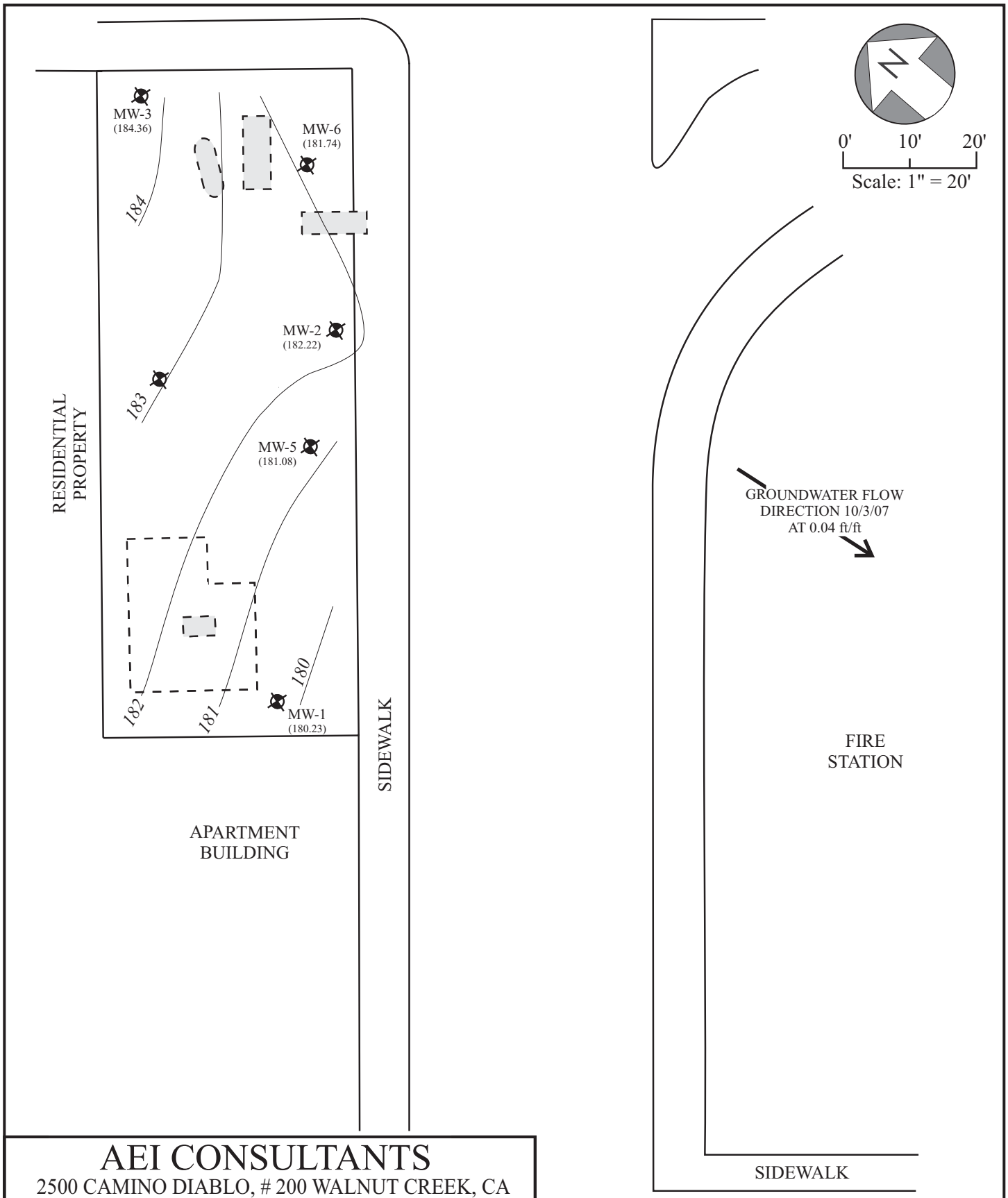
2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

Select Groundwater Analytical Data Soil Borings and Monitoring Wells

3635 13th Avenue
Oakland, California

FIGURE 5
AEI Project # 270852



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2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

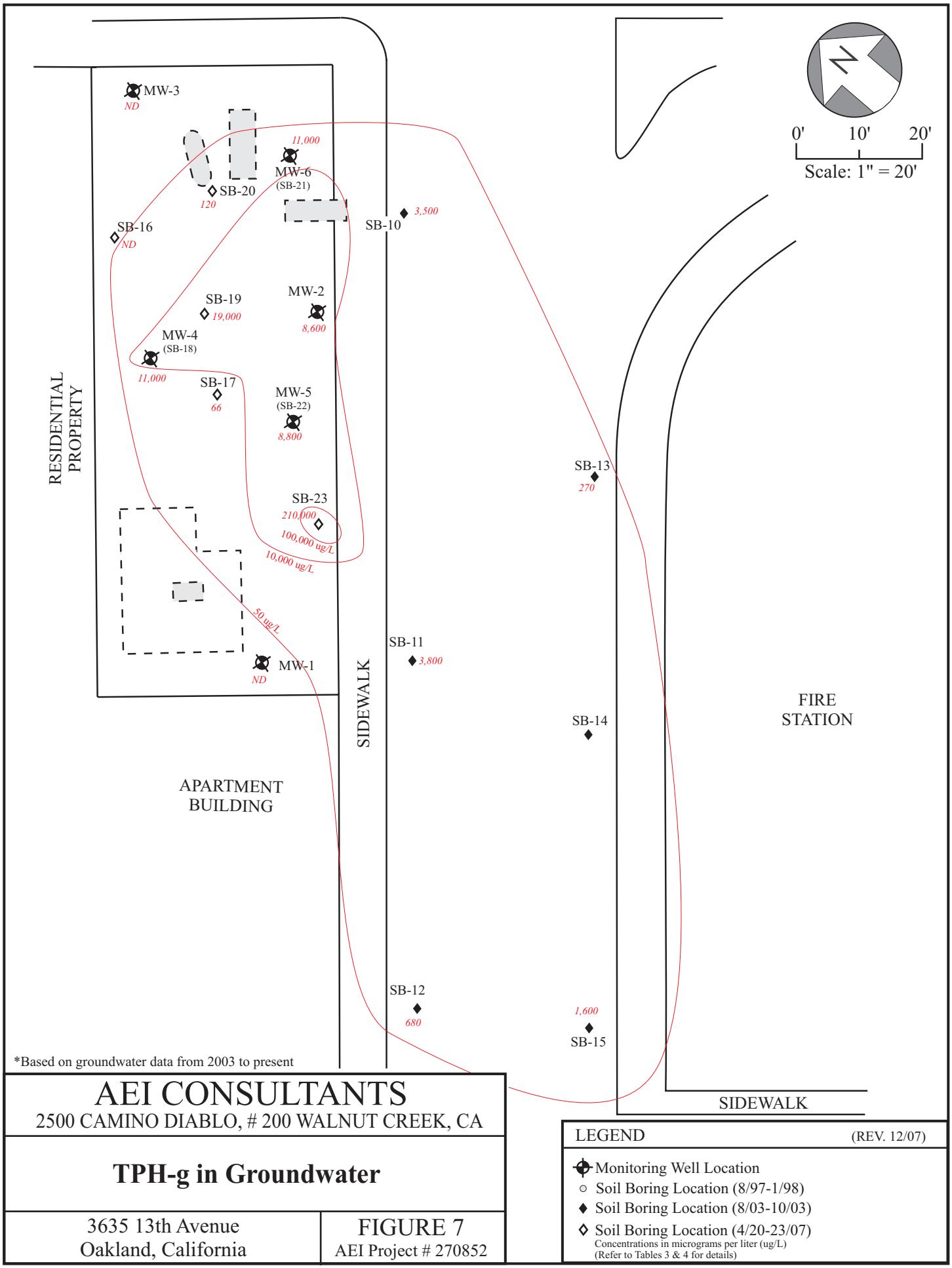
Water Table Contours (10/3/07)

3635 13th Avenue
Oakland, California

FIGURE 6
AEI Project # 270852

LEGEND (REV. 12/07)

- Monitoring Well
- Water Table Contour Line
  Contour Interval = 1.0 ft



*Based on groundwater data from 2003 to present

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2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

TPH-g in Groundwater

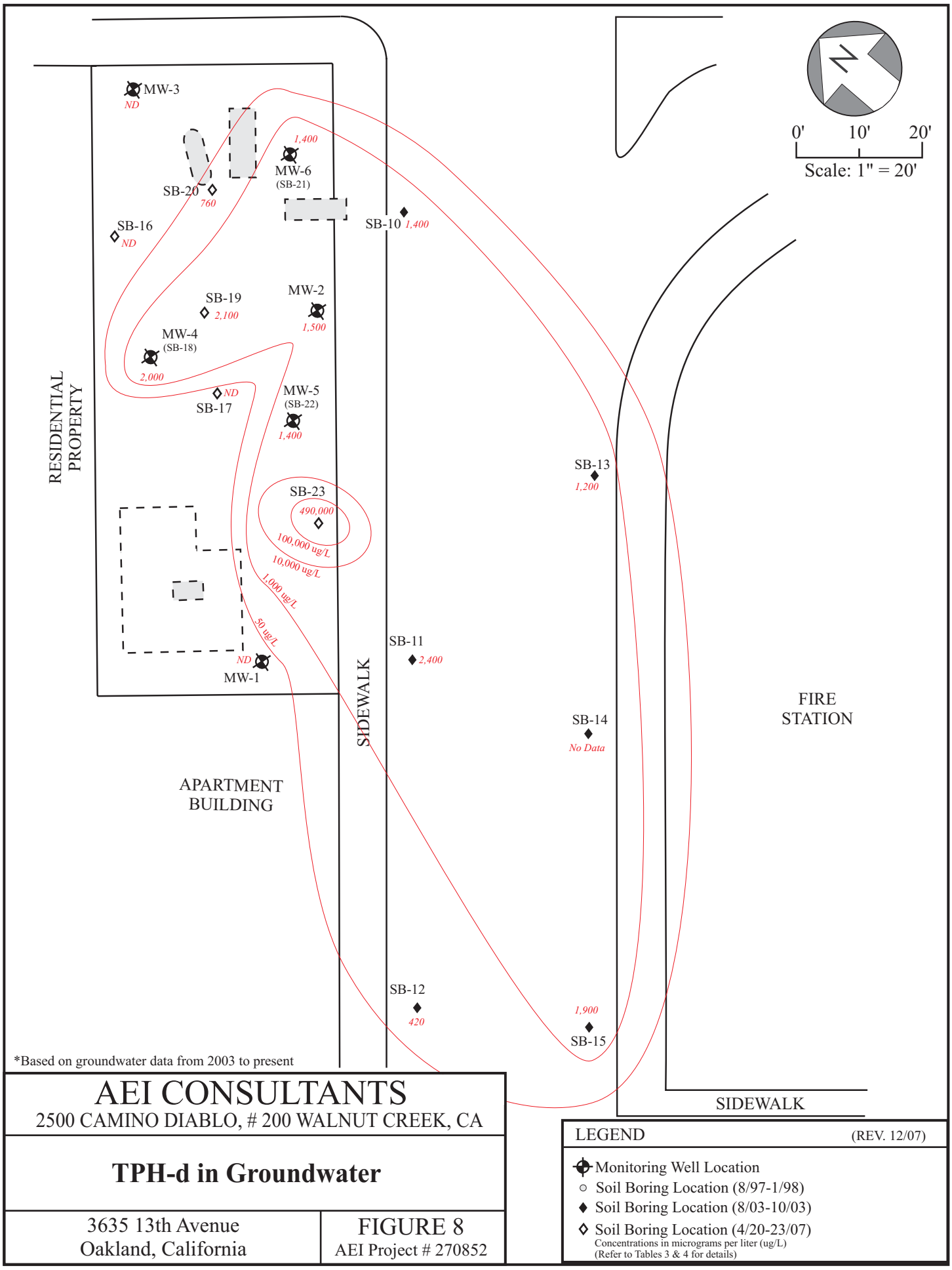
3635 13th Avenue
Oakland, California

FIGURE 7
AEI Project # 270852

LEGEND (REV. 12/07)

- Monitoring Well Location
- Soil Boring Location (8/97-1/98)
- Soil Boring Location (8/03-10/03)
- Soil Boring Location (4/20-23/07)

Concentrations in micrograms per liter (ug/L)
(Refer to Tables 3 & 4 for details)



*Based on groundwater data from 2003 to present

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2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

TPH-d in Groundwater

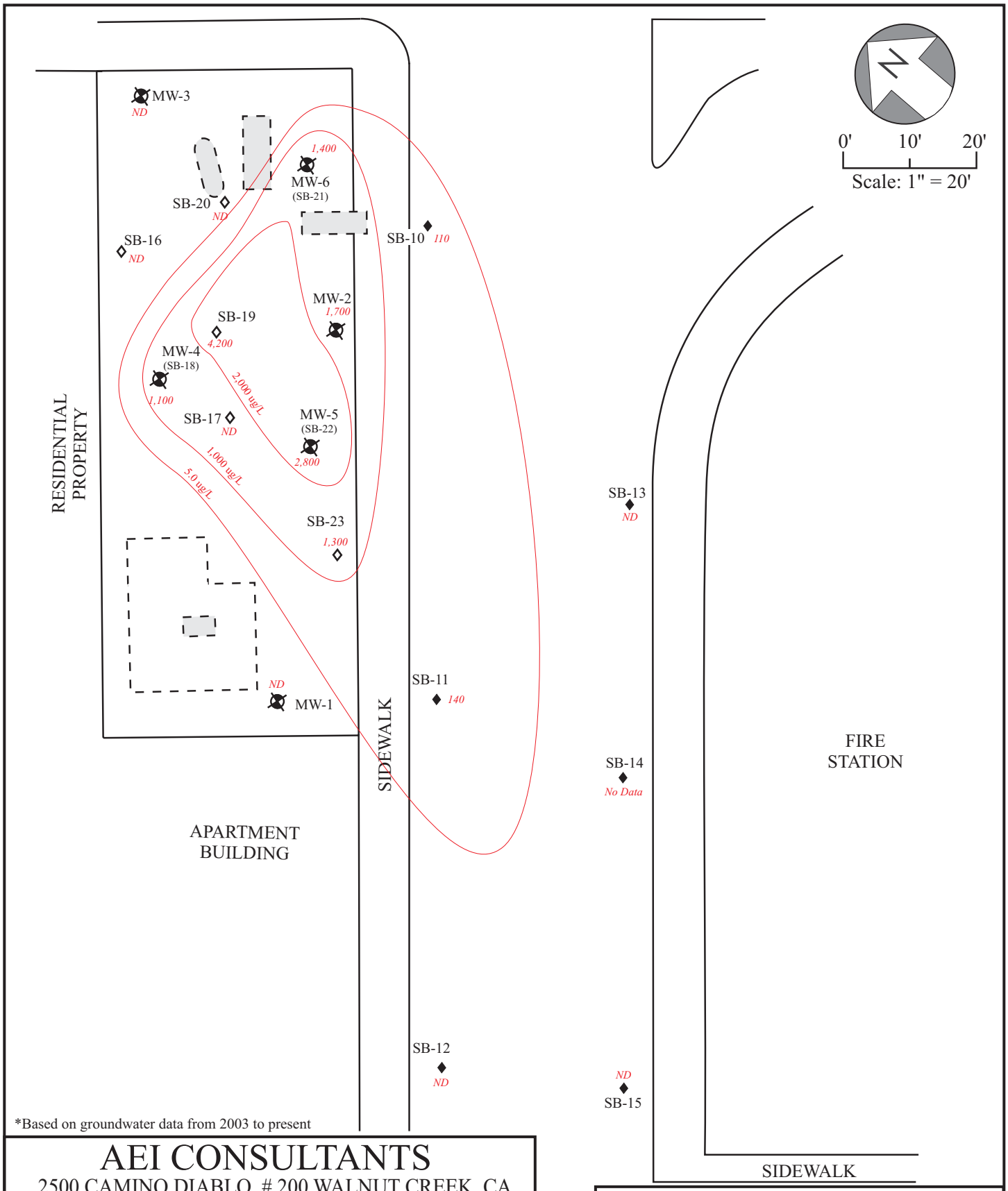
3635 13th Avenue
Oakland, California

FIGURE 8
AEI Project # 270852

LEGEND (REV. 12/07)

- Monitoring Well Location
- Soil Boring Location (8/97-1/98)
- Soil Boring Location (8/03-10/03)
- Soil Boring Location (4/20-23/07)

Concentrations in micrograms per liter (ug/L)
(Refer to Tables 3 & 4 for details)



*Based on groundwater data from 2003 to present

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2500 CAMINO DIABLO, # 200 WALNUT CREEK, CA

Benzene in Groundwater

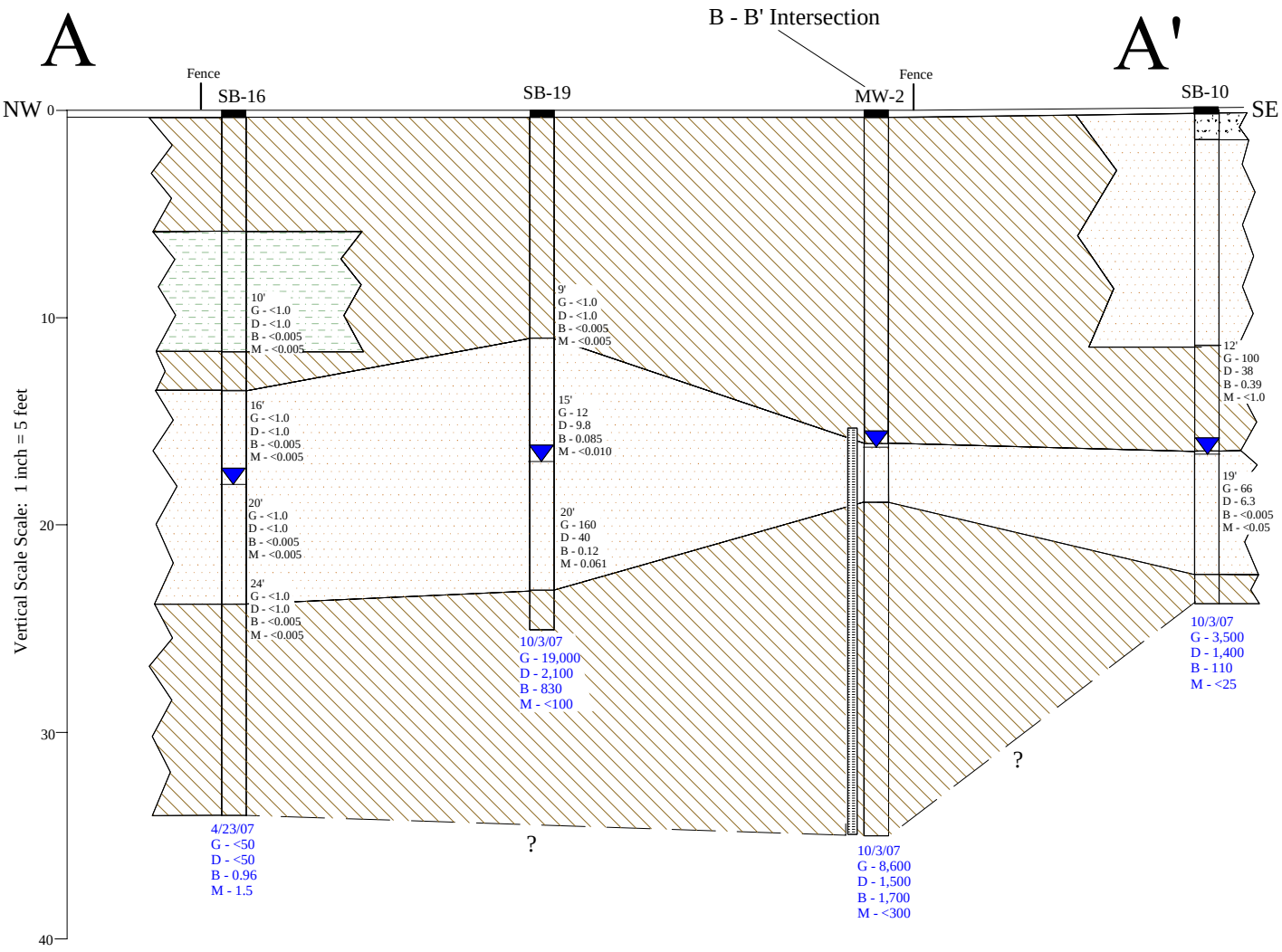
3635 13th Avenue
Oakland, California

FIGURE 9
AEI Project # 270852

LEGEND (REV. 12/07)

- Monitoring Well Location
- Soil Boring Location (8/97-1/98)
- Soil Boring Location (8/03-10/03)
- Soil Boring Location (4/20-23/07)

Concentrations in micrograms per liter (ug/L)
(Refer to Tables 3 & 4 for details)



Silty/Sandy Clay (CL)
Clayey/Silty Sand (SC/SM)
Sand (SP/SW)
Fill Material
Well Screen Interval
Static Water Level or ATD

Soil Analyses (mg/kg)
10'
G - <1.0
D - <1.0
B - <0.005
M - <0.05

Water Analyses (ug/L)
8/15/07
G - 15
D - 65
B - <0.5
M - <5.0

G - Gasoline, D - Diesel, B - Benzene, M - MTBE
*see analytical lab reports for specific reporting limits

0 20 40
Scale 1" = 10"

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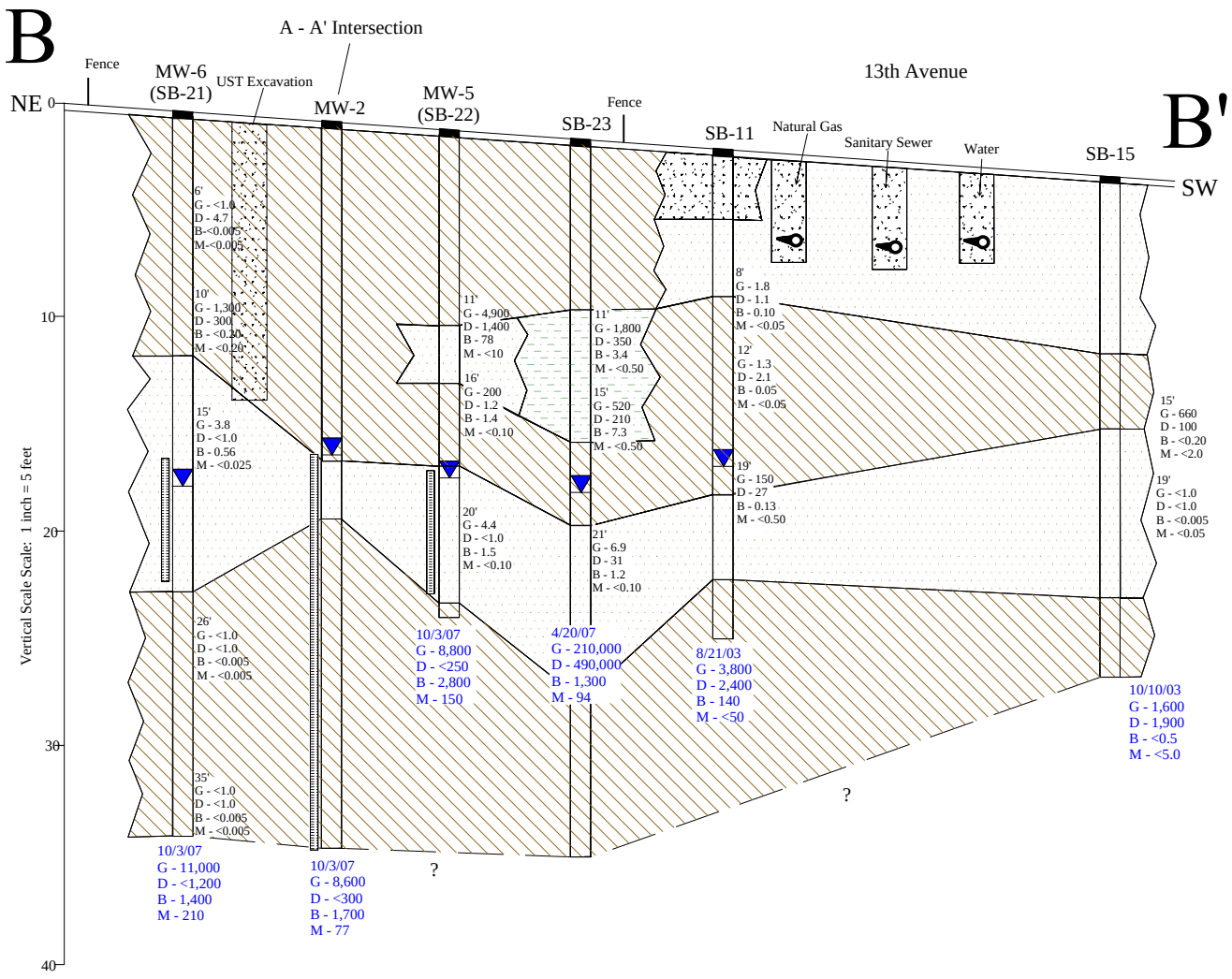
2500 CAMINO DIABLO, STE. 100, WALNUT CREEK, CA

A - A' Fence Diagram

3635 13th Avenue
Oakland, CA

Figure 10
PROJECT NO. 270852



*Utility line locations and depth approximate

**G - Gasoline, D - Diesel, B - Benzene, M - MTBE

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

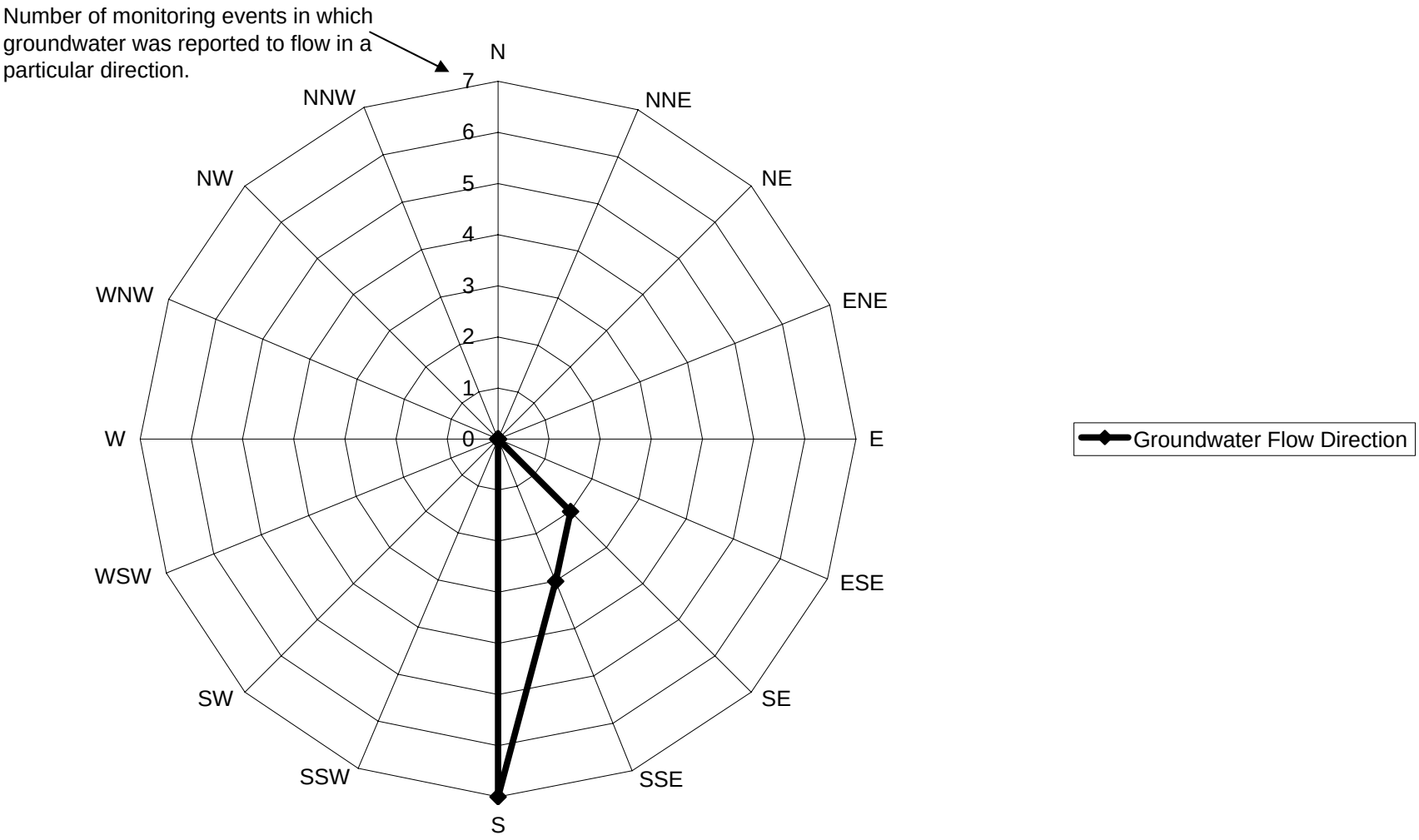
B - B' Fence Diagram

3635 13th Avenue
Oakland, CA

Figure 11

PROJECT NO. 270852

Figure 12 - Historical Groundwater Flow Direction (2/96 to 10/07)
3635 13th Avenue, Oakland, CA



TABLES

Table 1
3635 13th Avenue, Oakland, CA
Monitoring Well Construction Details

Well ID	Date Drilled	Top of Casing Elevation (ft amsl)	Well Depth (ft)	Slotted Casing (ft)	Slot Size (in)	Sand Interval (ft)	Sand Size	Bentonite Interval (ft)	Grout Interval (ft)
MW-1	03/24/94	197.28	25	12 - 25	0.020	11 - 25	# 2/12	10 - 11	0.5 - 10
MW-2	03/24/94	198.93	36	16 - 36	0.020	15 - 36	# 2/12	14 - 15	0.5 - 14
MW-3	03/24/94	201.46	36.5	15.5 - 36	0.020	14 - 36.5	# 2/12	13.5 - 14.5	0.5 - 13.5
MW-4	09/07/07	200.23	22	17 - 22	0.010	16 - 22	# 2/12	15 - 16	0.5 - 15
MW-5	09/07/07	198.52	22	17 - 22	0.010	16 - 22	# 2/12	15 - 16	0.5 - 15
MW-6	09/07/07	200.20	22	17 - 22	0.010	16 - 22	# 2/12	15 - 16	0.5 - 15

Notes:
ft amsl = feet above mean sea level

Table 2
3635 13th Avenue, Oakland, CA
Soil Sample Analytical Data

Sample ID	Date	TPH-g mg/kg	TPH-d mg/kg	Benzene mg/kg	Toluene mg/kg	EB mg/kg	Xylenes mg/kg	MTBE mg/kg	TBA mg/kg	Other Fuel Additives mg/kg
		EPA Method 8015		*EPA Method 8020/8021 or 8260B*						
SB1-10'	8/97-1/98	8.2	15	0.17	0.031	0.097	0.069	<2.0	-	-
SB2-10'	8/97-1/98	1.3	<1.0	0.061	0.016	0.03	0.014	<0.05	-	-
SB3-5'	8/97-1/98	1.6	-	0.048	0.044	0.016	0.046	<0.05	-	-
SB3-10'	8/97-1/98	590	160	8.6	15	10	48	<6.0	-	-
SB3-15'	8/97-1/98	1,000	-	8.3	8.8	15	52	<10	-	-
SB3-20'	8/97-1/98	<1.0	-	0.006	0.009	<0.005	0.017	<0.05	-	-
SB3-25'	8/97-1/98	<1.0	-	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB4-10'	8/97-1/98	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB5-15'	8/97-1/98	2.0	4.9	0.08	<0.005	0.045	0.012	<0.05	-	-
SB6-15'	8/97-1/98	2.2	<1.0	0.058	0.008	0.007	0.073	<0.05	-	-
SB7-15'	8/97-1/98	7.9	2.3	<0.005	0.016	<0.005	0.073	<0.05	-	-
SB8-10'	8/97-1/98	33	11	0.25	0.089	0.30	0.29	<0.23	-	-
SB9-10'	8/97-1/98	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-10 12'	8/21/2003	100	38	0.39	<0.10	0.88	1.4	<1.0	-	-
SB-10 19'	8/21/2003	66	6.3	<0.005	0.075	0.047	0.13	<0.05	-	-
SB-11 8'	8/21/2003	1.8	1.1	0.10	0.012	<0.005	<0.005	<0.05	-	-
SB-11 12'	8/21/2003	1.3	2.1	0.05	<0.005	<0.005	<0.005	<0.05	-	-
SB-11 19'	8/21/2003	150	27	0.13	0.11	0.25	0.18	<0.50	-	-
SB-12 12'	10/9/2003	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-12 18'	10/9/2003	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-13 20'	10/10/2003	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-14 16'	10/10/2003	74	98	<0.050	<0.005	<0.050	0.12	<0.50	-	-
SB-14 23'	10/10/2003	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-15 15'	10/10/2003	660	100	<0.20	5.6	1.3	1.9	<2.0	-	-
SB-15 19'	10/10/2003	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	-	-
SB-16-10'	4/23/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-16-16'	4/23/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-16-20'	4/23/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-16-24'	4/23/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL

Table 2
3635 13th Avenue, Oakland, CA
Soil Sample Analytical Data

Sample ID	Date	TPH-g mg/kg	TPH-d mg/kg	Benzene mg/kg	Toluene mg/kg	EB mg/kg	Xylenes mg/kg	MTBE mg/kg	TBA mg/kg	Other Fuel Additives mg/kg
		EPA Method 8015		*EPA Method 8020/8021 or 8260B*						
SB-17-10'	4/23/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-17-15'	4/23/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-17-20'	4/23/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.0052	<0.05	<MDL
SB-18-10'	4/23/2007	27	17	0.068	<0.005	0.018	<0.005	<0.005	<0.05	<MDL
SB-18-15'	4/23/2007	2.7	<1.0	0.078	<0.005	0.014	<0.005	<0.005	<0.05	<MDL
SB-18-19'	4/23/2007	<1.0	<1.0	0.013	<0.005	<0.005	<0.005	0.022	0.052	<MDL
SB-18-25'	4/23/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.011	<0.05	<MDL
SB-19-9'	4/20/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-9-15'	4/20/2007	12	9.8	0.085	<0.010	0.26	0.020	<0.010	<0.10	<MDL
SB-19-20'	4/20/2007	160	40	0.12	<0.010	0.28	0.082	0.061	<0.10	<MDL
SB-20-14'	4/20/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.0085	<0.05	<MDL
SB-20-18'	4/20/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	0.0095	<0.05	<MDL
SB-20-25'	4/20/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-20-30'	4/20/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-21-6'	4/20/2007	<1.0	4.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-21-10'	4/20/2007	1,300	300	<0.20	<0.20	5.2	1.0	<0.20	<2.0	<MDL
SB-21-15'	4/20/2007	3.8	<1.0	0.56	<0.025	0.086	0.056	<0.025	<0.025	<MDL
SB-21-26'	4/20/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-21-35'	4/20/2007	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<MDL
SB-22-11'	4/20/2007	4,900	1,400	78	280	150	830	<10	<100	<MDL
SB-22-16'	4/20/2007	200	1.20	1.4	0.28	0.27	1.2	<0.10	<1.0	<MDL
SB-22-20'	4/20/2007	4.4	<1.0	1.5	<0.10	<0.10	<0.10	<0.10	<1.0	<MDL
SB-23-7'	4/20/2007	<1.0	210	<0.20	<0.20	4.8	11	<0.20	<2.0	<MDL
SB-23-11'	4/20/2007	1,800	350	3.4	1.2	11	56	<0.50	<5.0	<MDL
SB-23-15'	4/20/2007	520	210	7.3	6.5	10	53	<0.50	<5.0	<MDL
SB-23-21'	4/20/2007	6.9	31	1.2	<0.10	0.12	<0.10	<0.10	<1.0	<MDL
MDL		1.0	1.0	0.005	0.005	0.005	0.005			

mg/kg - milligrams per kilogram
MDL - method detection limit with no sample dilution
- = sample not analyzed by this method
TPH-g - Total Petroleum Hydrocarbons as gasoline
TPH-d - Total Petroleum Hydrocarbons as diesel
MTBE - methyl tertiary butyl ether
EB ethylbenzene
TBA = t-butyl alcohol
< - less than
*Method 8260 performed for BTEX and Fuel Additives for samples collected on and after 4/20/07

Table 3
3635 13th Avenue, Oakland, CA
Groundwater Sample Analytical Results: Soil Borings

Sample ID	Date	TPH-g µg/L	TPH-d µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	EB µg/L	Xylenes µg/L	TBA µg/L	Other Fuel Additives µg/L
		EPA Method 8015		*EPA Method 8020/8021 or 8260B*						
SB1	8/97-1/98	63,000	27,000	<200	2,600	1,100	1,700	3,600	-	-
SB3	8/97-1/98	11,000	790	<100	1,700	840	330	1,100	-	-
SB5	8/97-1/98	12,000	28,000	<330	200	14	280	28	-	-
SB6	8/97-1/98	2,200	-	<28	330	4.7	49	14	-	-
SB7	8/97-1/98	36,000	200,000	<1100	2,200	550	850	1,700	-	-
SB8	8/97-1/98	6,200	1,200	<92	430	22	150	170	-	-
SB9	8/97-1/98	160	210	22	6.2	8.1	4.2	17	-	-
SB-10W	8/21/2003	3,500	1,400	<25	110	2.9	120	410	-	-
SB-11W	8/21/2003	3,800	2,400	<50	140	9.5	23	23	-	-
SB-12 W	10/9/2003	680	420	<5.0	<0.5	2.3	<0.5	3.5	-	-
SB-13 W	10/10/2003	270	1,200	<5.0	<0.5	<0.5	<0.5	2.0	-	-
SB-15 W	10/10/2003	1,600	1,900	<5.0	<0.5	3.0	25.0	8.8	-	-
SB-16-W	4/23/2007	<50	<50	1.5	0.96	<0.5	<0.5	0.51	<5.0	<MDL
SB-17-W	4/23/2007	66	<50	17	1.8	<0.5	<0.5	<0.5	<5.0	<MDL
SB-18-W	4/23/2007	650	200	120	51	<5.0	8.3	8.7	<5.0	<MDL
SB-19-W	4/23/2007	19,000	2,100	<100	4,200	890	940	3,400	<5.0	<MDL
SB-20-W	4/20/2007	120	760	81	<1.7	<1.7	<1.7	<1.7	81	<MDL
SB-21-W	4/20/2007	28,000	32,000	<50	830	230	840	1,800	<50	<MDL
SB-22-W	4/20/2007	15,000	4,100	90	1,300	470	160	700	<500	<MDL
SB-23-W	4/20/2007	210,000	490,000	94	1,300	430	2,100	6,700	<500	<MDL
MDL		50	50	5.0 / 0.5	0.5	0.5	0.5	0.5		

µg/L - micrograms per liter
MDL - method detection limit with no sample dilution
- = sample not analyzed by this method
TPH-g - Total Petroleum Hydrocarbons as gasoline
TPH-d - Total Petroleum Hydrocarbons as diesel
MTBE - methyl tertiary butyl ether
EB ethylbenzene
TBA = t-butyl alcohol
< - less than
*Method 8260 performed for BTEX and Fuel Additives for samples collected on and after 4/20/07

Table 4
3635 13th Avenue, Oakland, CA
Groundwater Contaminant and Elevation Data

Well ID	Date	Well Elevation	Depth to Water	Water Table Elevation	TPH-g (ug/L) EPA Method 8015M	TPH-d (ug/L) EPA Method 8015M	TOG (ug/L) EPA 5520	MTBE (ug/L) EPA Method 8020 / 8021	Benzene (ug/L) EPA Method 8020 / 8021	Toluene (ug/L) EPA Method 8020 / 8021	E-benzene (ug/L) EPA Method 8020 / 8021	Xylenes (ug/L) EPA Method 8020 / 8021
MW - 1	11/22/1994	194.75	10.92	183.83	210	<50	<0.5	-	<0.5	<0.5	<0.5	2.3
screen	2/23/1995	194.75	10.58	184.17	140	<50	1.2	-	<0.5	<0.5	0.6	1.5
(12 - 25)	5/24/1995	194.75	10.94	183.81	<50	<50	<0.5	-	<0.5	<0.5	<0.5	<0.5
	8/18/1995	194.75	14.52	180.23	2800	<50	<0.5	-	25	6.2	22	30
	2/7/1996	194.75	4.43	190.32	<50	<50	<0.5	-	<0.5	<0.5	<0.5	<0.5
	9/6/1996	194.75	13.60	181.15	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	6/19/1997	194.75	13.07	181.68	630	400	<5.0	15	25	9.7	100	14
	1/24/2002	194.75	9.53	185.22	60	<50	-	<5.0	3.3	2.8	2.0	6.0
	7/15/2003	194.75	12.85	181.90	87	<50	-	<5.0	15	4.9	3.3	9.2
	10/10/2003	194.75	14.58	180.17	81	110	-	<5.0	<0.5	0.62	0.57	0.5
	4/6/2004	194.75	10.92	183.83	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	7/9/2004	194.75	14.34	180.41	130	80	-	<35	<0.5	<0.5	2.8	0.78
	10/8/2004	194.75	15.30	179.45	260	120	-	24	3.0	2.9	8.3	10
	4/2/2007	194.75	12.19	182.56	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	7/2/2007	194.75	13.28	181.47	150	79	-	<25	<0.5	1.0	<0.5	<0.5
	10/3/2007	**197.28**	**17.05**	**180.23**	**<50**	**<50**	**-**	**5.8**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW - 2	11/22/1994	196.44	12.54	183.90	11,000	<50	<0.5	-	35	21	7	50
screen	2/23/1995	196.44	12.35	184.09	4,000	<50	2	-	<0.5	<0.5	3	6
(15 - 36)	5/24/1995	196.44	12.11	184.33	8,600	<50	<0.5	-	95	37	37	70
	8/18/1995	196.44	16.25	180.19	7,200	<50	<0.5	-	43	21	21	71
	2/7/1996	196.44	9.34	187.10	11,000	<50	1	-	17	9	9	25
	9/6/1996	196.44	15.22	181.22	15,000	1,900	<5.0	ND	4,300	920	460	1,600
	6/19/1997	196.44	13.33	183.11	26,000	2,900	<5.0	<200	5,300	1,500	910	3,200
	1/24/2002	196.44	9.72	186.72	34,000	5,300	-	<200	3,100	1,100	1,100	2,900
	7/15/2003	196.44	12.42	184.02	18,000	6,600	-	<1000	2,300	310	690	1,600
	10/10/2003	196.44	13.79	182.65	19,000	1,800	-	<500	2,700	460	850	1,800
	4/6/2004	196.44	10.55	185.89	6,900	1,300	-	<200	1,100	100	380	780
	7/9/2004	196.44	13.78	182.66	17,000	4,400	-	<450	2,800	240	710	1,300
	10/8/2004	196.44	14.78	181.66	6,900	890	-	<150	1,500	240	340	670
	4/2/2007	196.44	11.32	185.12	21,000	4,300	-	<450	2,000	300	1,000	1,700
	7/2/2007	196.44	13.18	183.26	5,100	750	-	<180	260	21	320	370
	10/3/2007	**198.93**	**16.71**	**182.22**	**8,600**	**1,500**	**-**	**<300**	**1,700**	**140**	**520**	**790**
MW - 3	11/22/1994	198.93	11.53	187.40	200	<50	3	-	<0.5	<0.5	<0.5	2
screen	2/23/1995	198.93	11.89	187.04	1500	<50	0.9	-	6.6	6.4	4.2	13
(14 - 36.5)	5/24/1995	198.93	12.71	186.22	710	<50	<0.5	-	2.5	3.2	3.1	16
	8/18/1995	198.93	16.14	182.79	310	<50	<0.5	-	3.1	2.1	2.2	11
	2/7/1996	198.93	6.22	192.71	400	<50	2.2	-	1.4	2.5	2.2	7
	9/6/1996	198.93	13.51	185.42	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	6/19/1997	198.93	12.46	186.47	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	1/24/2002	198.93	10.08	188.85	58	<50	-	<5.0	4	2.7	2.3	6.7
	7/15/2003	198.93	12.45	186.48	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	10/10/2003	198.93	14.00	184.93	350	75	-	<5.0	14	16	23	60
	4/6/2004	198.93	10.78	188.15	<50	<50	-	<5.0	<0.5	1.7	<0.5	1.7
	7/9/2004	198.93	14.14	184.79	260	<50	-	<5.0	12	13	14	36
	10/8/2004	198.93	14.99	183.94	450	76	-	<5.0	21	22	30	86
	4/2/2007	198.93	11.87	187.06	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	7/2/2007	198.93	14.45	184.48	<50	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	10/3/2007	**201.46**	**17.10**	**184.36**	**<50**	**<50**	**-**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-4 screen (17 - 22)	**10/3/2007**	**200.23**	**17.21**	**183.02**	**11,000**	**2,000**	**-**	**<1500**	**1,100**	**87**	**<17**	**1,300**
MW-5 screen (17 - 22)	**10/3/2007**	**198.52**	**17.44**	**181.08**	**8,800**	**680**	**-**	**<250**	**2,800**	**74**	**100**	**190**
MW-6 screen (17 - 22)	**10/3/2007**	**200.20**	**18.46**	**181.74**	**11,000**	**1,400**	**-**	**<1200**	**1,400**	**64**	**74**	**320**

Well Elevation in feet above mean sea level (msl)
Depth to water in feet below the tops of the well casings
Water Table Elevations in feet above msl
TPH-g - Total Petroleum Hydrocarbons as gasoline
TPH-d - Total Petroleum Hydrocarbons as diesel
Wells MW-1 through M-3 resurveyed on 11/7/07

TOG - total oil and grease
MTBE - methyl tertiary butyl ether
E-benzene: Ethyl-benzene
mg/L - milligrams per liter

ug/L - micrograms per liter
- = sample not analyzed by this method
ND = non detect (detection limit not known)

Table 5
3635 13th Avenue, Oakland, CA
Fuel Additive Analyses

Well ID	Date	TAME (ug/L)	TBA (ug/L)	EDB (ug/L)	1,2-DCA (ug/L)	DIPE (ug/L)	Ethanol (ug/L)	ETBE (ug/L)	Methanol (ug/L)	MTBE (ug/L)
		EPA Method 8260								
MW - 1	4/6/2004	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	7/9/2004	-	-	-	-	-	-	-	-	-
	10/8/2004	-	-	-	-	-	-	-	-	-
	4/2/2007	-	-	-	-	-	-	-	-	-
	7/2/2007	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	23
	10/3/2007	**<0.5**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<50**	**<0.5**	**<500**	**7.4**
MW - 2	4/6/2004	<5.0	110	<5.0	<5.0	<5.0	<500	<5.0	<5000	87
	7/9/2004	-	98	-	-	-	-	-	-	120
	10/8/2004	-	230	-	-	-	-	-	-	84
	4/2/2007	-	100	-	-	-	-	-	-	81
	7/2/2007	<5.0	150	<5.0	<5.0	<5.0	<500	<5.0	<5000	88
	10/3/2007	**<5.0**	**<50**	**<5.0**	**<5.0**	**<5.0**	**<500**	**<5.0**	**<5000**	**77**
MW-3	4/6/2004	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	7/9/2004	-	-	-	-	-	-	-	-	-
	10/8/2004	-	-	-	-	-	-	-	-	-
	4/2/2007	-	-	-	-	-	-	-	-	-
	7/2/2007	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	10/3/2007	**<0.5**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<50**	**<0.5**	**<500**	**<0.5**
MW-4	**10/3/2007**	**<2.5**	**<25**	**<2.5**	**6.4**	**<2.5**	**<250**	**<2.5**	**<2500**	**230**
MW-5	**10/3/2007**	**<5.0**	**1,300**	**<5.0**	**66**	**5.9**	**<500**	**<5.0**	**<5000**	**150**
MW-6	**10/3/2007**	**<5.0**	**<50**	**<5.0**	**6.6**	**<5.0**	**<500**	**<5.0**	**<5000**	**210**

TAME - tert amyle methyl ether
TBA - t-butyl alcohol
EDB - 1,2-Dibromoethane
1,2-DCA - 1,2-Dichloroethane
DIPE - DiIsopropyl ether
ETBE - Ethyl tert-butyl ether
MTBE - Methyl tert-butyl ether
ug/L: Micrograms per liter
- = sample not analyzed by this method

Table 6
Groundwater Chemistry
3635 13th Avenue, Oakland, CA

Well ID	Date	BOD (mg/L)	COD (mg/L)	Fe (II) (ug/L)	Fe (ug/L)	IC (mg/L)	TOC (ug/L)
				EPA Methods E415.3/E200.8			
MW-5	**10/3/2007**	**<4.0**	**120**	**<50**	**4,100**	**340**	**50**
MW-6	**10/3/2007**	**6.9**	**63**	**<50**	**760**	**220**	**31**

BOD = biological oxygen demand
COD = chemical oxygen demand
Fe (II) = ferrous iron
Fe = iron
IC = inorganic carbon
TOC = total inorganic carbon
mg/L = milligrams per liter
ug/L = micrograms per liter

APPENDIX A

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: 04/09/2007 By jamesy

Permit Numbers: W2007-0512
Permits Valid from 04/20/2007 to 04/20/2007

Application Id:	1175899072270	**City of Project Site:**	Oakland
Site Location:	3635 13th Avenue		
Project Start Date:	04/20/2007	**Completion Date:**	04/20/2007
Applicant:	AEI Consultants - Adrian Angel 2500 Camino Diablo, Walnut Creek, CA 94597	**Phone:**	925-283-6000
Property Owner:	John Williamson 3635 13th Avenue, Oakland, CA 94602	**Phone:**	510-530-2993
Client:	** same as Property Owner **		
Contact:	Adrian Angel	**Phone:** **Cell:**	925-283-6000 831-331-3547

Total Due: $200.00
Receipt Number: WR2007-0157 **Total Amount Paid:** $200.00
Payer Name : Robert F. Flory Paid By: VISA **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 8 Boreholes
Driller: Environmental Control Associates (ECA) - Lic #: 695970 - Method: DP **Work Total: $200.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2007-0512	04/09/2007	07/19/2007	8	2.75 in.	30.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. 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.

4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org 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.

5. 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.

6. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

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: 08/23/2007 By jamesy

Permit Numbers: W2007-0933 to W2007-0935
Permits Valid from 09/07/2007 to 09/07/2007

Application Id: 1187392422190
Site Location: 3635 13th Avenue
Project Start Date: 09/07/2007

City of Project Site: Oakland
Completion Date: 09/07/2007

Applicant: AEI Consultants - Adrian Angel
2500 Camino Diablo, Walnut Creek, CA 94597
Phone: 925-283-6000

Property Owner: John Williamson
3906 Laguna Avenue, Oakland, CA 94602
Phone: 510-530-2993

Client: ** same as Property Owner **

Contact: Adrian Angel
Phone: 925-283-6000
Cell: 831-331-3547

Total Due: $900.00
Receipt Number: WR2007-0379 **Total Amount Paid:** $900.00
Payer Name : Peter McIntyre Paid By: VISA **PAID IN FULL**

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 3 Wells
Driller: HEW Drilling - Lic #: 604987 - Method: hstem **Work Total: $900.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2007-0933	08/23/2007	12/06/2007	MW-4	8.25 in.	2.00 in.	20.00 ft	25.00 ft
W2007-0934	08/23/2007	12/06/2007	MW-5	8.25 in.	2.00 in.	20.00 ft	25.00 ft
W2007-0935	08/23/2007	12/06/2007	MW-6	8.25 in.	2.00 in.	20.00 ft	25.00 ft

Specific Work Permit Conditions

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 and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits 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 construction or 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 contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org 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.

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 (Neat Cement 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.

APPENDIX B

Well/Soil Boring Logs

Project: Williamson
Project Location: Oakland, CA
Project Number: 270852

Log of Boring SB-16

Sheet 1 of 1

Date(s) Drilled **April 20, 2007**	Logged By **Adrian Angel**	Checked By **Peter McIntyre**
Drilling Method **Direct Push**	Drill Bit Size/Type	Total Depth of Borehole **35 feet bgs**
Drill Rig Type **Geoprobe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation
Groundwater Level and Date Measured **19 feet ATD**	Sampling Method(s) **Tube**	Well Permit.
Borehole Backfill **Tremied; Portland Cement & Grout**	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0			Other		Concrete		
				CL		Silty Clay, dark brown to black, low plasticity, moderately stiff, dry		
						increasing in sand content		
	5		SB-16-5'			color change to tannish brown	<1	
				SP		Clayey Sand, minor silt, tannish brown, moderately dense, fine to medium sand grains, moist		
	10		SB-16-10'				<1	
			SB-16-13'	CL		Silty Clay, brown, low to moderate plasticity, stiff, moist	<1	
				SP		Sand, tannish brown, moderately dense, fine to medium sand grains, moist to very moist		
	15		SB-16-16'			becoming wet	<1	DTW = 17 feet bgs after 3 hours
						(ATD) ▽		
	20		SB-16-20'	SP		Sand, tannish brown, medium grained, poorly graded, saturated	<1	
			SB-16-24'	SP		Sand, tannish brown, fine to medium grained, wet	<1	
	25			CL		Silty Clay, dark brown to black, moderate plasticity, moist to slightly moist		
			SB-16-28'				<1	
	30							
	35					Bottom of Boring at 35 feet bgs		
	40							

Figure

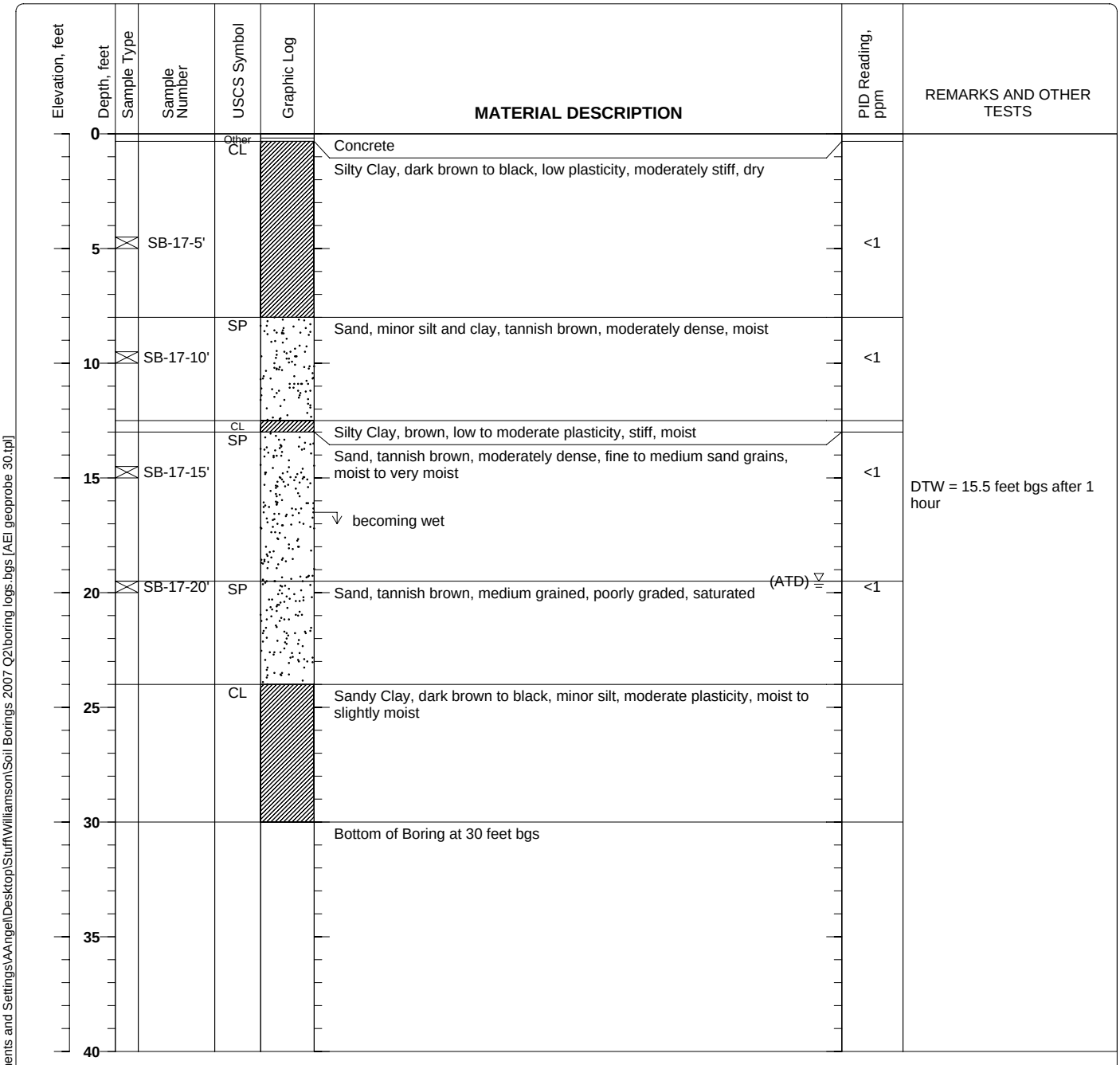
C:\Documents and Settings\AAngel\Desktop\Stuff\Williamson\Soil Borings 2007 Q2\boring logs.bgs [AE] geoprobe 30.tpl

Project: Williamson
Project Location: Oakland, CA
Project Number: 270852

Log of Boring SB-17

Sheet 1 of 1

Date(s) Drilled **April 20, 2007**	Logged By **Adrian Angel**	Checked By **Peter McIntyre**
Drilling Method **Direct Push**	Drill Bit Size/Type **2.8 inch**	Total Depth of Borehole **30 feet bgs**
Drill Rig Type **Geoprobe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation
Groundwater Level and Date Measured **19.5 feet ATD**	Sampling Method(s) **Tube**	Well Permit.
Borehole Backfill **Tremied; Portland Cement & Grout**	Location	



C:\Documents and Settings\AAngel\Desktop\Stuff\Williamson\Soil Borings 2007 Q2\boring logs.bgs [AE geoprobe 30.tpl]

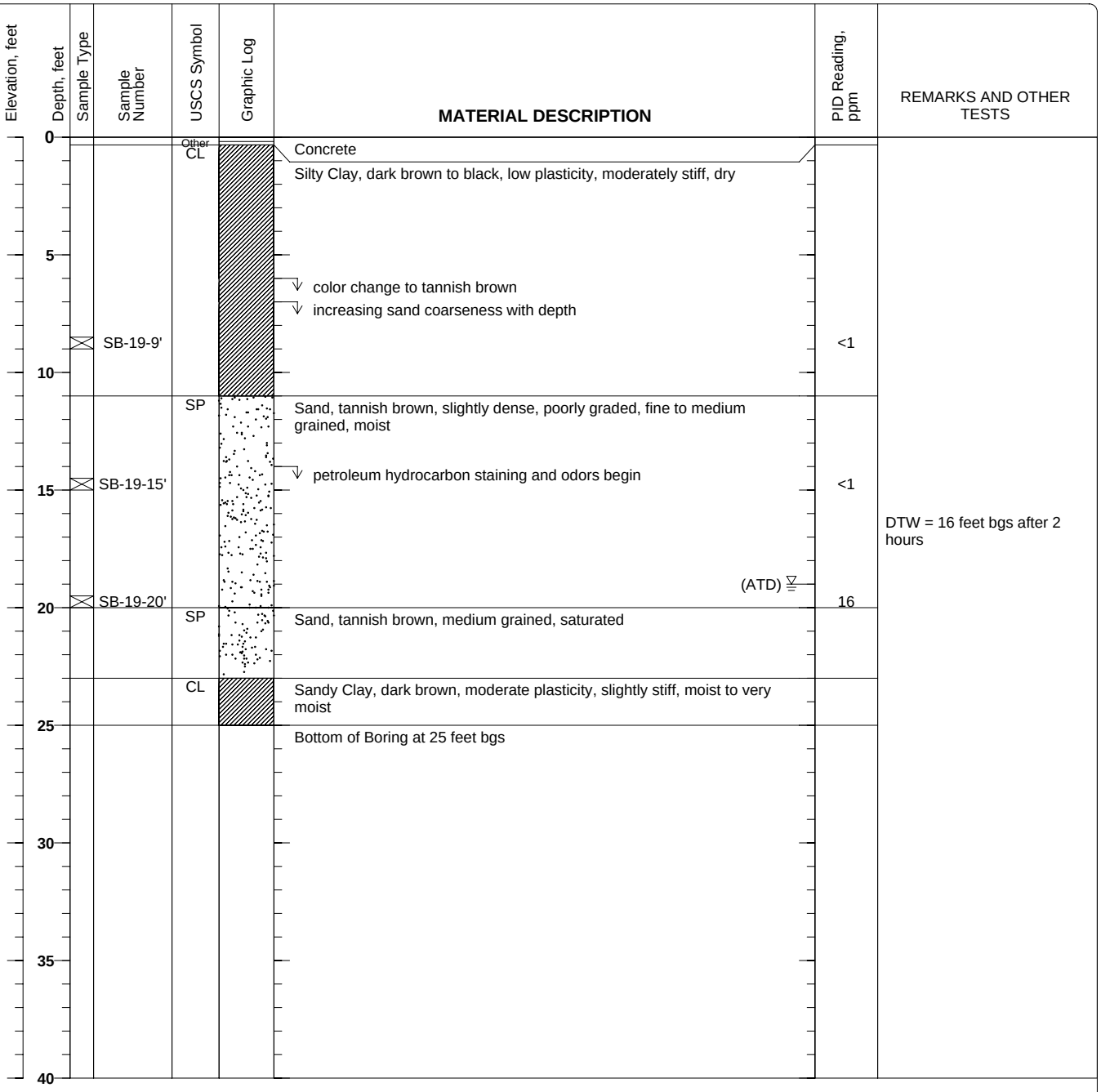
Figure

Project: Williamson
Project Location: Oakland, CA
Project Number: 270852

Log of Boring SB-19

Sheet 1 of 1

Date(s) Drilled **April 20, 2007**	Logged By **Adrian Angel**	Checked By **Peter McIntyre**
Drilling Method **Direct Push**	Drill Bit Size/Type **2.8 inch**	Total Depth of Borehole **25 feet bgs**
Drill Rig Type **Geoprobe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation
Groundwater Level and Date Measured **19 feet ATD**	Sampling Method(s) **Tube**	Well Permit.
Borehole Backfill **Tremied; Portland Cement & Grout**	Location	



Figure

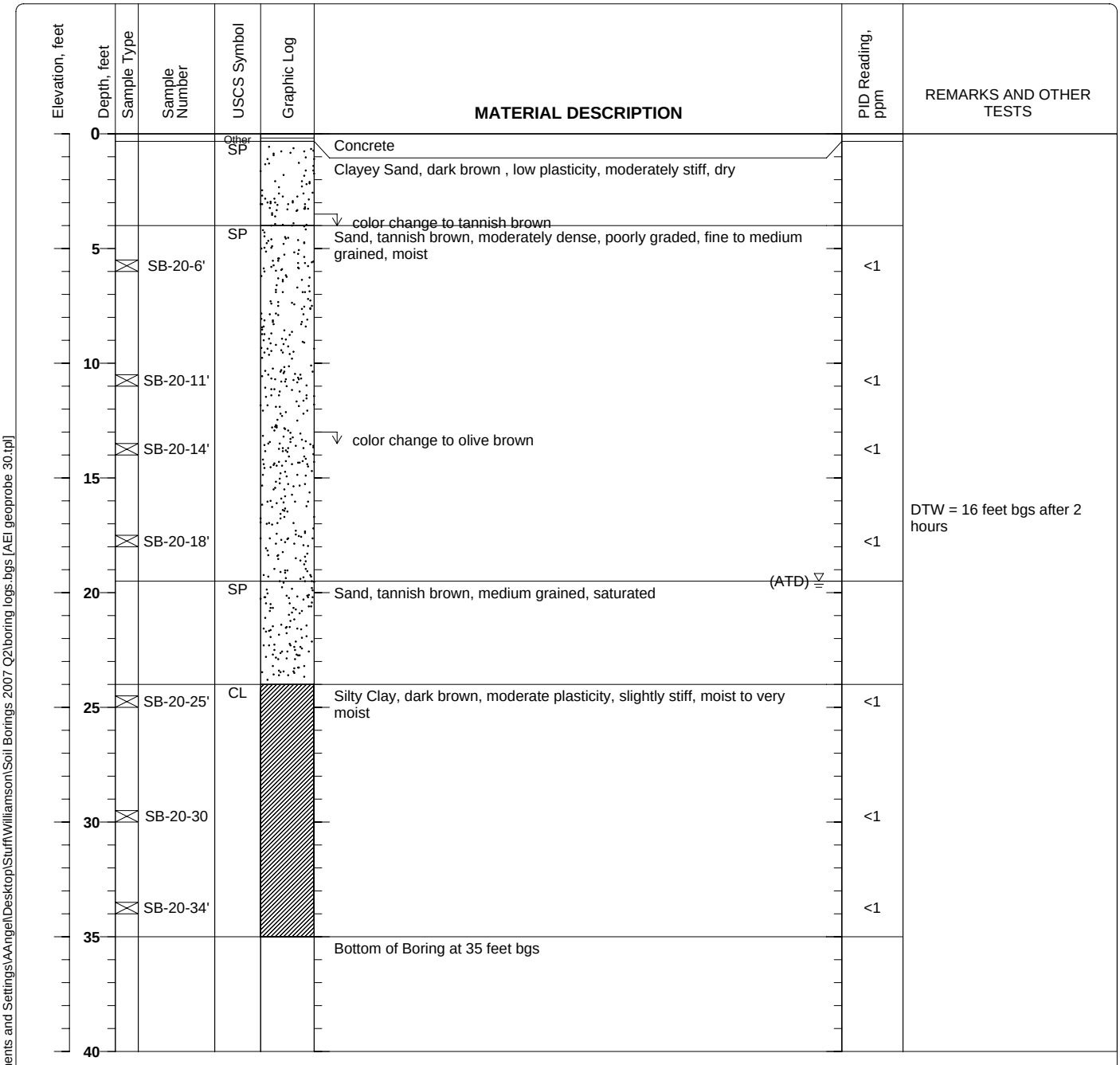
C:\Documents and Settings\AAngel\Desktop\Stuff\Williamson\Soil Borings 2007 Q2\boring logs.bgs [AE geoprobe 30.tpl]

Project: Williamson
Project Location: Oakland, CA
Project Number: 270852

Log of Boring SB-20

Sheet 1 of 1

Date(s) Drilled **April 20, 2007**	Logged By **Adrian Angel**	Checked By **Peter McIntyre**
Drilling Method **Direct Push**	Drill Bit Size/Type **2.8 inch**	Total Depth of Borehole **35 feet bgs**
Drill Rig Type **Geoprobe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation
Groundwater Level and Date Measured **19.5 feet ATD**	Sampling Method(s) **Tube**	Well Permit.
Borehole Backfill **Tremied; Portland Cement & Grout**	Location	



Figure

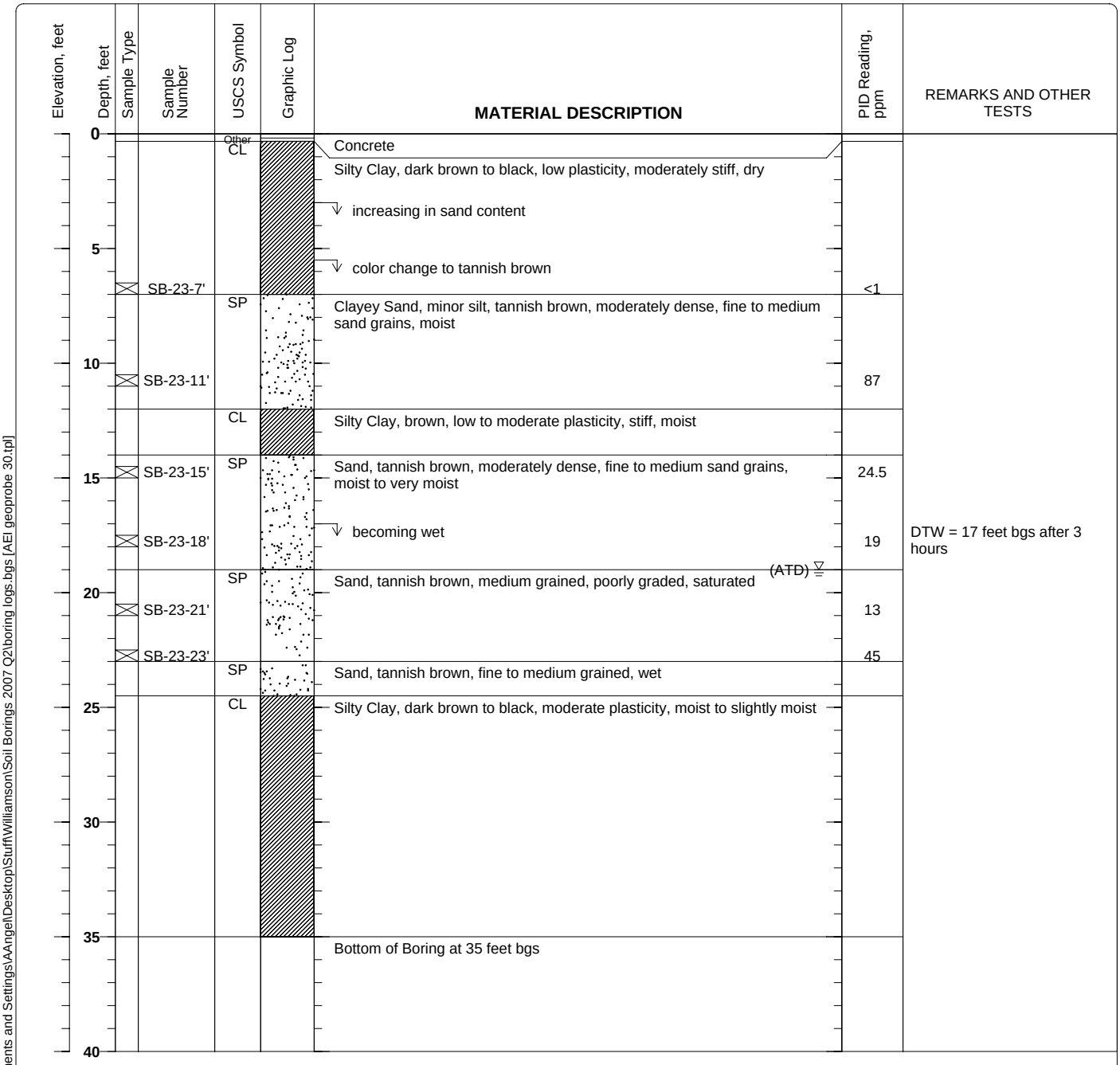
C:\Documents and Settings\AAngel\Desktop\Stuff\Williamson\Soil Borings 2007 Q2\boring logs.bgs [AEI geoprobe 30.tpl]

Project: Williamson
Project Location: Oakland, CA
Project Number: 270852

Log of Boring SB-23

Sheet 1 of 1

Date(s) Drilled **April 20, 2007**	Logged By **Adrian Angel**	Checked By **Peter McIntyre**
Drilling Method **Direct Push**	Drill Bit Size/Type	Total Depth of Borehole **35 feet bgs**
Drill Rig Type **Geoprobe 5410**	Drilling Contractor **ECA**	Approximate Surface Elevation
Groundwater Level and Date Measured **19 feet ATD**	Sampling Method(s) **Tube**	Well Permit.
Borehole Backfill **Tremied; Portland Cement & Grout**	Location	



Figure

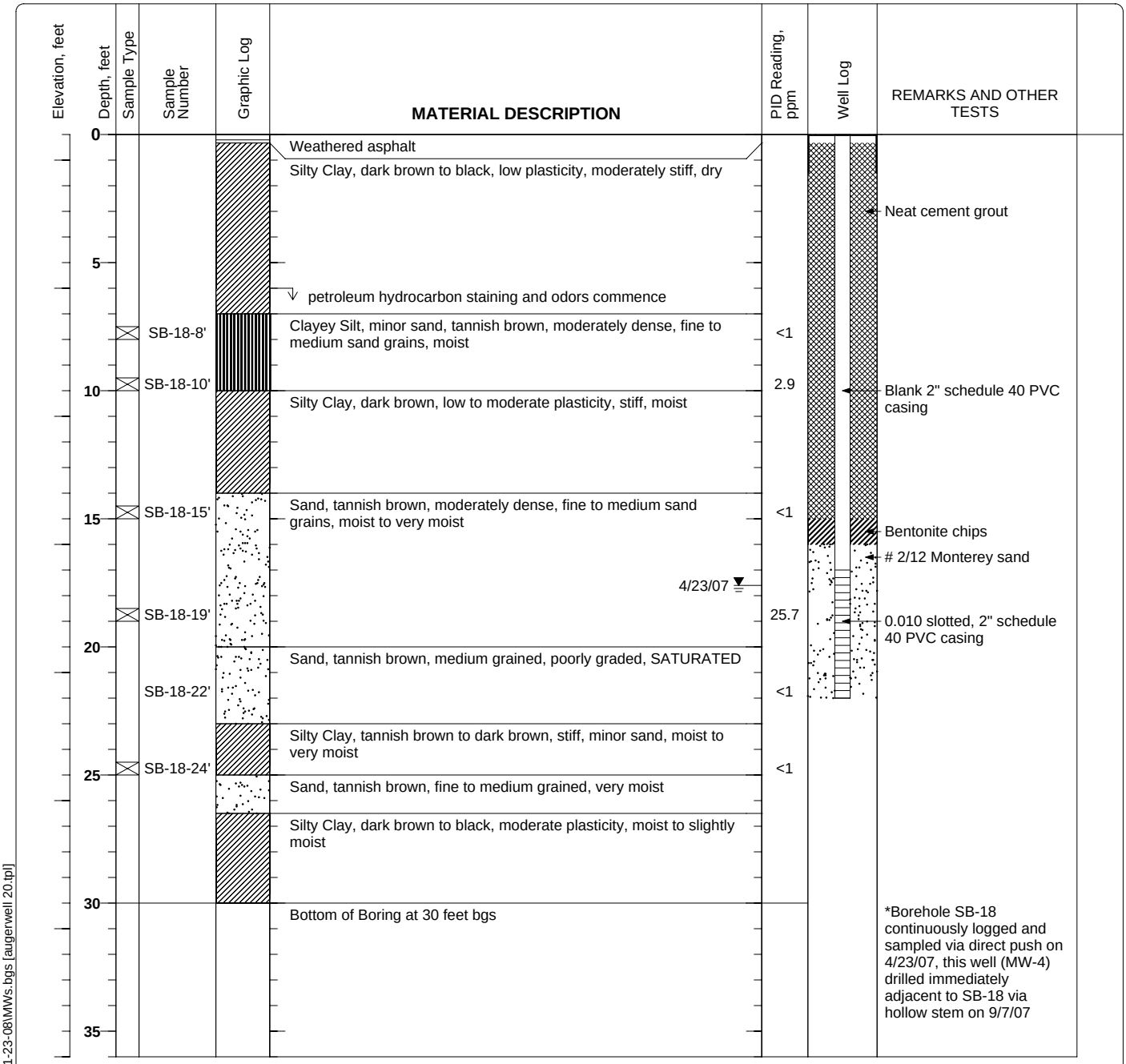
C:\Documents and Settings\AAngel\Desktop\Stuff\Williamson\Soil Borings 2007 Q2\boring logs.bgs [AE geoprobe 30.tpl]

Project: Williamson
Project Location: 3635 13th Avenue, Oakland, CA
Project Number: 270852

Log of Boring MW-4 (SB-18)

Sheet 1 of 1

Date(s) Drilled **September 7, 2007**	Logged By **Adrian Angel**	Checked By **Peter McIntyre**
Drilling Method **Hollow stem auger (HEW) and direct push (ECA)**	Drill Bit Size/Type	Total Depth of Borehole **30 feet bgs**
Drill Rig Type **Limited-access hollow stem auger (HEW) and Geoprobe 5410 (ECA)**	Drilling Contractor **HEW (Hollow Stem Auger) and ECA (Direct Push)**	Approximate Surface Elevation **MSL**
Groundwater Level and Date Measured **17.6 feet measured on 4/23/07**	Sampling Method(s) **Tube**	Hammer Data
Borehole Backfill **See Below**	Location	



Figure

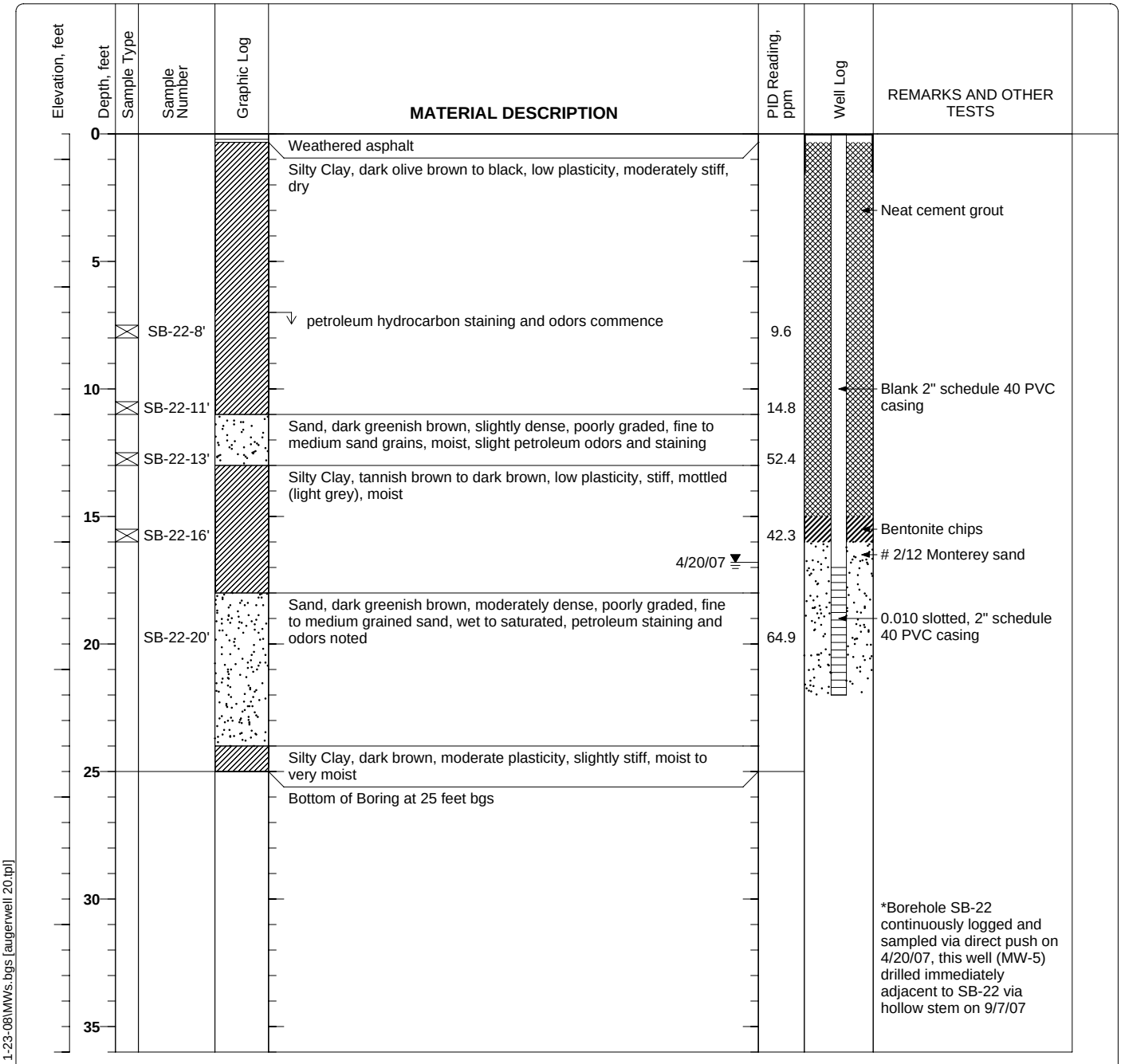
E:\William 1-23-08\MWs.bgs [augerwell 20.tpl]

Project: Williamson
Project Location: 3635 13th Avenue, Oakland, CA
Project Number: 270852

Log of Boring MW-5 (SB-22)

Sheet 1 of 1

Date(s) Drilled **September 7, 2007**	Logged By **Adrian Angel**	Checked By **Peter McIntyre**
Drilling Method **Hollow stem auger (HEW) and direct push (ECA)**	Drill Bit Size/Type	Total Depth of Borehole **25 feet bgs**
Drill Rig Type **Limited-access hollow stem auger (HEW) and Geoprobe 5410 (ECA)**	Drilling Contractor **HEW (Hollow Stem Auger) and ECA (Direct Push)**	Approximate Surface Elevation **MSL**
Groundwater Level and Date Measured **16.8 feet measured on 4/20/07**	Sampling Method(s) **Tube**	Hammer Data
Borehole Backfill **See Below**	Location	



Figure

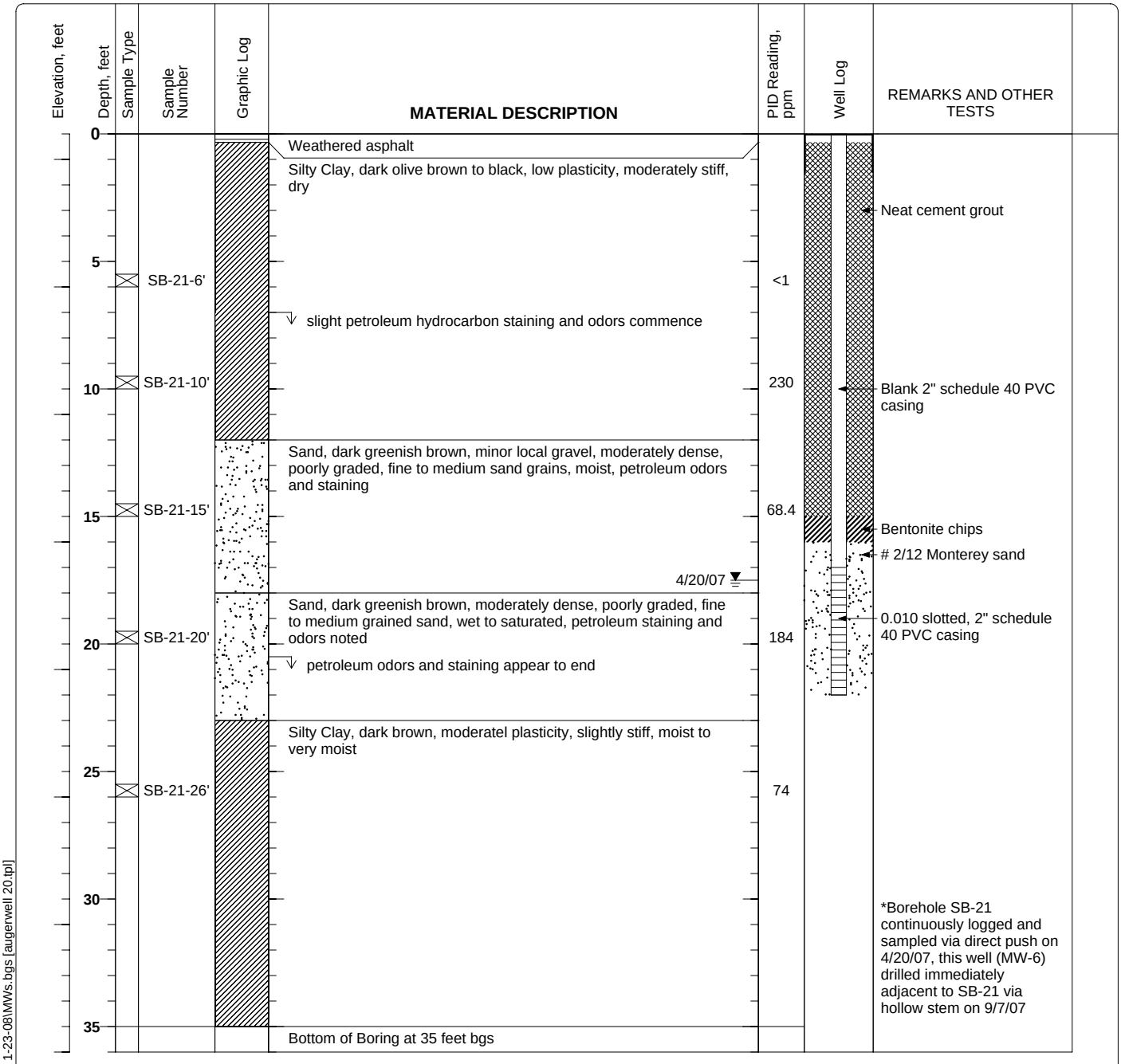
E:\William 1-23-08\MWs.bgs [augerwell 20.tpl]

Project: Williamson
Project Location: 3635 13th Avenue, Oakland, CA
Project Number: 270852

Log of Boring MW-6 (SB-21)

Sheet 1 of 1

Date(s) Drilled **September 7, 2007**	Logged By **Adrian Angel**	Checked By **Peter McIntyre**
Drilling Method **Hollow stem auger (HEW) and direct push (ECA)**	Drill Bit Size/Type **8.2 inch**	Total Depth of Borehole **35 feet bgs**
Drill Rig Type **Limited-access hollow stem auger (HEW) and Geoprobe 5410 (ECA)**	Drilling Contractor **HEW (Hollow Stem Auger) and ECA (Direct Push)**	Approximate Surface Elevation **MSL**
Groundwater Level and Date Measured **17.5 feet measured on 4/20/07**	Sampling Method(s) **Tube**	Hammer Data
Borehole Backfill **See Below**	Location	



Figure

E:\William 1-23-08\MWs.bgs [augerwell 20.tpl]

APPENDIX C

Groundwater Monitoring
Field Forms

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Williamson	Date of Sampling:	10/3/2007
Job Number:	270852	Name of Sampler:	A Nieto
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	197.28		
Depth of Well	23.50		
Depth to Water (from top of casing)	17.05		
Water Elevation (feet above msl)	180.23		
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)	**3.0**		
Actual Volume Purged (gallons)	4.0		
Appearance of Purge Water	Milky brown and clears at 1.5 gals		
Free Product Present?	no	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
11:13	1	19.64	6.91	1,878	1.79	46.0	Light Brown
11:14	2	19.60	6.94	1,962	1.17	71.9	Clear
11:15	3	19.65	6.94	1,966	1.27	81.6	Clear
11:30	4	19.66	6.97	1,934	2.52	110.0	Clear

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

Mily brown with no hydrocarbon odors. Clears at 1.5 gallons then went dry at 3 gallons (11:16 am) and recharged at 11:29 am

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Williamson	Date of Sampling:	10/3/2007
Job Number:	270852	Name of Sampler:	A Nieto
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	198.93		
Depth of Well	36.00		
Depth to Water (from top of casing)	16.71		
Water Elevation (feet above msl)	182.22		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**9.2**		
Actual Volume Purged (gallons)	10.0		
Appearance of Purge Water	Dark and clears at 2 gals		
Free Product Present?	no	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
12:04	1	19.83	6.82	1,112	1.58	-129.5	Dark
12:05	2	19.94	6.83	1,112	0.86	-133.3	Light Dark
12:06	3	20.15	6.83	1,108	0.77	-136.5	clear
12:07	4	20.43	6.81	1,105	0.72	-147.0	clear
12:09	6	20.44	6.81	1,146	0.65	-148.6	clear
12:11	8	20.32	6.79	1,168	0.64	-142.6	clear
12:13	10	20.09	6.87	1,120	0.64	-120.1	clear

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

Dark with strong petroleum hydrocarbon odor. Clears at 2 gallons

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Williamson	Date of Sampling:	10/3/2007
Job Number:	270852	Name of Sampler:	A Nieto
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	201.46		
Depth of Well	35.50		
Depth to Water (from top of casing)	17.10		
Water Elevation (feet above msl)	184.36		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**8.8**		
Actual Volume Purged (gallons)	9.0		
Appearance of Purge Water	Brown and clears at 1.5 gals		
Free Product Present?	no	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
10:57	1	19.49	7.21	709	4.49	170.2	Clear
10:58	2	19.43	7.24	688	4.00	168.0	Clear
10:59	3	19.45	7.25	678	3.56	164.7	Clear
11:00	4	19.68	7.26	671	2.81	159.4	Clear
11:01	5	19.70	7.26	675	2.59	157.0	Clear
11:03	7	19.62	7.27	692	3.16	157.9	Clear
	9	19.57	7.28	697	3.29	158.5	Clear

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

Brown with no petroleum hydrocarbon odors. Clears at 1.5 gallons

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Williamson	Date of Sampling:	10/3/2007
Job Number:	270852	Name of Sampler:	A Nieto
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	200.23		
Depth of Well	22.00		
Depth to Water (from top of casing)	17.21		
Water Elevation (feet above msl)	183.02		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**2.2**		
Actual Volume Purged (gallons)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	no	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
11:35	1	19.53	7.13	1,290	2.10	26.4	Clear
11:36	2	19.43	7.18	1,307	1.42	2.1	Clear
-	3	19.32	7.22	1,308	1.07	-14.4	Clear

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

Clear with slight petroleum hydrocarbon odors.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Williamson	Date of Sampling:	10/3/2007
Job Number:	270852	Name of Sampler:	A Nieto
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	198.52		
Depth of Well	22.00		
Depth to Water (from top of casing)	17.44		
Water Elevation (feet above msl)	181.08		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**2.1**		
Actual Volume Purged (gallons)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	no	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
11:47	1	20.09	6.68	1,921	2.25	12.2	Clear
11:48	2	19.95	6.68	2,143	1.08	-1.1	clear
11:57	3	20.12	6.73	2,007	2.63	20.4	Clear

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

Clear with strong petroleum hydrocarbon odors. Went dry at 1.5 gallons at 11:48 am

Recharged at 11:56 a m

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-6

Project Name:	Williamson	Date of Sampling:	10/3/2007
Job Number:	270852	Name of Sampler:	A Nieto
Project Address:	3635 13th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	200.20		
Depth of Well	22.00		
Depth to Water (from top of casing)	18.46		
Water Elevation (feet above msl)	181.74		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**1.6**		
Actual Volume Purged (gallons)	2.0		
Appearance of Purge Water	Clear		
Free Product Present?	no	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs & 1-liter

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
11:48	1	20.50	6.98	1,601	3.22	-3.7	Clear
11:49	2	20.45	6.94	1,576	1.79	-3.5	clear

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

Clear with petroleum hydrocarbon odors.

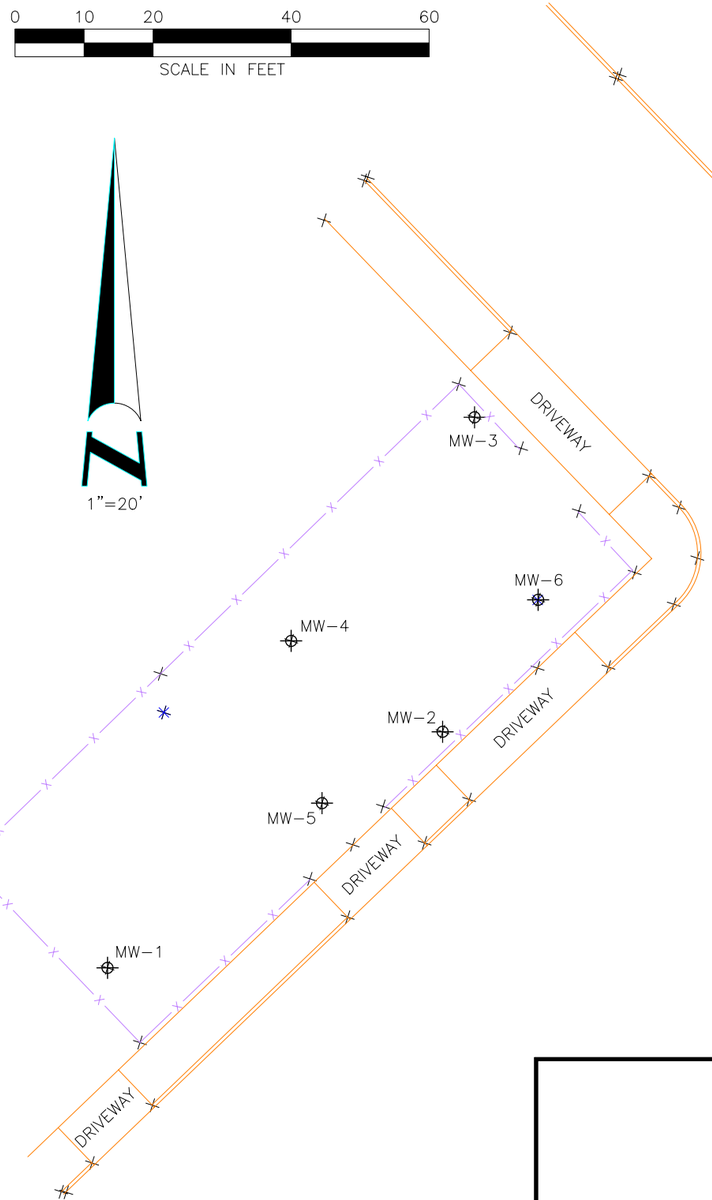
APPENDIX D

Monitoring Well Survey

Monitoring Well Exhibit

Prepared For:

AEI Consultants



BASIS OF COORDINATES AND ELEVATIONS:

COORDINATES ARE CALIFORNIA STATE PLANE ZONE 3 COORDINATES FROM GPS OBSERVATIONS USING UNIVERSITY OF CALIFORNIA BAY AREA DEFORMATION CORS STATION OBSERVATION FILES AND BASED ON THE CALIFORNIA SPATIAL REFERENCE CENTER DATUM, REFERENCE EPOCH 2000.35.

COORDINATE DATUM IS NAD 83(CORS).

DATUM ELLIPSOID IS GRS80.

REFERENCE GEOID IS GEOID99.

CORS STATIONS USED WERE FARB AND TIBB.

VERTICAL DATUM IS NAVD 88 FROM GPS OBSERVATIONS.

DESCRIPTION	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEV (PVC)	ELEV (BOX)
MW-1	2119525.5	6061694.6	37.8031378	-122.2306331	197.28	197.69
MW-2	2119559.8	6061743.2	37.8032341	-122.2304672	198.93	199.35
MW-3	2119605.3	6061747.8	37.8033595	-122.2304541	201.46	201.73
MW-4	2119572.9	6061721.2	37.8032692	-122.2305440	200.23	200.90
MW-5	2119549.4	6061725.7	37.8032049	-122.2305270	198.52	199.04
MW-6	2119578.9	6061757.0	37.8032874	-122.2304205	200.20	200.67

3635 13th Avenue
Oakland
Alameda County
California

Morrow Surveying
LAND SURVEYORS

1450 Harbor Blvd. Ste. D
West Sacramento
California 95691
(916) 372-8124
paulg@morrowsurveying.com

Date: 11-5-07
Scale: 1" = 20'
Sheet 1 of 1
Revised:
Field Book: MW-38
Dwg. No. 0116-039 ct

APPENDIX E

Laboratory Analytical Results
And
Chain of Custody Documentation

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
		Date Received: 04/20/07
	Client Contact: Adrian Angel	Date Reported: 04/30/07
	Client P.O.:	Date Completed: 04/30/07

WorkOrder 0704436

April 30, 2007

Dear Adrian:

Enclosed are:

1). the results of **21** analyzed samples from your **#270852; Williamson 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

0704436 AEL

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☒ Yes ☒ No Email PDF Report: YES

Report To: Adrian Angel	Bill To: Same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	E-Mail: aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132	Fax: (925) 944-2895
Project #: 270852	Project Name: Williamson
Project Location: Oakland	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
SB-19-9'		4/20/07	1:05P	1	A		X							
SB-19-15'			1:30P		C									
SB-19-20'			1:55P		e									
SB-20-6'			9:00A		t									
SB-20-11'			9:05A		g									
SB-20-14'			9:18A		+									
SB-20-18'			9:30A		t									
SB-20-25'			—		e									
SB-20-30'			9:45A											
SB-20-34'			—											
SB-21-6'			10:30A											
SB-21-10'			10:38A											
SB-21-15'			11:15A											
SB-21-20'		↓	11:18A	↓	↓		d							

Analysis Request	Other	Comments
~~BTEX & TPH as Gas (602/8020 + 8015) MTBE~~		
TPH as Diesel (8015)		
Total Petroleum Oil & Grease (5520 E&F/B&F)		
Total Petroleum Hydrocarbons (418.1)		
HVOCs EPA 8260 (8010 list)		
BTEX ONLY (EPA 602 / 8020)		
Pesticides EPA 608 / 8080		
PCBs EPA 608 / 8080		
VOCs EPA 624 / 8260		
EPA 625 / 8270		
PAH's / PNA's by EPA 625 / 8270 / 8310		
CAM-17 Metals		
LUFT 5 Metals		
Lead (7240/7421/239.2/6010)		
RCI		
~~BTEX + TPH~~	BTEX, EDB, EDC, MTBE, TAME →	
	→ ETBE, DIPE, TBA, ETOH (8260)	

Relinquished By:	Date:	Time:	Received By:
	4/20/07	7:00P	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 15.6
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB _____

PRESERVATION	VOAS	O&G	METALS	OTHER
APPROPRIATE ✓				
CONTAINERS				

PERSERVED IN LAB _____

07 04436 AEL

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

EDF Required? ☒ Yes ☐ No **Email PDF Report:** YES

Report To: Adrian Angel	**Bill To:** Same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	**E-Mail:** aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132	**Fax:** (925) 944-2895
Project #: 270852	**Project Name:** Williamson
Project Location: Oakland	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request: BTEX TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other: BTEX, EDB, EDC, MTBE, TAME -> ETBE, DIPE, TBA, EtOH (8260)	Comments
SB-21-26'		4/20/07	12:45P	1	A		X				X				X	X														X	X
SB-21-35'			-		c										X	X															
SB-22-8'			-		e																										
SB-22-11'			2:45P		t										X	X														X	
SB-22-13'			3:00P		a										~~X~~	~~X~~															
SB-22-16'			3:15P		t										X	X														X	X
SB-22-20'			3:59P		e										X	X														X	X
SB-23-7'			4:30P																												
SB-23-11'			4:35P												X	X														X	X
SB-23-15			-												X	X															
SB-23-18'			4:45P																											X	X
SB-23-21'			5:00P												X	X															
SB-23-23'			5:15P												~~X~~	~~X~~														X	X
+20 SB-20-W				4	3VOA 1L	X					X				X	X															

Relinquished By:	Date:	Time:	Received By:
	4/20/07	7:00P	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 18.6 ✓
GOOD CONDITION ____
HEAD SPACE ABSENT ____
DECHLORINATED IN LAB ____

PRESERVATION APPROPRIATE ✓ CONTAINERS ✓
PERSERVED IN LAB ____

VOAS	O&G	METALS	OTHER

0704436 AEL

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No **Email PDF Report: YES**

Report To: Adrian Angel	**Bill To:** Same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	**E-Mail:** aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132	**Fax:** (925) 944-2895
Project #: 270852	**Project Name:** Williamson
Project Location: Oakland	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
#5 SB-21-W		4/20/07	—	4	3 VOA + 1L	X					X			
#5 SB-22-W		"	—	"	"	"					"			
# SB-23-W		"	—	"	"	"					"			

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI
X	X													
X	X													
X	X													

Other

BTEX, EDB, EDC, MTBE, TAME, ETBE, DIPE, TBA, EtOH (8260)				
X				
X				
X				

Comments

Relinquished By:	Date:	Time:	Received By:
	4/20/07	7:00P	
Relinquished By:	**Date:**	**Time:**	**Received By:**
Relinquished By:	**Date:**	**Time:**	**Received By:**

ICE/t° 18.6 ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB _____ PERSERVED IN LAB _____

	VOAS	O&G	METALS	OTHER
PRESERVATION		✓		
APPROPRIATE CONTAINERS		✓		

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0704436 **ClientID: AEL**

☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
Email: aangel@aeiconsultants.com
TEL: (925) 944-289 FAX: (925) 283-612
ProjectNo: #270852; Williamson
PO:

Bill t
Denise Mockel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
dmockel@aeiconsultants.com

Requested TAT: 5 days

Date Received **04/20/2007**
Date Printed: **04/25/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0704436-001	SB-19-9'	Soil	04/20/07 1:05:00	☐	A		A		A							
0704436-002	SB-19-15'	Soil	04/20/07 1:30:00	☐	A		A									
0704436-003	SB-19-20'	Soil	04/20/07 1:55:00	☐	A		A									
0704436-006	SB-20-14'	Soil	04/20/07 9:18:00	☐	A		A									
0704436-007	SB-20-18'	Soil	04/20/07 9:30:00	☐	A		A									
0704436-008	SB-20-25'	Soil	04/20/07 9:30:00	☐	A		A									
0704436-009	SB-20-30'	Soil	04/20/07 9:45:00	☐	A		A									
0704436-012	Sb-21-10'	Soil	04/20/07 10:38:00	☐	A		A									
0704436-013	SB-21-15'	Soil	04/20/07 11:15:00	☐	A		A									
0704436-015	SB-21-26'	Soil	04/20/07 12:45:00	☐	A		A									
0704436-016	SB-21-35'	Soil	04/20/07 12:45:00	☐	A		A									
0704436-018	SB-22-11'	Soil	04/20/07 2:45:00	☐	A		A									
0704436-020	SB-22-16'	Soil	04/20/07 3:15:00	☐	A		A									
0704436-021	SB-22-20'	Soil	04/20/07 3:59:00	☐	A		A									
0704436-023	SB-23-11'	Soil	04/20/07 4:35:00	☐	A		A									

Test Legend:

1	G-MBTEX_S	2	G-MBTEX_W	3	MBTEXOXY-8260B_S	4	MBTEXOXY-8260B_W	5	PREDF REPORT
6		7		8		9		10	
11		12							

The following SampIDs: 0704436-001A, 0704436-002A, 0704436-003A, 0704436-006A, 0704436-007A, 0704436-008A, 0704436-009A, 0704436-012A, 0704436-013A, 0704436-015A, 0704436-016A, 0704436-018A, 0704436-020A, 0704436-021A, 0704436-023A,

Prepared by: Sheli Cryderman

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 Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0704436 **ClientID: AEL**

☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

Email: aangel@aeiconsultants.com
TEL: (925) 944-289 FAX: (925) 283-612
ProjectNo: #270852; Williamson
PO:

Bill t
Denise Mockel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
dmockel@aeiconsultants.com

Requested TAT: 5 days

Date Received **04/20/2007**
Date Printed: **04/25/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0704436-024	SB-23-15'	Soil	04/20/07 4:35:00	☐	A		A									
0704436-026	SB-23-21'	Soil	04/20/07 5:00:00	☐	A		A									
0704436-028	SB-20-W	Water	04/20/07	☐		A		A								
0704436-029	SB-21-W	Water	04/20/07	☐		A		A								
0704436-030	SB-22-W	Water	04/20/07	☐		A		A								
0704436-031	SB-23-W	Water	04/20/07	☐		A		A								

Test Legend:

1	G-MBTEX_S	2	G-MBTEX_W	3	MBTEXOXY-8260B_S	4	MBTEXOXY-8260B_W	5	PREDF REPORT
6		7		8		9		10	
11		12							

The following SampIDs: 0704436-001A, 0704436-002A, 0704436-003A, 0704436-006A, 0704436-007A, 0704436-008A, 0704436-009A, 0704436-012A, 0704436-013A, 0704436-015A, 0704436-016A, 0704436-018A, 0704436-020A, 0704436-021A, 0704436-023A,

Prepared by: Sheli Cryderman

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 Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **04/20/07 8:06:35 PM**

Project Name: **#270852; Williamson**

Checklist completed and reviewed by: SC

WorkOrder N°: **0704436** Matrix Soil/Water

Carrier: Courier

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 18.6°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	N ☑

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07-05/04/07
	Client P.O.:	Date Analyzed 04/23/07-05/04/07

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0704436

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	SB-19-9'	S	ND	1	90
002A	SB-19-15'	S	12,m	1	89
003A	SB-19-20'	S	160,a,m	10	84
006A	SB-20-14'	S	ND	1	96
007A	SB-20-18'	S	ND	1	89
008A	SB-20-25'	S	ND	1	89
009A	SB-20-30'	S	ND	1	85
012A	Sb-21-10'	S	1300,a,m	50	---#
013A	SB-21-15'	S	3.8,a	1	109
015A	SB-21-26'	S	ND	1	85
016A	SB-21-35'	S	ND	1	86
018A	SB-22-11'	S	4900,a	100	---#
020A	SB-22-16'	S	200,a	20	89
021A	SB-22-20'	S	4.4,a	1	90
023A	SB-23-11'	S	1800,a	100	---#
024A	SB-23-15'	S	520,a	50	---#

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	1.0	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in 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; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07-05/04/07
	Client P.O.:	Date Analyzed 04/23/07-05/04/07

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0704436

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
026A	SB-23-21'	S	6.9,a	1	88
028A	SB-20-W	W	120,m,i	1	106
029A	SB-21-W	W	28,000,a,h,i	100	107
030A	SB-22-W	W	15,000,a,i	100	120
031A	SB-23-W	W	210,000,a,h	100	98

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	1.0	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in 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; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07-04/26/07
	Client P.O.:	Date Analyzed: 04/23/07-04/26/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704436

Lab ID	0704436-001A	0704436-002A	0704436-003A	0704436-006A	Reporting Limit for DF =1	
Client ID	SB-19-9'	SB-19-15'	SB-19-20'	SB-20-14'		
Matrix	S	S	S	S		
DF	1	2	2	1	S	W
Compound	**Concentration**				mg/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND<0.010	ND<0.010	ND	0.005	0.5
Benzene	ND	0.085	0.12	ND	0.005	0.5
t-Butyl alcohol (TBA)	ND	ND<0.10	ND<0.10	ND	0.05	5.0
1,2-Dibromoethane (EDB)	ND	ND<0.010	ND<0.010	ND	0.005	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<0.010	ND<0.010	ND	0.005	0.5
Diisopropyl ether (DIPE)	ND	ND<0.010	ND<0.010	ND	0.005	0.5
Ethanol	ND	ND<0.50	ND<0.50	ND	0.25	50
Ethylbenzene	ND	0.26	0.28	ND	0.005	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND<0.010	ND<0.010	ND	0.005	0.5
Methyl-t-butyl ether (MTBE)	ND	ND<0.010	0.061	0.0085	0.005	0.5
Toluene	ND	ND<0.010	ND<0.010	ND	0.005	0.5
Xylenes	ND	0.020	0.082	ND	0.005	0.5
Surrogate Recoveries (%)						
%SS1:	102	93	88	99		
%SS2:	99	95	92	97		
%SS3:	88	106	106	86		
Comments						

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

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

surrogate diluted out of range or 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 ~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 Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07-04/26/07
	Client P.O.:	Date Analyzed: 04/23/07-04/26/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704436

Lab ID	0704436-007A	0704436-008A	0704436-009A	0704436-012A	Reporting Limit for DF =1	
Client ID	SB-20-18'	SB-20-25'	SB-20-30'	Sb-21-10'		
Matrix	S	S	S	S		
DF	1	1	1	40	S	W
Compound	**Concentration**				mg/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND<0.20	0.005	0.5
Benzene	ND	ND	ND	ND<0.20	0.005	0.5
t-Butyl alcohol (TBA)	ND	ND	ND	ND<2.0	0.05	5.0
1,2-Dibromoethane (EDB)	ND	ND	ND	ND<0.20	0.005	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND<0.20	0.005	0.5
Diisopropyl ether (DIPE)	ND	ND	ND	ND<0.20	0.005	0.5
Ethanol	ND	ND	ND	ND<10	0.25	50
Ethylbenzene	ND	ND	ND	5.2	0.005	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND<0.20	0.005	0.5
Methyl-t-butyl ether (MTBE)	0.0095	ND	ND	ND<0.20	0.005	0.5
Toluene	ND	ND	ND	ND<0.20	0.005	0.5
Xylenes	ND	ND	ND	1.0	0.005	0.5
Surrogate Recoveries (%)						
%SS1:	98	99	96	78		
%SS2:	96	97	97	95		
%SS3:	87	85	87	91		
Comments						

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

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

surrogate diluted out of range or 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 ~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.

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07-04/26/07
	Client P.O.:	Date Analyzed: 04/23/07-04/26/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704436

Lab ID	0704436-013A	0704436-015A	0704436-016A	0704436-018A	Reporting Limit for DF =1	
Client ID	SB-21-15'	SB-21-26'	SB-21-35'	SB-22-11'		
Matrix	S	S	S	S		
DF	5	1	1	2000	S	W
Compound	**Concentration**				mg/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<0.025	ND	ND	ND<10	0.005	0.5
Benzene	0.56	ND	ND	78	0.005	0.5
t-Butyl alcohol (TBA)	ND<0.25	ND	ND	ND<100	0.05	5.0
1,2-Dibromoethane (EDB)	ND<0.025	ND	ND	ND<10	0.005	0.5
1,2-Dichloroethane (1,2-DCA)	ND<0.025	ND	ND	ND<10	0.005	0.5
Diisopropyl ether (DIPE)	ND<0.025	ND	ND	ND<10	0.005	0.5
Ethanol	ND<1.2	ND	ND	ND<500	0.25	50
Ethylbenzene	0.086	ND	ND	150	0.005	0.5
Ethyl tert-butyl ether (ETBE)	ND<0.025	ND	ND	ND<10	0.005	0.5
Methyl-t-butyl ether (MTBE)	ND<0.025	ND	ND	ND<10	0.005	0.5
Toluene	ND<0.025	ND	ND	280	0.005	0.5
Xylenes	0.056	ND	ND	830	0.005	0.5
Surrogate Recoveries (%)						
%SS1:	95	95	85	95		
%SS2:	97	97	98	94		
%SS3:	98	87	87	88		
Comments						

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

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

surrogate diluted out of range or 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 ~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.

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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07-04/26/07
	Client P.O.:	Date Analyzed: 04/23/07-04/26/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704436

Lab ID	0704436-020A	0704436-021A	0704436-023A	0704436-024A	Reporting Limit for DF =1	
Client ID	SB-22-16'	SB-22-20'	SB-23-11'	SB-23-15'		
Matrix	S	S	S	S		
DF	20	20	100	100	S	W
Compound	**Concentration**				mg/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<0.10	ND<0.10	ND<0.50	ND<0.50	0.005	0.5
Benzene	1.4	1.5	3.4	7.3	0.005	0.5
t-Butyl alcohol (TBA)	ND<1.0	ND<1.0	ND<5.0	ND<5.0	0.05	5.0
1,2-Dibromoethane (EDB)	ND<0.10	ND<0.10	ND<0.50	ND<0.50	0.005	0.5
1,2-Dichloroethane (1,2-DCA)	ND<0.10	ND<0.10	ND<0.50	ND<0.50	0.005	0.5
Diisopropyl ether (DIPE)	ND<0.10	ND<0.10	ND<0.50	ND<0.50	0.005	0.5
Ethanol	ND<5.0	ND<5.0	ND<25	ND<25	0.25	50
Ethylbenzene	0.27	ND<0.10	11	10	0.005	0.5
Ethyl tert-butyl ether (ETBE)	ND<0.10	ND<0.10	ND<0.50	ND<0.50	0.005	0.5
Methyl-t-butyl ether (MTBE)	ND<0.10	ND<0.10	ND<0.50	ND<0.50	0.005	0.5
Toluene	0.28	ND<0.10	1.2	6.5	0.005	0.5
Xylenes	1.2	ND<0.10	56	53	0.005	0.5
Surrogate Recoveries (%)						
%SS1:	100	98	99	99		
%SS2:	93	94	94	94		
%SS3:	87	88	84	86		
Comments						

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

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

surrogate diluted out of range or 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 ~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.

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AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07-04/26/07
	Client P.O.:	Date Analyzed: 04/23/07-04/26/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704436

Lab ID	0704436-026A	0704436-028A	0704436-029A	0704436-030A	Reporting Limit for DF =1	
Client ID	SB-23-21'	SB-20-W	SB-21-W	SB-22-W		
Matrix	S	W	W	W		
DF	20	3.3	100	100	S	W
Compound	**Concentration**				mg/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<0.10	ND<1.7	ND<50	ND<50	0.005	0.5
Benzene	1.2	ND<1.7	830	1300	0.005	0.5
t-Butyl alcohol (TBA)	ND<1.0	31	ND<500	ND<500	0.05	5.0
1,2-Dibromoethane (EDB)	ND<0.10	ND<1.7	ND<50	ND<50	0.005	0.5
1,2-Dichloroethane (1,2-DCA)	ND<0.10	ND<1.7	ND<50	ND<50	0.005	0.5
Diisopropyl ether (DIPE)	ND<0.10	ND<1.7	ND<50	ND<50	0.005	0.5
Ethanol	ND<5.0	ND<170	ND<5000	ND<5000	0.25	50
Ethylbenzene	0.12	ND<1.7	840	160	0.005	0.5
Ethyl tert-butyl ether (ETBE)	ND<0.10	ND<1.7	ND<50	ND<50	0.005	0.5
Methyl-t-butyl ether (MTBE)	ND<0.10	81	ND<50	90	0.005	0.5
Toluene	ND<0.10	ND<1.7	230	470	0.005	0.5
Xylenes	ND<0.10	ND<1.7	1800	700	0.005	0.5
Surrogate Recoveries (%)						
%SS1:	98	105	85	98		
%SS2:	93	94	98	93		
%SS3:	87	93	101	88		
Comments		i	h,i	i		

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

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

surrogate diluted out of range or 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 ~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.

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AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07-04/26/07
	Client P.O.:	Date Analyzed: 04/23/07-04/26/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704436

					Reporting Limit for DF =1	
Lab ID	0704436-031A					
Client ID	SB-23-W					
Matrix	W					
DF	100				S	W
Compound	**Concentration**				mg/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<50				0.005	0.5
Benzene	1300				0.005	0.5
t-Butyl alcohol (TBA)	ND<500				0.05	5.0
1,2-Dibromoethane (EDB)	ND<50				0.005	0.5
1,2-Dichloroethane (1,2-DCA)	ND<50				0.005	0.5
Diisopropyl ether (DIPE)	ND<50				0.005	0.5
Ethanol	ND<5000				0.25	50
Ethylbenzene	2100				0.005	0.5
Ethyl tert-butyl ether (ETBE)	ND<50				0.005	0.5
Methyl-t-butyl ether (MTBE)	94				0.005	0.5
Toluene	430				0.005	0.5
Xylenes	6700				0.005	0.5
Surrogate Recoveries (%)						
%SS1:	80					
%SS2:	99					
%SS3:	96					
Comments	h					

* 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 ~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.

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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07
	Client P.O.:	Date Analyzed 04/21/07-04/30/07

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method: SW3510C/SW3550C Analytical methods: SW8015C Work Order: 0704436

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0704436-001A	SB-19-9'	S	ND	1	95
0704436-002A	SB-19-15'	S	9.8,n	1	119
0704436-003A	SB-19-20'	S	40,n	2	111
0704436-006A	SB-20-14'	S	ND	1	115
0704436-007A	SB-20-18'	S	ND	1	115
0704436-008A	SB-20-25'	S	ND	1	113
0704436-009A	SB-20-30'	S	ND	1	111
0704436-012A	Sb-21-10'	S	300,n	1	95
0704436-013A	SB-21-15'	S	ND	1	96
0704436-015A	SB-21-26'	S	ND	1	95
0704436-016A	SB-21-35'	S	ND	1	101
0704436-018A	SB-22-11'	S	1400,d	100	109
0704436-020A	SB-22-16'	S	1.2,d	1	98
0704436-021A	SB-22-20'	S	ND	1	100
0704436-023A	SB-23-11'	S	350,d	1	---#
0704436-024A	SB-23-15'	S	210,d	10	84

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	1.0	mg/Kg

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and 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; n) stoddard solvent/mineral spirit; o) results are reported on a dry weight basis.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/20/07
	Client P.O.:	Date Analyzed 04/21/07-04/30/07

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method: SW3510C/SW3550C Analytical methods: SW8015C Work Order: 0704436

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0704436-026A	SB-23-21'	S	12,a	1	116
0704436-028A	SB-20-W	W	760,g,b,i	2	83
0704436-029A	SB-21-W	W	32,000,d,b,h,i	5	---#
0704436-030A	SB-22-W	W	4100,d,i	2	87
0704436-031A	SB-23-W	W	490,000,d,h	100	---#

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	1.0	mg/Kg

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and 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; n) stoddard solvent/mineral spirit; o) results are reported on a dry weight basis.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704436

EPA Method SW8021B/8015Cm	Extraction SW5030B				BatchID: 27583				Spiked Sample ID: 0704419-006A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	121	102	16.4	116	103	11.7	70 - 130	30	70 - 130	30
MTBE	ND	0.10	118	109	8.39	119	117	1.80	70 - 130	30	70 - 130	30
Benzene	ND	0.10	105	109	4.03	102	106	3.20	70 - 130	30	70 - 130	30
Toluene	ND	0.10	93	94.3	1.35	94.5	95	0.495	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	102	109	5.96	93.3	106	13.1	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	113	107	6.06	96.7	100	3.39	70 - 130	30	70 - 130	30
%SS:	98	0.10	104	107	3.60	101	92	8.84	70 - 130	30	70 - 130	30

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

NONE

BATCH 27583 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-001A	04/20/07 1:05 AM	04/20/07	04/24/07 8:57 AM	0704436-002A	04/20/07 1:30 AM	04/20/07	05/04/07 9:06 AM
0704436-003A	04/20/07 1:55 AM	04/20/07	04/24/07 8:56 PM	0704436-006A	04/20/07 9:18 AM	04/20/07	04/24/07 8:23 AM
0704436-007A	04/20/07 9:30 AM	04/20/07	04/24/07 7:49 AM	0704436-008A	04/20/07 9:30 AM	04/20/07	04/24/07 5:00 AM
0704436-009A	04/20/07 9:45 AM	04/20/07	04/24/07 2:46 AM	0704436-012A	04/20/07 10:38 AM	04/20/07	04/23/07 11:57 PM
0704436-013A	04/20/07 11:15 AM	04/20/07	04/24/07 3:53 AM	0704436-015A	04/20/07 12:45 PM	04/20/07	04/24/07 7:15 AM
0704436-016A	04/20/07 12:45 PM	04/20/07	04/24/07 3:19 AM	0704436-018A	04/20/07 2:45 AM	04/20/07	04/23/07 4:33 PM
0704436-020A	04/20/07 3:15 AM	04/20/07	04/24/07 8:26 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.

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Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0704436

EPA Method SW8021B/8015Cm	Extraction SW5030B				BatchID: 27593				Spiked Sample ID: 0704437-018A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	96.3	103	6.50	102	96.4	6.04	70 - 130	30	70 - 130	30
MTBE	ND	10	119	115	3.83	119	114	4.20	70 - 130	30	70 - 130	30
Benzene	ND	10	114	109	3.84	102	113	10.6	70 - 130	30	70 - 130	30
Toluene	ND	10	105	100	4.80	93.5	103	9.18	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	114	110	4.24	96.5	112	15.1	70 - 130	30	70 - 130	30
Xylenes	ND	30	107	107	0	96.7	110	12.9	70 - 130	30	70 - 130	30
%SS:	105	10	96	91	4.65	88	95	7.53	70 - 130	30	70 - 130	30

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

NONE

BATCH 27593 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-028A	04/20/07	04/23/07	04/23/07 5:01 PM	0704436-029A	04/20/07	04/23/07	04/23/07 7:33 PM
0704436-030A	04/20/07	04/23/07	04/23/07 5:32 PM	0704436-031A	04/20/07	04/30/07	04/30/07 7:02 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.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704436

EPA Method SW8021B/8015Cm	Extraction SW5030B				BatchID: 27603				Spiked Sample ID: 0704499-010A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	106	98.9	7.06	104	103	0.844	70 - 130	30	70 - 130	30
MTBE	ND	0.10	92.9	95.8	3.01	117	113	3.24	70 - 130	30	70 - 130	30
Benzene	ND	0.10	95.6	95.4	0.301	109	109	0	70 - 130	30	70 - 130	30
Toluene	ND	0.10	79.2	82	3.27	97.1	98.1	0.961	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	96.7	97.7	1.06	104	110	5.84	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	96.7	96.7	0	107	113	6.06	70 - 130	30	70 - 130	30
%SS:	88	0.10	79	74	6.16	103	108	4.52	70 - 130	30	70 - 130	30

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

NONE

BATCH 27603 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-021A	04/20/07 3:59 AM	04/20/07	04/26/07 7:12 PM	0704436-023A	04/20/07 4:35 AM	04/20/07	04/23/07 7:24 PM
0704436-024A	04/20/07 4:35 AM	04/20/07	04/24/07 4:26 AM	0704436-026A	04/20/07 5:00 AM	04/20/07	04/26/07 6:25 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.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704436

EPA Method SW8015C	Extraction SW3550C				BatchID: 27561				Spiked Sample ID: 0704395-003A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	4.2	20	94.8	96.9	1.77	117	115	1.06	70 - 130	30	70 - 130	30
%SS:	96	50	98	99	0.462	105	104	1.02	70 - 130	30	70 - 130	30

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

NONE

BATCH 27561 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-001A	04/20/07 1:05 AM	04/20/07	04/21/07 8:41 AM	0704436-002A	04/20/07 1:30 AM	04/20/07	04/30/07 4:37 PM
0704436-003A	04/20/07 1:55 AM	04/20/07	04/24/07 11:28 PM	0704436-006A	04/20/07 9:18 AM	04/20/07	04/21/07 1:15 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.

DHS ELAP Certification N° 1644

QA/QC Officer

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Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0704436

EPA Method SW8015C	Extraction SW3510C	BatchID: 27577	Spiked Sample ID: N/A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	N/A	1000	N/A	N/A	N/A	115	116	0.987	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	113	115	1.62	N/A	N/A	70 - 130	30

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

NONE

BATCH 27577 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-028A	04/20/07	04/20/07	04/25/07 6:55 PM	0704436-029A	04/20/07	04/20/07	04/30/07 5:00 PM
0704436-030A	04/20/07	04/20/07	04/23/07 7:37 PM	0704436-031A	04/20/07	04/20/07	04/23/07 8:48 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.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704436

EPA Method SW8015C	Extraction SW3550C	BatchID: 27601	Spiked Sample ID: 0704436-026A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	12	20	84.4	87.7	2.24	94	92.7	1.46	70 - 130	30	70 - 130	30
%SS:	0	50	102	104	2.14	99	97	1.64	70 - 130	30	70 - 130	30

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

NONE

BATCH 27601 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-007A	04/20/07 9:30 AM	04/20/07	04/21/07 2:23 PM	0704436-008A	04/20/07 9:30 AM	04/20/07	04/21/07 3:31 PM
0704436-009A	04/20/07 9:45 AM	04/20/07	04/21/07 4:40 PM	0704436-012A	04/20/07 10:38 AM	04/20/07	04/21/07 2:59 AM
0704436-013A	04/20/07 11:15 AM	04/20/07	04/21/07 10:58 AM	0704436-015A	04/20/07 12:45 PM	04/20/07	04/21/07 9:50 AM
0704436-016A	04/20/07 12:45 PM	04/20/07	04/21/07 11:51 AM	0704436-018A	04/20/07 2:45 AM	04/20/07	04/24/07 6:55 PM
0704436-020A	04/20/07 3:15 AM	04/20/07	04/21/07 12:06 PM	0704436-021A	04/20/07 3:59 AM	04/20/07	04/21/07 10:41 AM
0704436-023A	04/20/07 4:35 AM	04/20/07	04/21/07 6:56 PM	0704436-023A	04/20/07 4:35 AM	04/20/07	04/23/07 8:42 PM
0704436-024A	04/20/07 4:35 AM	04/20/07	04/23/07 7:33 PM	0704436-026A	04/20/07 5:00 AM	04/20/07	04/30/07 3:06 PM

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

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

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

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

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

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704436

EPA Method: SW8260B	Extraction: SW5030B	BatchID: 27559	Spiked Sample ID: 0704388-002A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	0.050	104	106	1.34	105	103	1.54	70 - 130	30	70 - 130	30
Benzene	ND	0.050	114	112	1.56	111	112	0.164	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	82.3	87.2	5.78	89.4	87.2	2.52	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	92	94.1	2.29	93.5	93.9	0.416	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	116	117	0.818	115	114	0.642	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	124	123	0.177	124	123	0.428	70 - 130	30	70 - 130	30
Ethanol	ND	2.5	102	104	1.46	96	94.2	1.71	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	112	114	1.17	114	111	1.83	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	0.050	110	112	1.94	112	110	2.36	70 - 130	30	70 - 130	30
Toluene	ND	0.050	95.1	96.4	1.45	96.9	95.1	1.80	70 - 130	30	70 - 130	30
%SS1:	96	0.050	95	95	0	93	93	0	70 - 130	30	70 - 130	30
%SS2:	98	0.050	99	100	0.878	100	100	0	70 - 130	30	70 - 130	30
%SS3:	89	0.050	114	116	1.37	113	114	0.785	70 - 130	30	70 - 130	30

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

NONE

BATCH 27559 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-001A	04/20/07 1:05 AM	04/20/07	04/23/07 3:44 PM	0704436-002A	04/20/07 1:30 AM	04/20/07	04/24/07 9:25 PM
0704436-003A	04/20/07 1:55 AM	04/20/07	04/25/07 12:34 AM	0704436-006A	04/20/07 9:18 AM	04/20/07	04/23/07 6:47 PM
0704436-007A	04/20/07 9:30 AM	04/20/07	04/23/07 7:32 PM	0704436-008A	04/20/07 9:30 AM	04/20/07	04/23/07 8:20 PM
0704436-009A	04/20/07 9:45 AM	04/20/07	04/23/07 9:06 PM				

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

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

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

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

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

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

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704436

EPA Method: SW8260B	Extraction: SW5030B	BatchID: 27604	Spiked Sample ID: 0704437-022A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	0.050	101	102	0.424	98.9	97.7	1.15	70 - 130	30	70 - 130	30
Benzene	ND	0.050	105	108	2.84	108	103	5.36	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	93.3	91.1	2.41	90.3	98.4	8.65	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	94.3	95.9	1.62	92.4	90.5	2.08	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	110	112	1.37	114	113	1.07	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	118	120	1.80	119	115	4.18	70 - 130	30	70 - 130	30
Ethanol	ND	2.5	103	102	0.562	98.3	98.7	0.422	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	110	111	0.697	108	106	1.78	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	0.050	107	108	1.35	105	106	0.874	70 - 130	30	70 - 130	30
Toluene	ND	0.050	90.5	92.7	2.45	93.4	87.1	6.96	70 - 130	30	70 - 130	30
%SS1:	94	0.050	91	90	1.10	94	95	0.890	70 - 130	30	70 - 130	30
%SS2:	97	0.050	98	98	0	98	99	0.854	70 - 130	30	70 - 130	30
%SS3:	86	0.050	118	121	2.37	120	119	0.841	70 - 130	30	70 - 130	30

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

NONE

BATCH 27604 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-012A	04/20/07 10:38 AM	04/20/07	04/23/07 9:54 PM	0704436-013A	04/20/07 11:15 AM	04/20/07	04/25/07 1:24 AM
0704436-015A	04/20/07 12:45 PM	04/20/07	04/24/07 1:08 AM	0704436-016A	04/20/07 12:45 PM	04/20/07	04/24/07 1:02 PM
0704436-018A	04/20/07 2:45 AM	04/20/07	04/25/07 10:05 PM	0704436-020A	04/20/07 3:15 AM	04/20/07	04/26/07 3:58 PM
0704436-021A	04/20/07 3:59 AM	04/20/07	04/26/07 4:44 PM	0704436-023A	04/20/07 4:35 AM	04/20/07	04/25/07 6:02 PM
0704436-024A	04/20/07 4:35 AM	04/20/07	04/25/07 6:48 PM	0704436-026A	04/20/07 5:00 AM	04/20/07	04/26/07 5:31 PM

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

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

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.

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Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0704436

EPA Method: SW8260B	Extraction: SW5030B	BatchID: 27594	Spiked Sample ID: 0704425-006B

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	99.7	99.8	0.161	96.9	96.4	0.459	70 - 130	30	70 - 130	30
Benzene	ND	10	105	106	1.62	107	106	0.646	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	89.8	87.2	2.95	88.7	92.1	3.77	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	93.5	94	0.607	89.8	91.7	2.07	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	112	112	0	107	109	2.40	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	118	119	0.558	116	115	0.598	70 - 130	30	70 - 130	30
Ethanol	ND	500	98	92	5.80	99.1	98.7	0.399	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	108	109	1.02	105	105	0	70 - 130	30	70 - 130	30
Methanol	ND	2500	102	101	1.17	102	100	2.08	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	107	106	0.381	99.5	104	4.02	70 - 130	30	70 - 130	30
Toluene	ND	10	91.5	91.8	0.357	90.5	92.7	2.45	70 - 130	30	70 - 130	30
%SS1:	101	10	95	94	0.846	91	91	0	70 - 130	30	70 - 130	30
%SS2:	100	10	98	98	0	98	99	1.14	70 - 130	30	70 - 130	30
%SS3:	118	10	120	119	1.03	118	120	1.81	70 - 130	30	70 - 130	30

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

NONE

BATCH 27594 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-028A	04/20/07	04/25/07	04/25/07 8:24 PM	0704436-029A	04/20/07	04/24/07	04/24/07 7:07 PM
0704436-030A	04/20/07	04/26/07	04/26/07 6:16 PM	0704436-031A	04/20/07	04/24/07	04/24/07 10:12 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.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
		Date Received: 04/20/07
	Client Contact: Adrian Angel	Date Reported: 04/30/07
	Client P.O.:	Date Completed: 05/11/07

WorkOrder: 0704436

May 11, 2007

Dear Adrian:

Enclosed are:

1). the results of **2** analyzed samples from your **#270852; Williamson 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

0704436 AEL

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No Email PDF Report: YES

Report To: Adrian Angel	Bill To: Same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	E-Mail: aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132	Fax: (925) 944-2895
Project #: 270852	Project Name: Williamson
Project Location: Oakland	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	Analysis Request: ~~Btex~~ & TPH as Gas (602/8020 + 8015) ~~MTBE~~	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other: ~~BTEX~~ BTEX, EDB, EDB, MTBE, TAME →	→ ETBE, DIPE, TBA, EtOH (8260)	9.0 8015 added 5/14/07 5day	Comments: BTEX, OXYS, Pb scavs added 5/14/07 5day
SB-19-9'		4/20/07	1:05P	1	A	X									X	X														X	X		
SB-19-15'			1:30P		c										X	X																	
SB-19-20'			1:55P		e										X	X																	
SB-20-6'			9:00A		t																												
SB-20-11'			9:05A		a																												
SB-20-14'			9:18A		t										X	X														X	X		
SB-20-18'			9:30A		e										X	X																	
SB-20-25'			—												X	X																	
SB-20-30'			9:45A												X	X														X	X		
SB-20-34'			—																														
SB-21-6'			10:30A																												X	X	
SB-21-10'			10:38A												X	X														X	X		
SB-21-15'			11:15A												X	X																	
SB-21-20'			11:18A																														

Relinquished By:	Date:	Time:	Received By:
	4/20/07	7:00P	Shelli Lunderman
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 18.6
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB _____

	VOAS	O&G	METALS	OTHER
PRESERVATION	✓			
APPROPRIATE				
CONTAINERS	✓			

PERSERVED IN LAB _____

07 04436 AEL

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

EDF Required? ☒ Yes ☐ No **Email PDF Report:** YES

Report To: Adrian Angel	**Bill To:** Same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	**E-Mail:** aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132	**Fax:** (925) 944-2895
Project #: 270852	**Project Name:** Williamson
Project Location: Oakland	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other: BTEX, EDB, EDC, MTBE, TAME, =>ETBE, DIPE, TBA, EtOH (8260)	Other: 9.D 8015 added 5/4/07 SAW	Other: BTEX, oxys, Pb scan added 5/4/07 SAW	Comments
SB-21-26'		4/20/07	12:45P	1	A		X				X				X	X														X	X		
SB-21-35'			—		c										X	X																	
SB-22-8'			—		e																												
SB-22-11'			2:45P		t										X	X														X	X		
SB-22-13'			3:00P		a										~~X~~	~~X~~																		
SB-22-16'			3:15P		t										X	X														X	X		
SB-22-20'			3:59P		e										X	X														X	X		
SB-23-7'			4:30P																												X	X	
SB-23-11'			4:35P												X	X														X	X	X	
SB-23-15			—												X	X														X	X		
SB-23-18'			4:45P																														
SB-23-21'			5:00P												X	X														X	X		
SB-23-23'			5:15P												~~X~~	~~X~~																		
+20 SB-20-W				4	3VOA IL	X									X	X														X	X		

Relinquished By:	Date:	Time:	Received By:
	4/20/07	7:00P	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 18.6 ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB _____

PRESERVATION APPROPRIATE CONTAINERS ✓	VOAS	O&G	METALS	OTHER

PERSERVED IN LAB _____

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 070443 A **ClientID: AEL**

☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

Email: aangel@aeiconsultants.com
TEL: (925) 283-600 FAX: (925) 944-289
ProjectNo: #270852; Williamson
PO:

Bill to
Denise Mockel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
dmockel@aeiconsultants.com

Requested TAT 5 days
Date Receive **04/20/2007**
Date Add-On: **05/04/2007**
Date Printed: **05/11/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0704436-011	SB-21-6'	Soil	4/20/2007	☐	A	A	A									
0704436-022	SB-23-7'	Soil	4/20/2007 4:30:00	☐	A	A	A									

Test Legend:

1	G-MBTEX_S	2	MBTEXOXY-8260B_S	3	TPH(D)_S	4		5	
6		7		8		9		10	
11		12							

Prepared by: Sheli Cryderman

Comments: Samples 011 and 022 taken off hold and analyzed for gas and diesel (8015) and for mtbe, btex, oxys, and pb scavs (8260) 5/4/07 5 day

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 Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 05/04/07
	Client P.O.:	Date Analyzed 05/06/07-05/09/07

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

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0704436

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
011A	SB-21-6'	S	ND	1	91
022A	SB-23-7'	S	400,b,m	33	---#

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and 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) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 05/04/07
	Client P.O.:	Date Analyzed: 05/05/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704436

Lab ID	0704436-011A	0704436-022A			Reporting Limit for DF =1	
Client ID	SB-21-6'	SB-23-7'				
Matrix	S	S				
DF	1	40			S	W
Compound	**Concentration**				mg/kg	ug/L
tert-Amyl methyl ether (TAME)	ND	ND<0.20			0.005	NA
Benzene	ND	ND<0.20			0.005	NA
t-Butyl alcohol (TBA)	ND	ND<2.0			0.05	NA
1,2-Dibromoethane (EDB)	ND	ND<0.20			0.005	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND<0.20			0.005	NA
Diisopropyl ether (DIPE)	ND	ND<0.20			0.005	NA
Ethylbenzene	ND	4.8			0.005	NA
Ethyl tert-butyl ether (ETBE)	ND	ND<0.20			0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND<0.20			0.005	NA
Toluene	ND	ND<0.20			0.005	NA
Xylenes	ND	11			0.005	NA
Surrogate Recoveries (%)						
%SS1:	100	94				
%SS2:	99	95				
%SS3:	92	85				
Comments						

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

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

surrogate diluted out of range or 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 ~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.

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"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/20/07
2500 Camino Diablo, Ste. #200		Date Received: 04/20/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 05/04/07
	Client P.O.:	Date Analyzed 05/07/07-05/09/07

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method: SW3550C Analytical methods: SW8015C Work Order: 0704436

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0704436-011A	SB-21-6'	S	4.7,g,b	1	115
0704436-022A	SB-23-7'	S	210,d,g	5	108

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

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and 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; n) stoddard solvent/mineral spirit; o) results are reported on a dry weight basis.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson	Date Sampled: 04/23/07
		Date Received: 04/24/07
	Client Contact: Adrian Angel	Date Reported: 05/01/07
	Client P.O.:	Date Completed: 05/01/07

WorkOrder: 0704499

May 01, 2007

Dear Adrian:

Enclosed are:

1). the results of **15** analyzed samples from your **#270852; Williamson 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

AEI 0704499

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No Email PDF Report: YES

Report To: Adrian Angel	Bill To: Same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	E-Mail: aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132	Fax: (925) 944-2895
Project #: 270852	Project Name: Williamson
Project Location: Oakland	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	Analysis Request: TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other: BTEX, EDB, EDC, MTBE, TAME, ETBE, DIPE, TBA, ETOH (8260)	Grain Size	Comments
SB-16-5'	Oakland	1/23/07	12:40P	1	A	X					X																					
SB-16-10'			1:05P		C										X	X															X	X	
SB-16-13'			1:30P		C																											
SB-16-16'			1:39P		F										X	X															X	X	X	
SB-16-20'			2:05P		G										X	X															X	X		
SB-16-24'			—		H										X	X															X	X		
SB-16-28'			2:20P		E										~~X~~	~~X~~																		
SB-17-5'			10:30A		I																												
SB-17-10'			10:45A												X	X															X	X		
SB-17-15'			11:00A												X	X															X	X		
SB-17-20'			11:10A												X	X															X	X		
SB-18-8'			2:30P																														
SB-18-10'			3:00P												X	X															X	X	X	
SB-18-15'	↓	↓	3:05P	↓	↓	↓					↓				X	X															X	X		

Relinquished By:	Date:	Time:	Received By:
	1/23/07	6:00P	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 96°C
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB ____ PERSERVED IN LAB ____

PRESERVATION APPROPRIATE ✓ CONTAINERS ____	VOAS ✓	O&G	METALS	OTHER

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No **Email PDF Report:** YES

Report To: Adrian Angel	**Bill To:** Same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	**E-Mail:** aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132	**Fax:** (925) 944-2895
Project #: 270852	**Project Name:** Williamson
Project Location: Oakland	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
SB-18-19'	Oakland	4/23/07	3:15P	1	Ace		X				X			
SB-18-22'			—		Tube									
SB-18-25'			—											
15 SB-16-W				4	VOA w/ HCl	X								
15 SB-17-W														
15 SB-18-W				5	1L Amb									
✓ SB-19-W														

Analysis Request	Other	Comments
BTEX & TPH as Gas (602/8020 + 8015) MTBE	BTEX, EDB, EDC, MTBE, TAME → 3 oxygenates, DIPE, TBA, EtOH (8260)	3 yes
TPH as Diesel (8015)	Fe (II)	
Total Petroleum Oil & Grease (5520 E&F/B&F)		
Total Petroleum Hydrocarbons (418.1)		
HVOCs EPA 8260 (8010 list)		
BTEX ONLY (EPA 602 / 8020)		
Pesticides EPA 608 / 8080		
PCBs EPA 608 / 8080		
VOCs EPA 624 / 8260		
EPA 625 / 8270		
PAH's / PNA's by EPA 625 / 8270 / 8310		
CAM-17 Metals		
LUFT 5 Metals		
Lead (7240/7421/239.2/6010)		
RCI		

Relinquished By:	Date:	Time:	Received By:
	4/23/07	6:00P	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 9.6°C ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ____
DECHLORINATED IN LAB ____

PRESERVATION ✓ | VOA'S | O&G | METALS | OTHER
APPROPRIATE ✓
CONTAINERS ✓
PERSERVED IN LAB ____

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0704499 **ClientID: AEL**

☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
Email: aangel@aeiconsultants.com
TEL: (925) 283-600 FAX: (925) 283-612
ProjectNo: #270852; Williamson
PO:

Bill t
Denise Mockel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
dmockel@aeiconsultants.com

Requested TAT: 5 days

Date Received **04/24/2007**
Date Printed: **04/24/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0704499-002	SB-16-10'	Soil	4/23/07 1:05:00	☐		A			A		A					
0704499-004	SB-16-16'	Soil	4/23/07 1:39:00	☐		A		A	A							
0704499-005	SB-16-20'	Soil	4/23/07 2:05:00	☐		A			A							
0704499-006	SB-16-24'	Soil	4/23/07	☐		A			A							
0704499-009	SB-17-10'	Soil	4/23/07 10:45:00	☐		A			A							
0704499-010	SB-17-15'	Soil	4/23/07 11:00:00	☐		A			A							
0704499-011	SB-17-20'	Soil	4/23/07 11:10:00	☐		A			A							
0704499-013	SB-18-10'	Soil	4/23/07 3:00:00	☐		A		A	A							
0704499-014	SB-18-15'	Soil	4/23/07 3:05:00	☐		A			A							
0704499-015	SB-18-19'	Soil	4/23/07 3:15:00	☐		A			A							
0704499-017	SB-18-25'	Soil	4/23/07	☐		A			A							
0704499-018	SB-16-W	Water	4/23/07	☐			A			B						
0704499-019	SB-17-W	Water	4/23/07	☐			A			B						
0704499-020	SB-18-W	Water	4/23/07	☐	C		A			B						
0704499-021	SB-19-W	Water	4/23/07	☐			A			B						

Test Legend:

1	FE2_W	2	G-MBTEX_S	3	G-MBTEX_W	4	GRAINSIZE	5	MBTEXOXY-8260B_S
6	MBTEXOXY-8260B_W	7	PREDF REPORT	8		9		10	
11		12							

The following SampIDs: 0704499-002A, 0704499-004A, 0704499-005A, 0704499-006A, 0704499-009A, 0704499-010A, 0704499-011A, 0704499-013A, 0704499-014A, 0704499-015A, 0704499-017A, 0704499-018A, 0704499-019A, 0704499-020A, 0704499-021A contain

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.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **4/24/07 7:36:38 PM**

Project Name: **#270852; Williamson**

Checklist completed and reviewed by: Melissa Valles

WorkOrder N°: **0704499** Matrix Soil/Water

Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 9.6°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	N ☑

Client contacted: Date contacted: Contacted by:

Comments:

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/23/07
2500 Camino Diablo, Ste. #200		Date Received: 04/24/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/24/07
	Client P.O.:	Date Analyzed: 04/24/07

Ferrous Iron*

Analytical Method: SM3500-Fe B4c Work Order: 0704499

Lab ID	Client ID	Matrix	Ferrous Iron	DF
0704499-020C	SB-18-W	W	9400,i	5

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	50 µg/L	
	S	NA	

*water samples are reported in ug/L.

i) liquid sample that contains greater than 1 vol. % sediment.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson	Date Sampled: 04/23/07
		Date Received: 04/24/07
	Client Contact: Adrian Angel	Date Extracted 04/24/07-04/28/07
	Client P.O.:	Date Analyzed 04/25/07-04/28/07

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0704499

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
002A	SB-16-10'	S	ND	1	86
004A	SB-16-16'	S	ND	1	88
005A	SB-16-20'	S	ND	1	92
006A	SB-16-24'	S	ND	1	90
009A	SB-17-10'	S	ND	1	92
010A	SB-17-15'	S	ND	1	88
011A	SB-17-20'	S	ND	1	87
013A	SB-18-10'	S	27,m	1	96
014A	SB-18-15'	S	2.7,a	1	87
015A	SB-18-19'	S	ND	1	89
017A	SB-18-25'	S	ND	1	90
018A	SB-16-W	W	ND,i	1	105
019A	SB-17-W	W	66,a,i	1	99
020A	SB-18-W	W	650,a,m,i	1	94
021A	SB-19-W	W	19,000,a	50	110

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	1.0	mg/Kg

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and 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) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/23/07
2500 Camino Diablo, Ste. #200		Date Received: 04/24/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/24/07-04/27/07
	Client P.O.:	Date Analyzed: 04/26/07-04/27/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704499

Lab ID	0704499-002A	0704499-004A	0704499-005A	0704499-006A	Reporting Limit for DF =1	
Client ID	SB-16-10'	SB-16-16'	SB-16-20'	SB-16-24'		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				mg/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND	0.005	0.5
Benzene	ND	ND	ND	ND	0.005	0.5
t-Butyl alcohol (TBA)	ND	ND	ND	ND	0.05	5.0
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.005	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	0.005	0.5
Diisopropyl ether (DIPE)	ND	ND	ND	ND	0.005	0.5
Ethanol	ND	ND	ND	ND	0.25	50
Ethylbenzene	ND	ND	ND	ND	0.005	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND	0.005	0.5
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	0.005	0.5
Toluene	ND	ND	ND	ND	0.005	0.5
Xylenes	ND	ND	ND	ND	0.005	0.5
Surrogate Recoveries (%)						
%SS1:	95	94	94	93		
%SS2:	97	95	96	96		
%SS3:	95	95	94	94		
Comments						

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

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

surrogate diluted out of range or 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 ~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.

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AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/23/07
2500 Camino Diablo, Ste. #200		Date Received: 04/24/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/24/07-04/27/07
	Client P.O.:	Date Analyzed: 04/26/07-04/27/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704499

Lab ID	0704499-009A	0704499-010A	0704499-011A	0704499-013A	Reporting Limit for DF =1	
Client ID	SB-17-10'	SB-17-15'	SB-17-20'	SB-18-10'		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				mg/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND	0.005	0.5
Benzene	ND	ND	ND	0.068	0.005	0.5
t-Butyl alcohol (TBA)	ND	ND	ND	ND	0.05	5.0
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.005	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	0.005	0.5
Diisopropyl ether (DIPE)	ND	ND	ND	ND	0.005	0.5
Ethanol	ND	ND	ND	ND	0.25	50
Ethylbenzene	ND	ND	ND	0.018	0.005	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND	0.005	0.5
Methyl-t-butyl ether (MTBE)	ND	ND	0.0052	ND	0.005	0.5
Toluene	ND	ND	ND	ND	0.005	0.5
Xylenes	ND	ND	ND	ND	0.005	0.5
Surrogate Recoveries (%)						
%SS1:	91	91	89	84		
%SS2:	96	96	96	85		
%SS3:	94	93	94	99		
Comments						

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

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

surrogate diluted out of range or 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 ~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.

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AEI Consultants	Client Project ID: #270852; Williamson	Date Sampled: 04/23/07
2500 Camino Diablo, Ste. #200		Date Received: 04/24/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 04/24/07-04/27/07
	Client P.O.:	Date Analyzed: 04/26/07-04/27/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704499

Lab ID	0704499-014A	0704499-015A	0704499-017A	0704499-018B	Reporting Limit for DF =1	
Client ID	SB-18-15'	SB-18-19'	SB-18-25'	SB-16-W		
Matrix	S	S	S	W		
DF	1	1	1	1	S	W
Compound	**Concentration**				mg/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND	0.005	0.5
Benzene	0.078	0.013	ND	0.96	0.005	0.5
t-Butyl alcohol (TBA)	ND	0.052	ND	ND	0.05	5.0
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.005	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	0.005	0.5
Diisopropyl ether (DIPE)	ND	ND	ND	ND	0.005	0.5
Ethanol	ND	ND	ND	ND	0.25	50
Ethylbenzene	0.014	ND	ND	ND	0.005	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND	0.005	0.5
Methyl-t-butyl ether (MTBE)	ND	0.022	0.011	1.5	0.005	0.5
Toluene	ND	ND	ND	ND	0.005	0.5
Xylenes	ND	ND	ND	0.51	0.005	0.5
Surrogate Recoveries (%)						
%SS1:	102	99	88	104		
%SS2:	97	94	96	97		
%SS3:	91	88	94	99		
Comments				i		

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

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

surrogate diluted out of range or 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 ~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.

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson	Date Sampled: 04/23/07
		Date Received: 04/24/07
	Client Contact: Adrian Angel	Date Extracted: 04/26/07
	Client P.O.:	Date Analyzed: 04/26/07

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0704499

Lab ID	0704499-019B	0704499-020B	0704499-021B		Reporting Limit for DF =1	
Client ID	SB-17-W	SB-18-W	SB-19-W			
Matrix	W	W	W			
DF	1	10	200		S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND<5.0	ND<100		NA	0.5
Benzene	1.8	51	4200		NA	0.5
t-Butyl alcohol (TBA)	ND	63	ND<1000		NA	5.0
1,2-Dibromoethane (EDB)	ND	ND<5.0	ND<100		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<5.0	ND<100		NA	0.5
Diisopropyl ether (DIPE)	ND	ND<5.0	ND<100		NA	0.5
Ethanol	ND	ND<500	ND<10,000		NA	50
Ethylbenzene	ND	8.3	940		NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND<5.0	ND<100		NA	0.5
Methyl-t-butyl ether (MTBE)	17	120	ND<100		NA	0.5
Toluene	ND	ND<5.0	890		NA	0.5
Xylenes	ND	8.7	3400		NA	0.5
Surrogate Recoveries (%)						
%SS1:	102	101	97			
%SS2:	96	96	96			
%SS3:	99	99	102			
Comments	i	i				

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

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

surrogate diluted out of range or 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 ~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.

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson	Date Sampled: 04/23/07
		Date Received: 04/24/07
	Client Contact: Adrian Angel	Date Extracted 04/24/07
	Client P.O.:	Date Analyzed 04/25/07-05/01/07

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method: SW3510C/SW3550C Analytical methods: SW8015C Work Order: 0704499

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0704499-002A	SB-16-10'	S	ND	1	97
0704499-004A	SB-16-16'	S	ND	1	99
0704499-005A	SB-16-20'	S	ND	1	112
0704499-006A	SB-16-24'	S	ND	1	101
0704499-009A	SB-17-10'	S	ND	1	102
0704499-010A	SB-17-15'	S	ND	1	106
0704499-011A	SB-17-20'	S	ND	1	99
0704499-013A	SB-18-10'	S	17,n	1	99
0704499-014A	SB-18-15'	S	ND	1	94
0704499-015A	SB-18-19'	S	ND	1	99
0704499-017A	SB-18-25'	S	ND	1	114
0704499-018A	SB-16-W	W	ND,i	1	99
0704499-019A	SB-17-W	W	ND,i	1	100
0704499-020A	SB-18-W	W	200,d,i	1	101
0704499-021A	SB-19-W	W	2100,d	1	104

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	1.0	mg/Kg

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and 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; n) stoddard solvent/mineral spirit; o) results are reported on a dry weight basis.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SM3500 Fe B4c

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0704499

EPA Method SM3500-Fe B4c	Extraction SM3500-Fe B4c	BatchID: 27573	Spiked Sample ID: 0704405-002B

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Ferrous Iron	ND	200	103	113	9.30	100	92.5	7.79	70 - 130	20	80 - 120	20

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

NONE

BATCH 27573 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-020C	04/23/07	04/24/07	04/26/07 3:31 PM				

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

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

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

N/A = not applicable to this method.

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

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder 0704499

EPA Method SW8015Cm	Extraction SW5030B				BatchID: 27603				Spiked Sample ID: 0704499-010A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	106	98.9	7.06	104	103	0.844	70 - 130	30	70 - 130	30
MTBE	ND	0.10	92.9	95.8	3.01	117	113	3.24	70 - 130	30	70 - 130	30
Benzene	ND	0.10	95.6	95.4	0.301	109	109	0	70 - 130	30	70 - 130	30
Toluene	ND	0.10	79.2	82	3.27	97.1	98.1	0.961	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	96.7	97.7	1.06	104	110	5.84	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	96.7	96.7	0	107	113	6.06	70 - 130	30	70 - 130	30
%SS:	88	0.10	79	74	6.16	103	108	4.52	70 - 130	30	70 - 130	30

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

NONE

BATCH 27603 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-002A	04/23/07 1:05 PM	04/24/07	04/25/07 2:54 PM	0704499-004A	04/23/07 1:39 PM	04/24/07	04/25/07 5:11 PM
0704499-005A	04/23/07 2:05 PM	04/24/07	04/25/07 5:46 PM	0704499-006A	04/23/07	04/24/07	04/25/07 6:20 PM
0704499-009A	04/23/07 10:45 AM	04/24/07	04/25/07 6:47 PM	0704499-010A	04/23/07 11:00 AM	04/24/07	04/25/07 7:18 PM
0704499-011A	04/23/07 11:10 AM	04/24/07	04/25/07 7:48 PM	0704499-013A	04/23/07 3:00 PM	04/24/07	04/26/07 4:54 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.

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0704499

EPA Method SW8015Cm	Extraction SW5030B	BatchID: 27635	Spiked Sample ID: 0704488-003A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	102	101	1.14	82.8	96.7	15.6	70 - 130	30	70 - 130	30
MTBE	ND	10	105	97.9	7.41	99.4	103	3.42	70 - 130	30	70 - 130	30
Benzene	ND	10	109	103	5.30	83.7	95	12.6	70 - 130	30	70 - 130	30
Toluene	ND	10	106	105	0.979	82.8	91.7	10.3	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	104	103	0.385	99.3	100	0.856	70 - 130	30	70 - 130	30
Xylenes	ND	30	96.3	96	0.347	77.7	92	16.9	70 - 130	30	70 - 130	30
%SS:	86	10	103	100	3.04	102	103	1.20	70 - 130	30	70 - 130	30

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

NONE

BATCH 27635 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-018A	04/23/07	04/27/07	04/27/07 4:18 AM	0704499-019A	04/23/07	04/26/07	04/26/07 3:19 AM
0704499-020A	04/23/07	04/26/07	04/26/07 10:17 PM	0704499-021A	04/23/07	04/26/07	04/26/07 4:26 AM

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

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

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.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder 0704499

EPA Method SW8015Cm	Extraction SW5030B	BatchID: 27639	Spiked Sample ID: 0704499-017A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	94.8	90.8	4.39	110	104	5.44	70 - 130	30	70 - 130	30
MTBE	ND	0.10	114	114	0	104	103	0.477	70 - 130	30	70 - 130	30
Benzene	ND	0.10	93.6	92.5	1.27	111	99.5	11.0	70 - 130	30	70 - 130	30
Toluene	ND	0.10	86.3	87.1	0.907	103	92.1	11.3	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	97.3	97.8	0.454	118	104	12.8	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	96.7	96	0.692	113	103	9.23	70 - 130	30	70 - 130	30
%SS:	90	0.10	90	90	0	106	95	11.3	70 - 130	30	70 - 130	30

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

NONE

BATCH 27639 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-014A	04/23/07 3:05 PM	04/24/07	04/26/07 5:28 PM	0704499-015A	04/23/07 3:15 PM	04/24/07	04/28/07 9:25 AM
0704499-017A	04/23/07	04/24/07	04/25/07 4:02 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.

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Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0704499

EPA Method SW8260B **Extraction SW5030B** **BatchID: 27627** **Spiked Sample ID: 0704473-003A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	103	101	2.21	109	114	4.66	70 - 130	30	70 - 130	30
Benzene	ND	10	105	105	0	113	117	3.83	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	94.4	92.9	1.63	92.8	91.9	0.984	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	90.6	90.9	0.284	96.5	99.4	3.03	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	118	116	2.09	123	124	0.257	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	121	119	1.35	128	127	0.630	70 - 130	30	70 - 130	30
Ethanol	50	500	90	96.3	6.11	96.2	94.4	1.80	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	112	109	2.18	118	122	3.83	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	112	108	3.16	118	123	3.38	70 - 130	30	70 - 130	30
Toluene	ND	10	89.8	88.8	1.10	101	104	2.82	70 - 130	30	70 - 130	30
%SS1:	104	10	98	97	0.529	94	93	1.16	70 - 130	30	70 - 130	30
%SS2:	95	10	99	99	0	102	101	1.10	70 - 130	30	70 - 130	30
%SS3:	99	10	118	117	0.802	116	117	0.680	70 - 130	30	70 - 130	30

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

NONE

BATCH 27627 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-018B	04/23/07	04/26/07	04/26/07 5:52 AM	0704499-019B	04/23/07	04/26/07	04/26/07 6:36 AM
0704499-020B	04/23/07	04/26/07	04/26/07 7:20 AM	0704499-021B	04/23/07	04/26/07	04/26/07 4:40 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.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder 0704499

EPA Method SW8260B	Extraction SW5030B	BatchID: 27634	Spiked Sample ID: 0704487-006A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	0.050	103	102	1.30	98.1	99	0.973	70 - 130	30	70 - 130	30
Benzene	ND	0.050	106	105	1.19	99.2	102	2.51	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	91.8	91.6	0.186	91.9	90	2.02	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	90.3	89.8	0.563	83.3	86.6	3.91	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	119	116	2.84	114	115	0.890	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	121	120	1.48	114	116	1.83	70 - 130	30	70 - 130	30
Ethanol	ND	2.5	96.2	91.6	4.42	100	93.9	6.01	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	111	111	0	105	106	0.925	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	0.050	111	110	1.47	106	108	1.33	70 - 130	30	70 - 130	30
Toluene	ND	0.050	89.1	88.8	0.401	81.3	85.9	5.49	70 - 130	30	70 - 130	30
%SS1:	101	0.050	99	98	1.41	103	99	3.52	70 - 130	30	70 - 130	30
%SS2:	98	0.050	99	99	0	100	99	0.224	70 - 130	30	70 - 130	30
%SS3:	98	0.050	119	119	0	118	119	0.656	70 - 130	30	70 - 130	30

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

NONE

BATCH 27634 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-002A	04/23/07 1:05 PM	04/24/07	04/26/07 4:29 AM	0704499-004A	04/23/07 1:39 PM	04/24/07	04/26/07 5:16 AM
0704499-005A	04/23/07 2:05 PM	04/24/07	04/26/07 6:04 AM	0704499-006A	04/23/07	04/24/07	04/26/07 6:53 AM
0704499-009A	04/23/07 10:45 AM	04/24/07	04/26/07 7:40 AM	0704499-010A	04/23/07 11:00 AM	04/24/07	04/26/07 8:26 AM
0704499-011A	04/23/07 11:10 AM	04/24/07	04/26/07 9:13 AM	0704499-013A	04/23/07 3:00 PM	04/24/07	04/27/07 1:08 PM
0704499-014A	04/23/07 3:05 PM	04/24/07	04/27/07 2:04 PM	0704499-015A	04/23/07 3:15 PM	04/24/07	04/27/07 2:50 PM
0704499-017A	04/23/07	04/24/07	04/26/07 2:25 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.

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Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704499

EPA Method SW8015C	Extraction SW3550C				BatchID: 27601				Spiked Sample ID: 0704436-026A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	12	20	84.4	87.7	2.24	94	92.7	1.46	70 - 130	30	70 - 130	30
%SS:	116	50	102	104	2.14	99	97	1.64	70 - 130	30	70 - 130	30

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

NONE

BATCH 27601 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-002A	04/23/07 1:05 PM	04/24/07	04/25/07 7:35 AM	0704499-004A	04/23/07 1:39 PM	04/24/07	04/25/07 4:56 PM
0704499-005A	04/23/07 2:05 PM	04/24/07	04/25/07 4:09 AM	0704499-006A	04/23/07	04/24/07	04/25/07 8:02 PM
0704499-009A	04/23/07 10:45 AM	04/24/07	05/01/07 3:48 PM	0704499-010A	04/23/07 11:00 AM	04/24/07	04/26/07 6:01 PM

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

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

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

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

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

DHS ELAP Certification N° 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704499

EPA Method SW8015C	Extraction SW3550C				BatchID: 27640				Spiked Sample ID: 0704499-017A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	ND	20	107	108	0.959	114	115	0.995	70 - 130	30	70 - 130	30
%SS:	114	50	108	106	1.57	104	106	1.42	70 - 130	30	70 - 130	30

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

NONE

BATCH 27640 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-011A	04/23/07 11:10 AM	04/24/07	04/25/07 6:04 PM	0704499-013A	04/23/07 3:00 PM	04/24/07	04/25/07 10:31 AM
0704499-014A	04/23/07 3:05 PM	04/24/07	04/25/07 4:09 AM	0704499-015A	04/23/07 3:15 PM	04/24/07	04/25/07 7:11 PM
0704499-017A	04/23/07	04/24/07	04/25/07 7:35 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.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704436

EPA Method SW8021B/8015Cm	Extraction SW5030B				BatchID: 27886				Spiked Sample ID: 0705149-005A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	0.60	98.8	97.7	1.14	98.7	104	5.41	70 - 130	30	70 - 130	30
MTBE	ND	0.10	114	110	3.63	109	119	9.11	70 - 130	30	70 - 130	30
Benzene	ND	0.10	96.1	93.8	2.41	93.5	94.4	0.975	70 - 130	30	70 - 130	30
Toluene	ND	0.10	83.5	81.2	2.76	84.5	87.1	2.93	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	99.5	95.8	3.74	96.3	101	4.58	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	95.3	95.3	0	96.3	96.7	0.345	70 - 130	30	70 - 130	30
%SS:	103	0.10	94.6	95.3	0.833	94.5	97.8	3.42	70 - 130	30	70 - 130	30

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

NONE

BATCH 27886 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-011A	04/20/07 10:30 AM	05/04/07	05/09/07 2:37 AM	0704436-022A	04/20/07 4:30 AM	05/04/07	05/06/07 2:04 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.

DHS ELAP Certification N° 1644

QA/QC Officer

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704436

EPA Method SW8260B	Extraction SW5030B				BatchID: 27874				Spiked Sample ID: 0705141-055A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	0.050	107	97.9	8.60	101	104	3.37	70 - 130	30	70 - 130	30
Benzene	ND	0.050	99.2	89	10.9	91.3	93.8	2.65	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	105	101	3.60	106	101	4.84	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	96.1	92.1	4.20	88.9	98.3	10.0	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	119	111	6.56	111	116	3.99	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	109	101	7.25	100	106	6.15	70 - 130	30	70 - 130	30
Ethanol	ND	2.5	84.8	95.7	12.1	115	91	23.6	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	108	99.8	7.86	99.3	107	7.61	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	0.050	119	111	6.79	112	117	4.72	70 - 130	30	70 - 130	30
Toluene	ND	0.050	89.6	85	5.30	81.1	92.2	12.7	70 - 130	30	70 - 130	30
%SS1:	93	0.050	101	101	0	100	103	2.84	70 - 130	30	70 - 130	30
%SS2:	94	0.050	99	104	4.40	98	106	8.73	70 - 130	30	70 - 130	30
%SS3:	89	0.050	105	108	2.79	102	108	6.22	70 - 130	30	70 - 130	30

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

NONE

BATCH 27874 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-011A	04/20/07 10:30 AM	05/04/07	05/05/07 9:07 PM	0704436-022A	04/20/07 4:30 AM	05/04/07	05/05/07 10:41 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.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0704436

EPA Method SW8015C	Extraction SW3550C	BatchID: 27834	Spiked Sample ID: 0705113-001A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	390	20	NR	NR	NR	104	105	0.331	70 - 130	30	70 - 130	30
%SS:	97	50	98	98	0	113	112	0.364	70 - 130	30	70 - 130	30

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

NONE

BATCH 27834 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-011A	04/20/07 10:30 AM	05/04/07	05/09/07 4:28 PM	0704436-022A	04/20/07 4:30 AM	05/04/07	05/07/07 4:06 PM

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

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

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

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

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

DHS ELAP Certification N° 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
		Date Received: 10/04/07
	Client Contact: Adrian Angel	Date Reported: 10/15/07
	Client P.O.:	Date Completed: 10/15/07

WorkOrder: 0710177

October 15, 2007

Dear Adrian:

Enclosed are:

1). the results of **6** analyzed samples from your **#270852; Williamson's 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

070077 070080

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #07
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☒ Yes ☐ No Email PDF Report: YES

Report To: Adrian Angel	Bill To: Same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	E-Mail: aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132	Fax: (925) 944-2895
Project #: ~~98063~~ 270852	Project Name: Williamson's
Project Location: 3635 73th Avenue Oakland	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other
MW-1		10/3/07	12:35	6	VOA	X						X	X	
MW-2			11:10			X						X	X	
MW-3			11:30			X						X	X	
MW-4			12:45			X						X	X	
MW-5			12:53			X						X	X	
MW-6			1:04			X						X	X	

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	Biological Oxygen Demand (BOD) 405.1	Chemical Oxygen Demand (COD) 415.1	Fe (II) SM3500/200.7 + total Fe	9 Fuel oxygenates (8260)	Total organic carbon + total inorganic carbon	Comments
X	X																X		
X	X																X		
X	X																X		
X	X																X		
X	X													X	X	X	X	X	
X	X													X	X	X	X	X	

Relinquished By:	Date:	Time:	Received By:
	10/3/07	4:10	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

	VOAs	O&G	METALS	OTHER
ICE/t N/a				
GOOD CONDITION yes	PRESERVATION			
HEAD SPACE ABSENT	APPROPRIATE			
DECHLORINATED IN LAB	CONTAINERS yes			
	PERSERVED IN LAB			

HOLD

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0710177 **ClientID: AEL**

☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

Email: aangel@aeiconsultants.com
TEL: (925) 944-2899 FAX: (925) 944-2895
ProjectNo: #270852; Williamson's
PO:

Bill to:
Denise Mockel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
dmockel@aeiconsultants.com

Requested TAT: 5 days

Date Received: **10/04/2007**
Date Printed: **10/05/2007**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0710177-001	MW-1	Water	10/3/07 12:35:00	☐	C				A			A		B		
0710177-002	MW-2	Water	10/3/07 1:13:00	☐	C				A					B		
0710177-003	MW-3	Water	10/3/07 11:20:00	☐	C				A					B		
0710177-004	MW-4	Water	10/3/07 12:45:00	☐	C				A					B		
0710177-005	MW-5	Water	10/3/07 12:53:00	☐	C	D	E	F	A	I	G		H	B		
0710177-006	MW-6	Water	10/3/07 1:04:00	☐	C	D	E	F	A	I	G		H	B		

Test Legend:

1	9-OXYS_W	2	BOD_W	3	COD_W	4	FE2_W	5	G-MBTEX_W
6	IC(C)_W	7	METALSMS_W	8	PREDF REPORT	9	TOC_W	10	TPH(D)_W
11		12							

Prepared by: Rosa Venegas

Comments: sample off hold on 10/04/07

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.

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Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **10/4/07 5:34:27 PM**

Project Name: **#270852; Williamson's**

Checklist completed and reviewed by: Chloe Lam

WorkOrder N°: **0710177** Matrix Water

Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑

Client contacted: Date contacted: Contacted by:

Comments:

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
		Date Received: 10/04/07
	Client Contact: Adrian Angel	Date Extracted: 10/13/07
	Client P.O.:	Date Analyzed 10/13/07

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0710177

Lab ID	0710177-001C	0710177-002C	0710177-003C	0710177-004C	Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3	MW-4		
Matrix	W	W	W	W		
DF	1	10	1	5	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND<5.0	ND	ND<2.5	NA	0.5
t-Butyl alcohol (TBA)	ND	ND<50	ND	ND<25	NA	5.0
1,2-Dibromoethane (EDB)	ND	ND<5.0	ND	ND<2.5	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<5.0	ND	6.4	NA	0.5
Diisopropyl ether (DIPE)	ND	ND<5.0	ND	ND<2.5	NA	0.5
Ethanol	ND	ND<500	ND	ND<250	NA	50
Ethyl tert-butyl ether (ETBE)	ND	ND<5.0	ND	ND<2.5	NA	0.5
Methanol	ND	ND<5000	ND	ND<2500	NA	500
Methyl-t-butyl ether (MTBE)	7.4	77	ND	230	NA	0.5
Surrogate Recoveries (%)						
%SS1:	102	102	105	87		
Comments						

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

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

surrogate diluted out of range or 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 ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; J) analyte detected below quantitation limits; 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.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
		Date Received: 10/04/07
	Client Contact: Adrian Angel	Date Extracted: 10/13/07
	Client P.O.:	Date Analyzed 10/13/07

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0710177

					Reporting Limit for DF =1	
Lab ID	0710177-005C	0710177-006C				
Client ID	MW-5	MW-6				
Matrix	W	W				
DF	10	10			S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<5.0	ND<5.0			NA	0.5
t-Butyl alcohol (TBA)	1300	ND<50			NA	5.0
1,2-Dibromoethane (EDB)	ND<5.0	ND<5.0			NA	0.5
1,2-Dichloroethane (1,2-DCA)	66	6.6			NA	0.5
Diisopropyl ether (DIPE)	5.9	ND<5.0			NA	0.5
Ethanol	ND<500	ND<500			NA	50
Ethyl tert-butyl ether (ETBE)	ND<5.0	ND<5.0			NA	0.5
Methanol	ND<5000	ND<5000			NA	500
Methyl-t-butyl ether (MTBE)	150	210			NA	0.5
Surrogate Recoveries (%)						
%SS1:	96	84				
Comments						

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

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

surrogate diluted out of range or 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 ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; J) analyte detected below quantitation limits; 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.

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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
2500 Camino Diablo, Ste. #200		Date Received: 10/04/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 10/04/07-10/09/07
	Client P.O.:	Date Analyzed: 10/04/07-10/09/07

Biochemical Oxygen Demand (BOD)*

Analytical Method: SM5210B Work Order: 0710177

Lab ID	Client ID	Matrix	BOD	DF
0710177-005D	MW-5	W	ND	1
0710177-006D	MW-6	W	6.9	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	4.0 mg/L	
	S	NA	

* water samples are reported in mg/L.

i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to insufficient sample amount; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
		Date Received: 10/04/07
	Client Contact: Adrian Angel	Date Extracted: 10/10/07
	Client P.O.:	Date Analyzed 10/10/07

Chemical Oxygen Demand (COD)*

Analytical Method: E410.4 Work Order: 0710177

Lab ID	Client ID	Matrix	COD	DF
0710177-005E	MW-5	W	120	1
0710177-006E	MW-6	W	63	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	10 mg/L	
	S	NA	

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

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
		Date Received: 10/04/07
	Client Contact: Adrian Angel	Date Extracted: 10/04/07
	Client P.O.:	Date Analyzed 10/05/07

Ferrous Iron*

Analytical Method: SM3500-Fe B4c Work Order: 0710177

Lab ID	Client ID	Matrix	Ferrous Iron	DF
0710177-005F	MW-5	W	ND	1
0710177-006F	MW-6	W	ND	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	50 µg/L	
	S	NA	

*water samples are reported in ug/L.

i) liquid sample that contains greater than 1 vol. % sediment.

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AEI Consultants	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
2500 Camino Diablo, Ste. #200		Date Received: 10/04/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Extracted: 10/07/07
	Client P.O.:	Date Analyzed: 10/07/07

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0710177

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	5.8	ND	ND	ND	ND	1	95
002A	MW-2	W	8600,a	ND<300	1700	140	520	790	10	119
003A	MW-3	W	ND	ND	ND	ND	ND	ND	1	93
004A	MW-4	W	11,000,a	ND<1500	1100	87	ND<17	1300	33	102
005A	MW-5	W	8800,a	ND<250	2800	74	100	190	50	96
006A	MW-6	W	11,000,a	ND<1200	1400	64	74	320	50	117

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	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; p) see attached narrative.

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
		Date Received: 10/04/07
	Client Contact: Adrian Angel	Date Extracted: 10/04/07
	Client P.O.:	Date Analyzed 10/10/07

Inorganic Carbon as Carbon*

Analytical Method: E415.3 Work Order: 0710177

Lab ID	Client ID	Matrix	IC as C	DF
0710177-005I	MW-5	W	340	5
0710177-006I	MW-6	W	220	5

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	0.7 mg/L	
	S	NA	

* water samples are reported in mg/L, soil/sludge/solid samples in mg/kg.

* Non-Purgeable Organic Carbon=NPOC; TOC=Total Organic Carbon; DOC=Dissolved Organic Carbon; POC=Purgeable Organic Cabon; IC=Inorganic Carbon.

i) liquid sample contains greater than ~1 vol. % sediment.

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
		Date Received: 10/04/07
	Client Contact: Adrian Angel	Date Extracted: 10/04/07
	Client P.O.:	Date Analyzed 10/06/07

Metals*

Extraction method E200.8 Analytical methods E200.8 Work Order: 0710177

Lab ID	Client ID	Matrix	Extraction Type	Iron	DF	% SS
0710177-005G	MW-5	W	TOTAL	4100	1	95
0710177-006G	MW-6	W	TOTAL	760	1	94

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TOTAL	20	µg/L
	S	TOTAL	NA	mg/Kg

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

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

TOTAL = acid digestion.

WET = Waste Extraction Test (STLC).

DI WET = Waste Extraction Test using de-ionized water.

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

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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
		Date Received: 10/04/07
	Client Contact: Adrian Angel	Date Extracted: 10/09/07
	Client P.O.:	Date Analyzed 10/09/07

Total Organic Carbon (TOC)*

Analytical Method: E415.3 Work Order: 0710177

Lab ID	Client ID	Matrix	TOC	DF
0710177-005H	MW-5	W	50	1
0710177-006H	MW-6	W	31	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	0.7 mg/L	
	S	NA	

* water samples are reported in mg/L. Settleable solids and floatable matter are excluded from analysis per E415.3. TOC is analyzed as NPOC.

* TOC = Total Organic Carbon; NPOC = Non-Purgeable Organic Carbon; DOC = Dissolved Organic Carbon; POC = Purgeable Organic Cabon; IC = Inorganic Carbon; TC = Total Carbon.

h) a lighter than water immiscible sheen/product is present - sheen carbon content not included in result; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to matrix interference; k) sample was filtered using 0.2um filter.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270852; Williamson's	Date Sampled: 10/03/07
		Date Received: 10/04/07
	Client Contact: Adrian Angel	Date Extracted: 10/04/07
	Client P.O.:	Date Analyzed 10/07/07-10/10/07

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method SW3510C Analytical methods SW8015C Work Order: 0710177

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0710177-001B	MW-1	W	ND	1	91
0710177-002B	MW-2	W	1500,d,b	1	116
0710177-003B	MW-3	W	ND	1	77
0710177-004B	MW-4	W	2000,d	1	75
0710177-005B	MW-5	W	680,d	1	86
0710177-006B	MW-6	W	1400,d,b	1	75

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and 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/jet fuel range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0710177

EPA Method SW8260B	Extraction SW5030B				BatchID: 31124			Spiked Sample ID: 0710192-001A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	98.5	96.2	2.29	96.6	90.6	6.35	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	101	96.8	3.80	98.5	94.1	4.53	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	115	109	5.02	113	114	0.573	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	96.4	94	2.52	96.9	92.2	4.98	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	108	104	3.78	105	99.8	5.06	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	97.4	92.5	5.18	95.1	90.3	5.20	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	107	98.2	8.15	105	100	4.74	70 - 130	30	70 - 130	30
%SS1:	106	10	101	96	5.16	102	95	6.89	70 - 130	30	70 - 130	30

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

NONE

BATCH 31124 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-001C	10/03/07 12:35 PM	10/13/07	10/13/07 1:30 AM	0710177-002C	10/03/07 1:13 PM	10/13/07	10/13/07 2:22 AM
0710177-003C	10/03/07 11:20 AM	10/13/07	10/13/07 3:10 AM	0710177-004C	10/03/07 12:45 PM	10/13/07	10/13/07 3:59 AM
0710177-005C	10/03/07 12:53 PM	10/13/07	10/13/07 4:46 AM	0710177-006C	10/03/07 1:04 PM	10/13/07	10/13/07 5:33 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.

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QC SUMMARY REPORT FOR SM5210B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0710177

EPA Method SM5210B	Extraction SM5210B	BatchID: 31091	Spiked Sample ID: N/A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
BOD	N/A	198	N/A	N/A	N/A	98.5	98	0.514	N/A	N/A	80 - 120	16

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

NONE

BATCH 31091 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005D	10/03/07 12:53 PM	10/04/07	10/11/07 2:02 PM	0710177-006D	10/03/07 1:04 PM	10/04/07	10/11/07 2:38 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.

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QC SUMMARY REPORT FOR SM5220D

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0710177

EPA Method E410.4	Extraction E410.4				BatchID: 31125			Spiked Sample ID: 0710177-006E			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
COD	63	400	96.7	98.5	1.60	96.7	94.8	1.89	80 - 120	20	90 - 110	20

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

NONE

BATCH 31125 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005E	10/03/07 12:53 PM	10/10/07	10/10/07 4:01 PM	0710177-006E	10/03/07 1:04 PM	10/10/07	10/10/07 4:07 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.

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QC SUMMARY REPORT FOR SM3500 Fe B4c

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0710177

EPA Method SM3500-Fe B4c	Extraction SM3500-Fe B4c	BatchID: 31126	Spiked Sample ID: 0710177-006F

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Ferrous Iron	ND	200	96.9	99.3	2.53	91.9	99.3	7.79	70 - 130	20	80 - 120	20

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

NONE

BATCH 31126 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005F	10/03/07 12:53 PM	10/04/07	10/05/07 4:01 PM	0710177-006F	10/03/07 1:04 PM	10/04/07	10/05/07 4:07 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 applicable to this method.

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

DHS ELAP Certification N° 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0710177

EPA Method SW8021B/8015Cm **Extraction SW5030B** **BatchID: 31107** **Spiked Sample ID: 0710173-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	71.8	76.6	6.51	77.3	75.8	1.99	70 - 130	30	70 - 130	30
MTBE	ND	10	109	105	4.34	108	112	3.59	70 - 130	30	70 - 130	30
Benzene	ND	10	103	97.8	5.57	97.8	97.9	0.148	70 - 130	30	70 - 130	30
Toluene	ND	10	114	108	5.22	109	108	0.984	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	111	105	5.09	106	105	1.77	70 - 130	30	70 - 130	30
Xylenes	ND	30	113	110	2.99	113	110	2.99	70 - 130	30	70 - 130	30
%SS:	95	10	103	98	4.64	96	97	1.52	70 - 130	30	70 - 130	30

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

NONE

BATCH 31107 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-001A	10/03/07 12:35 PM	10/07/07	10/07/07 1:13 PM	0710177-002A	10/03/07 1:13 PM	10/07/07	10/07/07 1:14 AM
0710177-003A	10/03/07 11:20 AM	10/07/07	10/07/07 2:18 AM	0710177-004A	10/03/07 12:45 PM	10/07/07	10/07/07 1:44 AM
0710177-005A	10/03/07 12:53 PM	10/07/07	10/07/07 4:44 AM	0710177-006A	10/03/07 1:04 PM	10/07/07	10/07/07 5:14 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.

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QC SUMMARY REPORT FOR E415.3

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0710177

EPA Method E415.3	Extraction E415.3				BatchID: 31127			Spiked Sample ID: 0710177-006I			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
IC as C	220	10	NR	NR	NR	96	96.8	0.830	70 - 130	20	80 - 120	20

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

NONE

BATCH 31127 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005I	10/03/07 12:53 PM	10/04/07	10/10/07 3:35 PM	0710177-006I	10/03/07 1:04 PM	10/04/07	10/10/07 3:42 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 applicable to this method.

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

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0710177

EPA Method SW8015C **Extraction SW3510C** **BatchID: 31093** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	N/A	1000	N/A	N/A	N/A	98.8	120	19.0	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	93	113	19.6	N/A	N/A	70 - 130	30

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

NONE

BATCH 31093 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-001B	10/03/07 12:35 PM	10/04/07	10/09/07 9:53 PM	0710177-002B	10/03/07 1:13 PM	10/04/07	10/07/07 3:24 PM
0710177-003B	10/03/07 11:20 AM	10/04/07	10/07/07 9:46 AM	0710177-004B	10/03/07 12:45 PM	10/04/07	10/07/07 10:53 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.

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QC SUMMARY REPORT FOR E200.8

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0710177

EPA Method E200.8 **Extraction E200.8** **BatchID: 31098** **Spiked Sample ID: 0710176-001B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Iron	170	100	104	106	0.552	110	109	0.917	70 - 130	20	70 - 130	20
%SS:	110	750	110	111	0.713	106	109	2.90	70 - 130	20	70 - 130	20

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

NONE

BATCH 31098 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005G	10/03/07 12:53 PM	10/04/07	10/06/07 10:16 AM	0710177-006G	10/03/07 1:04 PM	10/04/07	10/06/07 10:22 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 applicable to this method.

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

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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0710177

EPA Method SW8015C **Extraction SW3510C** **BatchID: 31123** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	N/A	1000	N/A	N/A	N/A	104	105	1.50	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	90	89	0.519	N/A	N/A	70 - 130	30

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

NONE

BATCH 31123 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005B	10/03/07 12:53 PM	10/04/07	10/10/07 6:16 PM	0710177-006B	10/03/07 1:04 PM	10/04/07	10/09/07 11:20 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.

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QC SUMMARY REPORT FOR E415.3

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0710177

EPA Method E415.3 **Extraction E415.3** **BatchID: 31014** **Spiked Sample ID 0710054-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	mg/L	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TOC	2.6	50	103	103	0	60	106	106	0	70 - 130	20	80 - 120	20

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

BATCH 31014 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005H	10/03/07 12:53 PM	10/09/07	10/09/07 4:19 PM	0710177-006H	10/03/07 1:04 PM	10/09/07	10/09/07 4:39 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 applicable to this method.

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