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February 20, 2008

## SITE INVESTIGATION REPORT AND PILOT TEST WORKPLAN

3635 13<sup>th</sup> Avenue Oakland, California 94602

Project No. 270852 ACEHS Toxics Case # RO000159

Prepared On Behalf Of

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Prepared By

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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 13<sup>th</sup> 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 13<sup>th</sup> 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 13<sup>th</sup> 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<sup>TM</sup> 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 <sup>3</sup>/<sub>4</sub>" 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 <sup>3</sup>/<sub>4</sub>" 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  $\mu$ g/L to 210,000  $\mu$ g/L. TPH-d was detected in six samples at concentrations ranging from 200  $\mu$ g/L to 490,000  $\mu$ g/L. Benzene was detected in seven samples at concentrations ranging from 0.96  $\mu$ g/L to 4,200  $\mu$ g/L. Toluene was detected in four samples at concentrations ranging from 230  $\mu$ g/L to 890  $\mu$ g/L. Ethylbenzene was detected in five samples at concentrations ranging from 8.3  $\mu$ g/L to 2,100  $\mu$ g/L. Xylenes was detected in only one sample, at a concentration of 81  $\mu$ g/L. TBA was detected in one sample at a concentration of 81  $\mu$ g/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  $\mu$ g/L, 11,000  $\mu$ g/L, 8,800  $\mu$ g/L, and 11,000  $\mu$ g/L, respectively. TPH-d was detected in the same samples at concentrations of 1,500  $\mu$ g/L, 2,000  $\mu$ g/L, 680  $\mu$ g/L, and 1,400  $\mu$ g/L, respectively. BTEX was detected in wells MW-2, MW-4, MW-5, and MW-6 at maximum concentrations of 2,800  $\mu$ g/L, 140  $\mu$ g/L, 520  $\mu$ g/L, and 1,300  $\mu$ g/L, respectively. TBA was detected in MW-5 at a concentration of 1,300  $\mu$ g/L. 1,2-Dichloroethane (1,2-DCA) was detected in MW-4 through MW-6 at concentrations of 6.4  $\mu$ g/L, 66  $\mu$ g/L, and 6.6  $\mu$ g/L, respectively. Diisopropyl ether (DIPE) was detected in MW-1, MW-2, MW-4, MW-5, and MW-6 at concentrations of 7.4  $\mu$ g/L, 77  $\mu$ g/L, 230  $\mu$ g/L, 150  $\mu$ g/L, and 210  $\mu$ g/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  $\mu$ g/L, 4,100  $\mu$ g/L, 340 mg/L, and 50  $\mu$ g/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  $\mu$ g/L, 760  $\mu$ g/L, 220 mg/L, and 31  $\mu$ g/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 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 13<sup>th</sup> 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 <sup>1</sup>/<sub>4</sub> 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.

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

Exhibit 1: Nearby Wells

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 13<sup>th</sup> 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 8<sup>1</sup>/<sub>4</sub> 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<sup>®</sup> 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 13<sup>th</sup> 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  $\frac{1}{4}$ " 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  $\frac{3}{4}$ " 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 13<sup>th</sup> 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

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

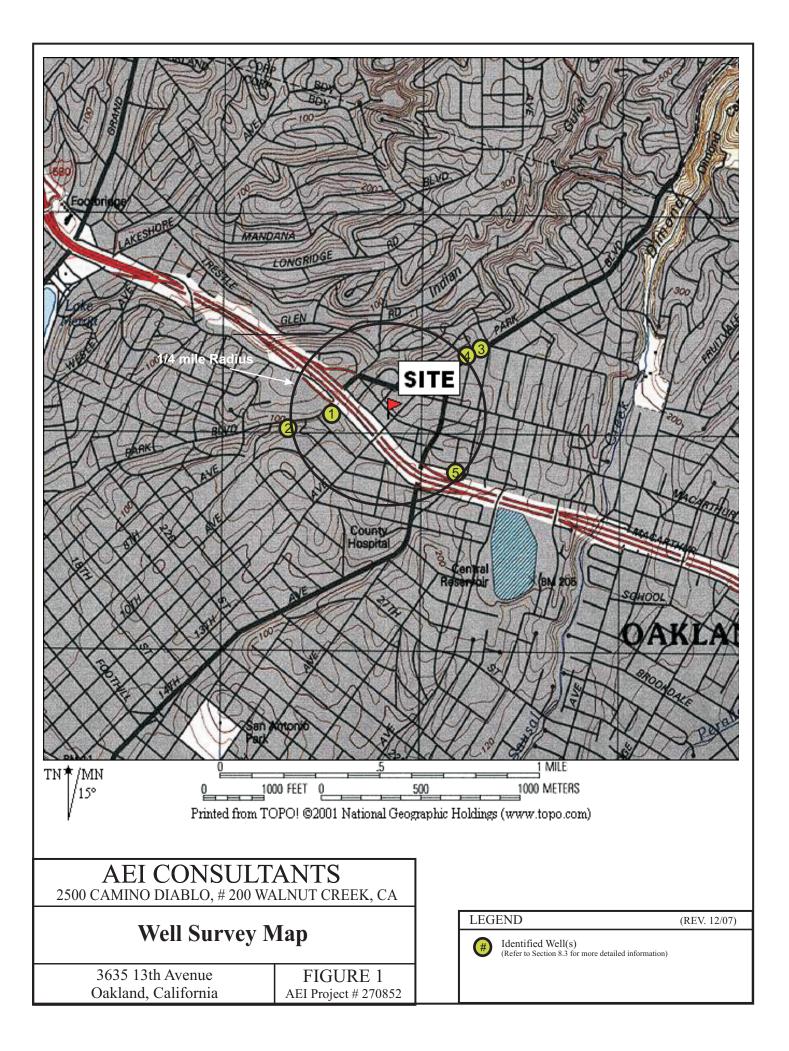
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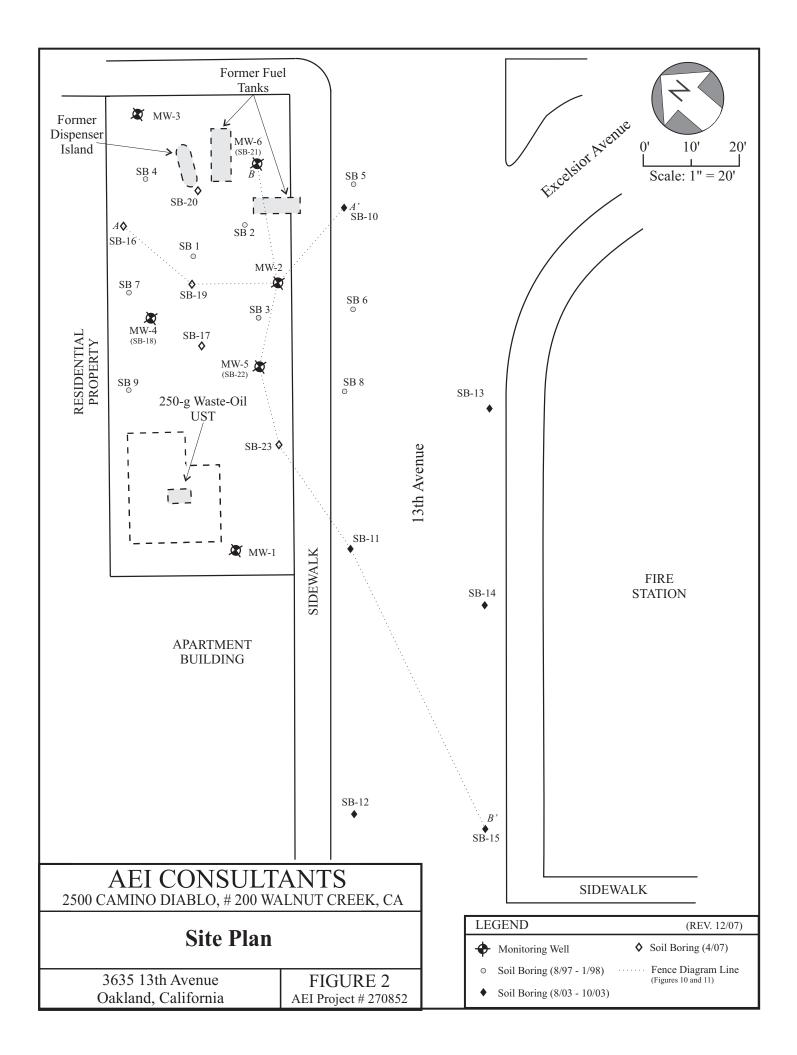
Site Investigation Report and Pilot Test Workplan AEI Project No. 270852 ACHCSA Toxics Case # RO0000159 February 20. 2008 Page 16

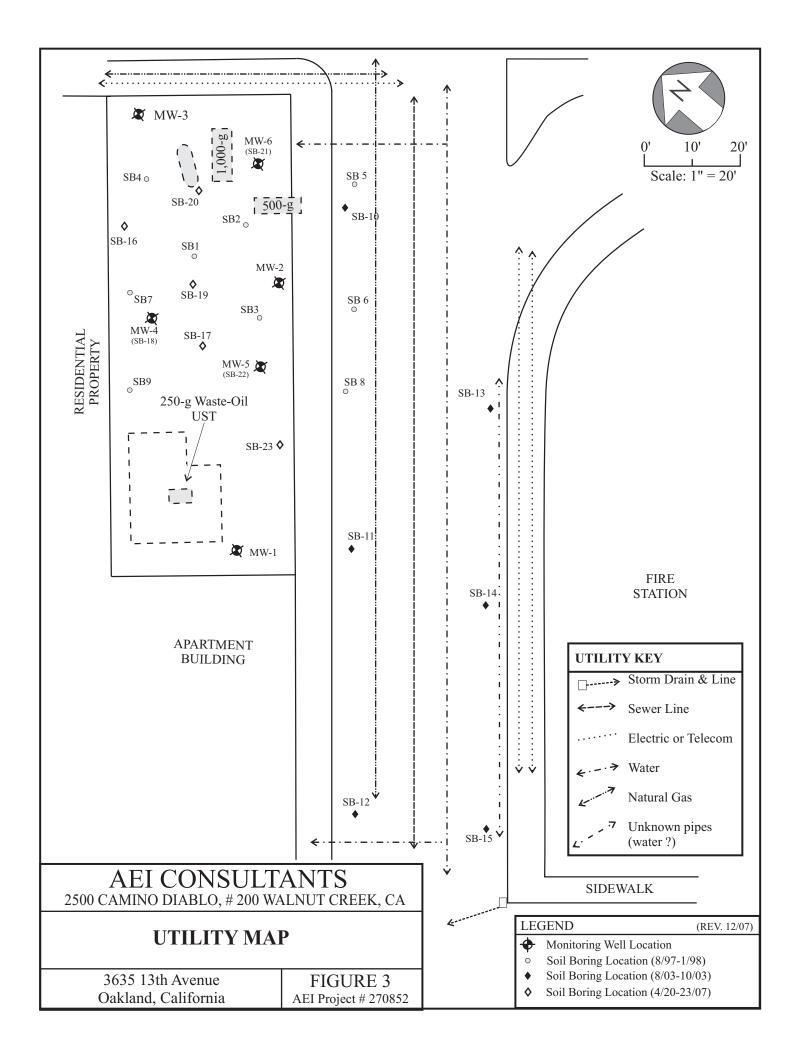
FRED REC McIntyre, P/G. REA Senior Project Manager

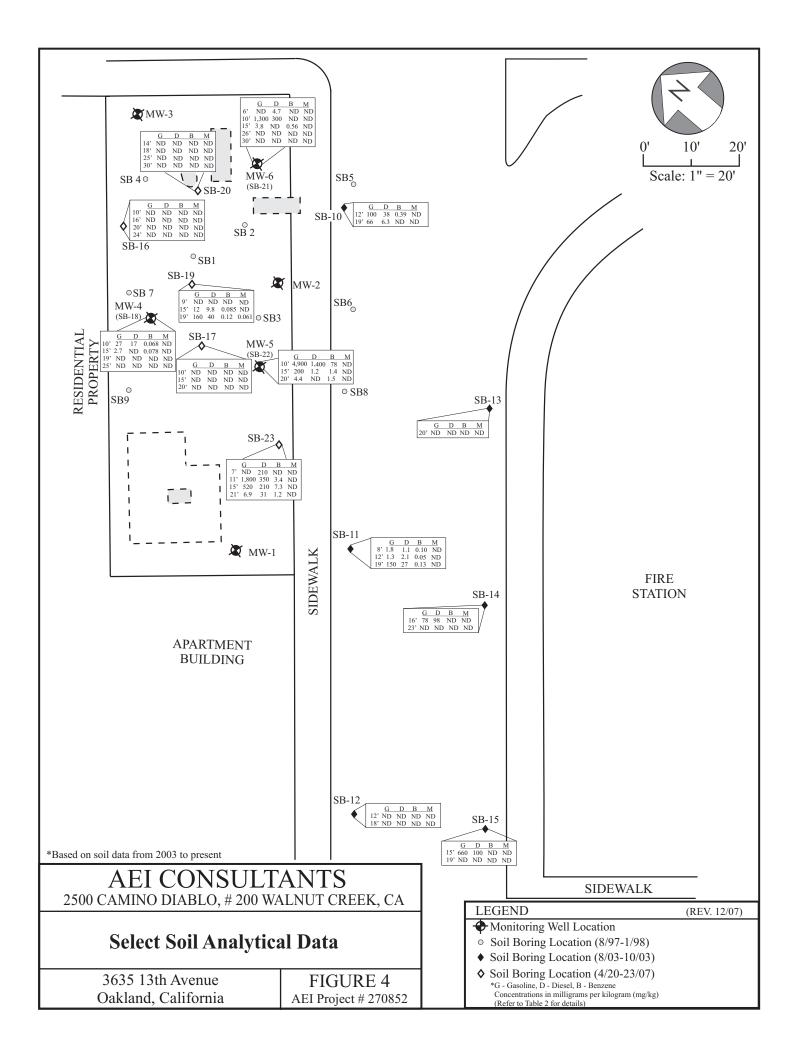


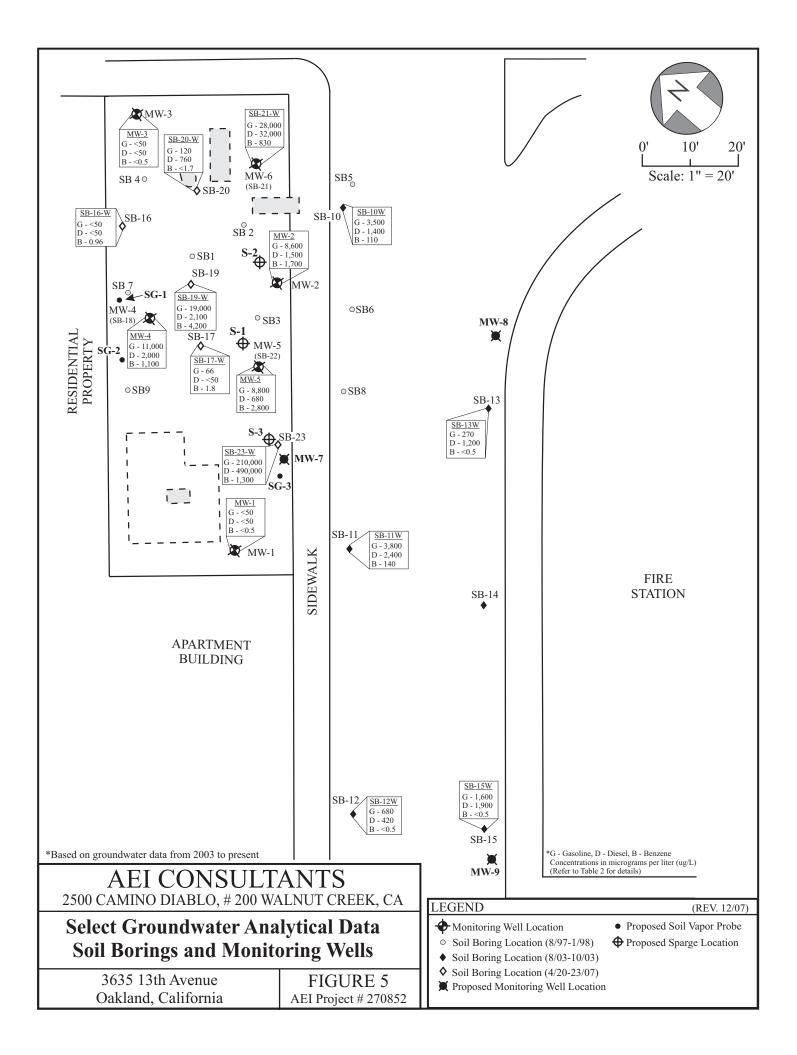
**FIGURES** 

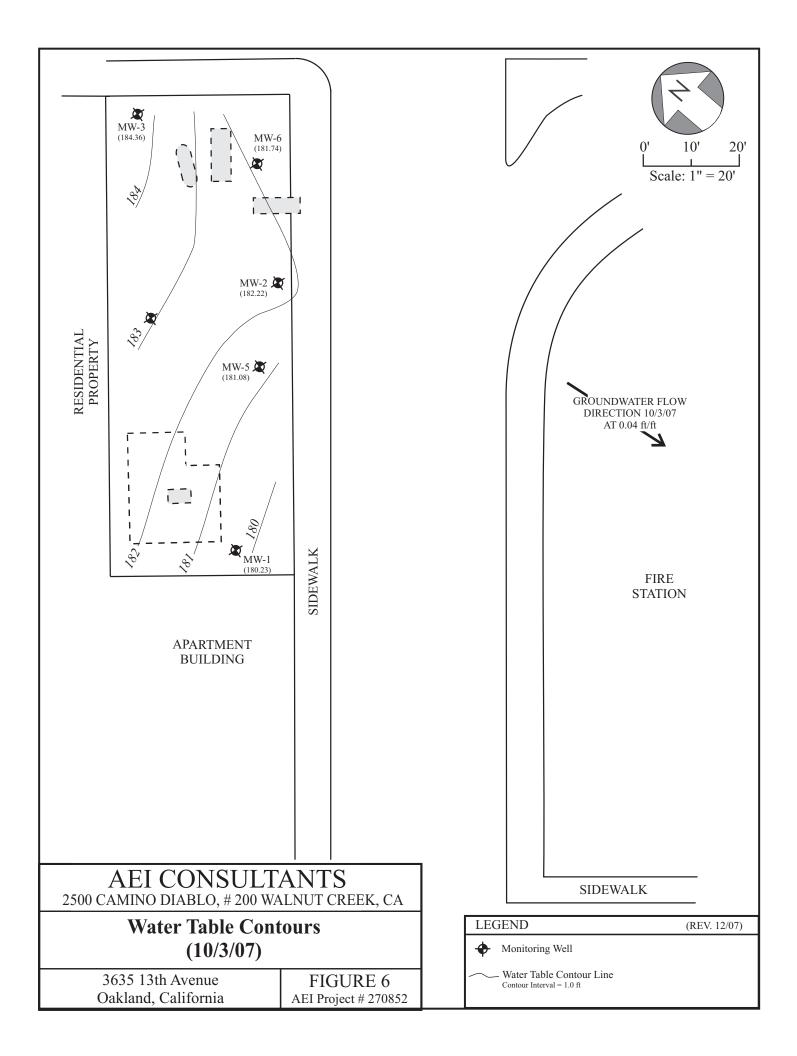


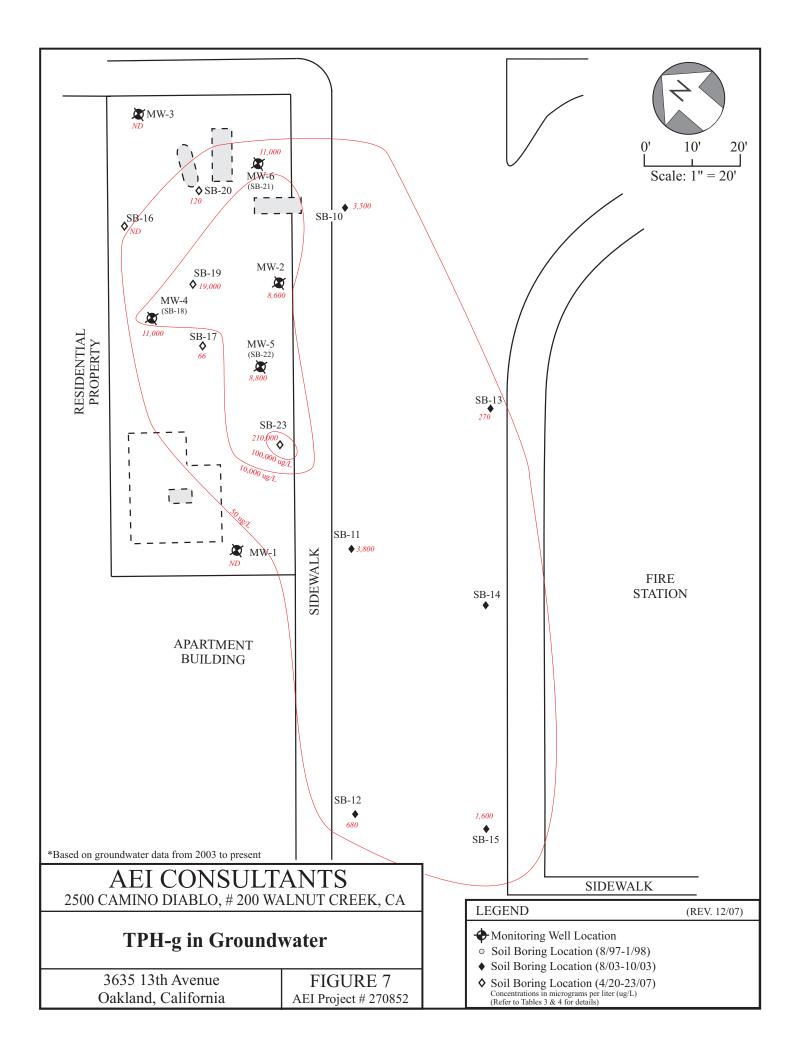


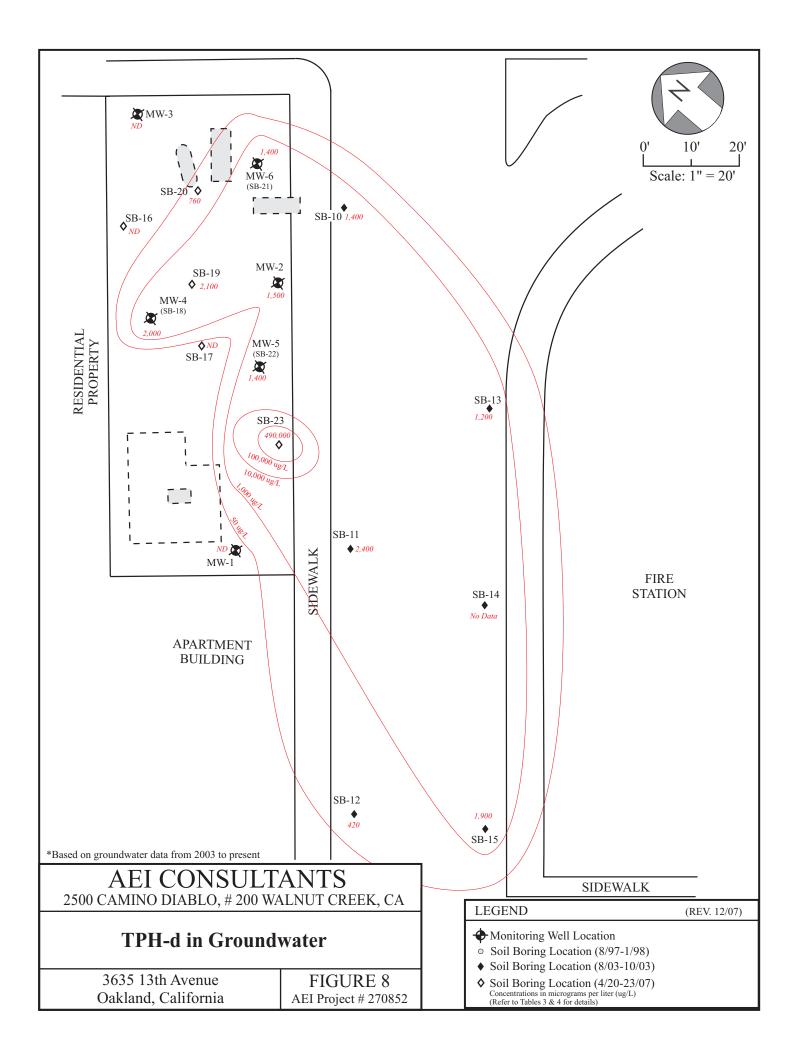


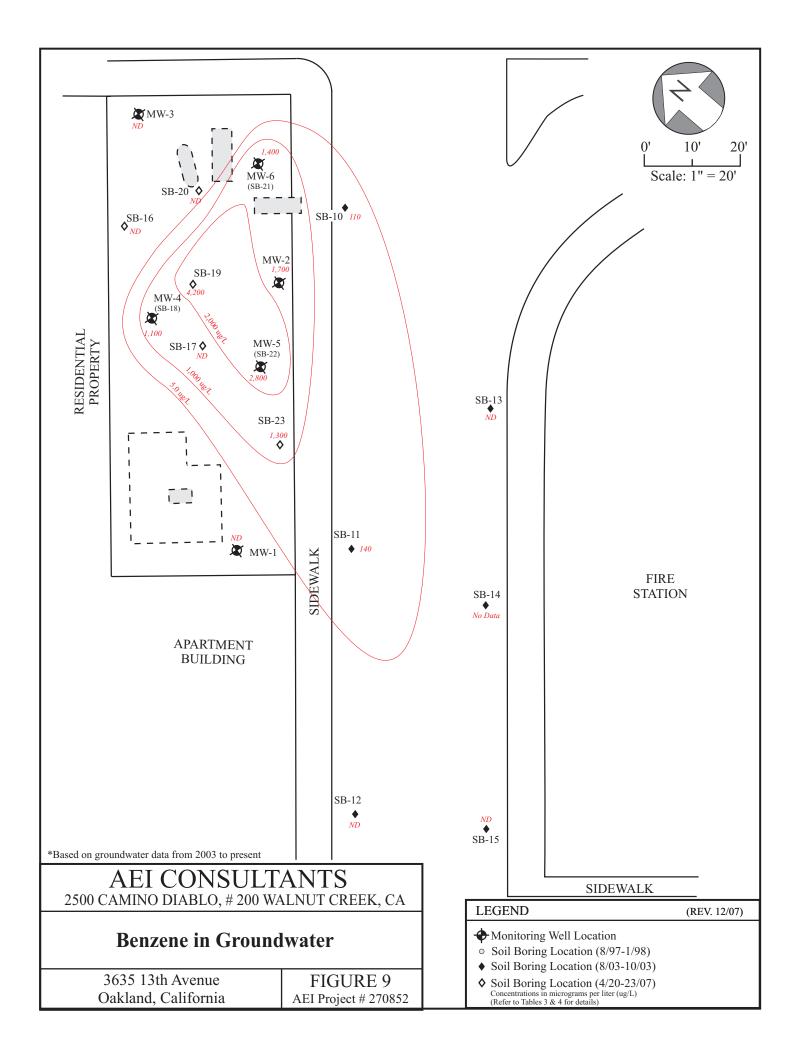


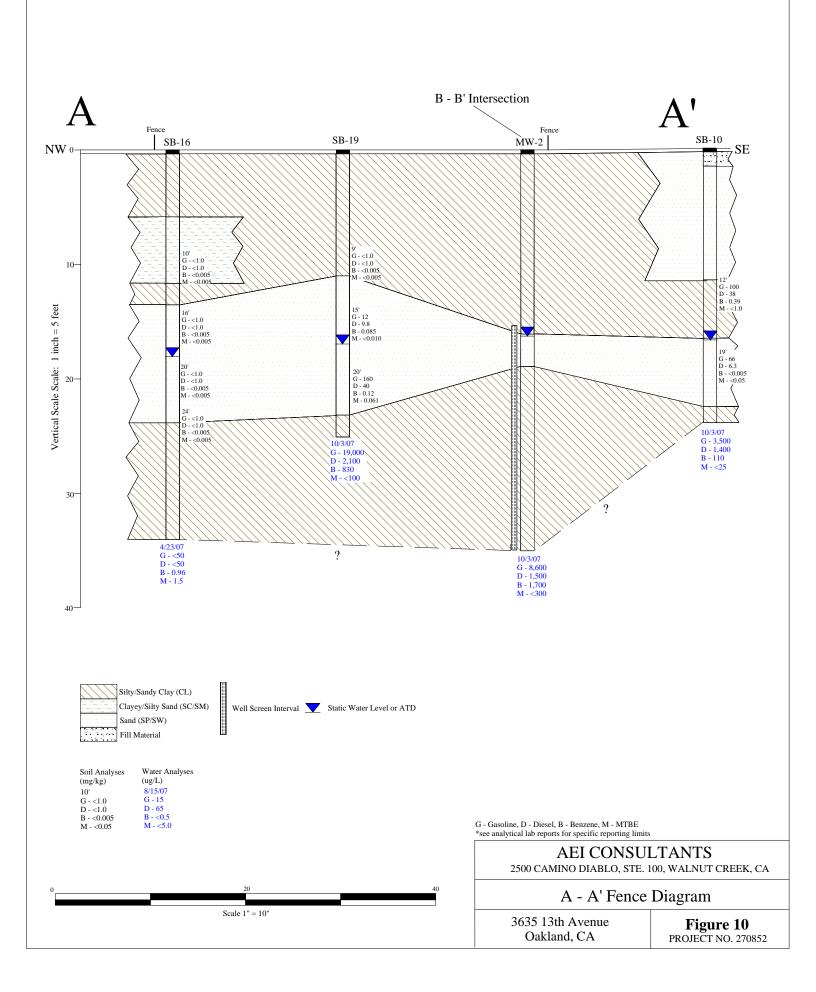


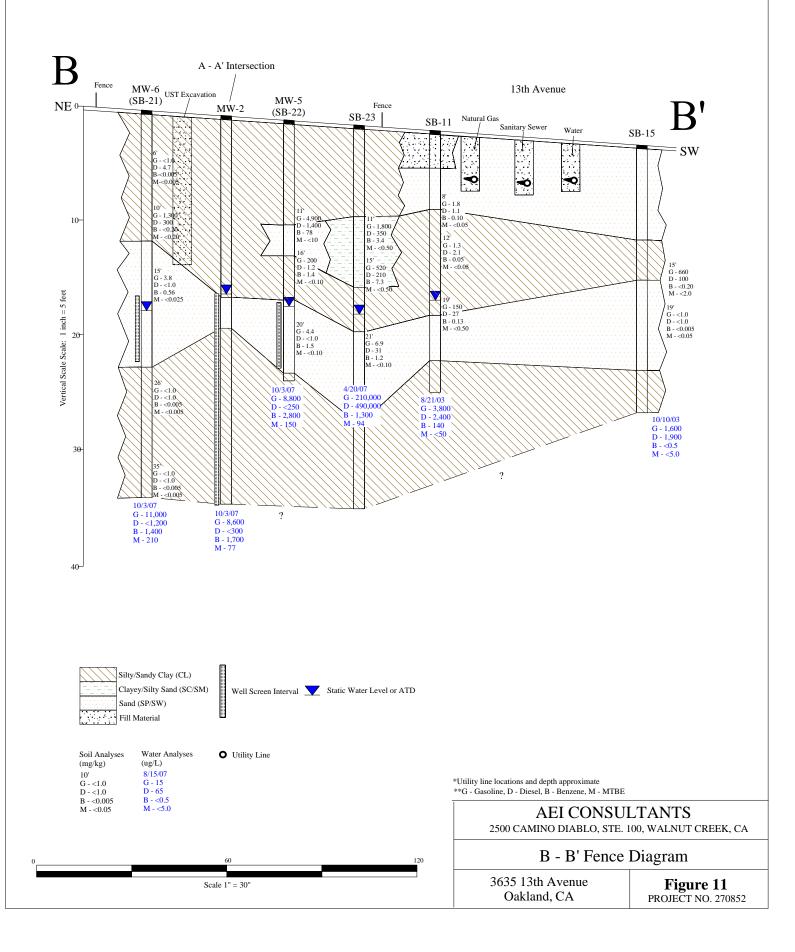




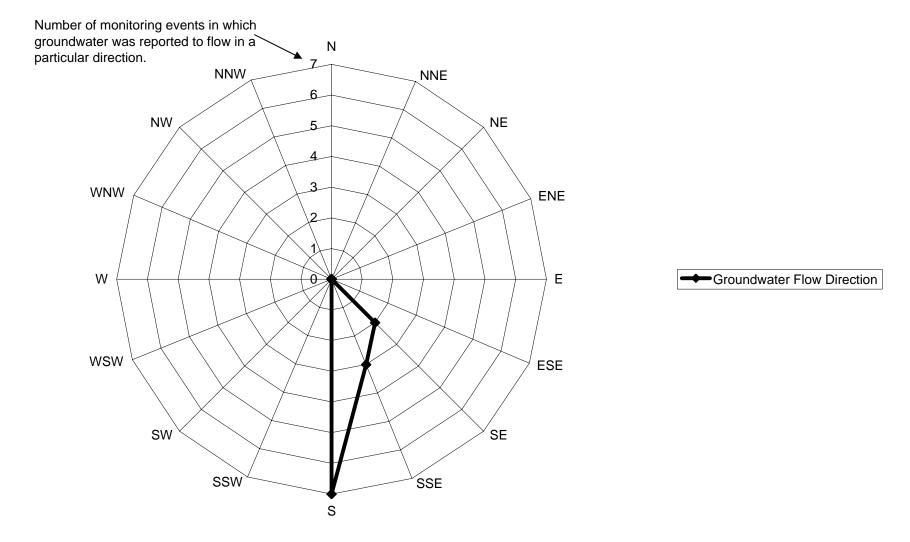








#### Figure 12 - Historical Groundwater Flow Direction (2/96 to 10/07) 3635 13th Avenue, Oakland, CA



TABLES

Table 1
3635 13th Avenue, Oakland, CA
<b>Monitoring Well Construction Details</b>

Well ID	Date	Top of	Well	Slotted	Slot	Sand	Sand	Bentonite	Grout
	Drilled	Casing	Depth	Casing	Size	Interval	Size	Interval	Interval
		Elevation							
		(ft amsl)	(ft)	(ft)	(in)	(ft)		(ft)	(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
<u>Notes:</u> ft amsl = fee	et above mea	n sea level							

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

		TPH-g	TPH-d	Benzene	Toluene	EB	Xylenes	MTBE	TBA	<b>Other Fuel Additives</b>
Sample ID	Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EPA Me	thod 8015			EPA	260B			
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< td=""></mdl<>
SB-16-16'	4/23/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-16-20'	4/23/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-16-24'	4/23/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
				0.000	0.000	0.000	0.000	0.000	0.00	

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

		TPH-g	TPH-d	Benzene	Toluene	EB	Xylenes	MTBE	TBA	Other Fuel Additives
Sample ID	Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EPA Met	thod 8015			EPA	A Method 802		260B	
SB-17-10'	4/23/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-17-15'	4/23/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-17-20'	4/23/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	0.0052	< 0.05	<mdl< td=""></mdl<>
SB-18-10'	4/23/2007	27	17	0.068	< 0.005	0.018	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-18-15'	4/23/2007	2.7	<1.0	0.078	< 0.005	0.014	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-18-19'	4/23/2007	<1.0	<1.0	0.013	< 0.005	< 0.005	< 0.005	0.022	0.052	<mdl< td=""></mdl<>
SB-18-25'	4/23/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	0.011	< 0.05	<mdl< td=""></mdl<>
SB-19-9'	4/20/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-9-15'	4/20/2007	12	9.8	0.085	< 0.010	0.26	0.020	< 0.010	< 0.10	<mdl< td=""></mdl<>
SB-19-20'	4/20/2007	160	40	0.12	< 0.010	0.28	0.082	0.061	< 0.10	<mdl< td=""></mdl<>
SB-20-14'	4/20/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	0.0085	< 0.05	<mdl< td=""></mdl<>
SB-20-18'	4/20/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	0.0095	< 0.05	<mdl< td=""></mdl<>
SB-20-25'	4/20/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-20-30'	4/20/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-21-6'	4/20/2007	<1.0	4.7	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-21-10'	4/20/2007	1,300	300	< 0.20	< 0.20	5.2	1.0	< 0.20	<2.0	<mdl< td=""></mdl<>
SB-21-15'	4/20/2007	3.8	<1.0	0.56	< 0.025	0.086	0.056	< 0.025	< 0.025	<mdl< td=""></mdl<>
SB-21-26'	4/20/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-21-35'	4/20/2007	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<mdl< td=""></mdl<>
SB-22-11'	4/20/2007	4,900	1,400	78	280	150	830	<10	<100	<mdl< td=""></mdl<>
SB-22-16'	4/20/2007	200	1.20	1.4	0.28	0.27	1.2	< 0.10	<1.0	<mdl< td=""></mdl<>
SB-22-20'	4/20/2007	4.4	<1.0	1.5	< 0.10	< 0.10	< 0.10	< 0.10	<1.0	<mdl< td=""></mdl<>
SB-23-7'	4/20/2007	<1.0	210	< 0.20	< 0.20	4.8	11	< 0.20	<2.0	<mdl< td=""></mdl<>
SB-23-11'	4/20/2007	1,800	350	3.4	1.2	11	56	< 0.50	<5.0	<mdl< td=""></mdl<>
SB-23-15'	4/20/2007	520	210	7.3	6.5	10	53	< 0.50	<5.0	<mdl< td=""></mdl<>
SB-23-21'	4/20/2007	6.9	31	1.2	< 0.10	0.12	< 0.10	< 0.10	<1.0	<mdl< td=""></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

< - less than

\*Method 8260 performed for BTEX and Fuel Additives for samples collected on and after 4/20/07

		TPH-g	TPH-d	MTBE	Benzene	Toluene	EB	Xylenes	TBA	<b>Other Fuel Additives</b>
Sample ID	Date	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
		EPA Met	hod 8015			Eł	PA 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< td=""></mdl<>
SB-17-W	4/23/2007	66	<50	17	1.8	< 0.5	< 0.5	<0.5	< 5.0	<mdl< td=""></mdl<>
SB-18-W	4/23/2007	650	200	120	51	<5.0	8.3	8.7	< 5.0	<mdl< td=""></mdl<>
SB-19-W	4/23/2007	19,000	2,100	<100	4,200	890	940	3,400	< 5.0	<mdl< td=""></mdl<>
SB-20-W	4/20/2007	120	760	81	<1.7	<1.7	<1.7	<1.7	81	<mdl< td=""></mdl<>
SB-21-W	4/20/2007	28,000	32,000	<50	830	230	840	1,800	<50	<mdl< td=""></mdl<>
SB-22-W	4/20/2007	15,000	4,100	90	1,300	470	160	700	<500	<mdl< td=""></mdl<>
SB-23-W	4/20/2007	210,000	490,000	94	1,300	430	2,100	6,700	<500	<mdl< td=""></mdl<>
MDL		50	50	5.0 / 0.5	0.5	0.5	0.5	0.5		

Table 33635 13th Avenue, Oakland, CAGroundwater Sample Analytical Results: Soil Borings

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	<b>TPH-g</b> (ug/L) EPA Meth	<b>TPH-d</b> (ug/L) od 8015M	<b>TOG</b> (ug/L) EPA 5520	MTBE (ug/L)	Benzene (ug/L) EPA	Toluene (ug/L) Method 8020	<b>E-benzene</b> (ug/L) / 8021	Xylenes (ug/L)
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
(12 20)	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	190.32	<50	<50	<0.5 <5.0	<5.0	<0.5	<0.5	<0.5 <0.5	<0.5
	6/19/1990	194.75	13.00	181.13	630	400	<5.0 <5.0	< <u>5.0</u> 15	25	<0.3 9.7	100	<0.5 14
		194.75		181.08								
	1/24/2002		9.53		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	12.45	180.48	<30 350	<30 75	-	<5.0 <5.0	<0.5 14	<0.5	<0.5 23	<0.5 60
	4/6/2004	198.93	14.00	184.95	<50	<50	-	<5.0 <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	198.93 201.46	14.45	184.48 184.36	<50 < <b>50</b>	<50	-	<5.0	<0.5 < <b>0.5</b>	<0.5	<0.5	<0.5 < <b>0.5</b>
	10/3/2007	201.40	17.10	184.30	<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)

		TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	МТВЕ
Well ID	Date	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
					EF	A Method 82	60			
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

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

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) EPA Methods	<b>Fe</b> (ug/L) E415.3/E200.8	IC (mg/L)	TOC (ug/L)
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 literug/L = micrograms per liter

# APPENDIX A

Permits

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

PUBLIC	399 Elmhurst Street Hayward, CA 94544-13 Telephone: (510)670-6633 Fax:(5				
Application Approved	l on: 04/09/2007 By jamesy		Numbers: W2007-0512 //20/2007 to 04/20/2007		
Application Id: Site Location:	1175899072270 2625 13th Avenue	City of Project Site:Oakland			
Project Start Date:	3635 13th Avenue 04/20/2007	Completion Date:04/20/2007			
Applicant:	AEI Consultants - Adrian Angel	Phone: 925-283-6000			
Property Owner:	2500 Camino Diablo, Walnut Creek, CA 94597 John Williamson 3635 13th Avenue, Oakland, CA 94602	<b>Phone:</b> 510-530-2993			
Client: Contact:	** same as Property Owner ** Adrian Angel	Phone: 925-283-6000 Cell: 831-331-3547			
	Receipt Number: WR2007-0157 Payer Name : Robert F. Flory		\$200.00 \$200.00 <b>PAID IN FULL</b>		
Works Requesting Pe	rmits:				
Borehole(s) for Geo Pr	obes-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-	04/09/2007	07/19/2007	8	2.75 in.	30.00 ft
0512					

#### **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 PUBLIC 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 City of Project Site:Oakland Application Id: 1187392422190 Site Location: 3635 13th Avenue **Project Start Date:** 09/07/2007 Completion Date:09/07/2007 Applicant: AEI Consultants - Adrian Angel Phone: 925-283-6000 2500 Camino Diablo, Walnut Creek, CA 94597 **Property Owner:** Phone: 510-530-2993 John Williamson 3906 Laguna Avenue, Oakland, CA 94602 Client: \*\* same as Property Owner \*\* Contact: Adrian Angel Phone: 925-283-6000 Cell: 831-331-3547

	Total Due:	\$900.00
Receipt Number: WR2007-0379		\$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

#### 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.

Work Total: \$900.00

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

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

# Log of Boring SB-16

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

Depth, feet	Sample Type	e e	USCS Symbol	Graphic Log		PID Reading, ppm	
Depth	Samp	Sample Number		Graph	MATERIAL DESCRIPTION	PID R ppm	REMARKS AND OTH TESTS
_ <b>`</b> _			Other CL		Concrete		
					_ Silty Clay, dark brown to black, low plasticity, moderately stiff, dry		
					✓ increasing in sand content		
	$\overline{}$	SB-16-5'				<1	
- 5	$\sim$	SD-10-5			$ \nabla$ color change to tannish brown		
			SP		Clayey Sand, minor silt, tannish brown, moderately dense, fine to medium		
- 10	$\ge$	SB-16-10'				<1	
1 1							
] ]	$\ge$	SB-16-13'	CL		Silty Clay, brown, low to moderate plasticity, stiff, moist	<1	
			00				
- 15			SP		Sand, tannish brown, moderately dense, fine to medium sand grains,		
	$\ge$	SB-16-16'				<1	
					V becoming wet		DTW = 17 feet bgs after
							hours
	$\leq$	SB-16-20'	SP		Sand, tannish brown, medium grained, poorly graded, saturated	<1	
	$\times$	SB-16-24'	SP		Sand, tannish brown, fine to medium grained, wet	<1	
25		5D-10-24	CL		<ul> <li>Silty Clay, dark brown to black, moderate plasticity, moist to slightly moist</li> </ul>		
- 25			02		- Sity Clay, dark brown to black, moderate plasticity, moist to slightly moist -		
	$\ge$	SB-16-28'				<1	
- 30							
- 35					Bottom of Boring at 35 feet bgs		
] ]							
40					······		
							Figure

# Log of Boring SB-17

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

	Depth, feet Sample Tvpe	ple ber	USCS Symbol	Graphic Log		PID Reading, ppm	
	Dept Sam	Sample Number		Grap	MATERIAL DESCRIPTION	DID	REMARKS AND OTHEI TESTS
-			Other CL		Concrete Silty Clay, dark brown to black, low plasticity, moderately stiff, dry		
	5  5  	≤ SB-17-5'				<1	
-	_		SP		Sand, minor silt and clay, tannish brown, moderately dense, moist		
10  -	0-× -	≤ SB-17-10'				<1	
-	F		CL SP		Silty Clay, brown, low to moderate plasticity, stiff, moist		
	5- <b>&gt;</b> -	≤ SB-17-15'			<ul> <li>Sand, tannish brown, moderately dense, fine to medium sand grains,</li> <li> moist to very moist</li> <li></li> </ul>	<1	DTW = 15.5 feet bgs after hour
-	_				→ becoming wet		
20  -	0 - X - - -	SB-17-20	SP			<1	
25 	<b>5</b> - - -		CL		Sandy Clay, dark brown to black, minor silt, moderate plasticity, moist to		
30 	0				Bottom of Boring at 30 feet bgs		
3:	5 -						
40	- - 0						
							Figure

# Log of Boring SB-19

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

Lievaiiuii, ieei Denth faet	Sample Type	Sample Number	USCS Symbol	Graphic Log		PID Reading, ppm	REMARKS AND OT
0_	0	 		0	MATERIAL DESCRIPTION		12313
-	-		UL		Silty Clay, dark brown to black, low plasticity, moderately stiff, dry	-	
5-						-	
-		SB-19-9'			<ul> <li>✓ color change to tannish brown</li> <li>✓ increasing sand coarseness with depth</li> </ul>	1	
- 10-		, SP-19-9	0.5			<1	
_	-		SP		Sand, tannish brown, slightly dense, poorly graded, fine to medium grained, moist -	-	
15-		SB-19-15'			✓ petroleum hydrocarbon staining and odors begin	<1	
-	-				- - - -	-	DTW = 16 feet bgs afte hours
20-		SB-19-20'	SP			16	-
-						-	
- 25-	1		CL		Sandy Clay, dark brown, moderate plasticity, slightly stiff, moist to very moist	-	
-	-				Bottom of Boring at 25 feet bgs	-	
						-	
_	-					-	
	-					-	
-	-					-	
40-							
							Figure

# Log of Boring SB-20

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

Depth. feet	Sample Type	Sample Number	USCS Symbol	Graphic Log		PID Reading, ppm	REMARKS AND OTH
	Sar	Nur S	N N	Gra	MATERIAL DESCRIPTION	DID	TESTS
_ 0_	F		Other SP		Concrete		-
_	_				Clayey Sand, dark brown , low plasticity, moderately stiff, dry	_	
-	-				-	_	
- 5-			SP		Color change to tannish brown Sand, tannish brown, moderately dense, poorly graded, fine to medium grained, moist	_	
_		SB-20-6'			granieu, moisi -	_ <1	
-	-				-	-	
					-		
- 10-	-	SB-20-11'				<1	
	ŕ	30-20-11					
_	_				$\overline{\mathbb{V}}$ color change to olive brown	_	
-	$\vdash$	SB-20-14'				_ <1	
15						_	
_					-	-	DTW = 16 feet bgs afte hours
		SB-20-18'			-	_ <1	
20	_		SP		Sand, tannish brown, medium grained, saturated (ATD) ⊑	-	-
-	-				-	-	
					-		
-		SB-20-25'	CL		Silty Clay, dark brown, moderate plasticity, slightly stiff, moist to very	<1	-
25	ŕ	36-20-25			moist		
_	_				-	-	
_	-				-	-	
	Þ	SB-20-30				<1	
-	-				-	-	
					-		
_	×	SB-20-34'			-	<1	
35					Bottom of Boring at 35 feet bgs	1	-
					-	]	
-	-				-	-	
						1	
							Figure
							riguie

# Log of Boring SB-23

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

Denth feet	Sample Type	Sample Number	USCS Symbol	Graphic Log		PID Reading, ppm	REMARKS AND OTH
L L	Sar	Sar Nur	NSI	Gra	MATERIAL DESCRIPTION	DId	TESTS
] <b>0</b> -	F		Other CL		Concrete		
-	-				Silty Clay, dark brown to black, low plasticity, moderately stiff, dry		
-	-				↓ increasing in sand content		
5-							
		SB-23-7'			$ \forall$ color change to tannish brown	-1	
	ſ	SD-23-7	SP		Clayey Sand, minor silt, tannish brown, moderately dense, fine to medium	<1	
-	-				sand grains, moist		
10-		SB-23-11'				87	
-	+		CL		Silly Clay brown law to moderate plasticity, stiff, moist		1
-	-		02		Silty Clay, brown, low to moderate plasticity, stiff, moist		
15-	$\triangleright$	SB-23-15'	SP		Sand, tannish brown, moderately dense, fine to medium sand grains, moist to very moist	24.5	
	-						
		SB-23-18'			↓ becoming wet	19	DTW = 17 feet bgs after hours
-	+		SP				liouis
20-		SB-23-21'				13	
	_						
		SB-23-23'	SP		Sand, tannish brown, fine to medium grained, wet	45	-
25-	┣		CL		<ul> <li>Silty Clay, dark brown to black, moderate plasticity, moist to slightly moist</li> </ul>		
	-						
	_						
-	-						
30-	1						
-	-						
35-	+				Pottom of Poring at 25 feet has		-
1	-				Bottom of Boring at 35 feet bgs		
]	]						
	-						
40-		,					:
							Figure

#### Project: Williamson

# Project Location: 3635 13th Avenue, Oakland, CA

# Log of Boring MW-4 (SB-18)

Project Number: 270852

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

Depth, feet	Sample Type	Sample Number	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	Well Log	REMARKS AND OTHER TESTS
- 0  	-			Weathered asphalt Silty Clay, dark brown to black, low plasticity, moderately stiff, dry	-		-Neat cement grout
- 5 - 5		SB-18-8'		✓ petroleum hydrocarbon staining and odors commence Clayey Silt, minor sand, tannish brown, moderately dense, fine to	<1		
- 10 - 10	X	SB-18-10'		medium sand grains, moist	2.9	-	-Blank 2" schedule 40 PVC casing
		SB-18-15'		Sand, tannish brown, moderately dense, fine to medium sand grains, moist to very moist	<1		Bentonite chips - # 2/12 Monterey sand
 - 20-		SB-18-19'			25.7		0.010 slotted, 2" schedule 40 PVC casing
		SB-18-22'		Silty Clay, tannish brown to dark brown, stiff, minor sand, moist to	<1		
- 25 	X	SB-18-24'		Sand, tannish brown, fine to medium grained, very moist Silty Clay, dark brown to black, moderate plasticity, moist to slightly moist	<1		
 - 30 	-			Bottom of Boring at 30 feet bgs	-		*Borehole SB-18 continuously logged and sampled via direct push or 4/23/07, this well (MW-4) drilled immediately
35							adjacent to SB-18 via hollow stem on 9/7/07

#### Project: Williamson

# Project Location: 3635 13th Avenue, Oakland, CA

# Log of Boring MW-5 (SB-22)

Project Number: 270852

Sheet 1 of 1

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

	Sample Type Sample Number	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	Well Log	REMARKS AND OTHER TESTS	
- 0			Weathered asphalt Silty Clay, dark olive brown to black, low plasticity, moderately stiff, dry		•	-Neat cement grout	
	≤ SB-22-8 ≤ SB-22-11		v petroleum hydrocarbon staining and odors commence	9.6	-	Blank 2" schedule 40 PVC casing	
			Sand, dark greenish brown, slightly dense, poorly graded, fine to medium sand grains, moist, slight petroleum odors and staining Silty Clay, tannish brown to dark brown, low plasticity, stiff, mottled (light grey), moist	52.4		Bentonite chips	
  - 20	SB-22-20			64.9		# 2/12 Monterey sand - 0.010 slotted, 2" schedule 40 PVC casing	
- 25			Silty Clay, dark brown, moderate plasticity, slightly stiff, moist to very moist Bottom of Boring at 25 feet bgs	-			
						*Borehole SB-22 continuously logged and sampled via direct push on 4/20/07, this well (MW-5) drilled immediately adjacent to SB-22 via	
35						hollow stem on 9/7/07 Figure	

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

#### Project: Williamson

# Project Location: 3635 13th Avenue, Oakland, CA

# Log of Boring MW-6 (SB-21)

Project Number: 270852

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

_	0	Sample Type	Sample Number	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	Well Log	REMARKS AND OTHER TESTS
_					Weathered asphalt			8
	-	-			Silty Clay, dark olive brown to black, low plasticity, moderately stiff, dry	-		Neat cement grout
	5— — —		SB-21-6'		→ slight petroleum hydrocarbon staining and odors commence	<1		
- 1 - 1	 10 -	×	SB-21-10'			230	-	Blank 2" schedule 40 PVC casing
- - - 1	- - 15		SB-21-15'		Sand, dark greenish brown, minor local gravel, moderately dense, poorly graded, fine to medium sand grains, moist, petroleum odors and staining	68.4		Bentonite chips
	_				4/20/07 ≝			
- 2	_ 20 _		SB-21-20'		Sand, dark greenish brown, moderately dense, poorly graded, fine to medium grained sand, wet to saturated, petroleum staining and odors noted	184		0.010 slotted, 2" schedule 40 PVC casing
- - - -	_ 25— _		SB-21-26'		Silty Clay, dark brown, moderatel plasticity, slightly stiff, moist to very moist	74		
	- - 30				- · ·	-		*Borehole SB-21
	- - 35				-	-		continuously logged and sampled via direct push or 4/20/07, this well (MW-6) drilled immediately adjacent to SB-21 via hollow stem on 9/7/07
					Bottom of Boring at 35 feet bgs			

# **APPENDIX C**

Groundwater Monitoring Field Forms

#### **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	ОК 🗸		
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)	рН	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

#### 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	ОК		
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 Sample		3 VOAs & 1-li	iter				
Time	Vol Removed (gal)	Temperature (deg C)	рН	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

Dark with strong petroleum hydrocarbon odor. Clears at 2 gallons						

#### 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	ОК 🗸		
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-li	iter		
Time	Vol Removed (gal)	Temperature (deg C)	рН	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

Brown with no petroleum hydrocarbon odors. Clears at 1.5 gallons						

#### 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	ОК	<b>•</b>									
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 Sample	es/Container S	Size		3 VOAs & 1-liter									
Time	Vol Removed (gal)	Temperature (deg C)	рН	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						

		· •	 /
Clear with slight petroleum hy	dracarban adars		

#### 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	ОК	<b>•</b>									
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 Sample	es/Container S	Size		3 VOAs & 1-liter									
Time	Vol Removed (gal)	Temperature (deg C)	рН	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

#### 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	ОК												
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):											

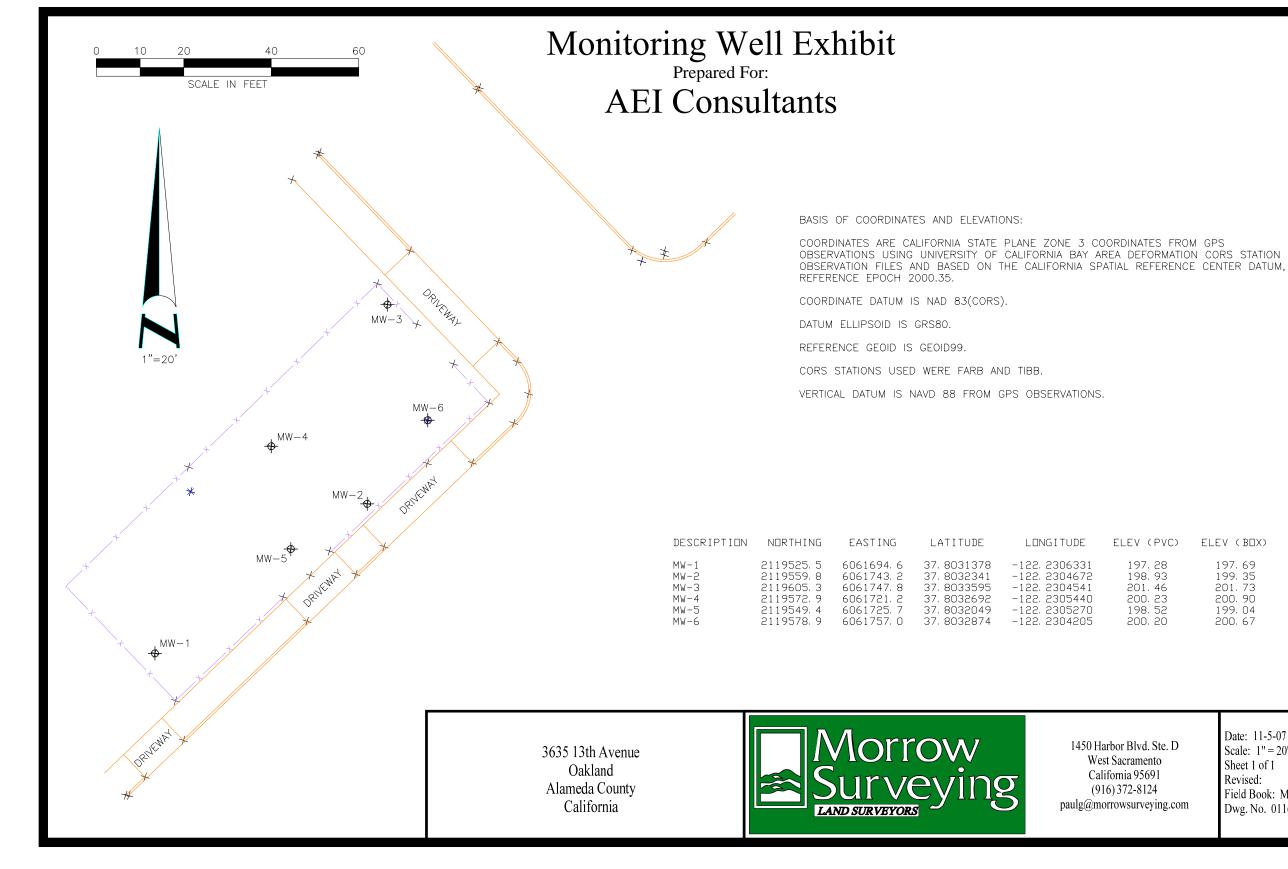
#### **GROUNDWATER SAMPLES**

Number of Sample	es/Container S	Sizo		3 VOAs & 1-liter											
Time	Vol Removed (gal)		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								

Clear with petroleum hydrocarbon odors.		

# **APPENDIX D**

Monitoring Well Survey



ELEV (PVC) ELEV (BOX) 197.69 199.35 201.73 197.28 198, 93 201, 46 200, 23 198, 52 200, 20 200, 90 199.04 200, 67

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 Ouality Counts"

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 Reported: 04/30/07
Wallat Creek, Cri 9 1897	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

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retephone. (	943) 190	0-1020				ax.	()4	.3)	70-1	104				E	EDF Required? Yes No Email PDF Report: YES																				
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Sampler Signature:	Nº.	01			_									2/80		Gre	ocar	010	602 /	3080				A 6			2/60		1	B	F				
		SAM	PLING		ers		MA	TR	IX		ME PRES	THO	DD VED	jas (602/	(8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (41	8260 (8010 list)	BTEX ONLY (EPA 6	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260		by EPA			Lead (7240/7421/239.2/6010)		A	8.2	12 H				
CAMPLE ID				Containers	Containers	Г				Т		Τ		as		uma	una	A 82	Y (I	PA (	808	624	EPA 625 / 8270	PAH's / PNA's by	CAM-17 Metals	tals	742		B	2	Q				
SAMPLE ID (Field Point Name)	CATION			tair	On									TPH	TPH as Diesel	trol	trol	HVOCs EPA	NI	es E	PA (	PA	5/8	PN	M	Me	240/		NX-		Lu				
(Field Fonite (tanle)		Date	Time	on		ter	_		dge	le	_	. Ó	ler	8	as	I Pe	Il Pe	OCs	X	icid	S El	CSE	62	I's/	M-1	T 5	1 (7		NX.	X	P				
		11		#	Type	Water	Soil	Air	Sludge	Other	Ice	HNO,	Other	BREY &	TPH	Tota	Tota	HV(	BTE	Pest	PCE	VOO	EPA	PAF	CAL	LUFT 5 Metals	Lead	RCI	R.	L'S	2				
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07 04436 AEL

Company: AEI Consultants       Company: AEI Consultants         2500 Camino Diablo, Suite 200       (4,8,1)         Walnut Creek, CA 94597       E-Mail: aangel@aeiconsultants.com         Tel: (925) 944-2899, extension 132       Fax: (925) 944-2895         Project H:: 276852       Project Name: W/ M/am Store         Sampler Signature:       (000)7.6	R 5 DAY
Report To: Adrian Angel       Bill To: Same         Report To: Adrian Angel       Bill To: Same         Company: AEI Consultants         2500 Camino Diablo, Suite 200       Method Same         Walnut Creek, CA 94597       E-Mail: aangel@aciconsultants.com         Tel: (925) 944-2899, extension 132       Fax: (925) 944-2895         Project H:: Q+0 % D       Project Name:       Mill (Am S)         Method       Sampler Signature:       Method	>
EDF Required?       Yes       No       Email PDF Report YES         Report To: Adrian Angel       Bill To: Same       Analysis Request       Other       Company: AEI Consultants         2500 Camino Diablo, Suite 200       Walnut Creek, CA 94597       E-Mail: aangel@aeiconsultants.com       If (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	mments
Report Fol. Admin Aliger       Dia For Sume         Company: AEI Consultants	omments
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 #: 2768 > 2       Project Name: William Sime         Project Location:       Project Name: William Sime         Sampler Signature:       METHOD	
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 #: 2768 52       Project Name: William Sime         Sampler Signature:       Netthod	
Walnut Creek, CA 94597       E-Mail: aangel@aeiconsultants.com         Tel: (925) 944-2899, extension 132       Fax: (925) 944-2895         Project #: 276 8 2       Project Name: William Sime         Sampler Signature:       METHOD	
Tel: (925) 944-2899, extension 132       Fax: (925) 944-2895       Project Name:       Project Name: <td></td>	
Project #:         2768>2         Project Name:         Milliam Str           Project Location:         0.610.00         0.800.00 <td></td>	
Project Location:         O (a)	
Sampler Signature:	
SAMPLING         MATRIX         METHOD         Method           Sampling         8 8 10 2 10 10 10 8 00 10 10 10 10 10 10 10 10 10 10 10 10	
ain	
SAMPLE ID (Field Point Name) LOCATION T T T T T T T T T T T T T T T T T T T	
Number of Solution     Participation     Participation       Sumblet of Solution     Mater     # # Containers       Water     Water     Mair       Notation     Nater     Solid       Air     Air     Solid       Air     Air     Mater       Nater     Solid     Solid       Air     Solid     Mater       Nater     Solid     Solid       Air     Air     Mater       Solid     Air     Mater       Notater     Solid     Solid       Other     Other     Mater       Notater     Solid     Solid       Processel (8015)     Other     Solid       Notater     Solid     Solid       Air     Vocos EPA 608 (80       Processer     Solid       Path's / PNA''s by EPA       CAM-17 Metals       Lead (7240/7421/239)       RCI       Strick       Strick       Strick       Strick       Strick	
Type # Co Dthick of the section of t	
5B-21-26' 4/2407 B:45P 1 A X XX	
3B-2I-35 $I$ $ E$ $I$ $ I$ $-$	
5B-22-11 2:45P + XX	
5B-22-13' 3:00P a size	
SB-22-16' 3:15P + 1 XX	
$\frac{5p - \sigma_{a} + 10}{5B - 22 - 20'}$	
5B-23-71 4:30P	
5B-23-11' 4:35P	
$(l_{-})^{2}$	
58-23-18' 4:458	
5B-23-21	
56-23-23' S:15P V V	
SB-20-W V 4PEX N XX I I I I I I I I	
Relinquished By: 11 Adda 2 x 60 Kaal Ulaa daa 2 X VOAS 0&G META	LS OTHER
PRESERVATION ICE/t° D PRESERVATION	
GOOD CONDITION ATTROTATE	
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Kennquisneu by: Date: Time: Keterreu by.	

0704436 AEL

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Report To: Adri	an Angel		F	Bill To	· Sa	me											-	naly	-	_				Lin		T	Oth	-	-	nment
Company: AEI				in ro		me										Т		mary	515 1	l	lest					+			101	mient
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the second s	ut Creek, C			C-Mai	I: aar	ngel	aeic	onsu	ltant	S CO	m		BE		cF/B							10				L	S.			
Tel: (925) 944-2				ax: (		and Manager	and the second second second	A REAL PROPERTY AND		0.00			8015)/MTBE		0 E&	.1)						/ 8310				414	T			
Project #: 27	6852	1		rojec					m	Sm			8015		552	(418						270				F	17			
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Sampler Signatu		:a	/										2/8020		Gre	carb	10 li	080				A 62			09/7	UN				
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		SAM		LS	ner		1/1	INIA I		PRE	ESER	VED	Gas	(8015)	n O	Hu	3260	(EP.	8/8	4/8	0	s by	Is	s	21/2	FI	1 Di			
SAMPLE ID	LOCATION			ine	ntai								PH as	esel	oleur	oleur	PA	EPA	09	A 62	827	NA'	Meta	letal	0/74	FOR	20			
(Field Point Name)	LUCATION	Date	Time	Containers	Type Containers	La		ae	-			r 3	& TPH	TPH as Diesel	Total Petroleum Oil &	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020) Pesticides FPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 /	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	1	Be		1	
		2.00			ype	Water	Soil	Sludge	Other	Ice	HCI	Other	BTEX	PH a	otal	otal	NOV	TEX	CBs	OCs	PA 6	AH's	AM-	UFT	ead (	ALL ALL	ET		1	
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CR-22-W		11/2/01	-	1	1	Ĩ				1			X	X												-	×			
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# McCampbell Analytical, Inc.

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1534 Willow Pass Rd

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg (925) 252	, CA 94565-1701 2-9262					Work	Order	: 07044	436	С	lientII	): AEL					
				EDF		Excel		Fax	[	🗸 Email		Hard	Сору	🗌 Thir	dParty		
Report to: Adrian Angel AEI Consulta 2500 Camino Walnut Creek	o Diablo, Ste. #200		925) 944-28		283-6		AE 25 W	enise Mo El Consu 00 Cam alnut Cro nockel@	ultants iino Dia eek, Ca	A 94597			Da	queste te Rec te Prin	eived	04/20/	
									Dog	upptod	Taata	(See 1e)	nand h	alaw)			
Sample ID	ClientSampID		Matrix	Collection Date	Hold	1	2	3	Keq 4	uested 5	fests 6	7	8 8	9	10	11	12
0704436-001	SB-19-9'		Soil	04/20/07 1:05:00		А		А		А					1	<u> </u>	
0704436-002	SB-19-15'		Soil	04/20/07 1:30:00		А		Α									
0704436-003	SB-19-20'		Soil	04/20/07 1:55:00		А		Α									
0704436-006	SB-20-14'		Soil	04/20/07 9:18:00		А		Α									
0704436-007	SB-20-18'		Soil	04/20/07 9:30:00		А		А							1		
0704436-008	SB-20-25'		Soil	04/20/07 9:30:00		А		Α							1		
0704436-009	SB-20-30'		Soil	04/20/07 9:45:00		А		Α							1		
0704436-012	Sb-21-10'		Soil	04/20/07 10:38:00		А		А							1		
0704436-013	SB-21-15'		Soil	04/20/07 11:15:00		А		А							1		
0704436-015	SB-21-26'		Soil	04/20/07 12:45:00		А		Α							<u> </u>		
0704436-016	SB-21-35'		Soil	04/20/07 12:45:00		А		А							1		
0704436-018	SB-22-11'		Soil	04/20/07 2:45:00		А		Α							1		
0704436-020	SB-22-16'		Soil	04/20/07 3:15:00		А		Α							1		
0704436-021	SB-22-20'		Soil	04/20/07 3:59:00		А		А							1		
0704436-023	SB-23-11'		Soil	04/20/07 4:35:00		А		Α							1		
Test Legend:	TEX S 2	G-MBTEX	W	3 MBTE	XOXY-	8260B \$	S	4	мв		/-8260E	3 W	[	5	PREDI	F REPOR	

1	G-MBTEX_S	
6		
11		

7 12

3	MBTEXOXY-8260B_S
8	

MBTEXOXY-8260B\_W 4 9

5 PREDF REPORT 10

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.

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1534 Willow Pass Rd

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, CA (925) 252-92	A 94565-1701 262					Work	Order	·: 0704	436	C	ClientI	D: AEL	4				
				EDF		Excel		Fax	Ŀ	🗸 Email		Harc	lCopy	Thire	dParty		
Report to: Adrian Angel		Email:	aangel@aeig	consultants.com			Bill t	enise M	ockel				Re	quested	I TAT:	5	days
AEI Consultants	iablo, Ste. #200	TEL: ProjectNo: PO:	(925) 944-28 #270852; Wil	9 FAX: (925)	283-6	12	25 W	El Cons 500 Can alnut Ci nockel@	nino Dia reek, CA	A 94597	7			ate Rece ate Prin			
									Req	uested	Tests	(See le	gend b	elow)			
Sample ID	ClientSampID		Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0704436-024	SB-23-15'		Soil	04/20/07 4:35:00		Α		Α								1	1
0704436-026	SB-23-21'		Soil	04/20/07 5:00:00		Α		Α									
0704436-028	SB-20-W		Water	04/20/07			А		А								
0704436-029	SB-21-W		Water	04/20/07			А		А								
0704436-030	SB-22-W		Water	04/20/07			А		А								
0704436-031	SB-23-W		Water	04/20/07			А		А								

**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 Ouality Counts"

### Sample Receipt Checklist

Client Name:	AEI Consultants	5			Date a	and Time Received:	04/20/07 8	3:06:35 PM
Project Name:	#270852; Williar	nson			Check	klist completed and r	eviewed by:	SC
WorkOrder N°:	0704436	Matrix Soil/Water			Carrie	r: <u>Courier</u>		
		Chain	of Cu	stody (C	OC) Informa	ation		
Chain of custody	y present?		Yes		No 🗆			
Chain of custody	y signed when reling	uished and received?	Yes	✓	No 🗆			
Chain of custody	y agrees with sample	labels?	Yes	✓	No 🗌			
Sample IDs noted	d by Client on COC?		Yes	$\checkmark$	No 🗆			
Date and Time or	f collection noted by C	Client on COC?	Yes	$\checkmark$	No 🗆			
Sampler's name	noted on COC?		Yes	✓	No 🗆			
		S	ample	Receipt	Information	l		
Custody seals in	tact on shippping cor	ntainer/cooler?	Yes		No 🗆		NA 🔽	
Shipping contain	er/cooler in good con	dition?	Yes	$\checkmark$	No 🗆			
Samples in prop	er containers/bottles	?	Yes	✓	No 🗆			
Sample containe	ers intact?		Yes	$\checkmark$	No 🗆			
Sufficient sample	e volume for indicate	d test?	Yes	✓	No 🗌			
		Sample Prese	rvatio	n and Ho	ld Time (HT)	) Information		
All samples rece	ived within holding tir	-	Yes	<	No 🗌	·		
Container/Temp	Blank temperature		Coole	er Temp:	18.6°C		NA 🗆	
•	lls have zero headsp	ace / no bubbles?	Yes		No 🗆	No VOA vials subm	nitted 🗹	
	hecked for correct pr		Yes		No 🗌			
TTLC Metal - pH	acceptable upon rec	eipt (pH<2)?	Yes		No 🗆		N 🗹	

Client contacted:

Date contacted:

Contacted by:

Comments:

McC	Campbell Analyti "When Ouality Counts"	cal, Inc.	Web: www.mccamp	Pass Road, Pittsburg, CA 94565- bell.com E-mail: main@mccam 377-252-9262 Fax: 925-252-92	pbell.com	
AEI Consultants		Client Project ID:	#270852; Williamson	Date Sampled: 04/20/	07	
2500 Camino Dial	blo, Ste. #200			Date Received: 04/20/	07	
Walnut Creek, CA	04507	Client Contact: A	drian Angel	Date Extracted: 04/20/	07-05/0	4/07
wallut Cleek, CF	A 94397	Client P.O.:		Date Analyzed 04/23/	/07-05/0	4/07
Extraction method: SW5		-	atile Hydrocarbons as G methods: SW8021B/8015Cm		rder: 070	)4436
Lab ID	Client ID	Matrix	TPH	(g)	DF	% SS
001A	SB-19-9'	S	NI	)	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	NI	)	1	96
007A	SB-20-18'	S	NI	)	1	89
008A	SB-20-25'	S	NI	)	1	89
009A	SB-20-30'	S	NI	)	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	NI	)	1	85
016A	SB-21-35'	S	NI	)	1	86
018A	SB-22-11'	S	490	),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	180	0,a	100	#
024A	SB-23-15'	S	520	l,a	50	#
-	ing Limit for DF =1;	W	50	)	μ	g/L
	ans not detected at or the reporting limit	S	1.0	)	mg	y/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.

	Campbell Analytic	<u>cal, Inc.</u>	Web: www.mccamp	Pass Road, Pittsburg, CA 94565 bell.com E-mail: main@mccam 377-252-9262 Fax: 925-252-926	pbell.com	
AEI Consultant	s	Client Project ID:	#270852; Williamson	Date Sampled: 04/20/	07	
2500 Camino Di	ablo, Ste. #200			Date Received: 04/20/	07	
Walnut Creek, C	NA 04507	Client Contact: A	drian Angel	Date Extracted: 04/20/	07-05/0	4/07
wannut Creek, C	.A 94397	Client P.O.:		Date Analyzed 04/23/	07-05/0	4/07
	Gasoline Ra	nge (C6-C12) Vola	tile Hydrocarbons as G	asoline*		
Extraction method: SW	/5030B	Analytical n	nethods: SW8021B/8015Cm	Work O	rder: 070	)4436
Lab ID	Client ID	Matrix	TPH	(g)	DF	% SS
026A	SB-23-21'	S	6.9	,a	1	88
028A	SB-20-W	W	120,1	120,m,i		
029A	SB-21-W	W 28,000,a,h,i				107
030A	SB-22-W	W 15,000,a,i		),a,i	100	120
031A	SB-23-W	W	210,00	210,000,a,h		

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

"When Ouality	Counts"		Telephone: 8	77-252-9262 Fax: 925	5-252-9269				
AEI Consultants	Client Pr	oject ID: #27085	2; Williamson	Date Sampled:	04/20/07				
2500 Camino Diablo, Ste. #200			Date Received: 04/20/07						
Walnut Creek CA 04507	Client C	ontact: Adrian A	Angel	Date Extracted:	04/20/07-04	4/26/07			
Walnut Creek, CA 94597	Client P.	D.:		Date Analyzed:	04/23/07-04	4/26/07			
	Oxygen	ates and BTEX b	y GC/MS*						
Extraction Method: SW5030B	Ana	lytical Method: SW826	0B		Work Order:	0704436			
Lab ID	0704436-001A	0704436-002A	0704436-003A	0704436-006A					
Client ID	SB-19-9'	SB-19-15'	SB-19-20'	SB-20-14'	Reporting Limit fo				
Matrix	S	S	S	S	DF	=1			
DF	1	2	2	1	S	W			
Compound		Conce	entration		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			
	Surr	ogate Recoveries	s (%)						
%SS1:	102	93	88	99					
%SS2:	99	95	92	97					
%SS3:	88	106	106	86					
Comments	00	100	100	00					

"When Ouality	Counts"		Telephone: 8	77-252-9262 Fax: 925	5-252-9269				
AEI Consultants	Client Pr	roject ID: #27085	2; Williamson	Date Sampled:	04/20/07				
2500 Camino Diablo, Ste. #200			Date Received: 04/20/07						
Walnut Creak CA 04507	Client C	ontact: Adrian A	Adrian Angel Date Extracted: 04/20/07-04/26/07						
Walnut Creek, CA 94597	Client P.	0.:		Date Analyzed:	04/23/07-04	4/26/07			
	Oxyger	nates and BTEX b	y GC/MS*						
Extraction Method: SW5030B	Ana	lytical Method: SW826	0B	-	Work Order:	0704436			
Lab ID	0704436-007A	0704436-008A	0704436-009A	0704436-012A					
Client ID	SB-20-18'	20-18' SB-20-25'							
Matrix	S	S	S	S	mg/kg         μg/           0.005         0.3           0.005         0.3           0.005         0.3           0.005         0.3           0.005         0.3           0.005         0.3           0.005         0.3           0.005         0.3				
DF	1	1	1	40	S	W			
Compound		Conce	entration		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			
	Surr	ogate Recoveries	s (%)						
%SS1:	98	99	96	78					
%SS2:	96	97	97	95					
%SS3:	87	85	87	91					
Comments									
* water and vapor samples are reported in									

2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 Extraction Method: SW5030B Extraction Method: SW5030B Extraction Method: SW5030B Client ID Client ID Client ID SB-21-15' SB-21-2 Matrix S S DF 5 1 Compound tert-Amyl methyl ether (TAME) Benzene 1,2-Dibromoethane (EDB) ND<0.025 ND ND<0.025 ND ND<0.025 ND ND<0.025 ND ND<0.025 ND ND<0.025 ND ND<0.025 ND ND<0.025 ND ND<0.025 ND ND<0.025 ND ND ND<0.025 ND ND ND<0.025 ND ND ND<0.025 ND ND ND ND<0.025 ND ND ND ND ND ND ND ND ND ND	TEX by GC/MS*         TEX by GC/MS*         015A       0704436-016         26'       SB-21-35'         26'       SB-21-35'         S         1       1         Concentration         ND         ND         ND         ND         ND         ND	Date Received: Date Extracted: Date Analyzed: Date Analyzed: SA 0704436-018A SB-22-11' S S 2000 ND<10 78 ND<100	04/20/07-04	4/26/07 0704436 Limit for
Walnut Creek, CA 94597       Client Contact: Additional contact: Additin Additin Additional contact: Addited contact: Addited	TEX by GC/MS*         TEX by GC/MS*         015A       0704436-016         26'       SB-21-35'         26'       SB-21-35'         S         1       1         Concentration         ND         ND         ND         ND         ND         ND	Date Extracted:         Date Analyzed:         5A       0704436-018A         5A       0704436-018A         SB-22-11'         S         2000         ND<10	04/20/07-04/23/025-00.005-00005-00005-00005-00005-00005-00005-00005-00005-00005-00005-00005-000005-000005-000000	4/26/07 0704436 Limit for =1 W μg/L 0.5 0.5
Walnut Creek, CA 94597         Client P.O.:         Oxygenates and BT         Extraction Method: SW5030B         Analytical Method:         Extraction Method: SW5030B         Lab ID       0704436-013A       0704436-013A         Client ID       SB-21-15'       SB-21-2         Matrix       S       S         DF       5       1         Compound       Etert-Amyl methyl ether (TAME)       ND<0.025       ND         Benzene       0.56       ND         t-Butyl alcohol (TBA)       ND<0.25       ND         1,2-Dibromoethane (EDB)       ND<0.025       ND	TEX by GC/MS*         TEX by GC/MS*         015A       0704436-016         26'       SB-21-35'         26'       SB-21-35'         S         1       1         Concentration         ND         ND         ND         ND         ND         ND	Date Analyzed: Date Analyzed: 5A 0704436-018A SB-22-11' S 2000 2000 ND<10 78 ND<100	04/23/07-04 Work Order: Reporting DF S mg/kg 0.005 0.005	4/26/07 0704436 Limit for =1 W μg/L 0.5 0.5
Client P.O.:         Oxygen=tes and B?         Extraction Method: SW5030B       Analytical Method:         Extraction Method: SW5030B       Analytical Method:         Lab ID       0704436-013A       0704436-013A         Client ID       SB-21-15'       SB-21-2         Matrix       S       S         DF       5       1         Compound       V       V         tert-Amyl methyl ether (TAME)       ND<0.025       ND         Benzene       0.56       ND         1,2-Dibromoethane (EDB)       ND<0.025       ND         ND       ND<0.025       ND	: SW8260B 015A 0704436-016 26' SB-21-35' S 1 Concentration ND ND ND	5A 0704436-018A 5B-22-11' 5B-22-11' 5C 2000 ND<10 78 ND<100	Work Order: Reporting DF S mg/kg 0.005 0.005	0704436 Limit for =1 W μg/L 0.5 0.5
Extraction Method: SW5030BAnalytical Method:Lab ID0704436-013A0704436-013AClient IDSB-21-15'SB-21-2MatrixSSDF51Compound51tert-Amyl methyl ether (TAME)ND<0.025	: SW8260B 015A 0704436-016 26' SB-21-35' S 1 Concentration ND ND ND	SB-22-11' S 2000 ND<10 78 ND<100	Reporting DF S mg/kg 0.005 0.005	Limit for =1 W <u>µg/L</u> 0.5 0.5
Lab ID         0704436-013A         0704436-0           Client ID         SB-21-15'         SB-21-2           Matrix         S         S           DF         5         1           Compound         ND<0.025         ND           Benzene         0.56         ND           1,2-Dibromoethane (EDB)         ND<0.025	015A 0704436-016 26' SB-21-35' S 1 Concentration ND ND ND	SB-22-11' S 2000 ND<10 78 ND<100	Reporting DF S mg/kg 0.005 0.005	Limit for =1 W µg/L 0.5 0.5
Client IDSB-21-15'SB-21-2MatrixSSDF51Compoundtert-Amyl methyl ether (TAME)ND<0.025	26' SB-21-35' S S 1 Concentration ND ND ND ND	SB-22-11' S 2000 ND<10 78 ND<100	DF S mg/kg 0.005 0.005	<ul> <li>W</li> <li>μg/L</li> <li>0.5</li> <li>0.5</li> </ul>
MatrixSSDF51Compoundtert-Amyl methyl ether (TAME)ND<0.025NDBenzene0.56NDt-Butyl alcohol (TBA)ND<0.25	S           1           Concentration           ND           ND           ND           ND	S           2000           ND<10	DF S mg/kg 0.005 0.005	<ul> <li>W</li> <li>μg/L</li> <li>0.5</li> <li>0.5</li> </ul>
DF51CompoundND<0.025NDtert-Amyl methyl ether (TAME)ND<0.025	Concentration ND ND ND ND ND	2000 ND<10 78 ND<100	S           mg/kg           0.005           0.005	W μg/L 0.5 0.5
Compoundtert-Amyl methyl ether (TAME)ND<0.025NDBenzene0.56NDt-Butyl alcohol (TBA)ND<0.25	Concentration ND ND ND ND ND	ND<10 78 ND<100	mg/kg 0.005 0.005	μg/L 0.5 0.5
tert-Amyl methyl ether (TAME)ND<0.025NDBenzene0.56NDt-Butyl alcohol (TBA)ND<0.25	ND ND ND	78 ND<100	0.005	0.5
Benzene0.56NDt-Butyl alcohol (TBA)ND<0.25	ND ND	78 ND<100	0.005	0.5
t-Butyl alcohol (TBA) ND<0.25 ND 1,2-Dibromoethane (EDB) ND<0.025 ND 1,2-Dichloroethane (1,2-DCA) ND<0.025 ND	ND	ND<100		
1,2-Dibromoethane (EDB)ND<0.025ND1,2-Dichloroethane (1,2-DCA)ND<0.025			0.05	5.0
1,2-Dichloroethane (1,2-DCA) ND<0.025 ND	ND	ND (10		
		ND<10	0.005	0.5
	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 Reco	overies (%)			
%SS1: 95 95	85	95		
%SS2: 97 97	98	94		
%SS3: 98 87	87	88		

"When Ouality	Counts"		Web: www.mccamp Telephone: 8		5-252-9269				
AEI Consultants	Client P	roject ID: #27085	2; Williamson	Date Sampled:	04/20/07				
2500 Camino Diablo, Ste. #200			Date Received: 04/20/07						
	Client C	Contact: Adrian A	Date Extracted:	04/20/07-04	4/26/07				
Walnut Creek, CA 94597	Client P	.0.:		Date Analyzed:	04/23/07-04	4/26/07			
	Oxyge	nates and BTEX b	y GC/MS*						
Extraction Method: SW5030B	An	alytical Method: SW826	50B		Work Order:	0704436			
Lab ID	0704436-020A	36-020A 0704436-021A 0704436-023A		. 0704436-024A					
Client ID	SB-22-16'	SB-22-20'	SB-23-11'	SB-23-15'	Reporting Limit fo				
Matrix	S	S	S	S	04/20/07 04/20/07-04/26 04/23/07-04/26 04/23/07-04/26 Work Order: 0704 Reporting Lim DF =1 S Mg/kg 0.005	=1			
DF	20	20	100	100	S	W			
Compound		Conce	entration	1	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			
	Sur	rogate Recoverie	s (%)						
%SS1:	100	98	99	99					
%SS2:	93	94	94	94					
%SS3:	87	88	84	86					
Comments									

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.

Angela Rydelius, Lab Manager

Walnut Creek, CA 94597         Client P.O.:         Date Analyzed:         04/23/07-04/26/           Client P.O.:         Date Analyzed:         04/23/07-04/26/           Extraction Method: SW5030B         Xant/Vical Method: SW820E         Vork Order:         0704436-026A         0704436-029A         0704436-030A           Client D         SB-23-21'         SB-20-W         SB-21-W         Reporting Lim DF = 1           Concentration         SB-22-W         SB-21-W         SB-21-W         SB-21-W         SB-21-W         SB-21-W         Reporting Lim DF = 1           Concentration         SB-22-W         SB-21-W         SB-21-W         SB-21-W         Reporting Lim DF           Concentration         SB-20-W         SB-21-W         SB-21-W         SB-21-W         SB-21-W         Concentration         SB-21-W         SB-21-W         SB-21-W         SB-21-W         SB-21-W         SB-21-W         SB-21-W         SB-21-W	"When Ouality O	Counts"		Telephone: 8	377-252-9262 Fax: 92	5-252-9269			
Labor Calinito Dialot, site. #240         Image: Client Contact: Adrian Angel         Date Extracted: 04/20/07-04/26           Client P.O.:         Date Extracted: 04/20/07-04/26           Client P.O.:         Date Extracted: 04/20/07-04/26           Client P.O.:         Date Extracted: 04/20/07-04/26           Curve to the P.O.:         Orthous to the P.O:         Orthous to the P.O:           Curve to the P.O:         Orthous to the P.O:         Orthous to the P.O:           Curve to the P.O:         Orthous to the P.O:           Curve to the P.O:         Orthous to the P.O:           Curve to the P.O:     <	AEI Consultants	Client Pro	oject ID: #27085	2; Williamson	04/20/07				
Mainut Creek, CA 94597         Client P.O.:         Date Analyzed: 04/23/07-04/26           Client P.O.:         Date Analyzed: 04/23/07-04/26           Client P.O.:         Date Analyzed: 04/23/07-04/26           Client D         O704436-029A         O704436-030A           Client D         SB-23-21'         SB-20-W         SB-21-W         SB-22-W         Reporting Lim DF = 1           Concentration         SB-23-21'         SB-20-W         SB-21-W         SB-21-W         Reporting Lim DF = 1           Concentration         SB-21-W         SB-21-W         SB-21-W         SB-21-W         Reporting Lim DF = 1           Concentration         SB-21-W         SB-21-	2500 Camino Diablo, Ste. #200				Date Received: 04/20/07				
Client P.O.:         Date Analyzed:         04/23/07-04/26           Extraction Method: SW50308         Concernation SW62058         OT04436-026A         OT04         OT04           Client DD         SB-23-21'         SB-23-21' <tht< td=""><td></td><td>Client Co</td><td>ontact: Adrian A</td><td>Angel</td><td colspan="4">Date Extracted: 04/20/07-04/26/07</td></tht<>		Client Co	ontact: Adrian A	Angel	Date Extracted: 04/20/07-04/26/07				
Extraction Method:         SW3030B         Analycial Method:         SW32000         O704436-029A         O704436-029A         O704436-030A         Mathod:         Mathod:         SB-23-21'         SB-20-W         SB-21-W         SB-22-W         Mathod:         Mathod:         SB-22-W         SB-22-W         SB-22-W         Mathod:         SB-22-W         SB-22-W         SB-22-W         Mathod:         Mathod:         SW         W         W         W         Perform DF         Perform DF         Perform DF         Perform DF         SB-20-W         SB-21-W         SB-22-W         Mathod:         Mathod:         SW         W         W         W         Perform DF         Perform DF         Perform DF         Perform DF         SB-20-W         SB-21-W         SB-22-W         SB-22-W         SB-22-W         Mathod:         SB-20-W         SB-20-	Walnut Creek, CA 94597	Client P.0	D.:		Date Analyzed:	04/23/07-04	4/26/07		
Extraction Method:         SW3030B         Analycial Method:         SW32000         O704436-029A         O704436-029A         O704436-030A         Mathod:         Mathod:         SB-23-21'         SB-20-W         SB-21-W         SB-22-W         Mathod:         Mathod:         SB-22-W         SB-22-W         SB-22-W         Mathod:         SB-22-W         SB-22-W         SB-22-W         Mathod:         Mathod:         SW         W         W         W         Perform DF         Perform DF         Perform DF         Perform DF         SB-20-W         SB-21-W         SB-22-W         Mathod:         Mathod:         SW         W         W         W         Perform DF         Perform DF         Perform DF         Perform DF         SB-20-W         SB-21-W         SB-22-W         SB-22-W         SB-22-W         Mathod:         SB-20-W         SB-20-		Oxygen	ates and BTEX b	ov GC/MS*					
Interface         Interface <thinterface< th=""> <thinterface< th=""> <th< td=""><td>Extraction Method: SW5030B</td><td>•0</td><td></td><td>•</td><td></td><td>Work Order:</td><td>0704436</td></th<></thinterface<></thinterface<>	Extraction Method: SW5030B	•0		•		Work Order:	0704436		
Instruction         Instruction         Reporting Lim DF = 1           Matrix         S         W         W         W         DF = 1           Image: Def P         20         3.3         100         100         S         Image: Def P         Image: Def P<	Lab ID	0704436-026A	0704436-028A	0704436-029A	0704436-030A				
Matrix         S         W         W         W         W           DF         20         3.3         100         100         S         I           Compound         Conestation         mg/kg         mg/kg         mg/kg         I           tert-Amyl methyl ether (TAME)         ND<0.10	Client ID	SB-23-21'	SB-20-W	SB-21-W	SB-22-W		porting Limit for		
Compound         Concentration         mg/kg           tert-Amyl methyl ether (TAME)         ND<0.10         ND<1.7         ND<50         ND<50         0.005           Benzene         1.2         ND<1.7	Matrix	S	W	W	W	04/20/07 04/20/07-04/2 04/23/07-04/2 Work Order: 07/ Reporting Li: DF =1 S 0.005	=1		
tert-Amyl methyl ether (TAME)         ND<0.10         ND<1.7         ND<50         ND<50         0.005           Benzene         1.2         ND<1.7	DF	20	3.3	100	100	S	W		
Initiality and point (charle)         Initial         Initial <thinitial< th="">         Initial         <thini< td=""><td>Compound</td><td></td><td>Conc</td><td>entration</td><td></td><td>mg/kg</td><td>μg/L</td></thini<></thinitial<>	Compound		Conc	entration		mg/kg	μg/L		
t-Butyl alcohol (TBA)         ND<1.0         31         ND<500         ND<500         0.05           1,2-Dibromoethane (EDB)         ND<0.10	tert-Amyl methyl ether (TAME)	ND<0.10	ND<1.7	ND<50	ND<50	0.005	0.5		
1,2-Dibromoethane (EDB)         ND<0.10         ND<1.7         ND<50         ND<50         0.005           1,2-Dichloroethane (1,2-DCA)         ND<0.10	Benzene	1.2	ND<1.7	830	1300	0.005	0.5		
International of the second	t-Butyl alcohol (TBA)	ND<1.0	31	ND<500	ND<500	0.05	5.0		
Disopropyl ether (DIPE)         ND<0.10         ND<1.7         ND<50         ND<50         0.005           Ethanol         ND<5.0	1,2-Dibromoethane (EDB)	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           Ethylbenzene         0.12         ND<1.7	1,2-Dichloroethane (1,2-DCA)	ND<0.10	ND<1.7	ND<50	ND<50	0.005	0.5		
Ethylbenzene         0.12         ND<1.7         840         160         0.005         160           Ethyl tert-butyl ether (ETBE)         ND<0.10	Diisopropyl ether (DIPE)	ND<0.10	ND<1.7	ND<50	ND<50	0.005	0.5		
Ethyl tert-butyl ether (ETBE)         ND<0.10         ND<1.7         ND<50         ND<50         0.005           Methyl-t-butyl ether (MTBE)         ND<0.10	Ethanol	ND<5.0	ND<170	ND<5000	ND<5000	0.25	50		
Methyl-t-butyl ether (MTBE)         ND<0.10         81         ND<50         90         0.005           Toluene         ND<0.10	Ethylbenzene	0.12	ND<1.7	840	160	0.005	0.5		
Toluene         ND<0.10         ND<1.7         230         470         0.005           Xylenes         ND<0.10	Ethyl tert-butyl ether (ETBE)	ND<0.10	ND<1.7	ND<50	ND<50	0.005	0.5		
Xylenes         ND<0.10         ND<1.7         1800         700         0.005           Surrogate Recoveries (%)           %SS1:         98         105         85         98	Methyl-t-butyl ether (MTBE)	ND<0.10	81	ND<50	90	0.005	0.5		
Surrogate Recoveries (%)           %SS1:         98         105         85         98	Toluene	ND<0.10	ND<1.7	230	470	0.005	0.5		
%SS1: 98 105 85 98	Xylenes	ND<0.10	ND<1.7	1800	700	0.005	0.5		
		Surr	ogate Recoverie	s (%)					
	%SS1:	98	105	85	98				
%SS2: 93 94 98 95	%SS2:	93	94	98	93				
%SS3: 87 93 101 88	%SS3:	87	93	101	88				

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.

Angela Rydelius, Lab Manager

"When Ouality					877-252-9262 Fax: 92	5-252-9269	
AEI Consultants	Client Pr	oject ID: #	#270852; Williamson Date Sampled:			04/20/07	
2500 Camino Diablo, Ste. #200					Date Received:	04/20/07	
Walnut Creek, CA 94597	Client Co	ontact: A	drian Angel Date Extracted:			04/20/07-04	4/26/07
wallut Cleek, CA 94397	Client P.	D.:			Date Analyzed:	04/23/07-04	4/26/07
	Oxygen	ates and B	TEX by	y GC/MS*			
Extraction Method: SW5030B	Ana	lytical Method	: SW826	)B		Work Order:	0704436
Lab ID	0704436-031A						
Client ID	SB-23-W					Reporting Limit	
Matrix	W					– DF	=1
DF	100					S	W
Compound		•	Conce	ntration		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
	Surr	ogate Rec	overies	(%)			
%SS1:	80						
%SS2:	99						
0/ 552.	96						
%SS3: Comments	h	1				1	

<b>*</b>	ampbell Analyti "When Ouality Counts"				bell.com E-mail: main@mccam 377-252-9262 Fax: 925-252-92		
AEI Consultants		Client Projec	t ID: 🕴	#270852; Williamson	Date Sampled: 04/20/	/07	
2500 Camino Diab	blo, Ste. #200				Date Received: 04/20/	)/07	
		Client Conta	nct: Ad	lrian Angel	Date Extracted: 04/20/	07	
Walnut Creek, CA	.94597	Client P.O.:			Date Analyzed 04/21/	/07-04/3	0/07
	Diesel Rang	ge (C10-C23)	Extrac	table Hydrocarbons as	s Diesel*		
Extraction method: SW35	510C/SW3550C	Ana	lytical m	ethods: SW8015C	Work Or	der: 07	04436
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			
0704436-016A	SB-21-35'	S		ND			
0704436-018A	SB-22-11'	S		1400,d			
0704436-020A	SB-22-16'	S		1.2,d			
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	g Limit for DF =1;	<b>W</b> 7		50			~/I
	not detected at or	W		50		μ	g/L

 above the reporting limit
 Img/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.

1.0

S

# 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.

mg/Kg

ND means not detected at or

<u> </u>	Campbell Analyti "When Ouality Counts"	cal, Inc.	Web: www.mccamp	bell.com E-mail: main@mccam	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 Dia	ablo, Ste. #200			Date Received: 04/20/	20/07				
Walnut Creek, CA	A 9/1597	Client Contact: A	drian Angel	Date Extracted: 04/20/	07				
Wallut Creek, Ch		Client P.O.:		Date Analyzed 04/21/	07-04/3	0/07			
	-	- · ·	ctable Hydrocarbons as		1 07	24426			
Extraction method: SW3	Client ID	Matrix	nethods: SW8015C TPH(d)	Work Or	DF	04436 % SS			
0704436-026A	SB-23-21'	S	12,a	,	1	116			
0704436-028A	SB-20-W	W	760,g,b		2	83			
0704436-029A	SB-21-W	w	32,000,d,b		5	#			
0704436-030A	SB-22-W	W	4100,d,	2	87				
0704436-031A	SB-23-W	W	490,000,0	100	#				
0701130 03111	51 25 W		190,000,		100	, "			
						<u> </u>			
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Reporting Limit for DF =1;	W	50	μg/L
ND means not detected at or above the reporting limit	S	1.0	mg/Kg

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; 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 Nº 1644



NONE

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704436

EPA Method SW8021B/8015Cm	Extra	ction SW	5030B		Bat	tchID: 27	583	Sp	iked Sam	ole ID:	0704419-00	6A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	D Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex <sup>£</sup>	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

#### 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				

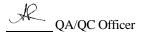
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.





"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704436

EPA Method SW8021B/8015Cm	Extra	ction SW	5030B	BatchID: 27593					Spiked Sample ID: 0704437-018A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)		
, individ	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD	
TPH(btex <sup>£</sup>	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	

#### 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

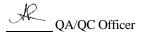
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.





NONE

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704436

EPA Method SW8021B/8015Cm	Extra	ction SW	5030B		BatchID: 27603 S					piked Sample ID: 0704499-010A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)			
Analyte	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD		
TPH(btex) <sup>£</sup>	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		

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

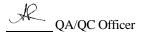
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.





## <u>McCampbell Analytical, Inc.</u>

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704436

EPA Method SW8015C	EPA Method SW8015C Extraction SW3550						BatchID: 27561 Spike					
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
, mary to	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.



NONE

# McCampbell Analytical, Inc.

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704436

EPA Method SW8015C	Extrac	tion SW	3510C		Ba	BatchID: 27577			Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
, undy to	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 E	lank of this	extraction	batch we	re ND les	s than the	method R	L with th	e following	exceptions:			

#### 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

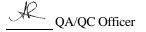
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.





## <u>McCampbell Analytical, Inc.</u>

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704436

EPA Method SW8015C	Extra	ction SW	3550C		Ba	tchID: 27	601	Sp	iked Sam	ole ID:	0704436-02	6A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)	)
, indigite	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

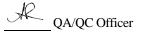
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.





"When Quality Counts"

## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704436

EPA Method: SW8260B	Extrac	tion: SW	5030B		Bat	chID: 27	559	Sp	iked Samp	le ID:	0704388-00	2A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	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.

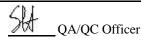
% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

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.





"When Quality Counts"

## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704436

EPA Method: SW8260B	Extrac	tion: SW	5030B		Bat	chID: 27	604	Sp	iked Samp	le ID:	0704437-02	2A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	e Criteria (%)	
, indigite	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.

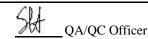
% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

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.





"When Quality Counts"

## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704436

EPA Method: SW8260B	Extra	ction: SW	5030B		Bat	chID: 27	594	Sp	iked Samp	le ID:	0704425-00	6B
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	e Criteria (%)	
Analyte	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

#### 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.





# **McCampbell Analytical, Inc.**

"When Ouality 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 Reported: 04/30/07
Wanta Crock, Cri 91097	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

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510-02-16'		3:151	$\square$	t			-					X	X		_	-	_	_								×		
SB-22-20'		3:591		e	$\square$	1						X	X		_		_				_					×,	0	
58-23-71		4:30P				1						-				_										8	X	
513-23-11		4:35P										X,	X													$\times$		
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58-23-18'		4:YSP																									· ·	
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SB-20-W 1	N	1	4	340#	X				1			X	X													X		
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# McCampbell Analytical, Inc.

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1534 Willow Pass Rd

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, C. (925) 252-9	A 94565-1701 262				Work(	)rder:	070443	<b>A</b>		Client	ID: AEL					
				EDF	Exce		Fax		🖌 Email		HardCo	ру	Thir	rdParty		
Report to:						Bill to						R	equest	ed TA	г 5	days
Adrian Angel AEI Consultants		Email: TEL: ProjectNo:	(925) 283-60	( )	4-289	AE	enise Mo El Consu	ultants		- #20	0		ate Re ate Ad			)/2007 4/2007
2500 Camino D Walnut Creek, C	,	Projectivo. PO:	#270852; Wi	mamson		W	alnut Cre	eek, C	ablo, Ste A 94597 nsultant				ate Pr			
								Rec	quested	Tests	(See lege	nd be	elow)			
Sample ID	ClientSampID		Matrix	Collection Date H	lold 1	2	3	4	5	6	7	8	9	10	11	12
0704436-011	SB-21-6'		Soil	4/20/2007	□ A	А	А									
0704436-022	SB-23-7'		Soil	4/20/2007 4:30:00	A	Α	А									

#### 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

#### 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 **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.

	IcCampbell Analyti "When Ouality Counts"	<u>cal, Inc.</u>	Web: www.mccamp	Pass Road, Pittsburg, CA 94565- bell.com E-mail: main@mccan 177-252-9262 Fax: 925-252-92	pbell.com	
AEI Consulta	ants	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: A	drian Angel	Date Extracted: 05/04/	/07	
		Client P.O.:		Date Analyzed 05/06/	/07-05/0	9/07
Extraction method:			ntile Hydrocarbons as G nethods: SW8015Cm		order: 070	)4436
Lab ID	Client ID	Matrix	TPH		DF	% SS
011A	SB-21-6'	S	NI	)	1	91
022A	SB-23-7'	S	400,8	o,m	33	#
Re	porting Limit for DF =1;	W	NA	A	N	A
ND	b means not detected at or bove the reporting limit	S	1.0			y/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.

Date Received: $04/2007$ Date Received: $04/2007$ Date Received: $05/04/07$ Client Contact: Adrian Angel         Date Received: $05/04/07$ Date Analyzed: $05/05/07$ Corpentation Ander SW 5000B         Work Order: $07/04/3$ Corpentation Method: SW 5000B         Work Order: $07/04/3$ Lab ID         07/04/36-011A         07/04/36-022A         Mater SW 50/0B         Work Order: $07/04/3$ Lab ID         07/04/36-011A         07/04/36-022A         Mater SW 50/0B         Work Order: $07/04/36$ Client ID         SB-21-6'         SB-23-7'         Image: SP 100           Matrix         S           Concentration         S Mage: SP 200           Matrix         S           Concentration         S Mage: SP 200           MD         ND         ND           ND         ND         ND           ND         ND <th colspan="2" n<="" th=""><th>"When Ouality</th><th>Counts"</th><th></th><th>Web: www.mccam Telephone:</th><th>877-252-9262 Fax: 92</th><th>@mccampbell.co 5-252-9269</th><th>-</th></th>	<th>"When Ouality</th> <th>Counts"</th> <th></th> <th>Web: www.mccam Telephone:</th> <th>877-252-9262 Fax: 92</th> <th>@mccampbell.co 5-252-9269</th> <th>-</th>		"When Ouality	Counts"		Web: www.mccam Telephone:	877-252-9262 Fax: 92	@mccampbell.co 5-252-9269	-
Label plade, site #200         Image: client Contact: Adrian Angel         Date Extracted: 05/04/07           Walnut Creek, CA 94597         Client Contact: Adrian Angel         Date Analyzed: 05/05/07           Client Contact: Adrian Angel         Date Analyzed: 05/05/07           Correction Method: SW5030B         Work Onder: 070443           Correction Method: SW5030B         Work Onder: 070443           Client ID         SB-21-6         SB-23-7         Image: SE           Matrix         S         S           Corection Method: SW5030B         Mork Onder: 070443           Matrix         S         S           Matrix         S         S           Matrix         S         S           Corection         mg/kg         ug           Corection         Mg/kg         ug           Corection         Mg/kg         Ug           Corection         Mg/kg         Ug           Corection         Mg/kg         Mg/kg	AEI Consultants	Client Pr	oject ID: #27085	2; Williamson	Date Sampled:	04/20/07			
Walnut Creek, CA 94597         Date Analyzed: 05/05/07           Client P.O.:         Date Analyzed: 05/05/07           Correct In Distance	2500 Camino Diablo, Ste. #200				Date Received:	04/20/07			
Client P.O.:Date Analyzed: 05/05/07Extraction Method: SW500BCNSUBLEX by CCMS*Kanalytical Method: SW8200BWork Order: 070443Lab ID0704436-022ANot NOT N0436-022ANot NOT N0436-022AMatrixSSMatrixSSMatrixSSConcentrationmg/kgugConcentrationmg/kgugConcentrationNDNDNDConcentrationmg/kgugtration (TAME)ND	Walnut Crash CA 04507	Client Co	ontact: Adrian A	ngel	Date Extracted:	05/04/07			
Extraction Method: SW5030B         Analytical Method: SW8260B         Work Order: 070443           Lab ID         0704436-021A         0704436-022A         Image: Client ID         SB-21-6'         SB-23-7'         Image: Client ID         SB-21-6'         SB-23-7'         Image: Client ID         SB         Image: Client ID         SB-21-6'         SB-23-7'         Image: Client ID         SB         Image: Client ID         SB         S         Image: Client ID         S         W           Matrix         S         S         S         Image: Client ID         S         W           Compound         SS         S         Image: Client ID         S         W           Compound         Concentration         mg/kg         ug         g           tert-Amyl methyl ether (TAME)         ND         ND<	wallut Creek, CA 94397	Client P.0	D.:		Date Analyzed:	05/05/07			
Lab ID         0704436-011A         0704436-022A         Image: Constraint of the second of		Oxygen	ates and BTEX b	y GC/MS*					
Client ID         SB-21-6'         SB-23-7'         SB-23-7'         Reporting Limit DF           Matrix         S         S $Reporting Limit DF$ DF         1         40         S         N           Compound         Concentration         mg/kg         ug           tert-Amyl methyl ether (TAME)         ND         ND<0.20	Extraction Method: SW5030B	Anal	lytical Method: SW826	0B		Work Order:	0704436		
Matrix         S         S         Reporting Limit DF = 1           Matrix         S         S          Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         S         Matrix         S         Matrix         S         Matrix         S         Matrix         Matrix         S         Matrix         S         Matrix         S         Matrix         S         Matrix         S         Matrix         S         Matrix         Matrix         S         Matrix         Matrix         S         Matrix         Matrix         Matrix         Matrix         Mat	Lab ID	0704436-011A	0704436-022A						
Matrix         S         S         Image: set to the set to	Client ID	SB-21-6'	SB-23-7'						
Compound         Concentration         ng/kg         ug           tert-Amyl methyl ether (TAME)         ND         ND         0.005         NA           Benzene         ND         ND         0.005         NA           tert-Amyl methyl ether (TAME)         ND         ND         0.005         NA           Benzene         ND         ND         0.005         NA           t-Butyl alcohol (TBA)         ND         ND         0.005         NA           1.2-Dibromoethane (EDB)         ND         ND         0.005         NA           1.2-Dibromoethane (1,2-DCA)         ND         ND         0.005         NA           Diisopropyl ether (DIPE)         ND         ND         0.005         NA           Ethyl benzene         ND         ND         0.005         NA           Methyl-t-butyl ether (MTBE)         ND         ND         0.005         NA           Toluene         ND         ND         0.005         NA           Xylenes         ND         11         0.005         NA           %SS1:         100         94              %SS2:         99         95	Matrix	S	S			- DF	=1		
tert-Amyl methyl ether (TAME)         ND         ND         ND         ND         0.005         NJ           Benzene         ND         ND         ND         0.005         NJ           Benzene         ND         ND         ND         0.005         NJ           t-Butyl alcohol (TBA)         ND         ND         0.005         NJ           1,2-Dibromoethane (EDB)         ND         ND         0.005         NJ           1,2-Dichloroethane (1,2-DCA)         ND         ND         0.005         NJ           Diisopropyl ether (DIPE)         ND         ND         0.005         NJ           Ethyl benzene         ND         ND         0.005         NJ           Ethyl tert-butyl ether (ETBE)         ND         ND         0.005         NJ           Methyl-t-butyl ether (MTBE)         ND         ND         0.005         NJ           Yelnes         ND         11         0.005         NJ           Xylenes         ND         94	DF	1	40			S	W		
Benzene         ND         ND         ND         ND         0.005         NA           t-Butyl alcohol (TBA)         ND         ND         ND         0.05         NA           1,2-Dibromoethane (EDB)         ND         ND         0.020         0.005         NA           1,2-Dibromoethane (1,2-DCA)         ND         ND         ND<0.20	Compound		Conce	entration		mg/kg	ug/L		
Image: Constraint of the second sec	tert-Amyl methyl ether (TAME)	ND	ND<0.20			0.005	NA		
1,2-Dibromoethane (EDB)       ND       ND       ND       0.005       NJ         1,2-Dichloroethane (1,2-DCA)       ND       ND       0.005       NJ         Diisopropyl ether (DIPE)       ND       ND       0.005       NJ         Ethylbenzene       ND       4.8       0.005       NJ         Ethyl tert-butyl ether (ETBE)       ND       ND       0.005       NJ         Methyl-t-butyl ether (MTBE)       ND       ND       0.005       NJ         Toluene       ND       ND       0.005       NJ         Xylenes       ND       11       0.005       NJ         %SS1:       100       94	Benzene	ND	ND<0.20			0.005	NA		
1,2-Dichloroethane (1,2-DCA)         ND         ND         ND         ND         0.005         ND           Diisopropyl ether (DIPE)         ND         ND         ND         0.005         ND           Ethylbenzene         ND         4.8         0.005         ND           Ethyl tert-butyl ether (ETBE)         ND         ND         0.005         ND           Methyl-t-butyl ether (MTBE)         ND         ND         0.005         ND           Toluene         ND         ND         0.005         ND           Xylenes         ND         11         0.005         ND           %SS1:         100         94               %SS2:         99         95	t-Butyl alcohol (TBA)	ND	ND<2.0			0.05	NA		
Disopropyl ether (DIPE)         ND         ND         ND         0.005         NJ           Ethylbenzene         ND         4.8         0.005         NJ           Ethyl tert-butyl ether (ETBE)         ND         ND<0.20	1,2-Dibromoethane (EDB)	ND	ND<0.20			0.005	NA		
Ethylbenzene         ND         4.8         0.005         NZ           Ethyl tert-butyl ether (ETBE)         ND         ND<	1,2-Dichloroethane (1,2-DCA)	ND	ND<0.20			0.005	NA		
Ethyl tert-butyl ether (ETBE)         ND         ND         ND         0.005         NJ           Methyl-t-butyl ether (MTBE)         ND         ND         0.005         NJ           Toluene         ND         ND         0.005         NJ           Xylenes         ND         11         0.005         NJ           %SS1:         100         94	Diisopropyl ether (DIPE)	ND	ND<0.20			0.005	NA		
Methyl-t-butyl ether (MTBE)         ND         ND         ND         0.005         NA           Toluene         ND         ND<	Ethylbenzene	ND	4.8			0.005	NA		
ND         ND         ND         0.005         NA           Xylenes         ND         11         0.005         NA           Surrogate Recoveries (%)         0.005         NA           %SS1:         100         94	Ethyl tert-butyl ether (ETBE)	ND	ND<0.20			0.005	NA		
Xylenes         ND         11         0.005         NZ           Surrogate Recoveries (%)         0.005         NZ           %SS1:         100         94            %SS2:         99         95	Methyl-t-butyl ether (MTBE)	ND	ND<0.20			0.005	NA		
Surrogate Recoveries (%)           %SS1:         100         94	Toluene	ND	ND<0.20			0.005	NA		
%SS1:         100         94           %SS2:         99         95	Xylenes	ND	11			0.005	NA		
%SS2: 99 95		Surr	ogate Recoveries	s (%)					
		100	94						
	%SS1:		1						
%SS3:         92         85           Comments		99	95			+			

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.

	CCampbell Analyti "When Ouality Counts"	<u>cal, Inc.</u>	Web: www.mccamp	Pass Road, Pittsburg, CA 94565- obell.com E-mail: main@mccam 877-252-9262 Fax: 925-252-92	pbell.com	
AEI Consulta	nts	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: A	Adrian Angel	Date Extracted: 05/04/	07	
	, 	Client P.O.:		Date Analyzed 05/07/	07-05/0	9/07
Frates of a second to de	-		actable Hydrocarbons a		1	1426
Extraction method: Lab ID	Client ID	Matrix	methods: SW8015C TPH(d	Work Or	DF	04436 % SS
0704436-011A	SB-21-6'	S	4.7,g,t		1	115
0704436-022A	SB-23-7'	S	210,d,	g	5	108

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

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; 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.



# **McCampbell Analytical, Inc.**

"When Ouality 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: 04/23/07
2500 Camino Diablo, Ste. #200		Date Received: 04/24/07
Walnut Creek, CA 94597	Client Contact: Adrian Angel	Date Reported: 05/01/07
Wanta Crock, Cri 91097	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

Telepho	McCAM ne: (925) 79	110 2 <sup>nd</sup> AV PACHEO		UTH,	#D7 60			5) 79	98-10	622							ROI		) T	IM		R		1	۲ 24	] HR		۲. 48 ا		72	D THR	_
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	ut Creek, C.			-Mai		-			sultar	nts.c	om				E&F	-						8310					4	2				
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SAMPLE ID (Field Point Name)	LOCATION	Date	Time	# Containers	Type Containers	Water	Soil	Air	Other	Ice	HCI	HNO <sub>3</sub>	Other TPH as C	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	FDA 675 / 8770	PAH's / PNA's by	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	BTEX EDR	FTRE DT	Grain Size			
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and the second se	ut Creek, C.			-Mai	il: aar	ngel/	Dae	icon	ultar	ts c	om			1		cF/B								8310					ME	2			
Tel: (925) 944-28	the state of the s				(925)		-		surtur	10.0	-conn			<b>夏</b>		0 E&	(1)		2					/ 83					E.	HQ H			
Project #: 2708		/			et Nan				h 50	2				8015		552	(418		-					8270 /				1	4	Et		1	
Project Location:		in A					VVI.	1114	- 20					+ 0		ase (	ons	st)	3020					625/8			10)	ſ	STW	F			
Sampler Signatur		Tim	/											2/8020		Gre	carb	101	12/2	080				A 62			5/60		29	9			
Sumpter Signature		SAMP	LING		ers	1	MA	TRI	X			HOI		as (602	(510)	Oil &	Hydro	60 (80	PA 6(	8 / 809	8080	8260		by EPA			/239.		EDC	The -			
SAMPLE ID (Field Point Name)	LOCATION	Date	Time	# Containers	Type Containers	Water	Soil	Air .	Other	Γ		)3	Other	Dense TPH as G	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	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)		EX, EDB,	TETBE D	real H		
5B-18-19'	8 gland	4/27/07	3:15P	1,	Ace		X	_	_	X				X	X	_					-	-	-	_		_	-	-	XX		_	340	ł
518-18-22		· ]	-		Mark				_	H					_			_			-	_	_	_	_	_	-	-	h	A	+	<u></u>	
513-18-25				V	V	,	V	_	_	$\downarrow$	_			X,	X							_		_	_	-	-		$\ge$	K	+	)	
5B-16-W				4	SP	X			_	11				X	X					_	_	_		_			-	-	Ŋ	K		(	_
SB-17-W				$\checkmark$	556					Ц				X	X												_		×,			29	e
5B-18-W				5	51%									X	X														$\gg$	$\langle \rangle$		1	
58-19-W	V	$\mathcal{V}$		V	V					V	/			$\times$	X														$\gg$	K			
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Relinquished By:		Date:/ /23/7-	Time: 6:080-	1		M	A	/	1/,	~		5			CE	/t°	9.1	6%				/		PRF	SEI	ev.	TIO		and a	0&	G	METALS	
Relinquished By:		Date:	Time:	Reco	eived I	By:	1							0	300	DD C	CON	DIT			V	/	A	PP	RO		ATE						-
Relinquished By:		Date:	Time:	Rec	cived I	By:							-			HL						B						IN I	LAB				

# McCampbell Analytical, Inc.

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1534 Willow Pass Rd

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, C (925) 252-9	A 94565-1701 262					Work	Order:	: <b>0704</b> 4	499	C	lientII	): AEL	4				
				EDF		Excel	I	Fax		🖌 Email		Harc	lCopy	🗌 Thii	rdParty		
Report to: Adrian Angel AEI Consultants 2500 Camino D	s iablo, Ste. #200	TEL: (	aangel@aeic (925) 283-60( #270852; Wil	, ,	283-6	12	AE	enise Me I Consu 00 Carr	ultants	ablo, St	e. #20	0		queste te Rec		5 d 04/24/	days 2007
Walnut Creek, C	•	PO:	,				Wa	alnut Cr	eek, C	A 94597 nsultan	7		Da	te Prin	nted:	04/24/	2007
									Rec	juested	Tests	(See le	gend b	elow)			
Sample ID	ClientSampID		Matrix	<b>Collection Date</b>	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0704499-002	SB-16-10'		Soil	4/23/07 1:05:00			А			А		А				<u> </u>	
0704499-004	SB-16-16'		Soil	4/23/07 1:39:00			A		Α	A							
0704499-005	SB-16-20'		Soil	4/23/07 2:05:00			A			A							
0704499-006	SB-16-24'		Soil	4/23/07			Α			Α							
0704499-009	SB-17-10'		Soil	4/23/07 10:45:00			Α			Α							
0704499-010	SB-17-15'		Soil	4/23/07 11:00:00			Α			Α							
0704499-011	SB-17-20'		Soil	4/23/07 11:10:00			Α			Α							
0704499-013	SB-18-10'		Soil	4/23/07 3:00:00			Α		Α	Α							
0704499-014	SB-18-15'		Soil	4/23/07 3:05:00			Α			Α							
0704499-015	SB-18-19'		Soil	4/23/07 3:15:00			Α			Α							
0704499-017	SB-18-25'		Soil	4/23/07			Α			Α							
0704499-018	SB-16-W		Water	4/23/07				А			В						
0704499-019	SB-17-W		Water	4/23/07				А			В						
0704499-020	SB-18-W		Water	4/23/07		С		Α			В						
0704499-021	SB-19-W		Water	4/23/07				А			В						
Test Legend:																	

#### Т

1	FE2_W	
6	MBTEXOXY-8260B_W	
11		

12

G-MBTEX_S	3	
PREDF REPORT	8	

G-MBTEX\_W 4 9

GRAINSIZE

MBTEXOXY-8260B\_S 5 10

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 Ouality Counts"

# Sample Receipt Checklist

Client Name:	AEI Consultants					Date a	and Time Received:	4/24/07 7:	36:38 PM
Project Name:	#270852; William	son				Check	klist completed and r	eviewed by:	Melissa Valles
WorkOrder N°:	0704499	Matrix	Soil/Water			Carrie	er: <u>Client Drop-In</u>		
			Chain	of Cu	stodv (C	OC) Informa	ation		
			<u></u>				<u></u>		
Chain of custody	/ present?			Yes	$\checkmark$	No 🗆			
Chain of custody	v signed when relinqui	shed and	d received?	Yes	$\checkmark$	No 🗆			
Chain of custody	agrees with sample	abels?		Yes	$\checkmark$	No 🗌			
Sample IDs noted	d by Client on COC?			Yes	$\checkmark$	No 🗆			
Date and Time of	f collection noted by Cl	ient on C	OC?	Yes	✓	No 🗆			
Sampler's name	noted on COC?			Yes	✓	No 🗆			
			s	amnle	Receint	Information	n		
			<u>.</u>	ampie			<u>-</u>	_	
Custody seals in	tact on shippping cont	tainer/co	oler?	Yes		No 🗌		NA 🔽	
Shipping contain	er/cooler in good conc	lition?		Yes	$\checkmark$	No 🗆			
Samples in prop	er containers/bottles?			Yes	✓	No 🗆			
Sample containe	ers intact?			Yes	$\checkmark$	No 🗆			
Sufficient sample	e volume for indicated	test?		Yes	✓	No 🗌			
		Sa	mple Prese	rvatio	n and Ho	ld Time (HT	) Information		
		<u></u>		Tution			<u>j internation</u>		
All samples rece	ived within holding tim	e?		Yes	$\checkmark$	No 🗌			
Container/Temp	Blank temperature			Coole	er Temp:	9.6°C		NA 🗆	
Water - VOA via	ls have zero headspa	ce / no b	oubbles?	Yes	✓	No 🗆	No VOA vials subm	itted	
Sample labels cl	necked for correct pre	servatior	ר?	Yes	✓	No 🗌			
TTLC Metal - pH	acceptable upon rece	ipt (pH<2	2)?	Yes		No 🗆		N 🗹	

Client contacted:

Date contacted:

Contacted by:

Comments:

<u> </u>	Campbell Analyti "When Ouality Counts"	cal, Inc.	<u>-</u>	Web: www.mccamp	Pass Road, Pittsburg, CA 94565-1701 pbell.com E-mail: main@mccampbell.co 877-252-9262 Fax: 925-252-9269	m
AEI Consultants		Client Proj	ect ID: #27	0852; Williamson	Date Sampled: 04/23/07	
2500 Camino Dia	ablo, Ste. #200				Date Received: 04/24/07	
Walnut Croak C	A 04507	Client Con	ntact: Adria	ın Angel	Date Extracted: 04/24/07	
Walnut Creek, CA	A 94397	Client P.O.	:		Date Analyzed: 04/24/07	
			Ferrous Ir	on*		
Analytical Method: SI	M3500-Fe B4c				Work Order: 0	)704499
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	W	50 µg/L	
or above the reporting limit	S	NA	

\*water samples are reported in ug/L.

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

	Campbell Analyt "When Quality Counts"	ical, Inc.	Web: www.mccamp	Pass Road, Pittsburg, CA 94565-1 bell.com E-mail: main@mccan 877-252-9262 Fax: 925-252-926	pbell.com	
AEI Consultants		Client Project II	D: #270852;	: #270852; Date Sampled: 04/23		
2500 Camino Di	ablo, Ste. #200	Williamson		Date Received: 04/24	4/07	
Walnut Creak C	Client Contact: A		Adrian Angel	drian Angel Date Extracted 04/24		
Walnut Creek, C	A 94397	Client P.O.:		Date Analyzed 04/25	/07-04/	28/07
Extraction method: SW5		· ·	carbons as Gasoline wit		Order: 070	)4499
Lab ID	Client ID	Matrix	TPH	(g)	DF	% SS
002A	SB-16-10'	S	NI	ND		86
004A	SB-16-16'	S N		)	1	88
005A	SB-16-20'	S	NI	)	1	92
006A	SB-16-24'	S	NI	)	1	90
009A	SB-17-10'	S	NI	)	1	92
010A	SB-17-15'	S	NI	)	1	88
011A	SB-17-20'	S	NI	)	1	87
013A	SB-18-10'	S 27,m		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	19,00	)0,a	50	110
	ting Limit for $DF = 1$ ;	W	5(	)	μ	g/L
	eans not detected at or ve the reporting limit	S	1.	0	mg	g/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

"When Ouality	Counts"		Telephone: 8	77-252-9262 Fax: 925	5-252-9269	
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 C	ontact: Adrian A	Angel	Date Extracted: 04/24/07-04/27/07		
wallut Cleek, CA 94397	Client P.	O.:		Date Analyzed:	04/26/07-04	4/27/07
	Oxygen	ates and BTEX b	y GC/MS*			
Extraction Method: SW5030B	Ana	lytical Method: SW826	0B		Work Order:	0704499
Lab ID	0704499-002A	0704499-004A	0704499-005A	0704499-006A		
Client ID	SB-16-10'	SB-16-16'	SB-16-20'	SB-16-24'	Reporting DF	
Matrix	S	S	S	S	DF	=1
DF	1	1	1	1	S	W
Compound		Conce	entration	<u>.</u>	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
	Surr	ogate Recoveries	s (%)			
%SS1:	95	94	94	93		
%SS2:	97	95	96	96		
70.552.	95	95	94	94		
%SS3:						

"When Ouality	Counts"		Telephone: 8	77-252-9262 Fax: 925	5-252-9269	
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 Co	ontact: Adrian A	ngel	Date Extracted:	04/24/07-04	4/27/07
wallut Cleek, CA 94397	Client P.0	D.:		Date Analyzed: 04/26/07-04/27/07		
	Oxygen	ates and BTEX b	y GC/MS*			
Extraction Method: SW5030B	Anal	lytical Method: SW826	08		Work Order:	0704499
Lab ID	0704499-009A	0704499-010A	0704499-011A	0704499-013A		
Client ID	SB-17-10'	SB-17-15'	SB-17-20'	SB-18-10'	Reporting	
Matrix	S	S	S	S	. DF	=1
DF	1	1	1	1	S	W
Compound		Conce	entration	·	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
	Surr	ogate Recoveries	s (%)			
%SS1:	91	91	89	84		
%SS2:	96	96	96	85		
	94	93	94	99		
%SS3: Comments						

"When Ouality	Counts"		Web: www.mccamp Telephone: 8	377-252-9262 Fax: 925	@mccampbell.c 5-252-9269	
AEI Consultants	Client Project ID: #270852; Williamson			Date Sampled: 04/23/07		
2500 Camino Diablo, Ste. #200				Date Received: 04/24/07		
	Client C	ontact: Adrian A	Angel	Date Extracted:	04/24/07-04	4/27/07
Walnut Creek, CA 94597	Client P.	D.:		Date Analyzed: 04/26/07-04/27/07		
	Oxygen	ates and BTEX b	oy GC/MS*			
Extraction Method: SW5030B	•••	lytical Method: SW820	-		Work Order:	0704499
Lab ID	0704499-014A	0704499-015A	0704499-017A	0704499-018B		
Client ID	SB-18-15'	SB-18-19'	SB-18-25'	SB-16-W	Reporting Limit f	
Matrix	S	S	S	W	DF	=1
DF	1	1	1	1	S	W
Compound		Conc	entration	1	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
	Surr	ogate Recoverie	s (%)			
%SS1:	102	99	88	104		
%SS2:	97	94	96	97		
%SS3:	91	88	94	99		
Comments				i		

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.

Angela Rydelius, Lab Manager

Williams Client Co Client P. Oxygena	ontact: Adrian A	angel by GC/MS*	Date Sampled: Date Received: Date Extracted: Date Analyzed:	04/26/07	0704499
Client Co Client P. Oxygena Ana 0704499-019B SB-17-W	Ontact: Adrian A O.: <b>Intes and BTEX R</b> ulytical Method: SW826 0704499-020B SB-18-W	ов 0704499-021В	Date Extracted:	04/26/07 04/26/07	0704499
Client P. Oxygena Ana 0704499-019B SB-17-W	O.: <b>Intes and BTEX h</b> Ilytical Method: SW826 0704499-020B SB-18-W	ов 0704499-021В		04/26/07	0704499
Oxygena Ana 0704499-019B SB-17-W	ttes and BTEX b alytical Method: SW826 0704499-020B SB-18-W	0704499-021B	Date Analyzed:		0704499
Ana )704499-019B SB-17-W	lytical Method: SW826 0704499-020B SB-18-W	0704499-021B		Work Order:	0704499
Ana )704499-019B SB-17-W	lytical Method: SW826 0704499-020B SB-18-W	0704499-021B		Work Order:	0704499
SB-17-W	SB-18-W				
		SB-19-W		1	
W	<b>W</b> 7	1		Reporting Limit f DF =1	
	w	W			=1
1	10	200		S	W
	Conc	Concentration		ug/kg	μg/L
ND	ND<5.0	ND<100		NA	0.5
1.8	51	4200		NA	0.5
ND	63	ND<1000		NA	5.0
ND	ND<5.0	ND<100		NA	0.5
ND	ND<5.0	ND<100		NA	0.5
ND	ND<5.0	ND<100		NA	0.5
ND	ND<500	ND<10,000		NA	50
ND	8.3	940		NA	0.5
ND	ND<5.0	ND<100		NA	0.5
17	120	ND<100		NA	0.5
ND	ND<5.0	890		NA	0.5
ND	8.7	3400		NA	0.5
Surro	ogate Recoveries	s (%)		<u> </u>	
102	101	97			
96	96	96			
99	99	102			
	ND         1.8         ND         ND         ND         ND         ND         ND         ND         ND         ND         17         ND         17         ND         17         ND         17         ND         17         ND         102         96         99         i	Conc           ND         ND<5.0           1.8         51           ND         63           ND         63           ND         ND<5.0	Concentration           ND         ND<5.0         ND<100           1.8         51         4200           ND         63         ND<1000	Concentration           ND         ND<5.0	Concentration         ug/kg           ND         ND<5.0

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

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

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

<u> </u>	ampbell Analy "When Quality Count		Web: www.mc	llow Pass Road, Pittsburg, CA 94565- campbell.com E-mail: main@mccar one: 877-252-9262 Fax: 925-252-92	mpbell.com		
AEI Consultants		Client Project 1	D: #270852;	Date Sampled: 04/22	3/07		
2500 Camino Dia	blo, Ste. #200	Williamson		Date Received: 04/2			
	0.4507	Client Contact:	Adrian Angel	an Angel Date Extracted 04/24/07			
Walnut Creek, CA	A 94597	Client P.O.:		Date Analyzed 04/2	5/07-05/	01/07	
Extraction method: SW35			tractable Hydrocarbo al methods: SW8015C		Order: 070	)4499	
Lab ID	Client ID	Matrix		H(d)	DF	% SS	
0704499-002A	SB-16-10'	S	1	١D	1	97	
0704499-004A	SB-16-16'	S	٦	1	99		
0704499-005A	SB-16-20'	S	ſ	1	112		
0704499-006A	SB-16-24'	S	١	٧D	1	101	
0704499-009A	SB-17-10'	S	1	1	102		
0704499-010A	SB-17-15'	S	٦	1	106		
0704499-011A	SB-17-20'	S	٢	١D	1	99	
0704499-013A	SB-18-10'	S	1	7,n	1	99	
0704499-014A	SB-18-15'	S	٢	١D	1	94	
0704499-015A	SB-18-19'	S	Ν	١D	1	99	
0704499-017A	SB-18-25'	S	Ŋ	١D	1	114	
0704499-018A	SB-16-W	W	Ν	D,i	1	99	
0704499-019A	SB-17-W	W	Ν	D,i	1	100	
0704499-020A	SB-18-W	W	20	0,d,i	1	101	
0704499-021A	SB-19-W	W	21	00,d	1	104	

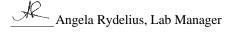
Reporting Limit for DF $=1$ ; ND means not detected at or	W	50	μg/L
above the reporting limit	S	1.0	mg/Kg

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; 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





# 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								piked Sample ID: 0704405-002B				
Analyte	Sample	Sample Spiked MS MSD MS-MSD LCS LC					LCSD	LCS-LCSD Acceptance Criteria (%					
Analyte	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													

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-020C	04/23/0	7 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.



NONE

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704499

EPA Method SW8015Cm	Extra	Extraction SW5030B				BatchID: 27603			Spiked Sample ID: 0704499-010A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)		
, mary to	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD	
TPH(btex) <sup>£</sup>	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	

#### BATCH 27603 SUMMARY

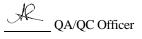
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-002A	04/23/07 1:05 PM	04/24/07	04/25/07 2:54 PM	0704499-004A	04/23/07 1:39 PM	04/24/07	04/25/07 5:11 PM
0704499-005A	04/23/07 2:05 PM	04/24/07	04/25/07 5:46 PM	0704499-006A	04/23/07	04/24/07	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.

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.





# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0704499

EPA Method SW8015Cm	Extra	ction SW	5030B		Bat	635	Sp	Spiked Sample ID: 0704488-003A				
Analyte	Sample	Sample Spiked MS				LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
/ mary to	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex <sup>f</sup>	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

## BATCH 27635 SUMMARY

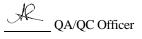
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-018A	04/23/07	04/27/07	04/27/07 4:18 AM	0704499-019A	04/23/07	04/26/07	04/26/07 3:19 AM
0704499-020A	04/23/07	04/26/07	04/26/07 10:17 PM	0704499-021A	04/23/07	04/26/07	04/26/07 4:26 AM

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.

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.





# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704499

EPA Method SW8015Cm	Extra	Extraction SW5030B				chID: 27	639	Spiked Sample ID: 0704499-017A				
Analyte	Sample	Sample Spiked MS			MS-MSD	LCS LCSD	LCS-LCSD	Acceptance Criteria (%)				
Analyte	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	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

## BATCH 27639 SUMMARY

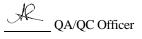
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-014A	04/23/07 3:05 PM	04/24/07	04/26/07 5:28 PM	0704499-015A	04/23/07 3:15 PM	04/24/07	04/28/07 9:25 AM
0704499-017A	04/23/07	04/24/07	04/25/07 4:02 PM				

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.

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.





# QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0704499

EPA Method SW8260B	Extra	ction SW	5030B		Bat	chID: 27	627	Sp	piked Sample ID: 0704473-003A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
/ individe	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

NONE

## BATCH 27627 SUMMARY

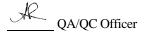
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-018B	04/23/07	04/26/07	04/26/07 5:52 AM	0704499-019B	04/23/07	04/26/07	04/26/07 6:36 AM
0704499-020B	04/23/07	04/26/07	04/26/07 7:20 AM	0704499-021B	04/23/07	04/26/07	04/26/07 4:40 PM

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.





# QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704499

EPA Method SW8260B	Extra	ction SW	5030B		Bat	chID: 27	634	Sp	iked Samp	ole ID:	0704487-00	6A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	e Criteria (%)	
/ that y to	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

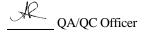
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-002A	04/23/07 1:05 PM	04/24/07	04/26/07 4:29 AM	0704499-004A	04/23/07 1:39 PM	04/24/07	04/26/07 5:16 AM
0704499-005A	04/23/07 2:05 PM	04/24/07	04/26/07 6:04 AM	0704499-006A	04/23/07	04/24/07	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.





NONE

# McCampbell Analytical, Inc.

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704499

EPA Method SW8015C	PA Method SW8015C Extraction SW3550C							BatchID: 27601 Spi					
Analyte	Analyte Sample Spiked MS MSD MS-MSD LCS LCSD				mple Spiked MS MSD MS-MSD LCS LCSD LCS-								
, and y to	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	

## BATCH 27601 SUMMARY

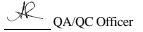
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-002A	04/23/07 1:05 PM	04/24/07	04/25/07 7:35 AM	0704499-004A	04/23/07 1:39 PM	04/24/07	04/25/07 4:56 PM
0704499-005A	04/23/07 2:05 PM	04/24/07	04/25/07 4:09 AM	0704499-006A	04/23/07	04/24/07	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.





NONE

# <u>McCampbell Analytical, Inc.</u>

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704499

EPA Method SW8015C	EPA Method SW8015C Extraction SW3550C							BatchID: 27640 Spiked Sample I						
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)			
, mary to	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		

## BATCH 27640 SUMMARY

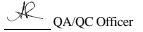
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704499-011A	04/23/07 11:10 AM	04/24/07	04/25/07 6:04 PM	0704499-013A	04/23/07 3:00 PM	04/24/07	04/25/07 10:31 AM
0704499-014A	04/23/07 3:05 PM	04/24/07	04/25/07 4:09 AM	0704499-015A	04/23/07 3:15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





# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704436

EPA Method SW8021B/8015Cm	Extrac	ction SW	5030B	BatchID: 27886					Spiked Sample ID: 0705149-005A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)		
Analyte	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD	
TPH(btex) <sup>£</sup>	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	

## 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	I 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.

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.





# QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704436

EPA Method SW8260B	Extra	ction SW	5030B		Bat	tchID: 27	874	Sp	Spiked Sample ID: 0705141-055A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)	)	
, and y to	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RP	
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	

## BATCH 27874 SUMMARY

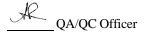
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0704436-011A	04/20/07 10:30 AM	05/04/07	05/05/07 9:07 PM	0704436-022A	04/20/07 4:30 AM	05/04/07	05/05/07 10:41 PM

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.





# McCampbell Analytical, Inc.

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704436

EPA Method SW8015C	Extra	ction SW	3550C		Ba	tchID: 27	834	Sp	iked Samp	ole ID:	0705113-00	1A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
, and you	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 NONE	Blank of this	extraction	batch we	re ND les	ss than the	method R	L with th	e following	exceptions:			

## 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.





# **McCampbell Analytical, Inc.**

"When Ouality 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'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 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

Telephon				UTH,	<b>FD7</b> 68				98-1	622						IN .		OU	NI	AII ) TI				USH		24 H	IR.	4		ł –	T			AY
Report To: Adris	n Angel		B	II To	: Sa	me												1	Ina	ysis	Req	oest							Otl	het	7	Con	men	13
Company: AEI C	and the second se															5				T											-	3		
2500 (	Camino Dia	blo, Suite	209						1						- 1	3									1						3	CANAL		
Waint	at Creek, C.	A 94597	E	-Mai	1: 3.80	ngọi	@aei	icon	sulta	nts.c	m			BOI SYMUBE		Orcase (5520 B&P/B&P)							310				405.1	-	4		fotal in organic	2		
Tel: (925) 944-28	199, extensio	on 132	F	ar: (	925)	94	1-28	95	-					Sel .	1	8	8.1)				1		1/8		- 1		3	415	4		E			
Project#: 10	8078	7085	L P	rojec	t Nar	ne:	W	ili	ia	M5	or	25				55	4		6				8270				8	8	31	2	f1			
Project Location;		13+6		42		2	1-1	4	20					å	1	180	2	(INI	802				15			2	ę	Ŷ	44	2260	+	1		
Sampler Signatur	e: Mr	2	Nin	~		<i>v</i>	·V.						1			5	E	(8010 list)	2				AG		[	3	1	Jan	t		8			
		SAMP	LINC	r	Ead		MA	TR	IX		UESE			Uw (602/\$020	(8015)	n Oil &	Hydr	3260 (80	(EPA 6	A / 808 / 8	4/8260	0	s by EP.	4		21/239.	/gen Do	gen Der	0/200.7	exgenetes	ic carbon			
SAMPLE ID Field Point Name)	LOCATION	Date	Time	# Containers	Type Contain	Water	Soil	Ar	Sludge	lco	HCI	ENO,	Other	BTEX & TPHAS	TPH as Diesel (8015)	Total Potroloum Oil &	Total Petroleum Hydrocurbons (418.1)	HVOCs EPA \$260	BTEX ONLY (EPA 602 / 8020)	PCSUCIDES EPA 608 / 8080 PCR4 EPA 608 / 8080	VOC# EPA 624 / 8260	EPA 625 / 8270	FAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Motals	LUFT 5 Metals	Load (7240/7421/239.2/6010)	Biological Oxygen Demand (BOD)	Chemical Oxygen Demand (COD) 415.1	Fe (II) 3M3 500/200.7	9 Fuel oxa		>		
AW-1		90/2/07	12:35	6	YL	U		+	+	$^{+}$	Z		す	$\overline{\mathbf{x}}$	$\overline{\mathbf{X}}$	-	1	+	+		+				+			-		$\overline{\mathbf{X}}$	Ż			
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AW-3		+	1.10		+	4	-	+	+	┢	<u>-</u>	*	-ł	3	A	+	-	+	+	+	+			-	+	-	-	-+	-	H		5	×	
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# McCampbell Analytical, Inc.

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1534 Willow Pass Rd

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, C. (925) 252-9	A 94565-1701 262					Work	Order	: 0710	177	0	ClientII	): AEL	,				
				EDF		Excel		Fax	E	🖌 Email		Hard	lCopy	Thir	dParty		
Report to:							Bill to:						Req	uested	TAT:	5 (	days
Adrian Angel AEI Consultants 2500 Camino D Walnut Creek, C	iablo, Ste. #200	Email: TEL: ProjectNo: PO:	aangel@aeic (925) 944-2899 #270852; Wil	· · · ·	944-289	95	AE 25 W	enise M El Conse 500 Can alnut Cr nockel @	ultants nino Dia reek, C/	A 94597	7			e Rece e Print		10/04/ 10/05/	
					[				Req	uested	Tests	(See leg	gend b	elow)			
Sample ID	ClientSampID	1	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0710177-001	MW-1		Water	10/3/07 12:35:00		С				А			Α		В		
0710177-002	MW-2		Water	10/3/07 1:13:00		С				А					В		
0710177-003	MW-3		Water	10/3/07 11:20:00		С				А					В		
0710177-004	MW-4		Water	10/3/07 12:45:00		С				А					В		
0710177-005	MW-5		Water	10/3/07 12:53:00		С	D	Е	F	А	I	G		Н	В		
0710177-006	MW-6		Water	10/3/07 1:04:00		С	D	E	F	А	I	G		Н	В		

**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

#### sample off hold on 10/04/07 **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 Ouality Counts"

# Sample Receipt Checklist

Client Name:	AEI Consultants				Date and	Time Received:	10/4/07 5:	34:27 PM
Project Name:	#270852; William	son's			Checklis	t completed and r	eviewed by:	Chloe Lam
WorkOrder N°:	0710177	Matrix <u>Water</u>			Carrier:	Client Drop-In		
		<u>Chain</u>	of Cu	stody (COC	c) Informatio	<u>on</u>		
Chain of custody	y present?		Yes	$\checkmark$	No 🗆			
Chain of custody	y signed when relinqui	shed and received?	Yes	$\checkmark$	No 🗆			
Chain of custody	y agrees with sample	abels?	Yes		No 🗌			
Sample IDs noted	d by Client on COC?		Yes	$\checkmark$	No 🗆			
Date and Time o	f collection noted by Cl	ient on COC?	Yes	$\checkmark$	No 🗆			
Sampler's name	noted on COC?		Yes	$\checkmark$	No 🗆			
		Si	ample	Receipt Int	formation			
Custody seals in	tact on shipping conta	iner/cooler?	Yes		No 🗆		NA 🔽	
Shipping contain	er/cooler in good cond	lition?	Yes	$\checkmark$	No 🗆			
Samples in prop	er containers/bottles?		Yes	$\checkmark$	No 🗆			
Sample containe	ers intact?		Yes	$\checkmark$	No 🗆			
Sufficient sample	e volume for indicated	test?	Yes	$\checkmark$	No 🗌			
		Sample Prese	rvatio	n and Hold	<u>Time (HT) Ir</u>	nformation		
All samples rece	ived within holding tim	e?	Yes		No 🗌			
Container/Temp	Blank temperature		Coole	er Temp:			NA 🗹	
Water - VOA via	lls have zero headspa	ce / no bubbles?	Yes		No 🗆 N	o VOA vials subm	itted 🗹	
Sample labels cl	hecked for correct pre	servation?	Yes	$\checkmark$	No 🗌			
TTLC Metal - pH	acceptable upon rece	ipt (pH<2)?	Yes		No 🗆		NA 🗹	

Client contacted:

Date contacted:

Contacted by:

Comments:

alytical, In	<u>c.</u>	Web: www.mccamp	bell.com E-mail: main	-			
		352;	Date Sampled:	10/03/07			
Williams	son's		Date Received:	10/04/07			
Client C	ontact: Adrian	Angel	Date Extracted:	10/13/07			
Client P.	0.:		Date Analyzed	10/13/07			
-			and GC/MS*	Work Order:	0710177		
0710177-001C	0710177-002C	0710177-003C	0710177-004C				
MW-1	MW-2	MW-3	MW-4	Reporting Limit for DF =1			
W	W	W	W				
1	10	1	5	S	W		
	Con	centration		ug/kg	μg/L		
ND	ND<5.0	ND	ND<2.5	NA	0.5		
ND	ND<50	ND	ND<25	NA	5.0		
ND	ND<5.0	ND	ND<2.5	NA	0.5		
ND	ND<5.0	ND	6.4	NA	0.5		
ND	ND<5.0	ND	ND<2.5	NA	0.5		
ND	ND<500	ND	ND<250	NA	50		
ND	ND<5.0	ND	ND<2.5	NA	0.5		
ND	ND<5000	ND	ND<2500	NA	500		
7.4	77	ND	230	NA	0.5		
Surr	ogate Recoveri	es (%)					
102	102	105	87				
	l blid samples in mg	/kg, product/oil/non-a	queous liquid sample	es and all TC	LP & SPL		
g limit; N/A mean	s analyte not appl	cable to this analysis	S.				
s with another peal	k; &) low surroga	e due to matrix interf	erence.				
	Counts"         Client Pr         Client C         Client C         Client P.         MV-1         MW-1         NU         ND         IO2         IO2         IO2         IO2         IO2	Counts"         Client Project ID: #2708           Client Project ID: #2708           Client Contact: Adrian           Client P.O.:           d Volatile Organics + EDB and           Analytical Method: SW82           0710177-001C         0710177-002C           MW-1         MW-2           W         W           1         10           W         W           ND         ND           IO2         102	Note of the product of the pro	Counts"         Date Sampled: Date Received: Date Received: Date Analyzed           Client Project ID: #270852; Williamson's         Date Sampled: Date Received: Date Analyzed           Client Contact: Adrian Angel         Date Extracted: Date Analyzed           dVolatile Organics + EDB and 1,2-DCA by P&T and GC/MS* Analytical Method: SW8260E           0710177-001C         0710177-002C         0710177-003C         0710177-004C           MW-1         MW-2         MW-3         MW-4           W         W         W         W           W         W         W         W           MW-1         MV-2         MW-3         MU-4           MW         W         W         W         W           ND         ND         ND         S         S           ND         ND         ND         ND         S           ND         ND         ND         S         S           ND         ND         S <td< td=""><td>Sounts"         Telephone: \$77-252-922         Fax: 925-252-926           Client Project ID: #270852; Williamson's         Date Sampled: 10/03/07           Client Contact: Adrian Angel         Date Extracted: 10/13/07           Client Contact: Adrian Angel         Date Analyzed 10/13/07           Client P.O.:         Date Analyzed 10/13/07           dVolatile Organics + EDB and 1,2-DCA by P&amp;T and GC/MS*         More of the contact: Analytical Method: SW8200           0710177-001C         0710177-002C         0710177-003C         0710177-004C           MW-1         MW-2         MW-3         MW-4         Reporting DF           W         W         W         W         M         DF           ND         ND         ND         ND         ND         S           ND         ND         ND         ND         ND         ND           ND         ND         ND         ND         ND         NA           ND         ND         ND         ND         ND         NA           ND         ND         ND         ND         NA         NA           ND         ND         ND         ND         NA         NA           ND         ND         ND         ND         NA</td></td<>	Sounts"         Telephone: \$77-252-922         Fax: 925-252-926           Client Project ID: #270852; Williamson's         Date Sampled: 10/03/07           Client Contact: Adrian Angel         Date Extracted: 10/13/07           Client Contact: Adrian Angel         Date Analyzed 10/13/07           Client P.O.:         Date Analyzed 10/13/07           dVolatile Organics + EDB and 1,2-DCA by P&T and GC/MS*         More of the contact: Analytical Method: SW8200           0710177-001C         0710177-002C         0710177-003C         0710177-004C           MW-1         MW-2         MW-3         MW-4         Reporting DF           W         W         W         W         M         DF           ND         ND         ND         ND         ND         S           ND         ND         ND         ND         ND         ND           ND         ND         ND         ND         ND         NA           ND         ND         ND         ND         ND         NA           ND         ND         ND         ND         NA         NA           ND         ND         ND         ND         NA         NA           ND         ND         ND         ND         NA		

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.



McCampbell An "When Ouality		<u>c.</u>	Web: www.mcc	ow Pass Road, Pittsburg, CA ampbell.com E-mail: main ne: 877-252-9262 Fax: 92	n@mccampbell.c	om
AEI Consultants		oject ID: #270	)852;	Date Sampled:	10/03/07	
2500 Camino Diablo, Ste. #200	Williams	son's		Date Received:	10/04/07	
	Client C	ontact: Adria	n Angel	Date Extracted:	10/13/07	
Walnut Creek, CA 94597	Client P.	O.:		Date Analyzed	10/13/07	
Oxygenat Extraction Method: SW5030B	ed Volatile Organ	nics + EDB and	-	T and GC/MS*	Work Order:	0710177
Lab ID	0710177-005C	0710177-006				0/101//
Client ID	MW-5	MW-6			– Reporting DF	
Matrix	W	W			-	
DF	10	10			S	W
Compound		Co	ncentration		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
	Surr	ogate Recover	ries (%)			
%SS1:	96	84				
Comments						
* water and vapor samples are reported in extracts are reported in mg/L, wipe samp		olid samples in m	g/kg, product/oil/no	on-aqueous liquid sampl	es and all TC	LP & SPLI
ND means not detected above the report	ng limit; N/A mean	s analyte not app	blicable to this anal	ysis.		
# surrogate diluted out of range or coelut	es with another pea	k; &) low surrog	ate due to matrix in	iterference.		
h) lighter than water immiscible sheen/pr	oduct is present; i)	liquid sample tha	t contains greater tl	han ~1 vol. % sediment	; j) sample dil	uted due 1

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.



AEI Consultants       Client Project ID: #270852; Williamson's       Date Sampled: 1003/07         2500 Camino Diablo, Ste. #200       Client Contact: Adrian Angel       Date Extracted: 1004/07-10/09/07         Walnut Creek, CA 94597       Client Contact: Adrian Angel       Date Extracted: 1004/07-10/09/07         Biochemical Vergen Demand (BOD)*         Malytical Method: SM52108       Work Odde: 07/07/00         Matrix       BOD       DF         0710177-005D       MW-5       W       MD       1         0710177-006D       MW-6       W       6.9       1         0710177-006D       MW-6       W       1       1		Campbell Analyti "When Ouality Counts"	cal, Inc.	Web: www.mccamp	Pass Road, Pittsburg, CA 94565-1701 obell.com E-mail: main@mccampbell.cor 377-252-9262 Fax: 925-252-9269	n
2500 Callinito Diablo, Stel. #200     Client Contact: Adrian Angel     Date Extracted: 10/04/07-10/09/07       Walnut Creek, CA 94597     Client Contact: Adrian Angel     Date Analyzed: 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	AEI Consultants		Client Project ID:	•		
Walnut Creek, C4 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)*       Biochemical Oxygen Demand (BOD)*         Analytical Method: SM5210B       Matrix       BOD       DF         0710177-005D       MW-5       W       ND       1	2500 Camino Dia	blo, Ste, #200			Date Received: 10/04/07	
Client P.O.:       Date Analyzed: 10/04/07-10/09/07         Biochemical Oxygen Demond (BOD)*         Analytical Method: \$M55210B       Work Order: 0710177         Lab ID       Client ID       Matrix       BOD       DF         0710177-005D       MW-5       W       ND       1			Client Contact: A	drian Angel	Date Extracted: 10/04/07-10/	/09/07
Analytical Method: SM5210B         Work Order: 0710177           Lab ID         Client ID         Matrix         BOD         DF           0710177-005D         MW-5         W         ND         1	Walnut Creek, CA	A 94597	Client P.O.:		Date Analyzed: 10/04/07-10/	/09/07
Lab ID     Client ID     Matrix     BOD     DF       0710177-005D     MW-5     W     ND     1			Biochemical Oxyge	en Demand (BOD)*	I	
0710177-005D MW-5 W ND 1						1
	Lab ID	Client ID	Matrix	X	BOD	DF
0710177-006DMW-6W6.91II <td>0710177-005D</td> <td>MW-5</td> <td>W</td> <td></td> <td>ND</td> <td>1</td>	0710177-005D	MW-5	W		ND	1
Image: section of the section of th	0710177-006D	MW-6	W		6.9	1
Image: second						
Image: second						
Image: second						
Image: second						
Image: second						
Image: selection of the						
Image: Sector of the sector						
Image: second						
Image: second						
Image: Sector of the sector						

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

	Campbell Analyti "When Ouality Counts"	<u>cal, Inc.</u>		Web: www.mccamp	Pass Road, Pittsburg, CA 945 bell.com E-mail: main@mc 377-252-9262 Fax: 925-252	campbell.com	
AEI Consultants		Client Project II Williamson's	D: #27	/0852;	Date Sampled: 10,	/03/07	
2500 Camino Dia	blo, Ste. #200	w manson s			Date Received: 10,	/04/07	
Walnut Creek, CA	A 94597	Client Contact:	: Adria	an Angel	Date Extracted: 10,	/10/07	
···· ·· · · · · · · · · · · · · · · ·		Client P.O.:			Date Analyzed 10,	/10/07	
Analytical Method: E4	410.4	Chemical Oxy	gen De	mand (COD)*	Wo	rk Order: 07	10177
Lab ID	Client ID	M	atrix		COD		DF
0710177-005E	MW-5		W		120		1
0710177-006E	MW-6		W		63		1
	1			I			

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

<u> </u>	Campbell Analyti "When Ouality Counts"	cal, Inc	<u>-</u>	Web: www.mccamp	Pass Road, Pittsburg, CA 94565-1701 bell.com E-mail: main@mccampbell 877-252-9262 Fax: 925-252-9269	.com
AEI Consultants	Onsultants Client Project ID: # Williamson's			70852;	Date Sampled: 10/03/07	
2500 Camino Dia	ıblo, Ste. #200	vv initanisoi	113		Date Received: 10/04/07	
Walnut Creek, C.	A 94597	Client Cor	ntact: Adria	an Angel	Date Extracted: 10/04/07	
		Client P.O.			Date Analyzed 10/05/07	
Analytical Method: S	M3500-Fe B4c		Ferrous In	on*	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
						_
<u> </u>						

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

\*water samples are reported in ug/L.

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

	McCampbell	Analy uality Counts'		<u>.</u>	Web: www.m		Pittsburg, CA 94565 E-mail: main@mcca 52 Fax: 925-252-9	mpbell.com		
AEI Co	onsultants		Client Proj	ect ID: #2708	352; Williamso	on's	Date Sampled: 10/03/07			
2500 Ca	amino Diablo, Ste. #200						Date Receive	ed: 10/04/07		
			Client Cor	tact: Adrian	Angel		Date Extract	ed: 10/07/07		
Walnut	Creek, CA 94597		Client P.O.	:			Date Analyz	ed: 10/07/07		
Extraction	Gasolin n method: SW5030B	e Range (		ttile Hydrocar		line with BTH	EX and MTBE	* Work Order	: 0710	177
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	<b>MW-1</b>	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
	orting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	neans not detected at or ove the reporting limit	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.



When Ouality Counts"				Web: www.mccamp	Pass Road, Pittsburg, CA 94565-1701 bell.com E-mail: main@mccampbel 877-252-9262 Fax: 925-252-9269	
AEI Consultants		Client Project Williamson's	ID: #27	2270852; Date Sampled: 10/03/07		
2500 Camino Diablo, Ste. #200		w mamson s			Date Received: 10/04/07	
Walnut Creek, CA	A 94597	Client Contac	ct: Adria	n Angel	Date Extracted: 10/04/07	
, 		Client P.O.:			Date Analyzed 10/10/07	
Analytical Method: E	415.3	Inorganic	Carbon :	as Carbon*	Work Order:	0710177
Lab ID	Client ID	Ν	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	W	0.7 mg/L	
or above the reporting limit	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.

	CCampbell Analyti "When Ouality Counts"	<u>cal, Inc.</u>		Web: www	v.mccamp	Pass Road, Pittsburg, CA 94565- bell.com E-mail: main@mccar 877-252-9262 Fax: 925-252-92	npbell.com	
AEI Consulta		Client Project I Williamson's	D: #	270852;		Date Sampled: 10/03 Date Received: 10/04		
2500 Camino Diablo, Ste. #200						Date Received: 10/04	/0/	
Walnut Creek	. CA 94597	Client Contact	: Ad	rian Angel		Date Extracted: 10/04	/07	
	,	Client P.O.:				Date Analyzed 10/06	/07	
			Meta	ıls*				
Extraction method		_		thods E200.8			Order: 07	1
Lab ID	Client ID	Ma	trix	Extraction Type		Iron	DF	% SS
0710177-005G	MW-5	v	V	TOTAL		4100	1	95
0710177-006G	MW-6	v	V	TOTAL		760	1	94

Reporting Limit for DF =1;	W	TOTAL	20	µg/L
ND means not detected at or	S	TOTAL	NA	mg/Kg
above the reporting limit	5	IOIAL	NA .	ing/ixg

\*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  $\mu$ g/wipe, filter samples in  $\mu$ g/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.



	Campbell Analyti	cal, Inc.		Web: www.mccamp	Pass Road, Pittsburg, CA 94565-17 bell.com E-mail: main@mccampb 377-252-9262 Fax: 925-252-9269	ell.com
AEI Consultants		Client Project ID: Williamson's			Date Sampled: 10/03/0	7
2500 Camino Diablo, Ste. #200					Date Received: 10/04/0	7
Walnut Creek, CA	A 94597	Client Contact:	Adria	an Angel	Date Extracted: 10/09/0	7
		Client P.O.:			Date Analyzed 10/09/0	7
Analytical Method: E4	415.3	Total Organ	ic Car	bon (TOC)*	Work Orde	er: 0710177
Lab ID	Client ID	Ma	ıtrix		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	W	0.7 mg/L	
or above the reporting limit	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.

	Campbell Analyti "When Ouality Counts"	cal, Inc.	Web: www.mccamp	Pass Road, Pittsburg, CA 94565- bell.com E-mail: main@mccam 377-252-9262 Fax: 925-252-92	pbell.com	
AEI Consultants		Client Project ID: Williamson's	#270852;	Date Sampled: 10/03/ Date Received: 10/04/		
2500 Camino Dia		Client Contact: A	drian Angel	Date Extracted: 10/04/		
Walnut Creek, C	A 94597	Client P.O.:		Date Analyzed 10/07/	/07-10/1	0/07
Extraction method SW			methods SW8015C	<b>5 Diesel*</b> Work Or	der: 07	10177
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			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;	W	50	μg/L
ND means not detected at or above the reporting limit	S	NA	NA

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; 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.





# QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0710177

EPA Method SW8260B	Extra	ction SW	5030B		Ba	tchID: 31	124	Sp	iked Samp	ole ID:	0710192-00	1A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
Analyte	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 NONE	Blank of this	extraction	batch we	ere ND les	ss than the	method F	RL with th	e following	exceptions:			

## BATCH 31124 SUMMARY

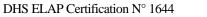
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-001C	10/03/07 12:35 PM	10/13/07	10/13/07 1:30 AM	0710177-002C	10/03/07 1:13 PM	10/13/07	10/13/07 2:22 AM
0710177-003C	10/03/07 11:20 AM	10/13/07	10/13/07 3:10 AM	0710177-004C	10/03/07 12:45 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.







# QC SUMMARY REPORT FOR SM5210B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0710177

EPA Method SM5210B	Extra	ction SM	5210B		Bat	tchID: 31	091	Sp	iked Samp	ole ID:	N/A	
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
, indigite	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RP
BOD	N/A	198	N/A	N/A	N/A	98.5	98	0.514	N/A	N/A	80 - 120	16

## BATCH 31091 SUMMARY

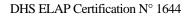
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005D	10/03/07 12:53 PM	I 10/04/07	10/11/07 2:02 PM	0710177-006D	10/03/07 1:04 PM	10/04/07	10/11/07 2:38 PM

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.



A QA/QC Officer



# QC SUMMARY REPORT FOR SM5220D

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0710177

EPA Method E410.4	Extra	ction E41	0.4		Ba	tchID: 31	125	Sp	iked Samp	ole ID:	0710177-00	6E
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
, way to	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												

## BATCH 31125 SUMMARY

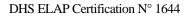
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005E	10/03/07 12:53 PM	10/10/07	10/10/07 4:01 PM	0710177-006E	10/03/07 1:04 PM	10/10/07	10/10/07 4:07 PM

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.



A QA/QC Officer



# QC SUMMARY REPORT FOR SM3500 Fe B4c

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0710177

EPA Method SM3500-Fe B4c	Extra	ction SM	3500-Fe	B4c	Bat	tchID: 31	126	Sp	iked Samp	ole ID:	0710177-00	6F
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
, and yes	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

## BATCH 31126 SUMMARY

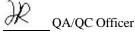
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005F	10/03/07 12:53 PM	I 10/04/07	10/05/07 4:01 PM	0710177-006F	10/03/07 1:04 PM	1 10/04/07	10/05/07 4:07 PM

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.





## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0710177

EPA Method SW8021B/8015Cm	Extrac	ction SW	5030B	030B BatchID: 31107 Spiked Sample ID: 0710173-001						1A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)	1
Analyte	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex <sup>£</sup>	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 F											70 - 150	30

## BATCH 31107 SUMMARY

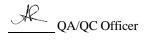
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-001A	10/03/07 12:35 PM	10/07/07	10/07/07 1:13 PM	0710177-002A	10/03/07 1:13 PM	10/07/07	10/07/07 1:14 AM
0710177-003A	10/03/07 11:20 AM	10/07/07	10/07/07 2:18 AM	0710177-004A	10/03/07 12:45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

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.





# **QC SUMMARY REPORT FOR E415.3**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0710177

EPA Method E415.3	Extra	ction E41	5.3		Ba	tchID: 31	127	Sp	iked Sam	ole ID:	0710177-00	61
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)	
, mary to	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											80 - 120	

## BATCH 31127 SUMMARY

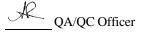
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0710177-005I	10/03/07 12:53 PM	10/04/07	10/10/07 3:35 PM	0710177-006I	10/03/07 1:04 PM	10/04/07	10/10/07 3:42 PM

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.





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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 Sampl							ole 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 E NONE	Blank of this	extraction	batch we	ere ND les		method R		ne following	exceptions:			

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.



# **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 Sp				biked Sample ID: 0710176-001B			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	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
%SS: All target compounds in the Method B NONE											70 - 130	

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	I 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.



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## QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0710177

EPA Method SW8015C	Extra	ction SW	3510C		BatchID: 31123 Spiked Sample ID: N/A						N/A	
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	SD Acceptance Crite			
	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
M/A       Z300       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												

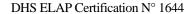
BATCH 31123 SUMMARY										
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed			
0710177-005B	10/03/07 12:53 PM	10/04/07	10/10/07 6:16 PM	0710177-006B	10/03/07 1:04 PM	10/04/07	10/09/07 11:20 PM			

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.



K QA/QC Officer



# McCampbell Analytical, Inc.

"When Ouality Counts"

# **QC SUMMARY REPORT FOR E415.3**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0710177

EPA Method E		Extraction E415.3 B				atchID: 3	1014	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 compou NONE	All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:												

## 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	M 10/09/07	10/09/07 4:19 PM	0710177-006H	10/03/07 1:04 PM	M 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.

\_\_\_\_\_QA/QC Officer