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Alameda County Environmental Health

#### Soil and Groundwater Investigation Report and Workplan

3442 Adeline Street Oakland, CA 94608

Project No. 274761

Prepared For

Ms. Steffi Zimmerman 6330 Swainland Road Oakland, CA 94611

Prepared By

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

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#### **1.0** INTRODUCTION

AEI Consultants (AEI) has prepared this report and work plan on behalf of Ms. Steffi Zimmerman, the owner of the property located at 3442 Adeline Street in the City of Oakland, Alameda County, California. AEI has been retained by Ms. Zimmerman to provide environmental engineering and consulting services relating to the release of fuel products from a former underground storage tank (UST) on the property. The site is currently under the regulatory oversight of the Alameda County Health Care Services Agency (ACHCSA).

Multiple site investigations have identified a significant release of gasoline fuel from the former UST. Based on the severity of the release and discussions with ACHCSA, groundwater monitoring and remedial action will be required. The property is currently under consideration for a sale and possible redevelopment which has necessitated determination of the nature and extent of the release and the implementation of an effective and timely remedial approach. To that end and following a meeting at the site with the ACHCSA on March 19, 2008, a workplan was prepared for further assessment. The field investigation outlined in that document was implemented in May 2008. This report updated the March 19, 2008 with this more recent data and outlines interim removal action and a recommended groundwater monitoring program.

#### 2.0 SITE DESCRIPTION AND HISTORY

The subject site (hereinafter referred to as the "site" or "property") is situated on the northeast corner of 35<sup>th</sup> Street and Chestnut Street in a mixed commercial, industrial and residential area of Oakland. The front entrance to the property is addressed at 3442 Adeline St.; however, the rear entrance is reported with the City of Oakland with the address of 3433 Chestnut St. The on-site building covers approximately 65% of the property and is currently a warehouse in the process of being vacated. Refer to Figure 2 for an aerial photo of the property.

#### 2.1 UST Excavation

On February 22, 2000, Clearwater supervised the excavation and removal of a single-wall 3,750 gallon UST. Soil samples and a groundwater sample was collected from the excavation pit and analyzed for total petroleum hydrocarbons as diesel (TPH-d), TPH as gasoline (TPH-g), methyl tertiary butyl ether (MTBE) and BTEX (benzene, toluene, ethyl benzene, and total xylenes). Soil sample concentrations of TPH-d and TPH-gwere up to 920 milligrams per kilogram (mg/kg) and 850 mg/kg, respectively. TPH-g and TPH-d were detected in the groundwater sample from the excavation pit at concentrations of 7,400 micrograms per liter ( $\mu$ g/L) and 34,000  $\mu$ g/L, respectively.

Based on the analytical results from the confirmation samples collected following tank removal, in a letter dated May 15, 2006, the City of Oakland Fire Department requested the site to be further characterized with additional soil and groundwater samples. The location of the former UST and sample locations are presented in Figures 3.

#### 2.2 Clearwater Phase II Investigation

In June, 2006 Clearwater performed a Phase II Environmental Site Investigation. Soil and groundwater samples were collected from four (4) soil borings advanced to approximately 16 feet below ground surface (bgs), immediately surrounding the former tank hold. Approximate locations of these borings are presented on Figure 3. The soil and groundwater samples collected were analyzed for TPH-d, TPH-g, BTEX, 1,2-dichloroethane (1,2-DCA) and 1,2-dibromoethane.

#### 2.3 AEI Consultants Site Investigation

In October and December of 2007, AEI performed additional site investigations to better define the nature and extent of the release. A total of twenty-two soil borings (SB-1 through SB-22) have been advanced to an approximate depth of 16 feet bgs; soil, soil vapor, and groundwater samples were obtained. Locations of these borings are presented in Figure 3. The highest soil concentrations in TPH-g/d and BTEX were detected at 1,200 mg/kg, 450 mg/kg, 6.9 mg/kg, 2.5 mg/kg, 24 mg/kg and 110 mg/kg, respectively. The highest concentrations of groundwater analyzed for TPH-g/d and BTEX were 83,000 µg/L, 12,000 µg/L, 10,000 µg/L, 640 µg/L, 2,700 µg/L and 7,900 µg/L, respectively.

Based on the soil and groundwater sample analytical data, the release of primarily gasoline related petroleum contaminants has spread mostly in a northwesterly direction, beneath the warehouse building on the property. Concentrations of petroleum contaminants decrease with distance from the UST to the north and south along Chestnut Street and to the east across the street. The vertical extent of impacted soil has been generally defined to be between approximately 6 and 12 feet bgs and is likely controlled by soil permeability along with the movement of shallow groundwater. Based on the distribution of dissolved phase petroleum hydrocarbons, groundwater is expected to flow predominately in a northwesterly direction. Soil gas sample analytical data was compared to the RWQCB Environmental Screening Levels (ESLs) as a preliminary evaluation of the potential for vapor intrusion. With the exception of benzene in SV-1, the results were below these screening levels suggesting that vapor intrusion potential may be minimal at the southeastern corner of the building. Detailed results from previous soil and groundwater sample analysis can be found in Tables 1, 2 and 3. Prior boring locations can be found on Figure 3.

#### **3.0** Additional Site Investigation

Additional soil borings were performed in May 2008 to further map the lateral extent of the release. Prior to initiating drilling activities, a soil boring permit (permit number W2008-0219) was obtained from the Alameda County Public Works Agency (ACPWA). Following permit approval, drilling activities were scheduled and Underground Utility Services (USA North) was notified to locate possible underground utilities in the area.

#### 3.1 Soil Borings and Soil Collection

On May 7, 2008, AEI advanced nine soil borings (SB-23 through SB-31) at the subject property. The borings were advanced with a direct-push drilling rig operated by Precision Sampling (CA C57 License # 636387). The borings were advanced to depths of approximately 16 feet bgs. Soil core borings SB-23 through SB-31 were continuously collected in a 2" diameter acrylic liner and logged by the onsite AEI geologist. Soil samples were described by AEI personnel and logged using the unified soil classification system and screened in the field using a photo ionization detector (PID). Field observations and screening data is presented on the borings logs in Appendix A.

Sampling equipment, including sampling barrels and other equipment used to sample, were decontaminated between samples using a triple rinse system containing Alconox<sup>TM</sup> or similar detergent.

A six inch sample at select depths was cut from the acrylic liner and sealed with Teflon tape and plastic caps, labeled with a unique identifier, placed in a cooler filled with water ice, and transported under appropriate chain-of-custody documentation for analysis to McCampell Analytical Inc., (DOHS Certification Number 1644) of Pittsburg, California. Select soil samples were analyzed for TPH-d by EPA method 8015, TPH-g, BTEX, and methyl tertiary butyl ether (MTBE) by EPA method 8021B.

Soil cuttings generated during the drilling and well installation activities were stored on-site in sealed and labeled 5-gallon buckets pending disposal.

#### 3.2 Groundwater Sample Collection

In soil borings SB-23 though SB-31, upon encountering saturated sediments, a temporary <sup>3</sup>/<sub>4</sub>" diameter factory-slotted poly-vinyl chloride (PVC) casing was inserted into the borings to facilitate the collection of groundwater samples. A groundwater sample was not collected at time of drilling (ATD) from any of the borings due to a lack of sufficient groundwater. The temporary well casings were allowed to recharge with groundwater for 2 to 7 days. The borings were checked on a daily basis and once sufficient water was present, samples were collected with dedicated, disposable bailers into 40-ml volatile organic analysis (VOA) vials and 1 liter bottles. The groundwater samples were capped so that there was no head space or visible air bubbles within the vials, labeled with a unique identifier, placed in a cooler filled with ice, and transported under appropriate chain-of-custody documentation for analysis to McCampbell Analytical Inc., (DOHS Certification Number 1644) of Pittsburg, California. Groundwater samples were analyzed for TPH-d by EPA method 8015, TPH-g, BTEX and MTBE by EPA method 8021B.

#### 3.3 Soil Analytical Results

Select soil samples were analyzed from each of the borings. Petroleum hydrocarbons were detected in the soil as follows:

- TPH-d concentrations ranged from <1.0 mg/kg to 73 mg/kg (SB-23.12).
- Concentrations of TPH-g ranged from <1.0 to 310 mg/kg (SB-23-12).
- MTBE was not detected above the laboratory reporting limit in all soil samples.
- Benzene was detected at concentrations ranging from <0.005 mg/kg to 1.3 mg/kg (SB-23-12).
- Toluene concentrations ranged from <0.005 mg/kg to 0.31 mg/kg (SB-23-12).
- Concentrations of ethyl benzene ranged from <0.005 mg/kg to 4.3mg/kg (SB-23-12).
- Detections of xylenes ranged from <0.005 mg/kg to 0.11 mg/kg (SB-23-12 and SB-25-12).

Soil analytical data is displayed on Table 1 and a copy of the laboratory analytical reports is included in Appendix C.

#### 3.4 Groundwater Analytical Results

Petroleum hydrocarbons were detected in the groundwater samples as follows:

- TPH-d was detected in each of the borings SB-23 through SB-31 (except SB-29 and SB-30 which were non-detectable) at concentrations ranging from 72  $\mu$ g/L (SB-28) to 4,800  $\mu$ g/L (SB-23).
- TPH-g concentrations in borings SB-23 through SB-31 (except SB-29 and SB-30 which were non-detectable) ranging from  $<50 \ \mu g/L$  to  $46,000 \ \mu g/L$  (SB-23).
- MTBE was not detected above the reporting limit in all groundwater samples.
- Benzene concentrations in borings SB-23 through SB-31 ranged from <0.5  $\mu g/L$  to 9,000  $\mu g/L$  (SB-23).
- Toluene was detected in borings SB-23 through SB-31 at concentrations ranging from  $<0.5 \ \mu g/L$  to 40  $\mu g/L$  (SB-23).
- Ethylbenzene was detected in borings SB-23 through SB-31 at concentrations ranging from  $<0.5 \mu g/L$  to 2,300  $\mu g/L$  (SB-23).
- Xylenes concentrations in borings SB-23 through SB-31 ranged from <0.5  $\mu g/L$  to 5,200  $\mu g/L$  (SB-23).

Groundwater analytical results are displayed on Table 2 and Figure 4. A copy of the laboratory analytical report is included in Appendix C.

#### 4.0 GEOLOGY AND HYDROLOGY

Sediments logged during the recent investigation typically consisted of heterogenous, fine grained sediments (a combination of silt, sand, and clay) just below the asphalt surface to depths ranging from approximately 4.5 to 10 feet bgs. The silty/sandy clay is underlain by interbedded layers of silty clay, clayey sand and silty gravel with varying amounts of fine to coarse grained sand to depths ranging from approximately 5 feet bgs to 9 feet bgs. This in turn is underlain by gravelly mixtures of sand, silt and clay up to 5 feet in thickness, the top of which ranged from approximately 9 to 16 feet bgs in SB-6. Silty clay sediments were encountered below the gravelly sediments. A detailed description of the sediments and field measurements are included on boring logs in Appendix A.

Groundwater was present in all borings; although, the borings were slow to produce water in several locations. Groundwater in the remaining borings was present at varying depths of approximately 8 to 14 feet bgs. Fine grained, low transmissivity sediments interbedded with more permeable and transmissive coarse (sand and gravel) soils are not uncommon in this area of the East Bay.

#### 5.0 **PRELIMINARY SITE CONCEPTUAL MODEL (SCM)**

Previous investigations have identified a release of petroleum hydrocarbon fuel product from the former fuel UST. Soil and groundwater samples have been collected by AEI from thirty-one (31) soil borings from the vicinity of the former UST along with those from the prior limited investigation. The primary contaminants detected in the soil and groundwater consists of gasoline, diesel, and BTEX. Maximum concentrations of these contaminants are summarized in the following table.

	Maximum Concentration (Sample ID)								
Contaminant	Soil in mg/kg	Groundwater in µg/l							
TPH-g	1,200 (SB-1-7.5)	120,000 (S-4)							
TPH-d	850 (SW)	34,000 (Pit Water)							
Benzene	6.9 (SB-10-11.5)	10,000 (SB-11-W)							
Toluene	2.5 (SB-1-7.5)	930 (Pit Water)							
Ethylbenzene	24 (SB-1-7.5)	3,500 (S-4)							
Total Xylenes	110 (SB-1-7.5)	7,900 (SB-11-W)							

Exhibit 1: Identif	ied Contaminant	of Concern
DAMON 1. Idenity	icu comanninam	oj concern

Qualitative notes in the laboratory analytical reports suggest that although TPH-d has been detected that these detections are indicative of significant gasoline range compounds. The presence of high concentrations of benzene, not typically a component of diesel fuel, suggests that the UST was historically utilized for gasoline. The lower concentrations of TPH-d detected onsite are likely the result of range overlap with the analytical method (EPA Method 8015).

Soil impact has been identified just above the water table, within the capillary fringe soils. As is typical of a gasoline release, the primary mechanism for lateral contaminant movement is the flow of shallow groundwater. A significant portion of contaminated soil is located in the vadose and



saturated zone soils, with the highest concentrations detected between approximately 7.5 feet and 11.5 feet bgs. Soil and groundwater sample analytical data is presented in Tables 1 and 2. Refer to Figure 4 for a site plan showing dissolved phase petroleum concentrations and to Figures 6 and 7 for cross sections through the site.

#### 5.1 Data Gaps

Based on the initial investigations of October and December 2007 and May 2008, the nature, size and extent of the release have been broadly defined. A monitoring program will be required for the site to identify flow directions, gradients, and concentration trends. Additional data that can be gathered from monitoring wells include hydraulic conductivity, effects of various physical or chemical remedial activities (such as during pilot testing) and additional chemical analyses if needed. Information on nearby potentially impacted receptors has not been conducted.

#### 5.2 Proposed Next Steps

In the near future AEI and the property owner plans to proceed with a source removal excavation (see Section 6.0) while beginning a groundwater monitoring program (See Section 7.0). Monitoring data will be utilized to better understand contaminant migration, to monitor improvements to groundwater conditions following source removal, and success of pilot testing and treatment.

#### 6.0 INTERIM SOURCE REMOVAL EXCAVATION

The purpose of this interim remedial action will be to remove the more accessible portion of the petroleum hydrocarbon source material in the soils. This will limit further spread of the dissolved phase plume. However due to the presence of the building and well as the size and distribution of the impact this removal action is not intended to remove all impacted soil.

An outline of proposed excavation limits are presented on Figure 3. The excavation will extend vertically to a depth of approximately 14 feet, the approximate depth of the bottom of the more highly impacted soils. The estimated volume of soil is approximately 995 cubic yards. This area is adjacent to the former UST and where the dispenser was located and contains some of the more impacted soil. As this excavation work inside the building proceeds, possibly excavating soil from around the former UST will be assessed. Complications include structural and stability concerns with the building and adjacent public street and residence, utilities, and permitting issues. The ACHCSA will be notified of specifications if excavation is to proceed in the sidewalk area.

The owner will prepare the site for the excavation, including engineering assessment of the building foundation, removal of the concrete slab, preparation of the staging areas, and removal of un-impacted soils. AEI will perform the excavation and handling of petroleum impacted soil. The target soils will be profiled into a landfill facility and transported under appropriate manifest for disposal. The excavation will be adequately sloped for stability and clean overburden stockpiled separate from impacted soil for possible reuse. As a contingency, groundwater and light non-aqueous phase liquid (LNAPL), if present, would be pumped from the excavation into a 21,000 gallon holding tank for either transportation to an approved treatment / recycling facility or for



onsite treatment and permitted discharge to the sanitary sewer. The excavation progress will be monitored by the Project Geologist and, upon completion, confirmation samples collected at approximately 1 per 20 feet of sidewall. Samples will be analyzed for TPH-g, TPH-d and BTEX.

The resulting excavation cavity will be secured at all times from access while open. Once excavation, sampling, and dewatering are completed the excavation will be backfilled. Depending on the conditions encountered, the excavation may be left open for additional dewatering or in-situ treatment. If overburden from the excavation is to be used for backfilling, it will be stockpiled separate from the impacted soils and sampled at a frequency of 1 sample per 100 cubic yards and analyzed for TPHg/d and BTEX prior to emplacement to ensure that residential land use conditions are met. Data will be provided to ACHCSA for review prior to re-use. Backfill will be emplaced and adequately compacted.

#### 7.0 MONITORING WELL INSTALLATION

Based on the existing site data, seven well locations are proposed. Well installation procedures and a groundwater monitoring program are presented below.

#### 7.1 Well Installation

AEI proposes to install seven groundwater monitoring wells (MW-1 through MW-7). The purpose of groundwater monitoring is to determine flow direction, hydraulic gradient, and monitor stability of dissolved phase contaminant plume. The proposed locations of the wells are presented on Figure 3. A summary of the proposed wells is presented below, along with completion details and purpose of each.

Well ID	Location / Purpose	Casing Diameter (inches)	Screen interval (ft bgs)
MW-1	Nearest to abandoned tank area to assess source area.	4	7-17
MW-2	Northwest of abandoned tank area to assess source area.	4	7-17
MW-3	West of abandoned tank area to assess adjacent property	4	7 – 17
MW-4	Northwest of source area to assess northwest (possibly down-gradient) extent of plume	2	7 – 17
MW-5	West of source area to assess adjacent property	2	7-17
MW-6	Northwest of source area to assess northwest extent of plume	2	7 – 17
MW-7	Southeast of abandoned tank location to assess alternate position of source area.	2	7 – 17

Exhibit 2: Proposed Wells

Well installation work will be performed under ACPW permit by a C57 licensed drilling contractor. The wells will be installed in borings drilled with a limited-access rotary drilling rig, running  $8\frac{1}{4}$  or  $10\frac{1}{2}$  diameter hollow stem augers, as needed based on the well



casing size. The boreholes will be advanced to a tentative target depth of 17 feet bgs. The wells will be constructed with 2" to 4" diameter well casings, planned with 10' of factory slotted 0.020 inch well screen set from 7 to 17 feet. If feasible given the access limitation, a drill rig capable of collecting continuous samples will be utilized. Otherwise, samples will be collected with a split spoon sampler every 5 feet to log the boring and for possible chemical analyses.

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, to approximately 1 foot above the top of slotted casing, 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. Each well will be finished with an expanding, lockable inner cap and a flush-mounted well box.

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, with accuracy appropriate for Geotracker uploads

#### 7.2 Quarterly Monitoring Activities

Monitoring and sampling of the resulting network of wells will occur on a quarterly basis tentatively for a period of one year under this work plan, with the first episode to occur within approximately one week of well development.

During each monitoring event, water levels will be measured in each well. Wells will be purged of at least 3 well volumes of water prior to sample collection. During purging the following water quality measurements will be collected using a peristaltic pump.

During purging the pump rate will be maintained at less than 0.5 liter per minute with the draw tube at a depth of approximately 18" below the top of standing water in the well. The standard groundwater parameters of pH, temperature, conductivity, dissolved oxygen (DO) and oxidation-reduction potential (ORP) will be measured. Groundwater samples will be collected when the groundwater parameters stabilize to the extent reasonable. Stabilization will be defined as follows:  $pH \pm 0.1$  units, conductivity  $\pm 3\%$  µs/cm, DO  $\pm 0.3$  milligrams per liter, and ORP  $\pm 10$  millivolts.

Groundwater samples will be collected with new, unused disposable bailers into appropriate laboratory-supplied containers. During the first monitoring event, the groundwater samples will be analyzed for the following:

- TPH-g by EPA Method 8015M
- TPH-d with silica gel cleanup by EPA Method 8015M
- BTEX and MTBE by EPA Method 8021B

Depending on the findings of the initial monitoring event, modifications to the monitoring program or the addition of specific analyses (such as those for natural attenuation assessment or used in evaluating chemical oxidation methods) may be performed or recommended in the assessment report.

#### 7.3 Waste Storage

Drill cuttings will be stockpiled with the excavated soil or stored with other Investigation-Derived Waste (IDW) onsite in sealed 55-gallon drums, pending the results of sample analyses. Equipment rinse water and well purge water will be stored in 55-gallon drums. Upon receipt of necessary analytical results, the waste will be profiled for disposal and transported from the site under appropriate manifest to approved disposal or recycling facility(s).

#### 8.0 SITE SAFETY

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

#### 9.0 **PRELIMINARY REMEDIAL OPTION EVALUATION**

The excavation proposed in Section 6.0 will remove an accessible portion of source contamination, however, excavation as a means to remediate the entire dissolved phase plume area and sorbed phase impact may not be a cost-effective remedial approach. As the remedial excavation is completed and data becomes available from the monitoring events, an evaluation of the extent to which alternative remedial actions are needed and which methods may be most effective. This evaluation will include the following criteria:

- Dissolved phase contaminant concentrations in monitoring wells;
- The presence and thickness of free phase product, if any, within the remedial excavation and/or monitoring wells;
- Possibly complete exposure pathways (drinking water, vapor intrusion, director contact, etc.)
- Groundwater flow direction and gradient;
- Timing of proposed property transaction and tentative redevelopment plans;
- Comments and input from ACHCSA.

Remedial methods to be considered for the site will include in situ chemical oxidation (ozone sparging, persulfate or peroxide injections, etc.), vapor extraction / air sparging and/or high-



vacuum dual phase extraction if free product is present, additional excavation and dewatering, and enhanced aerobic bioremediation. Once remedial excavation is completed and monitoring wells are installed, an area of the plume can be targeted for field feasibility testing of a remedial alternative. In addition to the contaminant analyses outlined in Section 7.0, select soil and groundwater samples will be analyzed for the following properties and characteristics during the well installation and subsequent sampling: Soil Oxidant Demand, Total Inorganic Carbon, Chemical Oxidant Demand EPA 410.4, total and dissolved metals by EPA 6010 and 200.7 including manganese, iron, chromium, alkalinity, and macronutrients. When a field pilot testing is proposed or if an additional remedial investigation is required, a workplan will be prepared for ACHCSA if needed.

#### **10.0** SCHEDULE AND REPORTING

The ACHCSA will be given notification of field work as it is scheduled. It is expected that the removal action and well installation work will be completed in July and August 2008. AEI will prepare and issue a report following receipt of all necessary data from the investigation and source excavation. The report will include logs of borings, data tables, figures of excavation, drilling and sampling locations, copies of laboratory analytical reports and disposal documentation. A written discussion of the history, methods and findings, and recommendations will be included, as warranted by the findings. Site data will be uploaded as necessary into the GeoTracker database, as necessary. The project will be overseen and the report(s) signed by an AEI California registered professional geologist or engineer.

#### 11.0 LIMITATIONS AND SIGNATURES

This plan has been prepared by AEI Consultants on behalf of the Ms. Zimmerman which outlines proposed activities relating to the environmental release at the property located at 3442 Adeline Street, located in the City of Oakland, Alameda County, California. The plan outlined in this report has been based on previous field investigations, laboratory testing of material samples, and evaluations performed by AEI and others. AEI is not responsible for the accuracy or quality of work performed by others, information not available or provided to AEI, and other data or information gaps. 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 document 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) and petroleum products, 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 will be performed in accordance with generally accepted practices in environmental engineering, geology, and hydrogeology and will be performed under the direction of appropriate California registered professional(s).

We look forward to comments and concurrence with the scope of work outlined herein. Should you have any questions or need additional information, please contact us at 925/944-2899.

Sincerely, **AEI** Consultants

ou Harmony TomSun

Staff Geologist

GEO DED. MCINTYRE PETER LL. ю No. 7702 S Peter J. McIntyre, PG, RE ATE Senior Project Manager OF 4D

Adrian M. Angel Project Geologist

Distribution: Ms. Steffi Zimmerman, 6330 Swainland Road, Oakland, CA 94611 Mr. Stephen Plunkett, ACHCSA, 1131 Harbor Bay Parkway, Alameda, CA 94502



**FIGURES** 







Approximate Scale: 1 inch = 55 feet 55'  $0^{\circ}$ 

<b>AEI CONSULTANTS</b>
2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597

# Site Plan

3433 Chestnut St.

N

Oakland, CA 94608

FIGURE 2 Job No: 274761









Silty Clay	G - Total Petroleum Hydrocarbons as Gasoline	
	B - Benzene	
Fat Silty Clay	✓ Groundwater Level (ATD)	
Clayey Sand	G = 0 B = 0.51 Soil Analyses (mg/kg)	
Gravelly Clay	$_{R=5200}^{SB-12-W}$ Water Analyses (µg/L)	0 10 20 Horizontal Scale (feet)





**TABLES** 

# Table 1: Soil Sample Analytical Data 3433 Chestnut St. Oakland, CA 94608 AEI Project #274761

<b>A</b>														
Sample ID	Depth	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
	4		Method 8015C			Method 8021B					M	ethod 826	0B	
NIM/	11 6 5	2/22/2000	120	120	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	тд/кд	mg/kg	тд/кд	mg/kg
INVV	0.5	2/22/2000	150	130		0.10	0.20	0.73	0.5					
sw	6.5	2/22/2000	850	920		0.3	0.37	5.3	22					
S-1	5	6/23/2006	5.6	<1.0		0.011	<0.0050	<0.0050	<0.0050					
	8		26	100		1.3	0.22	2.0	7.2					
	12		45	67		0.098	<0.025	0.73	0.39					
	14.5		1.2	<1.0		<0.0050	<0.0050	<0.0050	0.01					
S-2	4	6/23/2006	4.7	<1.0		0.016	<0.0050	<0.0050	<0.0050					
	7.5		84	460		1.2	0.36	9.4	24					
	12		49	61		0.33	0.055	0.84	2.4					
	14		<1.0	<1.0		<0.0050	<0.0050	<0.0050	<0.0050					
S-3	3.5	6/23/2006	3.1	<1.0		<0.0050	<0.0050	<0.0050	<0.0050					
	7.5		250	1,200		0.47	0.52	18	100					
	10		76	220		0.26	<0.040	6.2	7.2					
	14.5		1.3	<1.0		<0.0050	<0.0050	0.0056	0.016					
S-4	3.5	6/23/2006	3.5	<1.0		<0.0050	<0.0050	<0.0050	<0.0050					
	7.5		240	820		<0.20	<0.20	6.7	4.4					
	11.5		120	500		0.079	<0.040	3.5	4.8					
	14.5		1.3	<1.0		<0.0050	<0.0050	<0.0050	<0.0050					
SB-1	4	10/1/2007		2.9	<0.05	0.016	0.0079	<0.005	0.0094					
	7.5		450	1,200	<5.0	3.1	2.5	24	110					
	11.5		90	640	<2.5	0.40	1.5	9.3	23	< 0.33	<3.3	< 0.33	< 0.33	< 0.33
	15.5			<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
SB-2	7.5	10/1/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	11		6.1	53	<0.05	<0.005	0.24	0.0084	0.19	<0.005	<0.05	<0.005	<0.005	<0.005
SB-3	7.5	10/1/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	11.5		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005
SB-4	3.5	10/1/2007		1.2	<0.05	<0.005	<0.005	<0.005	<0.005					
	7.5		170	430	<1.0	1.2	0.99	3.6	1.2					
	11.5		25	340	<1.0	2.4	0.92	7.1	9.7	< 0.005	<0.05	<0.005	<0.005	<0.005
	15.5			<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
SB-5	3.5	10/1/2007		<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	7.5		54	420	<1.5	4.0	1.1	9.5	18					
	11.5		22	130	<1.0	0.43	0.10	1.2	0.77	< 0.005	<0.05	<0.005	<0.005	<0.005
	15.5			<1.0	<0.05	0.017	<0.005	< 0.005	< 0.005					

# Table 1: Soil Sample Analytical Data 3433 Chestnut St. Oakland, CA 94608 AEI Project #274761 Sample ID Depth Date TPH-d TPH-g MTBE Benzene Toluene E-Benzene Xylenes TAME TBA ft mg/kg <t

			Method 8015C			Method 8021E	3				М	ethod 8260	)B	
	ft		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-6	75	10/1/2007	<10	~1.0	<0.05	<0.005	<0.005	~0.005	~0.005					
00-0	11.5	10/1/2007	<1.0	<1.0	<0.05	< 0.005	< 0.005	<0.005	<0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005
SB-7	7.5	10/3/2007	90	310	<1.0	<0.10	0.48	0.28	0.38					
	11.5		37	120	<0.50	0.21	0.069	0.39	0.22	<0.020	<0.20	<0.020	<0.020	<0.020
SB-8	7.5	10/3/2007	23	53	<0.10	<0.010	0.030	0.034	0.13					
	11.5		13	99	<0.17	0.24	0.070	0.66	0.46	<0.010	<0.10	<0.010	<0.010	<0.010
		10/0/0007												
SB-9	4	10/3/2007	<1.0	<1.0	<0.05	< 0.005	<0.005	<0.005	<0.005					
	11.5		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005
SB-10	7.5	10/3/2007	5.1	35	<0.10	0.72	0.024	0.47	0.079					
	11.5		74	750	<10	6.9	1.6	13	33	<0.10	<1.0	<0.10	<0.10	<0.10
	15.5			<1.0	<0.05	0.012	<0.005	<0.005	0.0052					
SB-11	11.5	10/3/2007	13	39	<0.3	0.68	0.086	0.76	23					
	15.5	10/0/2001	10	41	0.14	1.1	0.071	0.55	1.5					
SB-12	8	12/20/2007	1.8	25	<0.10	0.097	0.024	0.81	1.3					
	12		23	82	< 0.50	0.74	0.14	1.5	2.9					
	10			20	<0.25	0.51	0.065	0.40	1.0					
SB-13	8	12/20/2007	66	180	<0.50	0.46	0.10	2.5	2.7					
	12		74	170	<0.50	1.1	0.21	2.4	6.7					
	16		<50	5.7	<0.05	0.87	0.017	0.12	0.10					
SB-14	8	12/20/2007	<10	<10	<0.05	0 0092	<0.005	<0.005	<0.005					
0014	12	12/20/2001	83	910	<2.5	3.3	0.43	10	16					
	16			<1.0	< 0.05	<0.005	<0.005	< 0.005	<0.005					
05.45		40/00/0007	4.0	4.0	0.05	0.005	0.005	0.005	0.005					
SB-15	8 12	12/20/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	16			40	<0.1	0.26	0.047	0.37	1.3					
SB-16	8	12/20/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
CD 17	0	12/20/2007	-10	-1.0	-0.05	<0.005	-0.005	-0.005	-0.005					
36-17	12	12/20/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	.=													
SB-18	8	12/20/2007	18	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
SB-10	8	12/20/2007	<10	~1.0	<0.05	<0.005	<0.005	~0.005	~0.005					
30-13	12	12/20/2007	<1.0	6.7	<0.05	< 0.005	< 0.005	< 0.005	< 0.005					

DIPE ETBE MTBE

# Table 1: Soil Sample Analytical Data 3433 Chestnut St. Oakland, CA 94608 AEI Project #274761

AEI Project #	2/4/01													
Sample ID	Depth	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
	~		Method 8015C			Method 8021B					M	ethod 8260	)B	
6B 30	ft o	10/00/2007	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/кg	mg/kg	mg/kg	mg/kg
36-20	0	12/20/2007	9.7	09	<0.25	0.070	0.14	0.050	0.14					
	12		32	99	<0.17	0.61	0.061	1.0	1.4					
	10			<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
SB-21	8	12/21/2007	<10	<10	<0.05	<0.005	<0.005	<0.005	<0.005					
<b>02 1</b> .	12	12/2 // 2001	5.8	26	< 0.05	0.28	0.048	0.31	0.30					
SB-22	8	12/21/2007	<1.0	24	<0.05	< 0.005	0.070	0.016	0.059					
	12		150	310	<1.7	0.17	<0.17	4.1	3.2					
	16			9.2	< 0.05	0.021	0.032	0.0052	0.0083					
SB-23	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	12		73	310	<3.0	1.3	0.31	4.3	0.11					
00.04		F/7/0000	4.0	4.0	0.05	0.005	0.005	0.005	0.005					
SB-24	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	12		3.4	15	<0.15	0.011	0.023	0.020	0.044					
	10		<1.0	41	<0.50	<0.050	<0.050	0.11	0.11					
SB-25	8	5/7/2008	~1.0	~10	<0.05	<0.005	<0.005	<0.005	<0.005					
00-20	12	3/1/2000	12	48	<0.00	0.027	0.079	0.029	0.11					
	12		12	40	<0.50	0.027	0.075	0.025	0.11					
SB-26	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	< 0.005	<0.005					
	12		<1.0	<1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005					
SB-27	8	5/7/2008	<1.0	<1.0	<0.05	< 0.005	<0.005	< 0.005	< 0.005					
	12		4.2	27	<0.05	< 0.005	0.10	< 0.005	0.061					
	16		1.5	4.8	<0.05	0.0053	0.020	<0.005	0.0074					
	_													
SB-28	8	5/7/2008	<1.0	<1.0	< 0.05	<0.005	<0.005	<0.005	< 0.005					
	12		1.6	19	<0.05	0.24	0.034	0.031	0.036					
SP 20	0	5/7/2009	-1.0	-10	-0.05	-0.005	-0.005	<0.005	-0.005					
3D-29	0 12	5/7/2006	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	12		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
SB-30	8	5/7/2008	<1.0	<1.0	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005					
	12	5,.,2000	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
SB-31	8	5/7/2008	<1.0	<1.0	< 0.05	< 0.005	<0.005	< 0.005	<0.005					
	12		<1.0	1.9	< 0.05	<0.005	0.016	<0.005	<0.005					
ESL			83	83	0.023	0.044	2.9	3.3	2.3					
										1				

Notes:

mg/kg = milligrams per kilogram

ESL = Environmental Screening Level

 $\mathbf{NW}=\mathbf{Soil}\ \mathbf{Sample}\ \mathbf{Collected}\ \mathbf{from}\ \mathbf{northwest}\ \mathbf{sidewall}\ \mathbf{during}\ \mathbf{excavation}$ 

SW = Soil Sample Collected from southwest sidewall during excavation

 $\label{eq:TPH-g} TPH-g = total \ petroleum \ hydrocarbons \ as \ gasoline$ 

TPH-d = total petroleum hydrocarbons as diesel

E-Benzene = ethyl benzene TAME = tert-amyl methyl ether ETBE = ethyl tert-butyl ether TBA = tertiary butyl alcohol DIPE = Di-isopropyl Ether

MTBE = methyl tert-butyl ether

#### Table 2: Groundwater Sample Analytical Data 3433 Chestnut St. Oakland, CA 94608 AEI Project #274761

	_												
Sample ID	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	ETBE	TBA	DIPE	MTBE
			ua/l	ua/l	1/100 802 1B	ua/l	ua/l	ua/l	ug/l	ua/l	ua/l	B UO/I	ua/l
Pit Water	2/22/2000	34.000	7.400	μg/L 	3.300	930	400	6.200	µg/∟ 	<u>µg/∟</u> 	<u>ру, с</u> 	<u>µg/∟</u> 	µg/∟ 
		,			,			,					
S-1	6/23/06	<10,000	20,000		980	70	1,500	1,100					
S-2	6/23/06	<4,000	31,000		7,000	260	920	2,800					
S-3	6/23/06	<1,500	23,000		490	67	1,200	3,300					
S-4	6/23/06	<40,000	120,000		200	<15	3,500	2,900					
SB-1	10/1/2007	6,100	28,000	<170	2,000	77	1,600	4,100	<25	<25	<250	<25	<25
SB-2	10/1/2007	300	640	<5.0	1.8	2.2	1.1	4.9	<0.5	<0.5.	<5.0	<0.5	<0.5
SB-3	10/1/2007	<50	84	<5.0	2.4	<0.5	4.2	11	<0.5	<0.5.	<5.0	<0.5	<0.5
SB-4	10/1/2007	2,200	20,000	<600	6,600	110	390	430	<17	<17	430	<17	<17
SB-5	10/1/2007	7,400	22,000	<250	1,900	86	1,200	2,100	<5.0	<5.0	120	<5.0	<5.0
SB-6	10/1/2007		440		17	<0.5	0.99	2.2	<0.5	<0.5	18	<0.5	2.0
SB-7	10/3/2007	1,000	2,000	<25	30	5.1	56	82	<0.5	<0.5.	<5.0	<0.5	6.1
SB-8	10/3/2007	1,600	6,700		110	6.3	160	140	<0.5	<0.5	12	<0.5	<0.5
SB-9	10/3/2007	5,700	11,000	<50	440	14	720	1,000	<1.7	<1.7	37	<1.7	<1.7
SB-10	10/3/2007	1,700	17,000	<100	3,800	55	420	830	<10	<10	510	11	<10
SB-11	10/3/2007	4,300	83,000		10,000	640	2,700	7,900	<25	<25	840	<25	<25
SB-12	12/20/2007	4,900	35,000	<450	5,200	110	1,000	1,800					
SB-13	12/20/2007	5,100	29,000	<250	5,300	80	1,400	3,900					
SB-14	12/20/2007	12,000	23,000	<240	2,600	15	1,500	1,800					
SB-15	12/20/2007	3,000	36,000	<350	7,700	190	1,600	4,700					
SB-16	12/20/2007	480	88	<5.0	0.60	<0.5	<0.5	0.83					

# Table 2: Groundwater Sample Analytical Data3433 Chestnut St. Oakland, CA 94608

AEI Project #274761

Sample ID	Date	TPH-d	TPH-a	MTRF	Benzene	Toluene	F-Benzene	Xvlenes	ΤΔΜΕ	FTRF	TBA	DIPE	MTRF
oampie ib	Date	Method 8015C	II II-g		Method 8021B	Toruene	E-Delizene	Aylenes		LIDL	Method 8260E	3	
		µg/L	µg/L	μg/L	µg/L	µg/L	μg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
SB-17	12/20/2007	320	1,100	<5.0	<0.5	6.2	<0.5	4.2					
SB-18	12/20/2007	1,800	<50	<5.0	<0.5	<0.5	<0.5	<0.5					
SB-19	12/20/2007	280	<50	<5.0	<0.5	<0.5	<0.5	<0.5					
SB-20	12/20/2007	3,900	28,000	<160	3,400	22	1,200	930					
SB-21	12/21/2007	1,200	8,100	<50	1,600	<5.0	160	84					
SB-22	12/21/2007	620	2,600	<10	110	0.90	150	55					
SB-23	5/14/2008	4,800	46,000	<450	9,000	40	2,300	5,200					
SB-24	5/14/2008	2,900	11,000	<50	80	<5.0	440	290					
SB-25	5/9/2008	1,300	3,600	<5.0	42	1.90	65	36					
SB-26	5/14/2008	770	2,300	<10	22	2.1	<1.0	2.4					
SB-27	5/14/2008	180	740	<5.0	7.4	3.70	<0.5	1.0					
SB-28	5/16/2008	72	290	<5.0	1.3	0.93	2.7	4.0					
SB-29	5/16/2008	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5					
SB-30	5/14/2008	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5					
SB-31	5/14/2008	770	5,100	<110	270	6.3	79	7					
ESL		100	100	5.0	1.0	40	30	20			50,000		

Notes:

µg/L = micrograms per liter

ESL = Environmental Screening Level

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

TAME = tert-amyl methyl ether ETBE = ethyl tert-butyl ether TBA = tertiary butyl alcohol

E-Benzene = ethyl benzene

DIPE = Di-isopropyl Ether

MTBE = methyl tert-butyl ether

#### Table 3: Soil Vapor Sample Analytical Data 3433 Chestnut St. Oakland, CA 94608 AEI Project #274761 Boring Date Isopropyl TPH-g MTBE Benzene Toluene Ethyl **Xylenes** Alcohol Benzene Method TO15 µg/m³ µg/m³ <u>µg</u>/m<sup>3</sup> µg/m³ µg/m<sup>3</sup> µg/m<sup>3</sup> µg/m<sup>3</sup> VB-1 10/1/2007 <25 1,900 <48 130 35 <8.8 <27 VB-2 10/1/2007 <25 3,100 32 42 11 <48 50 VB-3 10/1/2007 <25 2,500 <48 40 42 16 49 ESL 26,000 9,400 85 63,000 420,000 150,000 ---

 $\mu g/m^3 \,{=}\, micrograms \; per \; cubic \; meter$ 

ESL = Environmental Screening Level

TPH-g = total petroleum hydrocarbons as gasoline

 $MTBE = methyl \; tert\text{-}butyl \; ether$ 

# **APPENDIX** A

## **BORING LOGS**

### Log of Boring SB-1

Date(s) Drilled October 1, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole 16 feet bgs
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level	Sampling	Well
and Date Measured 8 feet ATD	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0			Other		Concrety/Top Soil - Gravelly Sand		
-	-			CL		Silty Clay, Black, Poorly Graded, Low Plasticity, Roots, 5% Fine Grained Gravel, Stiff		
_	5	X	SB-1-4	CL		Stiff Clay, Greenish Gray/Yellowish Brown, Low Plasticity, Poorly Graded	5.4	
-	-	$\times$	SB-1-7.5			(ATD) ⊻	35.7	
	10			GC		Gravelly Silty Clay, Coarse, Multi-Colored (green, gray, orange, yellowish-brown), Stiff, Low Plasticity		
-	-	X	SB-1-11.5	CL		Silty Sandy Clay, Olive Greenish Gray, Soft, Moist	350.1	
_	- 15			СН		Fat Clay, Light Yellowish Brown with Orange Veins, Poorly Graded, High Plasticity		
-	-	X	SB-1-15.5			Bottom of Boring at 16 feet bgs	12.5	
_	- 20							
								Figure

### Log of Boring SB-2

Date(s) Drilled October 1, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 8 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

	Elevation, feet	Depth. feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
		0-			Other		Top Soil/Fill Material		
0.tpl]	-							-	
eoprobe 2(	_				CL		Silty Clay, Black, Low Plasticity, Poorly Graded, Roots, 5% Fine Grained Gravel		
gs.bgs [AEI g	-			SB-2-3.5				5.5	
HT/Soil Borin	_	5			CL		Gravelly Silty Clay, Dark Gray, Low Plasticity, Poorly Graded, 10% Fine Grained Gravel		
n) Oakland-	_				CL		Silty Clay, Greenish Gray, Moderate Plasticity, 5% Fine Grained Gravel	-	
nermai			$\boxtimes$	SB-2-7.5	00			7.5	-
fi Zimr					GC		Gravelly Sandy Clay, Multi-Colored (green, blue, orange, brown), Soft, $^{\prime -}$ Fine Grained Gravel		
Consult (Stef	_	10-			CL		Lean Silty Clay, Lean, Light Yellowish Brown and Greenish Gray, Moderate Plasticity		
JN/274761	_		X	SB-2-11				235.4	
TERIZATIO	_				CL		Silty Clay, Light Yellowish Brown, 10% Fine Grained Gravel		-
CHARAC	-		-					-	
	_	15		00 0 /	СН		Fat Clay, Light Yellowish Brown with Orange Veins, High Plasticity, Moist		
ON & REME	_			SB-2-15.5			Bottom of Boring at 16 feet bgs	14.8	
TERIZATIC	_							_	
S/CHARAC	_								
X:\PROJECT.		20-			I	I		<u>I</u>	Figure

### Log of Boring SB-3

Date(s) Drilled October 1, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole <b>16 feet bgs</b>
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level	Sampling	Well
and Date Measured <b>14 feet ATD</b>	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

	Elevation, feet	Danth faat	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	٦	0-	+		Other		Top Soil/Fill Material		
probe 20.tpl]	_				CL		Silty Clay, Black, Stiff, Low Plasticity, Poorly Graded, Fine Grained Gravel	_	
.bgs [AEI geop	_			SB-3-3.5				11.1	
IT/Soil Borings.	_	5-			CL		Sandy Clay, Coarse Grained, Hard, Dark Reddish/Yellowish Brown, Tight, Dry	-	
an) Oakland-H	_							-	
teffi Zimmerm.	-			SB-3-7.5	GC		Gravelly Sandy Clay, Soft, Multicolored (yellow, orange, green, brown), Coarse Grained Sand, 15% Gravel	8.1	
761 Consult (S		10-			CL		Silty Clay, Stiff, Dry, Shells, Dark Brown/Black		
TION/274	_		X	SB-3-11.5	GC		Oncome Development of the Development of Development of Development	5.8	
ERIZA					00		Gravely Sanay Clay, Son, Dark Yellowish Brown, Coarse Grained Sand, 15% Gravel		
CHARACTI	_		_		CL		Sandy Clay, Coarse Grained Sand, Poorly Graded, Wet, High Plasticity 	-	
		15-		00 0 45 5	СН		Fat Clay, High Water Content, High Plasticity, Reddish/Yellowish Brown		
N & REME	_			SB-3-15.5			Bottom of Boring at 16 feet bgs	13.4	
TERIZATIO			_					-	
S\CHARAC <sup>-</sup>	-		-					-	
X:\PROJECT		20-		<u> </u>	I	I	L	1	Figure

### Log of Boring SB-4

Date(s) Drilled October 1, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole <b>16 feet bgs</b>
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level	Sampling	Well
and Date Measured	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

	Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
		0			Other		Fill Material/Top Soil		
I geoprobe 20.tpl]	_				CL		Silty Clay, Black, Stiff, Low Plasticity, Poorly Graded, 5% Fine Grained Gravel -	-	
ings.bgs [AE	_			SB-4-3.5			-	12.9	
rman) Oakland-HT\Soil Bor		5		SB-4-7.5	ML		Silty Clay, Very Fine Grained, Stiff, Greenish Gray/Yellowish Brown, Low Plasticity, 5% Fine Grained Gravel	225	
sult (Steffi Zimme	_			55 11.0	GC		Gravelly Sandy Clay, Coarse Grained, Multicolored (green, gray, yellow, brown), Soft	-	
61 Con		10-			CL		Silty Clay, Stiff, Dry, Greenish Gray, Low Plasticity		
RACTERIZATION/2747(	_	-		SB-4-11.5	GC		Gravelly Sandy Clay, Greenish Grayish Brown, Soft, Moist, High Plasticity, Coarse Grained Sand, 10% Fine Grained Gravel	411	
ATION/CHAF	_	15			СН		Fat Clay, Light Yellowish Brown with Orange Veins, High Plasticity, High Water Content	_	
CTS/CHARACTERIZATION & REMEDI/	_			SB-4-15.5			Bottom of Boring at 16 feet bgs 	9.1	
									Figure

### Log of Boring SB-5

Date(s) Drilled October 1, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole 16 feet bgs
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 11 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0			Other		Top Soil/Fill Material		
_	_			CL		Silty Clay, Black, Stiff, Low Plasticity, Poorly Graded, Roots, 5% Fine Grained Gravel		
	_	$\times$	SB-5-3.5			-	12.1	
-	5 -		OD 5 7 5	ML		Silty Clay, Light Yellowish Brown and Bluish Gray, Stiff, Dry, Shells, Low Plasticity	220	
_	_	M	SB-5-7.5	GC		Gravelly Sandy Clay, Dark Olive Green, Soft, Coarse Sand, Fine Grained	339	
-	 10  		SB-5-11.5			 	167	
				CL		Silty Clay, Lean, Light Olive Greenish Gray with Orange Veins, Moderate Plasticity		
	15		00 5 45 5				00 F	
-	- - - 20		<u>SB-5-15.5</u>			Bottom of Boring at 16 feet bgs	20.5	
								Figure

### Log of Boring SB-6

Date(s) Drilled October 1, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole <b>16 feet bgs</b>
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level	Sampling	Well
and Date Measured	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

	Elevation, feet	Denth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
		0-			Other		Top Soil/Fill Material		
0.tpl	-				CL		Silty Clay Black Stiff Dry 25% Fine Grained Gravel		
be 2(							Siny Clay, Black, Suil, Dry, 37/01 the Graned Graver		
eopro							-		
AEI g	-						-	_	
bgs [			$\boxtimes$	SB-6-3.5				7.8	
orings					CL		Gravelly Silty Clay, Light Yellowish Brown and Grayish Blue, Tight, 5% Fine Grained Gravel		
Soil B		5-	-					-	
LH-F							_		
aklanc					GM		Crovelly Silty Sond Light Vellow Reddick Prown Well Croded Wet Ven		-
U) 08	-				CL		Fine Grained Gravel		
Jerma			$\boxtimes$	SB-6-7.5			Silty Clay, Light Yellowish Brown, Tight, Lean, Increasing Plasticity with	13.2	
Zimn							Depti		
Steffi	-						-	_	
nsult (		10-							
1 Col					SM		Silty Sand Light Gravish White Dry		
27476	-				GC		Gravelly Silty Clay, Dark Brown, Moderate Plasticity, 15% Fine Grained		-
NO	_		$\boxtimes$	SB-6-11.5			Gravel	19.1	
RIZAT									
	_				GC		Gravelly Silty Clay, Light Olive Green, Tight, Slight Plasticity, 10% Fine		
HARA	_						Grained Gravel	_	
ONC									
DIATIC	-	15-	$\boxtimes$	SB-6-15				11.3	
EMEL	-						Dattern of Daviag at 10 feet has		-
A & R							BORTOM OF BORING AT 16 TEET DGS		
ATION	-						-	1	
ERIZ	-						-	-	
RACTI									
CHAF	-						-	1	
CTS		20-							
ROJE									Figure
Ч.Х									<b>,</b>

### Log of Boring SB-7

Date(s) Drilled October 3, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole <b>16 feet bgs</b>
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level	Sampling	Well
and Date Measured 8 feet ATD	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0			Asphalt		Concrete		
	_			SP		Coarse Sand, Dark Yellowish Brown, Loose, Wet		
-	_			CL		Silty Clay, Black, Moderate Plasticity Decreasing with Depth, Gravel Quantity Increasing with Depth _		
_	-	$\times$	SB-7-3.5				57	
_	5			GM	0~0~0~0~0~0~0~0~0~0~0~0~0~0~0~0~0~0~0~	Gravelly Sandy Silt, Dark Gray, Dry, Fine Grained Gravel		
-	-			CL		Silty Clay, Lean, Dark Greenish Gray, Moist, Moderate Plasticity		
-	_	$\times$	SB-7-7.5			- (ATD) ⊻	92	
_	10			SM		Sandy Silt, Olive Green, Strong Hydrocarbon Odor, 5% Fine to Medium Grained Gravel —		
_	-	X	SB-7-11.5	CL		Silty Clay, Greenish Gray, Tight, Lean, Moderate Plasticity	390	
_	_ 15—			CL		Sandy Clay, High Water Content, Greenish Gray, High Plasticity, Coarse Grained Sand		
			SB-7-15 5				52	
-	-		38-7-13.3			Bottom of Boring at 16 feet bgs	52	
	20							Figure
## Log of Boring SB-8

Date(s) Drilled October 3, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole 16 feet bgs
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 14 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0			Asphalt		Concrete		
_	_			CL		Silty Clay, Black, Low Plasticity, Increasing Gravel Content with Depth, Roots, <5% Fine Grained Gravel		
_	-	X	SB-8-3.5				5.2	
-		$\times$	SB-8-7.5	GM	$p \circ 0 \circ $	Gravelly Silt, Dark Gray/Black, 20% Fine Grained Gravel	44.1	
-	-			CL		Silty Clay, Green Bluish Gray, Stiff, Low Plasticity		
	10—							
_	_	$\times$	SB-8-11.5	GC		Gravelly Silt, Dark Greenish Gray, 10% Coarse Grained Gravel, Strong Hydrocarbon Odor, Moist	369	
_	_ 15—		SB-8-15 5	СН		Silty Clay, Dark Greenish Gray, Fat Clay, High Plasticity Decreasing with Depth (ATD) ⊻	12	
-	- - -		30-0-13.3			Bottom of Boring at 16 feet bgs	1.2	
	20							Figure

## Log of Boring SB-9

Date(s) Drilled October 3, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole 16 feet bgs
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level	Sampling	Well
and Date Measured <b>10.5 feet ATD</b>	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	Ŭ			Asphalt	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Asphalt		
-	-	-		CL		_ Silty Sandy Clay, Light Olive Brown with Orange Veins, Stiff, Moist		
_	-	X	SB-9-4				439	
_	- - -		SB-9-7.5	GM	გ~0,5 <sup>0</sup> 0,0 <sup>0</sup> 0,0 <sup>0</sup> 0 0,0 <sup>0</sup> 0,0 <sup>0</sup> 0,0 <sup>0</sup> 0 2 <sup>0</sup> 0,0 <sup>0</sup> 0,0 <sup>0</sup> 0,0 <sup>0</sup> 0 200,000,000,000000000000000000000000	Gravelly Silty Sand, Dark Greenish Gray, Increasing Silt with Depth, Low Plasticity, Moist	104	
_	_							
_	10	X	SB-9-9	GC		Gravelly Silty Clay, Olive, Stiff, Low Plasticity	353	
_	-	-		GC		(ATD) Gravelly Silty Clay, Dark Greenish Gray, Moderate Plasticity, Moist		
-	-		SB-9-11.5				373	
_	-	-		GC		Gravelly Silty Clay, Very Dark Greenish Gray, Soft, Moist, 10% Fine Grained Gravel		
_	- 15			CL		Silty Clay, Light Olive Green with Orange Veins, High Water Content, Moderate Plasticity		
_	_		SB-9-15.5			Bottom of Boring at 16 feet bgs	<1	
-	-	-						
	20							
								Figure

## Log of Boring SB-10

Date(s) Drilled October 3, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole 16 feet bgs
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level	Sampling	Well
and Date Measured <b>12 feet ATD</b>	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0			Asphalt		Concrete		
-	_	-		CL		Silty Clay, Black, Low Plasticity, Increasing Gravel Content with Depth, Roots, <5% Fine Grained Gravel		
_	-	X	SB-10-3.5				23	
	5	-		GM	\\ \begin{aligned} alig	Gravelly Sandy Silt, Dark Greenish Gray, Coarse Grained Gravel		
	_			CL		Silty Clay, Olive Green, Stiff, Low Plasticity		
			00 40 7 5					
_	-		SB-10-7.5	GM	0,000 0,000 0,000 0,000 0,000	Gravelly Sandy Clay, Dark Reddish Brown, Well Graded, Very Coarse Sand, Moist	81	
				CL		Silty Clay, Dark Greenish Gray, Tight, Poorly Graded		
	10			GM	0000 0000 0000 00000 00000	Gravelly Silty Clayl, Dark Greenish Gray, Stiff, Well Graded, Moist		
_	_	X	SB-10-11.5			(ATD) ⊻	424	
-	-			CL		Silty Clay, Dark Greenish Gray, Moderate Plasticity, Poorly Graded, Stiff, Moist	-	
_	-	-		GC		Silty Gravelly Clay, Dark Greenish Gray, Well Graded, Stiff		
_	15			CL		Silty Clay, Dark Green/Bluish Gray, Soft, Poorly Graded, Wet	-	
			SB-10-15.5				35	
-	_					Bottom of Boring at 16 feet bgs		
-	_	-					-	
-	-							
-	-	-					-	
	20—							
								Figure

## Log of Boring SB-11

Date(s) Drilled October 3, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole 16 feet bgs
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 16 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Deplin, leet	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
_ 0-			Asphalt		Concrete		
-	_		CL		Silty Clay, Black, Low Plasticity, Increasing Gravel Content with Depth, <5% Fine Grained Gravel		
-		SB-11-3.5				2.5	
- 5-	-	SB-11-7.5	GM	<u>, , , , , , , , , , , , , , , , , , , </u>	Gravelly Sandy Silt, Dark Greenish Gray, 10% Coarse Grained Gravel, Soft	4.1	
- - - - 10-	-	<ul><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li><li></li></ul>	CL		Silty Clay, Light Yellowish Brown, Tight, Gravel Content Increasing with Depth, Strong Hydrocarbon Odor	24.2	
_	_		GC		Gravelly Sand, Light Yellowish Brown, Soft, Moist		
_			СН		Gravelly Clay, High Plasticity, <5% Fine Grained Gravel, Moist		
- 15- - - - - - -		SB-11-15.5	СН		Silty Clay, Greenish Gray with Orange Veins, Medium Plasticity, High Water Content	367	
<u> </u>							Figure

## Log of Boring SB-12

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 15 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

	Elevation, feet	Danth faat	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
		0	+		Asphalt		Concrete		
bgs [AEI geoprobe 20.tpl]			-		CL		Silty Clay, Black, Low Plasticity, <5% Fine Grained Gravel	-	
and-HT\Soil Borings.t		5-	-	SB-12-4	CL		Silty Clay, Light Grayish Green, Slightly Mottled Orange, Very Fine Grained, Slight Plasticity	16.4	
effi Zimmerman) Oakl	_			SB-12-8	GM	<u>50,00000000000000000000000000000000000</u>	Gravelly Silty Sand, Dark Greenish Gray, Soft, Loose, 10% Fine Grained Gravel, 50% Medium Grained Sand	1079	
0N\274761 Consult (Ste		10-	_		CL		Gravelly Silty Clay, Light Yellowish Brown, Mottled Orange/Light Yellow, Tight/Stiff, 5% Fine Grained Gravel Content Increasing with Depth —	-	
ARACTERIZATIC	-		-	SB-12-12	GC		Gravelly Sand, Light Yellowish Brown, Fine Grained Sand, 5% Fine to Medium Grained Gravel, Moist	849	
MEDIATION/CH/	_	15-			CL		Silty Clay, Light Yellowish Brown, Mottled Orange, Tight, <5% Fine Grained Gravel, Moist — (ATD) ≚—		
TS/CHARACTERIZATION & REA	-	20		SB-12-16			Bottom of Boring at 16 feet bgs	8.3	
X:\PROJEC		20							Figure

## Log of Boring SB-13

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole 16 feet bgs
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 15 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

	Elevation, feet	Danth faat	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	_	0-			Asphalt		Concrete		
[AEI geoprobe 20.tpl]			-		CL		Silty Clay, Black, Stiff, Dry, Slight Orange Mottling		
akland-HT\Soil Borings.bgs [		5-		SB-13-4	SM		Sandy Silt, Light Grayish Green, Stiff, Low Plasticity, Very Fine Grained, Poorly Graded		
əffi Zimmerman) Oa	_		X	SB-13-8	GM		Gravelly Silty Sand, Dark Greenish Gray, Soft, Loose, 10% Fine to Medium Grained Gravel	592	
0N\274761 Consult (St		10-	_		UL		Gravelly Silty Clay, Light Yellowish Brown, Mottled Orange/Light Yellow, Low Plasticity, 5% Fine Grained Gravel		
ACTERIZATIC	-			SB-13-12	GC		Gravelly Sandy Clay, Dark Greenish Black, Slight Plasticity, Well Graded, Moist	852	
IEDIATION\CHAR	_	15-	-				Lean Silty Clay, Light Yellowish Brown, Mottled Grayish Green, Tight, Slight Plasticity, <5% Fine Grained Gravel, Moist (ATD) ≚		
SCHARACTERIZATION & REM	-			SB-13-16			Bottom of Boring at 16 feet bgs	486	
X:\PROJEC		20-							Figure

## Log of Boring SB-14

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 15 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	-			CL		Concrete Silty Clay, Black, Low Plasticity, Slight Orange Mottling, Roots		
-	-		SB-14-4	SM		Gravelly Silty Clay Light Gravish Green Stiff Low Plasticity Very Fine	3.0	
_	5			CM		Grained, Poorly Graded	3.0	
-	-		SB-14-8	GM	~00~00~0~0~0~0~0~0~0~0~0~0~0~0~0~0~0~0	Gravelly Silt, Light Greenish Gray, Mottled Orange, Soft, Loose, 5% Fine Grained Gravel –	1.9	
_	- 10			CL		Gravelly Silty Clay, Light Olive Brown, Mottled Light Grayish Green, Low Plasticity, 10% Fine Grained Gravel Increasing with Depth, Strong — Hydrocarbon Odor —		
-	-	$\times$	SB-14-12	GC		Gravelly Sand, Light Yellowish Brown, Slight Plasticity, Well Graded, Moist	579	
_	-			CL		Lean Silty Clay, Light Grayish Green, Mottled Red/Orange, Tight, Slight Plasticity, Moist — (ATD) ⊒		
-	- - - 20		SB-14-16			Bottom of Boring at 16 feet bgs		
								Figure

## Log of Boring SB-15

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 15 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0			Asphalt		Concrete		
_	-	-		CL		Silty Clay, Black, Low Plasticity, Slight Orange Mottling, Roots		
-	5		SB-15-4	SM		Gravelly Silty Clay, Greenish Gray, Stiff, Low Plasticity, Very Fine Grained, Moderately Graded	1.7	
_	_		00.45.0	GM	50 0 ° 0 2 0 ° 0 0 ° 0	Gravelly Silt, Light Yellowish Brown, Mottled Orange, Soft, 5% Fine to		
_	-		SB-15-8	CL		Gravelly Silty Clay, Light Olive Brown, Mottled Green Gray, Low Plasticity, 5% Fine Grained Gravel	1.2	
	10							
_	_	X	SB-15-12	SM		Sandy Silt, Dark Grayish Green, Soft, Slight Plasticity, Poorly Graded, Medium Grained Sand, Moist	25	
-	-			CL		Gravelly Sandy Silt, Light Brown,Soft, Slight Plasticity, 5% Fine Grained Gravel, Moist		
_	15			CL		Lean Clay, Light Brown, Mottled Grayish Green, Tight, Low Plasticity		
-	-		SB-15-16			Bottom of Boring at 16 feet bgs	5.3	
_	-							
	20—							
								Figure

## Log of Boring SB-16

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole 12 feet bgs
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level	Sampling	Well
and Date Measured 9 feet ATD	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
			CL		Silty Clay, Black, Moderate Plasticity, Dry, <5% Fine Grained Gravel		
-	$\times$	SB-16-4				4.1	
5			GM		Gravelly Silty Clay, Dark Grayish Green, Stiff, Low Plasticity, Moderately Graded		
_			CL		Silty Clay, Light Grayish Green, Mottled Light Yellowish Brown, Low Plasticity		
-	$\boxtimes$	SB-16-8				16.9	
-			GM		(ATD) Gravelly Silt, Light Greenish Gray, Well Graded, Fine to Medium Grained Gravel, Saturated		
10			CL		Silty Clay, Light Yellowish Brown, Mottled Grayish Green, Tight, <5% Fine Grained Grave, Very Moist -		
_	$\boxtimes$	SB-16-12			Bottom of Boring at 12 feet bgs	<1	
-							
15							
_							
-							
_							
20							
							Figure
	Depth, feet		10 - SB-16-4 5 - SB-16-4 5 - SB-16-4 5 - SB-16-4 - SB-16-4 - SB-16-12 - SB-16-12 	adding     adding       adding     adding       adding     SSC       adding     Asphalt       CL     CL       SB-16-4     GM       SB-16-8     GM       SB-16-8     GM       SB-16-12     GM       SB-16-12     GM       SB-16-12     GM	<pre> advin an intervent i</pre>	og       og <tho< th="">       og       og       o</tho<>	and diversion     applied     Bog of the second sec

## Log of Boring SB-17

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole <b>12 feet bgs</b>
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level	Sampling	Well
and Date Measured 8 feet ATD	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	Ū			Asphalt		Concrete		
_	-			CL		Silty Clay, Black, Low Plasticity, Dry, Moderately Graded, <5% Fine Grained Gravel		
_	5		SB-17-4	GM	0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,	Gravelly Silty Sand, Dark Brownish Gray, Mottled Grayish Green, Stiff, 5% Fine Grained Gravel	1.7	
	_			CL		Silty Sandy Clay, Dark Brownish Gray, Mottled Grayish Green, Moderately Loose, 5% Fine Grained Gravel, Moist		
-	_	$\boxtimes$	SB-17-8	CL		- Silty Clay, Dark Grayish Green, Stiff, No Gravel, Slightly Moist (ATD) ≚-	4.2	
-	- 10			GC		<ul> <li>Gravelly Silty Clay, Light Olive Brown, Fine to Medium Grained Gravel, –</li> <li>Low Plasticity, Highly Saturated –</li> </ul>		
_	-		SB-17-12			Bottom of Boring at 12 feet bgs 	6.7	
-	15— - - -							
	20							Figure

## Log of Boring SB-18

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole 8 feet bgs
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 6 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

] Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	•			Aspnait		Asphalt		
-	-			GM	0~0~0~0~0~0 -0~0~0~0~0 0~0~0~0~0~0~0~0~0	Gravelly Silty Sand, Black, Low Plasticity, Dry, Well Graded, 10% Fine Grained Gravel, Poor Recovery		
_	5—	$\times$	SB-18-4	CL		Silty Clay, Light Grayish Green, Moderate Plasticity, <5% Fine Grained Gravel, Very Moist	6.7	
-				CL		— Saturated (A1D) ≚—		
_	_			SM		Silty Sand, Black, Medium Grained, Poorly Graded, Moist, Very Loose, Poor Recovery		
	_	X	SB-18-8			Bottom of Boring at 8 feet bgs	2.1	
	-							
	10							
	_							
	_							
_	_							
_	15—							
_	_							
_	_							
-	_							
_	_							
	20—							
								Figure

## Log of Boring SB-19

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole 16 feet bgs
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 15 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

	Elevation, feet	Denth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
		0-			Asphalt		Asphalt		
geoprobe 20.tpl]	_				CL		Silty Clay, Black, Low Plasticity, Poorly Graded, Dry	-	
-HT\Soil Borings.bgs [AEI	-	5-		SB-19-4	GM	0-0-0-00-00-00-00-00-00-00-00-00-00-00-	- Gravelly Sandy Silt, Greenish Gray, Low Plasticity, Moderately Graded, Fine Grained Gravel	17.3	
effi Zimmerman) Oakland	-	· · · · · · · · · · · · · · · · · · ·		SB-19-8	CL	20-20 20-20 20-20	- Silty Clay, Greenish Gray, Mottled Yellowish Orange, Low Plasticity, Dry	3.2	
\274761 Consult (St		10-			CL		Sandy Silty Clay, Light Yellowish Brown, Low Plasticity, <5% Fine Grained Gravel	-	
ACTERIZATION	_			SB-19-12	GM	$0^{\circ}$	Sandy Silt, Dark Greenish Brown, Low Plasticity, Moist	1.4	
EDIATION/CHAR	_	15-	-		CL		_ Silty Clay, Dark Greenish Brown, Moderate Plasticity, Moist 	-	
TERIZATION & REME	-			SB-19-16			Bottom of Boring at 16 feet bgs	8.6	
VPROJECTS/CHARAC	_	20–						-	Figure

## Log of Boring SB-20

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole 16 feet bgs
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 15 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	, 		Asphalt		Cement		
-	_		CL		Silty Clay, Black, Low Plasticity, Poorly Graded, Dry		
- 5	;	SB-20-4	GM	<u>5~0</u> ~0 <u>~0</u> ~0~0 10~90~00~0 50~05 <sup>0</sup> 05 <sup>0</sup> 05 <sup>0</sup> 0 1~0~05 <sup>0</sup> 05 <sup>0</sup> 05 <sup>0</sup> 0 1~0~05 <sup>0</sup> 05 <sup>0</sup> 05 <sup>0</sup> 0	Gravelly Sandy Silt, Greenish Gray, Tight, Dry	13.1	
	-	SB-20-8	CL		Silty Clay, Greenish Gray, Tight, <5% Fine Grained Gravel	549	
- 10			014				
-	-	SB-20-12	GM	,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	Gravelly Sandy Silt, Soft, Light Olive Brown, Moderate Plasticity, Fine Grained Gravel 	179	
_	+		CL		Silty Clay, Light Yellowish Brown, Tight, Low Plasticity, Moist		
- 15	;				— (ATD) ⊻—		
-		SB-20-16	•		Bottom of Boring at 16 feet bgs	74.9	
	-						
20	<b>,</b>						Figure
10 10 15 20		SB-20-8	GM	$\frac{40^{-1} U_{c} - U_$	Silty Clay, Greenish Gray, Tight, <5% Fine Grained Gravel	549 179 74.9	Figure

## Log of Boring SB-21

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 15 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	U			Asphalt		Cement		
_	-			CL		Silty Clay, Black, Mottled Reddish Orange, Moderate Plasticity, Poorly Graded		
	- 5 -		SB-21-4	CL		Silty Clay, Light Yellowish Brown, Mottled Greenish Gray, Soft, <5% Fine Grained Gravel	4.8	
-	-		SB-21-8	GM	0,000 0,000 0,000 0,000 0,000 0,000 0,000	Gravelly Sandy Silt, Light Greenish Gray, Medium Grained Sand, 5% Fine to Medium Grained Gravel	6.0	
-	10			CL		Silty Clay, Light Yellowish Brown, Mottled Greenish Gray, Tight, <5% Fine Grained Gravel, Dry		
	-	X	SB-21-12				12.7	
-	- 15			CL		Silty Clay, Light Yellowish Brown, Mottled Light Gray, Moderate Plasticity, 5% Fine Grained Gravel 		
_	_							
	- - 20					Bottom of Boring at 16 feet bgs		
								Figure

## Log of Boring SB-22

Sheet 1 of 1

Date(s) Drilled December 20, 2007	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level and Date Measured 14 feet ATD	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	Ū			Asphalt		Cement		
-	_			CL		Silty Clay, Black, Stiff, Dry, Roots		
-	5— - -		SB-22-4	GM	0,50,50,50,50,50,50,50,50,50,50,50,50,50	Gravelly Sandy Silt, Reddish Brown, Mottled Orange, Loose, 5% Fine Grained Gravel, Dry	2.2	
-	- 10		SB-22-8	CL		Silty Clay, Light Olive Brown, Tight, Low Plasticity, <5% Fine Grained Gravel	5.8	
_	-			CL		Silty Clay, Olive, Mottled Light Orange, Tight, <5% Fine Grained Gravel, Dry		
_	_		SB-22-12				311	
_	- 15	-				- (ATD) ⊻		
-	-		SB-22-16			Bottom of Boring at 16 feet bgs	5.9	
	20—							
								Figure

X:PROJECTS/CHARACTERIZATION & REMEDIATION/CHARACTERIZATION/274761 Consult (Steffi Zimmerman) Oakland-HTISoil Borings.bgs [AEI geoprobe 20.tpl]

## Log of Boring SB-23

Date(s) Drilled May 7, 2008	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level 9.72 feet measured on May and Date Measured 14, 2008	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

	Elevation, feet	Depth. feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
		0			Asphalt		Cement		
20.tpl]	-				CL		Silty Clay, Very Dark Brown, Stiff, Dry, Roots		_
probe	_								
AEI geo	_								
s.bgs [/									
Borings			$\bowtie$	SB-23-4				<1	
T/Soil I	_	5							
land-H	-				CL		Silty Clay, Light Brown, Mottled Greenish Gray, Dry		-
in) Oak	-								
merma	_			CD 22 0				-1	
effi Zim	_	-	$\square$	30-23-0				<1	
sult (St		40			GM		Gravelly Silty Clay, Light Brown, Loose, May14,2008 -		
31 Con		10-					Fine Grained Gravel		
DN/27476	-								
RIZATI			$\boxtimes$	SB-23-12	CL		Silty Clay, Pale Brown, Mottled Greenish Gray, Slight to Moderate Plasticity	16	
ACTEF	-								
CHAR	-								
ATION	_	15	$\left  \right $						
EMEDI	_			00.00.40				00	
N & R			Å	SB-23-16			Bottom of Boring at 16 feet bgs	23	
IZATIC									
ACTER	-								
CHAR	-	-	$\left  \right $						
IECTS/		20-							
\PROJ									Figure
×									

## Log of Boring SB-24

Date(s) Drilled May 7, 2008	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling	Drill Bit	Total Depth
Method Direct Push	Size/Type	of Borehole <b>16 feet bgs</b>
Drill Rig	Drilling	Approximate
Type Track Mounted GeoProbe	Contractor <b>Precision</b>	Surface Elevation
Groundwater Level 10.57 feet measured on	Sampling	Well
and Date Measured May 14, 2008	Method(s) <b>Tube</b>	Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0			Asphalt		Cement		
-	-	-		CL		Silty Clay, Black, Stiff, Dry, Roots		
	5		SB-24-4	GM	\$0~0~0~0~0~0 \$0~0~0~0~0 \$0~0~0~0~0 \$0~0~0~0~	Gravelly Silt, Dark Reddish Brown, Fine to Medium Grained Gravel, Moderately Loose	<1	
	-	X	SB-24-8	GM	$0 \stackrel{\circ}{\circ} 0 $	Gravelly Silt, Very Dark Gray to Dark Green, Fine to Medium Grained Gravel, Loose		
_	-			CL		Silty Clay, Light Yellowish Brown, Mottled Grayish Green		
-	10	-				 May14,2008 里		
-	-		SB-24-12				158	
_	-	-		CL		Clayey Silt, Light Yellowish Brown, Mottled Grayish Green, Strong Hydrocarbon Odors, Moist		
-	-		SB-24-16			Bottom of Boring at 16 feet bgs	243	
	20—							Figure

## Log of Boring SB-25

Date(s) Drilled May 7, 2008	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level 10.26 feet measured on and Date Measured May 9, 2008	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	-			Aspnait		Cement		
-	-	-		CL		Silty Clay, Black, Stiff, Dry, Roots		
_	-		SB-25-4	0			<1	
_	5	-		CL		Silty Clay, Dark Yellowish Brown, Tight, Dry		
_	-			GM		Gravelly Silt, Yellowish Red, Fine to Medium Grained Gravel, Slightly Loose		
_	-		SB-25-8	0	)-00 1-00 1-00		<1	
-	_			CL		Silty Clay, Pale Brown, Very Hard, Tight		
_	10—	-				 May9,2008 ⊻		
	_			GM- ML		Gravelly Silty Clay, Dark Grayish Green, Fine to Medium Grained Gravel, Slightly Loose		
-	-		SB-25-12	CL		Silty Clay, Dark Yellowish Brown, Mottled Dark Grayish Green, Slight Plasticity, Moist	33	
_	15—	-						
-	_		SB-25-16			Bottom of Boring at 16 feet bgs	19	
-	-	-						
	20							
	20							Figure

## Log of Boring SB-26

Date(s) Drilled May 7, 2008	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level 12.51 feet measured on and Date Measured May14,2008	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	0			Asphalt		Cement		
-	_			CL		Silty Clay, Black, Moderately Soft, Roots		
_	_		SB-26-4				<i>-</i> 1	
_	5			ML		Clayey Silt, Pale Brown, Tight, Stiff, Dry		
-	-			GM		Gravelly Silt, Yellowish Red, Fine to Medium Grained Gravel, Loose		
_	_	X	SB-26-8		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		<1	
	- 10			CL		<ul> <li>Silty Clay, Pale Brown, Very Hard, Tight</li> <li></li></ul>		
-	-	X	SB-26-12	CL		Silty Clay, Grayish Black, Soft May14,2008 -	12	
-	_			GM- ML		Gravelly Silty, Dark Grayish Green, Fine to Medium Grained Gravel, Loose		
·	15—			CL		Silty Clay, Light Brown, Mottled Dark to Light Greenish Gray, Moderate Plasticity, Moist		
-	-		SB-26-16			Bottom of Boring at 16 feet bgs	42	
-	-							
	20							Figure

## Log of Boring SB-27

Date(s) Drilled May 7, 2008	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level 10.98 feet measured on and Date Measured May14,2008	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
_ 0				Asphalt		Cement		
-	-			CL		Silty Clay, Black, Low Plasticity, Roots		
	-	$\times$	SB-27-4	CL		- 	<1	
- 5·	_							
-	-	$\times$	SB-27-8	CL		Silty Clay, Yellowish Brown, Slight Plasticity, Tight	22	
- 10	_							
_				ΟL		Silty Clay, Dark Greenish Gray, Very Hard, Tight		
_	-	X	SB-27-12	CL		Silty Clay, Light Brown, Moderate Plasticity, Soft	321	
_	_	_		GM- ML		Gravelly Silty Clay, Light Grayish Green, Fine to Medium Grained Gravel, Hard		
- 15				CL		Silty Clay, Light Grayish Green, Slight Plasticity, Moist		
_		X	SB-27-16			Bottom of Boring at 16 feet bgs	72	
_	_							
_	_							
20·								Figure
20								Figure

## Log of Boring SB-28

Date(s) Drilled May 7, 2008	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level 14.23 feet measured on and Date Measured May16,2008	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Comple Tune	Sample	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
			Asphalt		Cement		
_	-		CL		Silty Clay, Black, Stiff, Dry, Roots		
	$\sum$	SB-28-4				<1	
_ 5-			CL		Sandy Silt, Very Pale Brown, Moderately Loose		
-		SB-28-8	GM	$0^{\circ}0^{\circ}0^{\circ}0^{\circ}0^{\circ}0^{\circ}0^{\circ}0^{\circ}$	Gravelly Sandy Silt,Dark Yellowish Brown, Loose, 20% Fine Grained Gravel	<1	
- 10-	-		SM		Sandy Silt, Very Pale Brown, Stiff, Tight		
-		SB-28-12	GC- CL	00000000	Gravelly Silty Clay, Yellowish Brown, Slight to Moderate Plasticity, <20% Fine Grained Gravel	12	
_ 15_	-			00000000	 		
-		SB-28-16			Bottom of Boring at 16 feet bgs	3	
							Figure

## Log of Boring SB-29

Date(s) Drilled May 7, 2008	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole 16 feet bgs
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level 12.79 feet measured on and Date Measured May16,2008	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0				Asphalt		Cement		
-	-			CL		Silty Clay, Black, Stiff, Dry, Roots		
-	+	$\mathbf{X}$	SB-29-4					
5	;			CL		Silty Clay, Pale Brown, 5% Fine Grained Gravel, Stiff, Tight		
-	+		SB-29-8	GM- ML		Gravelly Silty Clay, Yellowish Brown, Loose, 20% Fine Grained Gravel		
-	_		00 23 0	GM- ML		Gravelly Silty Clay, Yellowish Brown, Moderately Loose, 35% Medium Grained Gravel		
10 - -	-		05.00.40	GM- ML		Gravelly Silty Clay, Yellowish Brown, Loose, 25% Fine Grained Gravel		
-	_		SB-29-12			May16,2008 ⊻		
- 15	;			CL		Silty Clay, Very Dark Brown, Stiff, Tight, No Plasticity		
			SB-29-16			Bottom of Boring at 16 feet bgs		
20								Figure

## Log of Boring SB-30

Date(s) Drilled May 7, 2008	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level 9.83 feet measured on and Date Measured May14, 2008	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	DSCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
	_			C	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Cement		
-	- - 5		SB-30-4			Silty Clay, Grayish Black, Stiff, Dry, Roots		
_	-			SP		Gravelly Sand, Dark Yellowish Red, Fine Grained Gravel, Loose		
-	- - 10		SB-30-8	WIL.		Clayey Silt, Pale Brown, Stiff, No Plasticity, Dry 		
		X	SB-30-12					
-	- 15— - -		SB-30-16	CL		Clay, Yellowish Brown, Mottled Greenish Gray, Slight Plasticity, Moist		
	20—							
								Figure

## Log of Boring SB-31

Date(s) Drilled May 7, 2008	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push	Drill Bit Size/Type	Total Depth of Borehole <b>16 feet bgs</b>
Drill Rig Type Track Mounted GeoProbe	Drilling Contractor <b>Precision</b>	Approximate Surface Elevation
Groundwater Level 11.13 feet measured on and Date Measured May14,2008	Sampling Method(s) <b>Tube</b>	Well Permit.
Borehole Backfill Cement Slurry	Location	

	Elevation, feet	Depth. feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
		0-			Asphalt		Cement		
20.tpl]	-				CL		Silty Clay, Grayish Black, Stiff, Dry, Roots		
oprobe	-		-					-	
AEI ge	_							-	
]sbq.st	_			00.00.4				-	
l Borinç		5-	$\square$	SB-30-4					
HT/Soi		J			CL		Silty Clay, Very Dark Brown, Tight, Stiff, <10% Fine Grained Gravel, Dry		
akland									
man) O	_				GM	0-0 0-0 0-0	Gravelly Silty Sand, Dark Brown, 30% Medium Grained Gravel, Stiff, Dry		
Zimmer	_		X	SB-30-8	CL		Silty Clay, Dark Brown, Tight, Stiff		
(Steffi	-							-	
Consult	_	10-						-	
74761 (	-						 May14,2008 <u>₹</u>		
TIONZ	_			SP 20 12	CL		Clay, Dark Yellowish Brown, Tight, Slight Plasticity, Moist		
ERIZA	_		$\square$	30-30-12				-	
ARACT									
ON/CH									
EDIATI	_	15-							
& REM	-		$\boxtimes$	SB-30-16			Bottom of Boring at 16 feet bgs		
ATION	-								
TERIZ	-								
HARAC	-							-	
CTS/C		20-							
PROJE									Figure
χĹ									)

## **APPENDIX B**

## LABORATORY ANALYSES WITH CHAIN OF CUSTODY DOCUMENTATION

McCampbell An "When Ouality"	nalytical, Inc.	1534 Will Web: www.mc Telepho	ow Pass Road, Pittsburg, campbell.com E-mail: m one: 877-252-9262 Fax:	CA 94565-1701 aain@mccampbell.com 925-252-9269
AEI Consultants	Client Project ID: #274761	l; Zimmerman	Date Sampled:	05/07/08
2500 Camino Diablo, Ste. #200			Date Received:	05/08/08
Walnut Creek, CA 94597	Client Contact: Harmony	TomSun	Date Reported:	05/15/08
	Client P.O.:		Date Completed:	05/15/08

#### WorkOrder: 0805212

May 15, 2008

Dear Harmony:

Enclosed within are:

- 1) The results of the 20 analyzed samples from your project: #274761; Zimmerman,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager McCampbell Analytical, Inc.

	McCAI	MPBEL	L ANA	LY	<b>FIC</b>	LI	NC												CF	IA	IN	0	F (	CU	ST	O	DY	YR	ECO	RD		
Telepho	ne: (925) 25	1534 V Pittsl 2-9262	Villow Pass burg, CA 9	s Road 94565	۱ ۱	Fax:	(925	) 25	2-92	269				1	TUI	RN	AR	O	JNI	D T	IM	E		RU	) SH	[ 2	4 H	IR	48 HR		72 HR	5 DAY
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Tele: (925) 944-2	899		F	ax:	(925)	944	-289	5						W.	5	DE&	Ē			/M				/83								
Project #: 274761			F	roje	ct Na	me:	Zim	mer	mai	1				8015	M	552(	(418		~	015)				270								
Project Location:	3442 Adelin	e Street,	Oakland	, CA	9460	8			-2					+	₽	ase (	suo		8020	0.8(	Z			5/8			0					
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CAMPLEID		-		lers	ain					Г	-			as G	(80	um	um	N 82	Y (E	ang	080	560	270	4's F	stals	als	7421					
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McCAMPBE 153 Pi Telephone: (925) 252-9262	LL ANA Willow Pass tsburg, CA 9	LYT Road 4565	FICA	LI ax: (	NC.	252	-920	69				T ED	UR DF R	N .	AR	OU d?			IN FIN Yes	O IE	F		JST J USH No	ГО	D 24 H	Y F		)RI	D 72	HR 5	DAY
Report To: Harmony TomSun	В	Bill To	o: san	ne		P.C	). #										An	alys	is R	lequ	iest						Ot	her		Comm	ents
Company: AEI Consultants													-	~				-													
2500 Camino Diablo, Sui	te 200												ů.	B&F				a G													
Walnut Creek, CA 9459	1	E-M	ail: h	tomsu	ın@a	eicor	sult	ants.	con	n	-	TBE	12	&F/I				Silic				310									
Tele: (925) 944-2899	F	ax: (	(925)	944-	-289	5			_			2)/M	3	OE	8.1)			/m (				1 83									
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Project Location: 3442 Adeline Stree	t, Oakland	, CA	94608	8				_			1	+ 02		ase	pons		802	10 8	ALY			5/1			10						
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SAN	IPLING		ers	I	MAT	RIX	1	M PR	IET ESE	HOD	D	ias (60	15) -	Oil &	Hydro	09	PA 6	(G)	PCB.		- SVC	by EP.	6020		/239.						
SAMPLE ID (Field Point Name) LOCATION Date	Time	# Containers	Type Contain	Water	Soil	Sludge	Other	Ice	HCI	HNO <sub>3</sub>	Other PTEV & TBU and	BTEX & TPH as G	<b>TPH as Diesel (80</b>	Total Petroleum	Total Petroleum	HVOCs EPA 82	BTEX ONLY (E	TPH Multi-Rang	EPA 608 / 8080	EPA 624/8260	EPA 625 / 8270	PAH's / PNA's h	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421	RCI	and				
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Report To: Harm	ony TomSu	n	B	Bill To	: san	ne		P.(	<b>D.</b> #										An	alys	is R	equ	est							Other		Con	ments	
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2500 0	Camino Dial	blo, Suite	200									_			3	B&F				Ca G	-													
Waln	ut Creek, C	A 94597		E-M	ail: ht	toms	un@	aeico	nsult	tants	.com	1		TBE	2	&F/I				Silik				310										
Tele: (925) 944-2	899		F	ax: (	925)	944	-289	5						5)/M	3	DE	8.1)			/M (				8										
Project #: 274761			Р	rojec	t Nar	ne: 2	Zim	mer	nan					801	1	(552	(41		6	8015				8270										
Project Location:	3442 Adelin	e Street,	Oakland	, CA	94608	8		_			_		_	+ 02		ase	pons		802	10.8	ILY			15/			10)							
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### McCampbell Analytical, Inc.

1534 Willow Pass Rd

## CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg (925) 25	g, CA 94565-1701 52-9262					Work	Order	r: 08052	212	(	Client(	Code:	AEL				
			WriteOn	EDF	Γ	Excel		Fax		🖌 Email		Ha	rdCopy	Thir	dParty	J-	flag
Report to: Harmony Tor AEI Consulta 2500 Camino Walnut Creel (925) 944-2899	mSun ants o Diablo, Ste. #200 k, CA 94597 9 FAX (925) 944-2895	Email: cc: PO: ProjectNo:	htomsun@ae #274761; Zim	iconsultants.com nmerman	I		Bill to: Di Al 25 W dr	: enise Mo El Consu 500 Cam /alnut Cr mockel@	ockel ultants nino Di eek, C aeico	ablo, Si A 9459 <sup>-</sup> nsultan	te. #20 7 ts.com	0	Req Dat Dat	uested e Rece e Print	TAT: ived: ted:	5 05/08/ 05/08/	days /2008 /2008
									Req	uested	Tests	(See l	egend b	elow)			
Lab ID	Client ID		Matrix	<b>Collection Date</b>	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0805212-002	SB-24-8		Soil	5/7/2008 11:35		А	Α	А									
0805212-003	SB-24-12		Soil	5/7/2008 11:40		А		А									
0805212-004	SB-24-16		Soil	5/7/2008 11:45		А		А									
0805212-006	SB-30-8		Soil	5/7/2008 11:10		А		А									
0805212-007	SB-30-12		Soil	5/7/2008 11:15		А		А									
0805212-010	SB-26-8		Soil	5/7/2008 10:40		А		А									
0805212-011	SB-26-12		Soil	5/7/2008 10:45		А		А									
0805212-014	SB-29-8		Soil	5/7/2008 10:00		А		А									
0805212-015	SB-29-12		Soil	5/7/2008 10:05		А		А									
0805212-018	SB-28-8		Soil	5/7/2008 9:25		А		А									
0805212-019	SB-28-12		Soil	5/7/2008 9:30		А		А									
0805212-022	SB-27-8		Soil	5/7/2008 8:45		А		А									
0805212-023	SB-27-12		Soil	5/7/2008 8:50		А		А									
0805212-024	SB-27-16		Soil	5/7/2008 8:55		А		А									

#### Test Legend:

1 G-MBTEX_S	2 PREDF REPORT
6	7
11	12

3	TPH(D)WSG_S	4
8		9

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5	
10	

Prepared by: Maria Venegas

#### **Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.

### McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg CA 94565 1701

## CHAIN-OF-CUSTODY RECORD

Page 1 of 1

(925) 252-92	262					Work	Order	: 08052	212	С	lientC	ode: A	EL				
			WriteOr	n 🖌 EDF		Excel		Fax	Ŀ	🖌 Email		Hard	lCopy	Thiro	dParty	□ J-	flag
Report to:							Bill to:						Req	uested	TAT:	5 c	days
Harmony TomSu AEI Consultants 2500 Camino Dia Walnut Creek, Ca (925) 944-2899	un ablo, Ste. #200 A 94597 FAX (925) 944-2895	Email: cc: PO: ProjectNo:	htomsun@ae : #274761; Zin	iconsultants.com			De AE 25 Wa dn	enise Me El Consu 00 Cam alnut Cr nockel@	ockel ultants nino Dia reek, CA @aeicor	iblo, Ste A 94597 Isultants	e. #200 s.com	)	Dat Dat	e Recei e Print	ived: ed:	05/08/ 05/08/	2008 2008
									Req	uested 1	Tests	(See le	gend b	elow)			
Lab ID	Client ID		Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0805212-026	SB-31-8		Soil	5/7/2008 12:45		Α		Α									
0805212-027	SB-31-12		Soil	5/7/2008 12:50		Α		А									
0805212-030	SB-23-8		Soil	5/7/2008 14:05		Α		Α									
0805212-031	SB-23-12		Soil	5/7/2008 14:10		Α		A									
0805212-034	SB-25-8		Soil	5/7/2008 13:20		А		A									

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#### Test Legend:

0805212-035

1	G-MBTEX_S	
6		
11		

2	PREDF REPORT
7	
12	

SB-25-12

Soil

5/7/2008 13:25

3	TPH(D)WSG_S
8	

4	
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10	

Prepared by: Maria Venegas

#### **Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). 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	Date and Time Received: 05/08/08 1:32:53 PM					
Project Name:	#274761; Zimmer	man			Check	list completed and re	eviewed by:	Maria Venegas
WorkOrder N°:	0805212	Matrix <u>Soil</u>			Carrie	r: <u>EnviroTech</u>		
		<u>Chain</u>	of Cu	stody (C	OC) Informa	ition		
Chain of custody	y present?		Yes	$\checkmark$	No 🗆			
Chain of custody	y signed when relinqu	ished and received?	Yes	✓	No 🗆			
Chain of custody	y agrees with sample	labels?	Yes	$\checkmark$	No 🗌			
Sample IDs noted	d by Client on COC?		Yes	✓	No 🗆			
Date and Time o	f collection noted by Cl	lient on COC?	Yes	✓	No 🗆			
Sampler's name noted on COC?			Yes	✓	No 🗆			
		<u>Sa</u>	ample	Receipt	Information	<u>l</u>		
Custody seals in	tact on shipping conta	ainer/cooler?	Yes		No 🗆		NA 🔽	
Shipping contain	er/cooler in good cond	dition?	Yes	✓	No 🗆			
Samples in prop	er containers/bottles?		Yes	✓	No 🗆			
Sample containe	ers intact?		Yes	$\checkmark$	No 🗆			
Sufficient sample	e volume for indicated	test?	Yes	$\checkmark$	No 🗌			
		Sample Preser	vatio	n and Ho	ld Time (HT	) Information		
All samples rece	ived within holding tim	ie?	Yes	✓	No 🗌			
Container/Temp	Blank temperature		Coole	er Temp:	9.8°C		NA 🗆	
Water - VOA via	lls have zero headspa	ice / no bubbles?	Yes		No 🗆	No VOA vials subm	itted 🗹	
Sample labels cl	hecked for correct pre	servation?	Yes	✓	No 🗌			
TTLC Metal - pH	acceptable upon rece	ipt (pH<2)?	Yes		No 🗆		NA 🗹	

Client contacted:

Date contacted:

Contacted by:

Comments:

	McCampbell	Analy uality Counts	<u>tical, Inc</u>	<u>.</u>	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 C	Consultants		Client Proj	Client Project ID: #274761; Zimmerman Date Sampled: 05/07/08							
2500	Camino Diablo, Ste. #200			Date Received: 05/08/08							
Woln	it Crook CA 94597		Client Cor	ntact: Harm	ony TomSun		Date Extract	ed: 05/08/08			
vv ann	at Cleek, CA 94397		Client P.O.	.:			Date Analyz	ed 05/09/08	-05/13/	/08	
Extracti	Gasolin	e Range (	C6-C12) Vola Anal	tile Hydroc	arbons as Gaso SW8021B/8015Cm	line with BTI	EX and MTBE	* Work Order	.: 0805	212	
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	
002A	SB-24-8	S	ND	ND	ND	ND	ND	ND	1	91	
003A	SB-24-12	S	15,g,m	ND<0.15	0.011	0.023	0.020	0.044	1	88	
004A	SB-24-16	S	41,b,m	ND<0.50	ND<0.050	ND<0.050	0.11	0.11	10	97	
006A	SB-30-8	S	ND	ND	ND	ND	ND	ND	1	77	
007A	SB-30-12	S	ND	ND	ND	ND	ND	ND	1	78	
010A	SB-26-8	S	ND	ND	ND	ND	ND	ND	1	76	
011A	SB-26-12	S	ND	ND	ND	ND	ND	ND	1	80	
014A	SB-29-8	S	ND	ND	ND	ND	ND	ND	1	77	
015A	SB-29-12	S	ND	ND	ND	ND	ND	ND	1	74	
018A	SB-28-8	S	ND	ND	ND	ND	ND	ND	1	80	
019A	SB-28-12	S	19,a	ND	0.24	0.034	0.031	0.036	1	100	
022A	SB-27-8	S	ND	ND	ND	ND	ND	ND	1	82	
023A	SB-27-12	S	27,b,m	ND	ND	0.10	ND	0.061	1	95	
024A	SB-27-16	S	4.8,g,m	ND	0.0053	0.020	ND	0.0074	1	80	
026A	SB-31-8	S	ND	ND	ND	ND	ND	ND	1	86	
027A	SB-31-12	S	1.9,m	ND	ND	0.016	ND	ND	1	83	
Rej	porting Limit for DF =1;	W	NA	NA	NA	NA	NA	NA	1	ug/L	
ND at	means not detected at or ove the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg	

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

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+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 organic / 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.



	McCampbell	Analy	ical, Inc.	:	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 C	Consultants	Client Proje	Client Project ID: #274761; Zimmerman Date Sampled: 05/07/08								
2500	Camino Diablo, Ste. #200		Date Received: 05/08/08								
Walni	nt Creek CA 9/597		Client Con	Client Contact: Harmony TomSun Date Extracted: 05/08/08							
vv ann	it Cluck, CA 94397		Client P.O.	:			Date Analyz	ed 05/09/08	-05/13,	/08	
Extracti	Gasolin on method SW5030B	ne Range (	C <b>6-C12) Vola</b> Analy	tile Hydroca	<b>rbons as Gaso</b> W8021B/8015Cm	line with BT	EX and MTBE	* Work Order	.: 0805	212	
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	
030A	SB-23-8	S	ND	ND	ND	ND	ND	ND	1	93	
031A	SB-23-12	S	310,a	ND<3.0	1.3	0.31	4.3	9.8	20	#	
034A	SB-25-8	s	ND	ND	ND	ND	ND	ND	1	85	
035A	SB-25-12	s	48,g,m	ND<0.50	0.027	0.079	0.029	0.11	3.3	87	
Rej	porting Limit for DF =1;	W	NA	NA	NA	NA	NA	NA	1	ug/L	
ND ał	means not detected at or ove the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg	

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

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+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 organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline content; k) are significant; b) reporting limit raised due to high organic / MTBE content; k) report that does not appear to be derived on a dry weight basis; p) see attached narrative.



	CCampbell Analyti	cal, Inc.	1534 Willow I Web: www.mccamp Telephone: 5	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 Consulta	ants	Client Project II	D: #274761; Zimmerman	Date Sampled: 05/07	/08					
2500 Camino	Diablo, Ste. #200			Date Received: 05/08	/08					
Walnut Creek	C A 94597	Client Contact:	Harmony TomSun	Date Extracted: 05/08/	/08					
Wantat Creek	, 011 )+3)1	Client P.O.:		Date Analyzed 05/09	/08-05/1	5/08				
	Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*									
Extraction method	SW3550C/3630C	Analyti	cal methods: SW8015C	Work Or	der: 08	05212				
Lab ID	Client ID	Matrix	TPH-Die: (C10-C23	sel )	DF	% SS				
0805212-002A	SB-24-8	S	ND		1	116				
0805212-003A	SB-24-12	S	3.4,d		1	102				
0805212-004A	SB-24-16	S	ND		1	100				
0805212-006A	SB-30-8	S	ND		1	112				
0805212-007A	SB-30-12	S	ND		1	111				
0805212-010A	SB-26-8	S	ND		1	113				
0805212-011A	SB-26-12	S	ND		1	113				
0805212-014A	SB-29-8	S	ND		1	108				
0805212-015A	SB-29-12	S	ND		1	109				
0805212-018A	SB-28-8	S	ND		1	111				
0805212-019A	SB-28-12	S	1.6,d		1	100				
0805212-022A	SB-27-8	S	ND		1	107				
0805212-023A	SB-27-12	S	4.2,d,b	,	1	105				
0805212-024A	SB-27-16	S	1.5,d,b	,	1	95				
0805212-026A	SB-31-8	S	ND		1	90				
Repo	orting Limit for DF =1;	W	NA		N	IA				

\* 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  $\mu g/L$ .

1.0

# 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.

S

+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; r) results are reported on a dry weight basis

DHS ELAP Certification Nº 1644

ND means not detected at or

above the reporting limit



mg/Kg

	CCampbell Analyti "When Ouality Counts"	<u>cal, Inc.</u>		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 Consulta	Client Project	Client Project ID: #274761; Zimmerman Date Sampled: 05/07/					
2500 Camino	Diablo, Ste. #200				Date Received: 05/08	/08	
Walnut Creek	. CA 94597	Client Contac	et: Ha	armony TomSun	Date Extracted: 05/08/	/08	
		Client P.O.:			Date Analyzed 05/09	/08-05/1	5/08
	Total Extractab	le Petroleum H	Iydro	ocarbons with Silica Gel	Clean-Up*		
Extraction method	SW3550C/3630C	Analy	ytical m	ethods: SW8015C	Work Or	der: 08	05212
Lab ID	Client ID	Matrix		TPH-Dies (C10-C23)	el	DF	% SS
0805212-027A	SB-31-12	S		ND		1	108
0805212-030A	SB-23-8	S		ND		1	109
0805212-031A	SB-23-12	S		73,d		1	109
0805212-034A	SB-25-8	S		ND		1	107
0805212-035A	SB-25-12	S		12,n		1	107
		<u> </u>					
		<u> </u>					

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; r) results are reported on a dry weight basis

DHS ELAP Certification Nº 1644




"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0805212

EPA Method SW8021B/8015Cm	Extra	ction SW	5030B		Ba	tchID: 35	458	Sp	iked Sam	ple ID:	0805173-01	6A
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
TPH(btex <sup>f</sup>	ND	0.60	97.1	104	7.35	101	116	13.0	70 - 130	20	70 - 130	20
MTBE	ND	0.10	108	108	0	109	97.1	11.2	70 - 130	20	70 - 130	20
Benzene	ND	0.10	94.2	94.9	0.701	92.5	95.7	3.40	70 - 130	20	70 - 130	20
Toluene	ND	0.10	109	110	0.900	108	114	4.68	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	103	104	0.960	103	108	4.73	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	115	116	0.932	114	120	5.03	70 - 130	20	70 - 130	20
%SS:	75	0.10	93	94	1.13	92	95	3.68	70 - 130	20	70 - 130	20
All target compounds in the Method I NONE	3lank of this	extraction	batch we	ere ND les	ss than the	method F	RL with th	ne following	exceptions:			

#### BATCH 35458 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805212-002A	05/07/08 11:35 AM	05/08/08	05/13/08 4:35 AM	0805212-003A	05/07/08 11:40 AM	05/08/08	05/10/08 2:27 AM
0805212-004A	05/07/08 11:45 AM	05/08/08	05/09/08 7:43 PM	0805212-006A	05/07/08 11:10 AM	05/08/08	05/10/08 3:01 AM
0805212-007A	05/07/08 11:15 AM	05/08/08	05/10/08 3:34 AM	0805212-010A	05/07/08 10:40 AM	05/08/08	05/10/08 5:13 AM

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

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

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

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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

NR = matrix interference and/or 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 Ouality Counts"

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0805212

EPA Method SW8021B/8015Cm	Extra	ction SW	5030B		Bat	tchID: 35	491	Sp	oiked Sam	ple ID:	0805212-03	4A
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
TPH(btex <sup>f</sup> )	ND	0.60	115	94.9	18.7	89	92	3.31	70 - 130	20	70 - 130	20
MTBE	ND	0.10	101	104	2.77	92.7	94.1	1.51	70 - 130	20	70 - 130	20
Benzene	ND	0.10	95.9	93.7	2.31	91.4	90.5	0.985	70 - 130	20	70 - 130	20
Toluene	ND	0.10	110	109	0.405	76.5	77.1	0.780	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	104	103	0.932	88.5	87.2	1.48	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	115	115	0	80.2	80.8	0.852	70 - 130	20	70 - 130	20
%SS:	85	0.10	100	94	6.26	77	79	2.21	70 - 130	20	70 - 130	20
All target compounds in the Method E	Blank of this	extraction	batch we	ere ND les	ss than the	method I	RL with th	ne following	exceptions:			

NONE

#### BATCH 35491 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805212-011A	05/07/08 10:45 AM	05/08/08	05/10/08 5:47 AM	0805212-014A	05/07/08 10:00 AM	05/08/08	05/10/08 7:26 AM
0805212-015A	05/07/08 10:05 AM	05/08/08	05/10/08 8:34 AM	0805212-018A	05/07/08 9:25 AM	05/08/08	05/09/08 9:04 PM
0805212-019A	05/07/08 9:30 AM	05/08/08	05/09/08 9:35 PM	0805212-022A	05/07/08 8:45 AM	05/08/08	05/09/08 10:05 PM
0805212-023A	05/07/08 8:50 AM	05/08/08	05/09/08 11:37 PM	0805212-024A	05/07/08 8:55 AM	05/08/08	05/10/08 12:38 AM
0805212-026A	05/07/08 12:45 PM	05/08/08	05/10/08 1:08 AM	0805212-027A	05/07/08 12:50 PM	05/08/08	05/10/08 1:39 AM
0805212-030A	05/07/08 2:05 PM	05/08/08	05/10/08 2:10 AM	0805212-031A	05/07/08 2:10 PM	05/08/08	05/10/08 6:53 AM
0805212-034A	05/07/08 1:20 PM	05/08/08	05/10/08 2:40 AM	0805212-035A	05/07/08 1:25 PM	05/08/08	05/11/08 2:23 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.

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

NR = matrix interference and/or 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.





McCampbell Analytical, Inc.

"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0805212

EPA Method SW8015C	Extra	ction SW	3550C/3	630C	Bat	chID: 35	472	Sp	iked Sam	ole ID:	0805212-03	5A
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
TPH-Diesel (C10-C23)	12	20	70.9	70.4	0.361	101	101	0	70 - 130	30	70 - 130	30
%SS:	107	50	95	96	0.671	108	107	0.794	70 - 130	30	70 - 130	30
All target compounds in the Method F NONE	Blank of this	extraction	batch we	ere ND les	ss than the	method R	RL with th	ne following	exceptions:			

#### BATCH 35472 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805212-002A	05/07/08 11:35 AM	05/08/08	05/15/08 12:25 PM	0805212-003A	05/07/08 11:40 AM	05/08/08	05/11/08 12:23 AM
0805212-004A	05/07/08 11:45 AM	05/08/08	05/13/08 9:36 AM	0805212-006A	05/07/08 11:10 AM	05/08/08	05/10/08 7:55 PM
0805212-007A	05/07/08 11:15 AM	05/08/08	05/10/08 9:02 PM	0805212-010A	05/07/08 10:40 AM	05/08/08	05/10/08 10:09 PM
0805212-011A	05/07/08 10:45 AM	05/08/08	05/10/08 11:16 PM	0805212-014A	05/07/08 10:00 AM	05/08/08	05/11/08 12:23 AM
0805212-015A	05/07/08 10:05 AM	05/08/08	05/11/08 3:42 AM	0805212-018A	05/07/08 9:25 AM	05/08/08	05/09/08 8:31 PM
0805212-019A	05/07/08 9:30 AM	05/08/08	05/13/08 8:24 AM	0805212-022A	05/07/08 8:45 AM	05/08/08	05/09/08 10:45 PM
0805212-023A	05/07/08 8:50 AM	05/08/08	05/15/08 11:02 AM	0805212-026A	05/07/08 12:45 PM	05/08/08	05/15/08 1:53 PM
0805212-027A	05/07/08 12:50 PM	05/08/08	05/09/08 11:51 PM	0805212-030A	05/07/08 2:05 PM	05/08/08	05/10/08 4:16 AM
0805212-031A	05/07/08 2:10 PM	05/08/08	05/10/08 3:10 AM	0805212-034A	05/07/08 1:20 PM	05/08/08	05/10/08 2:04 AM
0805212-035A	05/07/08 1:25 PM	05/08/08	05/10/08 12:58 AM				

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

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

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

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

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

DHS ELAP Certification Nº 1644

JK QA/QC Officer



"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0805212

EPA Method SW8015C	Extra	ction SW	3550C/3	630C	Bat	chID: 35	492	Sp	iked Sam	ble ID:	0805212-02	4A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	e Criteria (%)				
, mary to	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD			
TPH-Diesel (C10-C23)	1.5	20	92.4	90.7	1.73	98.1	97.7	0.474	70 - 130	30	70 - 130	30			
%SS:	95	50	103	104	1.10	105	104	1.15	70 - 130	30	70 - 130	30			
All target compounds in the Method E NONE	Moss:   93   30   103   104   1.10   103   104   1.13   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 35492 SUMMARY														
Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed								
0805212-024A	05/07/08 8:55 AM	05/08/08	05/15/08 11:02 AM												

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

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

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

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

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

DHS ELAP Certification N° 1644



McCampbell Au "When Ouality	nalytical, Inc.	1534 Will Web: www.mc Telepho	ow Pass Road, Pittsburg, campbell.com E-mail: m one: 877-252-9262 Fax:	CA 94565-1701 nain@mccampbell.com 925-252-9269
AEI Consultants	Client Project ID: #274762	l; Zimmerman	Date Sampled:	05/09/08
2500 Camino Diablo, Ste. #200			Date Received:	05/12/08
Walnut Creek, CA 94597	Client Contact: Harmony	TomSun	Date Reported:	05/19/08
	Client P.O.:		Date Completed:	05/15/08

## WorkOrder: 0805284

May 19, 2008

Dear Harmony:

Enclosed within are:

- 1) The results of the 1 analyzed sample from your project: #274761; Zimmerman,
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager McCampbell Analytical, Inc.

	McCAN	1534 W	L ANA	LYI Road	ICA	LI	N	-							CI II	DN	AD		CH	AI	N	OF	C	US	ST	0	D	R	EC	OR	D	7	X
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Telepho	ne: (925) 25	2-9262			r	ax:	(92	5) 45	52-9	205	·			E	DF	Req	uire	ed?		γ	es			) N	lo				0790				
Report To: Harm	ony TomSu	n	В	ill To	: san	ne		P.	0.	#					3	-	_	_	Ana	lysis	Re	que	st			_			0	)the	*	Con	ment
Company: AEI C	onsultants													4	2	E				E.												- C	
2500 0	Camino Dial	blo, Suite	200									-		- 10	E	B&			-	ica (													
Waln	ut Creek, C	A 94597		E-M	ail: h	toms	un@	aeic	onsu	ıltan	ts.c	om		ATBI	0.1	S&F.	~			/ Sil				2210									
Tele: (925) 944-2	899		F	ax: (	925)	944	-28	95		_				150	3	20 F	18.1			5) w			-	2 A									
Project #: 274761			P	rojec	A 94608						- 80	1	: (55	IS (4		(0)	801	2		000	70			_									
Project Location:	3442 Adelin	ie Street,	Oakland	, CA	A 94608						020		case	rbon		802	WO	Z			3			010		-							
Sampler Signatur	er q C	~	-	-	-	-	-	_		-	ME	TU	on	02/8		k Gi	roca		602	Q/E	.s.	00	3 3	E I			2/6						
		SAMP	LING		SLIS		MA	TR	IX	F	RE	SER	VEL	as (6	12	Oil	Hyd	8	PA	0	ECB	140	201	A E	602		/235						
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SAMPLE ID (Field Point Name)	LOCATION			ain	ont									TPH	esel	trole	trole	EP/	NI	Hi-F	8/8	0/+	0 0	Z I	Ň	Met	240/						
(Field Foline Manie)		Date	Time	ont	e C	ter	_		dg	ler		- 0	S la	Xe	IS D	I Pe	ll Pe	OCs	XC	W	00	701	70	i s	-1-W	1.5	(D.						
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Relinquished By:	V	Date:	Time:	Rece	ived B	iv:	10	1	0		6	)		1	ICE	/t°			Incor				PR	ESI	ERV	AT	CIOI	N					
foundamen wht		L'III													GO	OD (	DAG	DIT	RSI	NT	_		AP	PR	AIN	NFE	IE						
			1911	n					_	_			_	-	DEA	THI	ODI	DIA 1	FED	INIT	1.0	_		DED	CEL	DVI	EDI	INI	AR				

# McCampbell Analytical, Inc.

1534 Willow Pass Rd CA 04565 1701

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

(925) 252-9262				WorkOr	der: 0805284	Clier	ntCode: AEL		
		WriteOn	EDF	Excel	Fax	🖌 Email	HardCopy	ThirdParty	J-flag
Report to:				Bil	II to:		Re	quested TAT:	5 days
Harmony TomSun	Email:	htomsun@aeico	nsultants.com		Denise Mocke	el			
AEI Consultants	CC:				AEI Consultar	nts			
2500 Camino Diablo, Ste. #200	PO:				2500 Camino	Diablo, Ste. #	200 Da	ite Received:	05/11/2008
Walnut Creek, CA 94597	ProjectNo	: #274761; Zimme	erman		Walnut Creek	, CA 94597	De	te Printed:	05/12/2008
(925) 944-2899 FAX (925) 944-2895					dmockel@aei	iconsultants.co	om		

					Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	<b>Collection Date</b>	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0805284-001	SB-25-W	Water	5/9/2008 8:45		А	А	В									

#### Test Legend:

1	G-MBTEX_W
6	
11	

2	PREDF REPORT	
7		
12		

3	TPH(D)WSG_W
8	

4	
9	

5	
10	

Prepared by: Maria Venegas

#### **Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). 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	9:41:15 AM					
Project Name:	#274761; Zimmer	man			Check	klist completed and re	eviewed by:	Maria Venegas			
WorkOrder N°:	0805284	Matrix <u>Water</u>			Carrie	er: <u>Client Drop-In</u>					
		<u>Chain</u>	of Cu	stody (COC	:) Informa	ation					
Chain of custody	/ present?		Yes		No 🗆						
Chain of custody	/ signed when relinqui	shed and received?	Yes	$\checkmark$	No 🗆						
Chain of custody	agrees with sample	abels?	Yes		No 🗌						
Sample IDs noted	d by Client on COC?		Yes	$\checkmark$	No 🗆						
Date and Time of	f collection noted by Cl	Yes	$\checkmark$	No 🗆							
Sampler's name	noted on COC?		Yes		No 🗆						
Sample Receipt Information											
Custody seals in	tact on shipping conta	iner/cooler?	Yes		No 🗆		NA 🔽				
Shipping contain	er/cooler in good conc	lition?	Yes		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 🗌						
		Sample Prese	rvatior	n and Hold	Time (HT	) Information					
All samples rece	ived within holding tim	e?	Yes	$\checkmark$	No 🗌						
Container/Temp	Blank temperature		Coole	er Temp:			NA 🗹				
Water - VOA via	ls have zero headspa	ce / no bubbles?	Yes	$\checkmark$	No 🗆	No 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:

	McCampbell	Analyt	ical, Inc	<u>-</u>	153 Web: wv T	4 Willow Pass Road, ww.mccampbell.com elephone: 877-252-92	Pittsburg, CA 94565 E-mail: main@mcca 262 Fax: 925-252-9	5-1701 mpbell.com 9269			
AEIC	Consultants		Client Proj	ect ID: #2	ed: 05/09/08						
2500	Camino Diablo, Ste. #200			Date Received: 05/12/08							
Walni	It Creek CA 9/597		Client Cor	ntact: Hai	mony TomSu	n	Date Extract	ed: 05/14/08			
vv ann	n Cicck, CA )+3)7		Client P.O.	.:			Date Analyz	ed 05/14/08			
Extracti	Gasolin on method SW5030B	ne Range (O	C <b>6-C12) Vola</b> Anal	<b>tile Hydr</b>	ocarbons as G s SW8021B/80150	asoline with BT	EX and MTBE	* Work Order	: 0805	5284	
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	e Toluene	Ethylbenzene	Xylenes	DF	% SS	
001A	SB-25-W	W	3600,a,i	ND	42	1.9	65	36	1	112	
									1	1	
Rej	porting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5	1	цо/Г	
ND al	means not detected at or	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.



	CCampbell Analyti	cal, Inc.		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 Consulta	nts	Client Project	ID: Ŧ	#274761; Zimmerman	Zimmerman Date Sampled: 05/09/					
2500 Camino	Diablo, Ste. #200				Date Received: 05/12/	/08				
Walnut Creek	Walnut Creek CA 94597			armony TomSun	Date Extracted: 05/12/	08				
	,	Client P.O.:	Client P.O.: Date Analyzed 05/14							
	Total Extractat	ole Petroleum 1	Hydro	ocarbons with Silica Gel	Clean-Up*					
Extraction method	SW3510C/3630C	Anal	ytical m	nethods: SW8015C	Work Or	der: 080	)5284			
Lab ID	Client ID	Matrix		TPH-Dies (C10-C23)	sel	DF	% SS			
0805284-001B	SB-25-W	w		1300,d,	i	1	116			
		- 1 1								

Reporting Limit for DF =1;	W	50	µg/L
ND means not detected at or	C	N A	NA
above the reporting limit	3	INA	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/matrix interference.

+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; p) see attached narrative.

DHS ELAP Certification Nº 1644





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

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805284

EPA Method SW8015C	Extra	630C	BatchID: 35473			Spiked Sample ID: N/A						
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	e Criteria (%)	1
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	97.9	97.6	0.220	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	105	105	0	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 35473 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805284-001B	05/09/08 8:45 AM	05/12/08	05/14/08 8:29 PM				

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

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

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

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

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

DHS ELAP Certification N° 1644





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## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805284

EPA Method SW8021B/8015Cm		BatchID: 35545 Spiked Sample ID: 0805281-001							1 <b>A</b>			
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
TPH(btex <sup>f</sup> )	ND	60	95.3	97.8	2.61	92.6	93	0.375	70 - 130	20	70 - 130	20
MTBE	ND	10	100	99.1	0.979	103	98.8	4.09	70 - 130	20	70 - 130	20
Benzene	ND	10	84	92.1	9.18	88.6	88.1	0.586	70 - 130	20	70 - 130	20
Toluene	ND	10	76	83.7	9.62	79.9	82	2.59	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	84.4	91.9	8.56	88	87.4	0.656	70 - 130	20	70 - 130	20
Xylenes	ND	30	81.1	89.6	9.89	85	86.2	1.41	70 - 130	20	70 - 130	20
%SS:	97	10	95	96	0.322	97	95	1.43	70 - 130	20	70 - 130	20
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:												
NONE												

#### BATCH 35545 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805284-001A	05/09/08 8:45 AM	05/14/08	05/14/08 7:38 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.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.



McCampbell An "When Ouality"	nalytical, Inc.	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: #27476	1; St. Oakland Ca	Date Sampled:	05/14/08				
2500 Camino Diablo, Ste. #200	Zimmerman, 5442 Adenne s	St, Oakland Ca	Date Received:	05/14/08				
Walnut Creek, CA 94597	Client Contact: Harmony	TomSun	Date Reported:	05/21/08				
	Client P.O.:		Date Completed:	05/20/08				

## WorkOrder: 0805356

May 21, 2008

Dear Harmony:

Enclosed within are:

- 1) The results of the **6** analyzed samples from your project: **#274761; Zimmerman,3442 Adeline**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager McCampbell Analytical, Inc.

| ebsite: <u>www.n</u><br>lephone: (877   | BELI<br>1534 WI<br>PITTSBI<br>Iccampbe<br>7) 252-92  | L ANA<br>ILLOW PA<br>URG, CA 9<br>Ell.com El<br>262   | LY<br>SS RC<br>4565-1<br>nail: 1   | TIC<br>DAD<br>701<br>main@<br>Fax   | AI  | cam<br>25)  | pbell<br>252-   | .com<br>9269  | )  |   
   
   
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| Company: AFT Corollants     E-Mail Aforms in Paicons v flants on     Tele: (925 ) 944-2899     Fax: (925 ) 944-2895     Project #: 274 761   Project Name: Zimmerman     Project Location: 3442 Adeline Street Oakland CA 94608   94608     Sampler Signature From Sampler Signature From Sampler Signature From Sampler ID     LOCATION/     Sample ID     LOCATION/     Sample ID     LOCATION/     Sample ID |  |   |  |   |   |   |   |   | M  | (602/8021 + 8015)/MTBE  
   
   
  | w Silvica Ged  
   
   
  | k Grease (1664 / 5520 E/B&F)  | rocarbons (418.1)  | 0 / 8021 (HVOCs)  
   
   
  | Y (EPA 602 / 8021)   
   
   
  | Cl Pesticides)   | s ONLY; Aroclors / Congeners  | Pesticides)  | lic Cl Herbicides)   | 0 (VOCs)  | 0 (SVOCs)  | ) (PAHs / PNAs)  
            | 7/200.8/6010/6020)  | 7 / 200.8 / 6010 / 6020)  | 010 / 6020)   |   |  |   
  | Filter<br>Samples<br>for Meta<br>analysis:<br>Yes / No  |  
   |  |   |  |
| LOCATION/<br>Field Point<br>Name  | Date   | Time  | # Containers   | Type Containers   | Water   | Soil  | Vir   | Other   | ICE PR   | HCL   
   
   
  | RVH FONH   
   
   
  | Other 3   | BTEX & TPH as Gas  | TPH as Diesel (8015)  
   
   
  | Total Petroleum Oil &  
   
   
  | Total Petroleum Hydr   | EPA 502.2 / 601 / 8010  | MTBE / BTEX ONLY   | EPA 505/ 608 / 8081 (  | EPA 608 / 8082 PCB's  | EPA 507 / 8141 (NP I   | EPA 515 / 8151 (Acid   
            | EPA 524.2 / 624 / 826   | EPA 525.2 / 625 / 827   | EPA 8270 SIM / 8310   | CAM 17 Metals (200.   | LUFT 5 Metals (200.7   | Lend (200.7 / 200.8 / 6   
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| Datclard  | 5/14   | 10:35<br>10:10<br>9:00<br>11:00<br>9:25<br>9:45   | 4  |   | X   |   |   |   |  |   
   
   
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ISH WILLOW PASS ROAD<br/>PITTSUBLE, CASS 455.7101     Debite: www.mccampbell.com<br/>Exphone: (877) 252-9262     Fas: (925) 252-9269     Fas: (925) 944 - 293*     Fas: (925) 944 - 293*     Fas: (926) 944 - 944 - 293*     Fas: (926) 944 - 944 - 944 -</td><td>ACCAMPBELL ANALYTICAL, INC.<br/>ISSI WILLOW PASS ROAD<br/>Pristing (C) 4955 (701)   CHAIN OF CUSTODY RECORD<br/>TURN AROUND TIME<br/>RUSH 24 HR 45 HR 72 HR<br/>RUSH 24 H</td></t<></td></t<></td></td></td> | <td>AcCAMPBELL ANALYTICAL, INC.     1534 WILLOW PASS ROAD<br/>PITTSBURG, CA 94565-1701     ebsite: www.mccampbell.com     email: main@mccampbell.com     lephone: (877) 252-9262     Fax: (925) 252-9269     ready     Bill To: Source     Corocylfank     E-Maild.formyun@aiconf v/fank     WH-2899     Fax: (975) 944-2895     Y4-2899     SAMPLING   Sampling     Yatt   MATRIX     PRESE     LOCATION/     Pate   Time     Yatt   Yatt     Yatt   Yatt     Yatt   Yatt     Yatt   Yatt     Yatt   Yatt</td> <td>AccampBELL ANALYTICAL, INC.     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ISA WILLOW PASS ROAD<br/>PITTSBURG, CA 94865-1701   CHA<br/>TURN AROUND<br/>Geo Tracker EDF     ebsite: www.mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF     monor Gondon Email: main@mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF     monor Gondon Email: main@mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Email: main@mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Email: main@mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Iephone: (877) 252-9262   Fax: (926) 944-2395   A     M4-2597   Fax: (926)
944-2395   Fax: (926) 944-2395   A     Monor Gondon Iephone: (9000 1007)   Fax: (926) 944-2395   Fax: (926) 944-2395   A     Monor Gondon Iephone: (9000 1007)   Fax: (926) 944-2395   Fax: (926) 944-2395   A   A     Monor Gondon Iephone: (9000 1007)   Fax: (926) 944-2395   Fax: (926) 944-2395   A   A   A   A   A   A   A   A</td><td>AcCAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD<br/>PITTSBURG, CA 94565-1701   CHAIL<br/>TURN AROUND TI<br/>Concentration Emails main@mccampbell.com<br/>Fax: (925) 252-9269     besite: www.mccampbell.com<br/>lephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF Account<br/>Geo Tracker EDF Account<br/>Fax: (925) 252-9269     more to the state of the state o</td><td>AcCAMPBELL ANALYTICAL, INC.   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ISM WILLOW PASS ROAD     ISM WILLOW PASS ROAD   ISM WILLOW PASS ROAD     ebsite: www.encambell.com   Fax: (925) 252-9269     ebsite: www.encambell.com   Fax: (925) 2949-2835     ebsite: www.encambell.com   Fax: (926) 944-2835     ebsite: www.encambell.com   Filed Point:     ebsite: www.encambell.com   Fax: (926) 944-2835     filed Point:   Fax: (926) 944-2835     filed Point:   Forest fax:     filed Point:   Forest fax:     filed Point:   Fax: (926) 944-2835     filed Point:   Fax: (926) 944-2835     filed Point:   Forest fax:     gas   Filed Point:     filed Point:   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas</td><td>AccAMPBELL ANALYTICAL, INC.     1534 WILLOW PASS ROAD     Print Surge, Co 49656-1701     ebitic: www.mccampbell.com     ebitic: www.mccampbell.com     Eemail: damage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (927) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (927) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Field Point     Nate     Time     SampLing     Matrix     Matrix     Matrix     Matrix     Project Name:     SampLing     SampLing     SampLing     Matrix     Matrix     Matrix     Project Name:     SampLing     SampLing     SampLing     SampLing</td><td>AccAMPBELL ANALYTICAL, INC.   ISAL WILLOW PASS ROAD     ISAL WILLOW PASS ROAD   EVENT SUBJEC, CASH563-1701     ebsite: www.mccambbell.com   Email: main@mccampbell.com     Eestie: www.mccambbell.com   Email: main@mccampbell.com     Email: main@mccampbell.com   Email: main@mccampbell.com     Bill To: Seave   Analysis Request     Corocaliants   Interview of the seave     W-12897   Fax: (925) 252-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     SampLing   SampLing     Matrix:   Matrix:     Interview of the seave   Interview of the seave     Int</td><td>AccAMPBELL ANALYTICAL, INC.<br/>ISA WILLOW PASS ROAD<br/>PTTSBURG, CA9456.1701<br/>center www.mccampbell.com<br/>lephone: (877) 252-9262   CHAIN OF CUSTODY<br/>TURN AROUND TIME<br/>CUSTODY<br/>Fax: (925) 252-9269     Construction   Fax: (925) 252-9269   Check if sample is eff<br/>Construction     Construction   Fax: (925) 252-9269     Construction   Fax: (926) 293-5     Construction   Fax: (926) 944-293-5     <t< td=""><td>AccAMPBELL ANALYTICAL, INC.<br/>ISA WILLOW PASS ROAD<br/>PTTSBURG, CA9456.1701   CHAIN OF CUSTODY R<br/>RUSH 24 HR<br/>RUSH 24 HR</td><td>AccAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD     PHTTBURG, CAMPAGE.1001   EMBIL main@mccampbell.com     rebate: www.mccampbell.com   Fax: (925) 252-9269     Fax: (925) 252-9269   Fax: (925) 252-9269     Bill To: SaMAQ   Check if sample is effluent at the sample is</td><td>AccAMPBELL ANALYTICAL, INC.<br/>ISA WILLOW PASS ROAD<br/>PTTSBURG, CAS456-170<br/>Rephone: (877) 252-9262   Image: Comparison of the compar</td><td>AccAMPBELL ANALYTICAL, INC.     ISH WILLOW PASS ROAD<br/>PITTSUBLE, CASS 455.7101     Debite: www.mccampbell.com<br/>Exphone: (877) 252-9262     Fas: (925) 252-9269     Fas: (925) 944 - 293*     Fas: (925) 944 - 293*     Fas: (926) 944 - 944 - 293*     Fas: (926) 944 - 944 - 944 -</td><td>ACCAMPBELL ANALYTICAL, INC.<br/>ISSI WILLOW PASS ROAD<br/>Pristing (C) 4955 (701)   CHAIN OF CUSTODY RECORD<br/>TURN AROUND TIME<br/>RUSH 24 HR 45 HR 72 HR<br/>RUSH 24 H</td></t<></td></t<></td></td> | AcCAMPBELL ANALYTICAL, INC.     1534 WILLOW PASS ROAD<br>PITTSBURG, CA 94565-1701     ebsite: www.mccampbell.com     email: main@mccampbell.com     lephone: (877) 252-9262     Fax: (925) 252-9269     ready     Bill To: Source     Corocylfank     E-Maild.formyun@aiconf v/fank     WH-2899     Fax: (975) 944-2895     Y4-2899     SAMPLING   Sampling     Yatt   MATRIX     PRESE     LOCATION/     Pate   Time     Yatt   Yatt     Yatt   Yatt     Yatt   Yatt     Yatt   Yatt     Yatt   Yatt | AccampBELL ANALYTICAL, INC.     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ISA WILLOW PASS ROAD<br/>PITTSBURG, CA 94865-1701   CHA<br/>TURN AROUND<br/>Geo Tracker EDF     ebsite: www.mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF     monor Gondon Email: main@mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF     monor Gondon Email:
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ISA WILLOW PASS ROAD<br/>PITTSBURG, CA 94565-1701   CHAIL<br/>TURN AROUND TI<br/>Concentration Emails main@mccampbell.com<br/>Fax: (925) 252-9269     besite: www.mccampbell.com<br/>lephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF Account<br/>Geo Tracker EDF Account<br/>Fax: (925) 252-9269     more to the state of the state o</td><td>AcCAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD<br/>PHTTSBURG, CA 94565-1701   CHAIN OF<br/>TURN AROUND TIME<br/>GeoTracker EDF     ebsite: www.mccambell.com<br/>lephone: (877) 252-9262   Fax: (925) 252-9269   GeoTracker EDF     memory for the state of the state of</td><td>AccAMPBELL ANALYTICAL, INC. 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ISM WILLOW PASS ROAD     ISM WILLOW PASS ROAD   ISM WILLOW PASS ROAD     ebsite: www.encambell.com   Fax: (925) 252-9269     ebsite: www.encambell.com   Fax: (925) 2949-2835     ebsite: www.encambell.com   Fax: (926) 944-2835     ebsite: www.encambell.com   Filed Point:     ebsite: www.encambell.com   Fax: (926) 944-2835     filed Point:   Fax: (926) 944-2835     filed Point:   Forest fax:     filed Point:   Forest fax:     filed Point:   Fax: (926) 944-2835     filed Point:   Fax: (926) 944-2835     filed Point:   Forest fax:     gas   Filed Point:     filed Point:   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas</td><td>AccAMPBELL ANALYTICAL, INC.     1534 WILLOW PASS ROAD     Print Surge, Co 49656-1701     ebitic: www.mccampbell.com     ebitic: www.mccampbell.com     Eemail: damage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (927) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (927) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Field Point     Nate     Time     SampLing     Matrix     Matrix     Matrix     Matrix     Project Name:     SampLing     SampLing     SampLing     Matrix     Matrix     Matrix     Project Name:     SampLing     SampLing     SampLing     SampLing</td><td>AccAMPBELL ANALYTICAL, INC.   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ISA WILLOW PASS ROAD     PHTTBURG, CAMPAGE.1001   EMBIL main@mccampbell.com     rebate: www.mccampbell.com   Fax: (925) 252-9269     Fax: (925) 252-9269   Fax: (925) 252-9269     Bill To: SaMAQ   Check if sample is effluent at the sample is</td><td>AccAMPBELL ANALYTICAL, INC.<br/>ISA WILLOW PASS ROAD<br/>PTTSBURG, CAS456-170<br/>Rephone: (877) 252-9262   Image: Comparison of the compar</td><td>AccAMPBELL ANALYTICAL, INC.     ISH WILLOW PASS ROAD<br/>PITTSUBLE, CASS 455.7101     Debite: www.mccampbell.com<br/>Exphone: (877) 252-9262     Fas: (925) 252-9269     Fas: (925) 944 - 293*     Fas: (925) 944 - 293*     Fas: (926) 944 - 944 - 293*     Fas: (926) 944 - 944 - 944 -</td><td>ACCAMPBELL ANALYTICAL, INC.<br/>ISSI WILLOW PASS ROAD<br/>Pristing (C) 4955 (701)   CHAIN OF CUSTODY RECORD<br/>TURN AROUND TIME<br/>RUSH 24 HR 45 HR 72 HR<br/>RUSH 24 H</td></t<></td></t<></td> | AcCAMPBELL ANALYTICAL, INC.   1534 WILLOW PASS ROAD<br>PHTTSBURG, CA 94565-1701   T     ebsite: www.mccampbell.com   Email: main@mccampbell.com   G     ebsite: www.mccampbell.com   Email: main@mccampbell.com   G     mail: main@mccampbell.com   Fax: (925) 252-9269   G     mail: main@mccampbell.com   Bill To: Some   G     Corollow   Bill To: Some   G     W-2899   Fax: (925) 252-9269   G     W-2899   Fax: (925) 99/9-2895   G     Y4-2899   Fax: (925) 99/9-2895   G     Y4-2899   Fax: (926) 99/9-289/9   G <t< td=""><td>AcCAMPBELL ANALYTICAL, INC.   IS34 WILLOW PASS ROAD<br/>PTTSBURG, CA 94565-1701   TUR     ebsite: www.mccampbell.com   Email: main@mccampbell.com   Geo     ebsite: www.mccampbell.com   Email: main@mccampbell.com   Geo     orry Conserved   Bill To: Settle   Fax: (925) 252-9269   Geo     orry Conserved   Bill To: Settle   Weiler   Geo     Conserved   Fax: (925) 252-9269   Geo   Geo     orry Conserved   Bill To: Settle   Geo   Geo     Conserved   Fax: (925) 252-9269   Geo   Geo     Conserved   Fax: (925) 24000   Geo   Geo     Conserved   Fax: (925) 24000   Geo   Geo   Geo     M4-2899   Fax: (925) 24000   Geo   Geo   Geo     Loccation   SAMPLING   Sample   Geo   Geo   Geo     Loccation   Date   Time:   Geo   Geo   Geo   Geo</td><td>AccAMPBELL ANALYTICAL, INC.<br/>IS34 WILLOW PASS ROAD<br/>PTTTSBURG, CA 94565-1701<br/>ebsite: yww.mccampbell.com<br/>lephone: (877) 252-9262   TURN.<br/>GeoTra     GeoTra     Bill To: SaMse     Core least: (925) 252-9269     Bill To: SaMse     Core least: (97) 252-9262     E-Mail Johnson Paicons views.com     MATRIX PRESERVED     W/ 5108 +108 (109 87) with the preserved of the second of the s</td><td>AcCAMPBELL ANALYTICAL, INC.   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ISA WILLOW PASS ROAD<br/>PITTSBURG, CA 94865-1701   CHA<br/>TURN AROUND<br/>Geo Tracker EDF     ebsite: www.mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF     monor Gondon Email: main@mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF     monor Gondon Email: main@mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Email: main@mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Email: main@mccambbell.com<br/>Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Iephone: (877) 252-9262   Fax: (926) 944-2395   A     M4-2597   Fax: (926) 944-2395   Fax: (926) 944-2395   A     Monor Gondon Iephone: (9000 1007)   Fax: (926) 944-2395   Fax: (926) 944-2395   A     Monor Gondon Iephone: (9000 1007)   Fax: (926) 944-2395   Fax: (926) 944-2395   A   A     Monor Gondon Iephone: (9000 1007)   Fax: (926) 944-2395   Fax: (926) 944-2395   A   A   A   A   A   A   A   A</td><td>AcCAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD<br/>PITTSBURG, CA 94565-1701   CHAIL<br/>TURN AROUND TI<br/>Concentration Emails main@mccampbell.com<br/>Fax: (925) 252-9269     besite: www.mccampbell.com<br/>lephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF Account<br/>Geo Tracker EDF Account<br/>Fax: (925) 252-9269     more to the state of the
state o</td><td>AcCAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD<br/>PHTTSBURG, CA 94565-1701   CHAIN OF<br/>TURN AROUND TIME<br/>GeoTracker EDF     ebsite: www.mccambell.com<br/>lephone: (877) 252-9262   Fax: (925) 252-9269   GeoTracker EDF     memory for the state of the state of</td><td>AccAMPBELL ANALYTICAL, INC. ISM WILLOW PASS ROAD   ISM WILLOW PASS ROAD Fass (925) 252-9269   ebsite: www.mccampbell.com Email: main@mccampbell.com   rephone: (877) 252-9262 Fas: (925) 252-9269   Bill To: Same Fas: (925) 252-9269   Core Ifant E-Mail: formula (225) 252-9269   Image: Same Fas: (925) 252-9269   Image: Same Fas: (926) 294-2395   Image: Same Fas: (926) 294-2395</td><td>AcCAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD     ISA WILLOW PASS ROAD   ISA WILLOW PASS ROAD     ebsite: www.mccampbell.com   Email: main@mccampbell.com     test: (877) 252-9262   Fax: (925) 252-9269     Image: Construction of the state o</td><td>AccAMPBELL ANALYTICAL, INC.   ISM WILLOW PASS ROAD     ISM WILLOW PASS ROAD   ISM WILLOW PASS ROAD     ebsite: www.encambell.com   Fax: (925) 252-9269     ebsite: www.encambell.com   Fax: (925) 2949-2835     ebsite: www.encambell.com   Fax: (926) 944-2835     ebsite: www.encambell.com   Filed Point:     ebsite: www.encambell.com   Fax: (926) 944-2835     filed Point:   Fax: (926) 944-2835     filed Point:   Forest fax:     filed Point:   Forest fax:     filed Point:   Fax: (926) 944-2835     filed Point:   Fax: (926) 944-2835     filed Point:   Forest fax:     gas   Filed Point:     filed Point:   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas</td><td>AccAMPBELL ANALYTICAL, INC.     1534 WILLOW PASS ROAD     Print Surge, Co 49656-1701     ebitic: www.mccampbell.com     ebitic: www.mccampbell.com     Eemail: damage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (927) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (927) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Field Point     Nate     Time     SampLing     Matrix     Matrix     Matrix     Matrix     Project Name:     SampLing     SampLing     SampLing     Matrix     Matrix     Matrix     Project Name:     SampLing     SampLing     SampLing     SampLing</td><td>AccAMPBELL ANALYTICAL, INC.   ISAL WILLOW PASS ROAD     ISAL WILLOW PASS ROAD   EVENT SUBJEC, CASH563-1701     ebsite: www.mccambbell.com   Email: main@mccampbell.com     Eestie: www.mccambbell.com   Email: main@mccampbell.com     Email: main@mccampbell.com   Email: main@mccampbell.com     Bill To: Seave   Analysis Request     Corocaliants   Interview of the seave     W-12897   Fax: (925) 252-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     SampLing   SampLing     Matrix:   Matrix:     Interview of the seave   Interview of the seave     Int</td><td>AccAMPBELL ANALYTICAL, INC.<br/>ISA WILLOW PASS ROAD<br/>PTTSBURG, CA9456.1701<br/>center www.mccampbell.com<br/>lephone: (877) 252-9262   CHAIN OF CUSTODY<br/>TURN AROUND TIME<br/>CUSTODY<br/>Fax: (925) 252-9269     Construction   Fax: (925) 252-9269   Check if sample is eff<br/>Construction     Construction   Fax: (925) 252-9269     Construction   Fax: (926) 293-5     Construction   Fax: (926) 944-293-5     <t< td=""><td>AccAMPBELL ANALYTICAL, INC.<br/>ISA WILLOW PASS ROAD<br/>PTTSBURG, CA9456.1701   CHAIN OF CUSTODY R<br/>RUSH 24 HR<br/>RUSH 24 HR</td><td>AccAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD     PHTTBURG, CAMPAGE.1001   EMBIL main@mccampbell.com     rebate: www.mccampbell.com   Fax: (925) 252-9269     Fax: (925) 252-9269   Fax: (925) 252-9269     Bill To: SaMAQ   Check if sample is effluent at the sample is</td><td>AccAMPBELL ANALYTICAL, INC.<br/>ISA WILLOW PASS ROAD<br/>PTTSBURG, CAS456-170<br/>Rephone: (877) 252-9262   Image: Comparison of the compar</td><td>AccAMPBELL ANALYTICAL, INC.     ISH WILLOW PASS ROAD<br/>PITTSUBLE, CASS 455.7101     Debite: www.mccampbell.com<br/>Exphone: (877) 252-9262     Fas: (925) 252-9269     Fas: (925) 944 - 293*     Fas: (925) 944 - 293*     Fas: (926) 944 - 944 - 293*     Fas: (926) 944 - 944 - 944 -</td><td>ACCAMPBELL ANALYTICAL, INC.<br/>ISSI WILLOW PASS ROAD<br/>Pristing (C) 4955 (701)   CHAIN OF CUSTODY RECORD<br/>TURN AROUND TIME<br/>RUSH 24 HR 45 HR 72 HR<br/>RUSH 24 H</td></t<></td></t<> | AcCAMPBELL ANALYTICAL, INC.   IS34 WILLOW PASS ROAD<br>PTTSBURG, CA 94565-1701   TUR     ebsite: www.mccampbell.com   Email: main@mccampbell.com   Geo     ebsite: www.mccampbell.com   Email: main@mccampbell.com   Geo     orry Conserved   Bill To: Settle   Fax: (925) 252-9269   Geo     orry Conserved   Bill To: Settle   Weiler   Geo     Conserved   Fax: (925) 252-9269   Geo   Geo     orry Conserved   Bill To: Settle   Geo   Geo     Conserved   Fax: (925) 252-9269   Geo   Geo     Conserved   Fax: (925) 24000   Geo   Geo     Conserved   Fax: (925) 24000   Geo   Geo   Geo     M4-2899   Fax: (925) 24000   Geo   Geo   Geo     Loccation   SAMPLING   Sample   Geo   Geo   Geo     Loccation   Date   Time:   Geo   Geo   Geo   Geo | AccAMPBELL ANALYTICAL, INC.<br>IS34 WILLOW PASS ROAD<br>PTTTSBURG, CA 94565-1701<br>ebsite: yww.mccampbell.com<br>lephone: (877) 252-9262   TURN.<br>GeoTra     GeoTra     Bill To: SaMse     Core least: (925) 252-9269     Bill To: SaMse     Core least: (97) 252-9262     E-Mail Johnson Paicons views.com     MATRIX PRESERVED     W/ 5108 +108 (109 87) with the preserved of the second of the s | AcCAMPBELL ANALYTICAL, INC.   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ISA WILLOW PASS ROAD<br>PITTSBURG, CA 94865-1701   CHA<br>TURN AROUND<br>Geo Tracker EDF     ebsite: www.mccambbell.com<br>Iephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF     monor Gondon Email: main@mccambbell.com<br>Iephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF     monor Gondon Email: main@mccambbell.com<br>Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Email: main@mccambbell.com<br>Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Email: main@mccambbell.com<br>Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Iephone: (877) 252-9262   Fax: (925) 252-9269   A     monor Gondon Iephone: (877) 252-9262   Fax: (926) 944-2395   A     M4-2597   Fax: (926) 944-2395   Fax: (926) 944-2395   A     Monor Gondon Iephone: (9000 1007)   Fax: (926) 944-2395   Fax: (926) 944-2395   A     Monor Gondon Iephone: (9000 1007)   Fax: (926) 944-2395   Fax: (926) 944-2395   A   A     Monor Gondon Iephone: (9000 1007)   Fax: (926) 944-2395   Fax: (926) 944-2395   A   A   A   A   A   A   A   A | AcCAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD<br>PITTSBURG, CA 94565-1701   CHAIL<br>TURN AROUND TI<br>Concentration Emails main@mccampbell.com<br>Fax: (925) 252-9269     besite: www.mccampbell.com<br>lephone: (877) 252-9262   Fax: (925) 252-9269   Geo Tracker EDF Account<br>Geo Tracker EDF Account<br>Fax: (925) 252-9269     more to the state of the state o | AcCAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD<br>PHTTSBURG, CA 94565-1701   CHAIN OF<br>TURN AROUND TIME<br>GeoTracker EDF     ebsite: www.mccambell.com<br>lephone: (877) 252-9262   Fax: (925) 252-9269   GeoTracker EDF     memory for the state of | AccAMPBELL ANALYTICAL, INC. ISM WILLOW PASS ROAD   ISM WILLOW PASS ROAD Fass (925) 252-9269   ebsite: www.mccampbell.com Email: main@mccampbell.com   rephone: (877) 252-9262 Fas: (925) 252-9269   Bill To: Same Fas: (925) 252-9269   Core Ifant E-Mail: formula (225) 252-9269   Image: Same Fas: (925) 252-9269   Image: Same Fas: (926) 294-2395   Image: Same Fas: (926) 294-2395 | AcCAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD     ISA WILLOW PASS ROAD   ISA WILLOW PASS ROAD     ebsite: www.mccampbell.com   Email: main@mccampbell.com     test: (877) 252-9262   Fax: (925) 252-9269     Image: Construction of the state o | AccAMPBELL ANALYTICAL, INC.   ISM WILLOW PASS ROAD     ISM WILLOW PASS ROAD   ISM WILLOW PASS ROAD     ebsite: www.encambell.com   Fax: (925) 252-9269     ebsite: www.encambell.com   Fax: (925) 2949-2835     ebsite: www.encambell.com   Fax: (926) 944-2835     ebsite: www.encambell.com   Filed Point:     ebsite: www.encambell.com   Fax: (926) 944-2835     filed Point:   Fax: (926) 944-2835     filed Point:   Forest fax:     filed Point:   Forest fax:     filed Point:   Fax: (926) 944-2835     filed Point:   Fax: (926) 944-2835     filed Point:   Forest fax:     gas   Filed Point:     filed Point:   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas   Filed Point:     gas | AccAMPBELL ANALYTICAL, INC.     1534 WILLOW PASS ROAD     Print Surge, Co 49656-1701     ebitic: www.mccampbell.com     ebitic: www.mccampbell.com     Eemail:
damage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (925) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (927) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Fax: (927) 252-9269     Coroca Ibau     E-Mail: domage campbell.com     Field Point     Nate     Time     SampLing     Matrix     Matrix     Matrix     Matrix     Project Name:     SampLing     SampLing     SampLing     Matrix     Matrix     Matrix     Project Name:     SampLing     SampLing     SampLing     SampLing | AccAMPBELL ANALYTICAL, INC.   ISAL WILLOW PASS ROAD     ISAL WILLOW PASS ROAD   EVENT SUBJEC, CASH563-1701     ebsite: www.mccambbell.com   Email: main@mccampbell.com     Eestie: www.mccambbell.com   Email: main@mccampbell.com     Email: main@mccampbell.com   Email: main@mccampbell.com     Bill To: Seave   Analysis Request     Corocaliants   Interview of the seave     W-12897   Fax: (925) 252-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     Bill To: Seave   Interview of the seave     W-12897   Fax: (925) 972-9269     SampLing   SampLing     Matrix:   Matrix:     Interview of the seave   Interview of the seave     Int | AccAMPBELL ANALYTICAL, INC.<br>ISA WILLOW PASS ROAD<br>PTTSBURG, CA9456.1701<br>center www.mccampbell.com<br>lephone: (877) 252-9262   CHAIN OF CUSTODY<br>TURN AROUND TIME<br>CUSTODY<br>Fax: (925) 252-9269     Construction   Fax: (925) 252-9269   Check if sample is eff<br>Construction     Construction   Fax: (925) 252-9269     Construction   Fax: (926) 293-5     Construction   Fax: (926) 944-293-5     Construction   Fax: (926) 944-293-5 <t< td=""><td>AccAMPBELL ANALYTICAL, INC.<br/>ISA WILLOW PASS ROAD<br/>PTTSBURG, CA9456.1701   CHAIN OF CUSTODY R<br/>RUSH 24 HR<br/>RUSH 24 HR</td><td>AccAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD     PHTTBURG, CAMPAGE.1001   EMBIL main@mccampbell.com     rebate: www.mccampbell.com   Fax: (925) 252-9269     Fax: (925) 252-9269   Fax: (925) 252-9269     Bill To: SaMAQ   Check if sample is effluent at the sample is</td><td>AccAMPBELL ANALYTICAL, INC.<br/>ISA WILLOW PASS ROAD<br/>PTTSBURG, CAS456-170<br/>Rephone: (877) 252-9262   Image: Comparison of the compar</td><td>AccAMPBELL ANALYTICAL, INC.     ISH WILLOW PASS ROAD<br/>PITTSUBLE, CASS 455.7101     Debite: www.mccampbell.com<br/>Exphone: (877) 252-9262     Fas: (925) 252-9269     Fas: (925) 944 - 293*     Fas: (925) 944 - 293*     Fas: (926) 944 - 944 - 293*     Fas: (926) 944 - 944 - 944 -</td><td>ACCAMPBELL ANALYTICAL, INC.<br/>ISSI WILLOW PASS ROAD<br/>Pristing (C) 4955 (701)   CHAIN OF CUSTODY RECORD<br/>TURN AROUND TIME<br/>RUSH 24 HR 45 HR 72 HR<br/>RUSH 24 H</td></t<> | AccAMPBELL ANALYTICAL, INC.<br>ISA WILLOW PASS ROAD<br>PTTSBURG, CA9456.1701   CHAIN OF CUSTODY R<br>RUSH 24 HR<br>RUSH 24 HR | AccAMPBELL ANALYTICAL, INC.   ISA WILLOW PASS ROAD     PHTTBURG, CAMPAGE.1001   EMBIL main@mccampbell.com     rebate: www.mccampbell.com   Fax: (925) 252-9269     Fax: (925) 252-9269   Fax: (925) 252-9269     Bill To: SaMAQ   Check if sample is effluent at the sample is | AccAMPBELL ANALYTICAL, INC.<br>ISA WILLOW PASS ROAD<br>PTTSBURG, CAS456-170<br>Rephone: (877) 252-9262   Image: Comparison of the compar | AccAMPBELL ANALYTICAL, INC.     ISH WILLOW PASS ROAD<br>PITTSUBLE, CASS 455.7101     Debite: www.mccampbell.com<br>Exphone: (877) 252-9262     Fas: (925) 252-9269     Fas: (925) 944 - 293*     Fas: (925) 944 - 293*     Fas: (926) 944 - 944 - 293*     Fas: (926) 944 - 944 - 944 - | ACCAMPBELL ANALYTICAL, INC.<br>ISSI WILLOW PASS ROAD<br>Pristing (C) 4955 (701)   CHAIN OF CUSTODY RECORD<br>TURN AROUND TIME<br>RUSH 24 HR 45 HR 72 HR<br>RUSH 24 H |

# McCampbell Analytical, Inc.

1

1534 Willow Pass Rd Pittsburg, CA 94565-1701

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

(925) 252-9262				WorkO	order: 080535	56 Client	Code: AEL		
		WriteOr	n 🗹 EDF	Excel	Fax	🖌 Email	HardCopy	ThirdParty	J-flag
Report to:				В	ill to:		Red	quested TAT:	5 days
Harmony TomSun	Email:	htomsun@ae	eiconsultants.com		Denise Mod	kel			
AEI Consultants 2500 Camino Diablo, Ste, #200	CC: PO:				AEI Consult 2500 Camir	ants no Diablo Ste #2	no Da	te Received:	05/14/2008
Walnut Creek, CA 94597	ProjectNo	: #274761; Zim Oakland Ca	nmerman,3442 Ade	eline St,	Walnut Cree	ek, CA 94597	Da	te Printed:	05/14/2008
(925) 944-2899 FAX (925) 944-289	5				dmockel@a	aeiconsultants.cor	n		
						Requested Tests	s (See legend l	below)	
Lab ID Client ID		Matrix	Collection Date	Hold 1	2 3	4 5 6	7 8	9 10	11 12

Lah ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0805356-001	SB-23-W	Water	5/14/2008 10:35		А	Α	В		•	•	-	•	•			
0805356-002	SB-24-W	Water	5/14/2008 10:10		А		В									
0805356-003	SB-26-W	Water	5/14/2008 9:00		А		В									
0805356-004	SB-27-W	Water	5/14/2008 11:00		А		В									
0805356-005	SB-30-W	Water	5/14/2008 9:25		А		В									
0805356-006	SB-31-W	Water	5/14/2008 9:45		А		В									

#### Test Legend:

1	G-MBTEX_W	
6		
11		

2	PREDF REPORT
7	
12	

3	TPH(D)WSG_W
8	

4	
9	1

5	
10	

Prepared by: Ana Venegas

#### **Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). 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:	5/14/2008	12:55:14 PM
Project Name:	#274761; Zimmer	man,3442 Adeline	St, O	akland C	a Check	klist completed and re	eviewed by:	Ana Venegas
WorkOrder N°:	0805356	Matrix <u>Water</u>			Carrie	r: <u>Client Drop-In</u>		
		Chain	of Cu	stody (CO	C) Informa	ation		
Chain of custody	present?		Yes		No 🗌			
Chain of custody	· v sianed when relinaui	shed and received?	Yes		No 🗆			
Chain of custody	agrees with sample I	abels?	Yes		No 🗆			
Sample IDs noted	by Client on COC?		Yes		No 🗆			
Date and Time of	f collection noted by Cli	ent on COC?	Yes		No 🗌			
Sampler's name	noted on $COC^2$		Yes					
Campion o fiamo i			100	_	110 -			
		<u>S</u>	ample	Receipt I	nformatior	<u>1</u>		
Custody seals in	tact on shipping conta	iner/cooler?	Yes		No 🗆		NA 🗹	
Shipping contain	er/cooler in good cond	ition?	Yes	$\checkmark$	No 🗆			
Samples in prop	er containers/bottles?		Yes	$\checkmark$	No 🗆			
Sample containe	rs intact?		Yes	$\checkmark$	No 🗆			
Sufficient sample	e volume for indicated	test?	Yes	$\checkmark$	No 🗌			
		Sample Prese	rvatio	n and Hold	1 Time (HT	) Information		
		<u>oumple rreser</u>	Tutio		<u> </u>	<u>j internation</u>		
All samples rece	ived within holding tim	e?	Yes	$\checkmark$	No			
Container/Temp	Blank temperature		Coole	er Temp:	11.8°C		NA 🗆	
Water - VOA via	ls have zero headspa	ce / no bubbles?	Yes		No 🗆	No VOA vials subm	itted 🗆	
Sample labels cl	necked for correct pre	servation?	Yes		No 🗌			
TTLC Metal - pH	acceptable upon recei	pt (pH<2)?	Yes		No 🗆		NA 🗹	

Client contacted:

Date contacted:

Contacted by:

Comments:

	McCampbell	Analy	tical, Inc.	•	1534 W Web: www.r Telep	'illow Pass Road, nccampbell.com hone: 877-252-92	Pittsburg, CA 94565 E-mail: main@mcca 62 Fax: 925-252-9	5-1701 mpbell.com 9269				
AEI C	Consultants		Client Proj	ect ID: #2	274761; Zimmerm	an,3442	Date Sample	ed: 05/14/08				
2500	Camino Diablo, Ste. #200		Adeline St.	, Oakland	Ca		Date Receiv	ed: 05/14/08	,			
Woln	ut Crock CA 04507		Client Cor	ntact: Har	mony TomSun		Date Extract	ed: 05/15/08	-05/19	/08		
vv ann	II CIEEK, CA 94397		Client P.O.	Client P.O.: Date Analyzed 05/15/08-05								
Extract	Gasolir ion method SW5030B	ne Range (	(C6-C12) Vola Analy	tile Hydro	ocarbons as Gaso s SW8021B/8015Cm	oline with BT	EX and MTBE	* Work Orde	Work Order: 0805356			
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Ethylbenzene	Xylenes	DF	% SS			
001A	SB-23-W	W	46,000,a,i	ND<45	0 9000	40	2300	5200	50	94		
002A	SB-24-W	W	11,000,b,m,i	ND<50	80	ND<5.0	440	290	10	115		
003A	SB-26-W	W	2300,a,h,i	ND<10	22	2.1	ND<1.0	2.4	2	112		
004A	SB-27-W	w	740,a,m,i	ND	7.4	3.7	ND	1.0	1	115		
005A	SB-30-W	W	ND,i	ND	ND	ND	ND	ND	1	94		
006A	006A SB-31-W W		5100,a,i	ND<11	0 270	6.3	79	7.2	10	97		
										_		
									<u> </u>	<u> </u>		
Rej	porting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L		
ND al	means not detected at or	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.



	CCampbell Analyti "When Ouality Counts"	<u>cal, Inc.</u>	1534 Willow F Web: www.mccamp Telephone: 8	Pass Road, Pittsburg, CA 94565- bell.com E-mail: main@mccam 877-252-9262 Fax: 925-252-92	1701 pbell.com 69	
AEI Consulta	ints	Client Project ID:	#274761;	Date Sampled: 05/14/	/08	
2500 Camino	Diablo, Ste. #200	Zimmerman, 3442	Adeline St, Oakland Ca	Date Received: 05/14/	/08	
Walnut Creek	CA 94597	Client Contact: H	armony TomSun	Date Extracted: 05/14/	08	
	,,	Client P.O.:		Date Analyzed 05/15/	/08-05/1	6/08
	Total Extractab	le Petroleum Hydro	ocarbons with Silica Gel	Clean-Up*		
Extraction method	SW3510C/3630C	Analytical r	nethods: SW8015C	Work Or	der: 080	)5356
Lab ID	Client ID	Matrix	TPH-Dies (C10-C23)	sel )	DF	% SS
0805356-001B	SB-23-W	W	4800,d,	i	1	106
0805356-002B	SB-24-W	w	2900,d,	i	1	106
0805356-003B	SB-26-W	W	770,d,h,	i	1	106
0805356-004B	SB-27-W	w	180,d,i		1	104
0805356-005B	SB-30-W	W	ND,i		1	104
0805356-006B	SB-31-W	W	770,d,i		1	112
					1	

Reporting Limit for $DF = 1$ ;	W	50	μg/L
ND means not detected at or	c	ΝA	ΝA
above the reporting limit	3	INA	INA

\* 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/matrix interference.

+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; p) see attached narrative.

DHS ELAP Certification Nº 1644





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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805356

EPA Method SW8021B/8015Cm	Extra	ction SW	5030B		Bat	tchID: 35	603	Sp	iked Sam	ple ID:	0805143-00	1C
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	e Criteria (%)	1
, mary to	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)	ND	60	86.5	75.9	13.1	93.4	86.5	7.70	70 - 130	20	70 - 130	20
MTBE	ND	10	106	106	0	101	97.8	3.29	70 - 130	20	70 - 130	20
Benzene	ND	10	82	82	0	87.3	81	7.49	70 - 130	20	70 - 130	20
Toluene	0.65	10	84	86.2	2.36	96.8	89.4	7.96	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	88.3	91.8	3.91	94.8	87.2	8.37	70 - 130	20	70 - 130	20
Xylenes	ND	30	97.3	102	4.81	105	96.2	8.37	70 - 130	20	70 - 130	20
%SS:	92	10	92	88	5.27	92	92	0	70 - 130	20	70 - 130	20
All target compounds in the Method E	Blank of this	extraction	batch we	ere ND les	ss than the	method F	L with th	e following	exceptions:			

#### BATCH 35603 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805356-001A	05/14/08 10:35 AM	05/15/08	05/15/08 1:23 PM	0805356-002A	05/14/08 10:10 AM	05/16/08	05/16/08 8:26 PM
0805356-003A	05/14/08 9:00 AM	05/19/08	05/19/08 9:29 PM	0805356-004A	05/14/08 11:00 AM	05/15/08	05/15/08 3:55 PM

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

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

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

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.





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

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805356

EPA Method SW8021B/8015Cm	Extra	ction SW	/5030B		Ba	tchID: 35	607	Sp	iked Sam	ple ID:	0805411-00	1A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	e Criteria (%)	1
, indigite	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex <sup>f</sup> )	ND	60	102	91.1	11.0	88.9	95.1	6.66	70 - 130	20	70 - 130	20
MTBE	ND	10	94	91.5	2.66	93.2	97.7	4.68	70 - 130	20	70 - 130	20
Benzene	ND	10	86.9	82.3	5.43	84.7	89.7	5.74	70 - 130	20	70 - 130	20
Toluene	ND	10	85.4	80.4	6.02	77.4	84	8.22	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	86.5	81.4	6.06	85.2	89.6	4.97	70 - 130	20	70 - 130	20
Xylenes	ND	30	81	76.5	5.71	84.4	89	5.28	70 - 130	20	70 - 130	20
%SS:	100	10	102	98	3.33	97	96	1.85	70 - 130	20	70 - 130	20
All target compounds in the Method E NONE	3lank of this	extraction	batch we	ere ND les	ss than the	method F	RL with th	ne following	exceptions:			

#### BATCH 35607 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805356-005A	05/14/08 9:25 AM	05/15/08	05/15/08 4:33 PM	0805356-006A	05/14/08 9:45 AM	05/15/08	05/15/08 5:12 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.

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.





"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805356

EPA Method SW8015C	Extra	ction SW	3510C/3	630C	Bat	chID: 35	620	Sp	iked Sam	ole ID:	N/A	
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	105	105	0	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	105	104	0.623	N/A	N/A	70 - 130	30
All target compounds in the Method E NONE	lank of this	extraction	batch we	ere ND les	s than the	method F	RL with th	e following	exceptions:			

#### BATCH 35620 SUMMARY Lab ID Date Sampled Date Extracted Date Analyzed Lab ID Date Sampled Date Extracted Date Analyzed 0805356-001B 05/14/08 10:35 AM 05/14/08 05/16/08 6:14 PM 0805356-002B 05/14/08 10:10 AM 05/14/08 05/16/08 7:22 PM 0805356-003B 05/15/08 10:44 PM 05/14/08 9:00 AM 05/14/08 05/16/08 8:30 PM 0805356-004B 05/14/08 11:00 AM 05/14/08 0805356-005B 05/14/08 05/15/08 11:52 PM 0805356-006B 05/14/08 9:45 AM 05/16/08 1:01 AM 05/14/08 9:25 AM 05/14/08

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

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

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

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

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

DHS ELAP Certification N° 1644



McCampbell An "When Ouality"	nalytical, Inc.	1534 Will Web: www.mc Telepho	ow Pass Road, Pittsburg, campbell.com E-mail: m one: 877-252-9262 Fax:	CA 94565-1701 nain@mccampbell.com 925-252-9269
AEI Consultants	Client Project ID: #274761	l; Zimmerman,	Date Sampled:	05/16/08
2500 Camino Diablo, Ste. #200	5442 Adenne St, Oakland,	Ca	Date Received:	05/16/08
Walnut Creek, CA 94597	Client Contact: Harmony	TomSun	Date Reported:	05/22/08
	Client P.O.:		Date Completed:	05/20/08

## WorkOrder: 0805453

May 22, 2008

Dear Harmony:

Enclosed within are:

- 1) The results of the 2 analyzed samples from your project: #274761; Zimmerman, 3442 Adeline
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager McCampbell Analytical, Inc.

0805453

Telepho	McCA1	MPBEL 1534 V Pittsl 2-9262	L ANA Villow Pass burg, CA 9	LYT Road 4565	TICA F	LI ax:	NC (925	· ) 25	2-92	69			,	TU	JRN F Re	N A	RO	C		IN FIN Yes	1 O 1E	F		JSH No	ГО	D 24 H	Y F	<b>کار</b> 4		RD	72 ]	IR	51	K DA1
Report To: Harm	ony TomSu	n	В	ill To	: san	ıe		Ρ.	<b>O.</b> #					0	×			A	naly	sis F	leqı	iest							Oth	er		Con	me	nts
Company: AEI C	onsultants													5	Š,	~			C.															
2500 (	Camino Dial	blo, Suite	200												5	120			9 E															
Waln	ut Creek, C	A 94597		E-M	ail: ht	oms	un@a	aeico	onsult	tants	.com	1	100		Did a				Silic				10											
Tele: (925) 944-2	899		F	ax: (	925)	944	-289	5							2 0		E		/m				/ 83											
Project #: 274761			Р	rojec	t Nan	ne:	Zim	ner	man				5116	CTAN .	20 5	200	( <del>+</del> 12	-	015)				270											
Project Location:	3442 Adelir	e Street,	Oakland	, CA	94608	3									III I	2	ous	020	080	Z			5/8			6								
Sampler Signatur	e: the		2										1000	100				2/8	W	NO		S	62			601								
		SAMP	LING		ers		MA	FRI	x	N PR	AETI	HOD RVE	D (60)		011 8-10	Under 1	Hydroi (60	5PA 60	ge (G/I	PCB's		- SVOC	by EPA	6020		1/239.2								
SAMPLE ID (Field Point Name)	LOCATION	Date	Time	# Container:	Type Contain	Water	Soil	Air	Other	Ice	HCI	HNO <sub>3</sub>	Other		Total Datrolaum	Total Datadama	HVOCs EPA 82	BTEX ONLY (	TPH Multi-Ran	EPA 608 / 8080	EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's	CAM-17 Metals	LUFT 5 Metals	Lead (7240/742	RCI							
SB-78-W	Oakland	5/11:	8:20	3	1402	X				X			5		1																$\top$			
\$B-29-W	- (anot		8:40	4	I AND 3NOA	X		-		¥		-		i.	×															-				
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	)									-																								
Relinquished By:	The	Date: 5/16/05	Time: ζ. ξ.	Rece	ived B	y:	2	V	1_	8	1	-		IC	E/tº	3	4	-			_	P	RF	SER	VA	TIO	VON	DAS	0&(	G	MET	ALS	от	HE
Refinquished By:		Date:	Time:	Rece	ived B	y:		<u></u>						GO	DOD	CC SP/	ACE	TIC	SEN	r	-	A	PPI	ROF	PRL	ATE RS_	V	~						
Relinquished By:		Date:	Time:	Rece	ived B	y:								DI	ECH	LOI	KINA	TE	DIN	LA	в		PE	RSI	CRV	ED	INI	LAB_						

# McCampbell Analytical, Inc.

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

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

(925) 252-9262				WorkO	order: 0805453	B Client	Code: AEL		
		WriteOn	EDF	Excel	Fax	🖌 Email	HardCopy	ThirdParty	J-flag
Report to:				В	ill to:		Req	uested TAT:	5 days
Harmony TomSun	Email:	htomsun@aeicor	nsultants.com		Denise Mock	el			
AEI Consultants	CC:				AEI Consulta	nts			
2500 Camino Diablo, Ste. #200	PO:				2500 Camino	Diablo, Ste. #20	0 Dai	te Received:	05/16/2008
Walnut Creek, CA 94597	ProjectNo:	#274761; Zimme St, Oakland, Ca	rman, 3442 Ao	deline	Walnut Creek	<, CA 94597	Dat	te Printed:	05/16/2008
(925) 944-2899 FAX (925) 944-2895					dmockel@ae	eiconsultants.com			

								Req	uested	Tests (	See le	gend be	elow)			
Lab ID	Client ID	Matrix	Collection Date H	lold	1	2	3	4	5	6	7	8	9	10	11	12
0805453-001	SB-28-W	Water	5/16/2008 8:30		А	А	В	-	-	-	-	-	-			
0805453-002	SB-29-W	Water	5/16/2008 8:40		А		В									

#### Test Legend:

1	G-MBTEX_W
6	
11	

2	PREDF REPORT
7	
12	

3	TPH(D)WSG_W
8	

4	
4	
9	

5	
10	

Prepared by: Ana Venegas

#### **Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). 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:	05/16/08 5	:53:21 PM
Project Name:	#274761; Zimmerman, 3442 Adeli	ine St,	Oakland	, <b>C</b> Check	klist completed and re	eviewed by:	Ana Venegas
WorkOrder N°:	0805453 Matrix <u>Water</u>			Carrie	r: <u>Client Drop-In</u>		
	Cha	in of Cu	stody (C	OC) Informa	ation		
Chain of custody	present?	Yes		No 🗆			
Chain of custody	' signed when relinguished and received?	Yes	$\checkmark$	No 🗆			
Chain of custody	v agrees with sample labels?	Yes	✓	No 🗌			
Sample IDs noted	by Client on COC?	Yes	V	No 🗆			
Date and Time o	f collection noted by Client on COC?	Yes	<b>~</b>	No 🗆			
Sampler's name	noted on COC?	Yes	<b>~</b>	No 🗆			
		0	Dessint				
		Sample	Receipt	Information			
Custody seals in	tact on shipping container/cooler?	Yes		No 🗆		NA 🔽	
Shipping contain	er/cooler in good condition?	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	✓	No 🗌			
	Sample Pres	ervatio	n and Hol	d Time (HT	) Information		
All samples rece	ived within holding time?	Yes	✓	No 🗌			
Container/Temp	Blank temperature	Coole	er Temp:	3.4°C			
Water - VOA via	ls have zero headspace / no bubbles?	Yes		No 🗆	No VOA vials submi	itted 🗌	
Sample labels cl	necked for correct preservation?	Yes		No 🗆			
TTI C Metal - nH	acceptable upon receipt (pH<2)?	Yes		⊡ No □		NA 🗹	
		100					

Client contacted:

Date contacted:

Contacted by:

Comments:

	McCampbell	Analy	ical, Inc	<u>.</u>	1 Web: •	534 Willow Pass Roa www.mccampbell.con Telephone: 877-252	id, Pittsburg, CA 9456 n E-mail: main@mcc -9262 Fax: 925-252-	5-1701 ampbell.com 9269		
AEI C	Consultants		Client Proj	Client Project ID: #274761; Zimmerman, 3442 Date Sampled: 05/16/08						
2500	Camino Diablo, Ste. #200	Adeline St	Adeline St, Oakland, Ca Date Received: 05/16/08							
Woln	ut Crook CA 04507		Client Cor	ntact: Ha	rmony TomS	un	Date Extrac	ted: 05/19/08	-05/20	/08
vv ann	II CIEEK, CA 94397		Client P.O	.:			Date Analyz	zed 05/19/08	-05/20	/08
Extract	Gasolir ion method SW5030B	ne Range ((	C <b>6-C12) Vola</b> Anal	a <b>tile Hydr</b> ytical method	cocarbons as	G <b>asoline with B</b> 5Cm	TEX and MTB	<b>]*</b> Work Order	r: 0805	5453
Lab ID	Client ID	Matrix	TPH(g)	MTBI	E Benze	ne Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	SB-28-W	W	290,a,i	ND	1.3	0.93	2.7	4.0	1	104
002A	SB-29-W	W	ND,i	ND	ND	ND	ND	ND	1	107
Rej	porting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
ND al	means not detected at or pove 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.



	cCampbell Analyti "When Ouality Counts"	<u>cal, Inc.</u>	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 Consulta	nts	Client Project ID	#274761; Zimmerman,	Date Sampled: 05/16/08					
2500 Camino	Diablo, Ste. #200	3442 Adeline St,	Oakland, Ca	Date Received: 05/16	/08				
Walnut Creek	CA 94597	Client Contact:	Harmony TomSun	Date Extracted: 05/16/	08				
	, 0117 1077	Client P.O.:		Date Analyzed 05/17/	/08				
	Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*								
Extraction method	SW3510C/3630C	Analytica	l methods: SW8015C	Work Or	der: 080	)5453			
Lab ID	Client ID	Matrix	TPH-Dies (C10-C23	sel )	DF	% SS			
0805453-001B	SB-28-W	W	72,d,b,	i	1	70			
0805453-002B	SB-29-W	W	ND,i		1	109			

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/matrix interference.

+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; p) see attached narrative.

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"When Ouality Counts"

# QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805453

EPA Method SW8015C Extraction SW3510C/3630C				BatchID: 35620			Spiked Sample ID: N/A					
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
, mary to	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	105	105	0	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	105	104	0.623	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 35620 SUMMARY										
Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed			
0805453-001B	05/16/08 8:30 AM	05/16/08	05/17/08 4:24 PM	0805453-002B	05/16/08 8:40 AM	05/16/08	05/17/08 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.

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

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805453

EPA Method SW8021B/8015Cm	Extraction SW5030B				BatchID: 35681			Spiked Sample ID: 0805461-001A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	e Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)	ND	60	98.8	96.7	2.14	90.7	101	10.8	70 - 130	20	70 - 130	20
MTBE	ND	10	112	112	0	97.8	95.4	2.51	70 - 130	20	70 - 130	20
Benzene	ND	10	96	103	6.84	93	89.3	4.01	70 - 130	20	70 - 130	20
Toluene	ND	10	106	113	6.04	87.7	85.5	2.57	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	104	109	4.54	90.2	83.9	7.22	70 - 130	20	70 - 130	20
Xylenes	ND	30	115	120	3.86	82.2	80	2.74	70 - 130	20	70 - 130	20
%SS:	103	10	94	100	6.38	103	101	1.96	70 - 130	20	70 - 130	20
All target compounds in the Method E NONE	3lank of this	extraction	batch we	ere ND les	ss than the	method F	RL with th	e following	exceptions:			

#### BATCH 35681 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805453-001A	05/16/08 8:30 AM	05/19/08	05/19/08 6:01 PM	0805453-002A	05/16/08 8:40 AM	05/20/08	05/20/08 4:14 PM

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

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

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

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.

