



# AEI Consultants

Environmental & Engineering Services

August 8, 2011

## PHASE II SUBSURFACE INVESTIGATION REPORT

**Property Identification:**

1900 Webster Street  
Oakland, California 94621

AEI Project No. 297305

**Prepared for:**

Pacific Health Clinic  
1940 Webster Street  
Oakland, California 94612

**Prepared by:**

AEI Consultants  
2500 Camino Diablo  
Walnut Creek, CA 94597  
(925) 746-6000

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August 8, 2011

Dr. Farah Rana  
Pacific Health Clinic  
1940 Webster Street  
Oakland, California 94612

**Subject: Phase II Subsurface Investigation**

1900 Webster Street  
Oakland, CA 94612  
AEI Project No. 297305

Dear Dr. Rana,

The following report describes the activities and results of the subsurface investigation performed by AEI Consultants at the above referenced property (Figure 1: Site Location Map) on July 20, 2011. The investigation included the collection of soil samples from three (3) locations throughout the property. This investigation was performed in order to assess whether the property had been impacted as a result of the historic operations on site and if associated hazardous materials have affected the subject property subsurface.

## I Site Description and Background

The subject property, which consists of a two-tenant commercial office building, is located at the northeast intersection of Webster Street and 19<sup>th</sup> Street in a commercial area of Oakland, California. The property totals approximately 0.138 acre and is improved with a two-story building totaling approximately 8,000 square feet. The building is constructed slab-on grade with no evidence of a basement or other sub-grade areas. The subject property is currently occupied by Lake Merritt Dental and IKON Office Solutions. On-site operations include dental and copy service office activities. The building occupies the entire subject property lot.

A Phase I Environmental Site Assessment (ESA) was performed by AEI on May 2, 2011. According to historical sources reviewed during the Phase I ESA, the current subject property building was constructed in 1969 by Mr. Edgar Buttner for use as a bank/office building. The subject property was historically occupied by a gasoline service station from approximately 1940 until 1966 (over 25 years). According to records on-file at the Oakland Building Department (OBD), the former gasoline service station was demolished and cleared in 1966; however, no records were on-file with the OBD (as well as the Alameda County Environmental Health Services Department (ACEHSD) or Oakland Fire Department (OFD)) regarding the removal of presumed formerly utilized fuel underground storage tanks (USTs) from the site. In addition, no documentation was available to indicate whether soil samples were collected and analyzed for the presence of petroleum hydrocarbon contamination following the demolition of the

gasoline service station (and potential removal of fuel USTs). Based on the absence of data to confirm whether formerly utilized fuel USTs were removed from the site, or that contamination was present at the time of potential tank removal, the possibility exists that fuel USTs, as well as associated petroleum hydrocarbon contamination may remain in place at the subject property. This former presence of a gasoline service station (and presumed associated fuel USTs) at the subject property site represented a recognized environmental condition (REC).

A Phase II Investigation was requested by the client to determine whether presumed formerly utilized fuel USTs and/or associated petroleum hydrocarbon contamination exists beneath the subject property site due to the historical occupation of the site by a gasoline service station.

## **II Geology and Hydrogeology**

According to the United States Geological Survey (USGS) San Francisco Bay Quadrangle Geologic Map, the area surrounding the subject property is underlain by Holocene era alluvium which is commonly characterized by light-grey to grayish-brown or yellowish-brown gravel, sand, silt, and clay. Texture varies from cobble gravel to clay, mixed or interbedded laterally and vertically in places.

Based on a review of the USGS Oakland West, CA Quadrangle Topographic Map, the subject property is situated approximately 27 feet above mean sea level, and the local topography slopes to north-northeast. The nearest surface water is Lake Merritt, located approximately 0.18 mile East of the property. Based upon local topography and a Groundwater Monitoring Report by Pangea Environmental Services, the direction of groundwater flow beneath the subject property is inferred to be toward the north-northeast.

## **III Investigative Efforts**

AEI performed a site inspection, marked the site, and notified Underground Service Alert North to identify public utilities in the work area more than two working days prior to commencement of drilling. All field activities were carried out under the direct supervision of a California Professional Geologist. Drilling permit #W2011-0390 was obtained from the Alameda County Department of Public Works. Encroachment permits #X1100662 & X1100663 and an obstruction permit were obtained from the City of Oakland.

## **Drilling and Soil Sample Collection**

On July 20, 2011, AEI advanced a total of three (3) soil borings samples taken from three (3) locations (SB-1 through SB-3) at the property. The original scope of work included a total of five (5) planned borings, however due to access limitations including permit restrictions, underground utility locations, and restrictions on drilling on the adjacent property to the southeast, only three borings could be completed. Borings were advanced for the collection of soil samples and three groundwater samples. Boring locations are shown on Figure 3: Site Plan. Soil borings were advanced with a truck-mounted GeoProbe 5410 direct push drilling rig. Drilling was performed by RSI Drilling, a California C57 licensed drilling contractor (License # 802334).

The borings were advanced to total depths ranging from 16 to 20 feet bgs. The soil borings were continuously cored using a GeoProbe MacroCore<sup>®</sup> sampler which retained the soil cores in

1¾" diameter acrylic liners. The soil cores were examined and logged by the onsite AEI geologist. Soils were screened in the field with a portable photo-ionization detector (PID). In each of the borings, soil samples were collected at approximately 2 to 4 foot intervals where a six-inch sample was cut from the liners. The selected samples were sealed with Teflon tape and plastic caps, labeled with a unique identifier, placed in a cooler filled with ice, and transported to an offsite laboratory. Soil descriptions, field observations and screening data is presented on the borings logs in Appendix A.

## **Boring Destruction**

Upon completion of sampling and measurement activities, all sampling equipment was removed from the boreholes. Each boring was backfilled with neat cement grout to the existing grade.

## **Laboratory Analyses**

Soil and groundwater samples were transported to McCampbell Analytical (Department of Health Services Certification #01644) under chain of custody protocol for analyses following current EPA analytical methodologies. Selected soil samples and all groundwater samples were analyzed for total petroleum hydrocarbons as gasoline, diesel and motor oil with silica gel clean-up (TPH-g/d/mo, respectively), methyl tertiary-butyl ether (MTBE), benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA method 8015B & 8021B.

Analytical results and chain of custody documents are included as Appendix B.

## **IV Findings**

Soils encountered during this investigation consisted of fine to medium grained poorly graded sand, clayey sands, sandy silt and clay. Groundwater was encountered in all three borings at depths ranging from 15.93 below ground surface (bgs) in SB-1 to 21.36 bgs in SB-3.

### Soil Sample Analytical Data

TPH-g was not reported above the laboratory reporting limits in all soil samples analyzed, except for SB-3-16 and SB-3-20, where concentrations were reported at 8.3 mg/kg and 42 mg/kg, respectively.

TPH-d was reported in SB-2-16, SB-3-16, SB-3-20 at concentrations of 7.7 mg/kg, 6.5 mg/kg, and 8.7 mg/kg, respectively. TPH-d was not reported at a reporting limit of 5.0 mg/kg in borings SB-1-16 and SB-2-18.

TPH-mo was reported above the laboratory reporting limit in SB-2-16 at a concentration of 25 mg/kg. TPH-d was reported as non detectable at a reporting limit of 5.0 mg/kg in soil borings SB-1 through SB-3.

In sample SB-3-16, toluene concentrations were reported at 0.041 mg/kg, and xylenes reported at 0.042 mg/kg. For SB-3-20, ethylbenzene was reported at 0.057 mg/kg and xylenes were reported at 0.12 mg/kg. MTBE and benzene were not reported above the laboratory reporting limits in any of the soil samples analyzed.

### Groundwater Sample Analytical Data

TPH-g and TPH-d levels were below reporting limits for both SB-1 and SB-2, while SB-3 was reported at 59,000 µg/L and 200,000 µg/L for TPH-g and TPH-d, respectively.

TPH-mo levels were below the laboratory reporting limits for all three groundwater samples analyzed.

Benzene was reported in SB-3-W at a concentration of 89 µg/L. Toluene was reported in SB-1-W and SB-3-W at concentrations of 0.50 µg/L and 82 µg/L, respectively. Ethylbenzene was reported in SB-3-W at a concentration of 430 µg/L. Xylenes were reported in SB-1-W, SB-2-W and SB-3-W at concentrations of 0.97 µg/L, 1.0 µg/L and 1,600 µg/L, respectively.

Soil and groundwater sample analytical data is presented in Tables 1 and 2, respectively.

## **V Summary and Conclusions**

This investigation was performed to determine whether the former development of the site as a gasoline station resulted in any impact to the subject property. The investigation included the analyses of five (5) soil and three (3) groundwater samples from three (3) total sampling locations surrounding the subject property. TPH-g/d/mo, toluene, ethylbenzene and xylenes were reported above the laboratory reporting limits in the samples analyzed, however, the concentrations are relatively low with the exception of the groundwater sample SB-3-W with reported concentrations of TPH-g and TPH-d at 59,000 µg/L and 200,000 µg/L, respectively.

The elevated concentrations of petroleum hydrocarbons in groundwater identified down-gradient (northeast) of the subject property along with the historical development of the property as a gasoline station indicate that a release occurred from the former station. The concentrations detected in groundwater were well above Environmental Screening Levels (ESL) for petroleum hydrocarbons in groundwater. Although the ESLs are not statutory cleanup goals, they are risk-based values prepared by the San Francisco Bay Regional Water Quality Control Board (RWQCB) to assist in the evaluation as to whether a particular chemical presents a risk to human health or the environment.

The magnitude and extent of impact beneath the subject property building and surrounding area is not known at this time. Further investigation would be required to understand the nature and extent of the release and to determine whether remedial action would be required. Based on the findings of the investigation, regulatory oversight for the release should be obtained. AEI recommends submitting this report to the Alameda County Environmental Health (ACEH) which may require further investigation to characterize the release.

## VI Report Limitation

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples were chosen to provide the requested information, but it cannot be assumed that they are representative of areas not sampled. In addition, AEI has relied on information provided by others, which is assumed to be correct, however, AEI cannot assume any responsibility for its correctness or accuracy. All conclusions and/or recommendations are based on these analyses, observations, provided information, and the governing regulations at the time of the assessment. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work.

If you have any questions regarding our investigation, please do not hesitate to contact either of the undersigned at (925) 746-6000.

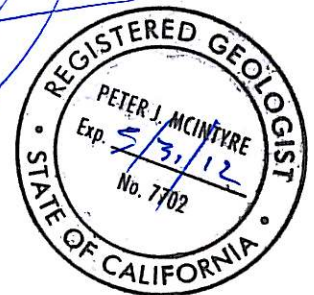
Sincerely,  
AEI Consultants



Harmony TomSun  
Project Geologist



Peter McIntyre, PG  
Senior Project Geologist



### Figures

- Figure 1: Site Location Map
- Figure 2: Site Map
- Figure 3: Site Plan

### Tables

- Table 1: Soil Sample Analytical Data
- Table 2: Groundwater Sample Analytical Data

### Appendix A

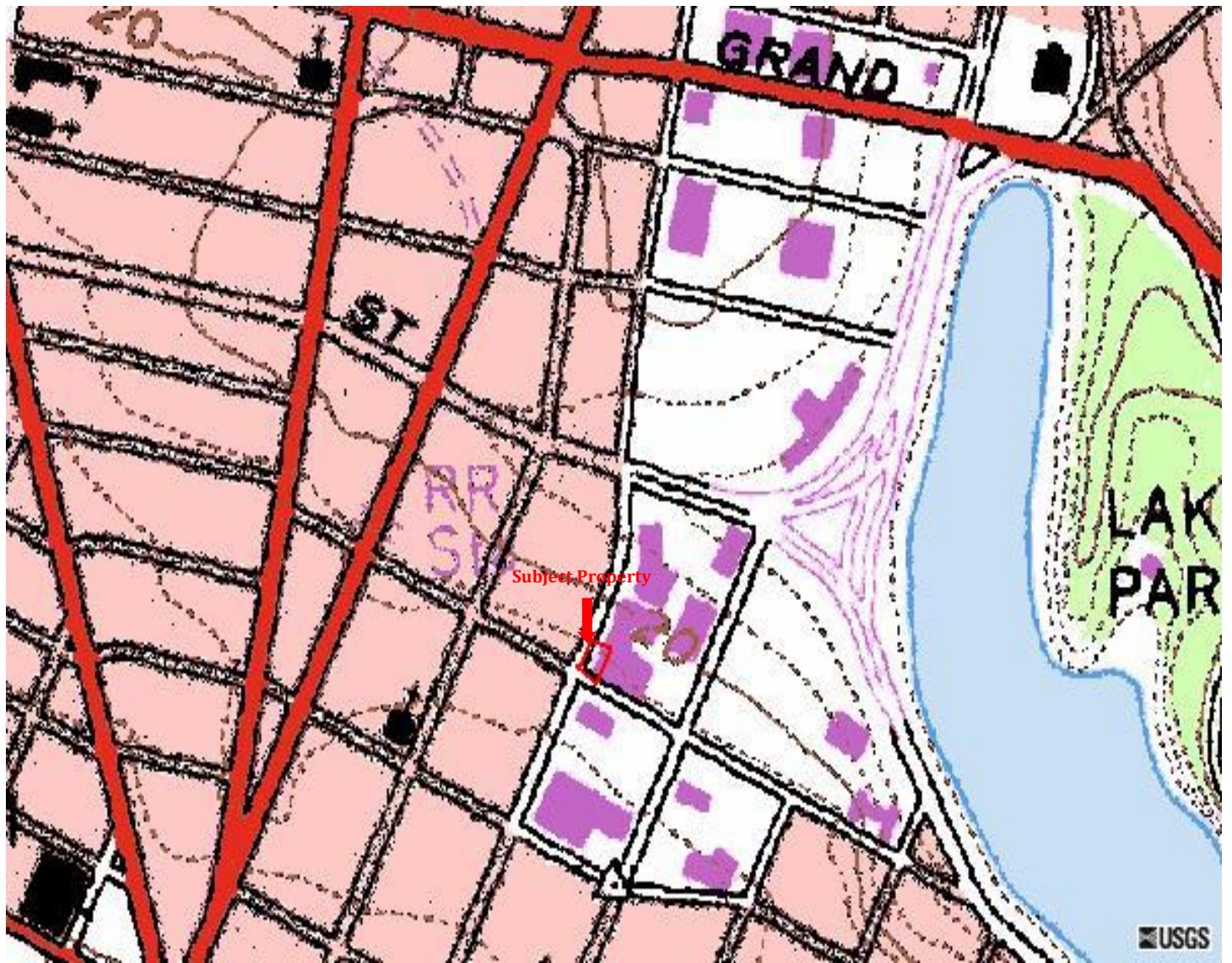
- Soil Boring Logs

### Appendix B

- Sample Analytical Documentation with Chain of Custody

## FIGURES





## SITE LOCATION MAP

1900 Webster Street, Oakland, California 94621



Source: USGS (1978)

FIGURE 1

Project Number: 297305

**AEI**  
Consultants





## SITE MAP

1900 Webster Street, Oakland, California 94621



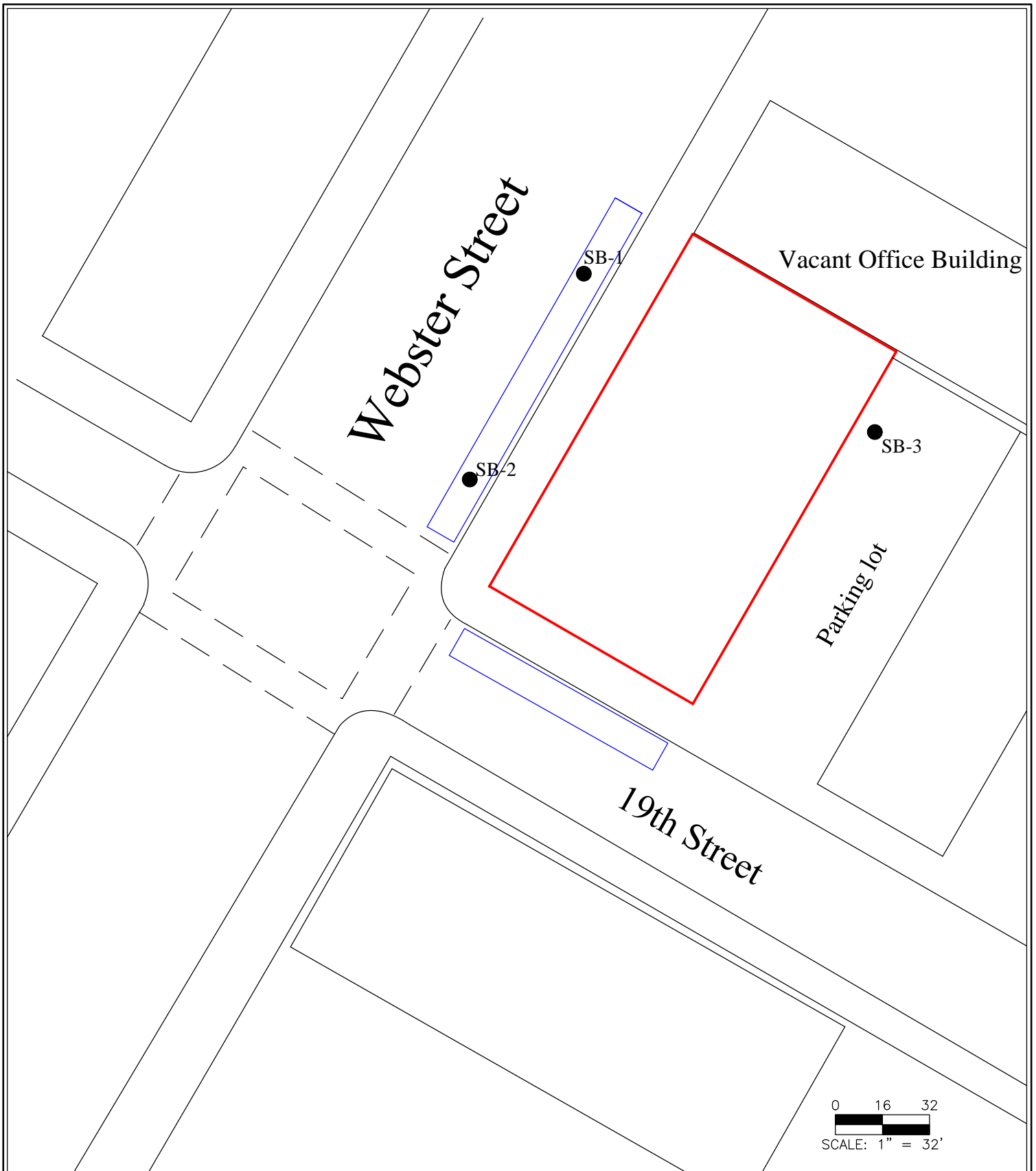
### Legend

Approximate Property Boundary ▬▬▬

### FIGURE 2

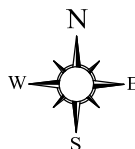
Project Number: 297305

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**LEGEND**

- / Subject Property
- / Reserved Parking Lane Area
- Soil Boring



**AEI CONSULTANTS**  
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**Site Plan**

1900 Webster Street  
Oakland, CA

**FIGURE 3**  
PROJECT NO.297305

## **TABLES**

**Table 1: Soil Analytical Data**  
**1900 Webster Street, Oakland, CA - AEI Project # 297305**

Sample ID	Date	Depth (feet bgs)	TPH-g mg/kg	TPH-d mg/kg	TPH-mo mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg
SB-1-16	7/20/2011	16	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005
SB-2-16	7/20/2011	16	<1.0	<b>7.7</b>	<b>25</b>	<0.05	<0.005	<0.005	<0.005	<0.005
SB-2-18	7/21/2011	18	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005
SB-3-16	7/20/2011	16	<b>8.3</b>	<b>6.5</b>	<5.0	<0.05	<0.005	<b>0.041</b>	<0.005	<b>0.04</b>
SB-3-20	7/20/2011	20	<b>42</b>	<b>8.7</b>	<5.0	<0.50	<0.050	<0.050	<b>0.06</b>	<b>0.12</b>
RL			1.0	1.0	5.0	0.05	0.005	0.005	0.005	0.005
ESL			83	83	2,500	0.023	0.04	2.9	3.3	2.3

**NOTES:**

mg/kg = milligrams per kilogram

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

TPH-mo = total petroleum hydrocarbons as motor oil

Benzene, toluene, ethylbenzene, xylenes using by Method 8021B

MTBE = methyl tert-butyl ether using EPA Method 8021B

bgs = below ground surface

RL = detection limit for dilution factor of 1

ESL = Shallow Soil Environmental Screening Levels for Drinking Water San Francisco Bay Regional Water Quality Control Board

TPH-d/mo by EPA Method 8015B

TPH-g, BTEX & MTBE by EPA Method 8021B

**Table 2: Groundwater Analytical Data  
1900 Webster Street, Oakland, CA - AEI Project # 297305**

Sample ID	Date	TPH-g µg/L	TPH-d µg/L	TPH-mo µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L
SB-1-W	7/20/2011	<50	<50	<250	<5.0	<0.5	<b>0.50</b>	<0.5	<b>0.97</b>
SB-2-W	7/20/2011	<50	<50	<250	<5.0	<0.5	<0.5	<0.5	<b>1.0</b>
SB-3-W	7/20/2011	<b>59,000</b>	<b>200,000</b>	<b>&lt;10,000</b>	<250	<b>89</b>	<b>82</b>	<b>430</b>	<b>1,600</b>
RL		50	50	250	5.0	1.0	40	30	20
ESL		100	100	100	1,800	46	130	43	100

**NOTES:**

µg/L = micrograms per liter or parts per billion (ppb)

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

TPH-mo = total petroleum hydrocarbons as motor oil

MTBE = methyl tertiary-butyl ether

RL=Laboratory reporting limit (with no dilution)

ESL =Groundwater Environmental Screening Levels for Drinking Water, San Francisco Bay Regional Water Quality Control Board

TPH-d/mo by EPA Method 8015B

TPH-g, BTEX & MTBE by EPA Method 8021B



**APPENDIX A**  
**SOIL BORING LOGS**

**Project:** Pacific Health Clinic  
**Project Location:** 1900 Webster Street, Oakland, CA 94612  
**Project Number:** 297305

# Key to Log of Boring

## Sheet 1 of 1

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	PID Reading, ppm	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7	8	9	10

**COLUMN DESCRIPTIONS**

- |   |  |
|---|--|
| <p><b>1</b> Elevation (feet): Elevation (MSL, feet).</p> <p><b>2</b> Depth (feet): Depth in feet below the ground surface.</p> <p><b>3</b> Sample Type: Type of soil sample collected at the depth interval shown.</p> <p><b>4</b> Sample Number: Sample identification number.</p> <p><b>5</b> PID Reading, ppm: The reading from a photo-ionization detector, in parts per million.</p> | <p><b>6</b> USCS Symbol: USCS symbol of the subsurface material.</p> <p><b>7</b> Graphic Log: Graphic depiction of the subsurface material encountered.</p> <p><b>8</b> MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.</p> <p><b>9</b> Well Log: Graphical representation of well installed upon completion of drilling and sampling.</p> <p><b>10</b> REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.</p> |
|---|--|

**FIELD AND LABORATORY TEST ABBREVIATIONS**

<p>CHEM: Chemical tests to assess corrosivity</p> <p>COMP: Compaction test</p> <p>CONS: One-dimensional consolidation test</p> <p>LL: Liquid Limit, percent</p>	<p>PI: Plasticity Index, percent</p> <p>SA: Sieve analysis (percent passing No. 200 Sieve)</p> <p>UC: Unconfined compressive strength test, Qu, in ksf</p> <p>WA: Wash sieve (percent passing No. 200 Sieve)</p>
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**TYPICAL MATERIAL GRAPHIC SYMBOLS**

<ul style="list-style-type: none"> <li> Bentonite</li> <li> Bentonite chips</li> <li> Bentonite powder</li> <li> Fat CLAY, CLAY w/SAND, SANDY CLAY (CH)</li> <li> Fat CLAY/SILT (CH-MH)</li> <li> Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)</li> <li> Claystone</li> <li> Lean-Fat CLAY, CLAY w/SAND, SANDY CLAY</li> <li> Cuttings</li> <li> Lean CLAY/PEAT (CL-OL)</li> <li> AF</li> <li> Clayey GRAVEL (GC)</li> <li> SILTY CLAY (CL-ML)</li> <li> Boulders</li> </ul>	<ul style="list-style-type: none"> <li> Clayey GRAVEL to Gravelly CLAY (GC-CH)</li> <li> Clayey GRAVEL to Gravelly CLAY (GC-CL)</li> <li> Silty GRAVEL (GM)</li> <li> Silty GRAVEL to Clayey GRAVEL (GM-GC)</li> <li> Silty GRAVEL to Gravelly SILT (GM-MH)</li> <li> Silty GRAVEL to Gravelly SILT (GM-ML)</li> <li> Poorly graded GRAVEL with Silt (GP-GM)</li> <li> Granite</li> <li> Gravel</li> <li> Grout</li> <li> Well graded GRAVEL (GW)</li> <li> Well graded GRAVEL with Silt (GW-GM)</li> <li> Poorly to Well graded GRAVEL (GW-GP)</li> <li> Poorly graded GRAVEL (GP)</li> </ul>	<ul style="list-style-type: none"> <li> Artificial Fill</li> <li> SILT, SILT w/SAND, SANDY SILT (MH)</li> <li> SILT, SILT with SAND, SANDY SILT (ML-MH)</li> <li> High plasticity PEAT (OH)</li> <li> Low plasticity PEAT (OL)</li> <li> Low to High plasticity PEAT (OL-OH)</li> <li> Sandstone</li> <li> Clayey SAND (SC)</li> <li> Clayey SAND to Sandy CLAY (SC-CH)</li> <li> Clayey SAND to Sandy CLAY (SC-CL)</li> <li> Shale</li> <li> Silt</li> <li> Siltstone</li> <li> Silty SAND (SM)</li> </ul>
<ul style="list-style-type: none"> <li> Silty SAND to Sandy SILT (SM-MH)</li> <li> Silty SAND to Sandy SILT (SM-ML)</li> <li> Silty to Clayey SAND (SM-SC)</li> <li> Poorly graded SAND (SP)</li> <li> Poorly graded SAND with Clay (SP-SC)</li> <li> Well graded SAND (SW)</li> <li> Well graded SAND with Clay (SW-SC)</li> <li> Well graded SAND with Silt (SW-SM)</li> <li> SILT, SILT w/SAND, SANDY SILT (ML)</li> <li> Bentonite plug</li> <li> Asphaltic Concrete (AC)</li> <li> Poorly graded SAND with Silt (SP-SM)</li> <li> Black Rock - fine grained, exhibiting a bedding</li> <li> Gray rock, large grain size</li> </ul>		

**TYPICAL SAMPLER GRAPHIC SYMBOLS**

<ul style="list-style-type: none"> <li> Shelby Tube (Thin-walled, fixed head)</li> <li> Shelby Tube (Thin-walled, fixed head)</li> <li> Bulk Sample</li> <li> 3-inch-OD California w/ brass rings</li> </ul>	<ul style="list-style-type: none"> <li> Other sampler now modified</li> <li> Auger sampler</li> <li> CME Sampler</li> <li> 2-inch-OD unlined split spoon (SPT)</li> </ul>	<ul style="list-style-type: none"> <li> 2.5-inch-OD Modified California w/ brass liners</li> <li> Grab Sample</li> <li> Pitcher Sample</li> </ul>
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**OTHER GRAPHIC SYMBOLS**

<ul style="list-style-type: none"> <li> Water level (at time of drilling, ATD)</li> <li> Water level (after waiting a given time)</li> <li> Minor change in material properties within a stratum</li> <li> Inferred or gradational contact between strata</li> <li> Queried contact between strata</li> </ul>
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**GENERAL NOTES**

- 1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
- 2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\DUPLICATE\297305 Pacific Health (Oakland) - HT\Boring Logs.bgs.f4-Well Log.tbl









## **APPENDIX B**

### **SAMPLE ANALYTICAL DOCUMENTATION WITH CHAIN OF CUSTODY**



# Analytical Report

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #297305; Pacific Health	Date Sampled: 07/20/11
		Date Received: 07/21/11
	Client Contact: Harmony TomSun	Date Reported: 07/28/11
	Client P.O.:	Date Completed: 07/26/11

**WorkOrder: 1107605**

July 28, 2011

Dear Harmony:

Enclosed within are:

- 1) The results of the **6** analyzed samples from your project: **#297305; Pacific Health,**
- 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 McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*





No. 7526 P. 1

May. 25. 2010 4:05PM mccampbell



**McCAMPBELL ANALYTICAL, INC.**  
 1534 WILLOW PASS ROAD  
 PITTSBURG, CA 94565-1701  
 Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto:main@mccampbell.com)  
 Telephone: (877) 252-9262 Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**

**TURN AROUND TIME**  RUSH  24 HR  48 HR  72 HR  5 DAY  
 GeoTracker EDF  PDF  Excel  Write On (DW)   
 Check if sample is effluent and "J" flag is required

Report To: Harmony Tomson Bill To: Same AEI  
 Company: AEI Consultants  
2500 Camino Diablo  
Walnut Creek CA E-Mail: htomson@aiconsultants.com  
 Tele: (925) 746-6000 Fax: (925) 746-6099  
 Project #: 297305 Project Name: Pacific Health  
 Project Location: 1909 Webster Street, Oakland, CA  
 Sampler Signature: [Signature]

Analysis Request Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other			
SB-3-24	SB-3	7/20	8:06	1	liver	X					X						
SB-1-W	SB-1	7/20	12:50	4	VOA Amp	X					X						
SB-2-W	SB-2	1	10:45	1	1	X					X						
SB-3-W	SB-3	1	8:53	1	1	X					X						

BTEX & TPH as Gas (602 / 8021 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 8260 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505 / 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515.3 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAS)	CAM 17 Metals (200.8 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	TPH Multi Rang w/ SGC	Hold	Filter Samples for Metals analysis: Yes / No
--	----------------------	--	--------------------------------------	------------------	-----------------------------------	--------------------------------------	---	--------------------------------	---	-------------------------------	--------------------------------	-----------------------------------	------------------------------	---	------------------------------------	-----------------------	------	--

Relinquished By: [Signature] Date: 7/21 Time: 10:22 Received By: ENVIRO-TECH R.P.  
 Relinquished By: Envirotech Date: 7/21 Time: 16:30 Received By: Denk Cat  
 Relinquished By: Denk Cat Date: 7/21 Time: 16:50 Received By: [Signature]

5.2  
 COMMENTS:  
 ICE/ GOOD CONDITION  
 HEAD SPACE ABSENT  
 DECHLORINATED IN LAB  
 APPROPRIATE CONTAINERS  
 PRESERVED IN LAB  
 PRESERVATION VOAS O&G METALS OTHER pH<2

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1107605

ClientCode: AEL

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

**Report to:**

Harmony TomSun  
 AEI Consultants  
 2500 Camino Diablo, Ste. #200  
 Walnut Creek, CA 94597  
 (925) 944-2899    FAX: (925) 944-2895

Email: htomsun@aeiconsultants.com  
 cc:  
 PO:  
 ProjectNo: #297305; Pacific Health

**Bill to:**

Sara Guerin  
 AEI Consultants  
 2500 Camino Diablo, Ste. #200  
 Walnut Creek, CA 94597  
 sguerin@aeiconsultants.com

**Requested TAT: 5 days**

**Date Received: 07/21/2011**

**Date Printed: 07/21/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1107605-003	SB-1-16	Soil	7/20/2011 11:38	<input type="checkbox"/>		A											
1107605-008	SB-2-18	Soil	7/20/2011 9:53	<input type="checkbox"/>		A											
1107605-014	SB-3-20	Soil	7/20/2011 8:02	<input type="checkbox"/>		A											
1107605-016	SB-1-W	Water	7/20/2011 12:50	<input type="checkbox"/>	A												
1107605-017	SB-2-W	Water	7/20/2011 10:45	<input type="checkbox"/>	A												
1107605-018	SB-3-W	Water	7/20/2011 8:53	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTEX_W	2	TPH(DMO)WSG_S	3		4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 003A, 008A, 014A, 016A, 017A, 018A contain testgroup.

**Prepared by: Zoraida Cortez**

**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.





### Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **7/21/2011 8:11:31 PM**

Project Name: **#297305; Pacific Health**

Checklist completed and reviewed by: **Zoraida Cortez**

WorkOrder N°: **1107605** Matrix: Soil/Water

Carrier: Derik Cartan (MAI Courier)

#### Chain of Custody (COC) Information

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

#### Sample Receipt Information

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

#### Sample Preservation and Hold Time (HT) Information

- All samples received within holding time? Yes  No
- Container/Temp Blank temperature Cooler Temp: 5.2°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- Sample labels checked for correct preservation? Yes  No
- Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA
- Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----

Client contacted:

Date contacted:

Contacted by:

Comments:





# McC Campbell Analytical, Inc.

"When Quality Counts"

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

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #297305; Pacific Health	Date Sampled: 07/20/11
	Client Contact: Harmony TomSun	Date Received: 07/21/11
	Client P.O.:	Date Extracted: 07/21/11
		Date Analyzed: 07/23/11-07/27/11

### Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up\*

Extraction method: SW3510C/3630C/SW3550B/363

Analytical methods: SW8015B

Work Order: 1107605

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
1107605-003A	SB-1-16	S	ND	ND	1	119	
1107605-008A	SB-2-18	S	ND	ND	1	95	
1107605-014A	SB-3-20	S	8.7	ND	1	96	e4,e2
1107605-016A	SB-1-W	W	ND	ND	1	73	b1
1107605-017A	SB-2-W	W	ND	ND	1	100	b1
1107605-018A	SB-3-W	W	200,000	ND<10,000	40	84	e4,b6,b1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	250	µg/L
	S	1.0	5.0	mg/Kg

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

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

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

b1) aqueous sample that contains greater than ~1 vol. % sediment  
 b6) lighter than water immiscible sheen/product is present  
 e2) diesel range compounds are significant; no recognizable pattern  
 e4) gasoline range compounds are significant.



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 59924

WorkOrder: 1107605

EPA Method: SW8015Bm		Extraction: SW5030B							Spiked Sample ID: 1107600-003A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	0.60	92.5	91.2	1.36	91.3	93.4	2.27	70 - 130	20	70 - 130	20
MTBE	ND	0.10	106	107	1.42	103	101	1.69	70 - 130	20	70 - 130	20
Benzene	ND	0.10	112	116	3.51	113	114	0.497	70 - 130	20	70 - 130	20
Toluene	ND	0.10	99.1	102	3.29	99.4	101	1.32	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	103	105	1.85	99.9	103	3.00	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	116	119	2.61	113	116	2.63	70 - 130	20	70 - 130	20
%SS:	80	0.10	100	103	2.50	102	101	0.961	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 59924 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107605-003A	07/20/11 11:38 AM	07/21/11	07/23/11 11:56 AM	1107605-008A	07/20/11 9:53 AM	07/21/11	07/23/11 12:27 PM
1107605-014A	07/20/11 8:02 AM	07/21/11	07/25/11 7:05 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.



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59926

WorkOrder: 1107605

EPA Method: SW8015Bm		Extraction: SW5030B							Spiked Sample ID: 1107605-017A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	60	97.8	102	4.41	90.6	90.3	0.422	70 - 130	20	70 - 130	20
MTBE	ND	10	120	118	1.71	110	116	5.71	70 - 130	20	70 - 130	20
Benzene	ND	10	110	110	0	104	110	6.13	70 - 130	20	70 - 130	20
Toluene	ND	10	89.4	93.4	4.24	90.6	95.5	5.33	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	96	96.8	0.894	92.5	94.4	2.03	70 - 130	20	70 - 130	20
Xylenes	1.0	30	105	107	1.53	105	107	1.08	70 - 130	20	70 - 130	20
%SS:	101	10	101	105	3.96	99	102	2.58	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 59926 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107605-016A	07/20/11 12:50 PM	07/23/11	07/23/11 12:39 AM	1107605-017A	07/20/11 10:45 AM	07/23/11	07/23/11 12:08 AM
1107605-018A	07/20/11 8:53 AM	07/25/11	07/25/11 8:43 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.



**QC SUMMARY REPORT FOR SW8015B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 59753

WorkOrder: 1107605

**EPA Method: SW8015B**

**Extraction: SW3550B/3630C**

**Spiked Sample ID: 1107384-012A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	4.8	40	102	103	0.827	130	115	12.2	70 - 130	30	70 - 130	30
%SS:	92	25	109	110	0.380	105	98	7.31	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 59753 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107605-003A	07/20/11 11:38 AM	07/21/11	07/25/11 9:21 PM	1107605-008A	07/20/11 9:53 AM	07/21/11	07/26/11 9:49 PM
1107605-014A	07/20/11 8:02 AM	07/21/11	07/26/11 11:06 PM				

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

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

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

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

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



### QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59863

WorkOrder: 1107605

EPA Method: SW8015B		Extraction: SW3510C/3630C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	118	113	4.61	N/A	N/A	70 - 130	30
%SS:	N/A	625	N/A	N/A	N/A	101	100	1.16	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 59863 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107605-016A	07/20/11 12:50 PM	07/21/11	07/27/11 7:28 AM	1107605-017A	07/20/11 10:45 AM	07/21/11	07/26/11 7:44 AM
1107605-018A	07/20/11 8:53 AM	07/21/11	07/23/11 4:17 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.





# Analytical Report

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #297305; Pacific Health	Date Sampled: 07/20/11
		Date Received: 07/21/11
	Client Contact: Harmony TomSun	Date Reported: 08/03/11
	Client P.O.:	Date Completed: 08/03/11

**WorkOrder: 1107605 A**

August 03, 2011

Dear Harmony:

Enclosed within are:

- 1) The results of the **8** analyzed samples from your project: **#297305; Pacific Health,**
- 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 McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*



**McCAMPBELL ANALYTICAL, INC.**  
 1534 WILLOW PASS ROAD  
 PITTSBURG, CA 94565-1701 1107005

Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto:main@mccampbell.com)  
 Telephone: (877) 252-9262 Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**

TURN AROUND TIME  RUSH 24 HR  48 HR  72 HR  5 DAY  
 GeoTracker EDF  PDF  Excel  Write On (DW)   
 Check if sample is effluent and "J" flag is required

Report To: Harmony Tomson Bill To: Same AEI  
 Company: AEI Consultants  
2500 Camino Diablo  
Walnut Creek, CA  
 E-Mail: htomson@aeiconsultants.com  
 Tele: (925) 746-6000 Fax: (925) 746-6099  
 Project #: 297305 Project Name: Pacific Health  
 Project Location: 1900 Webster Street, Oakland, CA  
 Sampler Signature: Harmony Tomson

Analysis Request										Other	Comments	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TPH - Multi Range w/ Silica Gel	Filter Samples for Metals analysis: Yes / No

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED			Analysis Request	Other	Comments	
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>				Other
SB-1-7	SB-1	7/20	11:25	1	Can	X					X						
SB-1-12			11:30														
SB-1-16			11:58														
SB-1-20			11:54														
SB-2-8	SB-2		9:22														
SB-2-11			9:27														
SB-2-16			9:35														Off Hold 7/25/11
SB-2-18			9:53														
SB-2-20			9:46														
SB-3-4	SB-3		7:32														
SB-3-8			7:44														
SB-3-12			7:49														
SB-3-16			7:53														Off Hold 7/25/11
SB-3-20			8:02														

Relinquished By: [Signature] Date: 7/21 Time: 10:22 Received By: ENVIRO-TECH P.S.  
 Relinquished By: [Signature] Date: 7/21 Time: 16:36 Received By: [Signature]  
 Relinquished By: [Signature] Date: 7/21 Time: 16:58 Received By: [Signature]

COMMENTS:  
 ICE/GOOD CONDITION \_\_\_\_\_  
 HEAD SPACE ABSENT \_\_\_\_\_  
 DECHLORINATED IN LAB \_\_\_\_\_  
 APPROPRIATE CONTAINERS \_\_\_\_\_  
 PRESERVED IN LAB \_\_\_\_\_  
 PRESERVATION VOAS O&G METALS OTHER pH<2

No. 7526 P.

May 25, 2010 4:05PM mccampbell



No. 7526 P. 1

mccampbell

May. 25. 2010 4:05PM



**McCAMPBELL ANALYTICAL, INC.**  
 1534 WILLOW PASS ROAD  
 PITTSBURG, CA 94565-1701  
 Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto:main@mccampbell.com)  
 Telephone: (877) 252-9262 Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**  
 TURN AROUND TIME  RUSH  24 HR  48 HR  72 HR  5 DAY  
 GeoTracker EDF  PDF  Excel  Write On (DW)   
 Check if sample is effluent and "J" flag is required

Report To: Harmony Tomson Bill To: Same AEI  
 Company: AEI Consultants  
2500 Camino Diablo  
Walnut Creek, CA E-Mail: htomson@aiconsultants.com  
 Tele: (925) 746-6000 Fax: (925) 746-6099  
 Project #: 297305 Project Name: Pacific Health  
 Project Location: 1901 Webster Street, Oakland, CA  
 Sampler Signature: [Signature]

Analysis Request Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other			
SB-3-24	SB-3	7/20	8:06	1	Liter	X					X						
SB-1-W	SB-1	7/20	12:50	4	VOA RMB	X					X						
SB-2-W	SB-2	1	10:45	1	1	X					X						
SB-3-W	SB-3	1	8:53	1	1	X					X						

BTEX & TPH as Gas (602 / 8021 + 8015) <input type="checkbox"/>	TPH as Diesel (8015) <input type="checkbox"/>	Total Petroleum Oil & Grease (1664 / 5520 E/B&F) <input type="checkbox"/>	Total Petroleum Hydrocarbons (418.1) <input type="checkbox"/>	EPA 8260 (HVOCS) <input type="checkbox"/>	<b>MTBE / BTEX ONLY (EPA 602 / 8021) ON 7/28</b> <input checked="" type="checkbox"/>	EPA 505 / 608 / 8081 (CI Pesticides) <input type="checkbox"/>	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners <input type="checkbox"/>	EPA 507 / 8141 (NP Pesticides) <input type="checkbox"/>	EPA 515.3 / 8151 (Acidic CI Herbicides) <input type="checkbox"/>	EPA 524.2 / 624 / 8260 (VOCs) <input type="checkbox"/>	EPA 525.2 / 625 / 8270 (SVOCs) <input type="checkbox"/>	EPA 8270 SIM / 8310 (PAHs / PNAs) <input type="checkbox"/>	CAM 17 Metals (200.8 / 6020) <input type="checkbox"/>	LAUT 5 Metals (200.7 / 200.8 / 6010 / 6020) <input type="checkbox"/>	Lead (200.7 / 200.8 / 6010 / 6020) <input type="checkbox"/>	<u>TPH Multi Rang w/ SGC</u>	<u>Hold</u>	Filter Samples for Metals analysis: Yes / No
--	---	---	---	---	--	---	--	---	--	--	---	--	---	--	---	------------------------------	-------------	--

Relinquished By: [Signature] Date: 7/21 Time: 10:22  
 Received By: ENVIRO-TECH 2.0  
 Relinquished By: Envrotech Date: 7/21 Time: 16:30  
 Received By: Denk Cat  
 Relinquished By: Denk Cat Date: 7/21 Time: 16:50  
 Received By: [Signature]

5.2  
 COMMENTS:  
 ICE/T GOOD CONDITION \_\_\_\_\_  
 HEAD SPACE ABSENT \_\_\_\_\_  
 DECHLORINATED IN LAB \_\_\_\_\_  
 APPROPRIATE CONTAINERS \_\_\_\_\_  
 PRESERVED IN LAB \_\_\_\_\_  
 PRESERVATION VOAS O&G METALS OTHER  
 pH<2

**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 1107605 A ClientCode: AEL**

WaterTrax  WriteOn  EDF  Excel  Fax  Email  HardCopy  ThirdParty  J-flag

**Report to:**

Harmony TomSun  
AEI Consultants  
2500 Camino Diablo, Ste. #200  
Walnut Creek, CA 94597  
(925) 746-6000 FAX: (925) 746-6099

Email: htomsun@aeiconsultants.com  
cc:  
PO:  
ProjectNo: #297305; Pacific Health

**Bill to:**

Sara Guerin  
AEI Consultants  
2500 Camino Diablo, Ste. #200  
Walnut Creek, CA 94597  
sguerin@aeiconsultants.com

**Requested TAT: 5 days**

**Date Received: 07/21/2011**

**Date Add-On: 07/28/2011**

**Date Printed: 07/28/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1107605-007	SB-2-16	Soil	7/20/2011 9:35	<input type="checkbox"/>	A	A											
1107605-013	SB-3-16	Soil	7/20/2011 7:53	<input type="checkbox"/>	A	A											

**Test Legend:**

1	G-MBTX_S	2	TPH(DMO)WSG_S	3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Zoraida Cortez**

**Comments:** samples #7&13 off hold per H.T 7/28/11 std tat.

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.





# McC Campbell Analytical, Inc.

"When Quality Counts"

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

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #297305; Pacific Health	Date Sampled: 07/20/11
	Client Contact: Harmony TomSun	Date Received: 07/21/11
	Client P.O.:	Date Extracted: 07/21/11-07/25/11
		Date Analyzed: 07/23/11-07/25/11

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 1107605

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
003A	SB-1-16	S	ND	ND	ND	ND	ND	ND	1	86	
008A	SB-2-18	S	ND	ND	ND	ND	ND	ND	1	86	
014A	SB-3-20	S	42	ND<0.50	ND<0.050	ND<0.050	0.057	0.12	10	80	d7,d9
016A	SB-1-W	W	ND	ND	ND	0.50	ND	0.97	1	97	b1
017A	SB-2-W	W	ND	ND	ND	ND	ND	1.0	1	101	b1
018A	SB-3-W	W	59,000	ND<250	89	82	430	1600	50	107	d1,b6,b1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	0.005	mg/Kg

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

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

b1) aqueous sample that contains greater than ~1 vol. % sediment  
 b6) lighter than water immiscible sheen/product is present  
 d1) weakly modified or unmodified gasoline is significant  
 d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram  
 d9) no recognizable pattern







**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 60082

WorkOrder: 1107605

EPA Method: SW8021B/8015Bm		Extraction: SW5030B							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) £	N/A	0.60	N/A	N/A	N/A	103	92.5	10.5	N/A	N/A	70 - 130	20
MTBE	N/A	0.10	N/A	N/A	N/A	101	102	1.27	N/A	N/A	70 - 130	20
Benzene	N/A	0.10	N/A	N/A	N/A	99.9	93.3	6.84	N/A	N/A	70 - 130	20
Toluene	N/A	0.10	N/A	N/A	N/A	97.1	91.2	6.31	N/A	N/A	70 - 130	20
Ethylbenzene	N/A	0.10	N/A	N/A	N/A	98	92.3	5.95	N/A	N/A	70 - 130	20
Xylenes	N/A	0.30	N/A	N/A	N/A	99.8	94.7	5.17	N/A	N/A	70 - 130	20
%SS:	N/A	0.10	N/A	N/A	N/A	91	100	9.51	N/A	N/A	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 60082 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107605-007A	07/20/11 9:35 AM	07/28/11	07/30/11 11:19 AM	1107605-013A	07/20/11 7:53 AM	07/28/11	07/30/11 11:49 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.



**QC SUMMARY REPORT FOR SW8015B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 60064

WorkOrder: 1107605

EPA Method: SW8015B

Extraction: SW3550B/3630C

Spiked Sample ID: 1107771-037A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	720	40	NR	NR	NR	109	112	2.22	70 - 130	30	70 - 130	30
%SS:	91	25	72	86	18.0	98	98	0	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 60064 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107605-007A	07/20/11 9:35 AM	07/28/11	08/01/11 10:59 PM	1107605-013A	07/20/11 7:53 AM	07/28/11	07/31/11 2:03 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.