October 20, 2008

VIA ALAMEDA COUNTY FTP SITE

Ms. Barbara Jakub
Alameda County Environmental Health
1331 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Additional Information Report**
2834 East Seventh Street, Oakland, California, ACEH Fuel Leak Case No. RO0002608

Dear Ms. Jakub:

On behalf of Steve Oelschlaegel and Gunter Kitsch, Pangea Environmental Services, Inc (Pangea) has prepared this report in response to Alameda County Environmental Health (ACEH) directive letter dated July 25, 2008. This report includes additional benzene analysis results, describes site use, discusses contaminant extent, and compares existing soil analytical data to environmental screening levels (ESLs).

Benzene Results

To address ACEH concerns about the lack of benzene analysis for the two samples with detectable TPHg concentrations, Pangea requested that the laboratory quantify benzene results from the EPA Method 8260B analysis performed on the samples in December 2003. *No benzene was detected* in any of the four analyzed samples (including the two with detectable TPHg concentrations), as shown on the attached analytical report. Based on these results Pangea concludes that there is no significant benzene contamination in the area of the former USTs at the site.

Site Use

According to ACEH letter dated July 25, 2008, the site is zoned for single family residential land use. As shown in the attached photos, the *site is currently being used for a commercial enterprise.* Neighboring properties are a mix of residential and commercial.

Extent of Contamination

To evaluate the extent of contamination, boring B-1 was completed in July 2003 and two additional borings (B-2 and B-3) were completed in December 2003. As described below, the contaminant impact appears to be located within a very thin zone of silty/clayey soil beneath the bottom of the former UST. The maximum hydrocarbon concentrations detected were 270 mg/Kg TPHg and 68 mg/Kg TPHd at 10.5' depth. Boring locations are shown on Figure 1. Soil analytical results are summarized on Table 1.

TPHg and TPHd concentrations were detected in borings B-2@10.5' (270 mg/Kg and 68 mg/Kg, respectively) and in boring B-3@10.5' (91 mg/Kg and 48 mg/Kg, respectively) from the December 5, 2003 soil borings. A concentration of 0.0094 mg/Kg 1,2-Dibromoethane (EDB) was detected in boring B-2 @10.5'. No other hydrocarbons or gasoline-related compounds were detected in site soil. The former UST was reportedly used for gasoline storage during the gasoline crisis in the 1970's.

Regarding the *vertical* extent of contamination, *no* TPHg, TPHd or EDB concentrations were detected in shallower samples (8.5 ft depth) or deeper samples (12.5 ft depth). Regarding the *lateral* extent of contamination, no TPHg or TPHd were detected in boring B-1@10.5', located approximately 5 ft away from borings B-2 and B-3 on the southern edge of the former UST excavation. No EDB was detected in boring B-3@10.5', located approximately 10 ft east of boring B-2 on the eastern edge of the former UST excavation.

These results suggest that the extent of hydrocarbon and EDB contamination in site soil is very small. The boring log from B-2 describes the soil type between 3.5 and 10 ft depth as predominantly silt and clay with an estimated low permeability. *Based on the relatively low contaminant concentrations detected and the logged soil type, Pangea concludes that vapor intrusion of detected contamination into onsite or nearby buildings is unlikely.*

During drilling of boring B-1 in July 2003 no groundwater was encountered although the boring was drilled to a depth of 28 ft bgs. The soil logged beneath 10 ft depth in boring B-1 is primarily low permeability clayey silt and silty clay to a depth of 28 ft bgs with a one foot thick layer of clayey sand at approximately 19 ft bgs. Based on the relatively low contaminant concentrations detected and the low permeability of soils beneath the detected contamination, *Pangea concludes that residual contaminants do not pose a significant threat to groundwater.* Furthermore, the *depth of the contamination (approximately 10.5 ft bgs) suggests that any potential direct exposure is unlikely.*

Comparison to ESLs

To help evaluate the risk associated with residual contamination, Pangea has compared soil analytical results to Environmental Screening Levels (ESLs) established by the Regional Water Quality Control Board. TPHg concentrations of 270 mg/Kg in boring B-2@10.5'and 91 mg/Kg in boring B-3@10.5' slightly exceed the final ESL for soil where groundwater is a current or potential source of drinking water of 83 mg/Kg. The detected EDB concentration of 0.0094 mg/Kg from boring B-2 @10.5' exceeds the final ESL of 0.00033 mg/Kg. The final ESLs for TPHg and EDB where groundwater is a current or potential source of drinking water are based on groundwater protection from soil leaching. *As discussed above the observed soil type and relatively low contaminant concentrations suggest that groundwater would not be impacted by the detected contamination.*

Detected TPHg and EDB concentrations are significantly lower than the direct exposure ESLs for deep soil (> 3 m bgs) of 4,200 mg/Kg and 1.7 mg/Kg, respectively. Additionally, the site is located approximately 1,200 ft west of Alameda Harbor making groundwater use for drinking water unlikely. *Based on these observations and our above conclusions, Pangea concludes that the detected concentrations do not pose a significant risk to human health via volatilization to indoor air, direct contact or other exposure pathways.*

Closing

Pangea has uploaded all available information to Geotracker and ACEH ftp site. We are also helping the responsible parties provide the required notification to the property owners.

Pangea looks forward to working with ACEH to address any additional agency needs to facilitate site closure. If you do not require additional information, Pangea respectfully requests that ACEH issue a Closure Letter for the subject site and contact Pangea with any questions regarding letter issuance. Thank you in advance for your assistance on this project.

The letter will be submitted to ACEH via uploading to the Alameda County ftp site. As requested, Pangea will not submit a hard copy to ACEH. If you have any questions, please call me at (510) 435-8664.

Sincerely,
Pangea Environmental Services, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

Attachments

Figure 1 – Soil Boring Location Map

Table 1 – Soil Analytical Data

Attachment A – Laboratory Analytical Report and Site Photos

cc: Steve Oelschlaegel, Hans and Gunter Roofing Company, 1432 Via Lucas, San Lorenzo, CA 94580
Gunter Kitsch, Hans and Gunter Roofing Company, 2325 Belvedere Avenue, San Leandro, CA 94577
Soon Il Kwon and Hwa Shim Kwon, 600 Mountain Boulevard, Oakland, CA 94611

12/29/03

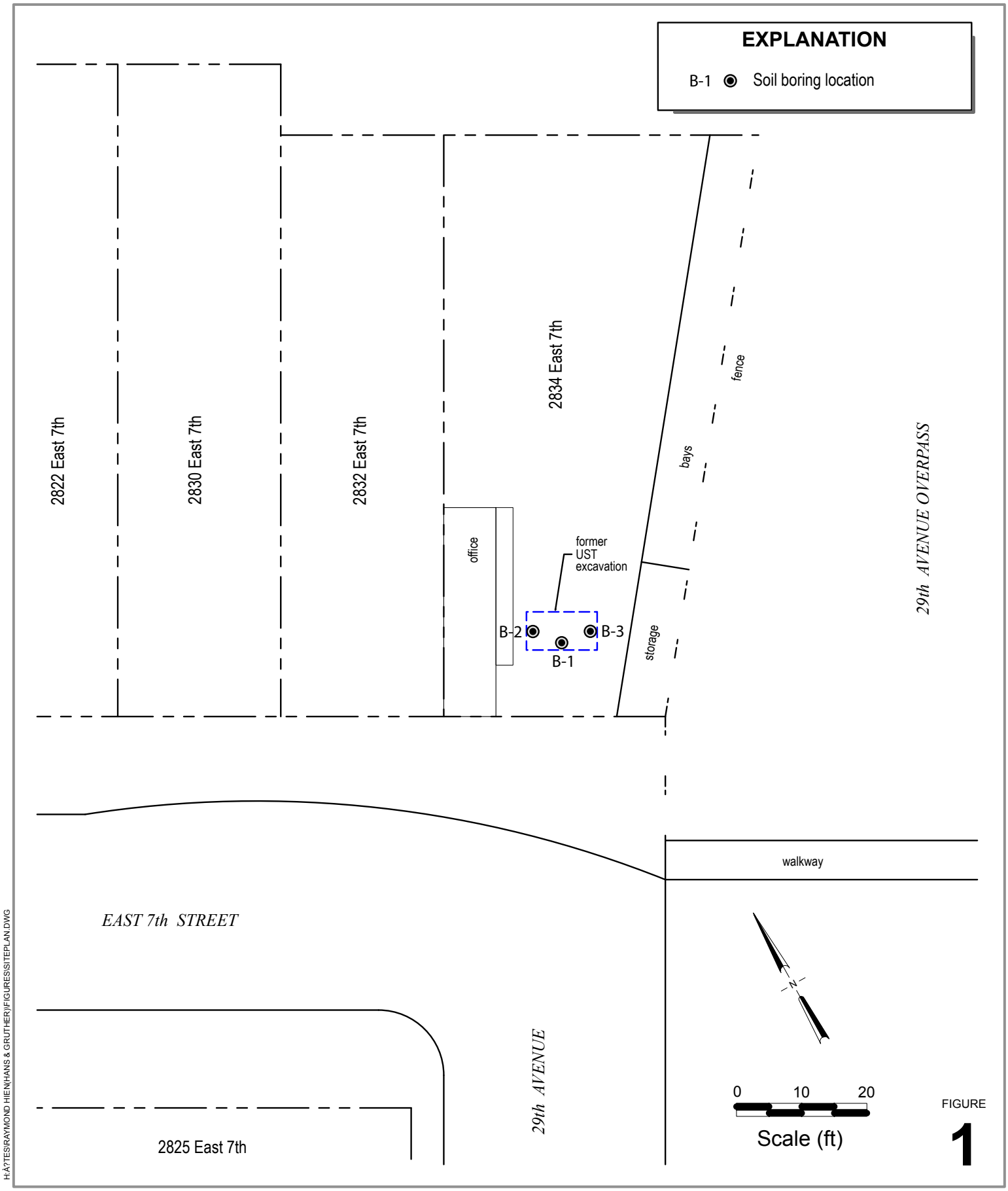

FIGURE
1

H:\ÄTES\RAYMOND HIEN\HANS & GRUTHER\FIGURES\SITEPLAN.DWG

Former Hans & Gunther Roofing

2834 East 7th Street

Oakland, California

PANGEA

Soil Boring Location Map

PANGEA

Table 1: Soil Analytical Data - Petroleum Hydrocarbons, Volatile Organic Compounds, and Metals: 2834 East 7th Street, Oakland, California

Sample ID	Date Sampled	Sample Depth (ft)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Oxygenated VOCs & EDB, 1,2-DCA	VOCs	SVOCs	Cadmium	Chromium	Nickel	Lead	Zinc
			←	mg/kg	→	←				µg/kg			→	←		mg/kg		→
B-1@10.5	07/29/03	10.5	< 1.0	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	ND	ND	<0.5	49	121	10	42
B-1@14.5	07/29/03	14.5	< 1.0	< 1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	ND	--	--	--	--	--	--
B-2@8.5	12/05/03	8.5	<1.0	<1.0	<5.0	<5.0	--	--	--	<5.0	ND	--	--	--	--	--	--	--
B-2@10.5	12/05/03	10.5	**270**	68	<5.0	<5.0	--	--	--	<5.0	**9.4 EDB**	--	--	--	--	--	<5.0	--
B-2@12.5	12/05/03	12.5	<1.0	<1.0	<5.0	<5.0	--	--	--	<5.0	ND	--	--	--	--	--	--	--
B-3@8.5	12/05/03	8.5	<1.0	<1.0	<5.0	--	--	--	--	--	--	--	--	--	--	--	--	--
B-3@10.5	12/05/03	10.5	**91**	48	<5.0	<5.0	--	--	--	<5.0	ND	--	--	--	--	--	10	--
B-3@12.5	12/05/03	12.5	<1.0	<1.0	<5.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Water is a potential source of drinking water:																		
Final ESLs for Residential Use, Soil >9.8 ft:			83	83	5,000	44	2,900	3,300	2,300	23	0.33 EDB	--	--	39	2,500	260	750	2,500
Ceiling Value			5,000	5,000	5,000	870,000	650,000	400,000	420,000	500,000	1,000,000 EDB	--	--	2,500	2,500	2,500	2,500	2,500
Direct Exposure			4,200	4,200	12,000	12,000	650,000	210,000	420,000	2,800,000	1,700 EDB	--	--	39	--	260	750	230,000
GW Protection (Soil Leaching)			83	83	--	44	2,900	3,300	2,300	23	0.33 EDB	--	--	--	--	--	--	--

Abbreviations and Methods:

ft = measured in feet

TPHg = Total petroleum hydrocarbons as gasoline (C6-C16) by analytical method SW8015Cm

TPHd = Total petroleum hydrocarbons as diesel (C10-23) by analytical method SW8015C with silica gel cleanup

TPHmo = Total petroleum hydrocarbons as motor oil (C18+) by analytical method SW8015C with silica gel cleanup

Benzene, toluene, ethylbenzene, and xylenes by analytical method SW8260B

MTBE = Methyl tertiary butyl ether by analytical method SW8260B

Oxygenated VOCs & EDB, 1,2-DCA = Oxygenated volatile organics (MTBE, DIPE, TAME, TBA, ETBE), plus 1,2-Dibromoethane (EDB) and 1,2-Dichloroethane (1,2-DCA) by analytical method SW8260B

VOCs = Volatile organics by analytical method SW8260B

SVOCs = Semi-volatile organics by analytical method SW8270D

µg/kg = Micrograms per kilogram

mg/kg = Milligrams per kilogram

ND = analyte not detected above laboratory limit. See report laboratory report for limits.

-- = Not analyzed or not applicable

EDB = 1,2-Dibromoethane

ESL = Environmental Screening Levels for deep soil with residential land use where groundwater is a current or potential drinking water resource from Table C-1, established by the SFBRWQCB, Interim Final - November 2007 (Revised May 2008).

ATTACHMENT A

Laboratory Analytical Report and Site Photos

McCampbell Analytical, Inc.
"When Quality Counts"

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

Cambria Env. Technology 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #557-1000-002; Gunther Kitsch	Date Sampled: 12/05/03
		Date Received: 12/09/03
	Client Contact: Matt Meyers	Date Reported: 12/30/03
	Client P.O.:	Date Completed: 12/23/03

WorkOrder: 0312180

August 01, 2008

Dear Matt:

Enclosed within are:

1) The results of the **6** analyzed samples from your project: **#557-1000-002; Gunther Kitsch,**
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 please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

McCampbell Analytical, Inc.
"When Quality Counts"

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

Cambria Env. Technology	Client Project ID: #557-1000-002; Gunther Kitsch	Date Sampled: 12/05/03
		Date Received: 12/09/03
5900 Hollis St, Suite A	Client Contact: Matt Meyers	Date Extracted: 12/09/03-12/19/03
Emeryville, CA 94608	Client P.O.:	Date Analyzed 12/10/03-12/20/03

Benzene by P&T and GC/MS*

Extraction method: Analytical methods: SW8260B Work Order: 0312180

Lab ID	Client ID	Matrix	Benzene	DF	% SS
003A	B-2@8.5	S	ND	1	95.7
004A	B-2@10.5	S	ND	1	88.7
005A	B-2@12.5	S	ND	1	95.8
010A	B-3@10.5	S	ND	1	91.1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	5.0	µg/Kg

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

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

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager