

ALL ENVIRONMENTAL, INC.

Environmental Engineering & Construction

ENVIRONMENTAL
PROTECTION

March 4, 1996
Job No. 1350

96 MAR 14 PM 2:18

Mr. Rick Gerow
Gerow Properties
8393 Capwell Drive
Oakland, CA 94621

ST10 5570

Subject: **Phase II Soil and Groundwater Investigation
1255 Park Avenue, Emeryville, California**

Dear Mr. Gerow:

This letter report presents the findings of our subsurface investigation at the above referenced property. The purpose of this investigation was to evaluate the presence of contaminants in the soil and groundwater beneath the subject site in the vicinity of previously removed underground storage tanks (USTs). One 1500 gallon fuel oil UST and one 200 gallon gasoline UST were removed from the property by AEI on November 14, 1995 (Underground Storage Tank Removal Report, December 21, 1995). Samples collected from the stockpiled material created from the removal of the fuel oil UST indicated up to 1200 parts per million (ppm) Total Petroleum Hydrocarbons (TPH) as diesel present in the soil. Samples collected from the bottom of the tank excavations and from the gasoline tank stockpile were non-detect for all constituents analyzed with the exception of minor levels (4.2 ppm to 7.2 ppm) of Lead. At the request of Senior Hazardous Materials Specialist Ms. Susan Hugo of the Alameda County Health Care Services Agency (ACHCSA) a subsurface investigation was conducted to assess the potential impact on groundwater beneath the site. The investigation included the advancement of a single soil boring downgradient from the previously removed 1500 gallon fuel oil tank.

A detailed discussion on the investigation and findings follows.

Field Investigation

On February 6, 1996, AEI advanced a single soil boring (SB-1) within ten feet of the previously removed 1500 gallon heating oil UST (Attachment A: Site Plan). The boring was advanced to a depth of approximately 28 feet below ground surface (bgs) using a GeoProbe drilling rig. Soil samples were collected at four foot intervals. The boring was logged on-site by an AEI geologist. Refer to Attachment B for the borehole log. No odor was observed in any of the samples collected. Soil staining was observed from approximately 4 feet bgs to 18 feet bgs. Groundwater was encountered at approximately 28 feet bgs. Upon removal of the drilling rod, the groundwater rebounded to approximately 5 feet bgs. A single groundwater sample was subsequently collected from the boring. The boring was grouted with neat cement slurry under the direction of Ms. Hugo. The soil and groundwater samples were sealed, labeled and transported under chain of custody documentation to McCampbell Analytical, Inc. for analysis.

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Laboratory Analyses

Laboratory analyses were completed by McCampbell Analytical, Inc. of Pacheco, California, on February 7, 1996. One soil and one groundwater sample were analyzed for Total Petroleum Hydrocarbons (TPH) as diesel (EPA method 8015/3550) and benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA method 8020/602).

The analytical results were non-detect for TPH as diesel and BTEX for the soil sample collected from the soil/groundwater interface at 28 feet bgs. The groundwater sample contained TPH diesel at a concentration of 340 parts per billion (ppb) and toluene at a concentration of 1.9 ppb. Benzene, ethylbenzene and xylenes were not detected. The analytical results are included as Attachment C.

Conclusions

Low levels of TPH as diesel and toluene were discovered in the groundwater sample collected from the boring. Analysis of the soil sample collected from the soil/groundwater interface was non-detect for all constituents. The presence of diesel within the groundwater is potentially due to the rise in the groundwater level within the borehole due to a pressure differential. The contact between the groundwater and near surface soil could have resulted in the introduction of low concentrations of diesel into the groundwater sample. AEI expects the low concentrations of diesel to decline with time due to biodegradation. Based upon our investigation, AEI recommends that the ACHCSA grant case closure for the site.

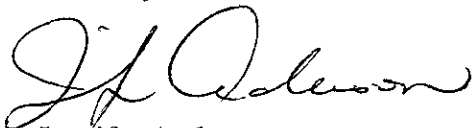
Limitations

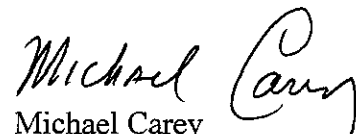
This letter report presents a summary of work completed by All Environmental, Inc., including observations and descriptions of site conditions. Where appropriate, it includes analytical results from samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document. AEI warrants that all 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.

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If you have any questions regarding the findings presented in this report, please call (510) 820-3224.

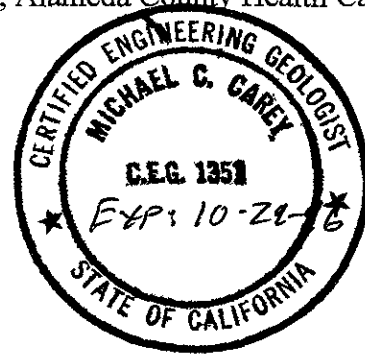
Sincerely,


Jennifer Anderson
Project Manager


Michael Carey
Engineering Geologist, CEG 1351

cc: Ms. Susan Hugo, Senior Hazardous Materials Specialist, Alameda County Health Care Services Agency

Attachment A: Site Plan
Attachment B: Borehole Log
Attachment C: Analytical Results



ATTACHMENT A

SITE PLAN

PARK AVENUE

SUBJECT PROPERTY -
EMERYVILLE PROPERTIES
1255 PARK AVENUE

HARLAN STREET

SIDEWALK

FORMER LOCATION
OF 1500-GALLON
FUEL OIL TANK
"TANK A"

SB-1

FORMER LOCATION
OF 200-GALLON
GASOLINE TANK
"TANK B"

DRIVEWAY
ENTRANCE

FENCE

SOIL BORING LOCATION



ALL ENVIRONMENTAL, INC.			
2641 CROW CANYON ROAD, SUITE 5, SAN RAMON			
SCALE 1" = 10'	APPROVED BY	DRAWN BY C. SPARKS	
DATE 6 FEB 1996		APPROVED BY J. ANDERSON	
SITE PLAN			
1255 PARK AVENUE EMERYVILLE		DRAWING NUMBER FIGURE 1	

ATTACHMENT B

BOREHOLE LOG

PROJECT: GEROW #1350		LOG OF BOREHOLE: SB-1	
BORING LOC.: DOWNGRADIANT FROM FORMER 1500 GALLON FUEL OIL UST		ELEVATION, TOC: --	
DRILLING CONTRACTOR: GREGG DRILLING		START DATE: 2/6/96	END DATE: 2/6/96
DRILLING METHOD: DIRECT PUSH		TOTAL DEPTH: 28.0'	
DRILLING EQUIPMENT: GEOPROBE DRILL RIG		DEPTH TO WATER: 28.0'	
SAMPLING METHOD: 2" DRIVE SAMPLER		LOGGED BY: J.S. ANDERSON	
HAMMER WEIGHT and FALL: N/A		RESPONSIBLE PROFESSIONAL: MC	

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES			COMMENTS
			SAMPLE NO.	INTERVAL	BLOW COUNTS	
0.0 - 0.6	AB	Asphalt, 3" Aggregate Base.				
0.6 - 14.0	CL	Silty Clay; dark gray 3 N3; medium stiff; gravel up to 1/4".				
4.0 - 4.5			L-1			No odor. Staining.
6.0 - 6.5		Color Change; moderate yellowish brown 10YR 5/4.				
8.0 - 8.5		Same.	L-2			No odor. Staining.
12.0 - 12.5		Same	L-3			No odor. Staining.

PROJECT: GEROW #1350		LOG OF BOREHOLE: SB-1				
DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES			COMMENTS
			SAMPLE NO.	INTERVAL	BLOW COURTS	
14.0 - 18.0	CL	Silty Clay (cont.)				
15						
16			L-4			No odor. Staining.
17						
18.0 - 20.0		Sandy Clay; moderate yellowish brown 10YR 5/4; moist; gravel up to 1/2".				
19						
20.0 - 28.0		Silty Clay; moderate yellowish brown 10YR 5/4; moist.	L-5			No odor.
21						
22						
23						
24		Same.	L-6			No odor.
25						
26						
27						
28		Same.	L-7			No odor.
		Borehole terminated at 28.0 feet.				Borehole backfilled with cement grout.
29						
30						
31						

ATTACHMENT C

ANALYTICAL AND CHAIN OF CUSTODY DOCUMENTS

All Environmental, Inc. 2641 Crow Canyon Rd., # 5 San Ramon, CA94583	Client Project ID: # 1350; Gerow	Date Sampled: 02/06/96
		Date Received: 02/07/96
	Client Contact: Jennifer Anderson	Date Extracted: 02/07-02/13/96
	Client P.O:	Date Analyzed: 02/07-02/13/96

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

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
61195	SB-1, L-7, 28'	S	---	ND	ND	ND	ND	101
61196	W-1	W	---	ND	1.9	ND	0.80	108
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L	0.5	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.005	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts 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 (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

All Environmental, Inc. 2641 Crow Canyon Rd., # 5 San Ramon, CA94583	Client Project ID: # 1350; Gerow	Date Sampled: 02/06/96
		Date Received: 02/07/96
	Client Contact: Jennifer Anderson	Date Extracted: 02/07-02/09/96
	Client P.O:	Date Analyzed: 02/07-02/10/96

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

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d) ⁺	% Recovery Surrogate
61195	SB-1, L-7, 28'	S	ND	104
61196	W-1	W	340,g,i	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	
	S		1.0 mg/kg	

* water samples are reported in ug/L, soil samples in mg/kg, and all TCLP and STLC extracts in mg/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) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/07/96

Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample (#59994)	MS	MSD		MS	MSD	
TPH (gas)	0.000	1.948	1.962	2.03	96	97	0.7
Benzene	0.000	0.180	0.176	0.2	90	88	2.2
Toluene	0.000	0.186	0.192	0.2	93	96	3.2
Ethylbenzene	0.000	0.184	0.184	0.2	92	92	0.0
Xylenes	0.000	0.542	0.550	0.6	90	92	1.5
TPH (diesel)	0	307	336	300	102	112	9.0
TRPH (oil and grease)	0.0	19.2	20.8	20.8	92	100	8.0

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/10/96

Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#59994)			Amount Spiked	% Recovery		RPD
	MS	MSD			MS	MSD	
TPH (gas)	0.000	1.995	2.142	2.03	98	106	7.1
Benzene	0.000	0.180	0.192	0.2	90	96	6.5
Toluene	0.000	0.190	0.198	0.2	95	99	4.1
Ethylbenzene	0.000	0.192	0.198	0.2	96	99	3.1
Xylenes	0.000	0.562	0.576	0.6	94	96	2.5
TPH (diesel)	0	302	300	300	101	100	0.5
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/12/96-02/13/96

Matrix: Soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample (#59994)	MS	MSD		MS	MSD	
TPH (gas)	0.000	2.019	2.077	2.03	99	102	2.8
Benzene	0.000	0.188	0.202	0.2	94	101	7.2
Toluene	0.000	0.208	0.216	0.2	104	108	3.8
Ethylbenzene	0.000	0.198	0.218	0.2	99	109	9.6
Xylenes	0.000	0.602	0.664	0.6	100	111	9.8
TPH (diesel)	0	298	302	300	99	101	1.5
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
 Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/07/96-02/08/96

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample (#60731)	MS	MSD		MS	MSD	
TPH (gas)	0.0	102.1	98.2	100	102	98	3.9
Benzene	0	10	10	10	101.0	103.0	2.0
Toluene	0	10	11	10	103.0	106.0	2.9
Ethyl Benzene	0	10	10	10	104.0	104.0	0.0
Xylenes	0	32	32	30	106.3	106.0	0.3
TPH (diesel)	0	151	147	150	101	98	2.7
TRPH (oil & grease)	0	23300	24700	23700	98	104	5.8

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/09/96

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample (#60907)	MS	MSD		MS	MSD	
TPH (gas)	0.0	93.3	85.8	100	93	86	8.4
Benzene	0.0	9.1	9.9	10.0	91.0	99.0	8.4
Toluene	0.0	9.1	9.6	10.0	91.0	96.0	5.3
Ethyl Benzene	0.0	10.1	9.9	10.0	101.0	99.0	2.0
Xylenes	0.0	31.9	30.5	30.0	106.3	101.7	4.5
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	0	26400	26000	23700	111	110	1.5

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/10/96-02/12/96

Matrix: Water

Analyte	Concentration (ug/L) Sample			Amount Spiked	% Recovery		RPD
	(#61214)	MS	MSD		MS	MSD	
TPH (gas)	0.0	115.5	112.1	100	116	112	3.0
Benzene	0.0	9.2	8.7	10.0	92.0	87.0	5.6
Toluene	0.0	9.4	9.0	10.0	94.0	90.0	4.3
Ethyl Benzene	0.0	9.5	9.7	10.0	95.0	97.0	2.1
Xylenes	0.0	28.1	29.5	30.0	93.7	98.3	4.9
TPH (diesel)	0	151	151	150	101	101	0.1
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

DATE: 2/6/96 PAGE: 1 OF: 1

5777AALEX15

AFI PROJECT MANAGER: <u>JENNIFER ANDERSON</u>					ANALYSIS REQUEST										NUMBER OF CONTAINERS									
PROJECT NAME <u>CORROW</u>																								
PROJECT NUMBER <u>1350</u>																								
SAMPLED BY <u>JA</u> SIGNATURE: <u>[Signature]</u>																								
TOTAL # OF CONTAINERS <u>10</u>																								
RECD. GOOD COND./COLD <u>YES</u>																								
SAMPLE I.D.	SAMPLE LOCATION	DATE	TIME	MATRIX	TPH Gasoline (EPA 5030,8015)	TPH Gasoline (EPA 5030,8015) w/ BTEX (EPA 602,8020)	TPH Diesel (EPA 3510/3550,8015)	PURGEABLE AROMATICS BTEX (EPA 602,8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	TOTAL LEAD (AA) (EPA 7420)	VOLATILE ORGANIC COMPOUNDS (EPA 8240)	LUFT Metals (EPA 7130,7190,7420,7530,7990)	STLC CAM 17 (EPA 1310/6010)	RCI REACTIVITY CORROSIIVITY (Title 22, CCR 66961.21-3)										
SB-1, L-1, 4'	near former tank ↓ SB-1	2/6/96	1400	SOIL											61189	1								
SB-1, L-2, 8'				1405											61190	1								
SB-1, L-3, 12'				1410											61191	1								
SB-1, L-4, 16'				1415											61192	1								
SB-1, L-5, 20'				1430											61193	1								
SB-1, L-6, 24'				1445											61194	1								
SB-1, L-7, 28'				1450											61195	1								
W-1		2/6/96	1530	WATER										61196	3									
					HOLD																			
					ICET <input checked="" type="checkbox"/> GOOD CONDITION <input checked="" type="checkbox"/> HEAD SPACE ABSENT <input checked="" type="checkbox"/> PRESERVATIVE APPROPRIATE CONTAINERS <input checked="" type="checkbox"/>																			
ANALYTICAL LAB <u>McCampbell</u>					RELINQUISHED BY: 1					RECEIVED BY: 1					RELINQUISHED BY: 2					RECEIVED BY: 2				
ADDRESS _____					Signature <u>[Signature]</u>					Signature <u>[Signature]</u>					Signature _____					Signature _____				
PHONE () <u>798 1620</u> FAX () _____					Printed Name <u>Dusty Roy</u>					Printed Name <u>H. Ricca</u>					Printed Name _____					Printed Name _____				
INSTRUCTIONS/COMMENTS <u>Edgy YAT</u>					Company <u>AEI</u>					Company <u>McCampbell</u>					Company _____					Company _____				
Time _____ Date _____					Time _____ Date _____					Time <u>0837</u> Date <u>2/4/96</u>					Time _____ Date _____					Time _____ Date _____				