

March 9, 1999

**PHASE II
SUBSURFACE INVESTIGATION**

1285 66th Street
Emeryville, California

Project No. 3118

Prepared For

Heller Financial
50 Beale Street, Suite 1500
San Francisco, CA 94105

Prepared By

All Environmental, Inc.
901 Moraga Road, Suite C
Lafayette, CA 94549
(800) 801-3224

AEI

March 9, 1999

Beverly Shepperd
Heller Financial
50 Beale Street, Suite 1500
San Francisco, CA 94105

Subject: Phase II Subsurface Investigation
1285 66th Street
Emeryville, California
Project No. 3118

Dear Ms. Shepperd Green:

The following letter report describes the activities and results of the subsurface investigation performed by All Environmental, Inc. (AEI) at the above referenced property (Figure 1: Site Location Map). The investigation included the advancement of four shallow soil borings and collection of soil and groundwater samples. This project was designed to investigate whether the soil and/or groundwater beneath the property has been impacted with petroleum hydrocarbons or volatile halocarbons from the former storage of petroleum products at adjacent properties.

I Background

The property is approximately 15,000 square feet in size and is currently utilized by Liquid Sugars, Inc. for office and warehouse space. A Phase I Environmental Site Assessment (ESA) was performed on the property by AEI in February 1999. This ESA revealed several possible off-site sources of impact to the subject property. Please refer to Figure 2 for the locations of these concerns.

Liquid Sugars, Inc. (LSI), located adjacent to the east of the subject property was identified as a leaking underground storage tank site (LUST). According to reports provided in the Gribi Associates Phase I Environmental Site Assessment report, two 1,000 gallon gasoline and one 10,000 gallon diesel USTs were removed from the site in November, 1990. Significant concentrations of petroleum hydrocarbons were detected in soil samples collected from the tank excavation. Groundwater monitoring wells were installed near the former tank hold. Groundwater samples were collected and analyzed on a quarterly basis on seven occasions. Moderate concentrations of petroleum hydrocarbons were detected in the groundwater beneath the site. Due to the proximity of this unauthorized release, there is a potential that this unauthorized release has impacted the subject property.

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The Mohawk Petroleum Corporation distribution plant was formerly located adjacent to the east of the subject property during the 1950s and 1960s. Significant quantities of petroleum hydrocarbons were stored at the site. There is a potential that the former petroleum distribution facility impacted the soil or groundwater beneath the site. Due to the close proximity of the former petroleum storage areas, there is a potential that the subject property would be impacted by a historical unauthorized release.

Based on these off-site concerns, AEI recommended a subsurface investigation to investigate whether the subject property has been impacted by either of these sites.

II Investigative Efforts

All Environmental, Inc. (AEI) performed a subsurface investigation at the property on February 25, 1999. A total of four soil borings (AEI-1 to AEI-4) were advanced. Two of the borings, AEI-1 and AEI-2, were advanced within the warehouse, along the southern wall of the building. Soil boring AEI-3 was advanced along the eastern wall of the building. Soil boring AEI-4 was advanced in the parking lot north of the warehouse building. The locations of the soil borings are shown on Figure 2.

The near surface native soil encountered during the boring advancement consisted of clay and silt with minor amounts of sand and gravel. Refer to Attachment A for detailed logs of the borings. The property is approximately 30 feet above mean sea level. Based on local topography, groundwater flow direction is estimated to be to the west, toward the San Francisco Bay.

Soil Sample Collection

The borings were advanced with a Geoprobe drilling rig to a depth of between 10 and 15 feet below ground surface (bgs). Soil samples were collected at 3 feet, 5 feet, and at 5-foot intervals beyond 10 feet bgs.

Significant hydrocarbon odor was observed during the advancement of the soil boring AEI-1 and AEI-2. No odor was observed during the advancement of the other two borings. Soil samples were screened in the field using a photoionizing detector (PID). The soil screening data is presented on the boring logs (Attachment A). Soil samples were collected in four-foot long 2" acrylic liners, from which a six inch sample was chosen for analysis. The soil samples were sealed with teflon tape and plastic caps and placed in a cooler with wet ice to await transportation to the laboratory.

Groundwater Sample Collection

Groundwater was encountered at 10 feet bgs during the advancement of soil boring AEI-1, and at approximately 13 feet bgs in soil borings AEI-2 and AEI-4. Groundwater was not encountered during the advancement of AEI-3. To collect groundwater samples, a "hydropunch" type rod

was inserted into the boring below the water table and raised to expose a screened interval. A groundwater sample was collected using a drop tube inserted into the direct push rods. Due to the slow generation of groundwater in AEI-2, AEI-3 and AEI-4, the push rods were removed and slotted PVC pipe was inserted to allow time for groundwater generation. The groundwater samples were collected into 1-liter amber bottles and 40-mL VOA vials. The water samples were capped so that there was no head-space or visible air bubbles within the vials, then placed in a cooler with wet ice to await transportation to the laboratory.

Following sample collection, each boring was backfilled with cement grout.

Laboratory Analysis

On February 25, 1999, the soil samples were transported to McCampbell Analytical Inc. (DOHS Certification Number 1644) under chain of custody protocol for analysis. Analytical results and chain of custody documents are included as Attachment B.

One soil and one groundwater samples was analyzed from each boring, with the exception of AEI-3 from which no water was generated. Two soil samples were analyzed from AEI-2 and AEI-3. The soil and groundwater samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, benzene, toluene, ethylbenzene and xylenes (BTEX), methyl tertiary butyl ether (MTBE) and volatile halocarbons.

The remaining soil samples were placed on hold at the laboratory.

III Findings

~~TPH as gasoline was detected at 13,000 mg/kg in the soil sample taken from AEI-1 at 5 feet.~~ TPH as diesel, benzene and MTBE were detected in this sample at 1,800 mg/kg, 33 mg/kg and 26 mg/kg, respectively. TPH as diesel and TPH as gasoline were detected in the soil sample taken from AEI-2 at 10 feet at 17 mg/kg and 58 mg/kg, respectively. Petroleum hydrocarbons were not detected in any of the other soil samples analyzed. No volatile halocarbons were detected in any of the soil samples analyzed. Please refer to Table 1 for details of the soil sample analysis.

TPH as gasoline was detected in the groundwater at a maximum of 7,900 $\mu\text{g/L}$ and TPH as diesel was detected in the groundwater at a maximum of 13,000 $\mu\text{g/L}$. Benzene was detected at 310 $\mu\text{g/L}$ in the groundwater. No volatile halocarbons were detected in any of the groundwater samples analyzed. Please refer to Table 2 for details of the groundwater sample analysis.

IV Conclusions and Recommendations

This investigation has revealed that groundwater has been impacted by a petroleum hydrocarbon release. No known source for this release has existed on the subject property. It is likely that this release originated either from the LSI underground storage tanks, at which there is a known release, or the former above ground storage tanks of the Mohawk Petroleum Corporation. The concentrations of petroleum hydrocarbons detected in the soil sample taken from AEI-1 at 5' indicate that a release occurred at the former above ground storage tanks of the Mohawk Petroleum Corporation.

AEI's investigation indicates that the impacted soil and groundwater beneath the subject property is a result of an unauthorized release from an adjacent source. However, the determination of the responsible party for this release lies with the San Francisco Bay Regional Water Quality Control Board (RWQCB). It is likely that the RWQCB will require the responsible party to conduct further investigation into the extent of impacted soil and groundwater.

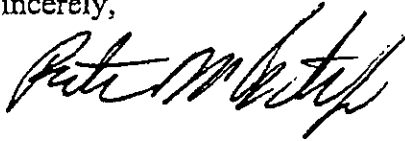
V Report Limitation

This report presents a summary of work completed by All Environmental, Inc. (AEI). 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 are chosen to provide the required information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. 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 me at (510) 283-6000.

Sincerely,



Peter McIntyre
Project Geologist



Joseph P. Derhake, PE, CAC
Senior Author

(510) 799-4255

Figures

Tables

Attachment A: Soil Boring Logs

Attachment B: Sample Analytical Documentation



TABLES

ASPHALT PARKING LOT

AEI-4

1285 66TH STREET

OFFICES

WAREHOUSE

AEI-3

No water samples collected

AEI-2

AEI-1

AUTUMN PRESS BUILDING

FORMER MOHAWK BERMED AST AREA

FORMER LOCATION OF 3 USTs

AEI-1

SOIL BORING LOCATION AND IDENTIFICATION



0 10 20
SCALE IN FEET

ALL ENVIRONMENTAL, INC.
901 MORAGA ROAD, SUITE C, LAFAYETTE, CA

SITE PLAN

1285 66th STREET
EMERYVILLE, CALIFORNIA

FIGURE 2

Table 1:
Soil Sample Analytical Results
February 25, 1999

Sample ID	TPH as gasoline mg/kg	TPH as diesel mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	VHC's* µg/kg
AEI-1 5'	13,000	1,800	26	33	ND<0.5	94	160	<5.0
AEI-2 5'	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<5.0
AEI-2 10'	 	 	ND<0.1	<0.005	<0.005	<0.005	<0.005	<5.0
AEI-3 10'	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<5.0
AEI-4 5'	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<5.0
MDL	1.0	1.0	0.05	0.005	0.005	0.005	0.005	5.0

Free

MDL = Method Detection Limit

ND = Not detected above the Method Detection Limit (unless otherwise noted)

µg/kg = micrograms per kilogram (ppb)

mg/kg = milligrams per kilogram (ppm)

VHC = Volatile Halocarbons

* No Volatile Halocarbons were detected above the MDL

Handwritten notes and scribbles, including the word "gasoline" and various lines and marks.

Table 2:
Groundwater Sample Analytical Results
February 25, 1999

Sample ID	TPH as gasoline µg/L	TPH as diesel µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzen µg/L	Xylenes µg/L	VHC's* µg/L
AEI-1 W	7,900	13,000	ND<110	310	13	220	170	<0.5
AEI-2 W	4,100	9,000	ND<40	<0.5	11	<0.5	30	<0.5
AEI-4 W	<50	1,000	<5.0	<0.5	0.91	<0.5	<0.5	<0.5
MDL	50	50	5.0	0.5	0.5	0.5	0.5	0.5

MDL = Method Detection Limit

ND = Not detected above the Method Detection Limit (unless otherwise noted)

µg/L = micrograms per liter (ppb)

mg/L = milligrams per liter (ppm)

VHC = Volatile Halocarbons

* No Volatile Halocarbons were detected above the MDL

FIGURES



SOURCE:
 THOMAS GUIDE
 1997, 1 IN = 2400 FT

ALL ENVIRONMENTAL, INC.
 901 MORAGA ROAD, SUITE C, LAFAYETTE, CA

SITE LOCATION MAP

1285 66th STREET
 EMERYVILLE, CALIFORNIA

FIGURE 1

ATTACHMENT A
SOIL BORING LOGS

Log of Borehole: AEI-1






Depth	Soil Symbol	Subsurface Description	Sample Data				Well Data	Remarks
			Sample Interval	Type	Blow Counts/	Recovery %		
0		Ground Surface						
0-1		CONCRETE AND FILL					Continuous core	
1-3		CLAY Black clay, very plastic Silt increasing	AEI-1 3'	SS	NA		PID = 880 ppm Strong hydrocarbon odor	
3-5								
5-6								
6-10				AEI-1 5'	SS	NA		PID = 960 ppm
10-11		SILT Silt with clay, saturated					Sample liner broke PID = 244 ppm	
11-12		CLAY Stiff Clay						
12-13		End of Borehole						
13-14								
14-15								
15-16								
16-17								
17-18								
18-19								
19-20								

Drill Date 2/25/99
 Drill Method: DIRECT PUSH
 Total Depth: 13
 Depth to Water: 20

Reviewed by: JPD
 Logged by: PJM

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Log of Borehole: AEI-2

Depth ft. m	Soil Symbol	Subsurface Description	Sample Data				Well Data	Remarks
			Sample Interval	Type	Blow Counts/	Recovery %		
0		Ground Surface						
1		CONCRETE AND FILL					Continuous core	
2		CLAY Stiff clay with silt and sand locally, damp Silt increasing with depth	AEI-2 3'	SS	NA		PID = 2.1 ppm	
3								
4								
5								
6		CLAY Stiff clay with silt and sand locally, damp Silt increasing with depth	AEI-2 5'	SS	NA		PID = 2 ppm	
7								
8		SILT Silt with clay and minor gravel	AEI-2 10'	SS	NA		PID = 330 ppm	
9								
10								
11		CLAY Stiff Clay					PID = 74 ppm	
12								
13		End of Borehole	AEI-2 15'	SS	NA		Slow groundwater generation Slotted PVC set	
14								
15								
16								
17								
18								
19								
20								

Drill Date 2/25/99
 Drill Method: DIRECT PUSH
 Total Depth: 15
 Depth to Water: 11

Reviewed by: JPD
 Logged by: PJM

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Project Name: EMERYVILLE

Log of Borehole: AEI-3

Client: HELLER

Location: 1285 66TH STREET

Depth ft. m	Soil Symbol	Subsurface Description	Sample Data				Well Data	Remarks
			Sample Interval	Type	Blow Counts/	Recovery %		
0		Ground Surface						
1		CONCRETE AND FILL					Continuous core	
2		CLAY Stiff clay with sand locally, minor gravel					OVM Malfunton	
3			AEI-3 3'	SS	NA		No product odor	
4								
5			AEI-3 5'	SS	NA			
6		Silt increasing					No odor	
7								
8								
9		SILT Silt with clay	AEI-3 10'	SS	NA		No odor	
10								
11		CLAY Stiff Clay locally damp, plastic					No odor	
12								
13		End of Borehole	AEI-3 15'	SS	NA		No odor	
14								
15							Slow groundwater generation	
16							Slotted PVC set	
17								
18								
19								
20								

Drill Date 2/25/99

Reviewed by: JPD

Drill Method: DIRECT PUSH

Logged by: PJM

Total Depth: 15

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Depth to Water: NA

Project Name: EMERYVILLE

Log of Borehole: AEI-4

Client: HELLER

Location: 1285 66TH STREET

Depth ft m	Soil Symbol	Subsurface Description	Sample Data				Well Data	Remarks
			Sample Interval	Type	Blow Counts/	Recovery %		
0		Ground Surface						
0-1	Diagonal lines	ASPHALT AND FILL					Continuous core	
1-2	Diagonal lines						OVM Malfunction	
2-3	Diagonal lines	CLAY Stiff clay with silt	AEI-4 3'	SS	NA		No product odor	
3-4	Diagonal lines							
4-5	Diagonal lines							
5-6	Diagonal lines		AEI-4 5'	SS	NA			
6-7	Diagonal lines							
7-8	Diagonal lines							
8-9	Vertical lines	SILT Stiff sandy silt with minor clay and gravel					No odor	
9-10	Vertical lines							
10-11	Vertical lines		AEI-4 10'	SS	NA			
11-12	Vertical lines							
12-13	Diagonal lines	CLAY Silty and sandy clay with minor gravel					Slow groundwater generation Slotted PVC set	
13-14	Diagonal lines							
14-15		End of Borehole						
15-16								
16-17								
17-18								
18-19								
19-20								

Drill Date 2/25/99
 Drill Method: DIRECT PUSH
 Total Depth: 14
 Depth to Water: 12

Reviewed by: JPD
 Logged by: PJM

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ATTACHMENT B

SAMPLE ANALYTICAL DOCUMENTATION



All Environmental, Inc. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #3118; Cohen	Date Sampled: 02/25/99
		Date Received: 02/25/99
	Client Contact: Peter McIntyre	Date Extracted: 02/25/99
	Client P.O:	Date Analyzed: 02/25/99

03/05/99

Dear Peter:

Enclosed are:

- 1). the results of 7 samples from your #3118; Cohen project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director



All Environmental, Inc. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #3118; Cohen	Date Sampled: 02/25/99
		Date Received: 02/25/99
	Client Contact: Peter McIntyre	Date Extracted: 02/25-03/04/99
	Client P.O:	Date Analyzed: 02/26-03/04/99

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & 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) ⁺	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
04090	AEI-1 5'		13,000j	26		ND<0.5	94	160	108
04091	AEI-1 W		7000j	ND<110		13	220	170	104
04093	AEI-2 5'	S	ND	ND	ND	ND	ND	ND	98
04094	AEI-2 10'	S	58,j	ND<0.1	ND	ND	ND	ND	98
04096	AEI-2 W	W		ND<40	ND	11	ND	30	103
04099	AEI-3 10'	S	ND	ND	ND	ND	ND	ND	96
04102	AEI-4 5'	S	ND	ND	ND	ND	ND	ND	96
04104	AEI-4 W	W	ND,i	ND	ND	0.91	ND	ND	96
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L	5.0	0.5	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/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. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #3118; Cohen	Date Sampled: 02/25/99
		Date Received: 02/25/99
	Client Contact: Peter McIntyre	Date Extracted: 02/26-03/04/99
	Client P.O.:	Date Analyzed: 03/01-03/04/99

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
04090	AEI-1 5'	S	[REDACTED]	95
04091	AEI-1 W	W	[REDACTED]	100
04093	AEI-2 5'	S	ND	99
04094	AEI-2 10'	S	17,d,b	96
04096	AEI-2 W	W	[REDACTED]	99
04099	AEI-3 10'	S	ND	96
04102	AEI-4 5'	S	ND	109
04104	AEI-4 W	W	[REDACTED],g,b,i	99
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	
	S		1.0 mg/kg	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/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.



All Environmental, Inc. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #3118; Cohen	Date Sampled: 02/25/99
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	Client Contact: Peter McIntyre	Date Extracted: 02/25/99
	Client P.O:	Date Analyzed: 02/25-03/03/99

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	04090	04091	04094	04096
Client ID	AEI-1 5'	AEI-1 W	AEI-2 10'	AEI-2 W
Matrix	S	W	S	W
Compound	Concentration			
Bromodichloromethane	ND<25	ND<1	ND	ND
Bromoform ^(b)	ND<25	ND<1	ND	ND
Bromomethane	ND<25	ND<1	ND	ND
Carbon Tetrachloride ^(c)	ND<25	ND<1	ND	ND
Chlorobenzene	ND<25	ND<1	ND	ND
Chloroethane	ND<25	ND<1	ND	ND
2-Chloroethyl Vinyl Ether ^(d)	ND<25	ND<1	ND	ND
Chloroform ^(e)	ND<25	ND<1	ND	ND
Chloromethane	ND<25	ND<1	ND	ND
Dibromochloromethane	ND<25	ND<1	ND	ND
1,2-Dichlorobenzene	ND<25	ND<1	ND	ND
1,3-Dichlorobenzene	ND<25	ND<1	ND	ND
1,4-Dichlorobenzene	ND<25	ND<1	ND	ND
Dichlorodifluoromethane	ND<25	ND<1	ND	ND
1,1-Dichloroethane	ND<25	ND<1	ND	ND
1,2-Dichloroethane	ND<25	ND<1	ND	ND
1,1-Dichloroethene	ND<25	ND<1	ND	ND
cis 1,2-Dichloroethene	ND<25	ND<1	ND	ND
trans 1,2-Dichloroethene	ND<25	ND<1	ND	ND
1,2-Dichloropropane	ND<25	ND<1	ND	ND
cis 1,3-Dichloropropene	ND<25	ND<1	ND	ND
trans 1,3-Dichloropropene	ND<25	ND<1	ND	ND
Methylene Chloride ^(f)	ND<25	ND<1	ND	ND<1
1,1,2,2-Tetrachloroethane	ND<25	ND<1	ND	ND
Tetrachloroethene	ND<25	ND<1	ND	ND
1,1,1-Trichloroethane	ND<25	ND<1	ND	ND
1,1,2-Trichloroethane	ND<25	ND<1	ND	ND
Trichloroethene	ND<25	ND<1	ND	ND
Trichlorofluoromethane	ND<25	ND<1	ND	ND
Vinyl Chloride ^(g)	ND<25	ND<1	ND	ND
% Recovery Surrogate	111	108	89	100
Comments	j	ij		h

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe
Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg, wipes, ND<0.2ug/wipe
ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present, (i) liquid sample that contains greater than ~5 vol. % sediment, (j) sample diluted due to high organic content.



All Environmental, Inc. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #3118; Cohen	Date Sampled: 02/25/99
	Client Contact: Peter McIntyre	Date Received: 02/25/99
	Client P.O:	Date Analyzed: 02/25-03/03/99

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	04099	04102	04104
Client ID	AEI-3 10'	AEI-4 5'	AEI-4 W
Matrix	S	S	W
Compound	Concentration		
Bromodichloromethane	ND	ND	ND
Bromoform ^(b)	ND	ND	ND
Bromomethane	ND	ND	ND
Carbon Tetrachloride ^(c)	ND	ND	ND
Chlorobenzene	ND	ND	ND
Chloroethane	ND	ND	ND
2-Chloroethyl Vinyl Ether ^(d)	ND	ND	ND
Chloroform ^(e)	ND	ND	ND
Chloromethane	ND	ND	ND
Dibromochloromethane	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND
cis 1,2-Dichloroethene	ND	ND	ND
trans 1,2-Dichloroethene	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND
cis 1,3-Dichloropropene	ND	ND	ND
trans 1,3-Dichloropropene	ND	ND	ND
Methylene Chloride ^(f)	ND	ND	ND<1
1,1,2,2-Tetrachloroethane	ND	ND	ND
Tetrachloroethene	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND
Trichloroethene	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND
Vinyl Chloride ^(g)	ND	ND	ND
% Recovery Surrogate	89	87	101
Comments			

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe
 Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis
 (b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/26/99-02/27/99

Matrix: WATER

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample (#03737)	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	101.9	100.3	100.0	101.9	100.3	1.6
Benzene	0.0	10.0	10.6	10.0	100.0	106.0	5.8
Toluene	0.0	10.3	10.8	10.0	103.0	108.0	4.7
Ethyl Benzene	0.0	10.6	10.9	10.0	106.0	109.0	2.8
Xylenes	0.0	31.7	32.6	30.0	105.7	108.7	2.8
TPH(diesel)	0.0	7544	9008	7500	101	120	17.7
TRPH (oil & grease)	0	27900	24300	23700	118	103	13.8

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

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/01/99

Matrix: WATER

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample (#03737)	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	103.2	96.0	100.0	103.2	96.0	7.2
Benzene	0.0	9.7	9.6	10.0	97.0	96.0	1.0
Toluene	0.0	10.5	9.8	10.0	105.0	98.0	6.9
Ethyl Benzene	0.0	10.3	10.0	10.0	103.0	100.0	3.0
Xylenes	0.0	30.6	29.9	30.0	102.0	99.7	2.3
TPH(diesel)	0.0	7497	7492	7500	100	100	0.1
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/26/99-02/27/99

Matrix: SOIL

Analyte	Concentration (mg/kg) Sample (#98736)			Amount Spiked	% Recovery		
	MS	MSD			MS	MSD	RPD
TPH (gas)	0.000	2.316	2.143	2.03	114	106	7.8
Benzene	0.000	0.220	0.194	0.2	110	97	12.6
Toluene	0.000	0.228	0.214	0.2	114	107	6.3
Ethylbenzene	0.000	0.222	0.202	0.2	111	101	9.4
Xylenes	0.000	0.658	0.608	0.6	110	101	7.9
TPH (diesel)	0	275	271	300	92	90	1.7
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: 03/01/99-03/02/99

Matrix: SOIL

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		RPD
	Sample (#98706)	MS	MSD		MS	MSD	
TPH (gas)	0.000	2.242	2.174	2.03	110	107	3.1
Benzene	0.000	0.214	0.220	0.2	107	110	2.8
Toluene	0.000	0.218	0.220	0.2	109	110	0.9
Ethylbenzene	0.000	0.212	0.214	0.2	106	107	0.9
Xylenes	0.000	0.630	0.622	0.6	105	104	1.3
TPH(diesel)	0	331	340	300	110	113	2.7
TRPH (oil and grease)	0.0	24.2	23.8	20.8	116	114	1.7

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

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

QC REPORT FOR EPA 8010/8020/EDB

Date: 02/25/99-02/26/99

Matrix: WATER

Analyte	Concentration (ug/L)				% Recovery		
	Sample (#03756)	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0.0	11.6	11.7	10.0	116	117	0.9
Trichloroethene	0.0	9.8	9.8	10.0	98	98	0.8
EDB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	0.0	9.7	9.8	10.0	97	98	0.8
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobz (PID)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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



Environmental Engineering & Construction
 901 Moraga Road, Suite C
 Lafayette, CA 94549
 (925) 283-6000 Fax: (925) 283-6121

GOOD CONDITION
 HEAD SPACE ABSENT

RESERVATION
 APPROPRIATE
 CONTAINERS

CHAIN OF CUSTODY

PAGE 1 OF 2

TAT: RUSH / 24 hr / 48 hr (5 day) / other

14123 XAIE 359

AEI PROJECT MANAGER Peter McIntyre
 PROJECT NAME Cohen
 PROJECT NUMBER 3118
 TOTAL # OF CONTAINERS 50
 RCWD. GOOD CONDITION/COLD Y N

TPH (g), ETEX, MTBE
 SOIL: EPA 8080/8013M, 8090
 WATER: EPA 8030/8015M, 812
 TPH (d)
 SOIL: EPA 8080/8013M
 WATER: EPA 8030/8015M
 ETEX, MTBE
 SOIL: EPA 8080
 WATER: EPA 802
 TOTAL OIL & GREASE
 SOIL: EPA 813, 1 or STD 5520 D/ENF
 WATER: STD 5520 HAF
 VOLATILE HALOCARBONS
 SOIL: EPA 8010
 WATER: EPA 601
 VOC's
 SOIL: EPA 8210
 WATER: EPA 821
 SEMI-VOLATILE ORGANICS
 SOIL: EPA 8270/3550
 WATER: EPA 825/3510
 TOTAL LEAD (TTL)
 SOIL: 9010 (CIV)
 WATER: 230.2 (LV)
 LUFT-5 METALS
 SOIL: EPA 7130, 7130A, 7130B, 7130C, 7130D
 WATER:

0408
 0409
 0409
 0409
 0409
 0409
 0409
 0409
 0409
 0409
 04100
 X
 X
 X

SAMPLE ID	DATE	TIME	MATRIX
AEI-1 3'	2/25		S
AEI-1 5'	2/25		S
AEI-1 W	2/25		W
AEI-2 3'	2/25		S
AEI-2 5'	2/25		S
AEI-2 10'	2/25		S
AEI-2 15'	2/25		S
AEI-2 W	2/25		W
AEI-3 3'	↓		S
AEI-3 5'		S	
AEI-3 10'		S	
AEI-3 15'		S	

COMMENTS / INSTRUCTIONS: 24hr Add-on 3/4
 Hold 1/2 liter plastics

ANALYTICAL LABORATORY
 ADDRESS
 PHONE () FAX ()

RELINQUISHED BY
 SIGNATURE: Peter McIntyre
 PRINTED NAME: Peter McIntyre
 COMPANY: AEI
 DATE: 2/25 TIME: 6:30

RECEIVED BY
 SIGNATURE: PUSA Venegas
 PRINTED NAME: PUSA Venegas
 COMPANY: MAF
 DATE: 2/25 TIME: 6:30

RELINQUISHED BY
 SIGNATURE
 PRINTED NAME
 COMPANY
 DATE TIME

RECEIVED BY
 SIGNATURE
 PRINTED NAME
 COMPANY
 DATE TIME

QC REPORT FOR EPA 8010/8020/EDB

Date: 02/25/99-02/26/99

Matrix: SOIL

Analyte	Concentration (ug/kg)			Amount Spiked	% Recovery		
	Sample (#00744)	MS	MSD		MS	MSD	RPD
1,1-DCE	0	108	111	100	108	111	2.7
Trichloroethene	0	98	100	100	98	100	2.1
EDB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	0	88	89	100	88	89	0.8
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobz (PID)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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



14123XALE359

TAT: RUSH / 24 hr / 48 hr / 5 day / other

AEI PROJECT MANAGER *Deton McEnty*
 PROJECT NAME *Cohen*
 PROJECT NUMBER *3118*
 TOTAL # OF CONTAINERS *30*
 RCVD. GOOD CONDITION/COLD

TPH(g), BTEX, MTBE
SOIL: EPA 8080/8015M, 8080
 WATER: EPA 8150/8015M, 8150

TPH(d)
SOIL: EPA 8080/8015M
 WATER: EPA 8080/8015M

BTEX, MTBE
SOIL: EPA 8150/8015M
 WATER: EPA 8150/8015M

TOTAL OIL & GREASE
SOIL: EPA 1131 OF STD. 5501/1/CAF
 WATER: STD. 5501/1/CAF

VOLATILE HALOCARBONS
SOIL: EPA 8010
 WATER: EPA 8010

VOC's
SOIL: EPA 8210
 WATER: EPA 821

SEMI-VOLATILE ORGANICS
SOIL: EPA 8270/350
 WATER: EPA 8270/350

TOTAL LEAD (TLIC)
SOIL: 2812 (L)
 WATER: 2812 (L)

LEAD 5 METALS
SOIL: EPA 7130, 7140, 7150, 7160, 7180, 7190
 WATER:

SAMPLE ID	DATE	TIME	MATRIX	TPH(g), BTEX, MTBE	TPH(d)	BTEX, MTBE	TOTAL OIL & GREASE	VOLATILE HALOCARBONS	VOC's	SEMI-VOLATILE ORGANICS	TOTAL LEAD (TLIC)	LEAD 5 METALS	HOLD	# OF CONTAINERS
AEI-4 3	2/25		S											
AEI-4 5			S	X	X								X	1
AEI-4 10			S					X					X	1
AEI-4 11			W	X	X			X					X	1

04101H
 04102
 04103H
 04104

ICE/
 GOOD CONDITION
 HEAD SPACE ABSENT

PRESERVATION APPROPRIATE CONTAINERS

VOC'S O&G METALS OTHER

COMMENTS / INSTRUCTIONS

ANALYTICAL LABORATORY ADDRESS

PHONE () FAX ()

RELINQUISHED BY
Deton McEnty
 SIGNATURE
 DETON M C EN T Y
 PRINTED NAME
 AEI
 COMPANY
 DATE 2/25/02 TIME 6:30

RECEIVED BY
Crista V B
 SIGNATURE
 CRISTA V B NEGRAS
 PRINTED NAME
 MAE
 COMPANY
 DATE 2/25 TIME 6:50

RELINQUISHED BY
 SIGNATURE
 PRINTED NAME
 COMPANY
 DATE TIME

RECEIVED BY
 SIGNATURE
 PRINTED NAME
 COMPANY
 DATE TIME