ALL ENVIRONMENTAL, INC.
Environmental Engineering & Construction

September 19, 1996
Project No. 1255

Ms. Jennifer Eberle
Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **245 8th Street, Oakland, California**

Dear Jennifer:

The following letter report describes the activities and **results of the subsurface investigation** conducted by All Environmental, Inc. (AEI) at the above referenced property. The investigation was conducted in response to your request, dated December 5, 1995. This investigation was intended to define the extent of the free product plume and to quantitatively assess the dissolved contaminants within the groundwater.

I Property Description

The subject property currently supports the operation of Vic's Automotive, a gasoline service station and automotive repair facility (Attachment A: Site Location Map).

In June, 1993, five underground storage tanks (USTs) were removed from the property by AEI. The tanks consisted of four (4) 1,000 gallon gasoline USTs and one (1) 250 gallon waste oil UST. In August, 1994, two (2) 6,000 gallon USTs were removed by AEI. Groundwater was encountered during the removal of the 6,000 gallon USTs and free floating product was observed within the excavation.

On July 14, 1995, AEI installed one (1) four inch groundwater monitoring well (MW-1) and one (1) two inch groundwater monitoring well (MW-2). Soil samples collected and analyzed from the well installations indicated the presence of 370 ppm total petroleum hydrocarbons (TPH) as gasoline in MW-1 and 390 ppm TPH as gasoline in MW-2 at a depth of 16 feet below ground surface (bgs).

Quarterly monitoring of the wells initially occurred on July 21, 1995. The depth to groundwater was measured at approximately 17 feet bgs. Approximately two feet of floating product was discovered in MW-1, therefore groundwater samples were not collected from the well. Groundwater samples collected from MW-2 indicated concentrations of 68,000 ppb TPH as gasoline and 480 ppb benzene present within the groundwater.

Groundwater gradient was determined using two off-site wells installed for a subsurface investigation at a neighboring site. The groundwater flow direction was measured to the south with a gradient of approximately 0.01 feet per foot.

On October 17, 1995, AEI performed the second quarterly groundwater monitoring episode. Samples collected from MW-2 indicated up to 210,000 ppb TPH as gasoline and 720 ppb benzene present within the groundwater. Free floating product was present within MW-1 at a thickness of 1.53 feet. The groundwater beneath the site continued to flow to the south with a measured gradient of 0.01 feet per foot.

Free floating product was removed from the MW-1 by manual bailing approximately two times per month between July, 1995 and May, 1996. Product thickness varied from a minimum of 1.20 feet in December, 1995 to a maximum of 4.39 feet in March, 1996.

On March 12, 1996, AEI submitted a workplan for a Phase II Groundwater Investigation to define the extent of the free product plume. The following letter report details the methods and findings of the proposed investigation.

II Investigative Efforts

All Environmental, Inc. (AEI) performed a subsurface investigation at the property on August 8, 1996. The investigation included the advancement of three soil borings (SB-1, SB-2 and SB-3) using a Geoprobe® drilling rig. The soil borings SB-1, SB-2 and SB-3 were advanced to a depth of 24 feet bgs approximately 25 feet north, 25 feet west and 58 feet south of MW-1, respectively. Refer to Attachment A: Site Plan for soil boring locations.

Soil samples were collected at 18 and 24 feet bgs from boring SB-1 and at 24 feet bgs from borings SB-2 and SB-3. The soil samples were collected in 7/8 inch acetate liners which were sealed with teflon tape and caps and placed on ice in an ice chest for transportation to McCampbell Analytical Inc. under chain of custody protocol for analysis. Moderate yellowish brown clean sand and silty sand was encountered in the near surface sediments during the boring advancement.

Groundwater was encountered at approximately 18 feet bgs during the advancement of the borings. Grab groundwater samples were collected from each boring. The groundwater samples were collected using a clean stainless steel bailer. Water was poured from the bailer into amber liter bottles and 40 ml VOA vials and capped so that no head space or visible air bubbles were within the sample containers. The samples were labeled and placed on ice in an ice chest for transportation to McCampbell Analytical Inc. under chain of custody protocol for analysis. No free product was observed during the collection of the groundwater samples. A slight sheen was observed on the groundwater collected from boring SB-2.

The borings were backfilled with cement slurry as per ACHCSA requirements upon collection of the soil and groundwater samples.

All soil and groundwater samples were analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline (EPA method 5030/8015), benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tertiary butyl ether (MTBE) (EPA method 8020/602).

III Findings

Soil and groundwater samples collected during the investigation were transported to McCampbell Analytical, Inc. (DOHS Certification Number 1644) on August 9, 1996 for analysis. The soil samples collected at 24 feet bgs and the groundwater samples from each boring were analyzed between August 9, 1996 and August 13, 1996. The soil sample collected at a depth of 18 feet bgs from SB-1 was analyzed on August 27, 1996 at the request of the ACHCSA. Analytical results and chain of custody documents are included as Attachment B.

Analytical results of soil samples collected at 24 feet bgs indicate the presence of minor concentrations of petroleum hydrocarbon contamination. Analysis of the soil sample collected at 18 feet bgs from SB-1

contained 9,100 ppm TPH as gasoline, 57 ppm benzene, 580 ppm toluene, 190 ppm ethylbenzene and 47 ppm MTBE. Soil sample analytical data is summarized in Table 1, below.

Table 1 - Soil Sample Analyses, August 8, 1996

Sample Identification	TPHg mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl-benzene mg/kg	Xylenes mg/kg	MTBE mg/kg
SB-1, L-1 (18')	9,100	57	580	190	1000	47
SB-1, L-2 (24')	30	0.37	1.40	0.52	2.50	0.20
SB-2, L-1 (24')	1.1	0.11	0.17	0.018	0.099	0.032
SB-3, L-1 (24')	16	1.60	2.50	0.21	0.95	4.7

Total Petroleum Hydrocarbons as gasoline = TPHg
methyl tertiary butyl ether = MTBE
mg/kg = milligrams per kilogram (ppm)

The groundwater samples collected from the borings contained no floating product, however significant concentrations of dissolved petroleum hydrocarbons were observed as shown in Table 2, below.

Table 2 - Groundwater Sample Analyses, August 8, 1996

Sample Identification	TPHg ug/L	Benzene ug/L	Toluene ug/L	Ethyl-benzene ug/L	Xylenes ug/L	MTBE ug/L
SB-1, W	140,000	12,000	30,000	3,900	19,000	480
SB-2, W	130,000	15,000	20,000	2,800	15,000	2300
SB-3, W	120,000	19,000	29,000	1,900	9,500	27,000

Sheen

Total Petroleum Hydrocarbons as gasoline = TPHg
methyl tertiary butyl ether = MTBE
ug/L = micrograms per liter (ppb)

IV Conclusions/Recommendations/Additional Investigations

Analytical results from the subsurface investigation revealed high concentrations of dissolved petroleum hydrocarbons in the groundwater beneath and in the vicinity of the site. Based upon the groundwater samples collected from borings SB-1 and SB-2, the extent of free floating product is limited to within 25 feet north and west of monitoring well MW-1. The eastern extent of free floating product appears to be limited to within approximately 40 feet of MW-1, based upon the absence of product within MW-2. Free floating product was not observed in groundwater samples collected down-gradient and to the south of MW-1 from boring BH-3. However, significant levels of dissolved hydrocarbons are present approximately 50 feet down-gradient of MW-1.

AEI recommends the implementation of a more aggressive product removal system for the skimming of free product from MW-1. The removal of the free product could decrease the concentrations of dissolved hydrocarbons in the 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 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,

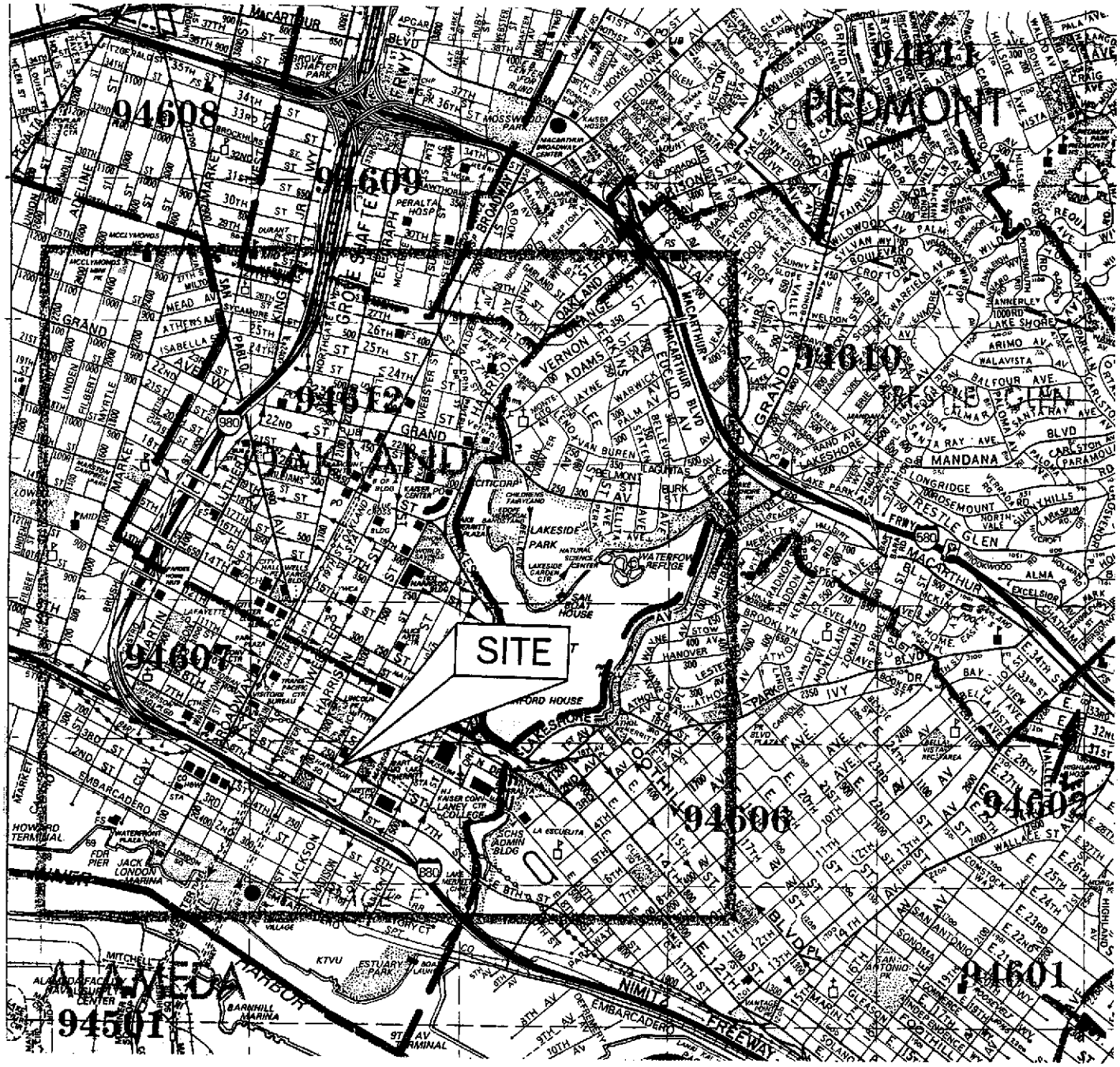
Jennifer Anderson
Project Manager

Michael C. Carey
Engineering Geologist
CEG 1351

CERTIFIED ENGINEERING GEOLOGIST
MICHAEL C. CAREY
C.E.G. 1351
Exp: 10-29-96
STATE OF CALIFORNIA

Attachment A
Attachment B

cc: Mr. Victor Lum



N

FROM:
THOMAS BROS. MAPS
1995

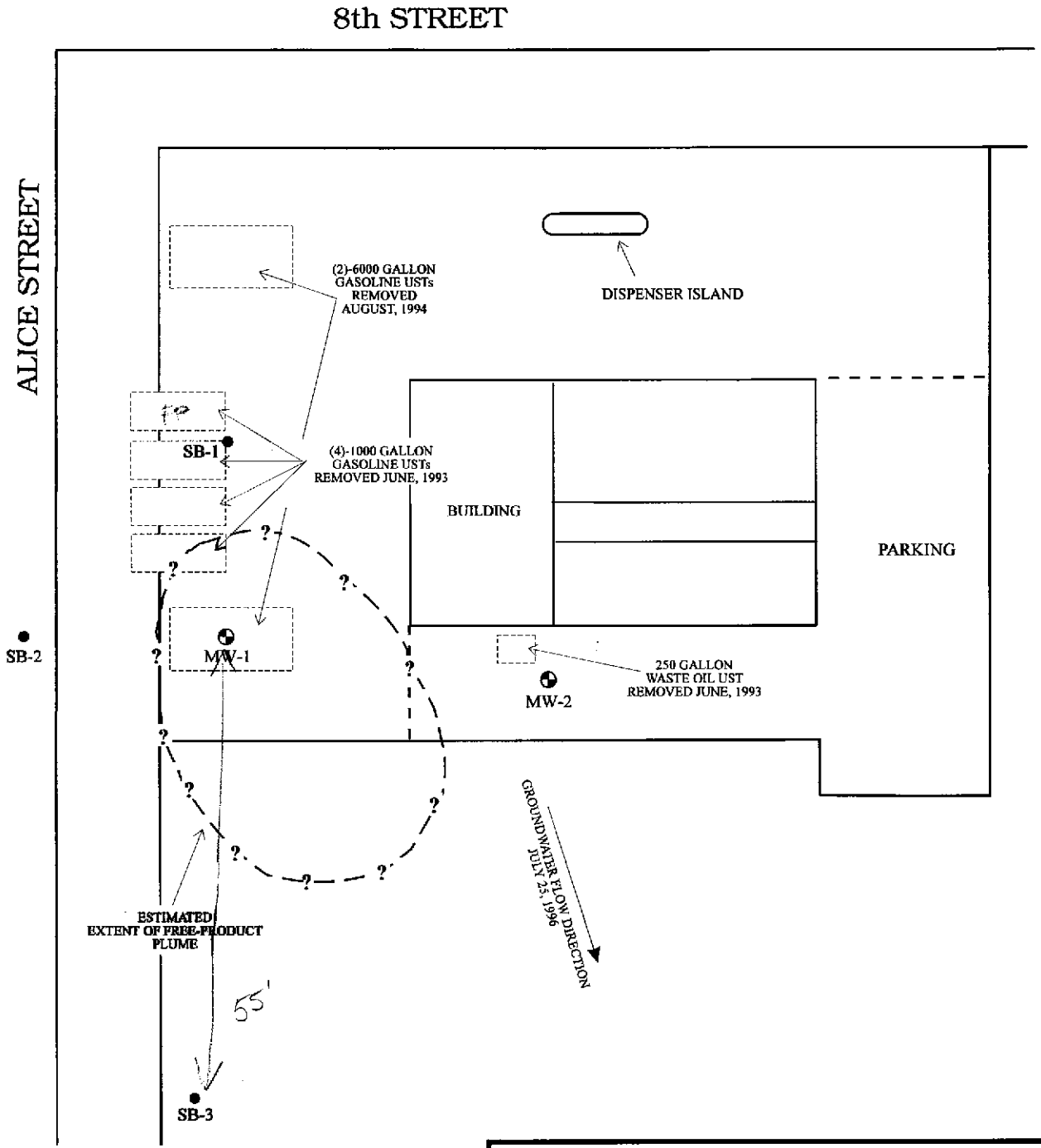
ALL ENVIRONMENTAL, INC.
2641 CROW CANYON ROAD, SAN RAMON

SCALE: 1" = 1/4 MI	APPROVED BY:	DRAWN BY:
DATE: 3 OCTOBER 95		REVISED:

SITE LOCATION MAP

245 8TH STREET, OAKLAND

DRAWING NUMBER:
FIGURE 1



ALL ENVIRONMENTAL, INC.

3364 MT. DIABLO BLVD., LAFAYETTE, CA

DRAWN BY: JSA		REVISED BY:
DATE: 18 SEPTEMBER 96		APPROVED BY:

SITE PLAN

245 8TH STREET
OAKLAND, CALIFORNIA

FIGURE 2

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1255; Lum	Date Sampled: 08/08/96
		Date Received: 08/09/96
	Client Contact: Jennifer Anderson	Date Extracted: 08/09-08/13/96
	Client P.O:	Date Analyzed: 08/09-08/13/96

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	Ethylben-zene	Xylenes	% Rec. Surrogate
67782	SB-1, L-2, 24	S	30,a	0.20	0.37	1.4	0.52	2.5	105
67783	SB-2, L-1, 24	S	1.1,a	0.032	0.11	0.17	0.018	0.099	103
67784	SB-3, L-1, 24	S	16,a	4.7	1.6	2.5	0.21	0.95	100
67785	SB-1, W	W	140,000,a,i	480	12,000	30,000	3900	19,000	106
67786	SB-2, W	W	130,000,a,h,i	2300	15,000	20,000	2800	15,000	103
67787	SB-3, W	W	120,000,a,i	27,000	19,000	29,000	1900	9500	102
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	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil and sludge 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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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: 08/09/96 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#67154)	MS	MSD	Amount Spiked	% Recovery MS	% Recovery MSD	RPD
TPH (gas)	0.000	1.957	1.869	2.03	96	92	4.6
Benzene	0.000	0.180	0.186	0.2	90	93	3.3
Toluene	0.000	0.178	0.190	0.2	89	95	6.5
Ethylbenzene	0.000	0.174	0.186	0.2	87	93	6.7
Xylenes	0.000	0.504	0.548	0.6	84	91	8.4
TPH (diesel)	0	322	311	300	107	104	3.6
TRPH (oil and grease)	0.0	20.7	21.3	20.8	100	102	2.9

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 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: 08/10/96-08/11/96 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#67154)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.069	2.062	2.03	102	102	0.3
Benzene	0.000	0.194	0.188	0.2	97	94	3.1
Toluene	0.000	0.190	0.186	0.2	95	93	2.1
Ethylbenzene	0.000	0.188	0.186	0.2	94	93	1.1
Xylenes	0.000	0.550	0.540	0.6	92	90	1.8
TPH (diesel)	0	295	295	300	98	98	0.0
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 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: 08/13/96-08/14/96 Matrix: Water

Analyte	Concentration (ug/L) Sample (#66780)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	101.3	100.8	100.0	101.3	100.8	0.4
Benzene	0.0	10.7	10.5	10.0	107.0	105.0	1.9
Toluene	0.0	10.3	10.2	10.0	103.0	102.0	1.0
Ethyl Benzene	0.0	10.4	10.3	10.0	104.0	103.0	1.0
Xylenes	0.0	30.6	30.5	30.0	102.0	101.7	0.3
TPH (diesel)	0	148	145	150	99	97	1.9
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

Chain of Custody

ALL ENVIRONMENTAL, INC.
3364 Mt. Diablo Boulevard
Lafayette, CA 94549
(510) 283-6000 FAX: (510) 283-6121

5 DAY

DATE: 8/9/96 PAGE: 1 OF: 1

6458AALE70

AEI PROJECT MANAGER: JENNIFER ANDERSON
PROJECT NAME: LUM
PROJECT NUMBER: 1255
SIGNATURE: [signature]
TOTAL # OF CONTAINERS: 11
RECD. GOOD COND./COLD: YES

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	TPH-Gasoline (EPA 5030.8015)	TPH-Gasoline (EPA 5030.8015) w/ BTEX and MTBE (EPA 602.8020)	TPH-Diesel (EPA 3510/3550.8015)	PURGEABLE AROMATICS BTEX and MTBE (EPA 602.8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	TOTAL LEAD (AA) (EPA 7420)	VOLATILE ORGANIC COMPOUNDS (EPA 8240)	LUFT Metals (EPA 7130.7190.7480.7580.7950)	STLC CAM 17 (EPA 1310/6010)	RCI REACTIVITY, CORROSIVITY, IGNITABILITY (Title 22, CCR 66261.21-4)	NUMBER OF CONTAINERS
SB-1, L-1, 18	8/8/96	925	SOIL	~~DRO~~	Hold								67781	1
SB-1, L-2, 24		935	~~SOIL~~	X									67782	1
SB-2, L-1, 24		1015		X									67783	1
SB-3, L-1, 24		1105		X									67784	2
SB-1, W		—	WATER	X									67785	2
SB-2, W		—		X									67786	3
SB-3, W		—		X									67787	

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATIVE ✓
APPROPRIATE
CONTAINERS ✓

ANALYTICAL LAB: McCampbell Analytical
ADDRESS:
PHONE: 510-798-1620 FAX: ( )
INSTRUCTIONS/COMMENTS:

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Printed Name: Jennifer Anderson	Printed Name: HEIDI PICCA	Printed Name:	Printed Name:
Company: AEI	Company: MAI	Company:	Company:
Time: 8/9/96 Date: 1610	Time: 11:10 Date: 8/9/9	Time: Date:	Time: Date:

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1255; Lum	Date Sampled: 08/08/96
		Date Received: 08/09/96
	Client Contact: Jennifer Anderson	Date Extracted: 08/27/96
	Client P.O:	Date Analyzed: 08/27-08/28/96

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	% Rec. Surrogate
67781	SB-1, L-1, 18	S	9100,a	47	57	580	190	1000	111#
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	1.0 mg/kg	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil and sludge 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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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3364 Mt. Diablo Boulevard
Lafayette, CA 94549
(510) 283-6000 FAX: (510) 283-6121

5 DAY

Chain of Cus

DATE: 8/9/96 PAGE: 1 OF: 1

6958AALE70

AEI PROJECT MANAGER: JENNIFER ANDERSON
PROJECT NAME: LUM
PROJECT NUMBER: 1255
SIGNATURE: [signature]
TOTAL # OF CONTAINERS: 11
RECD. GOOD COND./COLD: YES

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	TPH-Gasoline (EPA 5030/8015)	TPH-Gasoline (EPA 5030/8015) w/ BTEX and MTBE (EPA 602/8020)	TPH-Diesel (EPA 3510/3550/8015)	PURGEABLE AROMATICS BTEX and MTBE (EPA 602/8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	TOTAL LEAD (AA) (EPA 7420)	VOLATILE ORGANIC COMPOUNDS (EPA 8240)	LUFT Metals (EPA 7190,7191,7420,7520,7840)	STLC CAM 17 (EPA 1310/6010)	RCI REACTIVITY, CORROSIVITY, IGNITABILITY (Title 22, CCR 66261.21-23)	NUMBER OF CONTAINERS
SB-1, L-1, 18	8/8/96	925	SOIL	DNR	Hold	off Hold 8/27/96 per J.A.								1
SB-1, L-2, 24		935		X										1
SB-2, L-1, 24		1015		X										1
SB-3, L-1, 24		1105		X										1
+5 SB-1, W		-	WATER	X										2
5+ SB-2, W		-		X										2
10+ SB-3, W		-		X										2

67761
67762
67763
67764
67765
67766
67767

ICE? ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
VOAS ✓
PRESERVATIVE APPROPRIATE ✓
CONTAINERS ✓

ANALYTICAL LAB: McCampbell Analytical
ADDRESS:
PHONE: 60-198-1620 FAX: ( )
INSTRUCTIONS/COMMENTS:

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
Signature	Signature	Signature	Signature
Jennifer Anderson	Heidi Ricci		
Printed Name	Printed Name	Printed Name	Printed Name
AEI	MAI		
Company	Company	Company	Company
Time 8/9 11:10 Date	Time 11:10 Date 8/9/96	Time Date	Time Date