Mobil Oil Corporation

RECEIVED

2:51 pm, May 04, 2009

Alameda County
Environmental Health

3800 WEST ALAMEDA AVENUE, SUITE 700 BURBANK, CALIFORNIA 91505-4331

December 15, 1987

Ms. Susan Lindhart
City of Livermore
Fire Prevention Department
1052 South Livermore Avenue
Livermore, California 94550

MOBIL OIL CORPORATION S/S ≠1U-LYH 47U7 FIRST STREET LIVERMORE, CALIFORNIA

Dear Ms. Lindhart:

Attached is our consultant's report for the referenced location.

During the tank replacement project, soil samples were obtained from the cavity for analysis. Laboratory results indicated that very low to moderate levels of hydrocarbons were present in the soil.

The existing monitoring wells will be sampled to determine if the groundwater has been impacted. Upon completion, a report will be submitted to your office.

Should you have any questions, contact Jane Keith at (818) 953-2519.

Sincerely,

JMK:ars attachment 03460 R. J. Edwards Region Environmental Manager

cc: Mr. Greg Zetner
Regional Nater Quality Control Bd.
1111 Jackson Street, Room 6040
Oakland, California 94607

Mr. T. M. Gerow Alameda County Div. of Environmental Health 470 - 27th Street, Room 324 Oakland, California 94612

bcc: J. B. Bonnema (w/o attch)
M. D. Younger



KAPREALIAN ENGINEERING, INC.

Consulting Engineers
P. O. BOX 913
BENICIA, CA 94510
(415) 676 - 9100 (707) 746 - 6915

KEI-J87-104 December 1, 1987

Mobil Oil Corporation P.O. Box 127 Richmond, CA 94804

Attention: Mr. M. Younger

Re: Soil Sampling Investigation

Mobil S/S #10-LYH 4707 First Street Livermore, California

Dear Mr. Younger:

This report summarizes the soil and tank inspection and sampling conducted by Kaprealian Engineering, Inc. (KEI) at the referenced site. All work was performed in compliance with the regulations and guidelines established by the Regional Water Quality Control Board (RWQCB), and the City of Livermore Department of Environmental Health.

The scope of the work performed in our investigation consisted of the following:

Coordination with the regulatory agencies

Collection of samples of native soil beneath the storage tanks

Delivery of soil samples with proper chain of custody to a certified analytical laboratory

Technical review and preparation of this report

FIELD INVESTIGATION

KEI's field investigation was conducted on October 7, 1987 and consisted of soil sampling and supervision of the removal of four underground storage tanks. The tanks consisted of one 10,000 gallon unleaded fuel tank, one 8000 gallon super unleaded fuel tank, one 6000 gallon regular fuel tank and one 250 gallon waste oil tank. All the tanks were steel and appeared to be in good condition. Soil sampling beneath the tanks was performed on the same day as tank removal. Ms. Susan Lindhart of the City of Livermore Fire Department was present for tank removal.

KEI-J87-104 December 1, 1987 Page 2

Six (6) soil samples, labeled A1, A2, B1, B2, C1 and C2, were collected from the native soil beneath the tanks. The undisturbed samples were collected from bulk material excavated by backhoe. The samples were placed in clean, two-inch diameter brass tubes, sealed with aluminum foil and plastic caps, and were stored in a cooled ice chest for delivery to the contracted laboratory.

One sample, labeled W.O.-1, was collected from beneath the waste oil tank at a depth of 9 feet. The sample was collected and stored as described above.

SUBSURFACE CONDITIONS

The subsurface soils exposed in the excavations consisted primarily of clayey sand. Slight odor was detected in sample Al. All other samples had faint to non-detectable odors. Excavated soil was stockpiled on the site for further sampling. KEI recommends that the excavated soil from the waste oil tank pit be disposed of at a Class I site.

ANALYTICAL RESULTS

The samples were analyzed by Sequoia Analytical Laboratory of Redwood City, California, and were accompanied by proper chain of custody forms. All samples from the fuel tank pit were analyzed for total petroleum hydrocarbon (TPH) as gasoline, benzene, toluene and xylene (BTX) concentrations. The soil sample from the waste oil tank pit was analyzed for TPH (high boiling fraction) total oil and grease (TOG), and EPA 8240 constituents. The analytical results are summarized in Table 1. Copies of the laboratory analyses and the chain of custody forms are attached to this report.

The analytical results of the samples from the fuel tank pit were received by KEI on October 26, 1987. Sample A1 had a TPH level of 260 parts per million (ppm). The TPH level in all other samples from the tank pit ranged from non-detectable to 2.3 parts per million (ppm). Sample W.O.-1 from the waste oil tank pit had non-detectable levels of all constituents except methylene chloride (4 ppm) and toluene (0.17 ppm).

DISCUSSION AND RECOMMENDATIONS

Analytical results of the soil samples from the fuel tank pit indicate moderate levels of total hydrocarbon in the area where sample Al was collected. According to the guidelines established by the Regional Water Quality Control Board (RWQCB), further investigation is necessary. To comply with the requirements of

KEI-J87-104 December 1, 1987 Page 3

the RWQCB, KEI recommends sampling of the existing monitoring wells (as shown on the attached Location Plan) to determine if the shallow groundwater has been impacted.

A copy of this report should be sent to Ms. Susan Lindhart of the City of Livermore Fire Department, and to the Regional Water Quality Control Board.

LIMITATIONS

Soil deposits and rock formations may vary in thickness, lithology, saturation, strength and other properties across any site. In addition, environmental changes, either naturally-occurring or artificially-induced, may cause changes in groundwater levels and flow paths, thereby changing the extent and concentration of any contaminants. Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

The results of this study are based on the data obtained from the field and laboratory investigations. We have analyzed this data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

Should you have any questions regarding this report, please feel free to call me at (415) 676-9100 or (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.

Mul Kyru

Mardo Kaprealian

License #C29326 Exp. date 3/31/91

Attachments: Location plan

Laboratory analyses Chain of custody forms

Table 1

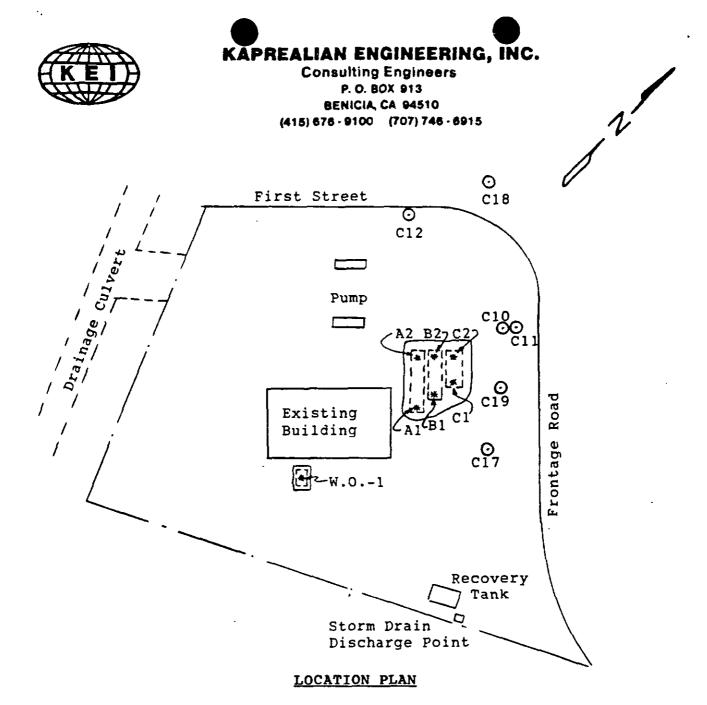
cc: J. Keith

KEI-J87-104 December 1, 1987 Page 4

TABLE 1
SUMMARY OF LABORATORY ANALYSES
(all analyses are in parts per million)

Sample #	<u>Depth</u>	Total <u>Hydrocarbon</u>	<u>Benzene</u>	<u>Toluene</u>	Xylene
A1	15'	260	1.2	2.4	19
A2	15′	1.6	<0.1	<0.1	<0.1
Bl	15'	1.4	<0.1	<0.1	<0.1
B2	15'	<1.0	<0.1	<0.1	<0.1
Cl	15'	1.8	<0.1	<0.1	<0.1
C2	.15′	2.3	<0.1	<0.1	<0.1

<u>Parameter</u>	<u>W.O1</u>	
THC as Diesel	< 1.0	ppm
Total Oil and Grease	<30	ppm
8240 Constituents:		
Methylene Chloride (TTLC)	4	ppm
Toluene	0.17	mag



- * Location of Soil Sample
- ⊙ Existing Monitoring Well

Mobil S/S #10-LYH 4707 First Street Livermore, California

P.O. Box 913

Benicia, CA 94510

Attn: Mardo Kaprealian, P.E.

President

Sample Number

7100511

Date Sampled: 10/07/87 Date Received: 10/08/87

Date Reported: 10/12/87

Sample Description

Mobil at 1st St. in Livermore, CA

Soil - Al

AHALYSIS

	DetectionLimitppm	Sample Results ppm
Total Hydrocarbons as Gasoline	1	260
Benzene	0.1	1.2
Toluene	0.1	2.4
Xylenes	0.1	19

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton Laboratory Director

mpr

P.O. Box 913

Benicia, CA 94510

Attn: Mardo Kaprealian, P.E.

President

Sample Description

Date Sampled: 10/07/87

Date Received: 10/08/87

Date Reported: 10/12/87

Mobil at 1st St. in Livermore, CA

Soil - A2

Sample Number

7100512

AHALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons as Gasoline	1	1.6
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton Laboratory Director

mor .



P.O. Box 913

Benicia, CA 94510

Attn: Mardo Kaprealian, P.E.

President

Date Sampled: 10/07/87 Date Received: 10/08/87 Date Reported: 10/12/87

Sample Number

7100513

Sample Description

Mobil at 1st St. in Livermore, CA Soil - Bl

ANALYSIS

	Detection Limit ppm	Sample <u>Results</u> ppm
Total Hydrocarbons as Gasoline	1	1.4
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton Laboratory Director

mpr ·



P.O. Box 913

Benicia, CA 94510

Attn: Mardo Kaprealian, P.E.

President

Date Sampled: 10/07/87 Date Received: 10/08/87

Date Reported: 10/12/87

Sample Number

7100514

Sample Description

Mobil at 1st St. in Livermore, CA Soil - B2

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons as Gasoline	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton Laboratory Director

mpr ·



P.O. Box 913

Benicia, CA 94510

Attn: Mardo Kaprealian, P.E.

President

Date Sampled: 10/07/87 Date Received: 10/08/87

Date Reported: 10/12/87

Sample Number

7100515

Sample Description

Mobil at 1st St. in Livermore, CA

Soil - Cl

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons as Gasoline	1	1.8
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton Laboratory Director

mpr .

P.O. Box 913

Benicia, CA 94510

Attn: Mardo Kaprealian, P.E.

President

Sample Description

Date Sampled: 10/07/87

Date Received: 10/08/87

Date Reported: 10/12/87

Mobil at 1st St. in Livermore, CA

Soil - C2

Sample Number

7100516

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons as Gasoline	1	2.3
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton Laboratory Director

mpr .

CHAIN OF CUSTODY

DATE/TIM COLLECTI	E OF 10.7.8 ON:	7 TURNAROUN	D 24 4RS.
MORT.	L'vermos	e-1st Eti	cet
37 X . 27 X . 37 X . 37 X	GRAB OR COMP. Graf	NUMBER OF CONTAINERS	SOIL/ WATER S S S
TIME/DATE 10.8.87 9.2 m. 10/8/87 10:00	Chish	ice El 1	1ME/DATE 9.10a.2. 0/8/87 000 pm.
			<u> </u>
	MOR.4. STX - 35X - 35X - 35X - 35X - 35X - 37X - 37X - 10/8/87 - 10/8/87 - 10/8/87 - 10/8/87	GRAB OR COMP. BTX GRAB OR COMP. BTX Graf Gr	COMP. CONTAINERS 37 X

P.O. Box 913

Benicia, CA 94510

Attn: Mardo Raprealian, P.E.

President

Date Sampled: 10/07/87

Date Received:10/08/87

Date Analyzed:10/20/87

Date Reported:10/26/87

Mobil - Livermore

Sample Number

7100519

Sample Description

Soil, WO-1

Supplemental Report
PRIORITY POLLUTANTS

PURGEABLES BY GC/MS results in ppb

Benzene	< 50	1,2-Dichloropropane	< 50
Bromomethane	< 50	1,3-Dichloropropane	< 50
Bromodichloromethane	< 50	Ethylbenzene	< 50
Bromoform	< 50	Methylene chloride	4000
Carbon tetrachloride	< 50	1,1,2,2-Tetrachloroethane	< 50
Chlorobenzene	< 50	Tetrachloroetheme	< 50
Chloroethane	< 50	1,1,1-Trichloroethane	< 50
2-Chloroethylvinyl	< 50	1,1,2-Trichloroethane	< 50
Chloroform	< 50	Trichloroethene	< 50
Chloromethane	< 50	Toluene	170
Dibromochloromethane	< 50	Vinyl chloride	< 50
1,1-Dichloroethane	< 50	1,2-Dichlorobenzene	< 50
1,2-Dichloroethane	< 50	1,3-Dichlorobenzene	< 50
1,1-Dichloroethene	< 50	1,4-Dichlorobenzene	< 50
trans-1,2-Dichloroethene	< 50		

The above analysis was performed in accordance with EPA method 8240 and can be considered comparable to TTLC methodology as specified in Title 22 of the California administrative code.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton

Laboratory Director

P.O. Box 913

Benicia, CA 94510

Attn: Mardo Kaprealian, P.E.

President

Date Sampled: 10/07/87 Date Received: 10/08/87

Date Reported: 10/27/87

Project: Mobil - Livermore

Sample Number	Sample <u>Description</u>	Detection <u>Limit</u>	Total Hydrocarbonsas Diesel
	Soil,	ppm	ppm
7100519	WO-1	1	< 1.0

Method of Analysis: EPA 3550/8015

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton Laboratory Director

P.O. Box 913

Benicia, CA 94510

Attn: Mardo Kaprealian, P.E.

President

Date Sampled: 10/07/87 Date Received: 10/08/87

Date Reported: 10/27/87

Project: Mobil - Livermore

Sample Number Sample
Description
Soil

Detection
Limit
ppm

Gravimetric Waste Oil
as Petroleum Oil
ppm

7100519

WO-1

30

< 30

Method of Analysis: EPA 3550 with trichlorotrifluoroethane and gravimetric determination.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton Laboratory Director

CHAIN OF CUSTODY

SAMPLER: Melecular DATE/TIME OF 10/7/87 TURNAROUND 10 Days SAMPLE DESCRIPTION Plokil-Livermore- 184. Street
SAMPLE DESCRIPTION Mobil-Livermose- 184. Street
GRAB OR NUMBER OF SOIL/ COMP. CONTAINERS WATER W.O1 THCas Diesel, TDG 48240 Mab / Soil
ELINQUISHED BY* TIME/DATE RECEIVED BY* TIME/DATE
10.8.87 Chris hècec 9:00 10/8/87 RET 10/8/87 Chris tèlèce 10/8/87 A.Notz 1000 AM. 10.8.87 A.Noty 10.8.87
· 9.C.E 1120 FW/My 10/8/87 11:22
EMARKS: 10/22/87 please.



Consulting Engineers P. O. BOX 913 BENICIA, CA 94510 (415) 876 - 9100 (707) 746 - 6915

KEI-J87-104SD December 1, 1987

Mobil Oil Corporation P. O. Box 127 Richmond, CA 94807

Attn: Mr. Moody Younger

Stockpiled Soil Sampling For

MOBIL S/S #10-LYH 4707 First Street

Livermore, California

Dear Mr. Younger:

This letter report summarizes the results of the stockpiled soil sampling and laboratory analyses for the referenced site. soil analyses were conducted to comply with the County Health Department requirements for proper disposal of contaminated soil.

On October 12, 1987, approximately 500 cubic yards of stockpiled soil at the referenced site was sampled for proper disposal. Five (5) composite soil samples (designated as Comp A, Comp B, Comp C, Comp D and Comp E) were taken. Each composite soil sample consisted of four (4) individual grab samples taken at various locations and depths ranging from 1 to 2 feet and were composited as one sample. The samples were collected in 2-inch by 4-inch, clean brass tubes which were then sealed with aluminum foil and plastic caps and placed in an ice chest for subsequent delivery to HAZCAT Organics Laboratory in San Carlos for analyses.

The composite samples were analyzed for total hydrocarbons (THC), benzene, toluene, and xylene (BTX) concentrations. The results of the soil analyses showed concentrations of THC ranging from non-detectable to 3.6 parts per million (ppm). The analyses are summarized below. Copies of the laboratory analyses and the chain of custody form are attached to this report.

KEI-J87-104SD December 1, 1987 Page 2

	Total			
Composite Sample	Hydrocarbons (ppm)	Benzene (ppm)	Toluene (ppm)	Xylene (ppm)
Comp A	<1.0	<0.1	<0.1	<0.1
Comp B	3.6	<0.1	<0.1	0.6
Comp C	<1.0	<0.1	<0.1	<0.1
Comp D	<1.0	<0.1	<0.1	<0.1
Comp E	<1.0	<0.1	<0.1	<0.1

Based on these analyses, the low level contaminants in the soil will not pose any impact to the environment. The THC levels in the soil are considered to be non-hazardous by the Regional Water Quality Control Board. Therefore, no further sampling is necessary and the soil may be disposed of at any Class III disposal site.

A copy of this report should be sent to Ms. Susan N. Linhart of the City of Livermore Fire Department.

Should you have any questions on this report, please do not hesitate to contact me at (415) 676-9100 or (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.

Milo Kyezh

Mardo Kaprealian

Attachment: Laboratory Results

Chain of Custody

cc: J. Keith

P.O. BOX 913

Benicia , CA 94510 Attn: Mardo Kaprealian, P.E.

President

Date Sampled: 10-12-87

Date Received: 10-12-87

Date Reported: 10-13-87

Sample Number

107025

Sample Description

Mobil Livermore

4707 First St.

Comp A

ANALYSIS

	Detection Limit	Sample Results ppm
	ppm	
Total Hydrocarbons as Gasoline	1	<1
Benzene	0.1	<0.1
Toluene	0.1	<0.1
Xylenes	0.1	<0.1

Note: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

HAZCAT

Ronald G. Evans

Lab Director

P.O. BOX 913

Benicia , CA 94510

Attn: Mardo Kaprealian, P.E.

President

Date Sampled:10-12-87
Date Received:10-12-87

Date Reported: 10-13-87

Sample Number

107026

Sample Description

Mobil Livermore 4707 First St.

Comp B

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons as Gasoline	1	3.6
Benzene	0.1	<0.1
Toluene	0.1	<0.1
Xylenes	0.1	0.6

Note: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

HAZCAT

P.O. BOX 913

Benicia , CA 94510

Attn: Mardo Raprealian, P.E.

President

Date Sampled: 10-12-87

Date Received: 10-12-87

Date Reported: 10-13-87

Sample Number

107027

Sample Description

Mobil Livermore

4707 First St.

Comp C

ANALYSIS

	Detection Limit	Sample Results PPm
	ppm	
Total Hydrocarbons as Gasoline	1	<1
Benzene	0.1	<0.1
Toluene	0.1	<0.1
Xylenes	0.1	<0.1

Note: Analysis was performed using EPA methods 5020 and 8015 with

method 8020 used for BTX distinction.

HAZCAT

733 Dartmouth Avenue San Carlos, CA 94070 • (415) 591-5820

Kaprealian Engineering, Inc.

P.O. BOX 913

Benicia , CA 94510

Attn: Mardo Kaprealian, P.E.

President

Date Sampled: 10-12-87

Date Received: 10-12-87

Date Reported: 10-13-87

Sample Number

107028

Sample Description

Mobil Livermore

4707 First St.

Comp D

ANALYSIS

	Detection Limit	Sample Results
•	ppm	ppm
Total Hydrocarbons as Gasoline	1	<1
Benzene	0.1	<0.1
Toluene	0.1	<0.1
Xylenes	0.1	<0.1

Note: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

HAZCAT

San Carlos, CA 94070 • (415) 591-5820

Kaprealian Engineering, Inc.

P.O. BOX 913

Benicia ,CA 94510

Attn: Mardo Kaprealian, P.E.

President

Date Sampled: 10-12-87 Date Received: 10-12-87

Date Reported: 10-13-87

Sample Number

107029

Sample Description

Mobil Livermore 4707 First St.

Comp E

ANALYSIS

	Detection Limit	Sample Results
•	PPm	PPm
Total Hydrocarbons as Gasoline	1	<1
Benzene	0.1	<0.1
Toluene	0.1	<0.1
Xylenes	0.1	<0.1

Note: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

HAZCAT

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

(Ne		DATE/TIME COLLECTION	OF 10/12/8	7 TURNAROUN	n 0,///
SAMPLER:	Vine C	COLLECTION	N: 1260 Nor	<u>≻</u> TIME:	2246
SAMPLE DESC AND PROJECT		MOBIL.	- Liver	Steel.	4707
SAMPLE 1 Come A	ANALYSIS THC.		GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER
Comp 3	THE.		Crup	2	ন্ত
Come C	THC.	BAX	Coup	2	3
Grup D _	THE.		Chup	2 2	<u>5</u>
RELINQUISHED	BY*	TIME/DATE Sof12/87 A:04	RECEIVED TO	BY* II	ME/DATE 402 m
2.	Bab	Fishe 30 1912	1. Every Honde	5.	30 AM
3.					
4.		·			
* STATE AFFI	LIATION N	EXT TO SIGNAT	URE		
REMARKS:					