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

LDP 43

May 2, 1989

Alameda County Department of
Environmental Health
470 27th Street, Room 322
Oakland, CA 94612

Attention: Mr Rafat A. Shahid

RE: Former Shell Service Station
Northeast Corner of 28th & Telegraph
Oakland, California

Dear Mr. Shahid:

Per the request of Shell's Mr. Ray Newsome, enclosed please find our report dated December 16, 1988 for the above referenced site.

Should you have any questions, please feel free to call our office at (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.

Christina L. Lecce

Christina L. Lecce

Enclosure

cc: Ray Newsome, Shell

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

KEI-J88-1207.R1
December 16, 1988

SHELL OIL COMPANY
P. O. Box 4023
Concord, CA 94524

Attention: Mr. Ray Newsome

RE: Soil Sampling Report
Former Shell Service Station
Northeast Corner of 28th & Telegraph
Oakland, California

Dear Mr. Newsome:

This report summarizes the soil and water sampling performed by Kaprealian Engineering, Inc. (KEI) at the referenced site. All work was performed in compliance with the guidelines established by the Regional Water Quality Control Board (RWQCB), and the Alameda County Health Agency.

The scope of the work performed by KEI consisted of the following:

Coordination with regulatory agencies.

Collection of samples of native soil from the sidewalls of the storage tank pit.

Collection of one ground water sample.

Delivery of soil and water samples, including proper Chain of Custody documentation, to a certified analytical laboratory.

Technical review and preparation of this report.

SITE DESCRIPTION AND BACKGROUND

The subject site was used as a gasoline station and is being abandoned. Site vicinity and site descriptions are shown on the attached sketch. KEI has learned that the site has been under investigation by other consultants. Both monitoring wells and borings have been installed and, in a report by Woodland-Clyde for Getler-Ryan, both soil and ground water contamination were documented at the site.

FIELD ACTIVITIES

KEI's field work was conducted on December 7, 1988. Four underground storage tanks were removed from the site. The tanks consisted of three 10,000 gallon fuel storage tanks and one 500 gallon waste oil tank. The tanks were made of fiberglass and no apparent holes or cracks were observed. Tank removal and the soil and water sampling were performed in the presence of Mr. Gordon Gullet of the City of Oakland Fire Department, and Mr. Dennis Byrne of the Alameda County Health Agency.

Water was encountered in the fuel tank pit at a depth of 9.5 feet prohibiting the collection of any soil samples from immediately beneath the tanks. Eight soil samples labeled A-1, A-2, B-1, B-2, C-1, C-2, D-1 and D-2 were collected from the sidewalls of the fuel tank pit approximately six inches above the water table. One sample, labeled WO-1, was collected of native soil from beneath the waste oil tank. The undisturbed samples were collected from bulk material excavated by backhoe. The samples were placed in clean, 2" diameter brass tubes, sealed with aluminum foil, plastic caps and tape, and stored in a cooled ice chest for delivery to a state certified laboratory.

After the soil sampling was completed, approximately 900 gallons of ground water was pumped from the fuel tank pit. One sample of ground water, labeled W-1, was collected in a clean glass VOA vial with a Teflon screw cap. The water sample was also stored as described above.

SUBSURFACE CONDITIONS

The subsurface soils exposed in the excavation consisted primarily of silty clay. Product odors were present in most of the fuel samples. The excavated soil was stockpiled on the site for further sampling.

ANALYTICAL RESULTS

All samples were analyzed by Sequoia Analytical Laboratory of Redwood City, California, and were accompanied by properly executed Chain of Custody forms. The samples from the fuel tank pit were analyzed for total petroleum hydrocarbon (TPH) as gasoline using EPA method 5030 in conjunction with modified 8015, and benzene, toluene, xylenes and ethylbenzene (BTX&E) using EPA methods 5030 and 8020. The sample from the waste oil tank pit was analyzed for TPH as diesel using EPA method 3550 in conjunction with modified 8015, 8010/8020 and total oil and grease (TOG) by 418.1.

Soil sample analyses from the fuel tank pit indicate significant levels of gasoline constituents for all samples. The soil sample from the waste oil tank pit had non-detectable levels of all constituents except TOG which was 4.0 ppm. The water sample analysis from the fuel tank pit has high levels of all gasoline 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.

DISCUSSION AND RECOMMENDATIONS

After receiving and reviewing the analytical results, KEI recommends additional excavation in the vicinity of the fuel storage tank pit. According to the guidelines established by the RWQCB, additional investigation is necessary at the site.

A copy of this report should be sent to the Alameda County Health Agency, and to the RWQCB, San Francisco Bay Region.

LIMITATIONS

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 (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.

Gary S. Johnson
Registered Geologist

License No. 4315
Exp. Date 6/30/90

Attachments: Table 1
Site Plan
Laboratory Analyses
Chain of Custody forms

KEI-J88-1207.R1
December 16, 1988

TABLE 1

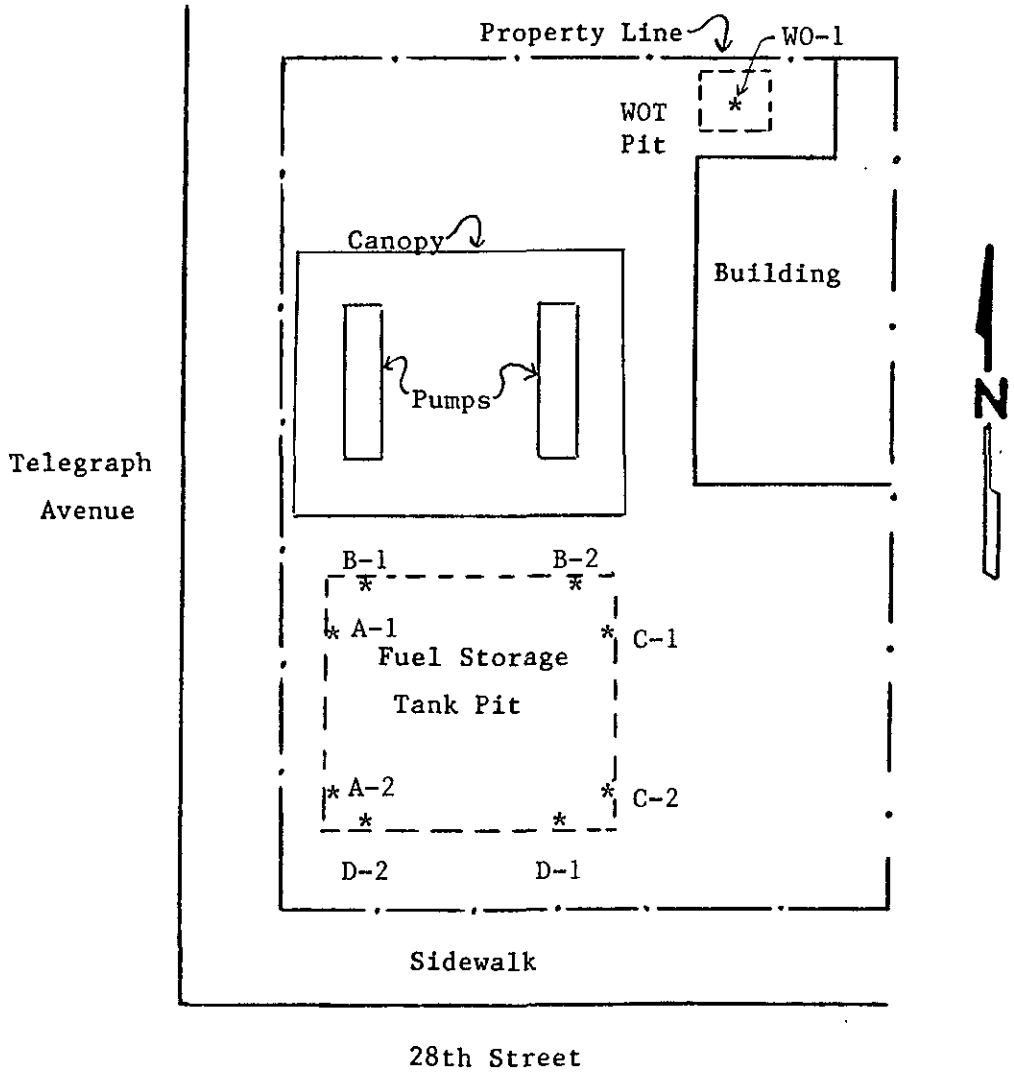
SUMMARY OF LABORATORY ANALYSES

(Results in ppm)

Sample #	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
A-1	9	96	<0.05	2.5	12.0	2.1
A-2	9	2,800	<0.05	12.0	160.0	26.0
B-1	9	540	<0.05	11.0	84.0	17.0
B-2	9	220	0.14	2.8	17.0	2.8
C-1	9	170	0.18	1.6	23.0	4.3
C-2	9	160	0.85	5.4	17.0	3.2
D-1	9	71	0.098	2.6	8.4	1.6
D-2	9	1,400	<0.05	1.1	57.0	7.9
W.O.-1*	9	--	<0.05	ND	ND	ND
W-1	8	150	11.0	13.0	12.0	1.5

* TOG for this sample was 4.2 ppm, TPH as diesel and 8010/8020 constituents were non-detectable.

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



SITE PLAN

* Soil Sample Location

Former Shell Service Station
Northeast corner of
Telegraph and 28th
Oakland, California

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID:	Shell, Oakland, 28th/Telegraph	Sampled:	December 7, 1988
P.O. Box 913	Matrix Description:	Soil	Received:	December 8, 1988
Benicia, CA 94510	Method of Analysis:	EPA 5030 or 3810/8015/8020	Analyzed:	December 12, 1988
Attention: Mardo Kaprealian, P.E.	First Sample Number:	812-0617	Reported:	December 14, 1988

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
812-0617	A1	96	N.D.	2.5	2.1	12
812-0618	A2	2,800	N.D.	12	26	160
812-0619	B1	540	N.D.	11	17	84
812-0620	B2	220	0.14	2.8	2.8	17
812-0621	C1	170	0.18	1.6	4.3	23
812-0622	C2	150	0.85	5.4	3.2	17
812-0623	D1	71	0.098	2.6	1.6	8.4
812-0624	D2	1,400	N.D.	1.1	7.9	57
Detection Limits:		**1.0**	**0.05**	**0.1**	**0.1**	**0.1**

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Arthur G. Burton
Laboratory Director

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

CHAIN OF CUSTODY

SAMPLER: [signature] DATE/TIME OF COLLECTION: 12/7/88 TURN AROUND TIME: 1 Week

SAMPLE DESCRIPTION AND PROJECT NUMBER: Shell - Oakland
98th & Telegraph

SAMPLE #	ANALYSES	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER
A1	TPHG ; BTXE	Grab	1	S 617
A2	TPHG ; BTXE	"	1	S
B1	TPHG ; BTXE	"	1	S
B2	TPHG ; BTXE	"	1	S
C1	TPHG ; BTXE	"	1	S
C2	TPHG ; BTXE	"	1	S
D1	TPHG ; BTXE	"	1	S
D2	TPHG ; BTXE	"	1	S

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. [signature]	12/7/88 5:00	[signature]	12-7 5:00
2. [signature]		[signature]	12/07 8:00am
3.			
4.			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: _____

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID:	Shell, Oakland, 28th/Telegraph	Sampled:	December 8, 1988
P.O. Box 913	Sample Description:	Water	Received:	December 8, 1988
Benicia, CA 94510	Method of Analysis:	EPA 5030/ 8015/8020	Analyzed:	December 14, 1988
Attention: Mardo Kaprealian, P.E.	Lab Sample Number:	812-0636	Reported:	December 15, 1988

TOTAL PETROLEUM FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015/8020)

Analyte	Detection Limit ug/L (ppb)	Sample Results ug/L (ppb)
Low to Medium Boiling Point Hydrocarbons	50.0	150,000
Benzene	0.5	11,000
Toluene	0.5	13,000
Ethyl Benzene	0.5	1,500
Xylenes	0.5	12,000

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Arthur G. Burton
Laboratory Director

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

CHAIN OF CUSTODY

SAMPLER: [signature] (signature) DATE/TIME OF COLLECTION: 12/7/88 TURN AROUND TIME: 5 DAYS

SAMPLE DESCRIPTION AND PROJECT NUMBER: Shell - Oakland
28th ; Telegraph.

SAMPLE #	ANALYSES	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER
W-1	TPHG & BTXE	G	3	W.

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. [signature] KES	12/7/88 5:00	Chris Queen	12-7 5:00
2.			
3.			
4.			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS:

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID:	Shell, Oakland, 28th/Telegraph	Sampled:	December 7, 1988
P.O. Box 913	Matrix Description:	Soil	Received:	December 8, 1988
Benicia, CA 94510	Method of Analysis:	EPA 3550/8015	Analyzed:	December 15, 1988
Attention: Mardo Kaprealian, P.E.	First Sample Number:	812-0638	Reported:	December 15, 1988

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
812-0638	WO-1	N.D.

Detection Limits:	1.0

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Arthur G. Burton
Laboratory Director

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID:	Shell, Oakland, 28th/Telegraph	Sampled:	December 7, 1988
P.O. Box 913	Matrix Description:	Soil	Received:	December 8, 1988
Benicia, CA 94510	Method of Analysis:	EPA 418.1 (I.R. with clean-up)	Extracted:	December 14, 1988
Attention: Mardo Kaprealian, P.E.	First Sample Number:	812-0638	Analyzed:	December 14, 1988
			Reported:	December 15, 1988

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Petroleum Oil mg/kg (ppm)
812-0638	WO-1	4.0

Detection Limits:	**1.0**

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Arthur G. Burton
Laboratory Director

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID:	Shell, Oakland, 28th/Telegraph	Sampled:	December 7, 1988
P.O. Box 913	Sample Description:	Soil, WO-1	Received:	December 8, 1988
Benicia, CA 94510	Method of Analysis:	EPA 5030/8010	Analyzed:	December 13, 1988
Attention: Mardo Kaprealian, P.E.	Lab Sample Number:	812-0638	Reported:	December 15, 1988

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit ug/kg	Sample Results ug/kg
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	5.0	N.D.
Carbon tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chloroethane	25.0	N.D.
2-Chloroethylvinyl ether	5.0	N.D.
Chloroform	5.0	N.D.
Chloromethane	5.0	N.D.
Dibromochloromethane	5.0	N.D.
1,2-Dichlorobenzene	10.0	N.D.
1,3-Dichlorobenzene	10.0	N.D.
1,4-Dichlorobenzene	10.0	N.D.
1,1-Dichloroethane	5.0	N.D.
1,2-Dichloroethane	5.0	N.D.
1,1-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis-1,3-Dichloropropene	5.0	N.D.
trans-1,3-Dichloropropene	5.0	N.D.
Methylene chloride	10.0	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl chloride	10.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Scot Cocan

Arthur G. Burton
Laboratory Director

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID:	Shell, Oakland, 28th/Telegraph	Sampled:	December 7, 1988
P.O. Box 913	Sample Description:	Soil, WO-1	Received:	December 8, 1988
Benicia, CA 94510	Method of Analysis:	EPA 5030/8020	Analyzed:	December 13, 1988
Attention: Mardo Kaprealian, P.E.	Lab Sample Number:	812-0638	Reported:	December 15, 1988

AROMATIC VOLATILE ORGANICS (EPA 8020)

Analyte	Detection Limit ug/kg	Sample Results ug/kg
Benzene	5.0	N.D.
Chlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	10.0	N.D.
1,3-Dichlorobenzene	10.0	N.D.
1,2-Dichlorobenzene	10.0	N.D.
Ethyl Benzene	5.0	N.D.
Toluene	5.0	N.D.
Xylene	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Arthur G. Burton
Laboratory Director

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

CHAIN OF CUSTODY

SAMPLER: [signature] DATE/TIME OF COLLECTION: 12/7/88 TURN AROUND TIME: 1 Week

SAMPLE DESCRIPTION AND PROJECT NUMBER: Shell - Oakland
28th & Telegraph

SAMPLE #	ANALYSES	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER
SW10-1	TPH-D + TOG 8010/8020	Grab	1	S

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. [signature] KEI	12/7/88 5:00	[signature] Chris Guerro	12-7 5:00
2.			
3.			
4.			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: