



KAPREALIAN ENGINEERING, INC.
Consulting Engineers

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Alameda County
Environmental Health

KEI-P89-0111.QR6
January 4, 1991

Unocal Corporation
2000 Crow Canyon Place, Suite #400
P.O. Box 5155
San Ramon, CA 94583

Attention: Mr. Ron Bock

RE: Quarterly Report
Unocal Service Station #5487
28250 Hesperian Blvd.
Hayward, California

APPROVED
JAN 14 1991
RONALD E. BOCK

Dear Mr. Bock:

This report presents the results of the most recent quarter of monitoring and sampling of the monitoring wells at the referenced site by Kaprealian Engineering, Inc. (KEI), per proposal KEI-P89-0111.P3 dated June 4, 1990. The wells are currently monitored monthly and sampled on a quarterly basis. This report covers the work performed by KEI from September through November, 1990.

BACKGROUND

The subject site is presently used as a gasoline station. A Location Map and Site Plans are attached to this report.

KEI's work at the site began on January 30, 1989 when KEI was asked to collect soil samples following the removal of two underground fuel storage tanks and one waste oil tank at the site. Water was encountered in the excavation at a depth of 10.5 feet. Sample locations are shown on the attached Site Plans, Figures 2 through 5. Soil and water samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California, for total petroleum hydrocarbons (TPH) as gasoline, and benzene, toluene, xylenes and ethylbenzene (BTX&E). The waste oil sample was also analyzed for TPH as diesel, total oil and grease (TOG), EPA method 8010 and EPA method 8270 constituents, and metals - cadmium, chromium, lead and zinc. After additional excavation, analyses of soil samples from the fuel tank pit showed less than 1.4 ppm of TPH as gasoline for all samples representing the final pit excavation. After additional excavation in the waste oil pit, soil samples analyses showed low residual levels of contamination, indicating that the majority of contaminated soil had been excavated.

On February 14, 1989, in preparation for setting of the new fuel storage tanks, approximately 17,500 gallons of water were pumped from the fuel tank pit. On February 17, 1989, additional soil was excavated from the waste oil tank pit, and 4,500 gallons of water was pumped and disposed of by H&H Haulers. Based on the results of the laboratory analyses, and in order to comply with the requirements of the regulatory agencies, KEI proposed the installation of five monitoring wells. Documentation of sample collection and results of the soil and ground water samples collected in January and February, 1989, are summarized in KEI's reports (KEI-J89-0111.R2, dated March 1, 1989 and KEI-J89-0111.R3, dated March 29, 1990). Results of soil sample analyses are summarized in Tables 4 and 5, and water sample analyses in Table 3.

Five monitoring wells, designated as MW1 through MW5 on the attached Site Plan, Figure 1, were installed on April 20 and 21, 1989. Analytical results of water samples, collected from MW1 and MW4, showed benzene levels of 2.1 ppb and 0.33 ppb, respectively. Analytical results for all other samples indicated non-detectable levels for all constituents analyzed. Documentation of the installation, development and sampling of the monitoring wells is presented in KEI's report (KEI-P89-0111.R5) dated May 18, 1989. Sample analyses from that report are summarized in Table 6, and water sample analyses are summarized in Table 2.

Subsequently, KEI proposed a monthly monitoring and quarterly sampling program of existing wells which was initiated in June, 1989. The results of the first quarter are presented in KEI's report (KEI-P89-0111.QR1) dated October 17, 1989.

FIELD ACTIVITIES

The five wells were monitored three times and sampled once during the quarter. In addition, well MW5 was purged of approximately 55 gallons on September 13, 1990. During monitoring, the wells were checked for depth to water and presence of free product and sheen. No free product or sheen was noted in any of the wells during the quarter. Monitoring and purging data are summarized in Table 1.

Water samples were collected from the wells on November 15, 1990. Prior to sampling, the wells were each purged of between 15 to 17 gallons. Samples were then collected using a clean Teflon bailer. Samples were decanted into clean VOA vials and/or one liter amber bottles as appropriate, which were sealed with Teflon-lined screw caps and stored in a cooler on ice until delivery to the state certified laboratory.

HYDROLOGY AND GEOLOGY

Based on the water level data gathered during the quarter, ground water flow direction generally appeared to be predominantly toward the northeast with an average gradient of approximately .009 on November 15, 1990. However, at the northwest corner of the site, the ground water flow direction appears to be toward the northwest. Therefore, both wells MW3 and MW4 are considered to be downgradient from the fuel tanks. Water levels have fluctuated during the quarter, but show a net decrease of between 0.37 and 0.46 feet in all of the wells since the previous quarter. The measured depth to ground water at the site on November 15, 1990 ranged between 7.91 and 9.23 feet. Well MW5 is considered an upgradient well.

Based on review of regional geologic maps (U.S. Geological Survey Professional Paper 943 "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning" by E.J. Helley and K.R. Lajoie, 1979), the subject site is underlain by Holocene-age coarse-grained alluvium (Qhac). The coarse-grained alluvium typically consists of unconsolidated, moderated sorted sand and silt materials with local gravel lenses. In addition, the site is situated closely adjacent to a mapped geologic contact with Holocene-age medium-grained alluvium (Qham), which is described as typically consisting of unconsolidated fine sand, silt, and clayey silt with a trace of coarse sand.

The results of our previous subsurface investigation (borings for MW1 through MW5) indicate that the site is predominantly underlain by sandy to silty clay materials. However, in the vicinity of MW1 and MW4, the relatively thick sequence of clay materials are underlain by a clayey sand bed at a depth of about 24 feet in MW1 and about 23 feet in MW4, and extend to the maximum depth explored (28 feet). Clayey sand materials were not encountered in MW2, MW3 or MW5.

ANALYTICAL RESULTS

Water samples were analyzed at Sequoia Analytical Laboratory in Concord, California, and were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for TPH as gasoline using EPA method 5030 in conjunction with modified 8015, and BTX&E using EPA method 8020. In addition, the sample from MW1 was analyzed for TPH as diesel using EPA method 3510 in conjunction with modified 8015, TOG using SM 503A&E (gravimetric), and halogenated volatile organics using EPA method 8010.

Analytical results of the ground water samples collected from monitoring wells MW1 through MW5, indicate non-detectable levels of TPH as gasoline and BTX&E except for total xylenes in MW5 at a level of 0.47 ppb. Analytical results of the ground water sample

from well MW1 also indicated non-detectable levels of TPH as diesel, TOG and EPA method 8010 constituents. Results of the analyses are summarized in Table 2. Copies of the analytical results and Chain of Custody documentation are attached to this report.

DISCUSSION AND RECOMMENDATIONS

Based on the analytical results collected and evaluated to date and no evidence of free product or sheen in any of the wells, KEI recommends quarterly monitoring and sampling program of the existing wells for an additional six months.

DISTRIBUTION

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

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water 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 analyses obtained from a state certified laboratory. 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, regarding the above, including laboratory analyses, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

KEI-P89-0111.QR6
January 4, 1991
Page 5

If you have any questions regarding this report, please do not hesitate to call me at (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.



Aram B. Kaloustian
Staff Engineer



Don R. Braun
Certified Engineering Geologist

License No. 1310
Exp. Date 6/30/92

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Attachments: Tables 1 through 6
Location Map
Site Plans - Figures 1 through 5
Laboratory Analyses
Chain of Custody documentation

KEI-P89-0111.QR6
January 4, 1991

TABLE 1

SUMMARY OF MONITORING DATA

<u>Date</u>	<u>Well No.</u>	<u>Depth to Water (feet)</u>	<u>Product Thickness</u>	<u>Sheen</u>	<u>Water Bailed (gallons)</u>
11/15/90	MW1	8.80	0	None	16
	MW2	9.23	0	None	16
	MW3	8.75	0	None	15
	MW4	8.45	0	None	17
	MW5	7.91	0	None	16
10/16/90	MW1	8.70	0	None	0
	MW2	9.12	0	None	0
	MW3	8.64	0	None	0
	MW4	8.36	0	None	0
	MW5	7.80	0	None	0
9/13/90	MW1	8.45	0	None	0
	MW2	8.89	0	None	0
	MW3	8.44	0	None	0
	MW4	8.15	0	None	0
	MW5	7.65	0	None	55

KEI-P89-0111.QR6
 January 4, 1991

TABLE 2
 SUMMARY OF LABORATORY ANALYSES
 WATER

<u>Date</u>	<u>Sample Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl-benzene</u>
11/15/90	MW1*	ND	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	ND	ND	ND	0.47	ND
8/29/90	MW1*	ND	ND	ND	ND	0.74	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	0.52	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	ND	0.70	ND	1.1	0.57
5/16/90	MW1*	ND	ND	ND	ND	ND	ND
	MW2*	ND	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	1,100	310	2.8	110	70
2/16/90	MW1*	ND	ND	ND	ND	ND	ND
	MW2	--	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	ND	ND	ND	ND	ND
11/14/89	MW1*	ND	ND	ND	ND	ND	ND
	MW2*	ND	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	73	4.7	0.97	16	2.9
8/16/89	MW1**	ND	ND	ND	ND	ND	ND
	MW2**	ND	ND	ND	ND	ND	ND
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	ND	ND	ND	ND	ND
	MW5	--	4,400	1,400	84	950	200

KEI-P89-0111.QR6
January 4, 1991

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Sample Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl-benzene</u>
08/31/89	MW5	--	910	120	7.1	53	50
04/26/89	MW1***	ND	ND	2.1	ND	ND	ND
	MW2***	ND	ND	ND	ND	ND	ND
	MW3***	ND	ND	ND	ND	ND	ND
	MW4***	ND	ND	0.33	ND	ND	ND
	MW5***	ND	ND	ND	ND	ND	ND
Detection Limits		50	30	0.3	0.3	0.3	0.3

* TOG and EPA method 8010 constituents were non-detectable.

** TOG for these samples were 23 ppm and 7.4 ppm, respectively. EPA method 8010 constituents were non-detectable for both samples.

*** These samples were non-detectable for TPH as diesel, TOG, and EPA 8010.

-- Indicates analysis not performed.

ND = Non-detectable.

Results in parts per billion (ppb), unless otherwise indicated.

KEI-P89-0111.QR6
January 4, 1991

TABLE 3
SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	<u>Sample Well #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl-benzene</u>
2/14/89	W1A	110	--	2.2	0.55	12	<0.5
& 4/17/89	W1B	All EPA 601 constituents were non-detectable.					
	WO-W1*	1,300	500	52	8.6	100	9.2

* TOG and all EPA 601 constituents were non-detectable.

-- Indicates analysis not performed.

Results in parts per billion (ppb), unless otherwise indicated.

KEI-P89-0111.QR6
January 4, 1991

TABLE 4

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on January 30, February 2, 14 & 17, 1989)

<u>Sample #</u>	<u>Depth (feet)</u>	<u>TPH as Gasoline</u>	<u>TPH as Diesel</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl- benzene</u>
SW1	10	1.4	--	0.14	<0.1	<0.1	<0.1
SW2A	10	1.1	--	<0.05	<0.1	<0.1	<0.1
SW3A	10	<1.0	--	<0.05	<0.1	<0.1	<0.1
SW4	10	<1.0	--	<0.05	<0.1	<0.1	<0.1
SW5	10	130	--	1.1	4.6	18	3.7
SW5A	10	<1.0	--	<0.05	<0.1	<0.1	<0.1
SW6A	10	<1.0	--	<0.05	<0.1	<0.1	<0.1
P1	3.5	7.8	--	2.0	<0.1	2.4	0.53
P2	3.5	12	--	1.9	0.91	0.70	3.0
P3	3.5	11	--	0.37	0.36	0.29	1.7
SWA*	10	<1.0	1.0	<0.05	<0.1	<0.1	<0.1
SWB*	10	1.1	2.4	<0.05	<0.1	<0.1	<0.1
SWC*	10	110	180	0.68	<0.1	5.6	1.9
SWC2*	10	89	57	<0.05	<0.1	0.42	0.76
SWC3*	10	<1.0	<1.0	<0.05	<0.1	<0.1	<0.1
SWD*	10	<1.0	<1.0	<0.05	<0.1	<0.1	<0.1
WO1**	9	60	800	3.6	9.2	9.5	2.5

* TOG for SWA was 35 ppm, SWB was 44 ppm, SWC was 500 ppm, SWC2 was 680 ppm, SWC3 was <30 ppm, and SWD was 77 ppm.

** TOG for WO1 was 1,900 ppm; cadmium 0.3 ppm; chromium 39 ppm; lead 10 ppm and zinc 42 ppm. For EPA 8270 constituents, refer to attached laboratory analysis.

-- Indicates analysis not performed.

Results in parts per million (ppm), unless otherwise indicated.

KEI-P89-0111.QR6
January 4, 1991

TABLE 5
SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on March 9, 1989)

<u>Sample Number</u>	<u>Cadmium</u>	<u>Chromium</u>	<u>Lead</u>	<u>Zinc</u>
SWA*	0.2	96	4.7	35
SWB*	0.16	91	5.1	29
SWC3*	0.33	140	6.8	41
SWD*	0.19	92	4.8	32
Detection Limits	0.1	0.05	0.05	0.1

* All EPA method 8010 and 8270 constituents were non-detectable.
Results in parts per billion (ppb), unless otherwise indicated.

KEI-P89-0111.QR6
January 4, 1991

TABLE 6

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on April 20, 1989)

<u>Sample Number</u>	<u>Depth (feet)</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethylbenzene</u>
MW1*	5	ND	ND	ND	ND	ND
MW2*	5	ND	ND	ND	ND	ND
MW3	5	ND	ND	ND	ND	ND
MW3	9	ND	ND	ND	ND	ND
MW4	5	ND	ND	ND	ND	ND
MW4	9	1.4	ND	ND	ND	ND
MW5	5	900	3.1	3.1	110	30
MW5	9	ND	ND	ND	ND	ND
Detection Limits		1.0	0.05	0.1	0.1	0.1

* TPH as diesel, TOG, and 8010 were non-detectable.

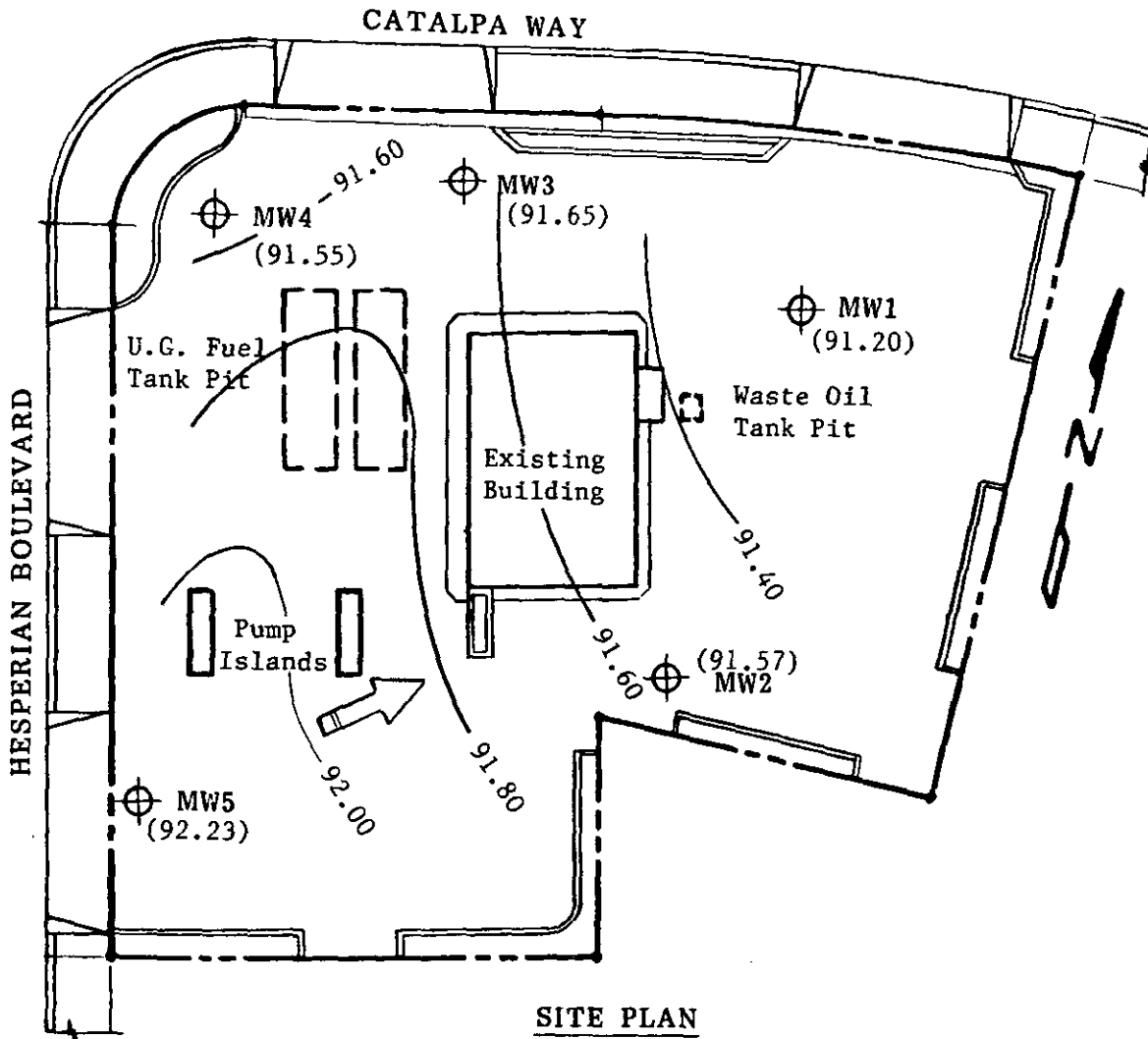
ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.



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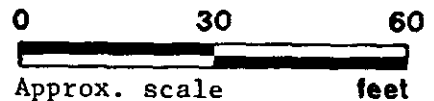
LEGEND

Monitoring Well

Direction of Ground Water Flow

() Water Table elevation in feet on 11/15/90. MW1 well cover assumed 100.00 feet as datum.

Contours of Ground Water Elevation

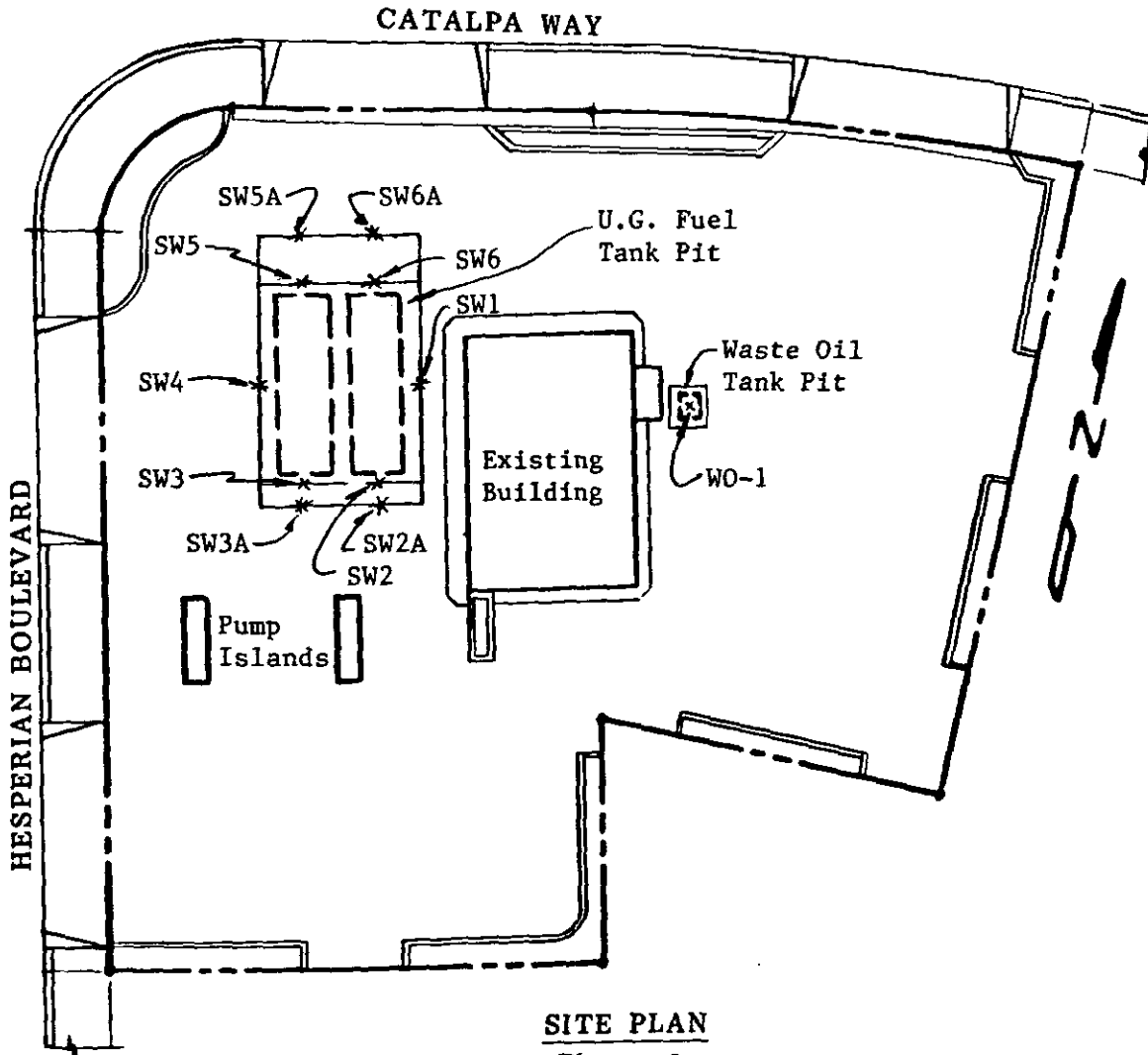


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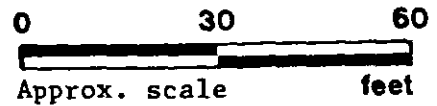
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SITE PLAN
Figure 2

LEGEND

* Sample Point Location

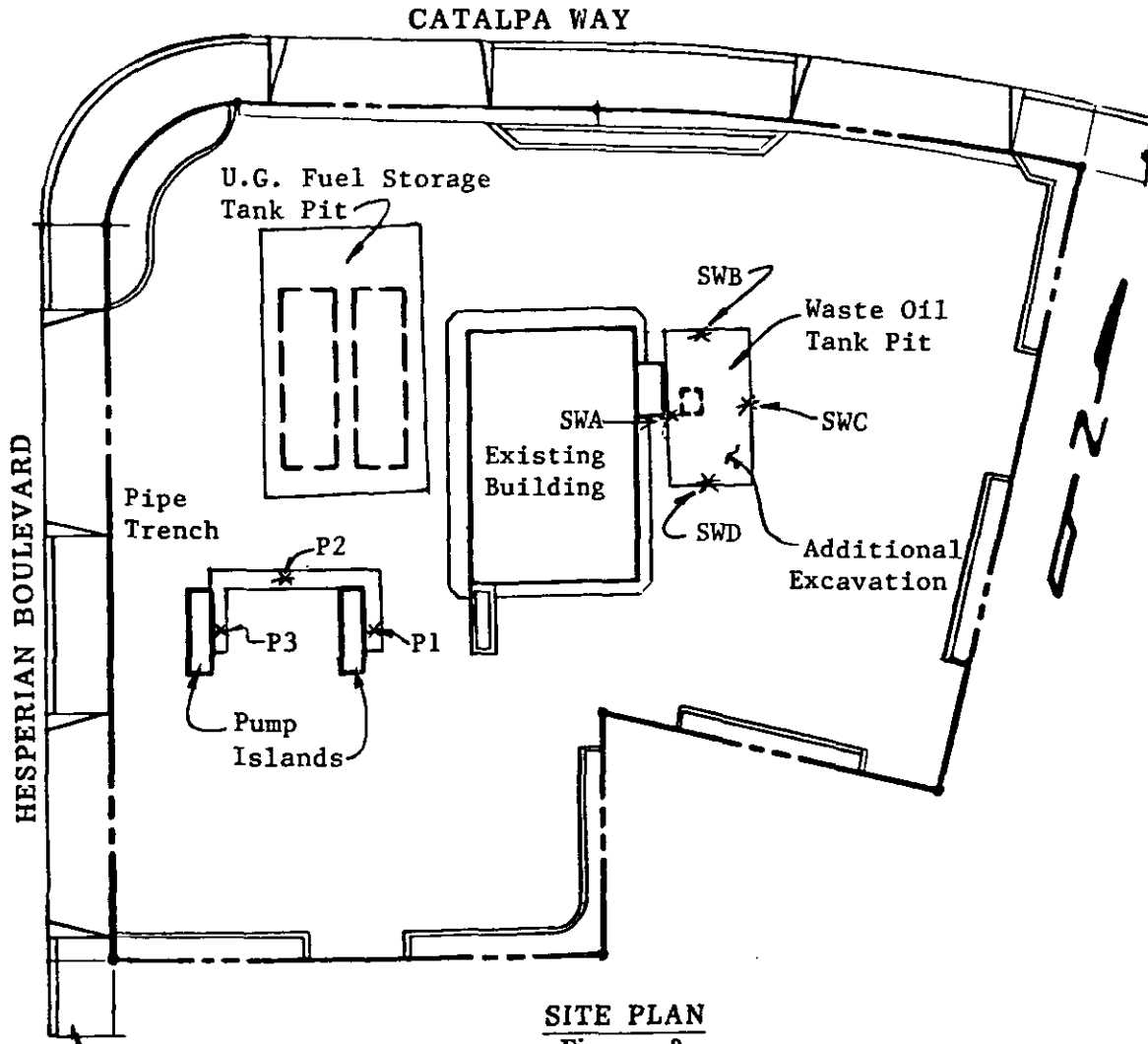


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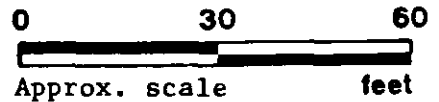
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SITE PLAN
Figure 3

LEGEND

* Sample Point Location

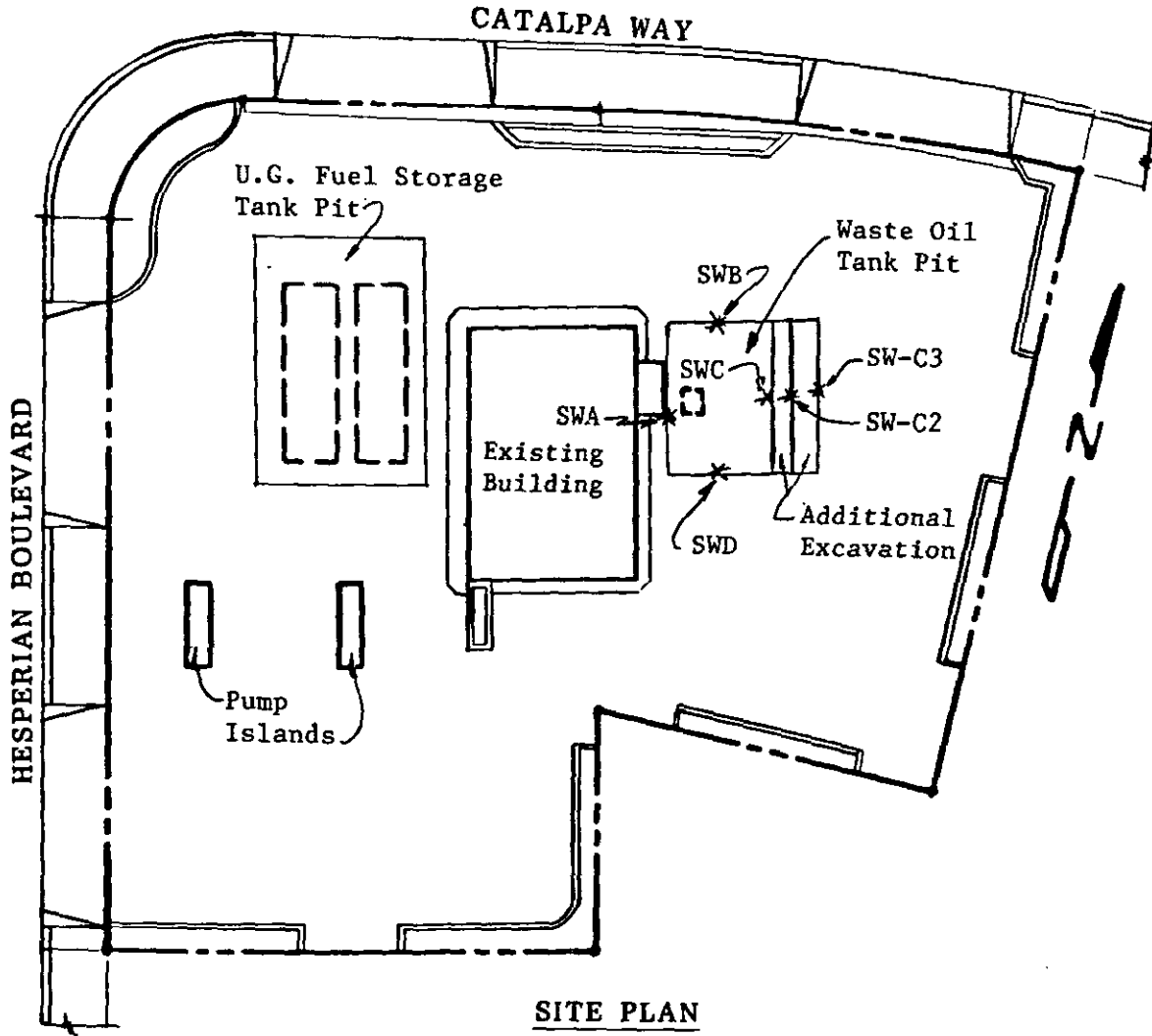


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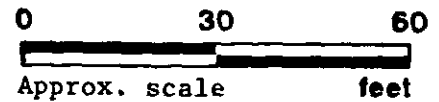


SITE PLAN

Figure 4

LEGEND

* Sample Point Location

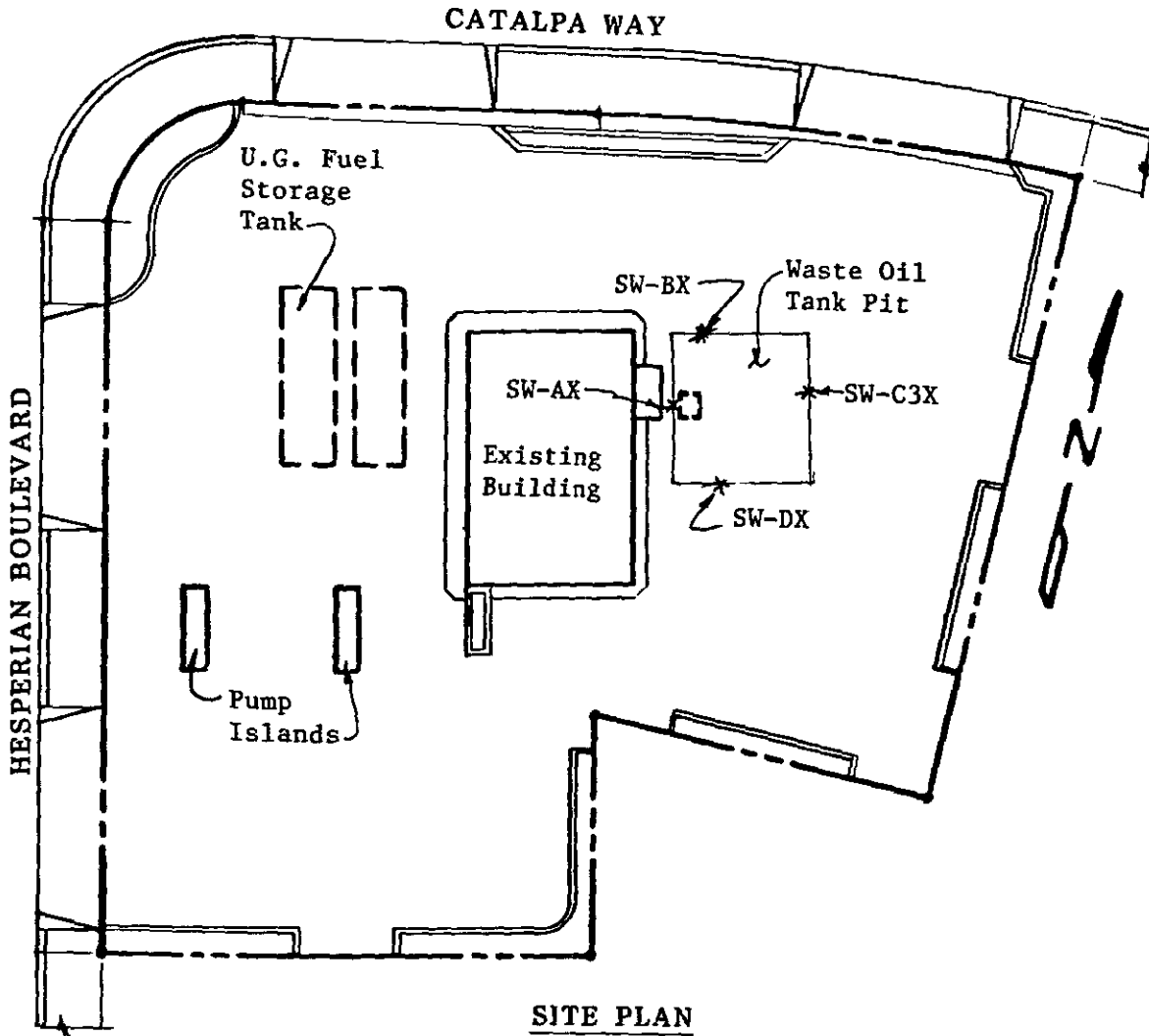


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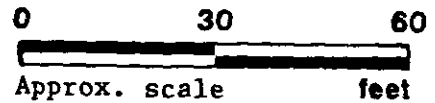
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SITE PLAN
Figure 5

LEGEND

* Sample Point Location



Unocal S/S #5487
28250 Hesperian Boulevard
Hayward, CA



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(415) 686-9600 • FAX (415) 686-9689

Kaprealian Engineering, Inc.	Client Project ID: Unocal, 28250 Hesperian, Hayward	Sampled: Nov 15, 1990
P.O. Box 996	Matrix Descript: Water	Received: Nov 15, 1990
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Nov 29, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #: 011-0647 A-B	Reported: Nov 30, 1990

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

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons	Benzene	Toluene	Ethyl Benzene	Xylenes
		$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)
011-0647 A-B	MW-1	N.D.	N.D.	N.D.	N.D.	N.D.
011-0648 A-B	MW-2	N.D.	N.D.	N.D.	N.D.	N.D.
011-0649 A-B	MW-3	N.D.	N.D.	N.D.	N.D.	N.D.
011-0650 A-B	MW-4	N.D.	N.D.	N.D.	N.D.	N.D.
011-0651	MW-5	N.D.	N.D.	N.D.	N.D.	0.47

Detection Limits:	30	0.30	0.30	0.30	0.30
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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

Belinda C. Vega
Laboratory Director



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
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Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal, 28250 Hesperian, Hayward Matrix Descript: Water Analysis Method: EPA 3510/8015 First Sample #: 011-0647 C	Sampled: Nov 15, 1990 Received: Nov 15, 1990 Extracted: Nov 19, 1990 Analyzed: Nov 20, 1990 Reported: Nov 30, 1990
--	---	--

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons $\mu\text{g/L}$ (ppb)
011-0647 C	MW-1	N.D.

Detection Limits:

50

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

Belinda C. Vega
Laboratory Director

110647.KEI <2>



SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc.

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, 28250 Hesperian, Hayward

Matrix Descript: Water

Analysis Method: SM 503 A&E (Gravimetric)

First Sample #: 011-0647 D

Sampled: Nov 15, 1990

Received: Nov 15, 1990

Extracted: Nov 20, 1990

Analyzed: Nov 27, 1990

Reported: Nov 30, 1990

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)
011-0647 D	MW-1	N.D.

Detection Limits:

5.0

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

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

110647.KEI <3>



SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc.	Client Project ID: Unocal, 28250 Hesperian, Hayward	Sampled: Nov 15, 1990
P.O. Box 996	Sample Descript: Water, MW-1	Received: Nov 15, 1990
Benicia, CA 94510	Analysis Method: EPA 5030/8010	Analyzed: Nov 20, 1990
Attention: Mardo Kaprealian, P.E.	Lab Number: 011-0647 E-F	Reported: Nov 30, 1990

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane.....	1.0	N.D.
Bromoform.....	1.0	N.D.
Bromomethane.....	1.0	N.D.
Carbon tetrachloride.....	1.0	N.D.
Chlorobenzene.....	1.0	N.D.
Chloroethane.....	5.0	N.D.
2-Chloroethylvinyl ether.....	1.0	N.D.
Chloroform.....	0.50	N.D.
Chloromethane.....	0.50	N.D.
Dibromochloromethane.....	0.50	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.
1,1-Dichloroethane.....	0.50	N.D.
1,2-Dichloroethane.....	0.50	N.D.
1,1-Dichloroethene.....	1.0	N.D.
Total 1,2-Dichloroethene.....	1.0	N.D.
1,2-Dichloropropane.....	0.50	N.D.
cis-1,3-Dichloropropene.....	5.0	N.D.
trans-1,3-Dichloropropene.....	5.0	N.D.
Methylene chloride.....	2.0	N.D.
1,1,2,2-Tetrachloroethane.....	0.50	N.D.
Tetrachloroethene.....	0.50	N.D.
1,1,1-Trichloroethane.....	0.50	N.D.
1,1,2-Trichloroethane.....	0.50	N.D.
Trichloroethene.....	0.50	N.D.
Trichlorofluoromethane.....	1.0	N.D.
Vinyl chloride.....	2.0	N.D.

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

SEQUOIA ANALYTICAL


 Belinda C. Vega
 Laboratory Director



KAPREALIAN ENGINEERING, INC.
CHAIN OF CUSTODY

SAMPLER RAY (K&E)	SITE NAME & ADDRESS UNOCAL HAYWARD 28250 HESPERIAN	ANALYSES REQUESTED					TURN AROUND TIME:
WITNESSING AGENCY		TPHG	BTXE	8010	TPHD as per spec	TOG (5520-555 F)	REGULAR

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPHG	BTXE	8010	TPHD as per spec	TOG (5520-555 F)	REMARKS
MW1	11-15			X	X		4 VOA 2 PCB		X	X	X	X	X	
MW2	"			X	X		2 VOA		X	X				
MW3	"			X	X		"		X	X				
MW4	"			X	X		"		X	X				
MW5	"			X	X		"		X	X				

Relinquished by: (Signature) Ray (K&E)	Date/Time 11-15-90	Received by: (Signature)	The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? Yes 2. Will samples remain refrigerated until analyzed? Yes 3. Did any samples received for analysis have head space? No 4. Were samples in appropriate containers and properly packaged? Yes	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)		
Relinquished by: (Signature)	Date/Time 11/15/90 1715	Received by: (Signature) Beth Jensen		
		BS Signature	Tracy Title	11/15/90 Date



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER RAY (K E I)	SITE NAME & ADDRESS UNOCAL HAYWARD 28250 HESPERIAN	ANALYSES REQUESTED TPHG BTXE 8010 TPHD as sample TOG (5520-5 F)	TURN AROUND TIME: <u>REGULAR</u>
WITNESSING AGENCY			

SAMPLE ID NO.	DATE	TIME	SOIL				NO. OF CONT.	SAMPLING LOCATION	ANALYSES REQUESTED					REMARKS
			WATER	GRAB	COMP	CONT.			TPHG	BTXE	8010	TPHD	TOG	
MW1	11-15			X	X		4 VOT 2 AMB	D110647	X	X	X	X	X	
MW2	"			X	X		2 VOT	D110648	X	X				
MW3	"			X	X		"	D110649	X	X				
MW4	"			X	X		"	D110650	X	X				
MW5	"			X	X		"	D110651	X	X				UNOCAL broken in lab

Relinquished by: (Signature) Ray (K E I)	Date/Time 11-15-90	Received by: (Signature) V.A. Herrera	Date/Time 11/16 10:35	The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? <u>yes</u> 2. Will samples remain refrigerated until analyzed? <u>yes</u> 3. Did any samples received for analysis have head space? <u>no</u> 4. Were samples in appropriate containers and properly packaged? <u>yes</u>
Relinquished by: (Signature) [Signature]	Date/Time 11/15/90 10:25	Received by: (Signature) V.A. Herrera	Date/Time 11/16 10:35	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	
Relinquished by: (Signature)	Date/Time 11/15/90 17:51	Received by: (Signature) Beth Jumper	Date/Time	

Signature: BS Signature: [Signature] Date: 11/15/90
 Signature: [Signature] Signature: [Signature] Date: 11/15/90