



KAPREALIAN ENGINEERING, INC.
Consulting Engineers

P.O. BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581

KEI-P89-0801.QR3
October 23, 1990

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 #6034
4700 First Street
Livermore, California

Dear Mr. Bock:

This report presents the results of the third quarter of monitoring and sampling of the monitoring wells at the referenced site by Kaprealian Engineering, Inc. (KEI), per proposal KEI-P89-0801.P2 dated December 18, 1989. The wells are currently monitored monthly and sampled on a quarterly basis. This report covers the work performed by KEI from July through September, 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 August 2, 1989 when KEI was asked to collect soil samples from beneath two 12,000 gallon fuel storage tanks and one waste oil tank during their replacement. The tanks were made of steel and no apparent holes or cracks were observed in the tanks. The soil samples from beneath the fuel tanks were collected at depths of 15 to 16 feet. The soil sample from beneath the waste oil tank was taken at a depth of 8.5 feet. Pipe trench samples were collected at depths ranging from 2.5 to 3.5 feet. Ground water was encountered in the fuel tank pit at a depth of 17.5 feet during subsequent excavation of contaminated soil from the location where sample A3 was collected. Locations of soil samples are shown on the attached Site Plan, Figure 2. One ground water sample was collected from the excavated pit. Analytical results of the soil samples, collected from the fuel tank pit and pipe trenches, indicated levels of total petroleum hydrocarbons (TPH) as gasoline ranging from non-detectable to 9.6 ppm for all samples except for sample A3, which showed 390 ppm. However, the area below sample A3 was excavated to the depth of the water table. The soil sample from beneath the waste oil tank

showed non-detectable levels of all constituents analyzed, except for TPH as diesel at 1.4 ppm. Analyses of the water sample showed 47,000 ppb TPH as gasoline, and 260 ppb of benzene. Results of the soil analyses are summarized in Table 3. Documentation of soil and water sample collection and analytical results are provided in KEI's report (KEI-J89-0801.R2) dated August 15, 1989. Based on the sample results, KEI recommended the installation of four monitoring wells.

On October 25 and 26, 1989, four two-inch diameter monitoring wells (designated as MW1, MW2, MW3 and MW4 on the attached Site Plan, Figure 1) were installed at the site. The monitoring wells were drilled and completed to total depths ranging from 26 to 28.5 feet. Ground water was encountered at depths ranging from 14.5 to 17.5 feet beneath the surface during drilling. The wells were developed on November 3 and 9, 1989 and sampled on November 18, 1989. Water and soil samples were analyzed at Sequoia Analytical Laboratory in Redwood City, California, for TPH as gasoline and benzene, toluene, xylenes and ethylbenzene (BTX&E). In addition, soil and water samples collected from MW1 were analyzed for TPH as diesel, EPA method 8010 compounds, and total oil and grease (TOG).

Analytical results of the soil samples, collected from the borings, indicated levels of TPH as gasoline ranging from non-detectable to 3.0 ppm for all samples, except for samples MW2(5), MW2(17) and MW4(15), which showed levels of TPH as gasoline at concentrations of 23 ppm, 790 ppm and 56 ppm, respectively. TPH as diesel and EPA method 8010 results were non-detectable, and TOG was <50 ppm in all samples.

Analytical results of the ground water samples, collected from monitoring wells MW1 and MW3, indicated non-detectable levels of TPH as gasoline. TPH as gasoline was detected in monitoring wells MW2 and MW4 at concentrations of 53,000 ppb and 990 ppb, respectively. Benzene was detected in monitoring wells MW2, MW3 and MW4 at concentrations of 540 ppb, 0.35 ppb and 9.8 ppb, respectively. In MW1, TPH as diesel was detected at 400 ppb, TOG at 3.1 ppm, and EPA method 8010 constituents were non-detectable except for trichloroethene, which was detected at a concentration of 0.55 ppb. Analytical results of the soil samples are summarized in Table 4, and water samples in Table 2. Based on the analytical results, KEI recommended a monthly monitoring and quarterly sampling program. Documentation of the well installation and laboratory analyses are presented in KEI's report (KEI-J89-0801.R4) dated September 18, 1989. The monthly monitoring and quarterly sampling program began on January 4, 1990.

FIELD ACTIVITIES

The four wells (MW1 through MW4) were monitored three times and sampled once during the quarter. 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, except for the presence of sheen in MW2 on July 9, 1990. Sheen was not observed in MW2 at any other time during the quarter. Also, well MW2 was purged of 55 gallons during each monthly monitoring event. Monitoring data are summarized in Table 1.

Water samples were collected from the wells on September 7, 1990. Prior to sampling, the wells were purged of between 15 and 55 gallons using a teflon bailer. 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. In addition the top of all monitoring wells were surveyed to Mean Sea Level on July 23, 1990.

HYDROLOGY

Based on the water level data gathered during the quarter, ground water flow direction appeared to be west northwest on September 7, 1990, relatively unchanged from the previous quarter. Water levels have fluctuated during the quarter, showing a net decrease in MW1, MW2 and MW3 of 0.03, 0.06 and 0.07 feet, respectively, and a net increase in MW4 of 0.11 feet. The measured depth to ground water at the site on September 7, 1990 ranged between 15.20 and 16.75 feet. Review of the Spring 1990 Groundwater Level Report produced by the Alameda County Flood Control and Water Conservation District indicates that the subject site is located near the northeastern corner of the Mocho Subbasin and near the boundary with the Spring Subbasin where the regional ground water flow direction is toward the northwest.

ANALYTICAL RESULTS

Ground 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 ground water sample collected from MW1 was analyzed for TPH as diesel using EPA method 3510 in conjunction with modified 8015, TOG using EPA method 503A&E, and halogenated volatile organics using EPA method 8010.

Analytical results of ground water samples, collected from MW1 and MW2, indicate non-detectable levels of TPH as gasoline and benzene. Samples from monitoring wells MW3 and MW4 showed a level of TPH as gasoline at concentrations of 1,100 ppb and 15,000 ppb, respectively, with benzene levels at 11 ppb and 100 ppb, respectively. In MW1, TPH as diesel, TOG and EPA method 8010 constituents were non-detectable, unchanged from the previous quarter. Well MW3 previously showed non-detectable levels of TPH as gasoline and benzene for all previous sampling events except on November 18, 1989, when 0.35 ppb of benzene was detected. Also, well MW2 previously showed TPH as gasoline levels ranging from 26,000 ppb to 53,000 ppb and with benzene levels ranging from 230 ppb to 540 ppb. No explanation is provided for the significant decrease in the levels of TPH as gasoline and benzene in well MW2 for this quarter; however, this situation will be further evaluated after the next quarter's sampling. Wells MW3 and MW4 are considered upgradient wells. 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 in any of the wells, KEI recommends the continuation of the current monitoring and sampling program of the existing wells per KEI's proposal (KEI-P89-0801.P2) dated December 18, 1989. In addition, the subject site is situated at the northwest corner of the intersection of First Street and South Front Road, and approximately downgradient from the adjacent Chevron and BP Service Stations. These stations are both known to contain existing monitoring wells. Due to the fact that levels of contamination (TPH as gasoline and benzene) increased in the upgradient wells, KEI believes that off-site contamination should be investigated as a potential reason for this increase. In order to do this, KEI recommends that the four Unocal monitoring wells and the adjacent Chevron monitoring wells be monitored and water samples obtained at the same time in order to more precisely determine the regional gradient and better understand the source and extent of contamination. Also, a Site Vicinity Map should be completed by a licensed land surveyor showing the Unocal site and adjacent Chevron and BP services stations, as well as all existing monitoring wells, for evaluation of joint monitoring data. KEI is in the process of coordinating this activity with Chevron and their consultant.

DISTRIBUTION

A copy of this report should be sent to Mr. Lowell Miller of the Alameda County Health Agency, Mr. R. Griffith of the City of Livermore Fire Department, and to the Regional Water Quality Control Board, 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.

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October 23, 1990
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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



Mardo Kaprealian
President

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Attachments: Tables 1, 2, 3 & 4
Location Map
Site Plans - Figures 1 & 2
Site Vicinity Map
Laboratory Analyses
Chain of Custody documentation

KEI-P89-0801.QR3
October 23, 1990

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>
9/7/90	MW1	16.75	0	None	15
	MW2	16.30	0	None	55
	MW3	15.45	0	None	15
	MW4	15.20	0	None	15
8/8/90	MW1	16.77	0	None	0
	MW2	16.24	0	None	55
	MW3	15.46	0	None	0
	MW4	15.52	0	None	0
7/9/90	MW1	16.80	0	None	0
	MW2	16.25	0	Present	55
	MW3	15.45	0	None	0
	MW4	15.52	0	None	0

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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>
9/07/90	MW1*	ND	ND	ND	1.2	ND	ND
	MW2	--	ND	ND	1.5	ND	ND
	MW3	--	1,100	11	ND	16	6.6
	MW4	--	15,000	100	140	4,600	210
6/05/90	MW1*	ND	ND	ND	ND	ND	ND
	MW2	--	31,000	250	460	9,200	950
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	1,400	1.2	4.7	12	24
3/08/90	MW1**	ND	ND	ND	ND	ND	ND
	MW2	--	26,000	230	410	2,100	1,300
	MW3	--	ND	ND	ND	ND	ND
	MW4	--	1,200	18	8.4	28	37
11/18/89	MW1***	400	ND	ND	ND	ND	ND
	MW2	--	53,000	540	500	22,000	130
	MW3	--	ND	0.35	ND	ND	ND
	MW4	--	990	9.8	10	4.7	7.1
Detection Limits		50	30	0.3	0.3	0.3	0.3

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

** TOG showed 4.7 ppm. EPA method 8010 compounds were non-detectable.

*** TOG showed 3.1 ppm, and all EPA method 8010 compounds were non-detectable, except trichloroethene at 0.55 ppb.

ND = Non-detectable.

-- Indicates analysis not performed.

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

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TABLE 3

SUMMARY OF LABORATORY ANALYSES
SOIL

(Samples collected on August 2 & 7, 1989)

<u>Sample</u>	<u>Depth (feet)</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl- benzene</u>
A1	15	--	2.1	ND	ND	0.21	ND
A2	15	--	1.6	ND	ND	ND	ND
A3	16	--	390	1.7	45	86	16
B1	15	--	ND	ND	ND	0.10	ND
B2	15	--	ND	ND	ND	ND	ND
B3	15	--	2.3	ND	ND	0.30	0.12
P1	3.5	--	9.6	ND	ND	0.94	0.16
P2	3.5	--	ND	ND	ND	ND	ND
P3	3.5	--	ND	ND	ND	ND	ND
P4	3.5	--	ND	ND	ND	ND	ND
P5	2.5	--	ND	ND	ND	ND	ND
P6	2.5	--	ND	ND	ND	ND	ND
P7	2.5	--	1.5	ND	ND	ND	ND
WO1*	8.5	1.4	ND	ND	ND	ND	ND
Detection Limits		1.0	1.0	0.05	0.1	0.1	0.1

-- Indicates analysis not performed.

ND = Non-detectable.

* For sample WO1, TOG, all 8010 constituents, and 8270 constituents were non-detectable.

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

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TABLE 4

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on October 25 & 26, 1989)

<u>Sample Number</u>	<u>Depth (feet)</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl-benzene</u>
MW1(5)*	5	ND	ND	ND	ND	ND
MW1(7)*	7	ND	ND	ND	ND	ND
MW1(10)*	10	ND	ND	ND	ND	ND
MW1(12.5)*	12.5	ND	ND	ND	ND	ND
MW1(15)*	15	ND	ND	ND	ND	ND
MW1(17)*	17	ND	ND	ND	ND	ND
MW2(5)	5	23	ND	ND	ND	ND
MW2(10)	10	ND	ND	ND	ND	ND
MW2(12.5)	12.5	ND	ND	ND	ND	ND
MW2(15)	15	3.0	ND	ND	ND	ND
MW2(17)	17	790	0.14	0.23	10	2.7
MW3(5)	5	1.1	ND	ND	ND	ND
MW3(10)	10	ND	ND	ND	ND	ND
MW3(11.5)	11.5	ND	ND	ND	ND	ND
MW3(14)	14	ND	ND	ND	ND	ND
MW4(5)	5	1.9	ND	ND	ND	ND
MW4(9.5)	9.5	ND	ND	ND	ND	ND
MW4(12)	12	ND	ND	ND	ND	ND
MW4(15)	15	56	0.10	0.11	1.5	1.5
Detection Limits		1.0	0.05	0.1	0.1	0.1

* TPH as diesel and EPA method 8010 constituents were non-detectable. TOG was <50 ppm.

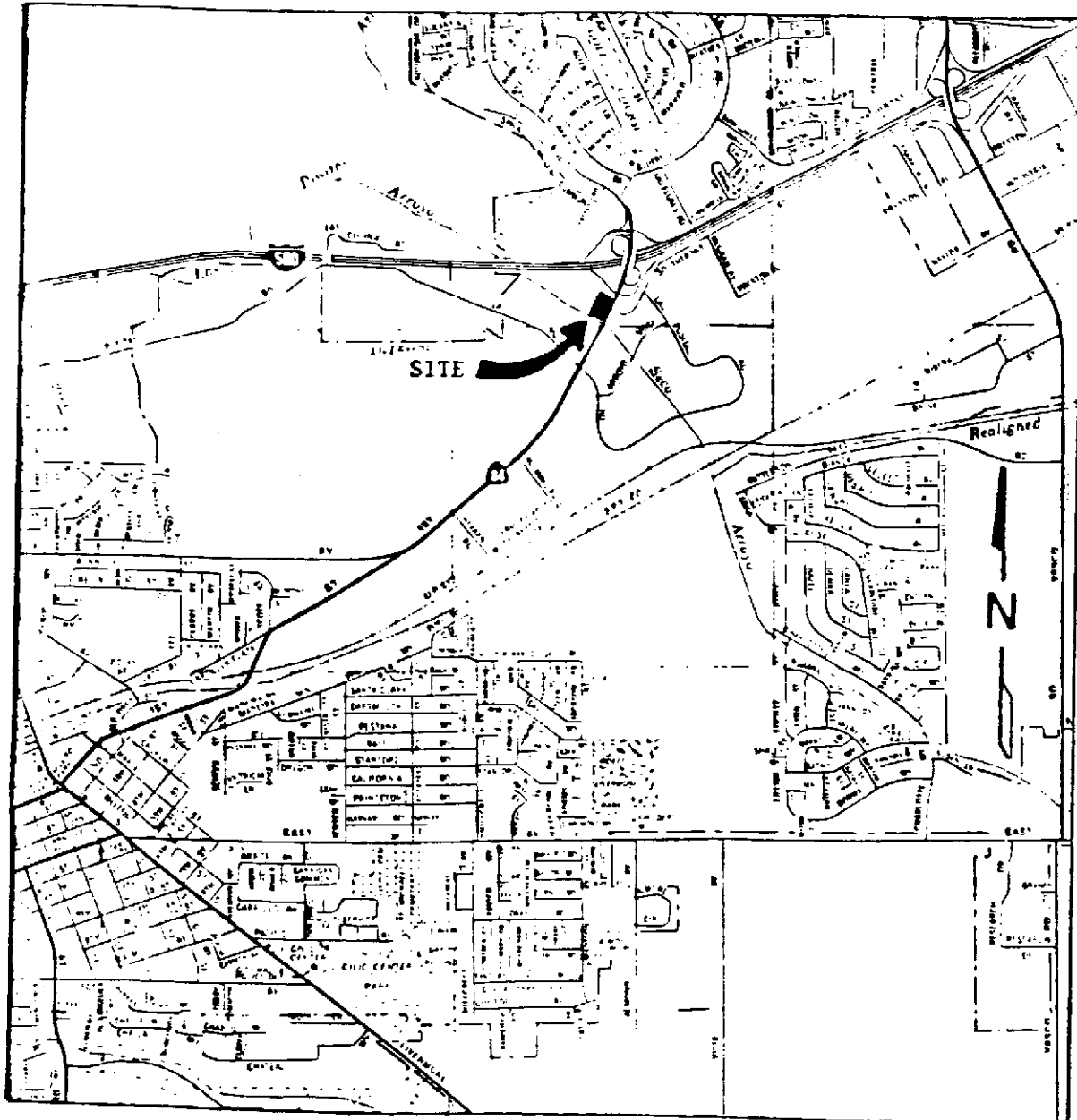
ND = Non-detectable.

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



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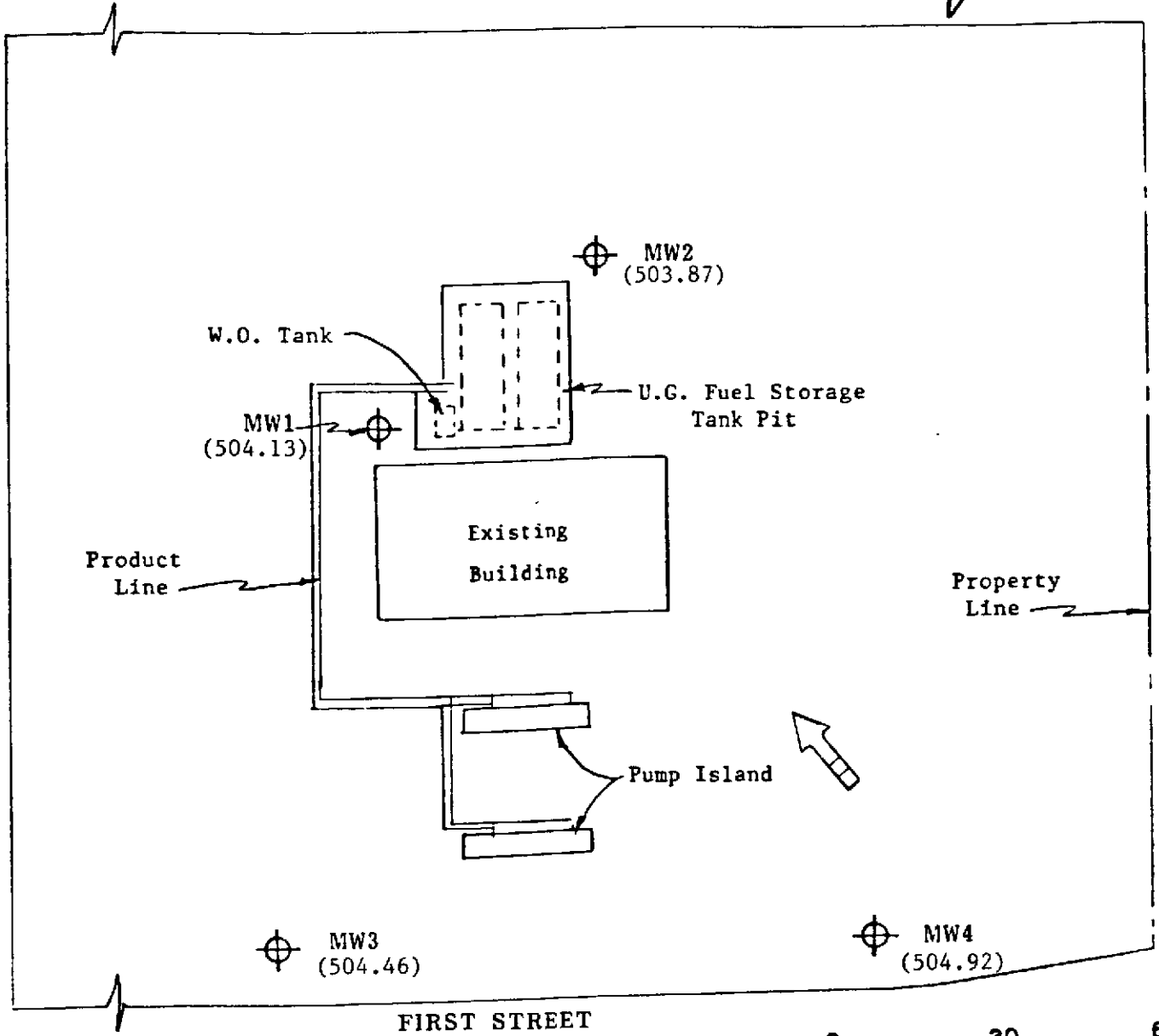
LOCATION MAP

Unocal S/S #6034
4700 First St.
Livermore, CA



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LEGEND

SITE PLAN
Figure 1

0 30 60
Approx. Scale feet



Monitoring Well



Water Table Elevation in feet (MSL)
on 9/7/90



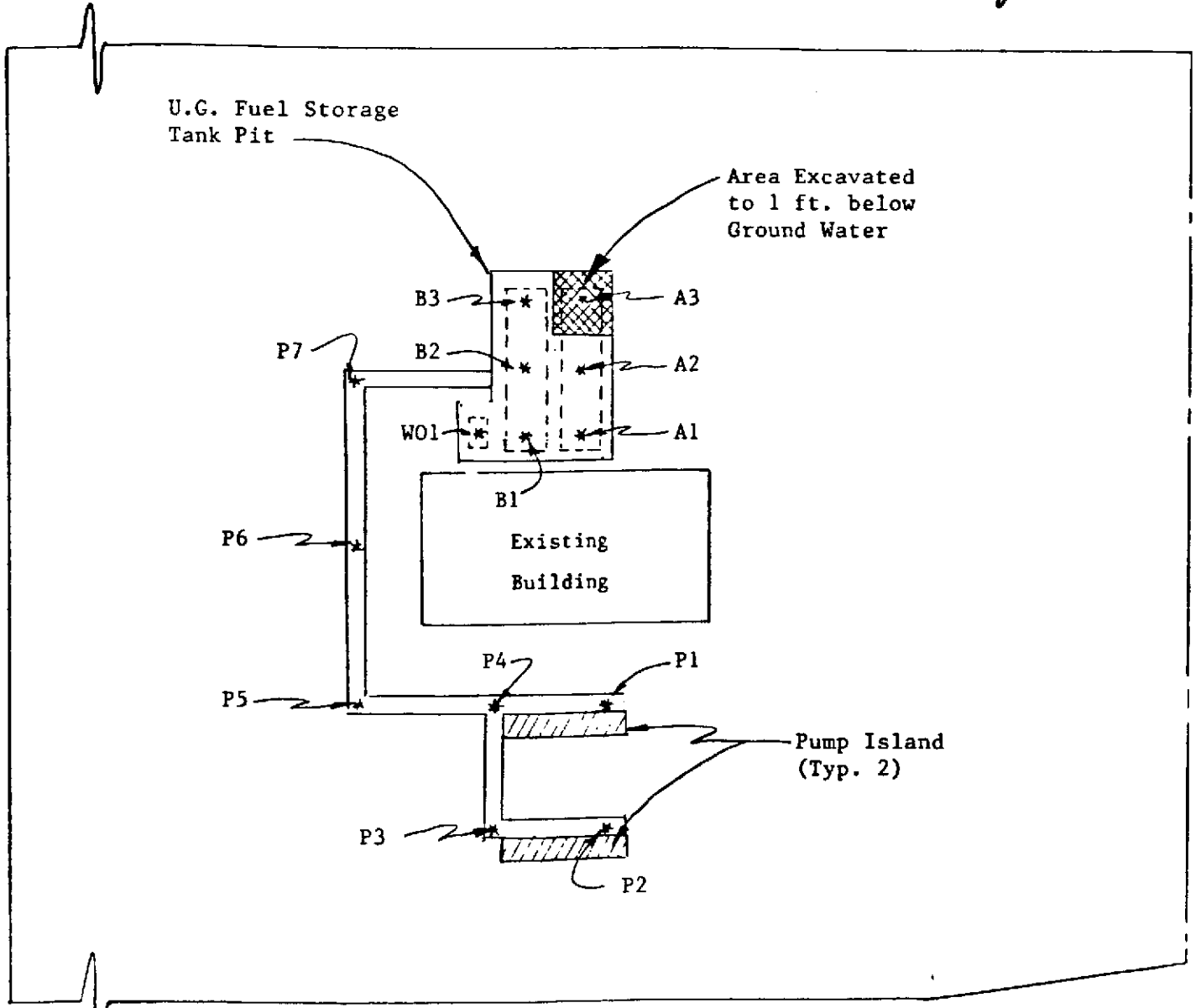
Direction of Ground Water Flow

Unocal S/S #6034
4700 First Street
Livermore, CA



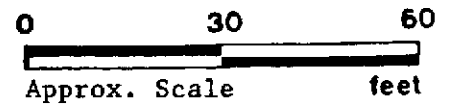
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FIRST STREET

SITE PLAN
Figure 2



LEGEND

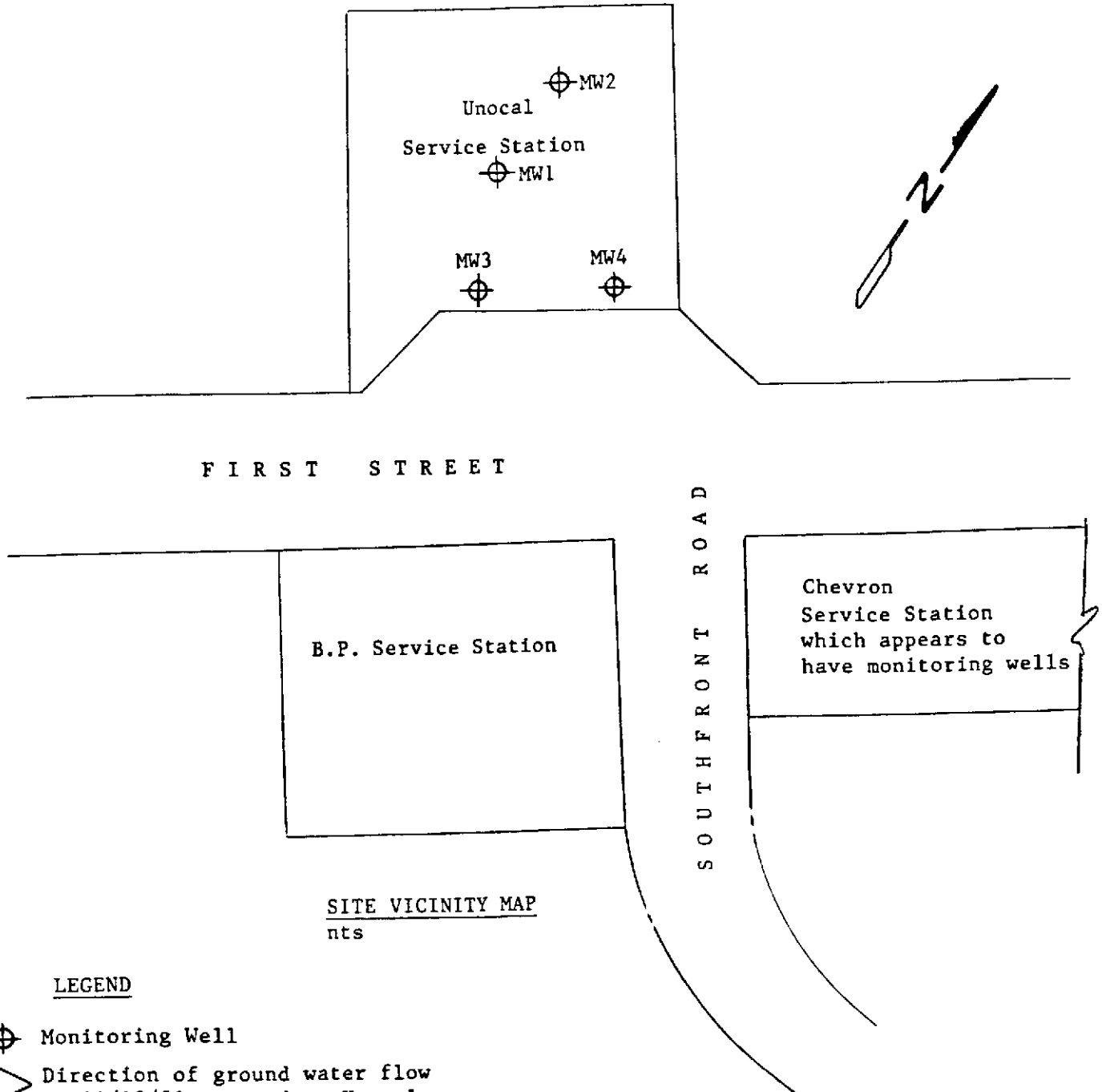
* Sample Point Location

Unocal Service Station #6034
4700 First Street
Livermore, California



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FIRST STREET

SOUTH FRONT ROAD

SITE VICINITY MAP
nts

LEGEND

-  Monitoring Well
-  Direction of ground water flow on 11/18/89. Based on Unocal site water level data.

Unocal Service Station #6034
4700 First Street
Livermore, California



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID: Unocal/4700 First Street/Livermore	Sampled: Sep 7, 1990
P.O. Box 996	Matrix Descript: Water	Received: Sep 11, 1990
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Sep 11, 1990
Attention: Mardo Kaprealian, P.E.	First Sample #: 009-0129 A-B	Reported: Sep 13, 1990

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

Sample Number	Sample Description	Low/Medium B.P.	Benzene	Toluene	Ethyl Benzene	Xylenes
		Hydrocarbons				
		$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)
009-0129 A-B	MW1	N.D.	N.D.	1.2	N.D.	N.D.
009-0130 A-B	MW2	N.D.	N.D.	1.5	N.D.	N.D.
009-0131 A-B	MW3	1,100	11	N.D.	6.6	16
009-0132 A-B	MW4	15,000	100	140	210	4,600

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
Belinda C. Vega
Laboratory Director



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal/4700 First Street/Livermore Matrix Descript: Water Analysis Method: EPA 3510/8015 First Sample #: 009-0129 C	Sampled: Sep 7, 1990 Received: Sep 11, 1990 Extracted: Sep 12, 1990 Analyzed: Sep 12, 1990 Reported: Sep 13, 1990
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TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons $\mu\text{g/L}$ (ppb)
009-0129 C	MW1	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

90129.KEI <2>



SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Unocal/4700 First Street/Livermore Matrix Descript: Water Analysis Method: SM 503 A&E (Gravimetric) First Sample #: 009-0129 D	Sampled: Sep 7, 1990 Received: Sep 11, 1990 Extracted: Sep 12, 1990 Analyzed: Sep 12, 1990 Reported: Sep 13, 1990
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TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)
009-0129 D	MW1	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



SEQUOIA ANALYTICAL

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(415) 686-9600 • FAX (415) 686-9689

Kaprealian Engineering, Inc.	Client Project ID: Unocal/4700 First Street/Livermore	Sampled: Sep 7, 1990
P.O. Box 996	Sample Descript: Water, MW-1	Received: Sep 11, 1990
Benicia, CA 94510	Analysis Method: EPA 5030/8010	Analyzed: Sep 11, 1990
Attention: Mardo Kaprealian, P.E.	Lab Number: 009-0129 E-F	Reported: Sep 13, 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 JDE		SITE NAME & ADDRESS Unocal / Livermore 4700 First street					ANALYSES REQUESTED				TURN AROUND TIME: 5 days		
WITNESSING AGENCY							TPHG, BTXE	8010	706	503 (A+E)	TPHD		
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	CONT.	NO. OF	SAMPLING LOCATION			REMARKS	
MW1	9/7/90			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			6	MW	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	VOA.s preserved in HCL
" 2	"	P.M.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			2	"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
" 3	"	A.M.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			2	"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
" 4	"	10:30		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			2	"	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Relinquished by: (Signature) <i>Joe Lewis</i>	Date/Time 9/7/90	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time 8/27/90 1905	Received by: (Signature) <i>Beth Stamer</i>

The following MUST BE completed by the laboratory accepting samples for analysis:

- Have all samples received for analysis been stored in ice?
yes
- Will samples remain refrigerated until analyzed?
yes
- Did any samples received for analysis have head space?
no
- Were samples in appropriate containers and properly packaged?
yes

Signature: *[Signature]* Title: **Logan** Date: **9/7/90**