KAPREALIAN ENGINEERING
INCORPORATED

April 19, 1993

Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

Attention: Mr. Scott Seery

RE: Unocal Service Station #3292
15008 E. 14th Street
San Leandro, California

Dear Mr. Seery:

Per the request of Mr. Edward C. Ralston of Unocal Corporation, enclosed please find our report dated April 6, 1993, for the above referenced site.

If you should have any questions, please feel free to call our office at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Judy A. Dewey

jad\82

Enclosure

cc: Ed Ralston, Unocal Corporation

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583
Telephone (510) 867-0760
Facsimile (510) 277-2309

UNOCAL 76

April 14, 1993

Northern Region
Corporate Environmental
Remediation & Technology

Mr. Scott Seery
Alameda County Health Care
Services Agency
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

UNOCAL SERVICE STATION #3292
15008 East 14th Street
San Leandro, California

Dear Mr. Seery:

This letter is written as a result of our findings in a recently conducted file review at regulatory agencies. Kaprealian Engineering, Inc. (KEI) completed a file review for several adjacent sites to determine the source of contamination found in wells upgradient and cross-gradient of Unocal. The review identified several sites including the former Mobil station (presently a shopping center) at 14994 East 14th Street and the former Phillips service station (presently a Quality Tune-up facility) located at 14901 East 14th Street (Figure 1).

A summary of the information obtained during the file reviews is included in KEI's most recent quarterly report dated April 6, 1993. It is Unocal's understanding that file information has been provided to you by Mr. Doug Lee of KEI. Therefore, Unocal formally requests that you contact the responsible parties for the former Mobil and Phillips sites and request further investigation of these sites. This work is necessary to define the contribution to existing contamination in the vicinity of the Unocal site by other sources.

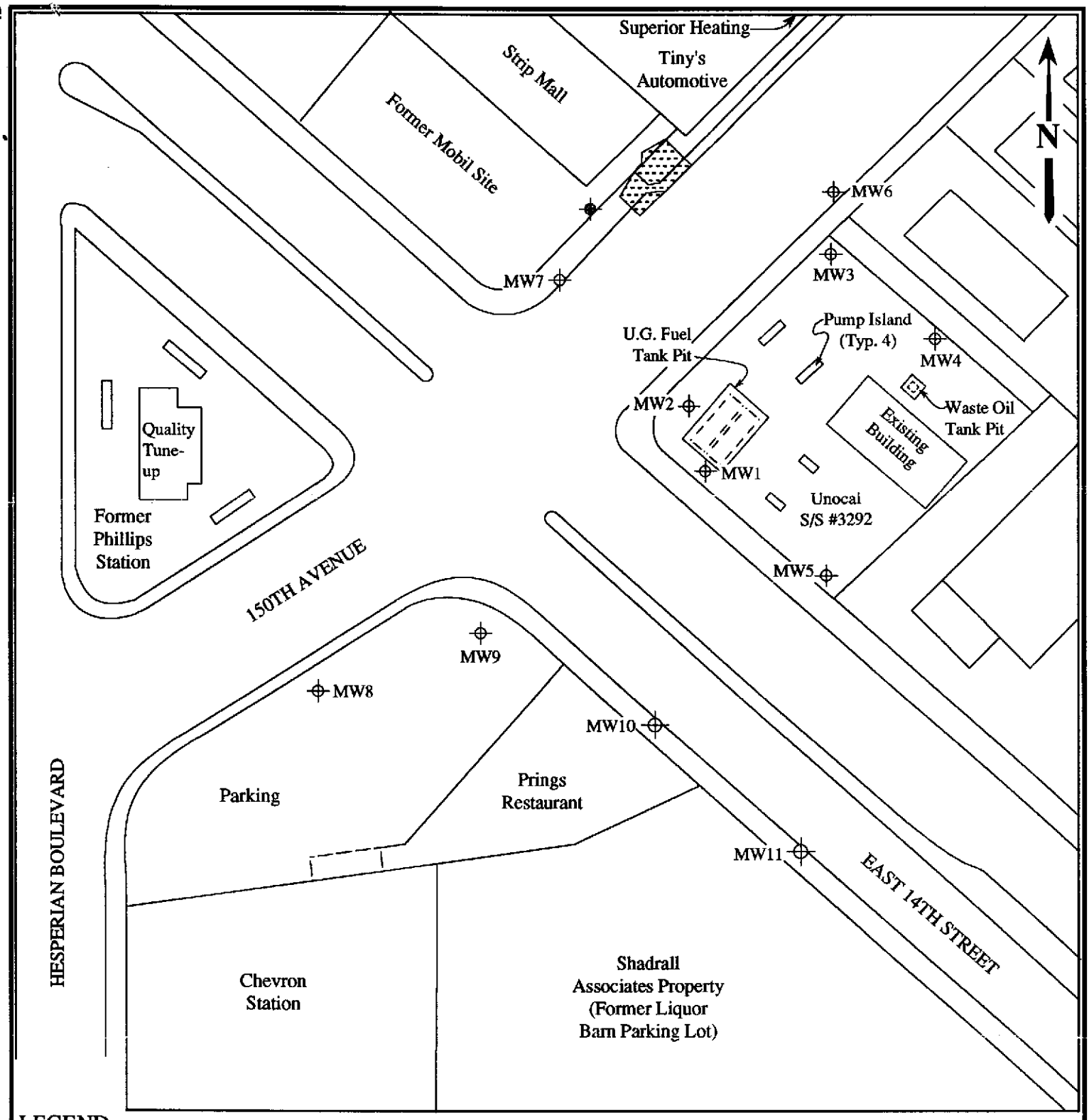
Should you have any question regarding this matter, please feel free to contact me at (510) 277-2311.

Sincerely,

Edward C. Ralston

Edward C. Ralston
Environmental Geologist

cc: R.E. Bock, UNOCAL
T R. Ross KEI



LEGEND

- Monitoring well (KEI)
- Monitoring well (by Subsurface Consultants)
- Former excavation (by Subsurface Consultants)

0 60 120

Approx. scale feet

SITE VICINITY MAP

KAPREALIAN ENGINEERING INCORPORATED

UNOCAL SERVICE STATION #3292
15008 E. 14TH STREET
SAN LEANDRO, CA

FIGURE **1**

KAPREALIAN ENGINEERING
INCORPORATED

April 19, 1993

Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

Attention: Mr. Scott Seery

RE: Unocal Service Station #3292
15008 E. 14th Street
Dublin, California

Dear Mr. Seery:

Per the request of Mr. Edward C. Ralston of Unocal Corporation, enclosed please find our report dated April 6, 1993, for the above referenced site.

If you should have any questions, please feel free to call our office at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Judy A. Dewey

jad\82

Enclosure

cc: Ed Ralston, Unocal Corporation

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602

KAPREALIAN ENGINEERING
INCORPORATED

KEI-P91-0102.QR5
April 6, 1993

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

Attention: Mr. Edward C. Ralston

RE: Quarterly Report
Unocal Service Station #3292
15008 E. 14th Street
San Leandro, California

Dear Mr. Ralston:

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 KEI's proposal (KEI-P91-0102.P3) dated August 6, 1991. The wells are currently monitored monthly and sampled on a quarterly basis. This report covers the work performed by KEI from December of 1992 through February of 1993.

BACKGROUND

The subject site contains a Unocal service station facility. Two underground gasoline storage tanks, one waste oil tank, and the product piping were removed from the site in January and February of 1991 during tank replacement activities. Contaminated soil detected beneath the fuel tanks was overexcavated to a depth of approximately 17.5 feet below grade (i.e., one foot below the depth to ground water at that time). Eleven monitoring wells have been installed at and in the vicinity of the site.

A site description, detailed background information including a summary of all of the soil and ground water subsurface investigation/remediation work conducted to date, site hydrogeologic conditions, and tables that summarize soil and ground water sample analytical results are presented in KEI's report (KEI-P91-0102.R6) dated October 5, 1992.

RECENT FIELD ACTIVITIES

The 11 monitoring wells (MW1 through MW11) were monitored three times and were sampled once during the quarter. In addition, wells MW1 and MW5 were each purged of 50 gallons of water during the December 1992 and January 1993 monitoring events. During monitoring, the wells were checked for depth to water and the presence of

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602

free product. Prior to sampling, the wells were also checked for the presence of a sheen. No free product or sheen was noted in any of the wells during the quarter. The monitoring data collected this quarter are summarized in Table 1.

Water samples were collected from all of the wells on February 20, 1993. Prior to sampling, the wells were each purged of 10 gallons of water by the use of a surface pump. The samples were collected by the use of a clean Teflon bailer. The samples were decanted into clean VOA vials that were then sealed with Teflon-lined screw caps and stored in a cooler, on ice, until delivery to a state-certified laboratory.

HYDROLOGY

The measured depth to ground water at the site on February 20, 1993, ranged between 8.20 and 9.59 feet below grade. The water levels in all of the wells have shown net increases ranging from 4.94 and 5.02 feet since November 20, 1992. Based on the water level data gathered during the quarter, the ground water flow direction appeared to vary from the southwest to the southeast, as shown on the attached Potentiometric Surface Maps, Figures 1, 2, and 3. The flow direction has been predominantly to the south (varying from the southeast to the southwest) since the inception of the monitoring program in May of 1991. The average hydraulic gradient across the site on February 20, 1993, was approximately 0.0007.

ANALYTICAL RESULTS

The ground water samples were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline by EPA method 5030/modified 8015, and benzene, toluene, xylenes, and ethylbenzene by EPA method 8020.

The ground water sample analytical results are summarized in Table 2. The concentrations of TPH as gasoline and benzene detected in the ground water samples collected this quarter are shown on the attached Figure 4. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

DISCUSSION AND RECOMMENDATIONS

In an effort to evaluate potential off-site sources of contamination, KEI has conducted the previously recommended file reviews at the City of San Leandro Fire Department (CSLFD) and the Alameda

County Health Care Services (ACHCS) Agency for the following sites: 1) Former Mobil service station site (presently a shopping center), 14994 E. 14th Street; 2) Former Phillips service station site (presently a Quality Tune-Up facility), 14901 E. 14th Street; and 3) Shadrall Associates Property (former Liquor Barn), 15035 E. 14th Street. The locations of the sites relative to the Unocal site are shown on the attached Site Vicinity Map, Figure 5.

1. Former Mobil Site (presently a shopping center), 14994 E. 14th Street:

   The former Mobil site is located directly across 150th Avenue and approximately 80 feet northwest of the Unocal site. Documents contained within the CSLFD and ACHCS files indicate that three underground storage tanks were relined in February 1984, due to failed precision tests. File documents indicate that the leaks were acknowledged at the time by Mobil Oil and the dealer. The tanks were removed from the site in 1986. Volatile hydrocarbons ranged from non-detectable to 1,700 ppm in soil samples collected from beneath the tanks. Correspondence from the ACHCS indicates that soils with hydrocarbon levels of up to 1,000 ppm were left in place. One monitoring well was required by the regulatory agencies, but no documentation was found as to whether it was ever installed.

   In 1987, a PG&E crew reported encountering hydrocarbon contaminated soil during utility pole replacement along 150th Avenue, along the southeast edge of the former Mobil site. In September through November of 1987, Subsurface Consultants of Oakland, California, installed a total of 15 borings in the immediate vicinity of this contamination (approximately 40 feet northeast of Unocal well MW7). TPH as gasoline and TPH as diesel detected in soil samples collected from the borings ranged from non-detectable to 370 ppm, and non-detectable to 200 ppm, respectively. Trans-1,2,-dichloroethene, trichloroethene, and tetrachloroethene were detected in the boring closest to the PG&E excavation at levels of 6,600 ppb, 15,000 ppb, and 8,000 ppb, respectively, at a depth of 5 feet below grade. Approximately 125 cubic yards of soil were subsequently removed from the affected area. The approximate limits of the excavation are shown on the attached Site Vicinity Map, Figure 5. In April 1988, one monitoring well was installed within 10 feet of the excavation in the presumed down-gradient direction. The initial water sample collected from this well showed 29,000 ppb of TPH as gasoline. No documentation of further sampling or investigation was found in the file review.

2. Former Phillips Service Station (site presently occupied by a Quality Tune-Up Facility), 14901 E. 14th Street:

   The former Phillips site is located approximately 150 feet west of the Unocal Site. No records of any site investigation or sampling activities were found during the file review. A Fire Safety Inspection Sheet contained in the CSLFD records infers that three underground fuel storage tanks, along with their associated piping, were sealed and abandoned in place in July of 1976.

3. Shadrall Associates Property (former Liquor Barn), 15035 E. 14th Street:

   As previously reported, a report from Law Environmental, Inc., of San Rafael, California, dated November 14, 1990, and titled "Phase II Site Assessment Report" documents the installation of three monitoring wells. Ground water flow was towards the southwest with a gradient of 0.0003 on October 25, 1990. A sample collected from upgradient well MW3 on the same date showed a level of 11,000 ppb of TPH as gasoline and 540 ppb of benzene. No information concerning the three wells was available at the CSLFD or the ACHCS at the time of our review.

In addition to the three sites listed above, KEI reviewed all available CSLFD and ACHCS records pertaining to Tiny's Automotive Service, located at 1405 150th Avenue, and Superior Heating and Sheet Metal, located at 1455 150th Avenue. These sites are located northeastward of and adjacent to the former Mobil site, and approximately 100 and 150 feet directly upgradient of the Unocal site. No record of underground storage tanks exist for either site.

In summary, laterally undefined contamination from the former Mobil site appears to be impacting off-site monitoring well MW7. This contamination, and undefined potential contamination from the former Phillips Service Station site, may be contributing to the contaminant levels observed in the other Unocal wells. Therefore, KEI recommends that Unocal request that Mr. Scott Seery of the ACHCS contact the responsible parties for the Phillips service station site and the former Mobil site, so that these potential responsible parties can instigate investigations for their former sites.

Lastly, based on the analytical results of the samples collected from the Unocal site, and evaluated to date, KEI recommends the continuation of the existing ground water monitoring and sampling program, per KEI's proposal (KEI-P91-0102.P3) dated August 6, 1991.

The wells are currently monitored monthly and sampled quarterly. The results of the ground water monitoring and sampling program will be documented and evaluated after each monitoring and sampling event. Recommendations for altering or terminating the program will be made as warranted.

DISTRIBUTION

A copy of this report should be sent to Mr. Scott Seery of the ACHCS, 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 these 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.

If you have any questions regarding this report, please do not hesitate to call at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Thomas J. Berkins
Senior Environmental Engineer

Joel G. Greger, C.E.G.
Senior Engineering Geologist

License No. 1633
Exp. Date 6/30/94

Timothy R. Ross
Project Manager

/bp

Attachments: Tables 1 & 2
Location Map
Potentiometric Surface Maps - Figures 1, 2 & 3
Concentrations of Petroleum Hydrocarbons - Figure 4
Site Vicinity Map - Figure 5
Laboratory Analyses
Chain of Custody documentation

KEI-P91-0102.QR5
April 6, 1993

TABLE 1

SUMMARY OF MONITORING DATA

Well No.	Ground Water Elevation (feet)	Depth to Water (feet)	Product Thickness (feet)	Sheen	Water Purged (gallons)
	(Monitored and Sampled on February 20, 1993)				
MW1	27.71	9.01	0	No	10
MW2	27.82	9.07	0	No	10
MW3	27.82	9.02	0	No	10
MW4	27.81	9.59	0	No	10
MW5	27.71	8.69	0	No	10
MW6	27.79	8.24	0	No	10
MW7	27.85	8.55	0	No	10
MW8	27.64	9.50	0	No	10
MW9	27.70	9.22	0	No	10
MW10	27.69	8.57	0	No	10
MW11	27.63	8.20	0	No	10
	(Monitored on January 15, 1993)				
MW1	26.70	10.02	0	--	50
MW2	26.77	10.12	0	--	0
MW3	26.77	10.07	0	--	0
MW4	26.78	10.62	0	--	0
MW5	26.69	9.71	0	--	50
MW6	26.78	9.25	0	--	0
MW7	26.81	9.59	0	--	0
MW8	26.64	10.50	0	--	0
MW9	26.68	10.24	0	--	0
MW10	26.66	9.60	0	--	0
MW11	26.60	9.23	0	--	0
	(Monitored on December 10, 1992)				
MW1	23.57	13.15	0	--	50
MW2	23.68	13.21	0	--	0
MW3	23.69	13.15	0	--	0
MW4	23.73	13.67	0	--	0
MW5	23.82	12.58	0	--	50
MW6	23.70	12.33	0	--	0
MW7	23.88	12.52	0	--	0
MW8	23.63	13.51	0	--	0
MW9	23.52	13.40	0	--	0
MW10	23.73	12.53	0	--	0
MW11	23.59	12.24	0	--	0

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

Well #	Well Cover Elevation* (feet)
MW1	36.72
MW2	36.89
MW3	36.84
MW4	37.40
MW5	36.40
MW6	36.03
MW7	36.40
MW8	37.14
MW9	36.92
MW10	36.26
MW11	35.83

-- Sheen determination was not performed.

* The elevations of the tops of the well covers have been surveyed relative to Mean Sea Level (MSL), per the benchmark (Elevation = 36.88 MSL) located at the northwest corner of East 14th Street and 150th Avenue.

KEI-P91-0102.QR5
April 6, 1993

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
2/20/93	MW1	19,000	190	ND	620	880
	MW2	1,500	2.9	3.8	ND	9.1
	MW3	1,600	12	18	12	8.9
	MW4	2,400	40	2.1	ND	33
	MW5	17,000	75	ND	620	1,000
	MW6	2,400	43	ND	2.0	33
	MW7	1,800	37	4.6	7.7	11
	MW8	2,200	32	ND	5.0	42
	MW9	2,300	47	ND	ND	32
	MW10	17,000	74	ND	620	1,000
	MW11	18,000	76	ND	630	1,000
11/10/92	MW1	18,000	220	ND	830	690
	MW2	11,000	36	7.2	45	570
	MW3	3,400	37	ND	34	85
	MW4	690	9.1	ND	2.8	16
	MW5	57,000	800	1,800	18,000	4,400
	MW6	490	7.0	1.2	ND	1.7
	MW7	1,800	74	ND	350	230
	MW8	1,800	20	ND	ND	ND
	MW9	4,200	ND	ND	23	21
	MW10	15,000	300	42	330	3,500
	MW11	5,800	130	ND	42	260
8/20/92	MW1	18,000	230	22	950	640
	MW2	13,000	52	ND	70	660
	MW3	4,500	58	ND	35	65
	MW4	1,000	15	ND	3.0	11
	MW5	58,000	660	1,700	19,000	4,200
	MW6	280	8.4	ND	0.84	0.51
	MW7	13,000	460	54	3,100	ND
	MW8	3,500*	67	11	ND	ND
	MW9	3,800*	37	ND	ND	ND
	MW10	15,000	230	ND	350	1,000
	MW11	4,600*	62	ND	54	ND

TABLE 2 (Continued)

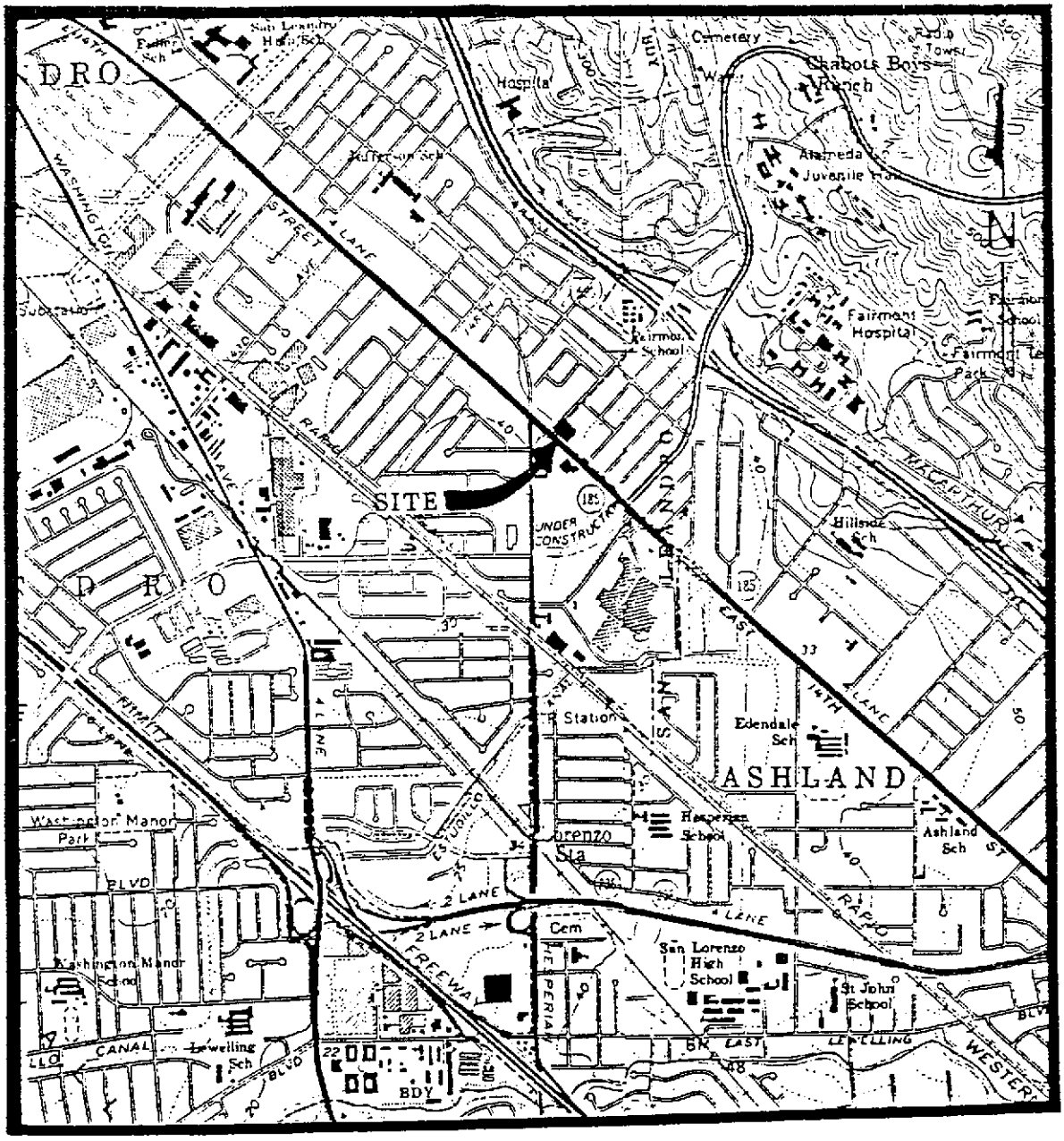
SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
5/19/92	MW1	29,000	650	370	1,200	1,100
	MW2	17,000	140	87	170	680
	MW3	3,400	25	3.6	41	66
	MW4	2,000	20	3.5	8.3	42
	MW5	84,000	760	1,500	17,000	4,000
	MW6	1,300	2.0	2.1	2.7	ND
	MW7	17,000	540	90	1,900	1,200
	MW8	5,300	28	3.3	2.1	2.6
	MW9	8,100	11	ND	5.8	25
3/17/92	MW1	23,000	320	19	940	1,000
	MW2	16,000	110	ND	220	730
	MW3	5,800	66	7.5	58	100
	MW4	1,800	3.7	1.4	21	90
	MW5	81,000	850	1,600	18,000	4,800
12/18/91	MW1	17,000	160	20	1,600	1,400
	MW2	10,000	110	5.1	96	420
	MW3	5,900	54	6.4	64	110
	MW4	2,500	28	2.5	22	54
	MW5	31,000	1,600	3,100	19,000	4,800
9/19/91	MW1	26,000	130	16	1,800	1,300
	MW2	19,000	100	6.8	310	790
	MW3	7,600	ND	13	170	190
	MW4	1,800	0.83	ND	46	54
	MW5	57,000	1,600	2,700	20,000	5,200
5/04/91	MW1	31,000	74	20	1,500	920
	MW2	19,000	6.6	1.4	630	460
	MW3	9,100	2.0	ND	180	55
	MW4	6,300	ND	ND	61	2.8
	MW5	69,000	1,400	2,500	15,000	3,500

ND = Non-detectable.

* Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

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

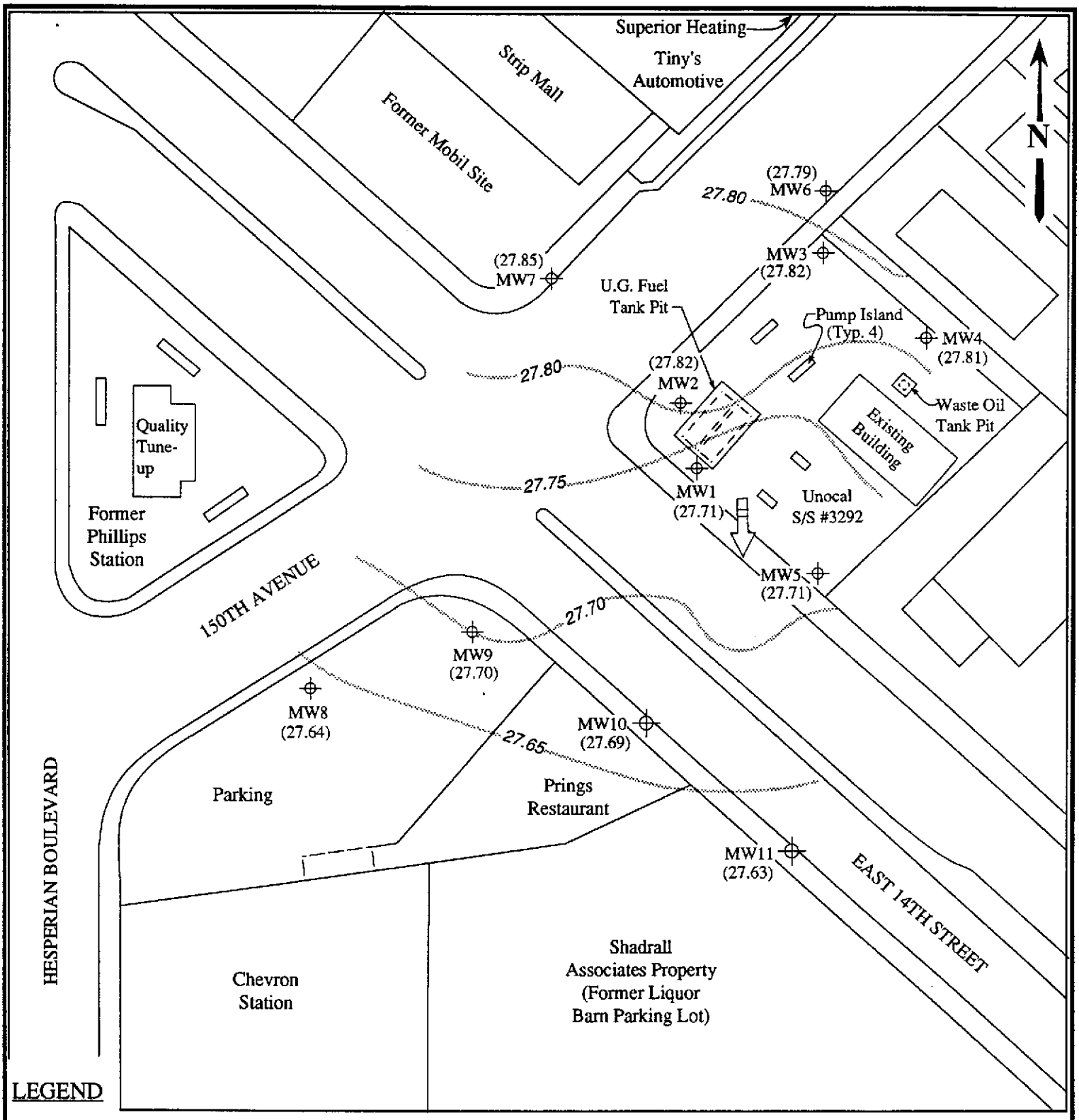


Base modified from 7.5 minute U.S.G.S. Hayward and San Leandro Quadrangles (both photorevised 1980)

0 2000 4000

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED	UNOCAL SERVICE STATION #3292 15008 EAST 14TH STREET SAN LEANDRO, CA	LOCATION MAP

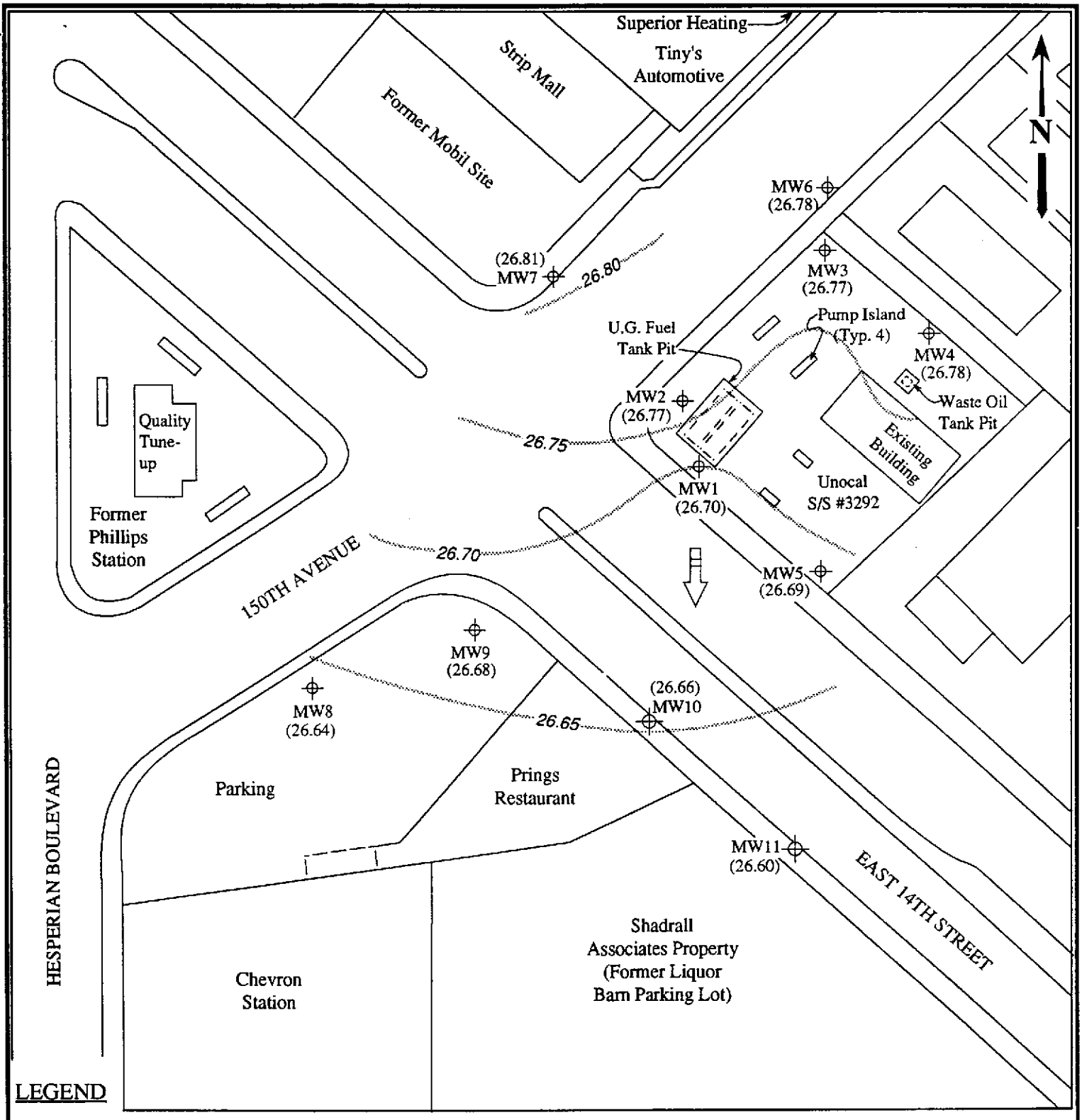


POTENTIOMETRIC SURFACE MAP FOR FEBRUARY 20, 1993 MONITORING EVENT

KAPREALIAN ENGINEERING
INCORPORATED

UNOCAL SERVICE STATION #3292
15008 E. 14TH STREET
SAN LEANDRO, CA

FIGURE
1

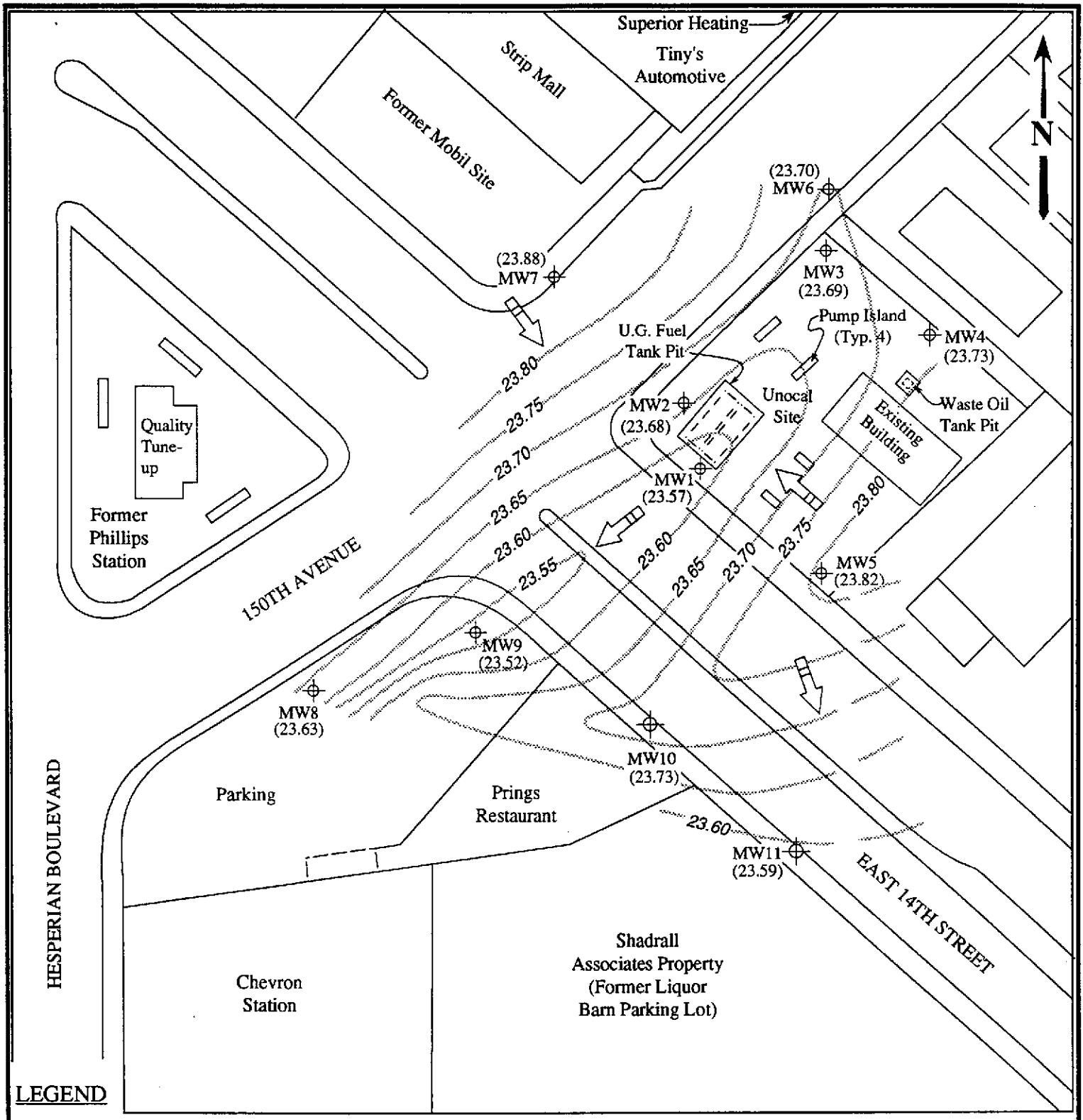


POTENTIOMETRIC SURFACE MAP FOR JANUARY 15, 1993 MONITORING EVENT

KAPREALIAN ENGINEERING INCORPORATED

UNOCAL SERVICE STATION #3292
15008 E. 14TH STREET
SAN LEANDRO, CA

FIGURE
2



LEGEND

- Monitoring well
- ( ) Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow
- Contours of ground water elevation

0 60 120

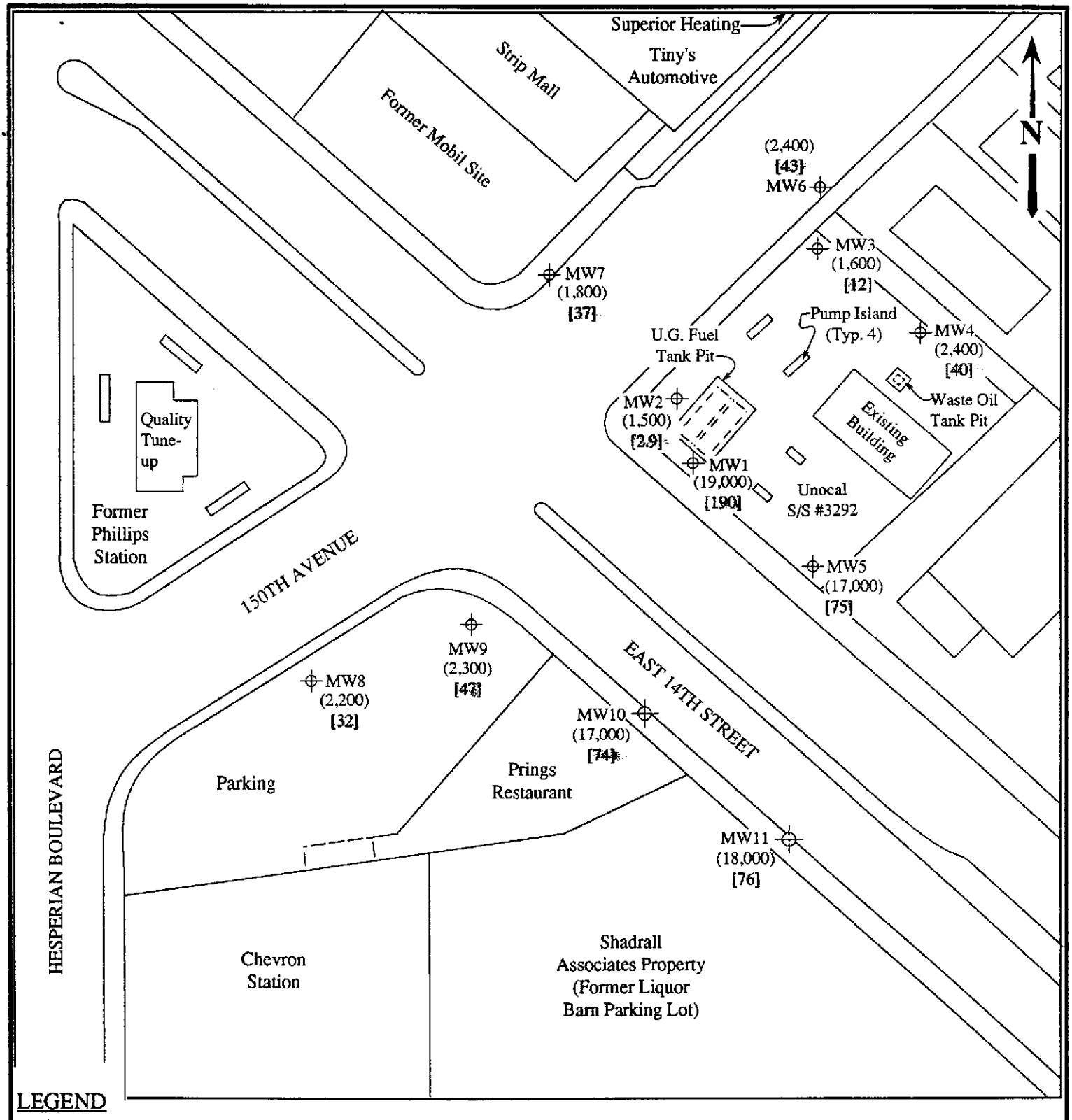
Approx. scale feet

POTENTIOMETRIC SURFACE MAP FOR DECEMBER 10, 1992 MONITORING EVENT

KAPREALIAN ENGINEERING
INCORPORATED

UNOCAL SERVICE STATION #3292
15008 E. 14TH STREET
SAN LEANDRO, CA

FIGURE
3



LEGEND

- ⊕ Monitoring well
- ( ) Concentration of TPH as gasoline in ppb
- [ ] Concentration of benzene in ppb
- ND = Non-detectable

0 60 120

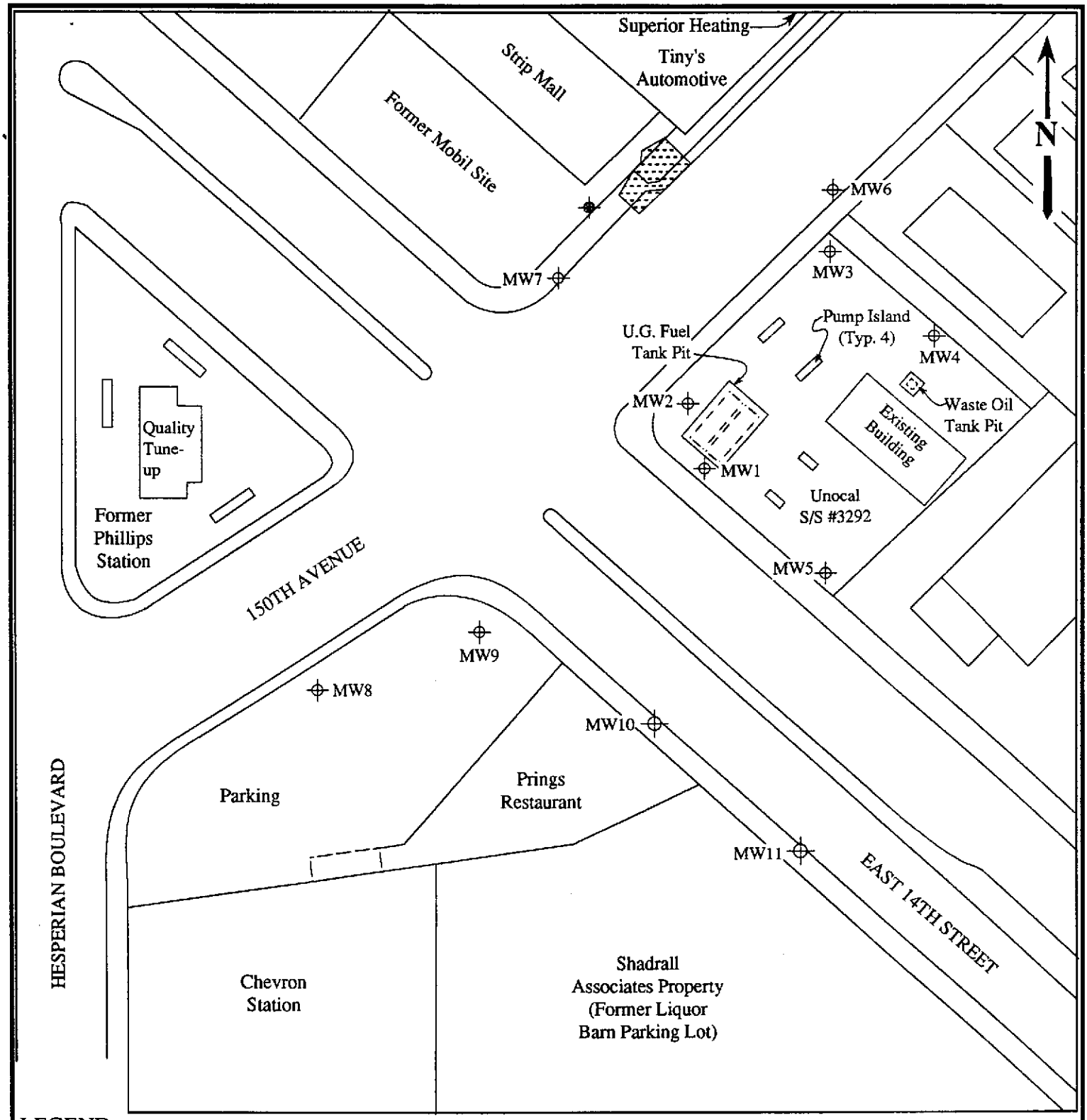
Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON FEBRUARY 20, 1993

KAPREALIAN ENGINEERING
INCORPORATED

UNOCAL SERVICE STATION #3292
15008 E. 14TH STREET
SAN LEANDRO, CA

FIGURE
4



LEGEND

- Monitoring well (KEI)
- Monitoring well (by Subsurface Consultants)
- Former excavation (by Subsurface Consultants)

0 60 120

Approx. scale feet

SITE VICINITY MAP

KAPREALIAN ENGINEERING INCORPORATED

UNOCAL SERVICE STATION #3292
15008 E. 14TH STREET
SAN LEANDRO, CA

FIGURE
5

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 15008 E. 14th St., San Leandro	Sampled:	Feb 20, 1993
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received:	Feb 20, 1993
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Mar 2, 1993
Attention: Mardo Kaprealian, P.E.	First Sample #:	302-0749		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 302-0749 MW-1	Sample I.D. 302-0750 MW-2	Sample I.D. 302-0751 MW-3	Sample I.D. 302-0752 MW-4	Sample I.D. 302-0753 MW-5	Sample I.D. 302-0754 MW-6
Purgeable Hydrocarbons	50	19,000	1,500	1,600	2,400	17,000	2,400
Benzene	0.5	190	2.9	12	40	75	43
Toluene	0.5	N.D.	3.8	18	2.1	N.D.	N.D.
Ethyl Benzene	0.5	880	9.1	8.9	33	1,000	33
Total Xylenes	0.5	620	N.D.	12	N.D.	620	2.0
Chromatogram Pattern:		Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	50	5.0	2.0	4.0	20	4.0
Date Analyzed:	2/24/93	2/25/93	2/25/93	2/25/93	2/26/93	2/25/93
Instrument Identification:	HP-4	HP-5	HP-5	HP-5	HP-2	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	97	92	82	79	80	84

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.	Client Project ID:	Unocal, 15008 E. 14th St., San Leandro	Sampled:	Feb 20, 1993
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	Received:	Feb 20, 1993
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Mar 2, 1993
Attention: Mardo Kaprealian, P.E.	First Sample #:	302-0755		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 302-0755 MW-7	Sample I.D. 302-0756 MW-8	Sample I.D. 302-0757 MW-9	Sample I.D. 302-0758 MW-10	Sample I.D. 302-0759 MW-11	Sample I.D. Matrix Blank
Purgeable Hydrocarbons	50	1,800	2,200	2,300	17,000	18,000	
Benzene	0.5	37	32	47	74	76	
Toluene	0.5	4.6	N.D.	N.D.	N.D.	N.D.	
Ethyl Benzene	0.5	11	42	32	1,000	1,000	
Total Xylenes	0.5	7.7	5.0	N.D.	620	630	
Chromatogram Pattern:		Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	

Quality Control Data

Report Limit Multiplication Factor:	4.0	10	4.0	20	20	1.0
Date Analyzed:	2/25/93	3/1/93	2/25/93	2/24/93	2/24/93	2/24/93
Instrument Identification:	HP-5	HP-5	HP-4	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	91	94	81	127	127	102

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal, 15008 E. 14th St., San Leandro
QC Sample Group: 3020749-759
Reported: Mar 2, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020
Analyst:	A.T.	A.T.	A.T.	A.T.
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Mar 1, 1993	Mar 1, 1993	Mar 1, 1993	Mar 1, 1993
QC Sample #:	302-0857	302-0857	302-0857	302-0857
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60
Conc. Matrix Spike:	23	22	21	74
Matrix Spike % Recovery:	115	110	105	123
Conc. Matrix Spike Dup.:	24	22	21	76
Matrix Spike Duplicate % Recovery:	120	110	105	127
Relative % Difference:	4.3	0.0	0.0	2.7

Laboratory blank contained the following analytes: None Detected

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

KAPREALIAN ENGINEERING INCORPORATED

CHAIN OF CUSTODY

SAMPLER	SITE NAME & ADDRESS	ANALYSES REQUESTED	TURN AROUND TIME:
	Unocal/San Leandro 15008 E. 14th St.	TPHG BTXE	Regular
WITNESSING AGENCY			

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPHG BTXE							REMARKS
MW-1	2/20/93	10:50 A.M		✓	✓		2	MW	✓							3020749 AB
MW-2	〃	〃		✓	✓		〃	〃	✓							0750 AB
MW-3	〃	〃		✓	✓		〃	〃	✓							0751 AB
MW-4	〃	〃		✓	✓		〃	〃	✓							0752 AB
MW-5	〃	〃		✓	✓		〃	〃	✓							0753 AB
MW-6	〃	〃		✓	✓		〃	〃	✓							0754 AB
MW-7	〃	〃		✓	✓		〃	〃	✓							0755 AB
MW-8	〃	〃		✓	✓		〃	〃	✓							0756 AB
MW-9	〃	〃		✓	✓		〃	〃	✓							0757 AB

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	2/20/93 16:30	[signature]
[signature]	2/22/93	[signature]
[signature]	2-22-93 19[illegible]	[signature]

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

1. Have all samples received for analysis been stored in ice? Y
2. Will samples remain refrigerated until analyzed? Y
3. Did any samples received for analysis have head space? N
4. Were samples in appropriate containers and properly packaged? Y

Signature	Title	Date
[signature]	Analyst	2-20-93

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510.602.5100 Fax: 510.687.0602

KAPREALIAN ENGINEERING
INCORPORATED

Page 2

CHAIN OF CUSTODY

SAMPLER: JOE

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal / San Leandro
15008 E. 14th st.

ANALYSES REQUESTED: TPH G, BTXE

TURN AROUND TIME: Regular

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH G	BTXE	REMARKS
MW-10	2/20/93	1		✓	✓		2	MW	✓		30207553A3
MW-11	"	3:30 p.m		✓	✓		2	"	✓		↓ 07573A3

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	2-20-93 16:30	[signature]
[signature]	2/22/93 DJU	[signature]
[signature]	2-22-93 900	[signature]
Relinquished by: (Signature)	Date/Time	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? Y
2. Will samples remain refrigerated until analyzed? Y
3. Did any samples received for analysis have head space? N
4. Were samples in appropriate containers and properly packaged? Y

[signature] — Signature; Analyst — Title; 2/22/93 — Date

2401 Stanwell Drive, Suite 400
Concord, California 94520
Tel: 510 602 5100 Fax: 510 687 0602