KAPREALIAN ENGINEERING
INCORPORATED

November 9, 1992

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 St.
San Leandro, California

Dear Mr. Seery:

Per the request of Mr. Ed Ralston of Unocal Corporation, enclosed please find our report October 5, 1992, 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

Approved 11-13-92 SCS

KEI-P91-0102.R6
October 5, 1992

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

Attention: Mr. Ed Ralston

RE: Continuing Ground Water Investigation
and Quarterly Report
Unocal Service Station #3292
15008 E. 14th Street
San Leandro, California

Dear Mr. Ralston:

This report presents the results of Kaprealian Engineering, Inc's. (KEI) soil and ground water investigation for the referenced site, in accordance with KEI's proposal (KEI-P91-0102.P3) dated August 6, 1991. The purpose of the investigation was to further determine the degree and extent of soil and ground water contamination in the vicinity of the site. This report also presents the results of the most recent quarter of monitoring and sampling of the monitoring wells at the referenced site. **The wells are currently monitored monthly and sampled on a quarterly basis.** This report covers the work performed by KEI from June through August of 1992. The scope of the work performed by KEI consisted of the following:

Coordination with regulatory agencies

Geologic logging of two borings for the installation of two monitoring wells

Soil sampling

Ground water monitoring, purging, and sampling

Laboratory analyses

Data analysis, interpretation, and report preparation

SITE DESCRIPTION AND BACKGROUND

The subject site presently contains a Unocal service station facility. The site is situated on gently sloping, southwest trending topography, and is located at the east corner of the intersection of East 14th Street and 150th Avenue in San Leandro, California. **The site is also located southeast of a former Mobil**

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service station (across 150th Avenue), approximately due east of a former Phillips service station (at the intersection of Hesperian Boulevard, 150th Avenue, and East 14th Street), and is northeast of a Chevron service station (on Hesperian Boulevard).

KEI's initial field work was conducted on January 16, 1991, when two underground gasoline storage tanks and one waste oil tank were removed from the site. The tanks consisted of one 10,000 gallon regular unleaded gasoline tank, one 10,000 gallon super unleaded gasoline storage tank, and one 280 gallon waste oil tank. The tanks were made of steel, and two holes of about 1/2-inch in diameter were observed in the super unleaded gasoline tank. Mr. William Faulhaber of the Alameda County Health Care Services Agency (ACHCS) was present during tank removal and subsequent soil sampling. Mr. James Kneeland of the Eden Consolidated Fire Protection District was also present during tank removal.

One soil sample, labeled WO1, was collected from beneath the waste oil tank at a depth of approximately 8.25 feet below grade. Four soil samples, labeled A1, A2, B1, and B2, were collected from beneath the fuel tanks at depths between 15 and 16 feet below grade. Due to obvious contamination, additional soil was excavated beneath sample points A1, A2, B1, and B2, in order to further define the vertical extent of soil contamination. During excavation activities, ground water was encountered in the fuel tank pit at a depth of approximately 16.5 feet below grade, thus prohibiting the collection of any additional soil samples from beneath sample points A1, A2, B1, and B2. Sample point locations are as shown on the attached Figure 5.

In an attempt to remove as much of the contaminated soil as possible, and in order to collect a tank pit water sample, the fuel tank pit was excavated to a depth of about 17.5 feet below grade. After soil excavation was completed, approximately 15,700 gallons of ground water were pumped from the fuel tank pit. On January 28, 1991, one water sample, labeled W1, was collected from the fuel tank pit.

KEI returned to the site on February 11, 1991, in order to collect soil samples from the product pipe trenches, as requested by Mr. Faulhaber. Seven samples, labeled P1 through P7, were collected at depths ranging from 3.5 to 5 feet below grade.

KEI again returned to the site on February 12, 1991, in order to complete the collection of pipe trench soil samples. Two samples, labeled P8 and P9, were collected at depths of 3.5 feet and 7.5 feet below grade, respectively. After the soil sampling was completed, the pipe trenches were excavated to the depth of the sample points. Pipe trench sample point locations are shown on the attached Figure 5.

All samples were analyzed by Sequoia Analytical Laboratory in Concord, California. All soil and water samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline, and benzene, toluene, xylenes, and ethylbenzene (BTX&E). In addition, the soil sample collected from the waste oil tank pit (WO1) was also analyzed for TPH as diesel, total oil and grease (TOG), the metals cadmium, chromium, lead, nickel, and zinc, and EPA method 8010 constituents.

Analytical results of the soil samples collected from the fuel tank pit indicated levels of TPH as gasoline ranging from 150 ppm to 840 ppm, except for sample A1, which showed a level of TPH as gasoline at 2,600 ppm. Soils represented by these samples were removed during excavation of the fuel tank pit to a depth of about 17.5 feet below grade (or approximately 1 foot below the observed ground water level).

Analytical results for soil samples collected from the product pipe trenches indicated non-detectable levels of TPH as gasoline for samples P1, P3 through P6, and P8. The levels of TPH as gasoline detected in samples P2, P7, and P9 were 1.2 ppm, 7.1 ppm, and 130 ppm, respectively. Benzene was detected at concentrations ranging from non-detectable to 0.89 ppm.

Analytical results for the soil sample collected from beneath the waste oil tank pit (WO1) indicated non-detectable levels of all constituents analyzed, except for zinc, which showed 31 ppm. The results of the soil analyses are summarized in Table 4.

Analytical results for the water sample (W1) collected from the fuel tank pit indicated 13,000 ppb of TPH as gasoline and 64 ppb of benzene. The results of the water analyses are summarized in Table 5.

To comply with the requirements of the regulatory agencies and based on the analytical results, KEI proposed the installation of five monitoring wells. Documentation of the tank removal protocol, sample collection techniques, and the analytical results are summarized in KEI's report (KEI-J91-0102.R1) dated March 6, 1991.

On April 23 and 24, 1991, five two-inch diameter monitoring wells (designated as MW1, MW2, MW3, MW4, and MW5 on attached Figure 1) were installed at the site. The monitoring wells were drilled and completed to total depths ranging from 19.5 to 22.5 feet below grade. Ground water was encountered at depths ranging from 12.25 to 13.25 feet beneath the surface during drilling, except in MW5, where water was not initially encountered until a depth of 15 feet below grade but quickly rose to a depth of about 12 feet below grade.

The surface of each well cover was surveyed by Kier & Wright of Pleasanton, California, to Mean Sea Level (MSL) and to a vertical accuracy of 0.01 feet. The wells were developed on April 29 and 30, 1991, and were initially sampled on May 4, 1991. No free product or sheen was noted in any of the wells, except for well MW5, where a trace of product was observed on April 30, 1991, and where only a sheen was detected on May 4, 1991.

Water and selected soil samples were analyzed at Sequoia Analytical Laboratory in Concord, California. The soil and water samples were analyzed for TPH as gasoline and BTX&E.

Analytical results for soil samples collected from the borings for monitoring wells MW1 through MW5 indicated levels of TPH as gasoline ranging from non-detectable to 7.7 ppm, with benzene levels ranging from non-detectable to 0.029 ppm in all samples, except for MW1(10), MW1(12), and MW5(14.5), which showed levels of TPH as gasoline at 82 ppm, 420 ppm, and 620 ppm, respectively, and benzene levels at 0.20 ppm, 1.2 ppm, and 6.8 ppm, respectively.

Analytical results for ground water samples collected on May 4, 1991, from monitoring wells MW1 through MW5 indicated levels of TPH as gasoline ranging from 6,300 ppb to 69,000 ppb, with benzene levels ranging from 2.0 ppb to 1,400 ppb, except in MW4, where benzene was non-detectable. The results of the soil analyses are summarized in Table 3, and the results of the water analyses are summarized in Table 2.

Based on the analytical results, KEI recommended the implementation of a monthly monitoring and quarterly sampling program. In addition, KEI recommended monthly purging of wells MW1 and MW5 in an attempt to reduce the level of contamination in the vicinity of these wells.

KEI concluded that because upgradient wells MW3 and MW4 showed levels of TPH as gasoline at 9,100 ppb and 6,300 ppb, respectively, possible off-site upgradient sources of contamination are present. Also, KEI concluded that the extent of ground water contamination had not been defined in the vicinity of the Unocal site. However, prior to recommending additional monitoring wells at that time, KEI proposed to evaluate the adjacent area for possible monitoring well locations and to review Regional Water Quality Control Board (RWQCB) files on adjacent properties. Documentation of the well installation protocol, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P91-0102.R4) dated May 29, 1991.

KEI has reviewed a letter from Law Environmental, Inc., dated October 29, 1990, and titled "Preliminary Findings - Phase II Site Assessment." Apparently, three monitoring wells have been

installed at the Shandrell property located at 15035 East 14th Street (presently used as a Liquor Barn facility and related parking lot). Ground water is present at a depth of about 14 feet below grade, with a ground water flow direction toward the south-southwest and a gradient of 0.0003. In addition, upgradient well MW3 apparently showed a level of TPH as gasoline at 11,000 ppb, with a benzene level of 540 ppb. KEI has not reviewed any technical reports or boring logs prepared for the installation of these wells. The letter from Law Environmental, Inc. also indicates that an adjacent Chevron service station has eight monitoring wells, which (as of April 11, 1990) showed a ground water flow direction toward the southeast and a ground water gradient of 0.005.

In July of 1991, a representative of KEI reviewed the RWQCB file for the adjacent Chevron service station. Based on the data reviewed, the ground water flow direction, as of April 5, 1991, was toward the southwest. Also, it appears that a former Mobil station was located northwest of the Unocal site across 150th Avenue, and that a former Phillips station was located west of Unocal and northwest of the Shandrell property.

KEI subsequently recommended the installation of six off-site monitoring wells (see the attached Site Vicinity Map, Figure 3) in KEI's work plan (KEI-P91-0102.P3) dated August 6, 1991.

Additionally, KEI has reviewed a letter from the ACHCS dated October 4, 1991, which approved KEI's work plan (KEI-P91-0102.P3) dated August 6, 1991, but also stated that Unocal must immediately begin the engineering of a dedicated ground water remediation system. As discussed in KEI's report (KEI-P91-0102.QR1) dated October 23, 1991, KEI is evaluating various pump and treatment methods for the remediation of the contaminated ground water in the vicinity of the Unocal site. Once the extent of ground water contamination has been completely delineated, KEI will conduct an aquifer test and complete the design of a remediation system.

On May 5 and 6, 1992, four additional two-inch diameter monitoring wells (designated as MW6 through MW9 on the attached Figure 1) were installed at the site. The four wells were each drilled and completed to total depths ranging from 19 to 21.5 feet below grade. Ground water was encountered at depths ranging from 11.0 to 13.5 feet beneath the surface during drilling. The surface of each well cover was surveyed by Kier & Wright of Pleasanton, California, to MSL and to a vertical accuracy of 0.01 feet.

The new wells (MW6 through MW9) were developed on May 13, 1992. No free product was noted in any of the wells. Water samples from all of the wells, and selected soil samples from the borings for MW6 through MW9, were analyzed at Sequoia Analytical Laboratory in

Concord, California. The samples were analyzed for TPH as gasoline and BTX&E. The results of the water analyses are summarized in Table 2, and the results of the soil analyses are summarized in Table 3.

* **Based on analytical results for ground water and soil samples from the four newly installed wells (MW6 through MW9), and based on the direction of ground water flow, which has been consistently to the south and southwest since at least May of 1991, KEI concluded that significant contamination from off-site source(s) may be impacting the vicinity of the Unocal site both upgradient and downgradient of the Unocal facility.** KEI also concluded that the extent of this contamination had not yet been defined. Documentation of the well installation protocol, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P91-0102.R5) dated July 14, 1992.

RECENT FIELD ACTIVITIES - WELL INSTALLATION

On August 13, 1992, two additional two-inch diameter monitoring wells (designated as MW10 and MW11 on attached Figure 1) were installed in the vicinity of the site. The wells were each drilled, constructed, and completed in accordance with the guidelines of the RWQCB and the California Well Standards (per Bulletin 74-90). The subsurface materials penetrated and details of the construction of the wells are described in the attached Boring Logs.

The two wells were each drilled and completed to a total depth of 20 feet below grade. Ground water was encountered in both wells at a depth of 13.5 feet beneath the surface during drilling. Soil samples were collected for laboratory analysis and for lithologic logging purposes at a maximum spacing of 5 foot intervals, at significant changes in lithology, at obvious areas of contamination, and at or within the soil/ground water interface, beginning at a depth of approximately 5 feet below grade and continuing until ground water was encountered. Soil sampling conducted below the ground water table was for lithologic logging purposes only. The undisturbed soil samples were collected by driving a California-modified split-spoon sampler (lined with brass liners) ahead of the drilling augers. The two-inch diameter brass liners holding the samples were sealed with aluminum foil, plastic caps and tape, and stored in a cooled ice chest for delivery to a state-certified laboratory. Each well casing was installed with a watertight cap and padlock. A round, watertight, flush-mounted well cover was cemented in place over each well casing.

The surface of each well cover was surveyed by Kier & Wright of Pleasanton, California, to MSL and to a vertical accuracy of 0.01 feet.

The new wells were developed on August 18, 1992. Prior to development, the wells were checked for the depth to the water table (by the use of an electronic sounder) and the presence of free product (by the use of an interface probe or paste tape). No free product was noted in either well MW10 or MW11. After recording the monitoring data, the two new wells were each purged (by the use of a surface pump) of 30 to 35 gallons, until the evacuated water was clear and free of suspended sediment. Monitoring and well development data are summarized in Table 1.

RECENT FIELD ACTIVITIES - MONITORING AND SAMPLING

The nine previously existing monitoring wells (MW1 through MW9) were monitored three times and were sampled once during the quarter. During monitoring, the wells were checked for depth to water and the presence of free product. During sampling, the wells were also checked for the presence of sheen. No free product or sheen was noted in any of the wells during the quarter. Monitoring data are summarized in Table 1.

Water samples were collected from the previously existing wells (MW1 through MW9) on August 20, 1992. Prior to sampling, the wells were each purged of between 4 and 6 gallons by the use of a surface centrifugal pump. Wells MW1 and MW5 were also purged of between 28 and 55 gallons each during the monitoring events of June 18 and July 20, 1992. Samples were collected by the use of a clean Teflon bailor. Samples were decanted into clean VOA vials that were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory.

The new wells (MW10 and MW11) were also sampled on August 20, 1992. Prior to sampling, monitoring data were collected, and the wells were each purged of 5 gallons of water. The samples were collected, handled, and delivered to a state-certified laboratory as previously described.

ANALYTICAL RESULTS

Water samples from all of the wells, and selected soil samples from the borings for MW10 and MW11, were analyzed at Sequoia Analytical Laboratory. All samples analyzed were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for TPH as gasoline by EPA method 5030/modified 8015, and BTX&E by EPA method 8020.

Concentrations of TPH as gasoline and benzene detected in the ground water samples collected on August 20, 1992, are shown on the attached Figure 4. The results of the soil analyses are summarized in Table 3, and the results of the water analyses are summarized in Table 2. Copies of the laboratory analyses and Chain of Custody documentation are attached to this report.

HYDROLOGY AND GEOLOGY

The measured depth to ground water at the site on August 20, 1992, ranged between 12.46 and 13.87 feet below grade. The water levels in all of the wells have shown net decreases ranging from 1.32 to 1.48 feet since May 19, 1992. The contours of ground water elevation and the ground water flow direction for the three monitoring events of the quarter are shown on the attached Potentiometric Surface Maps, Figures 1, 2, and 3. Based on water level data gathered on August 20, 1992, the ground water flow direction appeared to be to the south. On July 20, 1992, ground water flow direction was to the south-southwest, and on June 18, 1992, the ground water flow direction was also to the south, with a southeasterly component present west and southwest of the site. The predominantly southerly flow direction reported this quarter is relatively unchanged from the southerly direction reported in the previous two quarters. The potentiometric surface near the vicinity of the site on August 20, 1992, was very flat. The ground water gradient ranged from 0.0008 to 0.0010.

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 situated near a mapped geologic contact separating Coarse-grained alluvium (Qhac) from Late Pleistocene alluvium (Qpa). The Coarse-grained alluvium is described as typically consisting of unconsolidated, permeable sand and silt, with local areas of coarse sand and gravel. The thickness of this unit ranges from less than 10 feet to as much as 50 feet. The Late Pleistocene alluvium is described as consisting of weakly consolidated, irregular interbedded clay, silt, sand, and gravel. This unit has a reported maximum thickness of at least 150 feet. Also, the site is located approximately 2,000 feet southwest of a mapped splay of the active Hayward Fault Zone.

Based on the results of our subsurface studies (the borings of MW1 through MW11), the site and vicinity are underlain by fill materials to a depth of between about 1.5 to 7 feet below grade. The fill is in turn underlain by alluvium to the maximum depth explored (22.5 feet below grade). The alluvium underlying the site is composed mainly of clay and silt with discontinuous clayey sand layers interbedded within these finer grained sediments. However,

a clayey sand penetrated in MW10 between depths of 4 feet and 7.5 feet below grade appears to be continuous with a thinner sand layer encountered in MW11 from 4.5 to 7 feet below grade.

The unsaturated zone beneath the site is approximately 10 to 12 feet thick and consists mainly of interbedded fine grained clay and silt, and includes the continuous sand bed observed in MW10 and MW11. In MW8, the unsaturated zone also contains an isolated gravel lens about one foot thick encountered at a depth of 11.5 feet below grade.

The first water bearing unit underlying the site consists also of finer grained alluvium, mostly silt and clay layers interbedded with discontinuous and thin sand beds as described above.

DISCUSSION AND RECOMMENDATIONS

Based on the analytical results collected 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 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.

The analytical results for ground water samples collected from the newly installed wells MW10 and MW11 have indicated elevated concentrations of petroleum hydrocarbons south and south-southwest of the subject Unocal site (See Figure 4). **Based on these analytical results, the lateral extent of contamination in the southern and south-southwestern vicinity of this site has not been defined.** KEI previously recommended a file review at the RWQCB to obtain updated information on the Chevron and Shandrell property sites, which are situated adjacent to the recently installed monitoring wells MW10 and MW11. **In addition, KEI will also perform file reviews at the RWQCB for the former Mobil and former Phillips service station sites. KEI will perform these file reviews during the upcoming quarter.**

DISTRIBUTION

Copies of this report should be sent to Mr. Scott Seery of the ACHCS, and to the RWQCB, San Francisco Bay Region.

LIMITATIONS

Soil deposits and rock formations may vary in thickness, lithology, saturation, strength and other properties across any site. In addition, environmental changes, either naturally-occurring or artificially-induced, may cause changes in 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.

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

Sincerely,

Kaprealian Engineering, Inc.

Haig (Gary) Tejirian
Project Geologist

Thomas J. Berkins
Senior Environmental Engineer

Mark R. Lafferty, R.G.
Project Manager

License No. 4701
Exp. Date 6/30/94

/bp

Attachments: Tables 1 through 5
Location Map
Potentiometric Surface Maps - Figures 1 through 3
Petroleum Hydrocarbon Concentration Map - Figure 4
Soil Sample Location Map - Figure 5
Boring Logs
Laboratory Analyses
Chain of Custody documentation

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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 August 20, 1992)					
MW1	23.49	13.23	0	No	4
MW2	23.55	13.34	0	No	4.5
MW3	23.54	13.30	0	No	6.5
MW4	23.53	13.87	0	No	4
MW5	23.46	12.94	0	No	6.5
MW6	23.57	12.46	0	No	5.5
MW7	23.61	12.79	0	No	6
MW8	23.44	13.70	0	No	4
MW9	23.46	13.46	0	No	4.5
MW10	23.42	12.84	0	No	5
MW11	23.33	12.50	0	No	5
(Monitored and Developed on August 18, 1992)					
MW10	23.43	12.83	0	--	35
MW11	23.37	12.46	0	--	30
(Monitored on July 20, 1992)					
MW1	24.06	12.66	0	--	55
MW2	24.17	12.72	0	--	0
MW3	24.19	12.65	0	--	0
MW4	24.21	13.19	0	--	0
MW5	24.01	12.39	0	--	55
MW6	24.23	11.80	0	--	0
MW7	24.23	12.17	0	--	0
MW8	23.94	13.20	0	--	0
MW9	23.94	12.98	0	--	0
(Monitored on June 18, 1992)					
MW1	24.37	12.35	0	--	28
MW2	24.47	12.42	0	--	0
MW3	24.46	12.38	0	--	0
MW4	24.45	12.95	0	--	0
MW5	24.30	12.10	0	--	28
MW6	24.51	11.52	0	--	0
MW7	24.67	11.73	0	--	0
MW8	24.56	12.58	0	--	0
MW9	24.10	12.82	0	--	0

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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 MSL, per benchmark (Elevation = 36.88 MSL) located at the northwest corner of East 14th Street and 150th Avenue.

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TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
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
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

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TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
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
Detection Limits		30	0.30	0.30	0.30	0.30

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.

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TABLE 3

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
4/23/91	MW1(5)	5.0	ND	ND	ND	0.0070	ND
	MW1(10)	10.0	82	0.20	0.23	0.31	0.14
	MW1(12)	12.0	420	1.2	1.3	0.72	0.78
	MW2(5)	5.0	ND	ND	ND	0.022	0.0085
	MW2(10)	10.0	2.2	0.089	ND	0.0064	ND
	MW2(12)	12.0	12	ND	0.017	0.075	0.14
	MW3(5)	5.0	ND	ND	ND	ND	ND
	MW3(10)	10.0	1.4	0.015	0.0051	0.014	ND
	MW3(13)	13.0	3.5	0.026	0.026	0.030	0.0088
	MW4(5)	5.0	ND	ND	ND	ND	ND
	MW4(10)	10.0	ND	ND	ND	0.0060	ND
	MW4(13)	13.0	ND	ND	ND	0.012	0.0088
	MW5(5)	5.0	ND	ND	ND	ND	ND
	MW5(10)	10.0	7.7	0.029	0.14	0.090	0.13
	MW5(14.5)	14.5	620	6.8	4.4	75	18
5/05/92	MW6(5.5)	5.5	ND	ND	ND	ND	ND
	MW6(10.5)	10.5	ND	ND	ND	ND	ND
	MW7(9)	9.0	280	0.45	0.45	23	7.2
	MW7(12.5)	12.5	540	1.9	0.47	47	15
5/06/92	MW8(5)	5.0	ND	ND	ND	ND	ND
	MW8(10)	10.0	ND	ND	ND	ND	ND
	MW8(11.5)	11.5	ND	ND	ND	ND	ND
	MW8(13.5)	13.5	1.2	0.011	0.0054	0.014	ND
	MW9(5)	5.0	ND	ND	0.0053	0.014	ND
	MW9(10)	10.0	ND	ND	ND	0.0078	ND
	MW9(12)	12.0	ND	ND	ND	0.0074	ND

KEI-P91-0102.R6
October 5, 1992

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
8/13/92	MW10(5)	5.0	ND	ND	ND	0.0098	ND
	MW10(10)	10.0	1.2	0.013	0.0064	0.013	0.019
	MW10(13)	13.00	32	ND	0.11	0.065	0.99
	MW11(5)	5.0	ND	ND	ND	0.0063	ND
	MW11(10)	10.0	2.3	ND	0.0050	0.014	0.037
	MW11(12)	12.0	47	ND	0.056	0.38	0.46
Detection Limits			1.0	0.0050	0.0050	0.0050	0.0050

ND = Non-detectable.

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

KEI-P91-0102.R6
October 5, 1992

TABLE 4

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on January 16, and
February 11 & 12, 1991)

Sample	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
A1	15.5	2,600	7.1	55	170	55
A2	16.0	290	1.3	1.1	1.2	1.5
B1	15.5	840	1.5	2.7	9.9	1.3
B2	15.0	150	1.6	3.3	11	2.0
P1	3.5	ND	0.0072	0.019	0.026	ND
P2	4.75	1.2	0.014	0.041	0.11	0.019
P3	3.75	ND	ND	ND	ND	ND
P4	3.75	ND	ND	ND	ND	ND
P5	3.5	ND	ND	ND	ND	ND
P6	5.0	ND	ND	ND	ND	ND
P7	5.0	7.1	0.89	0.23	0.70	0.57
P8	3.5	ND	ND	ND	ND	ND
P9	7.5	130	0.068	0.37	0.076	0.66
WO1*	8.25	ND	ND	ND	ND	ND
Detection Limits		1.0	0.0050	0.0050	0.0050	0.0050

ND = Non-detectable.

* TOG, TPH as diesel, and all EPA method 8010 constituents were non-detectable. Metals were non-detectable, except for zinc, which showed 31 ppm.

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

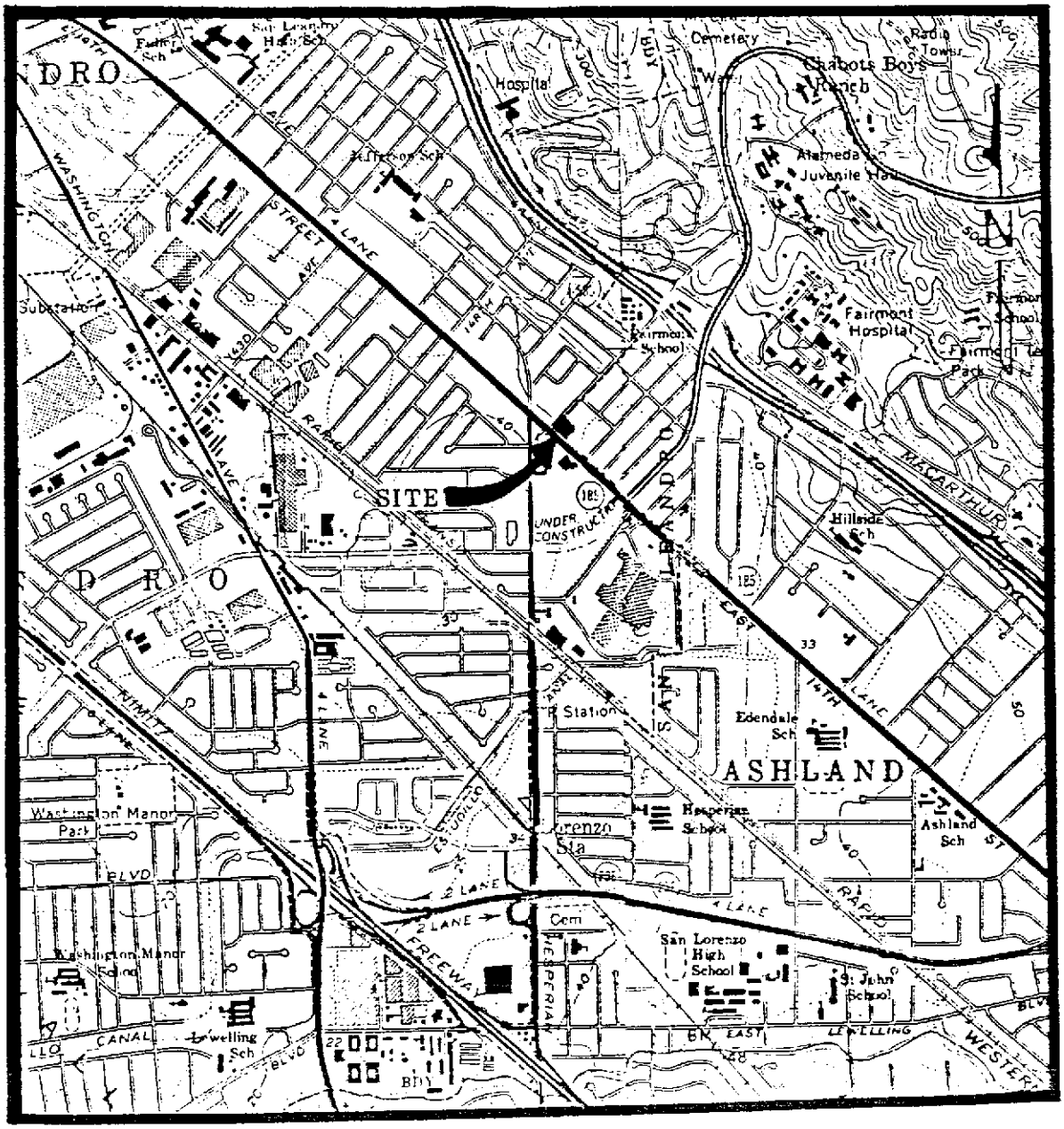
KEI-P91-0102.R6
October 5, 1992

TABLE 5

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
1/28/91	W1	13,000	64	37	85	25

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

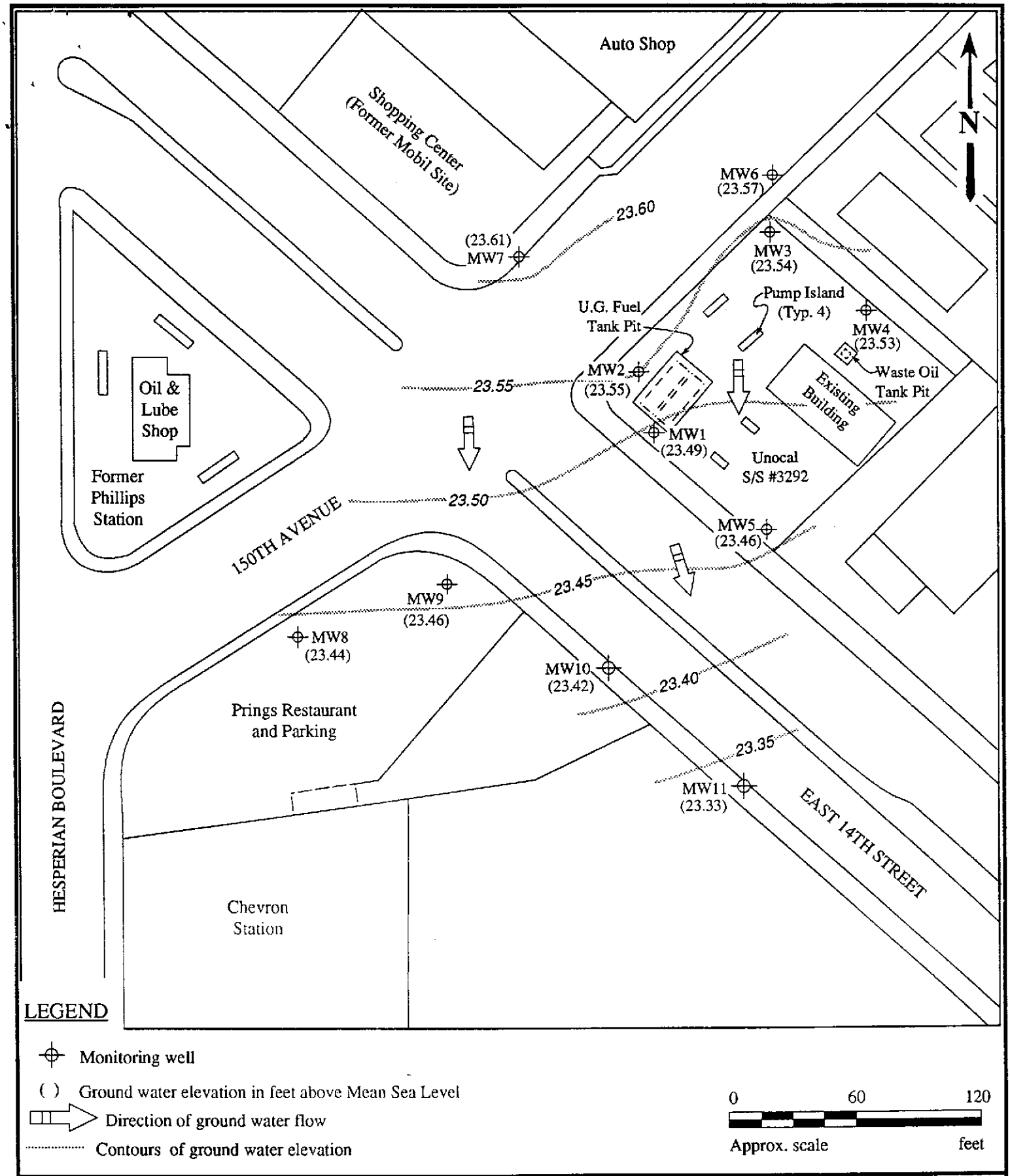


Base modified from 7.5 minute U.S.G.S. Hayward and San Leandro Quadrangles (both photorevised 1980)

0 2000 4000

Approx. scale feet

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

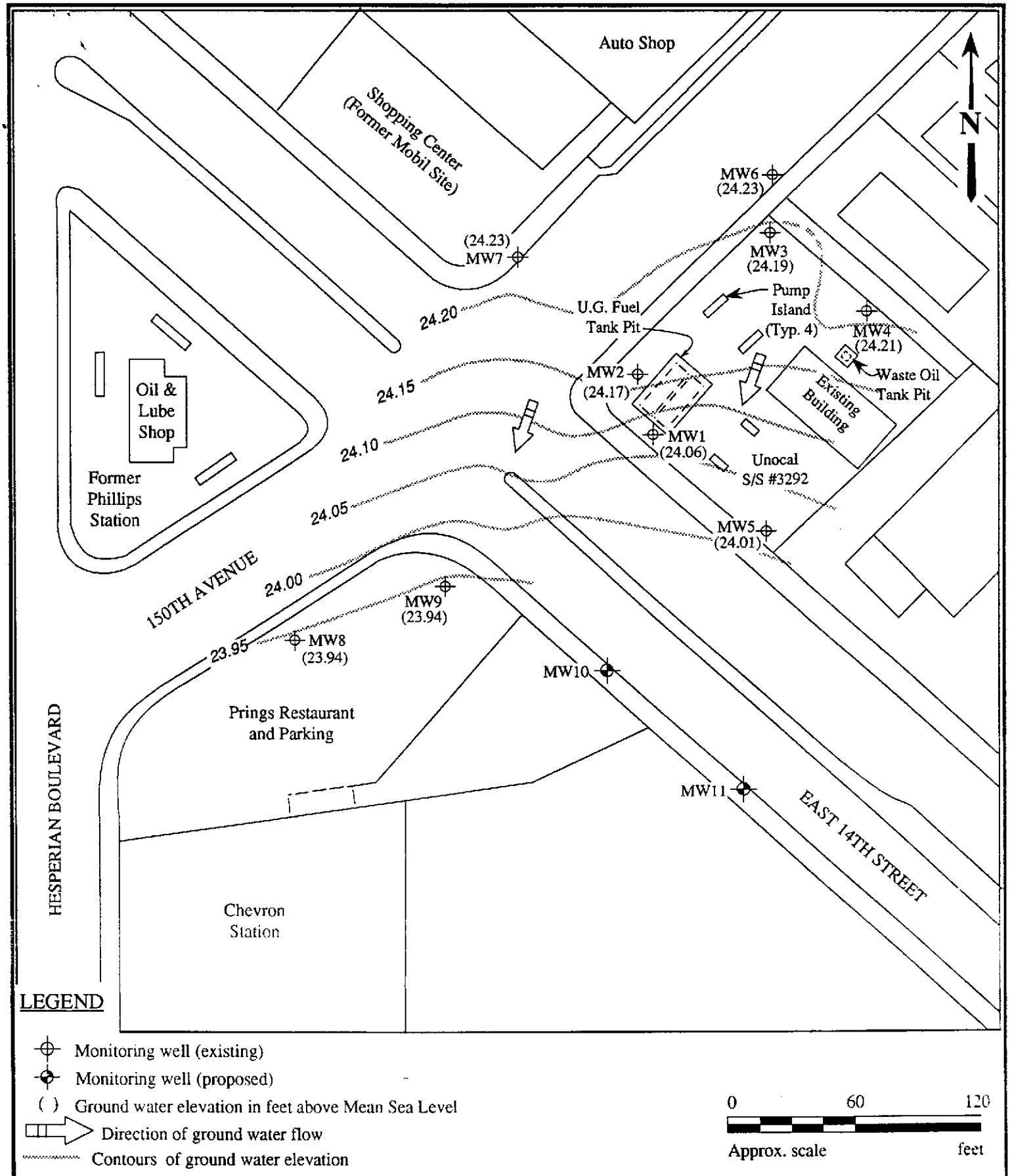


POTENTIOMETRIC SURFACE MAP FOR AUGUST 20, 1992 MONITORING EVENT.

KAPREALIAN ENGINEERING INCORPORATED

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

FIGURE
1

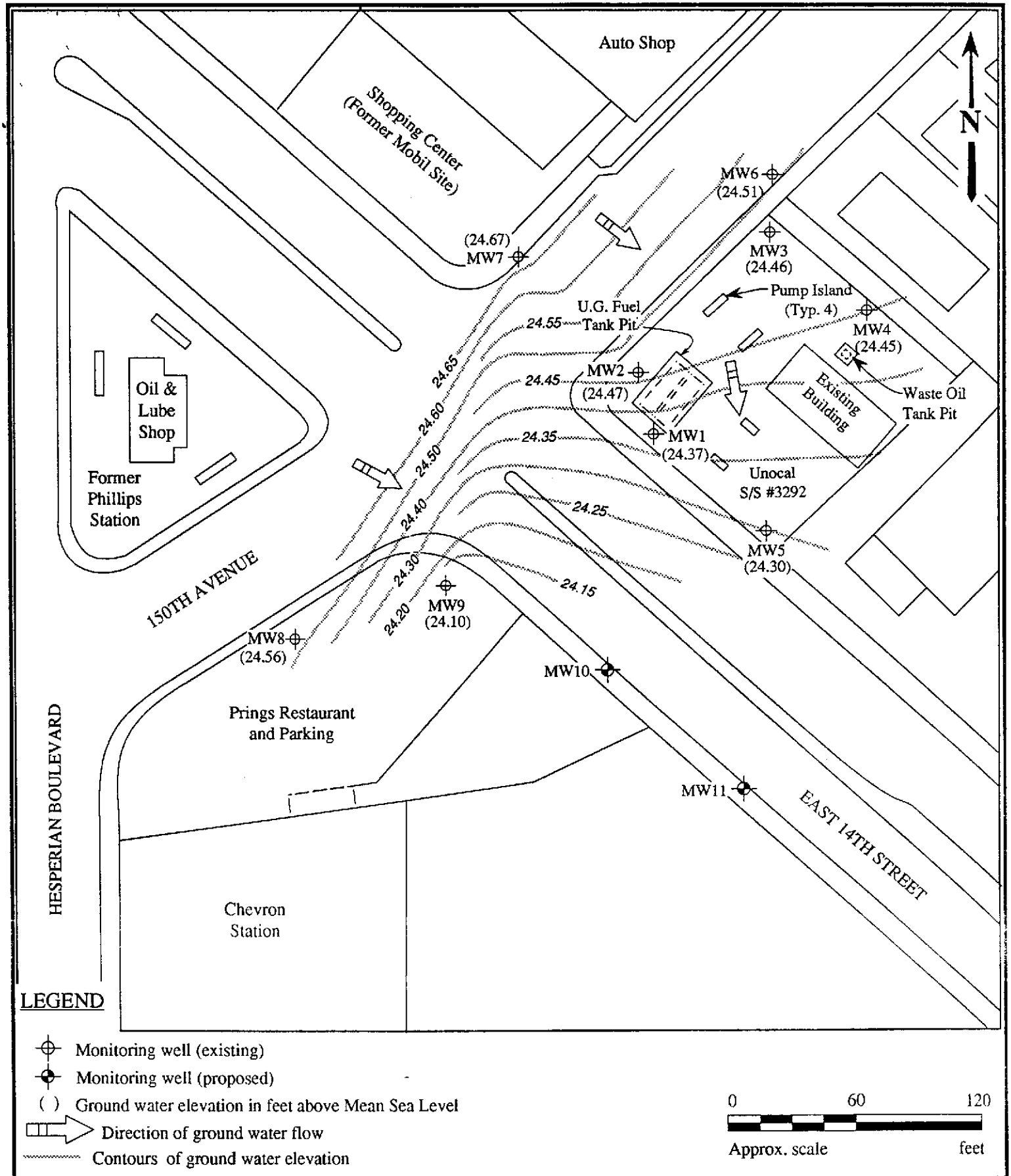


POTENTIOMETRIC SURFACE MAP FOR JULY 20, 1992 MONITORING EVENT

KAPREALIAN ENGINEERING
INCORPORATED

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

FIGURE
2

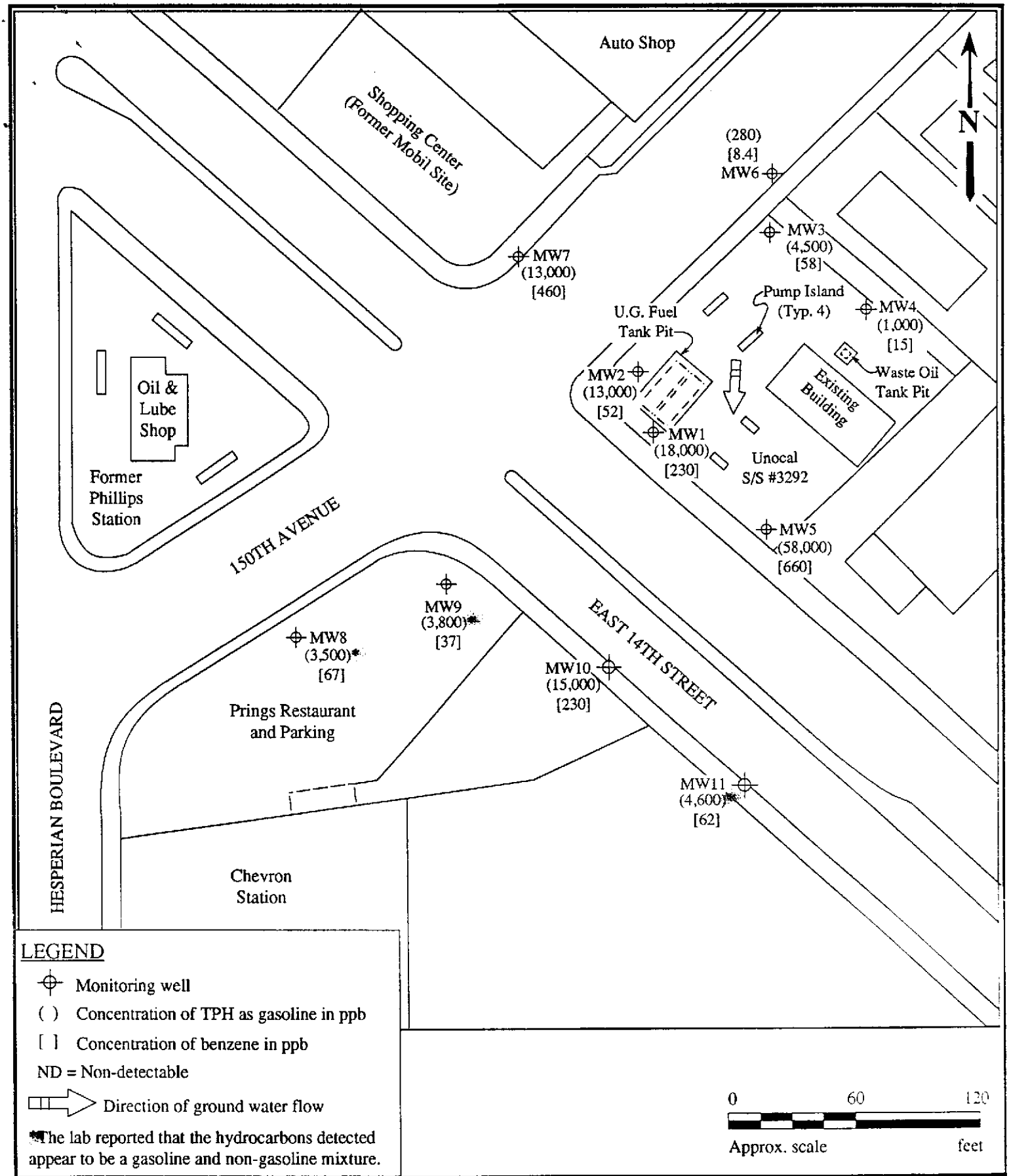


POTENTIOMETRIC SURFACE MAP FOR JUNE 18, 1992 MONITORING EVENT

KAPREALIAN ENGINEERING
INCORPORATED

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

FIGURE
3

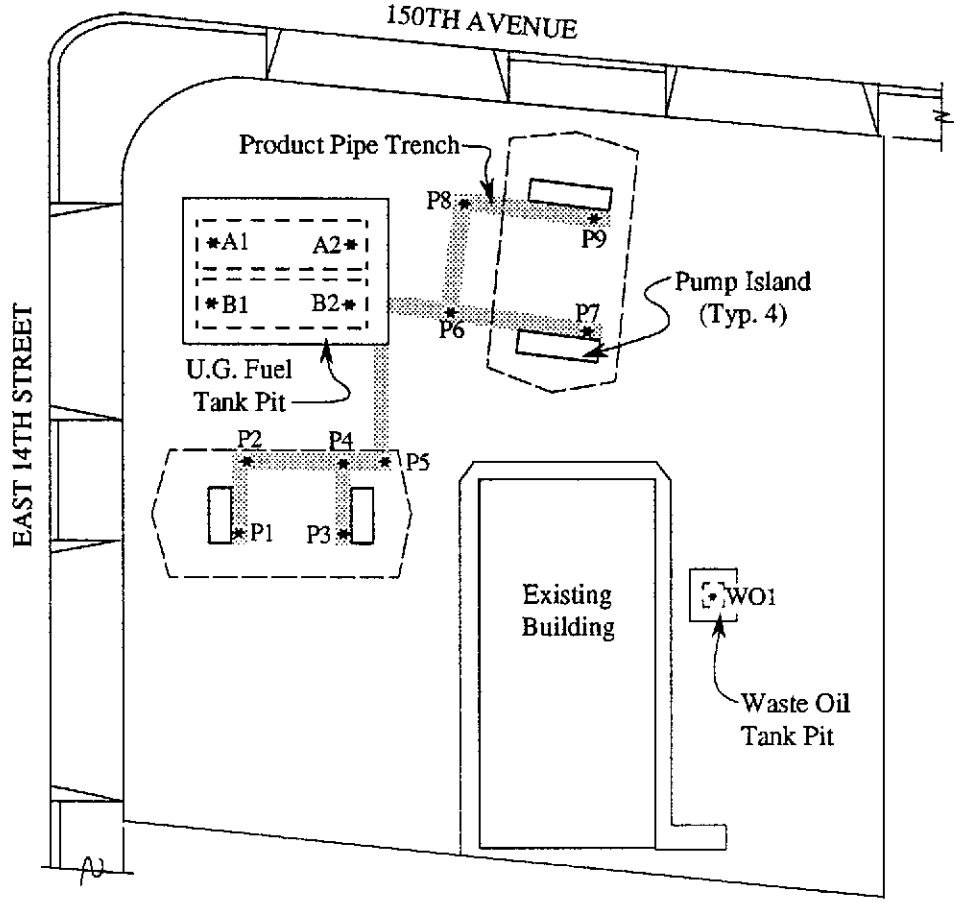


PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON AUGUST 20, 1992

KAPREALIAN ENGINEERING
INCORPORATED

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

FIGURE
4



LEGEND

* Sample point location

(Samples collected during January and February of 1991)

0 30 60

Approx. scale feet

FUEL TANK PIT AND FUEL LINE SOIL SAMPLE LOCATIONS

KAPREALIAN ENGINEERING
INCORPORATED

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

FIGURE
5

BORING LOG

Project No. KEI-P91-0102	**Boring Diameter** 9" **Casing Diameter** 2"	**Logged By** JGG D.L. CEG 1633
Project Name Unocal S/S #3292 15008 E. 14th, San Leandro	**Well Cover Elevation**	**Date Drilled** 8/13/92
Boring No. MW10	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
NO BLOW COUNT DATA - SAMPLES PUSHED	▼	0		Concrete slab.
				Sand and gravel mixed with black silty clay (fill and disturbed native soil).
			SC	Silty clay with trace sand and gravel, very stiff, moist, very dark brown (10YR 2/1) and black (10YR 1/1), mottled.
		5		Clayey sand with trace gravel to 3/4 inch in diameter, sand is fine to coarse-grained, medium dense, moist, dark brown (10YR 3/3), with iron-oxide stained root holes.
			ML	Silt with trace fine-grained sand, stiff, moist, dark greenish gray (5GY 4/1).
		10	CL	Silty clay, stiff, moist, dark gray (5Y 4/1), olive brown (2.5YR 4/4) below 10.5 feet with dark greenish gray (5GY 4/1) discolored root holes.
			MH	Clayey silt, stiff, moist, olive gray (5Y 4/2).
			CL	Silty clay, as at 11 feet.
			MH	Clayey silt, stiff, moist, olive gray (5Y 4/2).
			SM	Silty sand with trace clay, sand is fine-grained, medium dense, wet, dark greenish gray (5GY 4/1).
			CH	Silty clay, stiff, moist, olive gray (5Y 4/2) and very dark grayish brown (10YR 3/2), mottled.
		15	ML	Silt and sandy silt, stiff, very moist to wet, dark greenish gray (5Y 4/1), sand is very fine to fine-grained.
			CH	Silty clay, stiff, moist, olive gray (5Y 4/1) with minor iron oxide staining.
				Clay with silt and trace sand, stiff, moist, very dark brown (10YR 2/2) and very dark gray (10YR 3/1), mottled, minor caliche.
		20		TOTAL DEPTH 20'

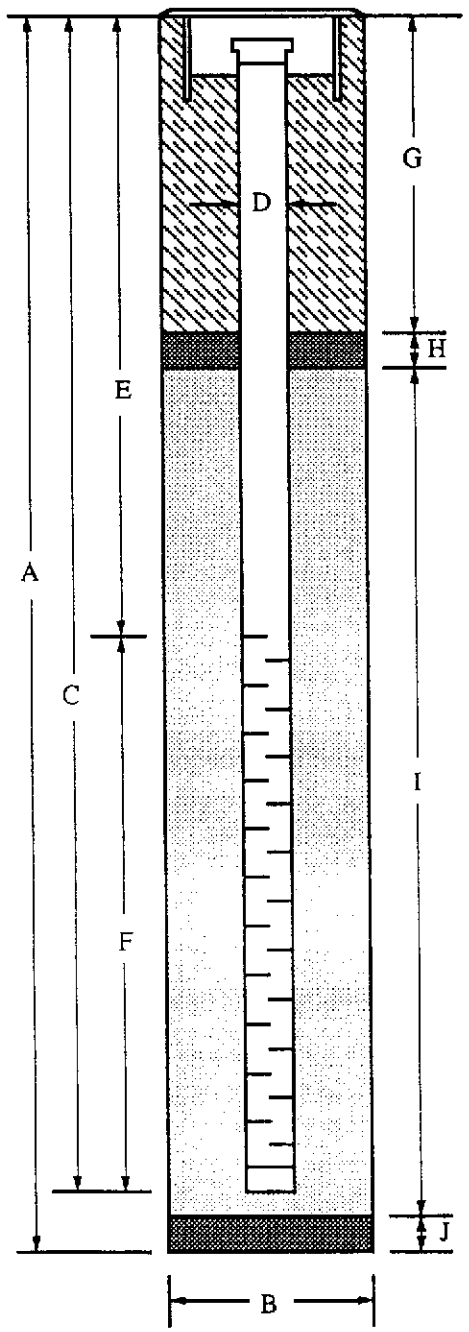
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal S/S #3292, 15008 E. 14th, San Leandro WELL NO. MW10

PROJECT NUMBER: KEI-P91-0102

WELL PERMIT NO.:

Flush-mounted Well Cover



A. Total Depth : 20'

B. Boring Diameter: 8"

Drilling Method: Hollow Stem Auger

C. Casing Length: 20'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 8'

F. Perforated Length: 12'

Perforation Type: Machined Slot

Perforation Size: 0.010"

G. Surface Seal: 4'

Seal Material: Neat Cement

H. Seal: 2'

Seal Material: Bentonite

I. Filter Pack: 14'

Pack Material: RMC Lonestar Sand

Size: #2/12

J. Bottom Seal: None

Seal Material: N/A

BORING LOG

Project No. KEI-P91-0102	**Boring Diameter** 9" **Casing Diameter** 2"	**Logged By** JGG D.L. CEG 1633
Project Name Unocal S/S #3292 15008 E. 14th, San Leandro	**Well Cover Elevation**	**Date Drilled** 8/13/92
Boring No. MW11	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
NO BLOW COUNT DATA - SAMPLES PUSHED	▼	0		Concrete slab.
				Sand and gravel mixed with black silty clay: fill and disturbed native soil.
			CL	Silty clay with trace sand and gravel, very stiff, moist, black (10YR 2/1).
		5	SC	Clayey sand with trace silt, sand is fine to coarse-grained, medium dense, moist, dark brown (10YR 3/3).
			CH	Silty clay, stiff, moist, dark olive gray (5Y 4/2), olive gray (5Y 4/2) below 10 feet, with root holes, root holes are discolored, dark greenish gray below (5GY 4/1) below 10 feet.
		10	MH	Clayey silt with trace fine-grained sand, stiff, moist to very moist, olive gray (SY 4/2), grading to dark greenish gray (5GY 4/1) below 12.5 feet with root holes.
		15	ML	Silt with sand, sand is very fine-grained, stiff, very moist, dark greenish gray (5GY 4/1).
			SP	Poorly graded sand, fine-grained, trace silt, medium dense, saturated, dark greenish gray (5GY 4/1).
				Silty clay, stiff, moist, dark greenish gray (5GY 4/1).
			CH	Clay with silt and trace sand, stiff, moist, very dark brown (10YR 2/2) and very dark gray (10YR 3/1), mottled, with trace caliche.
			MH	Clayey silt, stiff, moist olive gray (SY 4/2).
		20	CL	Silty clay, stiff, moist, dark greenish gray (5GY 4/1).
				TOTAL DEPTH 20'

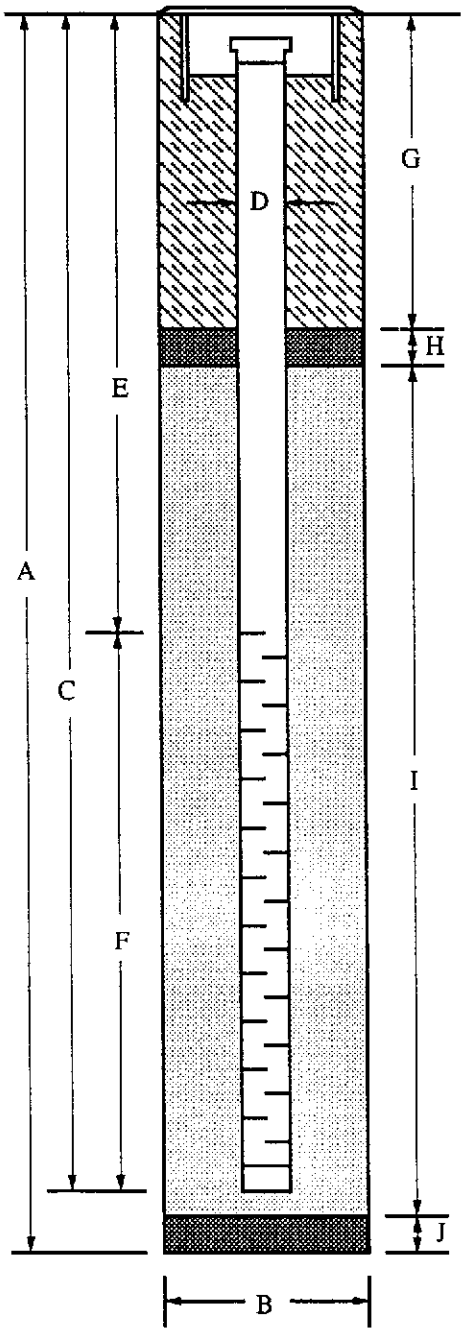
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal S/S #3292, 15008 E. 14th, San Leandro WELL NO. MW11

PROJECT NUMBER: KEI-P91-0102

WELL PERMIT NO.:

Flush-mounted Well Cover



A. Total Depth : 20'

B. Boring Diameter: 8"

Drilling Method: Hollow Stem Auger

C. Casing Length: 19'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 7'

F. Perforated Length: 12'

Perforation Type: Machined Slot

Perforation Size: 0.010"

G. Surface Seal: 3'

Seal Material: Neat Cement

H. Seal: 2'

Seal Material: Bentonite

I. Filter Pack: 14'

Pack Material: RMC Lonestar Sand

Size: #2/12

J. Bottom Seal: 1'

Seal Material: Bentonite

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal s/s #3292, 15008 E 14th St., San Leandro	Sampled:	Aug 20, 1992
2401 Stanwell Drive, Suite 400	Sample Matrix:	Water	Received:	Aug 21, 1992
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Sep 1, 1992
Attention: Mardo Kaprealian, P.E.	First Sample #:	208-0907		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 208-0907 MW1	Sample I.D. 208-0908 MW2	Sample I.D. 208-0909 MW3	Sample I.D. 208-0910 MW4	Sample I.D. 208-0911 MW5	Sample I.D. 208-0912 MW6
Purgeable Hydrocarbons	50	18,000	13,000	4,500	1,000	58,000	280
Benzene	0.5	230	52	58	15	660	8.4
Toluene	0.5	22	N.D.	N.D.	N.D.	1,700	N.D.
Ethyl Benzene	0.5	640	660	65	11	4,200	0.51
Total Xylenes	0.5	950	70	35	3.0	19,000	0.84
Chromatogram Pattern:		Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	10	20	10	1.0	200	1.0
Date Analyzed:	8/31/92	8/31/92	8/31/92	8/29/92	8/29/92	8/29/92
Instrument Identification:	HP-4	HP-4	HP-2	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	98	87	127	112	108	80

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

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal s/s #3292, 15008 E 14th St., San Leandro	Sampled:	Aug 20, 1992
2401 Stanwell Drive, Suite 400	Sample Matrix:	Water	Received:	Aug 21, 1992
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Sep 1, 1992
Attention: Mardo Kaprealian, P.E.	First Sample #:	208-0913		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 208-0913 MW7	Sample I.D. 208-0914 MW8	Sample I.D. 208-0915 MW9	Sample I.D. 208-0916 MW10	Sample I.D. 208-0917 MW11	Sample I.D. Matrix Blank
Purgeable Hydrocarbons	50	13,000	3,500	3,800	15,000	4,600	
Benzene	0.5	460	67	37	230	62	
Toluene	0.5	54	11	N.D.	N.D.	N.D.	
Ethyl Benzene	0.5	N.D.	N.D.	N.D.	1,000	N.D.	
Total Xylenes	0.5	3,100	N.D.	N.D.	350	54	
Chromatogram Pattern:		Gasoline	Gasoline & Non Gasoline Mixture (>C9)	Gasoline & Non Gasoline Mixture (>C9)	Gasoline	Gasoline & Non Gasoline Mixture (>C9)	--

Quality Control Data

Report Limit Multiplication Factor:	100	10	10	200	10	1.0
Date Analyzed:	8/31/92	8/31/92	8/31/92	8/28/92	8/31/92	8/28/92
Instrument Identification:	HP-2	HP-2	HP-2	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	107	126	91	104	104	99

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 Drive, Suite 400
Concord, CA 94520
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal s/s #3292, 15008 E 14th St., San Leandro
QC Sample Group: 2080907-917
Reported: Sep 1, 1992

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:	Aug 31, 1992	Aug 31, 1992	Aug 31, 1992	Aug 31, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60
Conc. Matrix Spike:	20	20	20	63
Matrix Spike % Recovery:	100	100	100	105
Conc. Matrix Spike Dup.:	19	19	20	62
Matrix Spike Duplicate % Recovery:	95	95	100	103
Relative % Difference:	5.1	5.1	0.0	1.6

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: STEVE

WITNESSING AGENCY:

SITE NAME & ADDRESS: UNOCAL S/S # 3292 SAN LEANDRO
15008 E. 14th STREET

TURN AROUND TIME: REGULAR

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	ANALYSES REQUESTED: TPH-G	BTXE	REMARKS
MW 1	8/20/92	11:45 A.m		X	X		2	MW	X	X	208907AB
MW 2	"			X	X		2	MW	X	X	908AB
MW 3	"			X	X		2	MW	X	X	909AB
MW 4	"			X	X		2	MW	X	X	910AB
MW 5	"			X	X		2	MW	X	X	911AB
MW 6	"			X	X		2	MW	X	X	912AB
MW 7	"			X	X		2	MW	X	X	913AB
MW 8	"			X	X		2	MW	X	X	914AB
MW 9	"			X	X		2	MW	X	X	915AB

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
STEVE	8/21/92 9:40AM	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (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? NO
4. Were samples in appropriate containers and properly packaged? Y

Signature: [signature] Title: F.S. Date: 8/21/92

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

KAPREALIAN ENGINEERING
INCORPORATED

CHAIN OF CUSTODY

SAMPLER: STEVE
WITNESSING AGENCY:
SITE NAME & ADDRESS: UNOCAL S/S #3292 SAN LEANDRO, 15008 E. 14th STREET

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-G	BTXE						REMARKS
MW 10	8/20/92	↓		X	X		2	MW	X	X						2080916AB
MW 11	"	5:05 p.m		X	X		2	MW	X	X						↓ 917AB

TURN AROUND TIME: REGULAR

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
STEVE	8/21/92 9:40 AM	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (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? NO
4. Were samples in appropriate containers and properly packaged? Y

Signature: [signature] Title: F.S. Date: 8/21/92

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

SEQUOIA ANALYTICAL

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

Kaprealian Engineering, Inc.	Client Project ID:	Unocal #3292, 15008 E. 14th Street	Sampled:	Aug 13, 1992
2401 Stanwell Drive, Suite 400	Sample Matrix:	Soil San Leandro	Received:	Aug 14, 1992
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Aug 24, 1992
Attention: Mardo Kaprealian, P.E.	First Sample #:	208-0463		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 208-0463 MW10(5)	Sample I.D. 208-0464 MW10(10)	Sample I.D. 208-0465 MW10(13)	Sample I.D. 208-0466 MW11(5)	Sample I.D. 208-0467 MW11(10)	Sample I.D. 208-0468 MW11(12)
Purgeable Hydrocarbons	1.0	N.D.	1.2	32	N.D.	2.3	47
Benzene	0.005	N.D.	0.013	N.D.	N.D.	N.D.	N.D.
Toluene	0.005	N.D.	0.0064	0.11	N.D.	0.0050	0.056
Ethyl Benzene	0.005	N.D.	0.019	0.99	N.D.	0.037	0.46
Total Xylenes	0.005	0.0098	0.013	0.065	0.0063	0.014	0.38
Chromatogram Pattern:		--	Gasoline	Gasoline	--	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	5.0	1.0	1.0	10
Date Analyzed:	8/18/92	8/18/92	8/18/92	8/18/92	8/17/92	8/17/92
Instrument Identification:	HP-2	HP-4	HP-4	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	102	103	93	104	103	100

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 #3292, 15008 E. 14th Street	Sampled:	Aug 13, 1992
2401 Stanwell Drive, Suite 400	Sample Matrix:	Soil San Leandro	Received:	Aug 14, 1992
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported:	Aug 24, 1992
Attention: Mardo Kaprealian, P.E.	First Sample #:	Matrix Blank		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. Matrix Blank
Purgeable Hydrocarbons	1.0	
Benzene	0.005	
Toluene	0.005	
Ethyl Benzene	0.005	
Total Xylenes	0.005	

Chromatogram Pattern:

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	8/17/92
Instrument Identification:	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	108

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

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Project Manager

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

Client Project ID: Unocal #3292, 15008 E. 14th Street
QC Sample Group: 2080463-468
Reported: Aug 24, 1992

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:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Aug 17, 1992	Aug 17, 1992	Aug 17, 1992	Aug 17, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.40	0.40	0.40	1.2
Conc. Matrix Spike:	0.41	0.44	0.44	1.4
Matrix Spike % Recovery:	102	110	110	116
Conc. Matrix Spike Dup.:	0.41	0.44	0.45	1.4
Matrix Spike Duplicate % Recovery:	102	110	112	116
Relative % Difference:	0.0	0.0	2.2	0.0

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: [signature]

WITNESSING AGENCY:

SITE NAME & ADDRESS: UNOCAL #3292 / SAN LEANDRO
1500 E. 14TH STREET

ANALYSES REQUESTED: TPH-D; TPH-G

TURN AROUND TIME: REGULAR

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-D	TPH-G	REMARKS
MW10(5)	8-13-92		X		X		1	SEE SAMPLE ID NO.	X	X	2080463
MW10(10)	8-13-92		X		X		1		X	X	464
MW10(13)	8-13-92		X		X		1		X	X	465
MW11(5)	8-13-92		X		X		1		X	X	466
MW11(10)	8-13-92		X		X		1		X	X	467
MW11(12)	8-13-92		X		X		1		X	X	468

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature] (KEI)	8/14/92 9:50am	[signature]
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (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/A
4. Were samples in appropriate containers and properly packaged? Y

[signature] (Signature) — F.S. (Title) — 8/14/92 (Date)

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