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June 17, 1992

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

Attention: Mr. Larry Seto

RE: Unocal Service Station #6277
15803 E. 14th Street
San Leandro, California

Dear Mr. Seto:

Per the request of Ms. Penny Silzer of Unocal Corporation, enclosed please find our report dated June 2, 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: Penny Silzer, Unocal Corporation

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

KAPREALIAN ENGINEERING
INCORPORATED

KEI-P89-0301.QR10
June 2, 1992

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

Attention: Ms. Penny Silzer

RE: Quarterly Report
Unocal Service Station #6277
15803 E. 14th Street
San Leandro, California

Dear Ms. Silzer:

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-P89-0301.P4 dated July 23, 1991. The wells are currently monitored monthly and sampled on a quarterly basis. This report covers the work performed by KEI from February through April of 1992.

SITE DESCRIPTION AND BACKGROUND

The subject site is presently used as a service station. The site is characterized by gently sloping, southwest trending topography, and is located approximately three miles northeast of the present shoreline of San Francisco Bay. A Location Map, a Site Vicinity Map, a Well Location Map, and Site Plans are attached to this report.

KEI's work at the site began when KEI was retained by Unocal to drill two exploratory borings (designated as EB1 and EB2) at the site. The borings were drilled on March 6, 1989, at the request of Alameda County. The borings were installed in order to explore for the possible presence of soil contamination in the vicinity of the pit for the proposed new underground storage tanks. The borings were drilled to depths of 10.5 and 13.5 feet below grade. Ground water was encountered in the borings at depths of 11 to 12 feet below grade.

Samples were analyzed at Sequoia Analytical Laboratory in Redwood City, California. Samples collected from borings EB1 and EB2 were analyzed for total petroleum hydrocarbons (TPH) as gasoline and benzene, toluene, xylenes, and ethylbenzene (BTX&E). Analytical results of the soil samples collected from depths of 5 feet below grade in the borings had TPH as gasoline levels ranging from non-detectable to 2.1 ppm, while the samples collected from 10 feet below grade had levels of TPH as gasoline ranging from 200 ppm to

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620 ppm. Based on results of the preliminary investigation, KEI recommended that the contractor excavate the tank pit to a depth of approximately 13 feet below grade. Documentation of the exploratory boring drilling procedures, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P89-0301.R1) dated March 13, 1989. Soil sample results from that report are summarized in Table 5. Exploratory boring locations are as shown on the attached Site Plan, Figure 3.

KEI returned to the site on March 13, 1989, when three underground storage tanks were removed from the site. The tanks consisted of two 10,000 gallon gasoline storage tanks and one 550 gallon waste oil tank. The tanks were made of steel with a tar and wrap coating, and no apparent holes or cracks were observed in the tanks. Due to the tar coating and wrapping, very little of the actual tank walls could be observed. Water was encountered in the fuel tank pit at a depth of about 11 feet below grade, thus prohibiting the collection of any soil samples from immediately beneath the tanks. Six soil samples, labeled SW1 through SW6, were collected from the sidewalls of the fuel tank pit at depths of approximately 1 foot above the water table; and one soil sample, labeled WO1, was collected from beneath the waste oil tank at a depth of about 10 feet below grade.

Based on the subjective evidence observed in the field, it was decided to excavate additional soil from three of the four tank pit sidewalls. The fourth tank pit sidewall (adjacent to the existing building) was not recommended to be excavated at that time. On March 14, 1989, four trenches were dug to define the limits of additional soil excavation needed. Four soil samples were then collected at depths of about 10 feet below grade, and are referred to as SW3(15), SW4/5(6), SW6(12), and SW7(14). Sample SW7(14) was collected from the sidewall of the waste oil tank pit. After the soil sampling was completed, approximately 5,000 gallons of ground water were pumped from the fuel tank pit on March 15, 1989; however, due to ongoing soil excavation, contaminated soil was falling into the water and a representative ground water sample could not be collected.

On March 17, 1989, KEI again returned to the site. Additional soil (approximately 2 feet laterally) was excavated from the fourth tank pit sidewall adjacent to the building. One additional sidewall soil sample, labeled SW1(2), was collected at a depth of about 10 feet below grade at the location identified on the attached Site Plan, Figure 2. Following soil sampling, an additional 1,000 gallons of ground water were pumped from the excavation and one water sample, labeled W1, was collected from the fuel tank pit.

On March 23, 1989, KEI returned to the site for pipe trench sampling. Six soil samples, labeled P1, P2, P3, P4, P5, and P6, were collected from beneath the product lines at depths of about 3 to 3.5 feet below grade.

Soil samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California. Samples from the fuel tank pit were analyzed for TPH as gasoline and BTX&E. The samples from the waste oil tank pit [WO1 and SW7(14)] were analyzed for TPH as gasoline, TPH as diesel, total oil and grease (TOG), and EPA method 8240 constituents.

The analytical results of the soil samples collected from the fuel tank pit indicated TPH as gasoline levels ranging from 24 ppm to 150 ppm for samples SW3(15), SW4/5(6), and SW6(12). Sample SW1 (located adjacent to the existing building) showed 3,500 ppm of TPH as gasoline; however, SW1(2), which was collected after excavating 2 feet of sidewall toward the building, showed 100 ppm of TPH as gasoline. Sample SW2 showed 390 ppm of TPH as gasoline. Samples SW3, SW4, SW5, and SW6 were not analyzed because their locations were excavated and new samples [SW3(15), SW4/5(6), and SW6(12)] were collected. Analytical results of the soil samples collected from the waste oil tank pit indicated 280 ppm of TOG for WO1 and 41 ppm of TOG for SW7(14). Analytical results of the soil samples (P1 through P6) collected from the pipe trenches indicated levels of TPH as gasoline ranging from 1.1 ppm to 6.8 ppm.

Analytical results of the water sample (W1) collected from the old fuel tank pit indicated 19,000 ppb of TPH as gasoline and 230 ppb of benzene. The results for the water sample are summarized in Table 6, and the results of the soil samples are summarized in Table 5.

Based on the analytical results, KEI recommended the installation of four ground water monitoring wells. Documentation of the tank and piping removal procedures, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P89-0301.R3) dated March 27, 1989.

On May 24, 1989, four two-inch diameter monitoring wells, designated as MW1 through MW4 on the attached Site Plan, Figure 1, were installed at the site. The four wells were each drilled and completed to total depths ranging from 24.5 to 25 feet below grade. Ground water was encountered at depths ranging from 11 to 12 feet beneath the surface during the drilling. The wells were developed on June 5, 1989, and were initially sampled on June 6, 1989. Water and selected soil samples were analyzed at Sequoia Analytical

Laboratory in Redwood City, California. The samples were analyzed for TPH as gasoline and BTX&E. In addition, the sample collected from monitoring well MW2 (the well most closely adjacent to the waste oil tank) was analyzed for TPH as diesel, TOG, and EPA method 8010 constituents.

The analytical results of the soil samples collected from the borings for wells MW1, MW2, MW3, and MW4 showed levels of TPH as gasoline ranging from 2.3 ppm to 31 ppm, except in sample MW4(10), which showed a non-detectable level of TPH as gasoline, and in samples MW1(10) and MW2(5), which showed levels of 230 ppm and 290 ppm, respectively. The soil sample collected from MW2(5) also showed a TOG level of 7,700 ppm. The analytical results of water samples collected from monitoring wells MW1 through MW4 showed non-detectable levels of BTX&E in all wells, and TPH as gasoline levels ranging from 32 ppb to 590 ppb. Documentation of the well installation procedures, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P89-0301.R6) dated June 26, 1989. Analytical results from that report are summarized in Tables 2, 2a, and 5. Based on the sample results, KEI recommended a monthly monitoring and quarterly sampling program for all of the wells and additional excavation of contaminated soil in the vicinity of MW2.

The monitoring and sampling program was initiated in July of 1989, and the wells have been monitored on a monthly basis and sampled on a quarterly basis since that time. In KEI's second quarterly report (KEI-P89-0301.QR2) dated January 16, 1990, KEI recommended the installation of one additional off-site well (MW5) in order to further define the extent of ground water contamination in the vicinity of the site.

On February 1, 1990, well MW2 was destroyed in preparation for additional excavation. Documentation of the well destruction is presented in a letter report dated March 7, 1990.

In an attempt to remove as much of the contaminated soil as possible, KEI was present at the site on March 30, 1990, and April 3, 1990, to observe soil excavation in the vicinity of previously abandoned monitoring well MW2, as shown on the attached Site Plans, Figures 1 and 2. Soil was excavated to a depth corresponding to approximately 6 to 12 inches below the level of the ground water, which was encountered at a depth of about 11.5 feet below grade.

After excavation, four soil samples, labeled SW8A, SW9A, SW10A, and SW11A, were collected from the sidewalls of the excavation, each approximately 6 to 12 inches above ground water. Sample locations

and the area excavated are as shown on the attached Site Plan, Figure 2. Soil excavation activities were terminated due to the close proximity of the former and new underground storage tank pits and the property line of the site. After sampling, approximately 9,400 gallons of water were pumped from the excavation.

All samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California. All soil samples were analyzed for TPH as gasoline, BTX&E, TPH as diesel, TOG, and EPA method 8010 constituents.

Analytical results of soil sample SW9A indicated non-detectable levels of TPH as gasoline and TPH as diesel. Analytical results of soil samples SW8A, SW10A, and SW11A indicated levels of TPH as gasoline ranging from 140 ppm to 1,100 ppm, while levels of TPH as diesel ranged from non-detectable to 280 ppm. Analytical results also indicated non-detectable levels of EPA method 8010 constituents and TOG for all four samples, except for sample SW11A, which showed 210 ppm of TOG. The results of the soil analyses are summarized in Table 4. Documentation of the excavation procedures, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P89-0301.R7) dated May 2, 1990.

On March 12, 1991, one two-inch diameter monitoring well (designated as MW2A on the attached Site Plan, Figure 1) was installed at the site. Well MW2A was installed in the vicinity of former well MW2 and is intended to be a replacement for well MW2 (which was destroyed in preparation for adjacent soil excavation activities). The well was drilled and completed to a total depth of 25.5 feet below grade. Ground water was encountered at a depth of about 14.8 feet beneath the surface during the drilling. The surface of the new well cover and all previously existing well covers were surveyed by Kier & Wright of Pleasanton, California, to Mean Sea Level (MSL) and to a vertical accuracy of 0.01 feet. Well MW2A was developed on March 13, 1991, and all of the wells were sampled on March 15, 1991.

Water samples from all wells, and selected soil samples from the boring of MW2A, were analyzed at Sequoia Analytical Laboratory in Concord, California. The samples were analyzed for TPH as gasoline and BTX&E. In addition, the soil and water samples collected from MW2A were analyzed for TPH as diesel, TOG, and EPA method 8010 compounds.

Analytical results of the soil samples collected from boring MW2A indicated non-detectable levels of TPH as gasoline and benzene in all analyzed samples, except in sample MW2A(10), which had a TPH as

gasoline level of 10 ppm, with a benzene level of 0.12 ppm. Levels of TPH as diesel ranged from non-detectable to 4.8 ppm, with TOG levels ranging from 57 ppm to 1,300 ppm, and non-detectable levels of all EPA method 8010 constituents, except for 110 ppb of 1,2-dichlorobenzene and 120 ppb of tetrachloroethene in MW2A(10). Analytical results of the water samples collected from monitoring wells MW1 through MW4 on March 15, 1991, indicated levels of TPH as gasoline ranging from 53 ppb to 160 ppb, with benzene levels at 21 ppb and 2.5 ppb, in wells MW1 and MW2A, respectively. Benzene was non-detectable in wells MW3 and MW4. Also, TPH as diesel, TOG, and EPA method 8010 constituents were non-detectable in well MW2A, except for cis-1,2-dichloroethene at 2.6 ppb, tetrachloroethene at 67 ppb, and trichloroethene at 8.2 ppb. The results of the soil analyses are summarized in Table 3, and the results of the water analyses are summarized in Tables 2 and 2a.

Documentation of the well installation procedures, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P89-0301.R8) dated April 16, 1991. Based on the analytical results, KEI recommended the continuation of the monthly monitoring and quarterly sampling program.

KEI previously proposed that an additional monitoring well be installed on the private property located northwest of the site, in order to complete the delineation of the ground water contamination. However, after Unocal Corporation encountered delays in securing access to this private property, KEI recommended that the proposed well be installed at an alternate location in the sidewalk along East 14th Street, as shown on the attached Site Vicinity Map.

Based on the apparent upgradient contamination detected in wells MW3 and MW4, KEI recommended conducting file reviews to determine whether there are any upgradient sources contributing to the contamination at the Unocal site. On December 10, 1991, a representative of KEI conducted a file review at the Regional Water Quality Control Board (RWQCB). This review focused on three sites with monitoring wells located within a half-mile of the Unocal station. The three sites had been previously identified during a well survey carried out by KEI, using data from the Alameda County Flood Control and Water Conservation District.

The Okada property, located at 16109 Ashland Avenue, contains three monitoring wells that were installed after an underground fuel storage tank removal project. This site is located approximately 1,000 feet southeast of the Unocal site. Based on reports prepared by Terra Vac of San Jose, California, as of March 1990, the ground

water flow direction had been consistently to the west for the three previous quarters. In addition, TPH as gasoline had been detected in ground water at levels up to 280 ppb, and TPH as diesel at levels up to 1,100 ppb. Benzene had been detected at levels less than 0.5 ppb.

A former USA Petroleum station is located at 15120 Hesperian Boulevard, approximately 2,300 feet west of the Unocal site. Based on a letter report prepared by Aqua Engineers of San Ramon, California, and dated May 24, 1989, underground fuel storage tanks were removed in May 1989, and TPH as gasoline was detected in the soil samples at levels of up to 9,670 ppm.

The third site within a half-mile of the Unocal site that contains monitoring wells is reportedly owned by Kaufman and Broad, and is located at 1630-162nd Avenue, approximately 1,800 feet east-southeast of the Unocal site. No files were available at the RWQCB for this location.

Based on the west and northwest flow directions at the Okada property and the Unocal site, respectively, and the distances between the Okada property, the former USA Petroleum station, and the Unocal site, it appears unlikely that contamination from these sites has commingled.

RECENT FIELD ACTIVITIES

The four wells (MW1, MW2A, MW3, and MW4) 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 wells on April 23, 1992. Prior to sampling, the wells were each purged of 10 gallons by the use of a surface pump. Samples were then collected by the use of a clean Teflon bailer. Samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps and stored in a cooler, on ice, until delivery to the state-certified laboratory.

HYDROLOGY AND GEOLOGY

Based on the water level data gathered on April 23, 1992, the ground water flow direction appeared to be toward the northwest,

which is relatively unchanged from the northwesterly flow direction reported for the two previous quarters. The average hydraulic gradient at the site on April 23, 1992, was approximately 0.002. Water levels have fluctuated during the quarter, showing a net increase of 0.02 to 0.08 feet in all wells since January 13, 1992, except for well MW4, in which the water level has remained unchanged. The measured depth to ground water at the site on April 23, 1992, ranged between 9.78 and 11.36 feet below grade.

Based on review of regional geologic maps (U.S. Geological Survey Professional Paper 943 "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning" by E.J. Helley and K.R. Lajoie, 1979), the subject site is underlain by Late Pleistocene alluvium (Qpa). The Late Pleistocene alluvium is described as typically consisting of weakly consolidated, poorly sorted, irregular interbedded clay, silt, sand, and gravel, with a reported unknown maximum thickness (but at least 150 feet thick). This alluvium is assumed to overlay bedrock and deformed older sedimentary deposits on the alluvial plain marginal to San Francisco Bay. In addition, the site is situated approximately 1,700 to 3,600 feet southwest of various mapped splays of the active Hayward Fault.

The results of our previous subsurface study indicates that the site is underlain by fill materials to a depth of about 2 to 5 feet below grade, which are in turn underlain by silty clay materials to the maximum depth explored (25 feet below grade). The results of our most recent subsurface study indicate that in the vicinity of MW2A, the site is underlain by fill materials that extend to a depth of about 5 feet below grade, which are in turn underlain by highly expansive clay materials to a depth of about 11.5 feet below grade, and further underlain by clay and silty clay materials to the maximum depth explored (25.5 feet below grade).

Water Well Survey

As previously reported, a detailed review of available information on producing water wells and ground water monitoring wells adjacent to the subject site was performed by KEI in August of 1991. The well survey focused on the area within a one-half mile radius of the subject site, and is based upon data obtained from the Alameda County Flood Control and Water Conservation District. The information reviewed revealed the presence of 15 producing wells within the study area. All of the located producing wells are designated as irrigation wells and have depths ranging from 20 to 440 feet below grade. Three sites with existing monitoring wells were located within the study area; the closest one is approxi-

mately 1,000 feet from the subject site. The Alameda County Flood Control and Water Conservation District records suggest that the status of many of the irrigation wells is unknown. No producing wells that could possibly influence the ground water flow direction at the subject site were located during the survey. Wells located during the well survey are shown on the attached Well Location Map. Data for the production wells are listed in Table 7, and data for sites with existing monitoring wells are listed in Table 8.

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 by EPA method 5030 in conjunction with modified 8015, and BTX&E by EPA method 8020. In addition, the ground water sample collected from monitoring well MW2A was analyzed for TPH as diesel by EPA method 3510 in conjunction with modified 8015, TOG by Standard Method 5520B&F, and EPA method 8010 constituents.

The analytical results of the ground water samples are summarized in Tables 2 and 2a. The concentrations of TPH as gasoline and benzene detected in ground water samples collected on April 23, 1992, are shown on the attached Site Plan, Figure 1a. Copies of the analytical results and Chain of Custody documentation are attached to this report.

DISCUSSION AND RECOMMENDATIONS

Based on the analytical results collected and evaluated to date, and no evidence of free product or sheen in any of the wells, KEI recommends the continuation of the current monitoring and sampling program of the existing wells, per KEI's proposal (KEI-P89-0301.P4) dated July 23, 1991.

As shown on the attached laboratory analysis sheets, Sequoia Analytical Laboratory reported that the levels of low/medium boiling point hydrocarbons (LMBP) detected in monitoring wells MW3 and MW4 on April 23, 1992, "do not appear to contain gasoline. LMBP is due to several unidentified peaks." In order to positively identify the compounds, KEI recommends that the ground water samples collected next quarter from all four wells be analyzed for EPA method 8010 constituents.

KEI previously proposed the installation of an additional monitoring well in the sidewalk along East 14th Street, per KEI's proposal (KEI-P89-0301.P4) dated July 23, 1991. On February 10, 1992, a

representative of KEI was on-site to supervise concrete coring at the proposed well location, and to hand dig the upper 5 feet of material to verify that no utilities are present. A concrete obstruction was encountered at a depth of about 2 feet below grade. On a second attempt 5 feet from the proposed location, the concrete obstruction was again encountered. KEI contacted City of San Leandro inspectors and determined that the well cannot be completed at or near this location due to the presence of a storm drain and other underground utilities. KEI has requested that Unocal reactivate the process of securing off-site permission for the originally proposed location. KEI is prepared to install the well as soon as the access permission and the necessary permits have been received.

KEI previously recommended conducting file reviews on the Kaufman and Broad site in order to determine the sources contributing to the contamination at the Unocal site. On April 8, 1992, a representative of KEI conducted a file review at the Alameda County Health Care Services. The only document on file was a permit to operate an underground tank. Currently, there is no ongoing subsurface investigation at the site. KEI also contacted Mr. Mike Bakaldin, the Haz-Mat coordinator for the City of San Leandro Fire Department on April 10, 1992. No files related to the Kaufman and Broad site were found within his jurisdiction.

KEI has reviewed a letter dated May 6, 1992, from the Alameda County Health Care Services Agency (County) to Unocal regarding the subject site. The County has indicated that additional wells (located to the west and north of well MW2A) are needed to define the extent of ground water contamination in the vicinity of the site. As stated above, KEI previously proposed the installation of an additional monitoring well in the sidewalk along East 14th Street; however, KEI was unable to install a well at this location due to the presence of underground utilities. Therefore, KEI has recommended installing an additional well at an alternative location, as shown on the attached Site Vicinity Map. The new proposed location of well MW5 should satisfy the County's concern that a well be installed to the west and north of well MW2A.

The County's May 6, 1992, letter also stated that ground water samples collected from all wells, both present and proposed, shall be analyzed for halogenated hydrocarbons (EPA method 8010 constituents), and TPH as diesel. The County's requirement was "based on the historical fluctuations in ground water gradients at the site, and 'hits' noted in all wells in the past." Based on the past ten quarters of monitoring at the site, the ground water flow direction has been consistently to the north, varying from the northwest to

the northeast. Since wells MW3 and MW4 are located upgradient of any known on-site sources (tanks and piping), KEI does not recommend that analyses for TPH as diesel and EPA method 8010 constituents for these wells be conducted on a quarterly basis. However, KEI does recommend that the ground water samples collected next quarter from wells MW3 and MW4 be analyzed for TPH as diesel and for EPA method 8010 constituents on a one-time basis. In addition, KEI recommends that the ground water sample collected next quarter from well MW1 also be analyzed for TPH as diesel and EPA method 8010 constituents. The ground water sample collected from the proposed well (MW5) will also be analyzed for these constituents. Recommendations regarding continuation of these analyses will be based on the analytical results of the samples.

DISTRIBUTION

A copy of this report should be sent to Mr. Larry Seto of the Alameda County Health Care Services Agency, to the City of San Leandro, and to the RWQCB, San Francisco Bay Region.

LIMITATIONS

Environmental changes, either naturally-occurring or artificially-induced, may cause changes in ground water levels and flow paths, thereby changing the extent and concentration of any contaminants.

Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

The results of this study are based on the data obtained from the field and laboratory analyses obtained from a state-certified laboratory. We have analyzed this data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, regarding the above, including laboratory analyses, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

Should you have any questions regarding this report, please do not hesitate to call me 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 6/30/92

Robert H. Kezerian, P.E.
Project Engineer

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Attachments: Tables 1 through 8
Location Map
Site Vicinity Map
Well Location Map
Site Plans - Figures 1, 1a, 2, 3 & 4
Laboratory Analyses
Chain of Custody documentation

KEI-P89-0301.QR10
June 2, 1992

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 April 23, 1992)					
MW1	22.33	10.42	0	No	10
MW2A	22.42	11.36	0	No	10
MW3	22.61	9.95	0	No	10
MW4	22.54	9.78	0	No	10
(Monitored on March 20, 1992)					
MW1	22.60	10.15	0	--	0
MW2A	22.77	11.01	0	--	0
MW3	22.95	9.61	0	--	0
MW4	22.81	9.51	0	--	0
(Monitored on February 26, 1992)					
MW1	22.58	10.17	0	--	0
MW2A	22.75	11.03	0	--	0
MW3	22.94	9.62	0	--	0
MW4	22.80	9.52	0	--	0

Well #	Surface Elevation* (feet)
MW1	32.75
MW2	33.78
MW3	32.56
MW4	32.32

-- Sheen determination was not performed.

* The elevations of the tops of the well covers were surveyed relative to MSL.

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June 2, 1992

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
4/23/92	MW1	--	530	100	7.9	60	4.6
	MW2A	ND	190	15	ND	2.0	15
	MW3	--	150*	1.6	ND	ND	ND
	MW4	--	120*	ND	ND	ND	ND
1/13/92	MW1	--	450	240	4.6	73	8.6
	MW2A	ND	160	11	2.0	5.9	10
	MW3	--	120*	ND	ND	ND	ND
	MW4	--	58*	ND	ND	ND	ND
9/10/91	MW1	--	280	38	3.1	22	4.1
	MW2A	65	180	8.7	0.93	13	15
	MW3	--	170	ND	ND	ND	ND
	MW4	--	56	ND	ND	ND	ND
6/10/91	MW1	--	310	1.5	ND	0.31	ND
	MW2A	100	54	1.2	ND	0.69	ND
	MW3	--	160	0.65	ND	ND	ND
	MW4	--	64	ND	ND	ND	ND
3/15/91	MW1	--	110	21	ND	8.4	ND
	MW2A	ND	160	2.5	ND	51	ND
	MW3	--	150	ND	ND	0.45	ND
	MW4	--	53	ND	ND	ND	ND
12/14/90	MW1	--	450	150	6.8	49	0.28
	MW3	--	150	ND	ND	ND	ND
	MW4	--	54	ND	ND	ND	ND
9/19/90	MW1	--	140	ND	ND	3.5	ND
	MW3	--	74	0.74	ND	ND	ND
	MW4	--	61	ND	ND	ND	ND
6/25/90	MW1	--	310	10	0.89	2.1	0.37
	MW3	--	190	1.5	0.68	5.3	ND
	MW4	--	66	ND	ND	ND	ND
3/29/90	MW1	--	320	12	1.6	3.5	0.31
	MW3	--	85	ND	ND	ND	ND
	MW4	--	120	0.39	ND	ND	ND

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June 2, 1992

TABLE 2 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
12/12/89	MW1	--	340	100	13	44	3.4
	MW2	1,700	660	220	6.6	36	13
	MW3	--	120	6.7	0.64	1.5	0.46
	MW4	--	97	4.6	ND	ND	ND
9/13/89	MW1	--	550	32	17	52	3.4
	MW2	ND	170	2.0	0.38	9.5	ND
	MW3	--	76	ND	ND	ND	ND
	MW4	--	77	ND	ND	ND	ND
6/06/89	MW1	--	590	ND	ND	ND	ND
	MW2	ND	77	ND	ND	ND	ND
	MW3	--	32	ND	ND	ND	ND
	MW4	--	37	ND	ND	ND	ND
Detection Limits		50	30	0.30	0.30	0.30	0.30

NOTE: Well MW2 was destroyed on February 1, 1990.

-- Indicates analysis was not performed.

ND = Non-detectable.

* The laboratory reported that the samples "do not appear to contain gasoline. LMBP is due to several unidentified peaks."

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

KEI-P89-0301.QR10
June 2, 1992

TABLE 2a

SUMMARY OF LABORATORY ANALYSES
WATER

Sample Well #	Date	Tetra-chloro-ethene	Tri-chloro-ethene	1,2-Di-chloro-ethane	Total 1,2-dichloro-ethene	TOG (ppm)
MW2A	4/23/92	17	5.6	ND	1.9**	ND
MW2A*	1/13/92	33	ND	ND	2.1**	ND
MW2A	6/10/91	150	10	ND	ND	ND
MW2A	3/15/91	67	8.2	ND	2.6**	ND
MW2	12/12/89	30	9.0	ND	ND	1.2
MW2	9/13/89	18	6.1	4.2	1.2	<50
MW2	6/06/89	110	4.4	2.8	ND	ND

* 1,1,2-trichloroethane was also detected at a level of 9.9 ppb.

** Reported as cis-1,2-dichloroethene. Trans-1,2-dichloroethene was non-detectable.

ND = Non-detectable.

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

KEI-P89-0301.QR10
June 2, 1992

TABLE 3

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene	TOG
3/12/91	MW2A(5)*	5.0	4.8	ND	ND	ND	ND	ND	1,300
	MW2A(10)*	10.0	2.4	10	0.12	0.17	1.6	0.14	260
	MW2A(14.5)*	14.5	ND	ND	ND	0.0080	0.036	ND	57
Detection Limits			1.0	1.0	0.0050	0.0050	0.0050	0.0050	30

* All EPA method 8010 constituents were non-detectable, except for 0.110 ppm of 1,2-dichlorobenzene and 0.120 ppm of tetrachloroethene detected in sample MW2A(10).

ND = Non-detectable.

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

KEI-P89-0301.QR10
June 2, 1992

TABLE 4

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
4/03/90	SW8A*	10.5	62	260	1.4	8.0	40	7.0
	SW9A*	10.5	ND	ND	0.017	0.041	0.033	0.0092
	SW10A*	10.5	ND	140	0.085	0.12	5.0	1.4
	SW11A**	10.5	280	1,100	8.0	43	230	37
Detection Limits			1.0	1.0	0.0050	0.0050	0.0050	0.0050

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

** TOG showed 210 ppm, while all EPA method 8010 constituents were non-detectable.

ND = Non-detectable.

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

KEI-P89-0301.QR10
June 2, 1992

TABLE 5

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	Depth (feet)	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl-benzene
3/06/89	EB1(5)	5.0	2.1	ND	0.11	ND	0.14
	EB1(10)	10.0	200	2.3	7.7	5.7	33
	EB2(5)	5.0	ND	ND	ND	ND	ND
	EB2(10)	10.0	620	2.2	20	13	78
3/13/89	SW1	10.0	3,500	22	280	600	10
3/14/89	SW1(2)	10.0	100	1.3	6.6	16	2.9
&	SW2	10.0	390	40	4.3	71	10
3/17/89	SW3(15)	10.0	60	1.6	2.9	7.8	1.5
	SW4/5(6)	10.0	24	2.6	1.7	2.7	0.56
	SW6(12)	10.0	150	3.1	6.2	5.6	3.6
	SW7(14)*	10.0	ND	0.3	ND	ND	ND
	P1	3.0	2.3	ND	0.15	ND	ND
	P2	3.0	1.5	ND	0.31	ND	ND
	P3	3.0	1.1	ND	0.1	ND	ND
	P4	3.0	5.6	ND	0.15	0.39	ND
	P5	3.0	6.8	0.15	0.58	0.55	0.12
	P6	3.5	5.5	0.06	0.18	0.15	ND
	WO1**	10.0	15	ND	ND	0.21	0.88
5/24/89	MW1(5)	5.0	2.3	0.08	ND	0.62	ND
	MW1(10)	10.0	290	1.0	11	48	8.8
	MW2(5)***	5.0	230	13	1.7	3.2	1.5
	MW2(10)+	10.0	31	1.2	1.0	5.5	1.1
	MW3(5)	5.0	3.2	0.29	0.1	0.7	ND
	MW3(10)	10.0	4.6	ND	ND	0.44	0.3
	MW4(5)	5.0	3.1	ND	0.11	ND	ND
	MW4(10)	10.0	ND	ND	ND	ND	ND

TABLE 5 (Continued)

SUMMARY OF LABORATORY ANALYSES
SOIL

* TPH as diesel was 6.2 ppm; TOG was at 41 ppm; all EPA method 8240 constituents are non-detectable, except as noted above.

** TPH as diesel was non-detectable; TOG was at 280 ppm; all EPA method 8240 constituents are non-detectable, except as noted above.

*** TPH as diesel was non-detectable, TOG was 7,700 ppm, and trichloroethene was detected at 0.063 ppm.

\+ TPH as diesel was non-detectable, TOG was 38 ppm, and trichloroethene was detected at 0.065 ppm.

ND = Non-detectable.

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

KEI-P89-0301.QR10
June 2, 1992

TABLE 6

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Well #	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethylbenzene
3/17/89	W1	19,000	230	79	1,300	ND

ND = Non-detectable.

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

TABLE 7

WELLS LOCATED WITHIN STUDY AREA

Survey No.	State No.	Date Drilled	Owner	Use	Depth (feet)	Location
1	35,2W,6K1	8/49	Lee Dugan	Irrigation	148	Corner of E.14th and 159th Avenue
2	35,2W,6J1	1910	Manuel Rose	Irrigation	52	16053 Ashland Avenue
3	35,2W,6R2	10/47	Okada Brothers, Inc.	Irrigation	440	16109 Ashland Avenue
4	35,2W,6G2	--	Harwood	Irrigation	--	1584 Oriole
5	35,2W,6H2	1927	Magnaini	Abandoned (Not destroyed)	40	1570 Mond Avenue
6	35,2W,6H1	1924	Mary Welsh	Irrigation	32	1575 159th Avenue
7	35,2W,6K2	1957	Walsh	Irrigation	15	877 Mooney Avenue at Connolly
8	35,2W,6Q2	1952	T. D. Sexton	Irrigation	15	825 Jan Court
9	35,2W,6R1	1940	J. Fildelgo	Irrigation	70	16239 Ashland Avenue
10	35,2W,6R4	10/90	Okada Brothers Nursery	Irrigation	304	16100 Bertrero Avenue
11	35,2W,6B1	1957	Allen	Irrigation	40	1571 152nd Avenue

TABLE 7 (Continued)

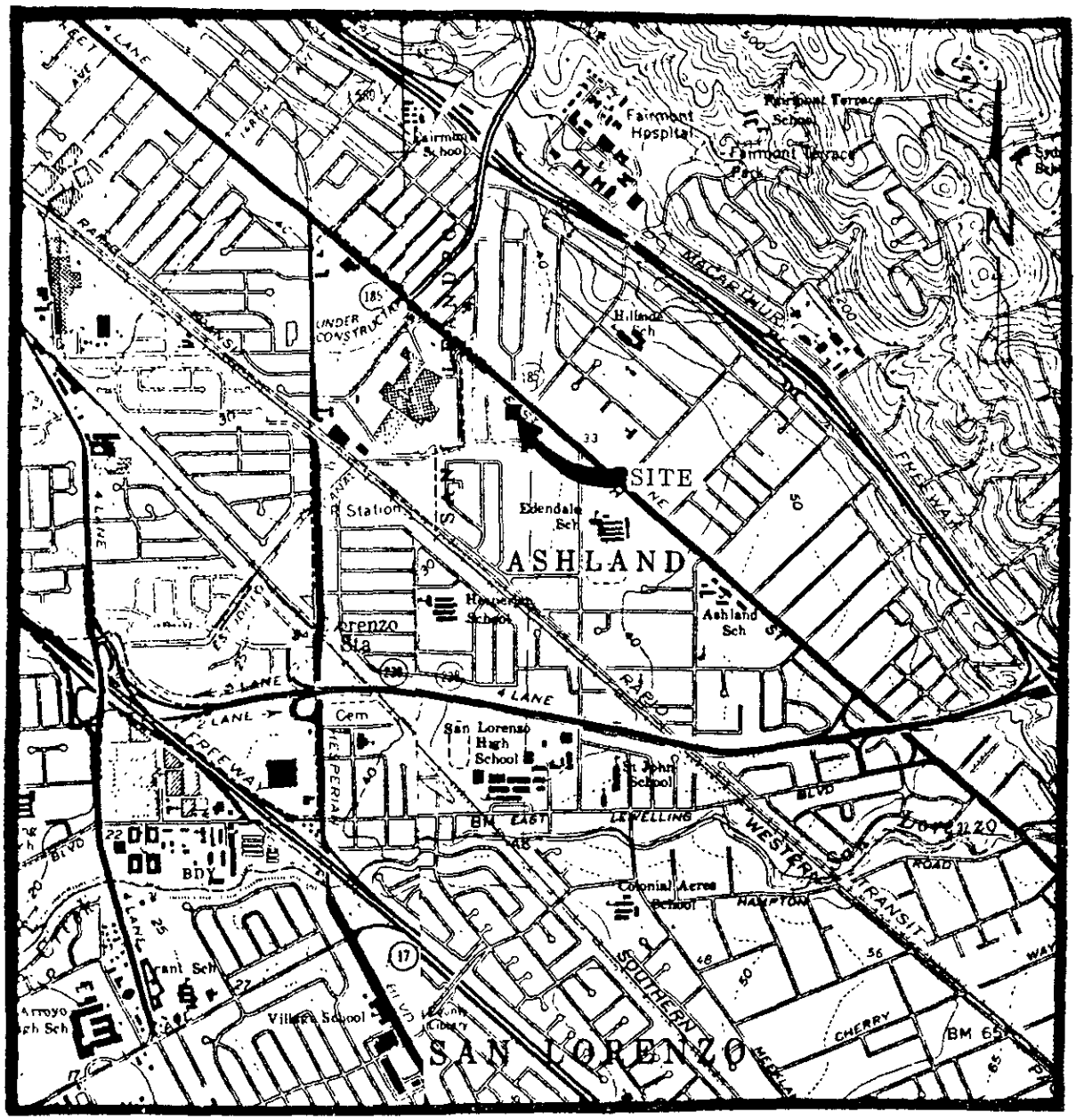
WELLS LOCATED WITHIN STUDY AREA

Survey No.	State No.	Date Drilled	Owner	Use	Depth (feet)	Location
12	35,2W,6B4	--	Paul Fearon	Irrigation	30	1573 153rd Avenue
13	35,2W,6C2	1954	Fredin	Irrigation	25	1479 151st Avenue
14	35,2W,6P2	1958	F. Chimente	Irrigation	20	15508 Wegner Street
15	35,2W,5N3	1939	Namura Nursery	Irrigation	50	1501 163rd Avenue

TABLE 8

SITES WITH ONE OR MORE MONITORING WELLS WITHIN STUDY AREA

Survey No.	State No.	Owner	Location	Depth to Ground Water at Site (feet)
1	35,2W,6J4-5	Okada Property	16109 Ashland Avenue	5
2	35,2W,5M3-4	Kaufman & Broad	1630 162nd Avenue	14-16
3	35,2W,6E7-11	Shell Oil	15120 Hesperian Boulevard	9-11
	35,2W,6E12-17	Westfield, Inc.	15120 Hesperian Boulevard	9-11

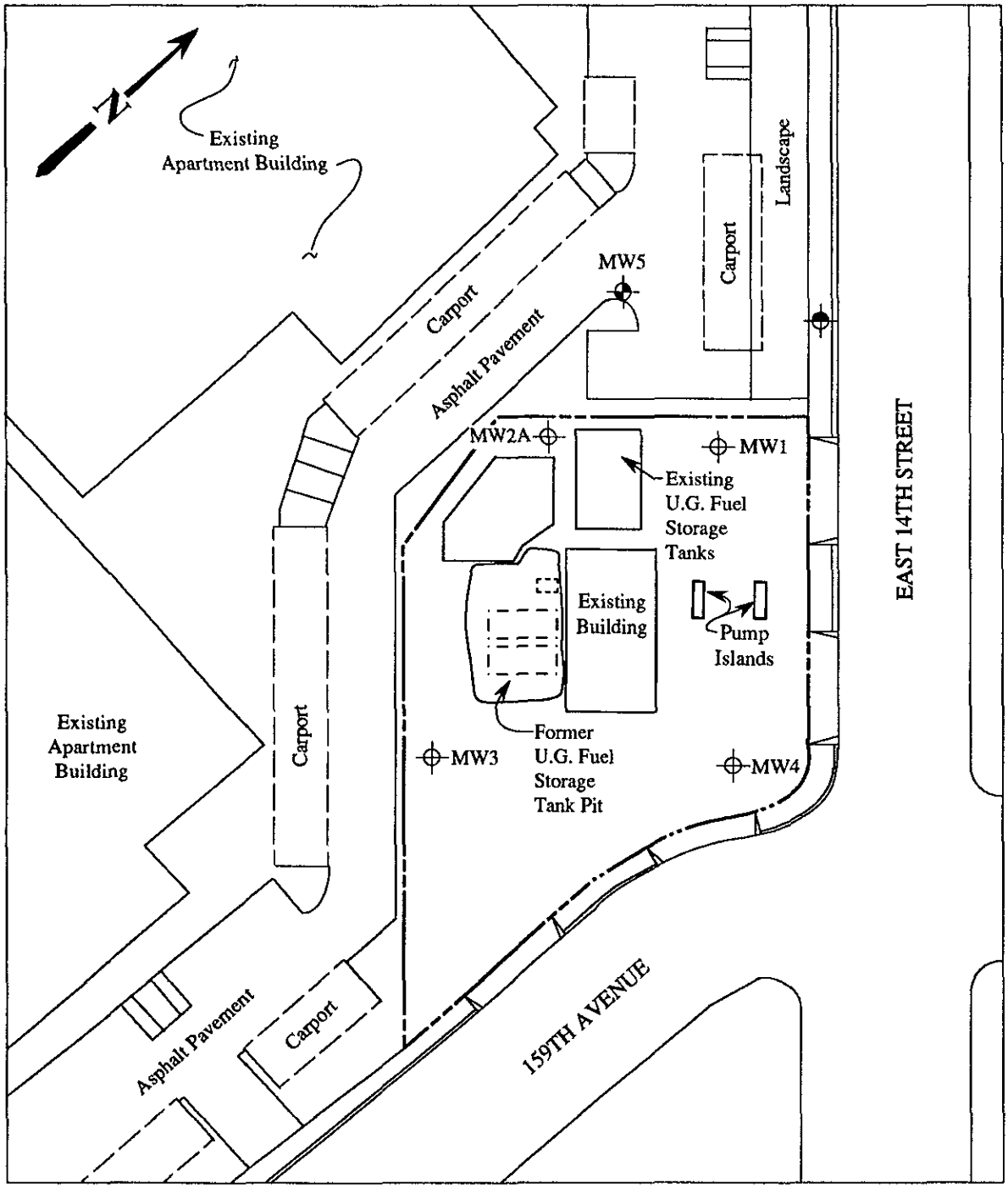


Base modified from 7.5 minute U.S.G.S. San Leandro and Hayward Quadrangles
(Both photorevised 1980)

0 2000 4000

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED	UNOCAL SERVICE STATION #6277 15803 EAST 14TH STREET SAN LEANDRO, CA	LOCATION MAP



LEGEND

- Monitoring well
- Monitoring well (proposed)
- Monitoring well (attempted)

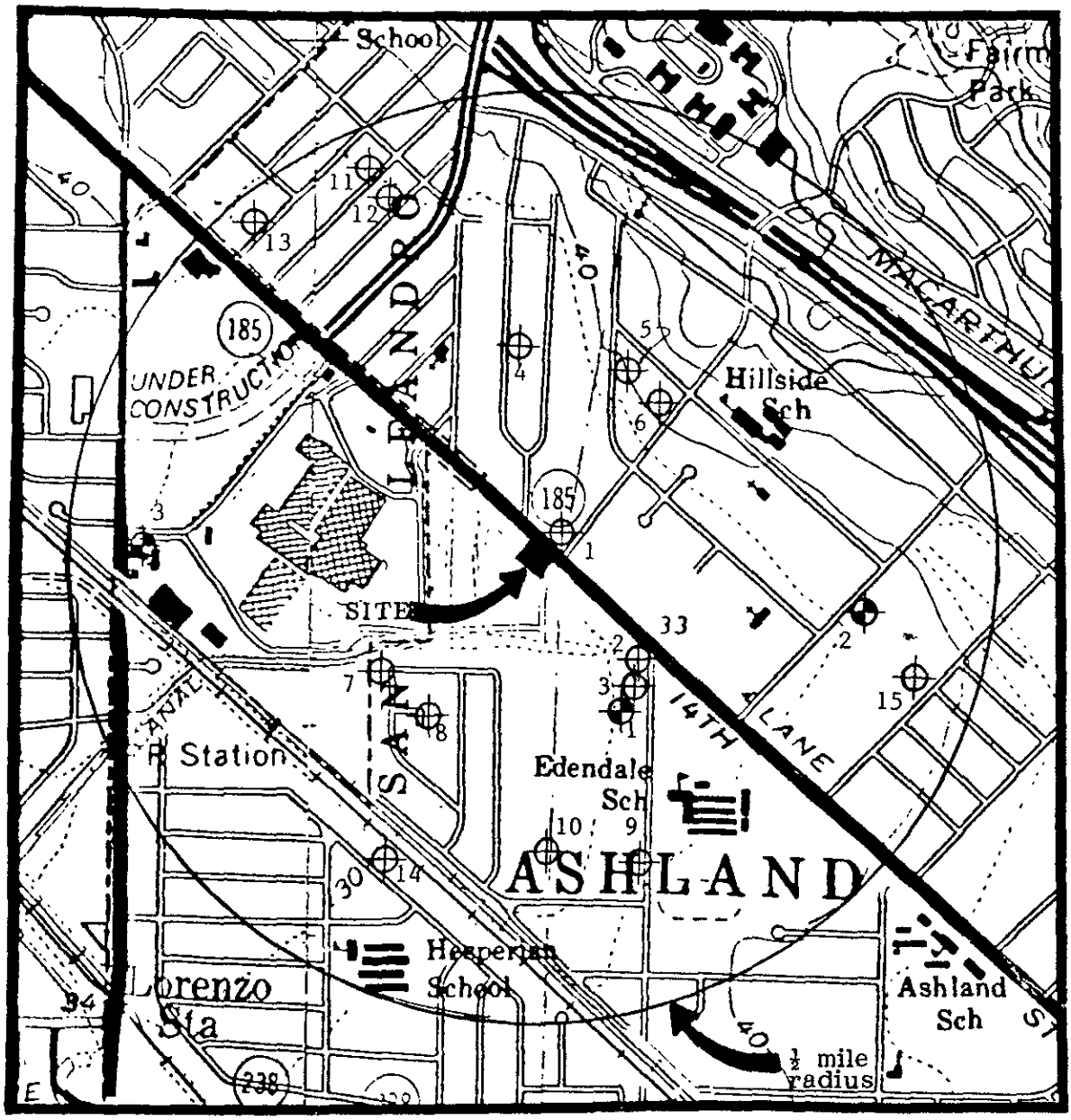
0 60 120

Approx. scale feet

KAPREALIAN ENGINEERING
INCORPORATED

UNOCAL SERVICE STATION #6277
15803 E. 14TH STREET
SAN LEANDRO, CA

SITE
VICINITY
MAP



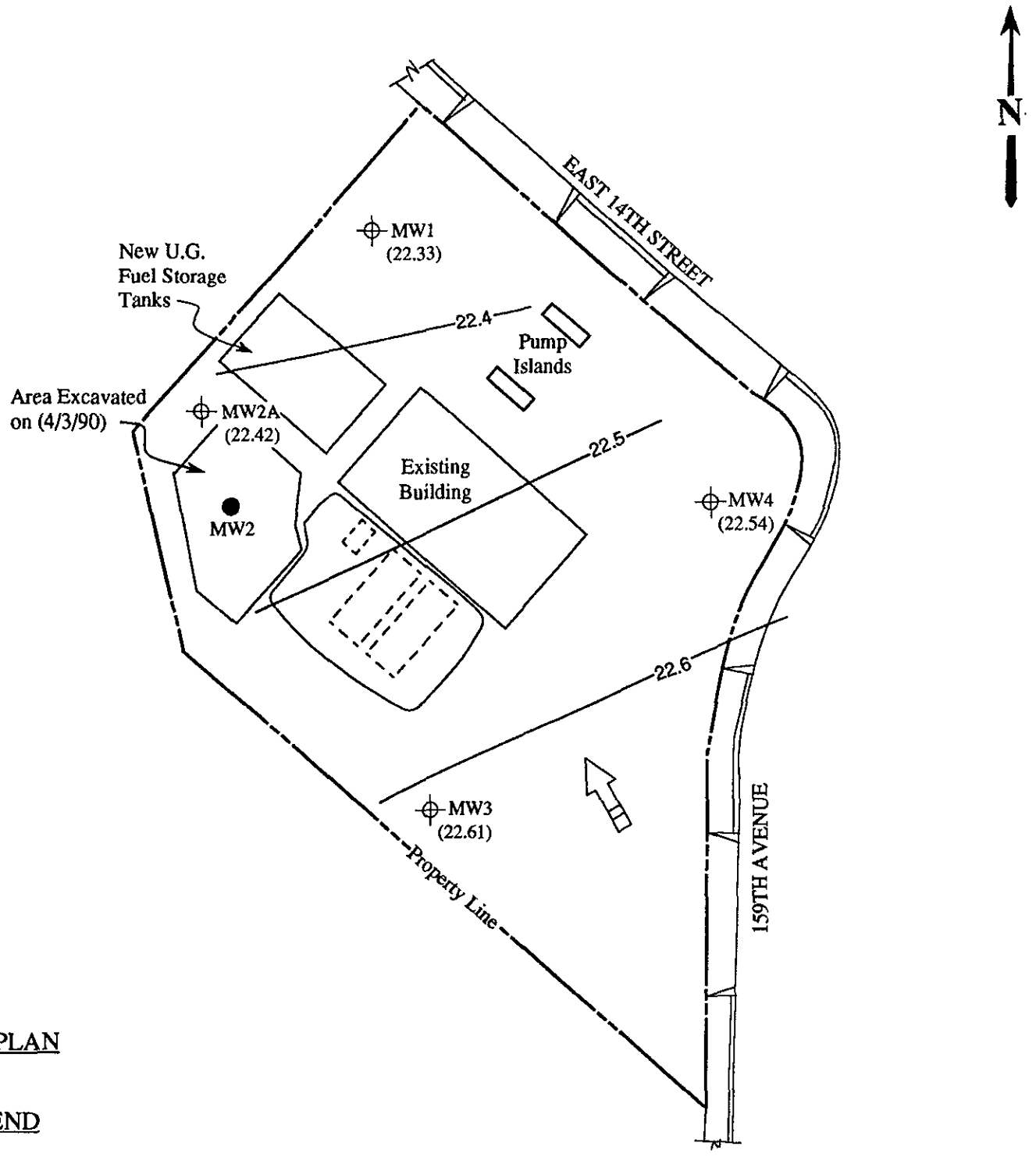
LEGEND

- Approximate well location (located from A.C.F.C.D. data)
- Site with one or more monitoring wells

0 1000 2000

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED	UNOCAL SERVICE STATION #6277 15803 EAST 14TH STREET SAN LEANDRO, CA	WELL LOCATION MAP



SITE PLAN

LEGEND

- Monitoring well
- Monitoring well (destroyed 2/1/90)
- ( ) Ground water elevation in feet above Mean Sea Level on 4/23/92
- Direction of ground water flow
- Contours of ground water elevation

0 40 80

Approx. scale feet

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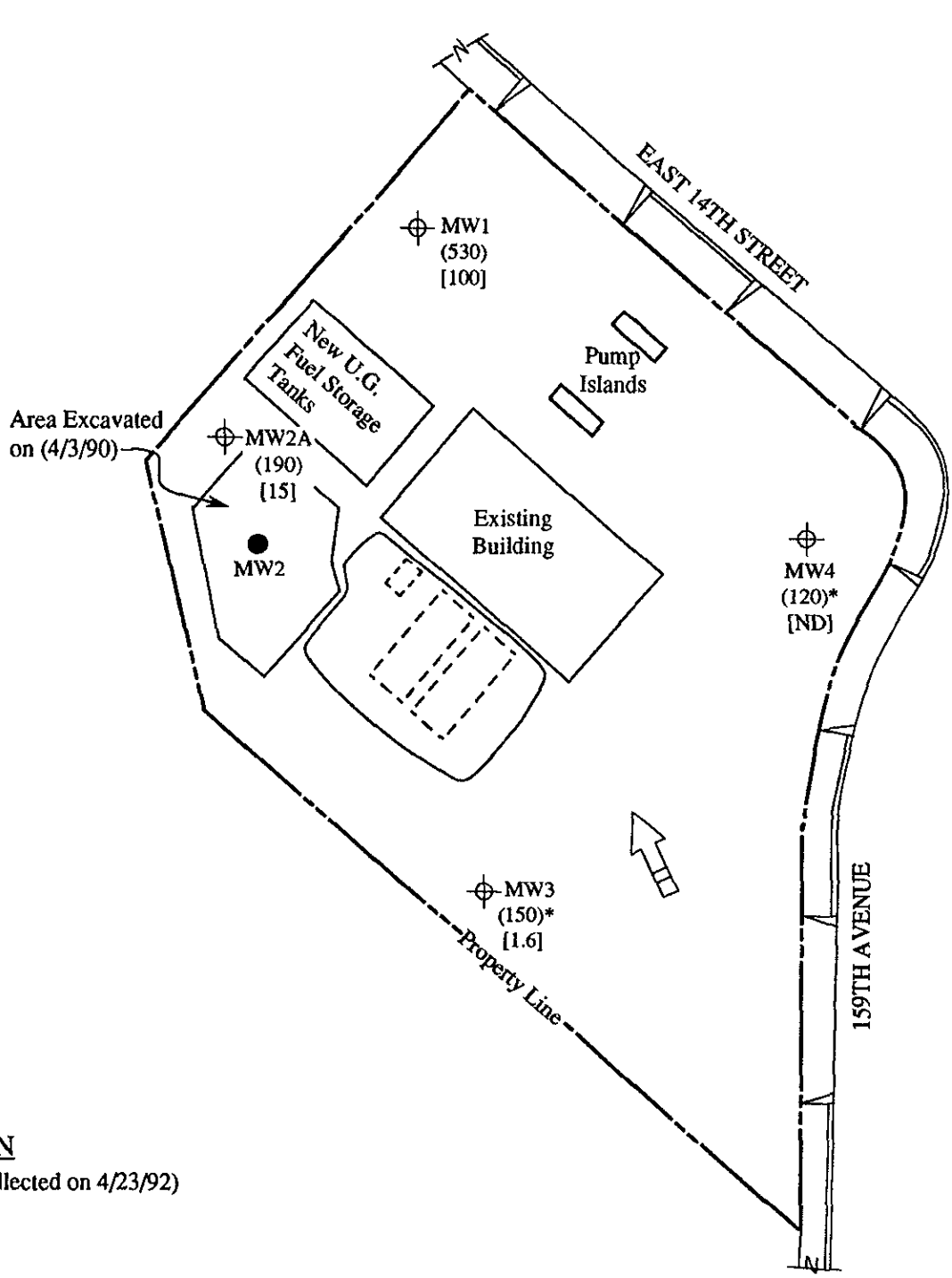
UNOCAL SERVICE STATION #6277
15803 EAST 14TH STREET
SAN LEANDRO, CA

FIGURE
1



SITE PLAN

(Samples Collected on 4/23/92)

LEGEND

- Monitoring well
- Monitoring well (destroyed 2/1/90)
- ( ) Concentrations of TPH as gasoline in ppb
- [ ] Concentrations of benzene in ppb
- Direction of ground water flow

* The laboratory reported that the samples "do not appear to contain gasoline."

0 40 80

Approx. scale feet

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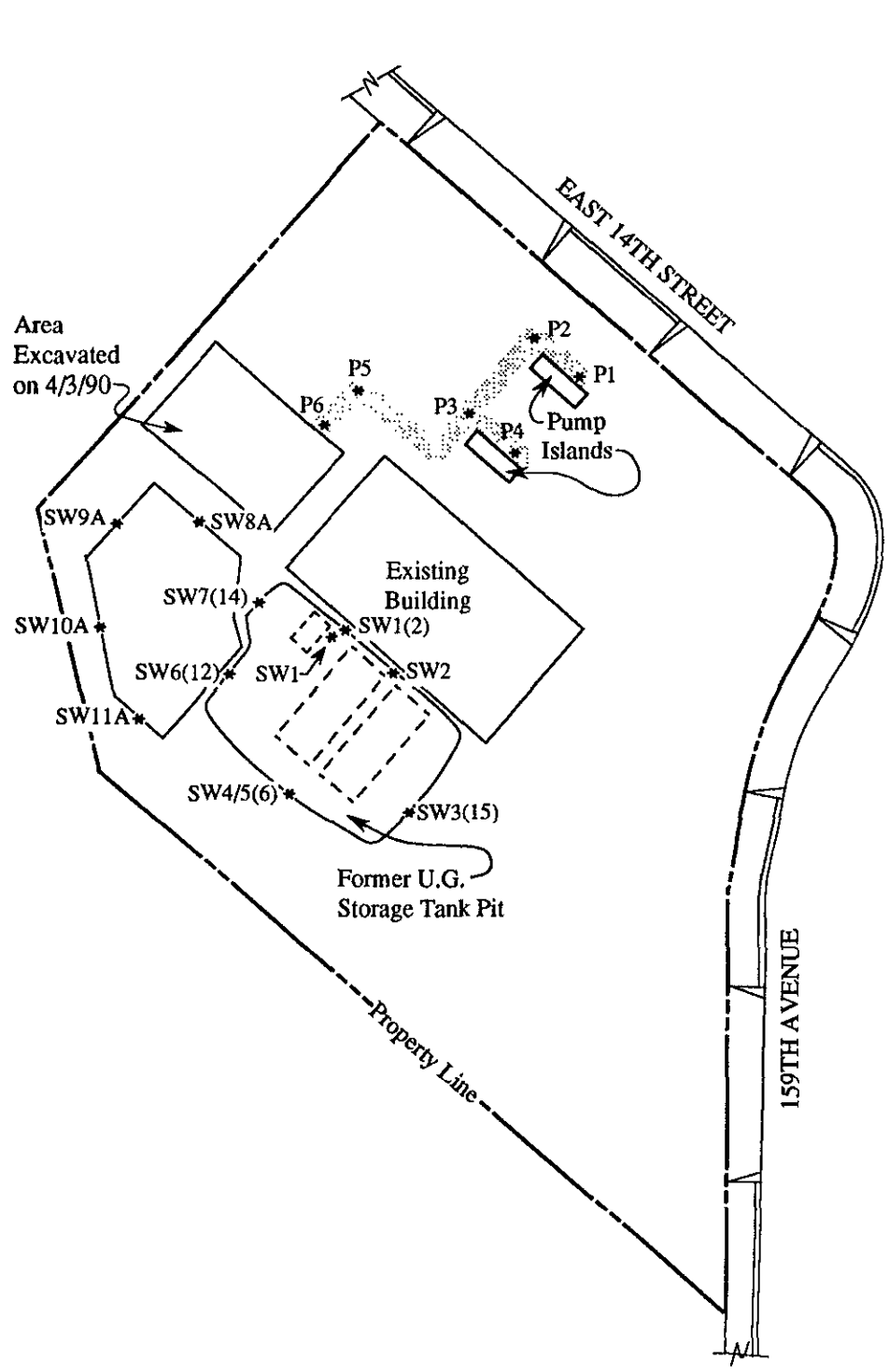
15803 EAST 14TH STREET
SAN LEANDRO, CA

FIGURE
1a



SITE PLAN

LEGEND

* Sample point location

0 40 80

Approx. scale feet

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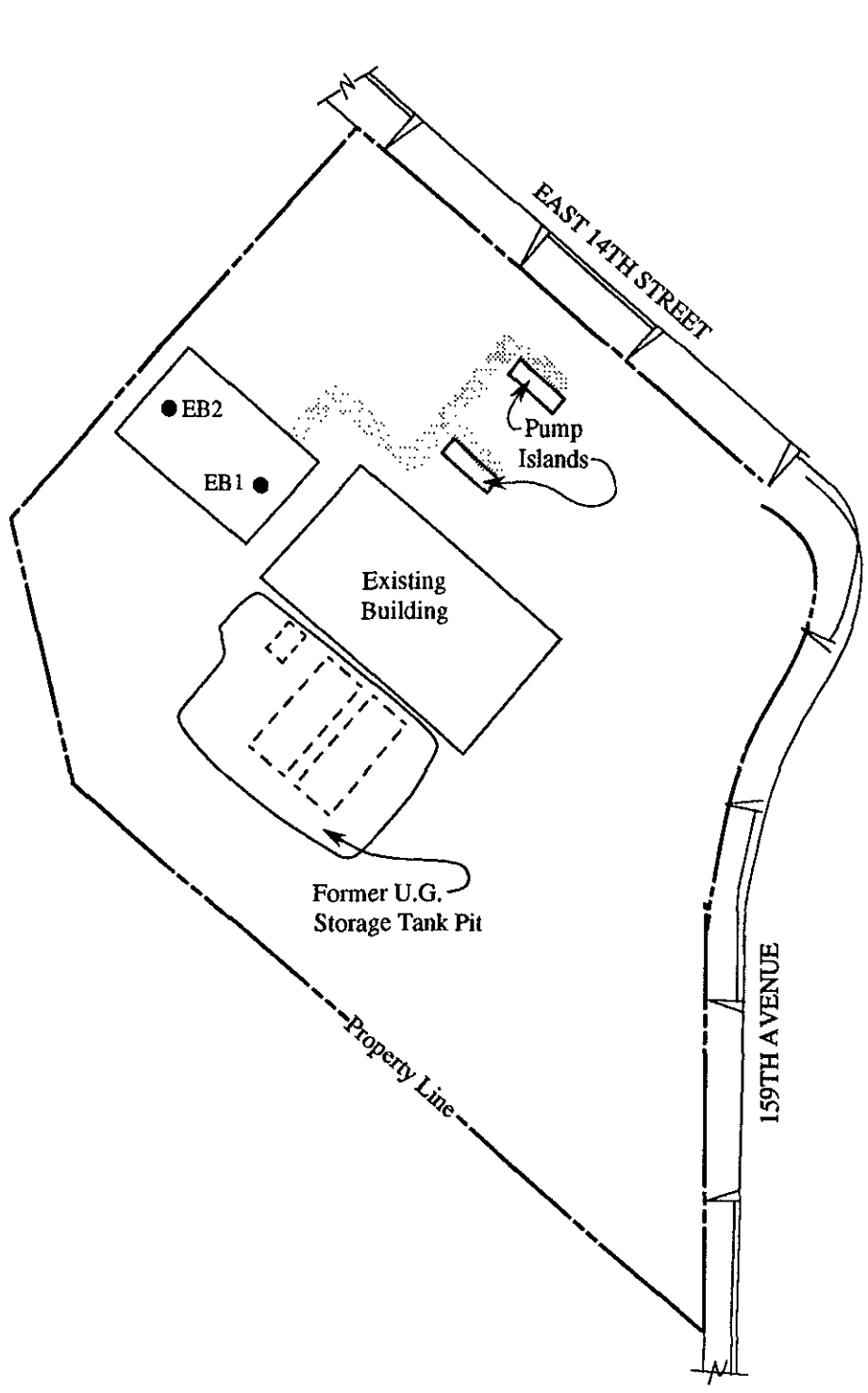
15803 EAST 14TH STREET
SAN LEANDRO, CA

FIGURE
2



SITE PLAN

LEGEND

- Exploratory boring

0 40 80

Approx. scale feet

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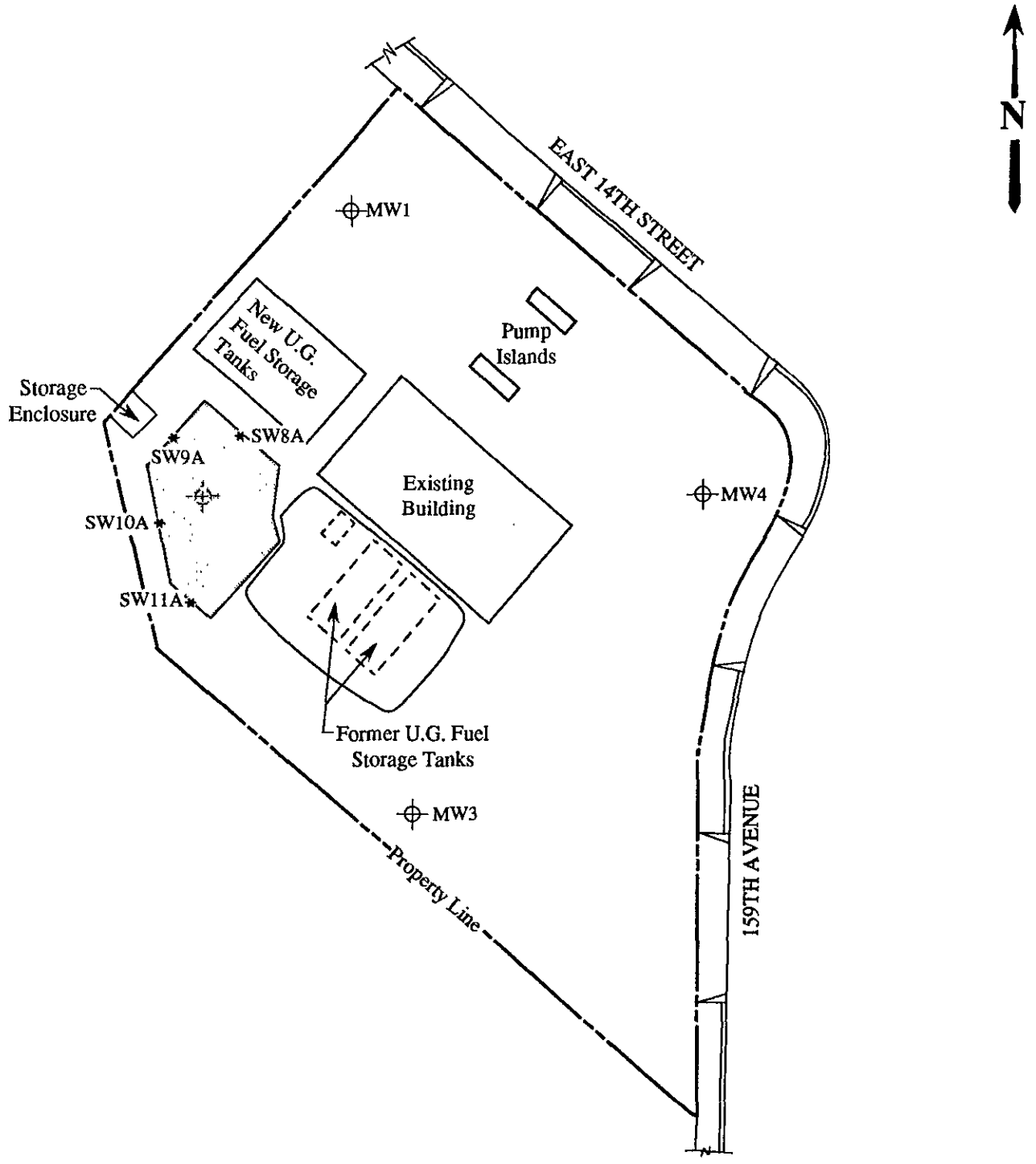
UNOCAL SERVICE STATION #6277
15803 EAST 14TH STREET
SAN LEANDRO, CA

FIGURE
3



SITE PLAN

LEGEND

- Monitoring well
- Monitoring well
- Area of excavation
- * Sample point location

0 40 80

Approx. scale feet

KAPREALIAN ENGINEERING INCORPORATED

UNOCAL SERVICE STATION #6277
15803 EAST 14TH STREET
SAN LEANDRO, CA

FIGURE 4

SEQUOIA ANALYTICAL

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

Kapreallan Engineering, Inc.	Client Project ID:	Unocal , 15803 E. 14th St., San Leandro	Sampled:	Apr 23, 1992
P.O. Box 996	Matrix Descript:	Water	Received:	Apr 23, 1992
Benicia, CA 94510	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Apr 24, 1992
Attention: Mardo Kapreallan, P.E.	First Sample #:	204-0979	Reported:	May 8, 1992

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

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)
204-0979	MW1	530	100	7.9	4.6	60
204-0980	MW2-A	190	15	N.D.	15	2.0
204-0981	MW3*	150	1.6	N.D.	N.D.	N.D.
204-0982	MW4*	120	N.D.	N.D.	N.D.	N.D.
Method Detection Limits:		**30**	**0.30**	**0.30**	**0.30**	**0.30**

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

Please Note: * The above samples do not appear to contain gasoline. LMBP is due to several unidentified peaks.

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Kaprealian Engineering, Inc.	Client Project ID:	Unocal , 15803 E. 14th St., San Leandro	Sampled:	Apr 23, 1992
P.O. Box 996	Matrix Descript:	Water	Received:	Apr 23, 1992
Benicia, CA 94510	Analysis Method:	EPA 3510/8015	Extracted:	Apr 30, 1992
Attention: Mardo Kaprealian, P.E.	First Sample #:	204-0980	Analyzed:	May 8, 1992
			Reported:	May 8, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons µg/L (ppb)
204-0980	MW2-A	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

Scott A. Chieffo
Project Manager

SEQUOIA ANALYTICAL

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Kapreallan Engineering, Inc.	Client Project ID:	Unocal , 15803 E. 14th St., San Leandro	Sampled:	Apr 23, 1992
P.O. Box 996	Matrix Descript:	Water	Received:	Apr 23, 1992
Benicia, CA 94510	Analysis Method:	SM 5520 B&F (Gravimetric)	Extracted:	May 4, 1992
Attention: Mardo Kapreallan, P.E.	First Sample #:	204-0980	Analyzed:	May 5, 1992
			Reported:	May 8, 1992

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)
204-0980	MW2-A	N.D.

Detection Limits:	5.0

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

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

SEQUOIA ANALYTICAL

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Kapreallan Engineering, Inc.	Client Project ID:	Unocal , 15803 E. 14th St., San Leandro	Sampled:	Apr 23, 1992
P.O. Box 996	Sample Descript:	Water, MW2-A	Received:	Apr 23, 1992
Benicia, CA 94510	Analysis Method:	EPA 5030/8010	Analyzed:	Apr 30, 1992
Attention: Mardo Kapreallan, P.E.	Lab Number:	204-0980	Reported:	May 8, 1992

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	0.50	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	0.50	N.D.
2-Chloroethylvinyl ether	0.50	N.D.
Chloroform	0.50	N.D.
Chloromethane	0.50	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	1.9
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	17
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	5.6
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	0.50	N.D.

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

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc.
P.O. Box 996
Benicia, CA 94510
Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal , 15803 E. 14th St., San Leandro
QC Sample Group: 2040979-982
Reported: May 8, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Diesel	Oil and Grease
Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA8015	SM5520
Analyst:	K.E.	K.E.	K.E.	K.E.	A. Tuzon	D. Newcomb
Reporting Units:	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Date Analyzed:	Apr 24, 1992	Apr 24, 1992	Apr 24, 1992	Apr 24, 1992	May 6, 1992	May 5, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60	300	100
Conc. Matrix Spike:	22	23	23	72	229	103
Matrix Spike % Recovery:	110	115	115	120	76	103
Conc. Matrix Spike Dup.:	20	20	21	63	254	101
Matrix Spike Duplicate % Recovery:	100	100	105	105	85	101
Relative % Difference:	9.5	14	9.1	13	10	2.0

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

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Kapreallan Engineering, Inc.
P.O. Box 996
Benicia, CA 94510
Attention: Mardo Kapreallan, P.E.

Client Project ID: Unocal , 15803 E. 14th St., San Leandro
QC Sample Group: 2040979-982
Reported: May 8, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloroethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	M. Nguyen	M. Nguyen	M. Nguyen
Reporting Units:	ug/L	ug/L	ug/L
Date Analyzed:	Apr 30, 1992	Apr 30, 1992	Apr 30, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank
Sample Conc.:	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10
Conc. Matrix Spike:	8.8	9.7	9.0
Matrix Spike % Recovery:	88	97	90
Conc. Matrix Spike Dup.:	8.5	9.2	9.0
Matrix Spike Duplicate % Recovery:	85	92	90
Relative % Difference:	3.5	5.3	0.0

Laboratory blank contained the following analytes: None Detected

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}}$	x 100
Relative % Difference:	$\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}}$	x 100

SEQUOIA ANALYTICAL

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Kaprealian Engineering, Inc. Client Project ID: Unocal , 15803 E. 14th St., San Leandro
P.O. Box 996
Benicia, CA 94510
Attention: Mardo Kaprealian, P.E. QC Sample Group: 2040979-982 Reported: May 8, 1992

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA8015	EPA8015
Analyst:	K.E.	K.E.	K.E.	K.E.	K.E.	A. Tuzon	A. Tuzon
Reporting Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Date Analyzed:	Apr 24, 1992	Apr 24, 1992	Apr 24, 1992	Apr 24, 1992	Apr 24, 1992	May 8, 1992	May 1, 1992
Sample #:	204-0979	204-0980	204-0981	204-0982	Blank	204-0980	Blank
Surrogate % Recovery:	100	97	91	92	92	149	144

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

SEQUOIA ANALYTICAL

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

Kapreallan Engineering, Inc.
P.O. Box 996
Benlcia, CA 94510
Attention: Mardo Kapreallan, P.E.

Client Project ID: Unocal , 15803 E. 14th St., San Leandro
QC Sample Group: 2040979-982
Reported: May 8, 1992

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA 8010	EPA 8010
Analyst:	M. Nguyen	M. Nguyen
Reporting Units:	ug/L	ug/L
Date Analyzed:	Apr 30, 1992	Apr 30, 1992
Sample #:	204-0980	Blank
Surrogate #1 % Recovery:	98	90
Surrogate #2 % Recovery:	100	105

SEQUOIA ANALYTICAL

Scott A. Chieffo
Project Manager

$$\text{\% Recovery:} \quad \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference:} \quad \frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}} \times 100$$

KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER	SITE NAME & ADDRESS	ANALYSES REQUESTED	TURN AROUND TIME:
J. Giddings	Unocal / San Leandro 15803 E. 14th St.	TPH-G, BTEX, TPH-D, TOG, 8010	Regular
WITNESSING AGENCY			

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPH-G	BTEX	TPH-D	TOG	8010	REMARKS
MW1	4/23	13:00		✓			2		✓	✓				2040979AB
MW2-A	"	14:15		✓			6		✓	✓	✓	✓	✓	980AF
MW3	"	11:30		✓			2		✓	✓				981AB
MW4	"	10:45		✓			2		✓	✓				982AB

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
John Gold	4/23/92 1428	Jim Catlett
Jim Catlett	4-24-92 2:35 PM	[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
J.C.	ANALYST	4/23/92