KEI-P88-1204.R8 April 26, 1993

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

Attention: Mr. Edward C. Ralston

RE: Continuing Subsurface Investigation at

Former Unocal Service Station #2512

1300 Davis Street

San Leandro, California

Dear Mr. Ralston:

This report presents the results of our most recent subsurface investigation for the referenced site, in accordance with Kaprealian Engineering, Inc's. (KEI) proposal (KEI-P88-1204.P9) dated February 25, 1993. The purpose of the investigation was to determine if the area beneath the former building at the subject site has been impacted by contamination. The borings were located so as to investigate previous tank and hoist locations. The scope of the work performed by KEI consisted of the following:

Coordination with regulatory agencies

Geologic logging of four exploratory borings

Soil sampling

Ground water sampling

Laboratory analyses

Data analyses, interpretation, and report preparation

### SITE DESCRIPTION AND BACKGROUND

The subject site formerly contained a Unocal service station facility. The station building, pump islands, and other station facilities have been demolished and removed from the site. The site is situated on gently sloping, westward trending topography, and is located approximately two miles east-northeast of the present shoreline of San Francisco Bay. Also, the site is located approximately 2,000 feet south of San Leandro Creek.

Per Unocal Corporation's procedure for potential site divestment locations, KEI's work at the site began on December 30, 1988, when six exploratory borings, designated as EB1 through EB6 on t

attached Figure 1, were drilled at the site. The six borings were completed to depths ranging from 26.5 to 30 feet below grade, and ground water was encountered at depths ranging from 25 to 26.5 feet beneath the surface during drilling.

Soil and water samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California. Soil and water samples collected from borings EB2 through EB6 were analyzed for total petroleum hydrocarbons (TPH) as gasoline, and benzene, toluene, xylenes, and ethylbenzene (BTX&E). Soil samples collected from boring EB6 were also analyzed for TPH as diesel and total oil and grease (TOG). Soil and water samples collected from boring EB1 were analyzed for TPH as diesel, BTX&E, TOG, and EPA method 8010 constituents.

Analytical results of soil samples collected from borings EB1 through EB6 indicated levels of TPH as gasoline ranging from nondetectable to 73 ppm. Benzene was detected only in samples EB5(20) and EB6(15) at concentrations of 0.12 ppm and 0.065 ppm, respec-Analytical results of soil samples collected from boring EB6 indicated levels of TPH as diesel ranging from 3 ppm to 160 ppm, and levels of TOG ranging from 130 ppm to 7,800 ppm. Analytical results of the water samples collected from borings EB2, EB3, and EB4 indicated non-detectable levels of TPH as gasoline. Analytical results of the water samples collected from borings EB5 and EB6 indicated levels of TPH as gasoline at concentrations of 340 ppb and 1,500 ppb, respectively. Benzene was detected in water samples collected from borings EB2 and EB6 at concentrations of 8.2 ppb and 1.5 ppb, respectively. The results of the soil analyses are summarized in Table 1, and the results of the water analyses are summarized in Table 4. Documentation of the exploratory boring drilling procedures, sample collection techniques, and analytical results are presented in KEI's report (KEI-P88-1204.R1) dated February 3, 1989. Based on the results of the exploratory boring investigation, KEI proposed the installation of three monitoring wells.

On April 17, 1989, three two-inch diameter monitoring wells (designated as MW1, MW2, and MW3 on the attached Figures 2 and 3) were installed at the site. The three wells were drilled and completed to total depths of 33 feet below grade. Ground water was encountered at depths ranging from 17.5 to 18.5 feet below grade. The wells were developed on April 24, 1989, and were initially sampled on April 25, 1989.

Water and selected soil samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California, for TPH as gasoline, BTX&E, TPH as diesel, TOG, and EPA method 8010 constituents. The analytical results of the soil samples collected from MW1, MW2, and MW3 indicated levels of TPH as gasoline ranging from non-detectable

to 6.2 ppm, levels of TOG ranging from non-detectable to 180 ppm, and non-detectable levels of benzene, TPH as diesel and EPA method 8010 constituents. Analytical results of the water samples collected from MW1, MW2, and MW3 indicated levels of TPH as gasoline ranging from non-detectable to 56 ppb, levels of TPH as diesel ranging from non-detectable to 5,700 ppb, and levels of benzene ranging from non-detectable to 0.35 ppb. The results of the soil analyses are summarized in Table 2, and the results of the water analyses are summarized in Tables 5 and 6. Documentation of the well installation procedures, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P88-1204.R2) dated May 16, 1990.

On May 11, 1989, at KEI's recommendation, the area surrounding exploratory boring EB6 (shown on the attached Figure 1) excavated. Four soil samples, labeled SWA, SWB, SWC, and SWD, were collected from the sidewalls of the excavation at depths of approximately 16.5 feet below grade (six inches above the water table). The samples were analyzed for TPH as diesel and TOG. Analytical results of the soil samples indicated levels of TPH as diesel ranging from 16 ppm to 26 ppm, and levels of TOG ranging from 170 ppm to 850 ppm. The results of the soil analyses are summarized in Table 3. Documentation of the excavation investigation procedures, sample collection techniques, and the analytical results are presented in KEI's report (KEI-J88-1204.R4) dated June 15, 1989. Based on the results of the excavation soil samples, and based on the ground water contamination levels that had been previously detected in the monitoring wells, KEI recommended the installation of three additional monitoring wells.

On August 16, 1989, three additional two-inch diameter monitoring wells (designated as MW4, MW5, and MW6 on the attached Figures 2 and 3) were installed at the site. The new wells were drilled and completed to total depths of 33 feet below grade. Ground water was encountered at depths of approximately 19.8 to 22 feet below grade during drilling. The new wells (MW4, MW5, and MW6) were developed on August 27, 1989, and were initially sampled on August 29, 1989. The existing wells (MW1, MW2, and MW3) were sampled on August 10, 1989.

Water samples from all of the wells, and selected soil samples from the borings for MW4, MW5, and MW6, were analyzed by Sequoia Analytical Laboratory in Redwood City, California, for TPH as gasoline, BTX&E, and TOG. In addition, the water samples were analyzed for TPH as diesel. Analytical results of the soil samples collected from the borings for monitoring wells MW4, MW5, and MW6 indicated non-detectable levels of all constituents analyzed, except for soil sample MW4(5), which showed 3.3 ppm of TPH as gasoline and 0.11 ppm of xylenes, and soil sample MW5(20), which showed 20 ppm of TPH as gasoline. Analytical results of water

samples collected from MW1, MW2, MW4, MW5, and MW6 indicated non-detectable levels of TPH as gasoline, benzene, TPH as diesel, and TOG, except for MW4 and MW5, which indicated TPH as diesel at concentrations of 120 ppb and 100 ppb, respectively. Analytical results of the water sample collected from MW3 indicated 3,200 ppb of TPH as gasoline, 73 ppb of benzene, 860 ppb of TPH as diesel, and a non-detectable level of TOG. The results of the soil analyses are summarized in Table 2, and the results of the water analyses are summarized in Table 5. Documentation of the well installation procedures, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P88-1204.QR1) dated September 27, 1989. Based on the analytical results, KEI recommended the implementation of a monthly monitoring and quarterly sampling program for all existing wells.

A field reconnaissance of the subject site was performed on August 24, 1990. The reconnaissance revealed the presence of soil borings within the asphalt parking area of the adjacent property located southwest of the site. KEI subsequently reviewed a report prepared by Applied Geosystems (AGS) of San Jose, California, dated April 30, 1990, (AGS #60004-1), documenting this work. Soil and ground water samples were collected from five borings (designated as B1 through B5 on the attached Figure 2). Analytical results of soil samples indicated non-detectable levels of petroleum hydrocarbons in all samples, except for 200 ppm of TOG and 0.058 ppm of toluene detected at 16 feet in boring B5 (located immediately southwest of Unocal's MW3). Tetrachloroethene was detected in borings B2, B3, and B4 at depths of 15 to 17.5 feet below grade at concentrations ranging from 0.0052 ppm to 0.0460 ppm. TPH as gasoline was detected in water samples collected from borings B2 and B3 at levels of 220 ppb and 50 ppb, respectively. Tetrachloroethene (PCE) was detected in the water samples from all five borings at levels ranging from 2.2 ppb to 540 ppb, with the greatest concentrations detected in borings, B2, B3, and B4, located adjacent to a former dry cleaning operation (see attached Figure 2).

Based on a site inspection conducted on December 27, 1990, a well (MW-DC) is present near the former dry cleaner operation (see the attached Figure 2). Communication with Unocal Corporation on January 2, 1991, indicated that this well was not installed at the request of Unocal. A follow-up site visit was conducted by KEI during March of 1991 in an attempt to determine the well owner. None of the adjacent property owners or tenants were aware of the presence of the well or the well owner.

KEI subsequently reviewed a report, titled "Report of Subsurface Environmental Conditions" (dated October 9, 1990), which was prepared by Hageman-Schenk, Inc. (HSI) for the current property owner (1335 to 1370 Davis Street). Investigations conducted by HSI indicated that the well was apparently a former water supply well

for the dry cleaning business located at 1370 Davis Street. well is six inches in diameter, extends to a depth of approximately 28 feet below grade, and had a water level of 18 feet on August 1, 1990. At the time of HSI's investigation (June 7, 1990), the well was plugged with soil and other debris to a depth of about 8 feet below grade. Analytical results of a soil sample collected from the soil plug within the well showed 1.2 ppm of tetrachloroethene. After the well was unplugged, a water sample was collected on September 12, 1990. The sample showed a level of 33 ppb of tetrachloroethene. The soil and water samples were not analyzed for petroleum hydrocarbons. In addition to collecting soil and water samples from the dry cleaners' well, HSI also collected soil samples from six soil borings (A1 through A5 and HS-B-1), located at the northwest perimeter of the dry cleaners building, as well as six soil samples from beneath the concrete floor inside the Tetrachloroethene was detected in all soil borings at concentrations ranging from 0.0069 ppm to 0.20 ppm. The October 9, 1990, HSI report concluded that the tetrachloroethene soil and ground water contamination detected throughout the site was probably the result of small-scale spillage of tetrachloroethene over a long period of time. The HSI report recommended the installation of at least three monitoring wells; however, it does not appear that any further subsurface investigations have been conducted at the site as of March of 1991.

In KEI's quarterly report (KEI-P88-1204.QR8) dated July 15, 1991, KEI recommended that no additional ground water samples be collected and analyzed from wells MW1 and MW5, since both wells had shown non-detectable levels of TPH as gasoline and benzene for the four previous quarters of sampling.

Free product was first detected in Unocal well MW3 on August 1. 1991, at a thickness of 0.02 feet. The thickness of product in MW3 showed a general increase during the quarter ending November 1991, and was detected at a thickness of 0.26 feet on November 19, 1991. Approximately 27 ounces of product had been purged from well MW3 through November 19, 1991. Therefore, KEI recommended weekly purging of product from MW3 until the source could be verified and Previous field notes during purging activities eliminated. indicated that the product is black to dark brown and has an odor similar to that of parts cleaning solvent. A sample of this product was recommended to be collected and submitted to a laboratory for analysis to aid in determining the ultimate source of the product.

Based on the past levels of contamination detected in well MW3 at the subject Unocal site, and the predominant west-southwest ground water flow direction, KEI recommended (work plan/proposal KEI-P88-1204.P6 dated July 15, 1991) the installation of one off-site monitoring well to further define the extent of ground water

contamination. KEI did not recommend the use of the "dry cleaner well" (MW-DC), since the integrity, construction, and previous use of the well was unknown or otherwise unclear.

On February 11 , 1992, one additional two-inch diameter monitoring well (designated as MW7 on the attached Figure 2) was installed in the vicinity of the site. Well MW7 was drilled and completed to a total depth 30 feet below grade. Ground water was encountered at a depth of 17 feet beneath the surface during drilling. Well MW7 was developed on February 12, 1992, and wells MW2, MW4, MW6, and MW7 were sampled on February 27, 1992. The surface of the well cover over MW7, the well covers of all previously existing wells (MW1 through MW6), and the off-site well MW-DC were surveyed by Kier & Wright of Pleasanton, California, to Mean Sea Level (MSL) and to a vertical accuracy of 0.01 feet.

Water samples from wells MW2, MW4, MW6, and MW7, and selected soil samples from the boring of MW7, were analyzed at Sequoia Analytical Laboratory in Concord, California. The samples were analyzed for TPH as gasoline and BTX&E. All soil samples from MW7, and the water sample from MW4, were also analyzed for TPH as diesel. In addition, the water sample collected from well MW7 was analyzed for EPA method 8010 constituents.

The results of the soil analyses are summarized in Table 2, and the results of the water analyses are summarized in Tables 5 and 6. Based on the analytical results, KEI recommended the continuation of the ground water monitoring and sampling program. Documentation of the well installation procedures, sample collection techniques, and the analytical results are presented in KEI's report (KEI-P88-1204.R5) dated April 9, 1992.

As noted in KEI's report (KEI-P88-1204.R5) dated April 9, 1992, there appeared to have been a significant change in the flow direction at the subject site sometime between January 20, 1992, and February 27, 1992. The ground water flow direction had been reported to be toward the west-southwest since at least September 18, 1991. However, based on the ground water level data collected on February 27, 1992, the ground water flow direction appeared to be toward the northeast. The reason for this observed change was unknown, but could have been related to pumping from an adjacent well or wells. KEI therefore recommended that a well survey be conducted for the area within a 1/2-mile radius of the site.

The ground water flow direction on March 27 and April 27, 1992, was toward the north-northeast (similar to the February 27, 1992 flow direction). A water well survey was conducted by KEI in April of 1992 for wells located within a one-half mile radius of the site. The data collected during the well survey did not indicate conclusively that nearby pumping wells were influencing the

direction of ground water flow at the subject site. Therefore, KEI recommended a review of additional well data and a possible reconnaissance to determine if nearby active wells had any influence on the ground water flow at the Unocal site. The details of the well survey and the data collected are presented in KEI's quarterly report (KEI-P88-1204.QR11) dated July 14, 1992.

As recommended in KEI's report (KEI-P88-1204.QR10) dated January 16, 1992, a sample of the free product in well MW3 was collected on May 26, 1992, and was analyzed to determine if the product is predominantly hydrocarbon-based (i.e., gasoline, diesel, or oil), or a halogenated volatile organic compound. The analytical results indicated levels of TPH as gasoline, benzene, and TPH as diesel at 1,300,000 ppb, 5,100, and 2,400,000, respectively. TOG was detected at 880 ppm. The analytical results also indicated non-detectable levels of all EPA method 8010 constituents. Based on these analytical results, the free product observed in well MW3 is predominantly hydrocarbon-based.

As recommended in KEI's report (KEI-P88-1204.QR11) dated July 14, 1992, KEI conducted an additional well survey in order to identify active water wells that could influence ground water flow direction at the Unocal site. A number of wells were located. However, the ground water flow at the site during this quarter was in a westerly to southwesterly direction, consistent with the previous predominant direction. Therefore, KEI recommended that in the event the ground water flow direction again changed from the predominant west to southwest direction, a site reconnaissance would be conducted to locate any pumping wells among the wells identified during the well survey. The details of the second well survey and the data collected are presented in KEI's quarterly report (KEI-P88-1204.QR12) dated November 25, 1992.

On July 28, 1992, KEI collected soil samples following the removal of two 10,000 gallon underground gasoline storage tanks and one 280 gallon waste oil tank at the referenced site. Four soil samples, labeled A1, A2, B1, and B2, were collected from beneath the fuel tanks at depths of about 14 feet below grade. Two soil samples, labeled W01 and W01(15), were collected from beneath the waste oil tank at depths of 10 and 15 feet below grade, respectively. Six soil samples, labeled P1 through P6, were collected from beneath the product pipe trenches and dispensers at depths of about 3.5 feet below grade. The soil sample locations are shown on the attached Figure 3.

All soil and water samples were analyzed by Sequoia Analytical Laboratory in Concord, California. All samples were analyzed for TPH as gasoline and for BTX&E. The soil sample (WO1) collected beneath the waste oil storage tank was also analyzed for TPH as diesel, EPA method 8010 constituents, and the metals cadmium,

chromium, lead, nickel, and zinc. Sample WO1(15), collected from beneath sample point location WO1 at a depth of approximately 15 feet below grade, was analyzed only for TOG. The analytical results of the soil samples collected from the fuel tank pit indicated levels of TPH as gasoline ranging from non-detectable to 23 ppm. The analytical results of the soil samples collected from the product pipe trenches indicated levels of TPH as gasoline ranging from non-detectable to 91 ppm. The waste oil tank pit bottom sample (WO1) showed 150 ppm of TPH as gasoline, 210 ppm of TPH as diesel, and 3,000 ppm of TOG. However, sample WO1(15), collected beneath sample WO1 at a depth of 15 feet below grade, showed a level of TOG at 210 ppm. The analytical results of the soil samples are summarized in Table 6.

In KEI's work plan/proposal (KEI-P88-1204.P8) dated September 14, 1992, KEI proposed to perform additional soil sampling following additional excavation in the vicinity of sample point A1 (in the fuel tank pit), sample point WO1 (in the waste oil tank pit), and sample points P2 and P6 (in the product pipe trenches). The additional excavation was proposed in order to attempt to define the vertical and lateral extent of soil contamination.

## RECENT FIELD ACTIVITIES

Per Unocal Corporation's procedure for potential site divestment locations, on March 22 and 23, 1993, four exploratory borings (designated as EB7 through EB10 on the attached Figure 1) were drilled at the site. The subsurface materials penetrated and the depths at which soil samples were collected are shown in the attached Boring Logs.

The four borings were each drilled to total depths ranging from 20.5 to 24.5 feet below grade. Ground water was encountered at depths ranging from 18 to 24 feet below grade 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, at a depth of approximately 5 feet below grade and beginning continuing until ground water was encountered. The undisturbed soil samples were collected by driving a California-modified splitspoon sampler (lined with brass liners) ahead of the drilling The two-inch diameter brass liners holding the samples were then sealed with aluminum foil, plastic caps and tape, labeled, and stored in a cooler, on ice, until delivery to a state certified laboratory. Drilling was stopped about 1 to 2 feet after intersecting the first water table. Water samples were collected from each of the borings by the use of a clean acrylic bailer. The water samples were then decanted into clean VOA vials and/or oneliter amber bottles, as appropriate, which were subsequently sealed

with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory. After the water samples were collected, bentonite was used to seal the borings within the saturated zone. Cement grout was then placed from the bentonite plug to the surface in one continuous pour, with a hardening agent used for the upper 1 to 2 feet of the borings.

### ANALYTICAL RESULTS

Water and selected soil samples from all four exploratory borings were analyzed at Sequoia Analytical Laboratory, a state-certified laboratory, for TPH as gasoline by EPA method 5030/modified 8015, BTX&E by EPA method 8020, TPH as diesel by EPA method 3510/modified 8015 (water) and 3550/modified 8015 (soil), TOG by Standard Methods 5520B&F (water) and 5529E&F (soil), and for EPA method 8010 constituents. The soil and water samples collected from borings EB8 and EB9 (drilled inside the former service bay facility) were also analyzed for TPH as hydraulic fluid by EPA method 3510/modified 8015 (water) and 3550/modified 8015 (soil).

The results of soil analyses are summarized in Table 1, and the results of the water analyses are summarized in Table 4. Copies of the laboratory analyses and the Chain of Custody documentation are attached to this report.

### HYDROLOGY AND GEOLOGY

As previously noted, ground water was encountered at depths ranging from 18 to 24 feet below grade during the drilling of the four exploratory borings, EB7 through EB10. Based on the water level data gathered on October 30, 1992 (the last time the subject site was monitored), the ground water flow direction appeared to be predominantly to the west (varying from west to southwest).

Based on review of regional geologic mapping (U.S. Geological Survey Professional Paper 943 "Flatland deposits of the San Francisco Bay Region, California - 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 coarse-grained alluvium (Qhac). This deposit is described as typically consisting of unconsolidated, moderately sorted, permeable sand and silt, at thicknesses ranging from less than 10 feet to as much as 50 feet. This unit is assumed to overlie late Pleistocene alluvial fan deposits at depth.

Based on the results of our subsurface studies, the site is underlain by fill materials to a depth of about 1 to 8 feet below grade. The fill is in turn underlain by alluvium to the maximum depth explored (33 feet below grade). Contrary to what the regional geologic maps indicate, the alluvium underlying the site

consists mainly of clay or silty clay interbedded with thin discontinuous beds or lenses of clayey or sandy silt, and silty sand.

### DISCUSSION AND RECOMMENDATIONS

As reported previously, the Christy boxes for monitoring wells MW2 through MW5 were damaged during the tank removal and soil excavation activities conducted at the site. Additional soil excavation work is scheduled to be performed. KEI previously recommended that upon completion of the soil excavation activities, the wells be inspected and repaired (if necessary), the Christy boxes be repaired or replaced, and the wells be re-surveyed. Until the proposed additional excavation work is completed, the monthly monitoring and quarterly sampling program at this site has been temporarily discontinued per KEI's recommendation presented in KEI's report (KEI-P88-1204.QR12) dated November 25, 1992.

Based on the concentrations of TOG detected in the soil samples collected from exploratory borings EB7 and EB8 at depths of 15 and 5 feet below grade, respectively, KEI proposes to perform additional soil sampling following additional excavation in the vicinity of these sample locations. In addition, based on the analytical results of the soil samples collected during the previous excavation of the area in the vicinity of exploratory boring EB6, KEI also recommends additional excavation in the vicinity of previous sample points SWA, SWB, SWC, and SWD. proposed excavation and sampling will be performed in conjunction with the excavation work proposed in KEI's work plan/proposal (KEI-P88-1204.P8) dated September 14, 1992. The additional excavation is proposed in order to remove contaminated soil and also to continue to define the vertical and lateral extent of soil contamination. An addendum to the above referenced work plan will be submitted for your review and consideration in the near future.

### DISTRIBUTION

A copy of this report should be sent to the Alameda County Health Care Services Agency, to Mr. Dan Sullivan of the City of San Leandro, and to the Regional Water Quality Control Board, 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 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 on this report, please call us at (510) 602-5100.

Sincerely,

Kaprealian Engineering, Inc.

Thomas J. Beckere

Thomas J. Berkins

Senior Environmental Engineer

Joel G. Greger, C.E.G.

God 11 My

Senior Engineering Geologist

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

Timothy R. Ross Project Manager

/bp

Attachments: Tables 1 through 7

Location Map Figures 1, 2 & 3

Boring Logs

Laboratory Analyses

Chain of Custody documentation

TABLE 1
SUMMARY OF LABORATORY ANALYSES
SOIL

Sample Number	TPH as <u>Diesel</u>	TPH as Gasoline	Benzene	Toluene	Xylenes	Ethyl- benzene	TOG
		(Collec	cted on Ja	anuary 3,	1989)		
EB1(5)* EB1(10)* EB1(15)* EB1(25)*	5.0 1.0 1.0 2.0		ND ND ND	0.05 ND ND 	ND ND ND	ND ND ND	ND ND ND
EB2(10) EB2(15) EB2(20) EB2(25)	  	ND ND ND 1.9	ND ND ND ND	ND ND ND ND	ND ND ND	ND ND ND ND	
EB3(5) EB3(10) EB3(15) EB3(20) EB3(25)		ND ND 2.7 2.2 ND	ND ND ND ND	ND ND ND ND	ND ND ND ND	ND ND ND ND	
EB4 (5) EB4 (10) EB4 (15) EB4 (20) EB4 (25)	  	ND ND ND ND ND	ND ND ND ND	ND ND ND ND ND	ND ND ND ND	ND ND ND ND	
EB5 (5) EB5 (10) EB5 (15) EB5 (20) EB5 (25)		ND ND 2.0 17 3.9	ND ND ND 0.12 ND	ND ND ND 0.15 ND	ND ND ND 1.4 0.17	ND ND ND 0.25 ND	  
EB6(5) EB6(10) EB6(15) EB6(25)	10 160 40 3.0	1.8 73 17 ND	ND ND 0.06 ND	ND ND 5 ND ND	ND ND 0.21 ND	ND ND ND	7,800 1,200 900 130

TABLE 1 (Continued)

# SUMMARY OF LABORATORY ANALYSES SOIL

Sample <u>Number</u>	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>		Ethyl- <u>penzene</u>	TOG
		(Collected	on March	22 and 23	, 1993)		
EB7(5)*	ND	ND	0.018	ND	ND	ND	ND
EB7(10)*	1.3		ND	ND	ND	ND	140
EB7 (15) *	6.4	<b>♦</b> 17 <b>♦</b> ♦	ND	0.011	0.025	0.0090	340
EB7 (19.5)	* 3.5	<b>4.4</b> ◆◆	ND	ND	ND	ND	80
EB7 (23.5)	* ND	ND	ND	ИD	ND	ND	60
EB8(5)*+	12+	50♦♦	0.020	0.040	0.045	0.062	1,700
EB8(10)*+			ND	ND	ND	ND	ND
EB8(15)*+	7.6	5.0♦♦	ND	ND	0.0070		ND
EB8(20)*+	- ND	ND	ND	ND	ND	ND	ND
EB8 (23) *+	- ND	ND	ND	ИD	ND	ND	ND
EB9(5)*+	ND	ND	ND	ND	ND	ND	ND
EB9(10)*+		2.0	ND	ND	ND	ND	ND
EB9(14.5)		ND	ND	ND	ND	ND	ND
EB10(5)*	ND	ND	ND	ND	ND	ND	ND
EB10(9.5)		1.6	ND	ND	ND	ND	ND
EB10(15) *		ND	ND	ND	ND	ND	ND
EB10(20)*		ND	ND	ND	ND	ND	ND
EB10(23)*		ND	ND	ND	ND	ND	ND
•							

NOTE: The soil samples were collected at the depths (below grade) indicated in the ( ) of the respective sample number.

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

<sup>\*</sup> All EPA method 8010 constituents were non-detectable.

<sup>+</sup> TPH as Hydraulic Fluid was non-detectable, except in sample where it was detected at a concentration of 470 ppm.

<sup>♦</sup> Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

<sup>♦♦</sup> Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture. ND = Non-detectable.

<sup>--</sup> Indicates analysis was not performed.

TABLE 2
SUMMARY OF LABORATORY ANALYSES
SOIL

Sample <u>Number</u>	Depth (feet)	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Xylenes	Ethyl- benzene	TOG
			(Collected	on April	17, 1989	)		
MW1 MW1	5.0 10.0	ND ND	4.0 ND	ND	ND ND	ND ND	ND ND	ND DN
MW1 MW1	15.0 17.0	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND 31
MW2*	5.0 10.0	ND ND	ND 1.1	ND ND	ND ND	ND ND	ND ND	31 60
MW2*	15.0	ND	ИД	ND	ДИ	ND	ИD	71
MW3 MW3 MW3 MW3	5.0 10.0 15.0	ND ND	ND 1.1 1.2	ND ND	ND ND	ND ND ND	ND ND ND	ND ND 32
MM 2	17.0	ИD	6.2 Collected	ND on August	0.21 16, 1989	0.42	ND	180
MW4	5.0		3.3	ИD	ND	0.11	ND	ND
MW4 MW4	10.0 15.0		ND ND	ND ND	ND ND	ND	ND	ND
MW4	19.0		ND	ND	ND	ND ND	ND ND	ND ND
MW5 MW5	5.0 10.0		ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
MW5 MW5	15.0 20.0		ND 20	ND ND	ND ND	ND ND	ИD	ND ND
MW5	22.0		ND	ND	ND	ND	ND	ND
MW6 MW6 MW6 MW6	5.0 10.0 15.0 20.0	  	ND ND ND	ND ND ND	ND ND ND	ND ND ND ND	ND ND ND	ND ND
-111, 0	20.0		7477	ND	MD	MD	ИD	ИD

## TABLE 2 (Continued)

# SUMMARY OF LABORATORY ANALYSES SOIL

Sample <u>Number</u>	Depth (feet)	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	Ethyl- benzene	<u>TOG</u>
		(0	ollected o	n Februar	y 11, 199	2)		
MW7(5)	5.0	ND	ND	ND	ND	ND	ND	
MW7(9.5)	9.5	ND	ND	ND	ND	ND	ND	~-
MW7(15)	15.0	ND	ND	ND	ND	ND	ND	
MW7(16.5	5) 16.5	ИD	ND	ИD	ИD	ND	ND	

-- Indicates analysis not performed.

ND = Non-detectable.

\* EPA method 8010 constituents were non-detectable.

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

TABLE 3
SUMMARY OF LABORATORY ANALYSES
SOIL

Sample <u>Number</u>	Depth (feet)	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Xylenes	Ethyl- <u>benzene</u>	<u>TOG</u>
			(Collected	d on May :	11, 1989)			
SWA	16.5	21						850
SWB	16.5	18				<del></del>		580
SWC	16.5	26					<del>-</del> -	680
SWD	16.5	16			<del></del>			170

<sup>--</sup> Indicates analysis was not performed.

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

TABLE 4
SUMMARY OF LABORATORY ANALYSES
WATER

Sample <u>Number</u>	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Xylenes	Ethyl- <u>benzene</u>	DOT (maq)
		(Col	lected on	January	3, 1989)		
EB1	ND		ND	3.5	ND	ND	
EB2		ND	8.2	7.4	3.3	0.67	
EB3		ND	ND	ND	ND	ND	
EB4		ND	ND	ND	ND	0.73	
EB5	<b></b>	340	ND	ND	ND	0.63	
EB6		1,500	1.5	1.4	12	8.1	
		Collect	ed on Mar	ch 22 and	1 23, 1993	3)	
EB7*	320++	1,000+	19	ND	ND	6.8	ND
EB8*+	120++	510♦♦	ND	ND	ND	ND	ND
EB9*+	480++	2,600	ND	5.1	8.8	8.3	ND
EB10*	ND	180♦♦	ND	ND	ND	ND	ND

- \* All EPA method 8010 constituents were non-detectable, except for tell and the which was detected in samples EB9 and EB10 at concentrations of 12 ppb and 250 ppb, respectively.

  was also detected in sample at a concentration of 0.63 ppb.
- + TPH as hydraulic fluid was non-detectable.
- ++ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- ♦♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

ND = Non-detectable.

-- Indicates analysis was not performed.

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

TABLE 5
SUMMARY OF LABORATORY ANALYSES
WATER

		PH as iesel		<u>Ber</u>	nzene	<u>Toluene</u>	Xylene	Ethy <u>s</u> benz		TOG ppm)
10/30/92	MW1 MW2 MW3 MW4 MW5	 NOT WELI	SAMPLED  1,200   SAMPLED DUE WAS INACCES SAMPLED			ND RESENCE O	N F FREE		ND	
	MW6		ND		ND	ND	N		ND	
	MW7		ИД		ИD	ND	И	Ŋ	ND	
5/26/92	MW2	 0,000 ND	SAMPLED 2,900 1,300,000 120 SAMPLED		8.8 100 0.59	9.3 66,000 0.8	160,00		54 000 ND	880 
	MW6		ND		ND	ND		0.65	ИD	
	MW7		ND		ND	ND		0.60	ND	
2/27/92	MW1 MW2 MW3 MW4 MW5	not ND	SAMPLED 330 SAMPLED DUE 43 SAMPLED	TO	12 THE PI	12 RESENCE O			10	
	MW6		ND		3.2	ND		3.8	ND	
	MW7		38		ND	0.9	7	4.0	0.69	
11/19/91	MW2		SAMPLED 220		2.5	8.4	1		2.4	
	MW3 MW4	NOT ND	SAMPLED DUE ND	то	THE P	RESENCE O	F FREE N		ND	
	MW5 MW6	тои 	SAMPLED ND		ND	ND	N	D	ND	- <del>-</del>
8/15/91		пот	SAMPLED		MD	). D	37	5	M	M
	MW2 MW3	TON	ND SAMPLED DUE	TO	ND A TRA	ND CE OF FRE	N E PRODU		ND	ND
	MW4 MW5	ND	ND		ND	ND	N		ND	ND
	MW6		SAMPLED ND		ИD	ND	И	D	ИD	ND

TABLE 5 (Continued)

# SUMMARY OF LABORATORY ANALYSES WATER

<u>Date</u>	Sample Well #	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>		Sthyl- penzene	TOG (mqq)
5/24/93	L MWl		ND	ND	ΩИ	ИД	ND	ND
, ,	MW2		ND	1.5	ND	ND	ND	ND
	EWM	2,000	23,000	940	3,400	2,600	590	ND
	MW4	ND	ND	0.64	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6		ND	ND	ND	ND	ИD	ND
2/04/9		ND	ND	ND	0.31			ND
	MW2	ND	ND	ND	0.38		' ND	ND
	MW3		AMPLED DUE		CE OF FREE			
	MW4	ND	ND	ND	0.72		ND	ND
	MW5	ND	ND	ND	0.35		ND	ND
	MW6	ИD	ND	ND	ND	ND	ИD	ND
11/06/90	O MW1	ND	ND	ND	ND	ND	ND	ND
	MW2	ИD	ND	ND	0.42	1.4	ND	ИD
	MW3	940	16,000	820	1,500	770	2,200	ND
	MW4	ND	ND	ИD	0.36	0.98		ИД
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	1.6	0.35	ND	ND	ND
8/09/9		ND	ND	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND	ND	ND
	MW3	500	1,900	56	140	140	31	ND
	MW4	ND	ND	ND	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	ND	ND	ND	ND	ND
5/10/90		ND	ИD	ND	ND	ND	ИD	ND
	MW2	ND	43	ND	1.0	ND	ND	ND
	MM3	850	6,200	94	460	540	160	2.8
	MW4	88	54	ND	2.0	0.37		ND
	MW5	83	ND	ND	ИD	0.31		ИD
	MW6	ND	ИD	ND	1.2	ND	ND	ND

TABLE 5 (Continued)

## SUMMARY OF LABORATORY ANALYSES WATER

	Sample <u>Well #</u>	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	Benzene	<u>Toluene</u>	<u>Xylenes</u>	Ethyl- <u>benzene</u>	DOT (mqq)
2/23/90	MW1	ND	ND	ND	ND	ND	ND	ND
	MW2	ND	44	ND	ND	ND	ND	ND
	EWM S	350	ND	0.32	ND	ND	ND	1.3
	MW4	ND	ND	ND	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	ИД	ИD	ИD	ИD	ИD
11/21/89		ND	ND	ND	ND	ND	ND	8.9
	MW2	ND	48	ND	0.51	L ND	ND	1.6
	MW3	110	1,900	ND	ND	ND	ND	3.8
	MW4	ND	ND	ND	ND	ND	ND	ND
	MW5	70	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	ND	ND	ND	ND	ND
8/29/89		120	ND	ND	ND	ND	ND	ND
	MW5	100	ND	ND	0.94	ND	0.3	0 ND
	MW6	ND	ND	ИД	ND	ND	ИD	ND
8/10/89		ND	ND	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	0.39	ND	ND	ND
	MW3	860	3,200	73	140	240	35	ND
4/25/89		100	ND	0.31	ND	ND	ND	
	MW2	ND	32	0.35	ND	ND	ND	
	MW3	5,700	56	ИD	ИD	0.	49 0.3	1

-- Indicates analysis was not performed.

### ND = Non-detectable.

- ♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.
- \* Free product was detected in well MW3; however, a water sample was collected and analyzed to determine if the product was predominantly hydrocarbon based.

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

KEI-P88-1204.R8 April 26, 1993

TABLE 6
SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	Sample <u>Well</u> #	Tetrachloro- ethene	1,1-Dichloro- ethane	1,1,1-Trichloro- ethane	Chloro- methane	1,1-Dichlo- roethene	1,2-Dichlo- robenzene
10/30/92	MW2 MW3 MW4		ND DUE TO THE PRESENCESSIBLE	ND NCE OF FREE PRODUCT	ND	ND	ИД
	MW6	1.2	ND	ND	ND	ИD	ND
	MW7	2.2	ND	ND	ND	ND	ND
5/26/92		ND	ND	ND	ND	ИД	ИД
	EWM	ИD	ИD	ND	ND	ND	ND
	MW4	2.4	13	3.5	ND	0.83	ND
	MW6	1.1	ND	ND	ИD	ND	1.7
	MW7	2.2	ND	ND	ND	ND	ND
2/27/92		ND	ND	ND	ИD	ND	ND
	MW3		JE TO THE PRESENC				
	MW4	3.5	6.0	ND	ND	ИD	ND
	MW6	1.5	ИD	ИD	ND	ND	1.6
	MW7	2.4	ND	ND	ИD	ИD	ND
11/19/91	MW2 MW3	ND NOT SAMPLED DI	ND JE TO THE PRESENC	ND CE OF FREE PRODUCT	ND	ND	ND
	MW4	3.4	ND	ND	ND	ND	ND
	MW6	1.3	ND	ND	ND	ND	ND
8/15/91	MW2 MW3	ND NOT SAMPLED DI	ND JE TO THE PRESENC	ND CE OF FREE PRODUCT	ND	ИD	ND
	MW4	3.6	ИD	ND	ND	ND	ND
	MW6	1.2	ND	ND	ИD	ND	ND

KEI-P88-1204.R8 April 26, 1993

TABLE 6 (Continued)

# SUMMARY OF LABORATORY ANALYSES WATER

<u>Date</u>	Sample <u>Well #</u>	Tetrachloro- ethene	1,1-Dichloro- ethane	1,1,1-Trichloro- ethane	Chloro- methane	1,1-Dichlo- roethene	1,2-Dichlo- robenzene
5/24/9	1 MW1	4.6	ND	ND	ND	ND	ND
	MW2	ИD	ND	ND	ND	ND	ND
	MW3	ND	ИД	ND	ND	ND	ND
	MW4	4.1	2.5	3.9	ND	ИД	ND
	MW5	0.89	ND	ND	ND	ND	ND
	MWG	0.88	ИD	ND	5.6	ND	ND
11/06/9	O MW1	4.8	ND	ND	ND	ND	ND
	MW2	ND	ИD	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ИD	ND
	MW4	2.9	ND	ND	ND	ND	ND
	MW5	0.7	ИД	ND	ND	ND	ND
	MW6	1.2	ND	ND	ND	ИD	ND
4/25/89	MW1*	3.3	ИD	ND	ND	ND	ND
, ,	MW2	0.68	ND	ND	ND	ND	ND
	K W M	1.0	ND	ND	ND	ИD	ND

NOTE: All EPA method 8010 constituents were non-detectable, except for those shown in the above table.

ND = Non-detectable.

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

<sup>\*</sup> Trichloroethene was detected at 0.55 ppb.

TABLE 7
SUMMARY OF LABORATORY ANALYSES
SOIL

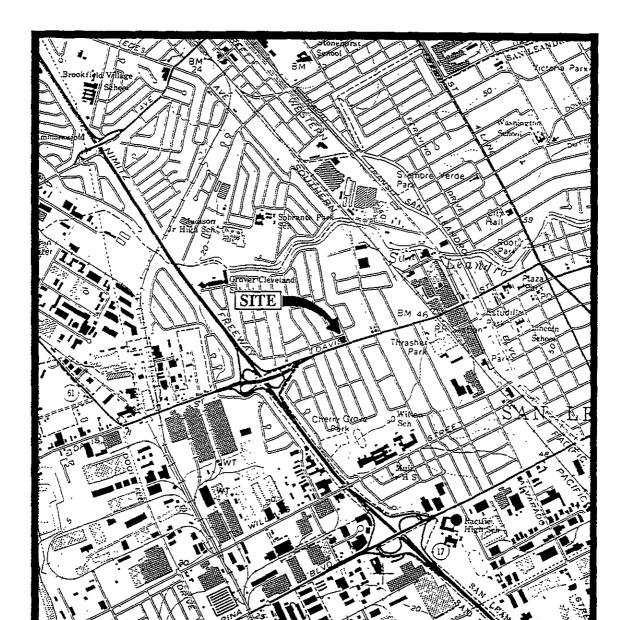
Date	Sample	Depth (feet)	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	Ethyl- <u>benzene</u>	TOG
7/28/9	2 A1 A2 B1 B2	14 14 14 14		23 ND 3.2 8.4	0.078 ND 0.0056 0.0086	0.093 ND ND 0.019	0.16 ND 0.023 0.054	0.061 ND ND 0.069	
	P1 P2 P3 P4 P5 P6	3.5 3.5 3.5 3.5 3.5 3.5	   	ND 5.8 ND ND 6.8 91	0.013 0.042 ND ND ND O.72	ND 0.022 0.012 ND ND 0.32	0.0060 0.11 0.025 0.0067 1.7	ND 0.024 ND ND 0.21 0.34	
	WO1* WO1(10)	10 ) 15	210	150 	0.61	3.3	12	1.8	3,000 210
Detect Limits			1.0	1.0	0.005	0.005	0.005	0.005	30

<sup>--</sup> Indicates analysis was not performed.

ND = Non-detectable.

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

<sup>\*</sup> EPA method 8010 constituents were all non-detectable, except for 1-1-Dichloroethane at 120 ppb, tetrachloroethene at 86 ppb and 1,1,1-trichloroethane at 260 ppb. Cadmium, chromium, lead, nickel, and zinc were detected at concentrations of 0.95 ppm, 45 ppm, 5.8 pm, 42 ppm, and 40 ppm, respectively.



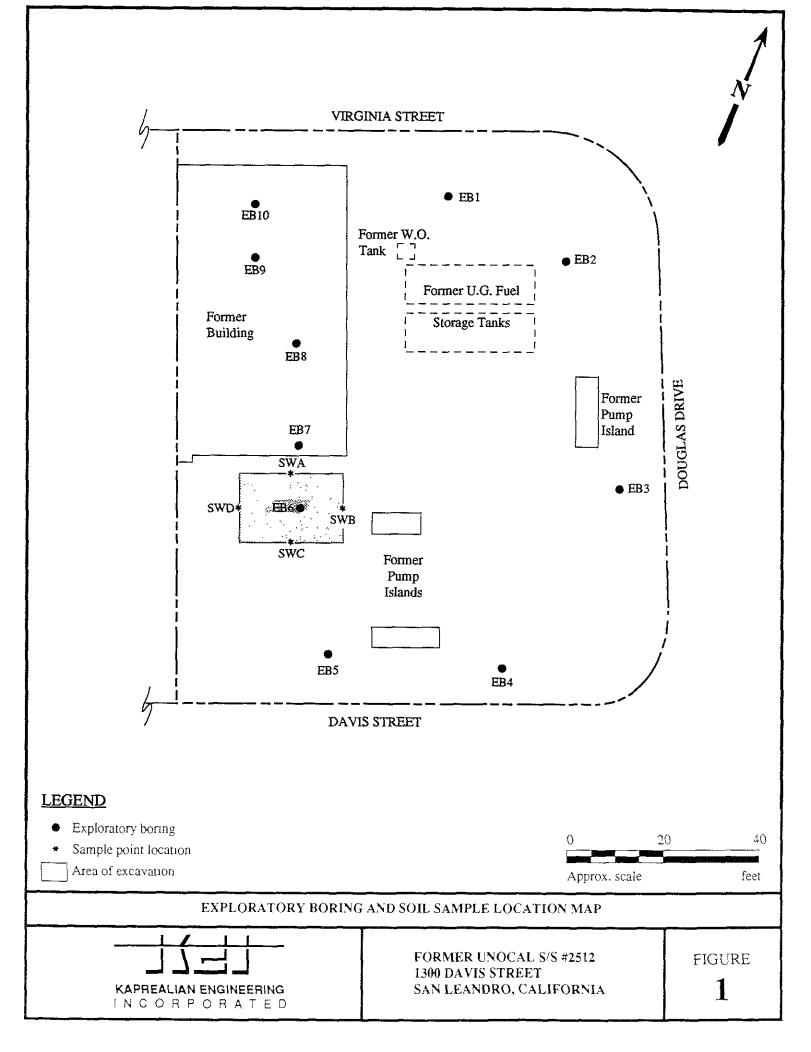
Base modified from 7.5 minute U.S.G.S. San Leandro Quadrangle (photorevised 1980)





FORMER UNOCAL S/S #2512 1300 DAVIS STREET SAN LEANDRO, CALIFORNIA

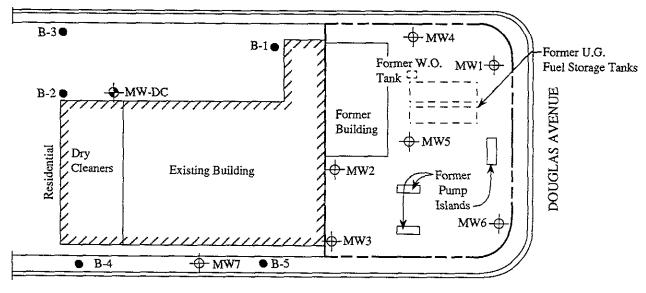
LOCATION MAP





### Residential Area

### VIRGINIA STREET



DAVIS STREET

### **LEGEND**

- + Existing Monitoring Well (by KEI)
- Existing Monitoring Well (by others)
- Approximate location of existing off-site Soil Borings (by AGS)



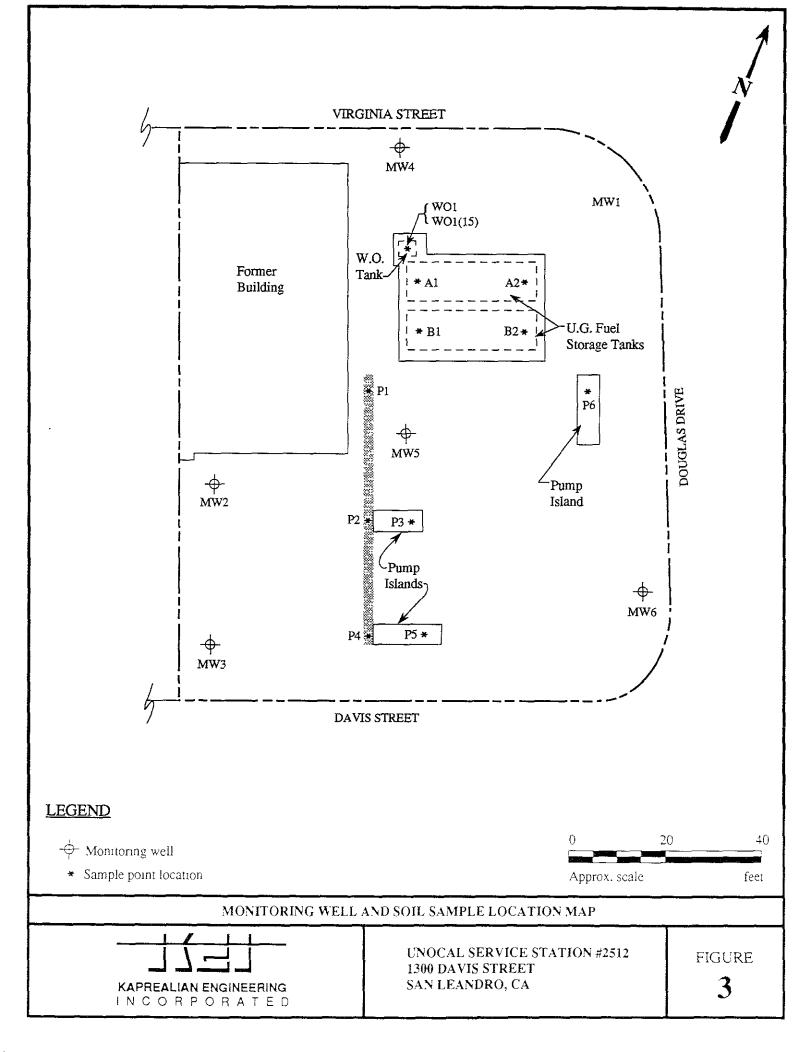
## EXPLORATORY BORING AND MONITORING WELL LOCATION MAP



UNOCAL SERVICE STATION #2512 1300 DAVIS STREET SAN LEANDRO, CA

**FIGURE** 

2





i M	IAJOR DIVISIONS	SYMBO	OLS	TYPICAL SOIL DESCRIPTIONS			
1	GRAVELS	GW	,	Well graded gravels or gravel - sand mixtures, little or no fines			
1	(More than 1/2 of coarse	GP		Poorly graded gravels or gravel - sand mixtures, little or no fines			
	fraction > No. 4 sieve size)	GM	0000 0000	Silty gravels, gravel - sand - silt mixtures			
, 1 !		GC		Clayey gravels, gravel - sand - clay mixtures			
1 1 1	SANDS	sw		Well graded sands or gravelly sands, little or no fines			
] { 	(More than 1/2 of coarse	SP		Poorly graded sands or gravelly sands, little or no fines			
}	fraction < No. 4 sieve size)	SM		Silty sands, sand - silt mixtures			
]   	i !	SC		Clayey sands, sand - clay mixtures			
	SILTS & CLAYS	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity			
] 	<u>LL &lt; 50</u>	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
		OL		Organic silts and organic silty clays of low plasticity			
	SILTS & CLAYS	МН		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts			
	<u>LL &gt; 50</u>	CH		Inorganic clays of high plasticity, fat clays			
[ ;		ОН		Organic clays of medium to high plasticity, organic silty clays, organic silts			
!   	HIGHLY ORGANIC SOILS	Pt		Peat and other highly organic soils			
	DUAL (TRANSITION) SOILS			aracterisities are transitional between the soil cations listed above			

					BORING LOG	······································			
Project No. KEI-P88-120	4	·	<u> </u>	Boring Di		Logged By \( \mathcal{T} GG \) D.L. \( CEG \) 16 33			
Project Name 1300 Davis St	Unoca		<del></del>	Casing Dia Well Cove	er Elevation	Date Drilled 3/23/93			
Boring No. EB7				Drilling Method	Hollow-stem Auger	Drilling Company Woodward Drilling			
				rati- aphy SCS	Desci	ription			
					Silty sand with gravel and debris, medium dense, moist, very dark grayish brown (10YR 3/2), fill.				
4/10/16	0/16				Silty clay, estimated at 35-45% silt, stiff to very stiff, moist, very dark grayish brown (10YR 3/2) and black (10YR 2/1), mottled.  Silt, estimated at 10-15% clay, stiff, moist, dark greenish gray (5GY 4/1).				
4/8/10									
		10	CL		Silty clay, stiff to very stiff, moi (10YR 3/2), with root holes.	st, very dark grayish brown			
5/10/16						dark grayish brown (10 YR 3/2) and root holes discolored very dark gray			
4/6/10	6/10 M				Clayey silt, stiff, moist, olive (5Y (5GY 4/1).	(4/4) and dark greenish gray			
6/11/12			CL		Silty clay, stiff to very stiff, moist, dark brown (10YR 4/4) and vodark gray (10YR 3/1), mottled.				
4/8/13			М	L ====	Clayey silt, stiff, moist, dark oliv	re gray (5Y 3/2)			
,			CL		Clay, estimated at 10-15% silt, ve (10YR 3/4) and dark greenish gra	ery stiff, moist dark, yellowish brown ay (5GY 4/1).			

				BORING LOG			
Project No. KEI-P88-120	4		Boring D	<del></del>	Logged By		
Project Name 1300 Davis St			Well Cov	ver Elevation	Date Drilled 3/23/93		
Boring No. EB7			Drilling Method	Hollow-stem Auger	Drilling Company Woodward Drilling		
Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati- graphy USCS	De	scription		
8/12/17	<b>Y</b>		CL	Clay, estimated at 10-15% silt with root holes.	Clay, estimated at 10-15% silt, very stiff, moist, olive brown (2.5Y 4/4 with root holes.		
		30		TOTA	AL DEPTH: 24.5'		

					BORING LOG			
Project No. KEI-P88-120	4	* · · · · · · · · · · · · · · · · · ·	<u> </u>	Boring Dia		Logged By <i>JGG</i> D.L. <i>CEG 16</i> 33		
Project Name 1300 Davis St			<del></del>		r Elevation	Date Drilled 3/22/93		
Boring No. EB8		<u> </u>		Drilling Method	Hollow-stem Auger	Drilling Company Woodward Drilling		
Penetration blows/6"	1 1 1 1				Descr	ription		
	0 ===				Silty sand with gravel and debris grayish brown (10YR 3/2), fill.	, medium dense, moist, very dark		
13/50		5	CL-G	M	Silty clay and clayey silt, stiff, moist, very dark grayish brown (10YR 3/2) to black (10YR 2/1), with debris, pocketed with silty gravel with sand (artificial fill).			
7/13/21					Silty clay, trace sand, stiff to very stiff, moist, very dark grayish brown (10YR 3/2), with very dark gray (10YR 3/1) discolored root holes.  Silty clay, as above, except olive brown (2.5Y 4/3) and dark greenish gray (5GY 4/1), mottled.			
4/8/13 5/8/15				CL E				
6/11/14					Silt with clay, stiff, moist, olive (5GY 4/1), mottled.	5Y 4/4) and dark greenish gray		
7/13/19			CL		Clay with silt, very stiff, moist, dark olive gray (5Y 3/2), mottled	ark grayish brown (2.5Y 4/2) and		
6/9/15		20			Clay, as above, except olive brow (5GY 4/3) discolored root holes.	n (2.5Y 4/4) with dark greenish gray		

· · · · · · · · · · · · · · · · · · ·				BORING LOG			
Project No. KEI-P88-120-	4	<u></u>	Boring D Casing D	<del></del>	Logged By J66 D.L. CE6/633  Date Drilled 3/22/93		
Project Name 1300 Davis St	e Unocal reet, San	S/S #2512 Leandro	Well Cov	ver Elevation			
Boring No. EB8	<u> </u>		Drilling Method	Hollow-stem Auger	Drilling Company Woodward Drilling		
Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati- graphy USCS	Desc	cription		
7/11/16	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		CL	Silty clay, very stiff, moist, oliv	re brown (2.5Y 4/4), with root holes.		
		30 - 35		TOTA	t, olive brown (2.5Y 4/4), with root holes.  OTAL DEPTH: 24.5'		

					BORING LOG		
Project No. KEI-P88-120	4		1	Boring Dia	ameter 8.5"	Logged By \( \mathcal{T}66\) D.L. \( \mathcal{CE6} \)	
Project Name 1300 Davis St	Unoca reet, Sar	il S/S #2512 n Leandro	. 1	Well Cove	r Elevation	Date Drilled 3/22/93	
Boring No. EB9				Drilling Method	Hollow-stem Auger	Drilling Company Woodward Drilling	
blows/6" level (feet)			gra	ati- aphy SCS	Desc	ription	
		0 =			Silty sand and silty clay, with gr	avel and debris (fill).	
5/7/10			ML	11111	Clayey silt, firm to stiff, moist, v grading to dark grayish brown (1	very dark grayish brown (10YR 3/2) 10YR 4/2).	
				CL		Silty clay, very stiff, moist, very dark grayish brown (10YR 3/2).	
6/9/11			10	ML		Sandy silt, trace clay, stiff, mois dark grayish brown (2.5Y 4/2).	t to very moist, sand is fine-grained,
					CL		Silty clay, trace sand, very stiff, (10YR 3/2) and black (10YR 2/1
4/7/9			SM		Silty sand, estimated at 20-25% s greenish gray (5GY 4/1), sand is	silt, medium dense, moist to wet, dark fine to medium-grained.	
לוווד	3	<b>\</b>	15 -	CL		Clay, estimated 10-15% silt, very and dark greenish gray (5GY 4/1	y stiff, moist, olive brown (2.5Y 4/4)), mottled, with root holes.
5/10/16	<u></u> -	20 -			Clay, as above.		
					TOTA	AL DEPTH: 20 5'	

		<del></del>			BORING LOG		
Project No. KEI-P88-120	1	<del></del>	1	Boring Dia	ameter 8.5"	Logged By	
			4	Casing Dia	meter	D.L.	
Project Name 1300 Davis St			,	Well Cove	r Elevation	Date Drilled 3/22/93	
Boring No. EB10		<u></u>		Drilling Method	Hollow-stem Auger	Drilling Company Woodward Drilling	
Penetration blows/6"	G. W. level	Depth (feet) Samples	gra	rati- aphy SCS	Desc	ription	
					Silty sand with gravel and debris grayish brown (10YR 3/2), fill.	s, medium dense, moist, very dark	
7/9/15	5	5	ML		Clayey silt, estimated at 30-40% brown (10YR 3/2),	clay, stiff, moist, very dark grayish	
			CL		Silty clay, estimated at 35-45% silt, very stiff, moist, very dark grayish brown (10YR 3/2).		
5/8/10			SM	М	Silty sand, estimated at 15-20% silt, medium dense, wet, olive brown (2.5Y 4/4), sand is fine to medium-grained.		
5, 6, 20		10	CL		Silty clay, estimated at 5-10% sa brown (10YR 3/2).	nd, very stiff, moist, very dark grayish	
9/12/17				ML		Silt with clay, stiff, moist, olive (5GY 4/1), mottled.	(5Y 4/4) and dark greenish gray
					Clay with silt, very stiff, moist, or greenish gray (5GY 4/1), mottled		
8/10/16					Clay, estimated 10-15% silt, very with root holes.	stiff, moist, olive brown (2.5Y 4/3),	

				BORING LOG	
Project No. KEI-P88-1204	ļ		Boring I		Logged By D.L.
Project Name 1300 Davis Str	Unocal eet, San	S/S #2512 Leandro	Well Co	ver Elevation	Date Drilled 3/22/93
Boring No. EB10			Drilling Method	Hollow-stem Auger	Drilling Company Woodward Drilling
Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati- graphy USCS		Description
8/10/12	<u>\$</u>		CL	with root holes.	silt, very stiff, moist, olive brown (2.5Y 4/3
0/10/12	<del>-</del>	25 —	ML ===		o very moist, olive brown (2.5Y 4/4).  TAL DEPTH: 24.5'
		23			DIAL DEPIN: 24.5
		- 30 			
;					
:					
į		35			
		<u> </u>			
		40 —			
İ					

Kaprealian Engineering, Inc. 2401 Stanwell Drive, Suite 400 Concord, CA 94520

Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sample Matrix:

First Sample #:

Soil

Analysis Method: EPA 5030/8015/8020

303-0921

Sampled: 3/22 & 3/23/93

Received: Mar 24, 1993:

Reported: Apr 7, 1993

### TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 303-0921 EB7(5)	Sample I.D. 303-0922 EB7(10)	Sample I.D. 303-0923 EB7(15)	Sample I.D. 303-0924 EB7(19.5)	Sample I.D. 303-0925 EB7(23.5)	Sample I.D. 303-0926 EB8(5)
Purgeable Hydrocarbons	1.0	N.D.	3.2	17	4.4	N.D.	50
Benzene	0.005	0.018	N.D.	N.D.	N.D.	N.D.	0.020
Toluene	0.005	N.D.	N.D.	0.011	N.D.	N.D.	0.040
Ethyl Benzene	0.005	N D.	N.D.	0.0090	N.D.	N.D.	0.062
Total Xylenes	0.005	N.D.	N.D.	0.025	N.D.	N.D.	0.045
Chromatogram Pat	tern:		Gasoline & Non Gasoline Mixture (>C9)	Gasoline & Non Gasoline Mixture (>C9)	Gasoline & Non Gasoline Mixture (>C9)		Gasoline & Non Gasoline Mixture (>C9)
Quality Control Da	ıta						
Report Limit Multipl	ication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:		3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93
Instrument Identific	ation:	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1
Surrogate Recovery (QC Limits = 70-13		103	103	75	104	100	96

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

SEQUOJA ANALYTICAL

Scott A Chieffo ( Project Manager

Concord, CA 94520

Client Project ID: Sample Matrix:

asser à l'insulta intresta è Unocal #2512, 1300 Davis St., San Leandro Soil

Sampled: Received:

Mar 22, 1993 Mar 24, 1993

Attention: Mardo Kaprealian, P.E.

Analysis Method: First Sample #:

EPA 5030/8015/8020 303-0927

Reported:

Apr 7, 1993

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 303-0927 EB8(10)	Sample I.D. 303-0928 EB8(15)	Sample I.D. 303-0929 EB8(20)	Sample I.D. 303-0930 EB8(23)	Sample I.D. 303-0931 EB9(5)	Sample I.D. 303-0932 EB9(10)
Purgeable Hydrocarbons	1.0	N.D.	5.0	N.D.	N.D.	N.D.	2.0
Benzene	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.005	N.D.	0.015	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.005	N.D.	0.0070	N.D.	N.D.	N.D.	N.D.
Chromatogram Pat	tern:		Gasoline & Non Gasoline Mixture (>C9)				Gasoline
Quality Control Da	ıta						
Report Limit Multipl	ication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:		3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93
Instrument Identific	ation:	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1
Surrogate Recovery, %: (QC Limits = 70-130%)		105	94	102	106	108	105

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

3030921 KEL <2>

Concord, CA 94520

Client Project ID: Sample Matrix:

Articological de la companya de la c Soil

Sampled:

Mar 22, 1993

Analysis Method:

EPA 5030/8015/8020

Received: Reported: Mar 24, 1993 Apr 7, 1993

Attention: Mardo Kaprealian, P.E. o con contrata de la comerción do como poderior en come presente de como en en entre en el como entre en esta e

First Sample #:

303-0933

#### TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 303-0933 EB9(14.5)	Sample I.D. 303-0934 EB10(5)	Sample I.D. 303-0935 EB10(9.5)	Sample I.D. 303-0936 EB10(15)	Sample I.D. 303-0937 EB10(20)	Sample I.D. 303-0938 EB10(23)
Purgeable Hydrocarbons	1.0	N.D.	N.D.	1.6	N.D.	N.D.	N.D.
Benzene	0.005	N.D.	N,D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pati	tern:			Gasoline			

**Quality Control Data** 

ļ.						
Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93	3/31/93
Instrument Identification:	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1
Surrogate Recovery, %: (QC Limits = 70-130%)	101	102	103	108	109	108

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

SEQUOIA ANALYTICAL

Concord, CA 94520

Attention: Mardo Kaprealian, P.E.

Client Project ID Sample Matrix:

Analysis Method: First Sample #:

Soil

Unocal #2512, 1300 Davis St., San Leandro

EPA 5030/8015/8020 Matrix Blank Sampled:

Mar 22, 1993

Received: Mar 24, 1993 Reported: Apr 7, 1993

## 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:

3/31/93

Instrument Identification:

GCHP-1

Surrogate Recovery, %:

102

(QC Limits = 70-130%)

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard Ahalytes reported as N  $\circ$  were not detected above the stated reporting limit

SEQUOIA ANALYTICAL

Concord, CA 94520

Attention: Mardo Kaprealian, P.E.

Client Project ID: Sample Matrix:

Unocal #2512, 1300 Davis St., San Leandro

Received:

Sampled: 3/22 & 3/23/93

Soil

Analysis Method: EPA 3550/8015

Reported:

Mar 24, 1993 is Apr 7, 1993

First Sample #: or or or set and the control of the final of the control of the co

303-0921

# TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 303-0921 EB7(5)	Sample I.D. 303-0922 EB7(10)	Sample I.D. 303-0923 EB7(15)	Sample I.D. 303-0924 EB7(19.5)	Sample I.D. 303-0925 EB7(23.5)	Sample I.D. 303-0926 EB8(5)
Extractable Hydrocarbons	1.0	N.D.	1.3	6.4	3.5	N.D.	12
Chromatogram Pa	ttern:		Diesel & Non Diesel Mixture (< C14; > C20)	Diesel & Non Diesel Mixture ( <c14;>C20)</c14;>	Diesel & Non Diesel Mixture ( <c14;>C20)</c14;>	•-	Diesel & Non Diesel Mixture ( <c14;>C20)</c14;>

#### **Quality Control Data**

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	5.0
Date Extracted:	3/30/93	3/30/93	3/30/93	3/30/93	3/30/93	3/30/93
Date Analyzed:	4/2/93	4/2/93	4/2/93	4/2/93	4/1/93	4/2/93
Instrument Identification:	HP-3B	HP-3B	HP-3B	HP-3B	НР-ЗВ	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard Analytes reported as NID were not detected above the stated reporting limit

SEQUOIA ANALYTICAL

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Sampled:

Mar 22, 1993

Concord, CA 94520

Sample Matrix: Analysis Method: Soil EPA 3550/8015 Received:

Mar 24, 1993

Attention: Mardo Kaprealian, P.E. 

First Sample #:

303-0927

Reported: Apr 7, 1993

#### TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 303-0927 EB8(10)	Sample I.D. 303-0928 EB8(15)	Sample I.D. 303-0929 EB8(20)	Sample I.D. 303-0930 EB8(23)	Sample I.D. 303-0931 EB9(5)	Sample I.D. 303-0932 EB9(10)
Extractable Hydrocarbons	1.0	1.2	7.6	N.D.	N.D.	N.D.	N.D.
Chromatogram Pat	ttern:	Diesel	Diesel				

**Quality Control Data** 

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Extracted:	3/30/93	3/30/93	3/30/93	3/30/93	3/30/93	3/30/93
Date Analyzed:	4/2/93	4/1/93	4/1/93	4/1/93	4/1/93	4/1/93
Instrument Identification:	НР-3В	НР-ЗВ	HP-3B	HP-3B	НР-3В	HP-3B

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

SEQUOIA ANALYTICAL

Concord, CA 94520

Client Project ID: Sample Matrix:

Unocal #2512, 1300 Davis St., San Leandro Sampled: Soil

Mar 22, 1993 Mar 24, 1993

Analysis Method:

EPA 3550/8015

Received: Reported:

Apr 7, 1993

Attention: Mardo Kaprealian, P.E.

First Sample #:

303-0933

#### TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 303-0933 EB9(14.5)	Sample I.D. 303-0934 EB10(5)	Sample I.D. 303-0935 EB10(9.5)	Sample I.D. 303-0936 EB10(15)	Sample I.D. 303-0937 EB10(20)	Sample I.D. 303-0938 EB10(23)	
Extractable Hydrocarbons	1.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-
Chromatogram Pat	tern:			• -		v -	<del>- •</del>	

**Quality Control Data** 

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Extracted:	3/30/93	3/30/93	3/30/93	3/30/93	3/30/93	3/30/93
Date Analyzed:	4/1/93	4/2/93	4/1/93	4/1/93	4/1/93	4/1/93
Instrument Identification:	HP-3B	HP-3B	HP-3B	HP-3B	HP-3B	HP-3B

Extractable Hydrocarbons are quantitated against a tresh diesei standard. Analytes reported as NIDI were not detected above the stated reporting limit

SEQUOJA ANALYTICAL

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. . . . . . . . .

Client Project ID:

Unocal #2512, 1300 Davis St., San Leandro Sample

Sampled: 3/22 & 3/23/93

Soil Sample Matrix:

Analysis Method: EPA 3550/8015

Received: Mar 24, 1993 Reported:

The state of the property of the state of th

Apr 7, 1993

First Sample #:

Matrix Blank

#### TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

	Reporting	Sample	
Analyte	Limit	l.D.	
	mg/kg	Matrix	
	<b>2</b> . <b>4</b>	Blank	

Extractable

Hydrocarbons

1.0

Chromatogram Pattern:

#### **Quality Control Data**

Report Limit Multiplication Factor: 1.0

Date Extracted: 3/30/93

Date Analyzed: 4/1/93

Instrument Identification: HP-3A

Extractable Hydrocarbons are quantitated against a fresh diesel standard Analytes reported as N D, were not detected above the stated reporting , mit

SEQUOJA ANALYTICAL

Client Project ID: Sample Matrix:

യും അവർ കാര്യം വിധാനം Soil

Sampled:

Mar 22, 1993

Analysis Method:

EPA 3550/8015

Received: Reported: Mar 24, 1993 Apr 7, 1993

Attention: Mardo Kaprealian, P.E. First Sample #: 303-0926

## TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS as HYDRAULIC FLUID

Analyte	Reporting Limit mg/kg	Sample I.D. 303-0926 EB8(5)	Sample I.D. 303-0927 EB8(10)	Sample I.D. 303-0928 EB8(15)	Sample I.D. 303-0929 EB8(20)	Sample I.D. 303-0930 EB8(23)	Sample I.D. 303-0931 EB9(5)
Extractable Hydrocarbons	10	470	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pat	ttern:	Hydraulic Fluid					

**Quality Control Data** 

Report Limit Multiplication Factor:	5.0	1.0	1.0	1.0	1.0	1.0
Date Extracted:	3/30/93	3/30/93	3/30/93	3/30/93	3/30/93	3/30/93
Date Analyzed:	4/5/93	4/5/93	4/5/93	4/5/93	4/5/93	4/5/93
Instrument Identification:	НР-ЗА	НР-ЗА	НР-ЗА	HP-3A	НР-ЗВ	HP-3B

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

SEQUOIA ANALYTICAL

Concord, CA 94520

Client Project ID: Sample Matrix:

Unocal #2512, 1300 Davis St., San Leandro

Sampled:

Mar 22, 1993 :

Analysis Method:

EPA 3550/8015

Received:

Mar 24, 1993

Attention: Mardo Kaprealian, P.E.

First Sample #:

303-0932

Reported:

THE CONTRACTOR MALIERAL CASE AND LABOUR.

Apr 7, 1993

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS as HYDRAULIC FLUID

Analyte	Reporting Limit mg/kg	Sample I.D. 303-0932 EB9(10)	Sample I.D. 303-0933 EB9(14.5)		
Extractable Hydrocarbons	10	N.D.	N.D.		
Chromatogram Pat	ttern:				

**Quality Control Data** 

Γ			
	Report Limit Multiplication Factor:	1.0	1.0
	Date Extracted:	3/30/93	3/30/93
	Date Analyzed:	4/5/93	4/5/93
	Instrument Identification:	HP-3B	HP-3B
1			

Extractable Hydrocarbons are quantitated against a fresh hydraulic fluid standard Analytes reported as NID, were not detected above the stated reporting limit

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E.

Matrix Descript:

Analysis Method:

J. J. W. L. 1988

Soil SM 5520 E&F (Gravimetric)

First Sample #: 303-0921

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled: 3/22 & 3/23/93

Mar 24, 1993 Received:

Extracted: Mar 25, 1993 Mar 29, 1993 Analyzed:

Apr 7, 1993 Reported: and with the contract of the c

#### TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
303-0921	EB7(5)	N.D.
303-0922	EB7(10)	140
303-0923	EB7(15)	340
303-0924	EB7(19.5)	80
303-0925	EB7(23.5)	60
303-0926	EB8(5)	1,700
303-0927	EB8(10)	N.D.
303-0928	EB8(15)	N.D.
303-0929	EB8(20)	N.D.
303-0930	EB8(23)	N.D.
etection Limits:		50

Detection Limits:	50	

Analytes reported as NID, were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E. First Sample #:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled: Mar 22, 1993

Matrix Descript: Soil

Analysis Method: SM 5520 E&F (Gravimetric)

303-0931

Mar 24, 1993

Received: Extracted:

Mar 25, 1993 Mar 29, 1993

Analyzed: Reported: Apr 7, 1993

#### TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
303-0931	EB9(5)	N.D.
303-0932	EB9(10)	N.D.
303-0933	EB9(14.5)	N.D.
303-0934	EB10(5)	N.D.
303-0935	EB10(9.5)	N.D.
303-0936	EB10(15)	N.D.
303-0937	EB10(20)	N.D.
303-0938	EB10(23)	N.D.

Detection Limits:	50	}

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

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E.

Sample Descript: Soil, EB7(5) Analysis Method: EPA 5030/8010 Lab Number:

non-value estate in the energy service of the Client Project ID: Unocal #2512, 1300 Davis St , San Leandro

303-0921

: 4:, 4: :-Mar 23, 1993 Sampled: Mar 24, 1993 : Received: Analyzed:

Reported:

30 B

Apr 5, 1993 Apr 7, 1993

## HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0	***************************************	N.D.
Bromoform	5.0	***************************************	N.D.
Bromomethane	10	***************************************	N.D.
Carbon tetrachloride	5.0	***************************************	N.D.
Chlorobenzene	5.0	***************************************	N.D.
Chloroethane	10		N.D.
2-Chloroethylvinyl ether	10	***************************************	N.D.
Chloroform	5.0	·····	N.D.
Chloromethane	10	***************************************	N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0	***************************************	N.D.
1,3-Dichlorobenzene	5.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0	***************************************	N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0	••••••	N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0		N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0	***************************************	N.D.
Trichlorofluoromethane	5.0		N.D.
Vinyl chloride	10		N.D.

Analytes reported as ND were not present above the stated (imit of detection

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E.

Sample Descript:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Soil, EB7(10)

Analysis Method: EPA 5030/8010 Lab Number: 303-0922

Sampled: Received:

Mar 23, 1993 Mar 24, 1993

Analyzed: Apr 5, 1993

303-0922 Reported: Apr 7, 1993

# **HALOGENATED VOLATILE ORGANICS (EPA 8010)**

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
Bromoform	5.0		N.D.
Bromomethane	10		N.D.
Carbon tetrachloride	5.0		N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10		N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0		N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D,
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0		N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0		N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0	***************************************	N.D.
Trichlorofluoromethane	5.0	***************************************	N.D.
Vinyl chloride	10	•••••	N.D.

Analytes reported as NID, were not present above the stated, mit of detection

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Sample Descript: Soil, EB7(15) Analysis Method: EPA 5030/8010

Lab Number:

Sampled:

Mar 23, 1993 Mar 24, 1993

Received: Analyzed: Apr 5, 1993

303-0923 Reported: Apr 7, 1993 (

# HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0	***************************************	N.D.
Bromoform	5.0	***************************************	N.D.
Bromomethane	10	***************************************	N.D.
Carbon tetrachloride	5.0	***************************************	N.D.
Chlorobenzene	5.0	***************************************	N.D.
Chloroethane	10	***************************************	N.D.
2-Chloroethylvinyl ether	10	***************************************	N.D.
Chloroform	5.0		N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0	***************************************	N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0	***************************************	N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0	***************************************	N.D.
1,1-Dichloroethene	5.0	**** **********************************	N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0	***************************************	N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50	*******************************	N.D.
1,1,2,2-Tetrachloroethane	5.0	*	N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0	***************************************	N.D.
1,1,2-Trichloroethane	5.0	***************************************	N.D.
Trichloroethene	5.0	,	N.D.
Trichlorofluoromethane	5.0	<i>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</i>	N.D.
Vinyl chloride	10	·····	N.D.

Analytes reported as NID, were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E. Lab Number:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Sample Descript: Soil, EB7(19.5) Analysis Method: EPA 5030/8010

Mar 24, 1993 -Received: Analyzed: Reported: Apr 7, 1993 -303-0924 "铁头"。"

Mar 23, 1993

Apr 5, 1993

Sampled:

#### HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0		N.D.
Bromoform	5.0		N.D.
Bromomethane	10		N.D.
Carbon tetrachloride	5.0		N.D.
Chlorobenzene	5.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
Chloroethane.	10		N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0	***************************************	N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0		N.D
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0	***************************************	N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachioroethane	5.0	,	N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0		N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0		N.D.
Trichlorofluoromethane	5.0	***************************************	N.D.
Vinyl chloride	10		N.D.

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

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E.

Sample Descript:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled:

Received:

Mar 23, 1993 Mar 24, 1993;

Analysis Method: Lab Number:

Soil, EB7(23.5) EPA 5030/8010 303-0925

Analyzed: Reported:

as Table 11.

Apr 5, 1993 Apr 7, 1993

## HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit $\mu g/kg$		Sample Results µg/kg
Bromodichloromethane	5.0		N.D.
Bromoform	5.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
Bromomethane	10	***************************************	N.D.
Carbon tetrachloride	5.0		N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10	••••••	N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0		N.D.
Chloromethane	10	***************************************	N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0	***************************************	N.D.
trans-1,3-Dichloropropene	5.0	***************************************	N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachioroethane	5.0	***************************************	N,D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0	***************************************	N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0		N.D.
Trichlorofluoromethane	5.0		N.D.
Vinyl chloride	10	***************************************	N.D.

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

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E. Lab Number:

Sample Descript: Soil, EB8(5)

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled: Mar 22, 1993

Analysis Method: EPA 5030/8010 303-0926

Received: Mar 24, 1993

Analyzed: Apr 5, 1993: Reported: Apr 7, 1993.

# **HALOGENATED VOLATILE ORGANICS (EPA 8010)**

.....

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0	************	N.D.
Bromoform	5.0		N.D.
Bromomethane	10	*******************************	N.D.
Carbon tetrachloride	5.0		N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10	************************************	N.D.
2-Chloroethylvinyl ether	10	***************************************	N.D.
Chloroform	5.0	***************************************	N.D.
Chloromethane	10	***************************************	N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0	***************************************	N.D.
1,3-Dichlorobenzene	5.0	***************************************	N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0	***************************************	N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0	***************************************	N.D.
trans-1,2-Dichloroethene	5.0	***************************************	N.D.
1,2-Dichloropropane	5.0	************************************	N.D.
cis-1,3-Dichloropropene	5.0	******************************	N.D.
trans-1,3-Dichloropropene	5.0	***************************************	N.D.
Methylene chloride	50	***************************************	N.D.
1,1,2,2-Tetrachloroethane	5.0		N,D.
Tetrachloroethene	5.0	***************************************	N.D.
1,1,1-Trichloroethane	5.0	************************************	N.D.
1,1,2-Trichloroethane	5.0	***************************************	N.D.
Trichloroethene	5.0	*******************************	N.D.
Trichlorofluoromethane	5.0	***************************************	N,D.
Vinyl chloride	10		N.D.

Analytes reported as ND, were not present above the stated, imit of detection

SEQUOIA ANALYTICAL

Concord, CA 94520 Attention: Mardo Kaprealian, P.E.

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled: Mar 22, 1993.

Soil, EB8(10) EPA 5030/8010 303-0927 Received: M

Mar 22, 1993. Mar 24, 1993

Analyzed: Apr 3, 1993 Reported: Apr 7, 1993

## **HALOGENATED VOLATILE ORGANICS (EPA 8010)**

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0		N.D.
Bromoform	5.0	***************************************	N.D.
Bromomethane	10	***************************************	N.D.
Carbon tetrachloride	5.0	***************************************	N.D.
Chlorobenzene	5.0	***************************************	N.D.
Chloroethane	10		N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0	***************************************	N.D.
Chloromethane	10	***************************************	N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0	***************************************	N.D.
1,3-Dichlorobenzene	5.0	***************************************	N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0	***************************************	N.D.
1,1-Dichloroethene	5.0	·····	N.D.
cis-1,2-Dichloroethene	5.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0	***************************************	N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0	***************************************	N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0	,	N.D.
Tetrachloroethene	5.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
1,1,1-Trichloroethane	5.0		N.D.
1,1,2-Trichloroethane	5.0	***************************************	N.D.
Trichloroethene	5.0		N.D.
Trichlorofluoromethane	5.0		N.D.
Vinyl chloride	10		N.D.

Analytes reported as NID, were not present above the stated limit of detection

SEQUOTA ANALYTICAL

Attention: Mardo Kaprealian, P.E.

Sample Descript: Soil, EB8(15)

Lab Number:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled:

Analysis Method: EPA 5030/8010

303-0928 realignade

Mar 22, 1993 Received: Mar 24, 1993 Analyzed: Apr 5, 1993

Reported: Apr 7, 1993

## **HALOGENATED VOLATILE ORGANICS (EPA 8010)**

Analyte	Detection Limit $\mu g/kg$		Sample Results µg/kg
Bromodichloromethane	5.0	***************************************	N.D.
Bromoform	5.0	***************************************	N.D.
Bromomethane	10	***************************************	N.D.
Carbon tetrachloride	5.0	***************************************	N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10	***************************************	N.D.
2-Chloroethylvinyl ether	10	A	N.D.
Chloroform	5.0	***************************************	N.D.
Chloromethane	10	***************************************	N.D.
Dibromochloromethane	5.0	***************************************	N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0	***************************************	N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0	4**************************************	N.D.
1,1-Dichloroethene	5.0	************************************	N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50	***************************************	N.D.
1,1,2,2-Tetrachloroethane	5.0	•••••	N.D.
Tetrachloroethene	5.0	***************************************	N.D.
1,1,1-Trichloroethane	5.0		N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0	***************************************	N.D.
Trichlorofluoromethane	5.0	***************************************	N.D.
Vinyl chloride	10		N.D.

Analytes reported as NID, were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E. Lab Number:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

机间性滤液器 化水洗液 医乳腺液合物 经成本基础合金

Sample Descript: Soil, EB8(20)
Analysis Method: EPA 5030/8010
Lab Number: 303-0929

Sampled: Mar 22, 1993
Received: Mar 24, 1993
Analyzed: Apr 5, 1993
Reported: Apr 7, 1993

าสาร์พสารณ์ คระสาร์ปลดในปี โดยโก

## **HALOGENATED VOLATILE ORGANICS (EPA 8010)**

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0	***************************************	N.D.
Bromoform	5.0		N.D.
Bromomethane	10	***************************************	N.D.
Carbon tetrachloride	5.0	***************************************	N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10	·····	N.D.
2-Chloroethylvinyl ether	10	,	N.D.
Chloroform	5.0	***************************************	N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0	***************************************	N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0	***************************************	N.D.
1,2-Dichloropropane	5.0	.,	N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0	••••	N.D.
Tetrachloroethene	5.0	*******************************	N.D.
1,1,1-Trichloroethane	5.0	***************************************	N.D.
1,1,2-Trichloroethane	5.0	***************************************	N.D.
Trichloroethene	5.0		N.D.
Trichlorofluoromethane	5.0		N.D.
Vinyl chloride	10	***************************************	N.D.

Analytes reported as NID, were not present above the stated, imit of detection

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E. Lab Number:

Analysis Method:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled:

And Aller Advisors District

Sample Descript: Soil, EB8(23) EPA 5030/8010

303-0930

Mar 22, 1993

Received: Mar 24, 1993 . Analyzed: Apr 6, 1993

Reported: Apr 7, 1993 รายประจาก 2 ฮาวสด ใหญ่

## HALOGENATED VOLATILE ORGANICS (EPA 8010)

. ......

Analyte	Detection Limit µg/kg		Sample Results µg/kg
	pg/kg		μg/kg
Bromodichloromethane	5.0	***************************************	N.D.
Bromoform	5.0		N.D.
Bromomethane	10		N.D.
Carbon tetrachloride	5.0		N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10		N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0		N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0	***************************************	N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0		N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0	•••••	N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0		N.D.
Trichlorofluoromethane	5.0		N.D.
Vinyl chloride	10		N.D.

Analytes reported as NID, were not present above the stated limit of detection.

SEQUOJA ANALYTICAL

Concord, CA 94520 Attention: Mardo Kaprealian, P.E. Lab Number: The state of the s

Sample Descript: Soil, EB9(5)

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled:

Mar 22, 1993 Received:

Analysis Method: EPA 5030/8010

Mar 24, 1993 Analyzed: Apr 5, 1993;

303-0931 Reported: Apr 7, 1993 างวิวเลสสายอังสาก (การเลสสายสายสายสายออกเพาะเมลสายเพาะกายสายสิทธิ์) การเลสสาย การประชาสิทธิ์

## HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0		N.D.
Bromoform	5.0	***************************************	N.D.
Bromomethane	10		N.D.
Carbon tetrachloride	5.0		N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10	***************************************	N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0		N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0	***************************************	N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0		N.D.
Tetrachloroethene	5.0	***************************************	N.D.
1,1,1-Trichloroethane	5.0	*******************************	N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0		N.D.
Trichlorofluoromethane	5.0	***************************************	N.D.
Vinyl chloride	10	***************************************	N.D.

Analytes reported as NID, were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Concord, CA 94520 Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro S

5 :

Sample Descript: Soil, EB9(10) Analysis Method: EPA 5030/8010

Lab Number: 303-0932 51 Bulletine ez moderni Sampled:

Mar 22, 1993

Received: Mar 24, 1993 Analyzed: Apr 5, 1993

Reported: Apr 7, 1993 1 : 1 : 1 : 1 (8 : 5 : 6 ) j. and the second

#### HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0		N.D.
Bromoform	5.0		N.D.
Bromomethane	10		N.D.
Carbon tetrachloride	5.0		N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10		N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0		N.D.
Chloromethane	10	.,,	N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0	•••••	N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0		N.D.
Tetrachloroethene	5.0	***************************************	N.D.
1,1,1-Trichloroethane	5.0	***************************************	N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0		N.D.
Trichlorofluoromethane	5.0		N.D.
Vinyl chloride	10		N.D.

Analytes reported as NID, were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

n de la nombre de la compressa Kaprealian Engineering, Inc. Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled: Mar 22, 1993 2401 Stanwell Drive, Suite 400 Sample Descript: Soil, EB9(14.5) Received: Mar 24, 1993 Concord, CA 94520 Analysis Method: EPA 5030/8010 Analyzed: Apr 3, 1993 Attention: Mardo Kaprealian, P.E. Lab Number: 303-0933 Reported: Apr 7, 1993

#### **HALOGENATED VOLATILE ORGANICS (EPA 8010)**

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0	***************************************	N.D.
Bromoform	5.0	***************************************	N.D.
Bromomethane	10		N.D.
Carbon tetrachloride	5.0		N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10	***************************************	N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0		N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0	•••••	N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0	•••••	N.D.
trans-1,3-Dichloropropene	5.0	***************************************	N.D.
Methylene chloride	50	•	N.D.
1,1,2,2-Tetrachloroethane	5.0	•••••	N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0		N.D.
1,1,2-Trichloroethane	5.0	***************************************	N.D.
Trichloroethene	5.0	***************************************	N.D.
Trichlorofluoromethane	5.0	***************************************	N.D.
Vinyl chloride	10	***************************************	N.D.

Analytes reported as NID, were not precent above the stated limit of detection

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E.

Sample Descript: Soil, EB10(5)

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled:

Analysis Method: EPA 5030/8010

Lab Number: 303-0934 Carlo Mile Architecturi de Stanto Carlo de Circo de

Mar 22, 1993 Mar 24, 1993

Received: Analyzed: Apr 3, 1993

Reported: Apr 7, 1993 i de Lingues a antidio de la celegia.

## HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0	***************************************	N.D.
Bromoform	5.0		N.D.
Bromomethane	10	***************************************	N.D.
Carbon tetrachloride	5.0		N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10	***************************************	N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0	•••••	N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0		N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0		N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0	,	N.D.
Trichlorofluoromethane	5.0	.,	N.D.
Vinyl chloride	10		N.D.

Analytes reported as NID, were not present above the stated, mit of detection.

SEQUOJA ANALYTICAL

Attention: Mardo Kaprealian, P.E.

Sample Descript: Soil, EB10(9.5)

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Analysis Method: EPA 5030/8010

Lab Number: 303-0935 Sampled:

Mar 22, 1993 Mar 24, 1993

Received: Analyzed: Apr 3, 1993 Apr 7, 1993 Reported:

# HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0		N.D.
Bromoform	5.0	***************************************	N.D.
Bromomethane	10		N.D.
Carbon tetrachloride	5.0	***************************************	N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10		N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0	***************************************	N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5 0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0		N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0	***************************************	N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0		N.D.
Trichlorofluoromethane	5.0		N.D.
Vinyl chloride	10	***************************************	N.D.

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

SEQUOIA ANALYTICAL

Sample Descript: Soil, EB10(15) Analysis Method: EPA 5030/8010

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Sampled: Received:

Mär 22, 1993 Mar 24, 1993

Attention: Mardo Kaprealian, P.E. Lab Number:

303-0936

Analyzed: Reported:

Apr 3, 1993 Apr 7, 1993

## HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0	,	N.D.
Bromoform	5.0		N.D.
Bromomethane	10	****************************	N.D.
Carbon tetrachloride	5.0	***************************************	N.D.
Chlorobenzene	5.0	******	N.D.
Chloroethane	10		N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0	***************************************	N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0	*	N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0	***************************************	N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0		N D.
trans-1,2-Dichloroethene	5.0	••••	N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0	*****************************	N.D.
Methylene chloride	50	***************************************	N.D.
1,1,2,2-Tetrachloroethane	5.0		N.D.
Tetrachloroethene	5.0	********************************	N.D.
1,1,1-Trichloroethane	5.0	***************************************	N.D.
1,1,2-Trichloroethane	5.0	***************************************	N.D.
Trichloroethene	5.0	***************************************	N.D.
Trichlorofluoromethane	5.0		N.D.
Vinyl chloride	10		N.D.

Analytes reported as NID, were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Attention: Mardo Kaprealian, P.E. Lab Number:

Client Project ID: Sample Descript: Analysis Method:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Soil, EB10(20) EPA 5030/8010

303-0937

Sampled: Received:

Mar 22, 1993 Mar 24, 1993

Analyzed: Apr 3, 1993 Reported: Apr 7, 1993

# **HALOGENATED VOLATILE ORGANICS (EPA 8010)**

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0	***************************************	N.D.
Bromoform	5.0		N.D.
Bromomethane	10	***************************************	N.D.
Carbon tetrachloride	5.0	***************************************	N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10		N.D.
2-Chloroethylvinyl ether	10		N.D.
Chloroform	5.0	***************************************	N.D.
Chloromethane	10	***************************************	N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0	***************************************	N.D.
1,3-Dichlorobenzene	5.0	***************************************	N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0	***************************************	N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0		N.D.
cis-1,2-Dichloroethene	5.0	***************************************	N.D.
trans-1,2-Dichloroethene	5.0	/····	N.D.
1,2-Dichloropropane	5.0	,	N.D.
cis-1,3-Dichloropropene	5.0	***************************************	N.D.
trans-1,3-Dichloropropene	5.0	,	N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0		N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0		N.D.
1,1,2-Trichloroethane	5.0	***************************************	N.D.
Trichloroethene	5.0	,	N.D.
Trichlorofluoromethane	5.0		N.D.
Vinyl chloride	10	***************************************	N.D.

Analytes reported as NID, were not present above the stated limit of detection.

SEQUOTA ANALYTICAL

Attention: Mardo Kaprealian, P.E. Lab Number:

Sample Descript: Soil, EB10(23) Analysis Method: EPA 5030/8010

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

เรียบัลเกรด ปฏิบัติบลสิต กับเกิดของเปลี้ยนได้

Mar 22, 1993 Sampled: Received: Mar 24, 1993 Analyzed: Apr 3, 1993

Reported: Apr 7, 1993

## HALOGENATED VOLATILE ORGANICS (EPA 8010)

303-0938

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Bromodichloromethane	5.0		N.D.
Bromoform	5.0	***************************************	N.D.
Bromomethane	10		ND.
Carbon tetrachloride	5.0	***************************************	N.D.
Chlorobenzene	5.0		N.D.
Chloroethane	10		N.D.
2-Chloroethylvinyl ether	10	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
Chloroform	5.0		N.D.
Chloromethane	10		N.D.
Dibromochloromethane	5.0		N.D.
1,2-Dichlorobenzene	5.0		N.D.
1,3-Dichlorobenzene	5.0		N.D.
1,4-Dichlorobenzene	5.0		N.D.
1,1-Dichloroethane	5.0		N.D.
1,2-Dichloroethane	5.0		N.D.
1,1-Dichloroethene	5.0	.,	N.D.
cis-1,2-Dichloroethene	5.0		N.D.
trans-1,2-Dichloroethene	5.0		N.D.
1,2-Dichloropropane	5.0		N.D.
cis-1,3-Dichloropropene	5.0		N.D.
trans-1,3-Dichloropropene	5.0		N.D.
Methylene chloride	50		N.D.
1,1,2,2-Tetrachloroethane	5.0		N.D.
Tetrachloroethene	5.0		N.D.
1,1,1-Trichloroethane	5.0		N.D.
1,1,2-Trichloroethane	5.0		N.D.
Trichloroethene	5.0		N.D.
Trichlorofluoromethane	5.0	/************************************	N.D.
Vinyl chloride	10		N.D.

Analytes reported as NID, were not present above the stated limit of detection

SEQUOIA ANALYTICAL

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group: 3030921-938

กระทริงที่ของเทาที่ตระทางและเดิดเลย พลาสเลขานาสเลขายายาน พ.ศ. เลยในสมาเดิดนั้น และให้สมาเด็ดเลย เพื่อสิทาสเลขา

Reported: Apr 7, 1993

#### **QUALITY CONTROL DATA REPORT**

ANALYTE			Ethyl-	
	Benzene	Toluene	Benzene	Xylenes
	EPA	ËPA	EPA	EPA
Method:	8015/8020	8015/8020	8015/8020	8015/8020
Analyst:	P.S.M.	P S.M.	P.S.M.	P.S.M.
Reporting Units:	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Date Analyzed:	Mar 31, 1993	Mar 31, 1993	Mar 31, 1993	
QC Sample #:	303-0699	303-0699	303-0699	303-0699
Sample Conc.:	N.D.	N.D.	N.D.	N,D.
, , , , , , , , , , , , , , , , , , ,				
Spike Conc.				
Added:	0.20	0.20	0.20	0.40
Conc. Matrix				
Spike:	0.24	0.24	0.25	0.49
Matrix Spike				
% Recovery:	120	120	125	123
Conc. Matrix				
Spike Dup.:	0.25	0.25	0.26	0.50
Matrix Spike				
Duplicate				
% Recovery:	125	125	130	125
Relative				
% Difference:	4 1	4 1	39	20

Laboratory blank contained the following analytes. None Detected

SEQUOIA ANALYTICAL

ि ⊇eco.er, Cond of M.S. - Cond of Sample x 100 Spike Conc. Added Conc of M S - Conc of M S D x :00 |Perative % Dirference (Conc. of M.S. + Conc. of M.S.D.) 2

Project Manager

3030921 KE1 < 31 >

Matrix:

Kaprealian Engineering, Inc. 2401 Stanwell Drive, Suite 400

Concord, CA 94520

Attention: Mardo Kaprealian, P.E.

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Water

QC Sample Group 3030921-938

Reported: Apr 7, 1993

#### QUALITY CONTROL DATA REPORT

ANALYTE			
į	Diesel	Oil & Grease	
Method:	EPA 8015	SM 5520	
Analyst:	K.Wimer	D.Newcomb	
Conc. Spiked:	10	100	
Units:	mg/Kg	mg/Kg	
LCS Batch#:	BLK033093	BLK032693	
Date Prepared:	4/1/93	3/26/93	
Date Analyzed:	4/1/93	3/29/93	
Instrument I.D.#:	HP-3A		
LCS %			
Recovery:	89	98	
Control Limits:	80-120	80-120	
:	Day.		
MS/MSD			
Batch #:	3030939	3031012	
Date Prepared:	3/30/93	3/26/93	
Date Analyzed:	4/1/93	3/29/93	
Instrument I.D.#:	HP-3A	, ,	
Matrix Spike			
% Recovery:	84	86	
Matrix Spike			
Duplicate %			
Recovery:	89	86	
Relative %			
Difference:	58	00	

Laboratory Blank contained the following analytes. None detected

SEQUOIA ANALYTICAL

The LCS is a control sample of known interferent free matrix that is analyzed using the same reagents preparation and analytical methods employed for the samples. The LCS % recovery data is used for ai dation of sample parch results. Due to matrix effects, the QC limits for MS MSDs are advisory only jand are not used to accept or reject batch results.

Kaprealian Engineering, Inc. Client Project ID:

: Unocal #2512, 1300 Davis St., San Leandro

2401 Stanwell Drive, Suite 400

Matrix:

Water

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Goup: 3030921-938

Reported: Apr 7, 1993 l sa lle callacte de la celebra de la colòmica del proposition de la composition de la colòmica de la colòmica

#### **QUALITY CONTROL DATA REPORT**

ANALYTE	1,1-Dichloroethene	Trichloroethene	Chloro-	
<u> </u>			benzene	
Method:	EPA 8010	EPA 8010	EPA 8010	
Analyst:	M.Nguyen	M.Nguyen	M.Nguyen	
Conc. Spiked:	10	10	10	
Units:	μg/Kg	μg/Kg	μg/Kg	
LCS Batch#:	LCS040393	LCS040393	LCS040393	
Date Prepared:	4/3/93	4/3/93	4/3/93	
Date Analyzed:	4/3/93	4/3/93	, ,	
Instrument I.D.#:	HP5890/1	HP5890/1	HP5890/1	
LCS %				
Recovery:	95	90	88	
Control Limits:	70-130	70-130	70-130	
Date Analyzed: strument I.D.#: LCS % Recovery:	4/3/93 HP5890/1 95 70-130	4/3/93 HP5890/1	88	

MS/MSD Batch #:	3030935	3030935	3030935
Date Prepared: Date Analyzed: Instrument I.D.#:	4/3/93 4/3/93 HP5890/1	4/3/93 4/3/93 HP5890/1	4/3/93 4/3/93 HP5890/1
Matrix Spike % Recovery:	83	86	79
Matrix Spike Duplicate % Recovery:	83	87	79
Relative % Difference:	0.0	12	0.0

SEQUOIA ANALYTICAL

Project Manager

Laboratory Blank contained the following analytes. None detected

⊇'ease Note

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results

3030921 KEL < 33>

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group: 3030921-938 Reported: Apr. 7, 1993

#### QUALITY CONTROL DATA REPORT

SURROGATE							
Method: Analyst: Reporting Units: Date Analyzed: Sample #:	EPA 8015 K. Wimer mg/kg Apr 2, 1993 303-0921	EPA 8015 K. Wimer mg/kg Apr 2, 1993 303-0922	EPA 8015 K. Wimer mg/kg Apr 2, 1993 303-0923	EPA 8015 K. Wimer mg/kg Apr 2, 1993 303-0924	EPA 8015 K. Wimer mg/kg Apr 1, 1993 303-0925	EPA 8015 K. Wimer mg/kg Apr 2, 1993 303-0926	EPA 8015 K. Wimer mg/kg Apr 2, 1993 303-0927
Surrogate % Recovery:	88	83	108	104	87	104	83

SEQUOYA ANALYTICAL

Scott A Chieffo

Project Manager

°, Recovery	Conc of M.S Conc of Sample	× 100	
_	Spike Conc. Added		
Relative % Difference	Conc of M.S Corc of M.S.D.	x 100	
<u> </u>	(Cone of MS + Core of MSC) 2	-	

3030921 KEL < 34>

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group: 3030921-938 C Sample Group: 3030921-938 Reported: Apr. 7, 1993 

#### **QUALITY CONTROL DATA REPORT**

SURROGAT	Ε
----------	---

Method:	EPA 8015						
Analyst:	K. Wimer						
Reporting Units:	mg/kg						
Date Analyzed:	Apr 1, 1993	Apr 2. 1993					
Sample #:	303-0928	303-0929	303-0930	303-0931	303-0932	303-0933	303-0934

Surrogate

% Recovery: 86 88 106 85 105 87 87

SEQUOIA ANALYTICAL

Scott A Chieffor

Project Manager

a Recovery Conc. of M.S. - Conc. of Sample × 100 Spike Cond Added

Conc of M.S. - Conc of M.S.D. / 2 Relative % Difference x 100

3030921 KE - 35%

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group: 3030921-938 

Reported: Apr 7, 1993

#### **QUALITY CONTROL DATA REPORT**

SURROGATE

Method: Analyst: Reporting Units: Date Analyzed: Sample #:

**EPA 8015** K.Wimer mg/Kg Apr 1, 1993

303-0935

EPA 8015 K.Wimer mg/Kg Apr 1, 1993

303-0936

EPA 8015 K.Wimer mg/Kg Apr 1, 1993

303-0937

EPA 8015 K.Wimer mg/Kg Apr 1, 1993 303-0938

K.Wimer mg/Kg Apr 1, 1993

EPA 8015

Blank

Surrogate

% Recovery:

105

100

83

86

97

SEQUOIA ANALYTICAL

Scott A Chieffo Project Manager 6 Recovery

Conc of M.S. - Conc of Sample

× 100

Spike Conc Added

Relative % Difference

Conc of MS - Conc of MSD

x 100

(Conc of MS + Conc of MSD)/2

2401 Stanwell Dr., Ste. 400

Kaprealian Engineering, Inc. Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group: 3030921-938 Reported: Apr 7, 1993

#### **QUALITY CONTROL DATA REPORT**

SURROGATE							
Method: Analyst: Reporting Units: Date Analyzed: Sample #:	EPA 8010 M.N. ug/L Apr 5, 1993 303-0921	EPA 8010 M.N. ug/L Apr 5, 1993 303-0922	EPA 8010 M.N. ug/L Apr 5, 1993 303-0923	EPA 8010 M.N. ug/L Apr 5, 1993 303-0924	EPA 8010 M.N. ug/L Apr 5, 1993 303-0925	EPA 8010 M.N. ug/L Apr 5, 1993 303-0926	EPA 8010 M.N. ug/L Apr 3, 1993 303-0927
Surrogate #1 % Recovery:	117	119	122	88	120	130	150
Surrogate #2 % Recovery:	102	101	101	102	101	100	76

SEQUOIA ANALYTICAL

Project Manager

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

3030935 KEI <3>

Kaprealian Engineering, Inc. Client Project ID: Unocal #2512, 1300 Davis St., San Leandro GUACON GUNDALA DALACOTURA ALUE

2401 Stanwell Dr., Ste. 400

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group: 3030921-938 Reported: Apr 7, 1993

### **QUALITY CONTROL DATA REPORT**

SURROGATE							
Method: Analyst: Reporting Units: Date Analyzed: Sample #:	EPA 8010 M.N. ug/L Apr 5, 1993 303-0928	EPA 8010 M.N. ug/L Apr 5, 1993 303-0929	EPA 8010 M.N. ug/L Apr 6, 1993 303-0930	EPA 8010 M.N. ug/L Apr 5, 1993 303-0931	EPA 8010 M.N. ug/L Apr 5, 1993 303-0932	EPA 8010 M.N. ug/L Apr 3, 1993 303-0933	EPA 8010 M.N. ug/L Apr 3, 1993 303-0934
Surrogate #1 % Recovery:	98	115	96	98	111	114	107
Surrogate #2 % Recovery:	98	100	103	102	98	97	99

SEQUOIA ANALYTICAL

Project Manager

°6 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	ļ

3030935 KEi <4>

Kaprealian Engineering, Inc.

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

2401 Stanwell Dr., Ste. 400

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group: 3030921-938

Reported: Apr 7, 1993

#### **QUALITY CONTROL DATA REPORT**

ara arabah menggungkan kalengan dari bermeningkan kenggan kanggan bermengan bermengan bermengan bermengan berm

Method: EPA 8010 EPA 8010 EPA 8010 EPA 8010 EPA 8010 Analyst: M.N. M.N. M.N. M.N. M.N. Reporting Units: ug/L ug/L ug/L ug/L uq/L Date Analyzed: Apr 3, 1993 Sample #: 303-0935 303-0936 303-0937 303-0938 8lank

Surrogate #1

% Recovery: 103 111 107 104 112

Surrogate #2

% Recovery: 99 106 99 101 107

SEQUOIA ANALYTICAL

% Pecovery Cand of M.S. - Cand of Sample x 100 Spike Conc. Added

Conc. of M.S. - Conc. of M.S.D. x 100 Relative % Difference (Conc of M.S + Conc of MSD)/2

Scott A Chieffo Project Manager



## CHAIN OF CUSTODY

SAMPLER				10.00			SITE NAME & ADDRESS 2512 SHULEBURGO				ANALYSES REQUESTED						TURN AROUND TIME:	
WITHESSING A	GENC	i	ı	130.				`	W 10			2020-2						
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	соме	NO. OF CONT.	SAMPLING LOCATION	J-497	STAN STAN	P-7-EP	18 S.	000	2503			REMARKS	
ED7(5)	3/23/93	·	X		X		\	M W DAMAS FR	λ	χ	X	X,	Χ			30	030921	4
EBJ(10)	32393	 	Yi.		1		\		χ	4	\x	1/2	X				922	ı
(21/19)	3/53/63	 	X		1		\		χ	K	X	Y	X				923	3
EBILES	13/23/63		X		*		\		X	X	k	X	4	   			924	(
EB1(25)	1. 1	i	*		X		\		1	λ	1	X	J.				925	-
128/5)			¥		1		\		χ	χ	*	X	*	X		}	926	l l
E08/10)	1. 1		X		7		٠/		¥	X	4	1	<b>γ</b>	1			927	7
E08[15]			1		7		\		X	k	X	X	*	X			924	'
1962			>		£		\	4	\ \	٧	X	1	1	X		] J	929	
Rel Inquistred	1 by: (\$19	gnature)	3/2	ate/Tir	ne <i>09</i> 15	R	eceiv	ed by: (Signature) Vonume 3/24/93 09	The following MUST BE completed by the for analysis:									
Retinguishe	jby: (Sig	gnature)	1 7 "	ate/Ti			eceiv	ed by: (Signature)	1. Have all samples received for analysis been stored in it     2. Will samples remain refrigerated until analyzed?				<u>у</u> У					
Relinquished	f by: (Sig	gnature)	D	ate/Ti	пę	R	eceiv	ed by: (Signature)	3. Did any samples received for analysis have head space?				N					
Rellinguished	l by: (Sig	gnature)	D	ate/Ti	ne	R	ecelv	ed by: (Signature)	4. Were samples in appropriate containers and properly pr				Date	至				



## CHAIN OF CUSTODY

SAMPI ER	elg	·	V	11000	C 44:	5245/	ME & ADDRESS SAN LEANORO		ANALYSES REQUESTED			Γ	TURN AROUND TIME:		
WITHESSING A	IGENDAL		\	300	OU.	NIS	•	10	4	0	1	2	1		
SAMPLE ID NO.	DATE	YIME	SO1L	WATER G	RAB C	NO. OF CONT.	SAMPLING LOCATION	P	8	P	3830	8	253		REMARKS
EBB(53)	3/55/63	,	1	y			ON OF FLOWER FIL	X	X	×	<u>)</u>	X	X		3030930
E08(5)	3/55/63		F	,	۴	\		1/2	K	X	K	X	X		931
E89(10)	3/22/93	\ ±	1	У		\		1	k	X	Ŋ	X	*	ļ	932
EB9/14:5	13/22/23	l	1	\	<u> </u>	\		1	X	a	1	1/2	X	<u> </u>	933
EB10/2)	3/58/03		X	\	1	\		X	1	K	X	N			934
EBIO(a 5)	13/22/23		1	\	<u> </u>	\		1	X.	X	X	X			935
EBIOLIS	3/2/63		4	\	1	. 1		X	4	d	x	X	<u></u>		936
EB10(30	13/52/02		<u> </u>	\	4	\		7	7	<u>k</u>	7-	X			937
EP 2/53	13/55/23	<b>.</b>	1, 4		1			1	12	B	X	X	<u> </u>	<u> </u>	J 938
Rehindensher	1 by: (\$19	gnature) )		ate/Time		Receiv	ved by: (Signature)	915	for ar	nalysi	s:		•		the laboratory accepting samples
Ret inquished	) by: (Si	gnature)	D	ate/Time		Receiv	red by: (Signature)	Nave all samples received for analysis been stored in     Will samples remain refrigerated until analyzed?							
Relinquished	l by: (510	gnature)	D	ate/Time		Receiv	ved by: (Signature)	3. Did any samples received for analysis have head space?							
Relinquished	i by: (\$1g	gnature)	D	ate/Time		Receiv	ved by: (Signature)	4. Were samples in appropriate containers and properly pa			=5 3/28/93 <sup>2</sup>				



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.

Unocal #2512, 1300 Davis St., San Leandro Sampled: 3/22 & 3/23/93 Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Received:

Mar 24, 1993

Sample Matrix: Water Analysis Method:

EPA 5030/8015/8020

Reported:

Apr 6, 1993

First Sample #: 303-0907

. Con our description de la complementation de la complementation de la complementation de la complementation de

### TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit μg/L	<b>Sample I.D.</b> 303-0907 EB7*	Sample I.D. 303-0908 EB8*	Sample I.D. 303-0909 EB9	Sample I.D. 303-0910 EB10^	<b>Sample</b> I.D.  Matrix Blank	
Purgeable Hydrocarbons	50	1,000	510	2,600	180		
Benzene	0.5	19	N.D.	N.D.	N.D.		
Toluene	0.5	N.D.	N.D.	5.1	N.D.		
Ethyl Benzene	0.5	6.8	N.D.	8.3	N.D.		
Total Xylenes	0.5	N.D.	N.D.	8.8	N.D.		
Chromatogram Pat	tern:	Gasoline and Discrete Peak	Discrete Peak	Gasoline	Discrete Peaks		

**Quality Control Data** 

Report Limit Multiplication Factor:	1.0	4.0	2.0	1.0	1.0
Date Analyzed:	3/25/93	3/30/93	3/26/93	3/25/93	3/25/93
Instrument Identification:	HP-4	HP-5	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	95	101	79	100	95

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

SEQUOIA ANALYTICAL

Scott A Chieffo Project Manager Please Note

\* Discrete Peak irefers to an unidentitied beak in the MTBE range

\* Discrete Peaks' refers to an unidentified peak in the MTBE range and EPA 8010 peak

3030907 KEL <1>

Attention: Mardo Kaprealian, P.E. First Sample #:

Client Project ID: Sample Matrix:

Unocal #2512, 1300 Davis St., San Leandro Sampled: 3/22 & 3/23/93

Water

Analysis Method: EPA 3510/3520/8015

303-0907

Received: Mar 24, 1993 Reported: Apr 6, 1993

in an digge cange ta ay ay ay a 1964 e 2010, and in your or only a contract group of the agency of

## TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit μg/L	Sampie I.D. 303-0907 EB7*	Sample I.D. 303-0908 EB8*	Sample I.D. 303-0909 EB9*	Sample I.D. 303-0910 EB10	Sample I.D. Matrix Blank	
Extractable Hydrocarbons	50	320	120	480	N.D.		
Chromatogram Pa	ttern:	Diesel and Non-Diesel Mixture (< C14)	Diesel and Non-Diesel Mixture ( <c14)< td=""><td>Diesel and Non-Diesel Mixture (<c14)< td=""><td></td><td></td><td></td></c14)<></td></c14)<>	Diesel and Non-Diesel Mixture ( <c14)< td=""><td></td><td></td><td></td></c14)<>			

**Quality Control Data** 

Data Extracted: 2 /20 /02 2 /20 /02 2 /20 /02 2 /20 /02 2 /20 /02	Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0
Date Extracted. 5/29/95 5/29/95 5/29/95	Date Extracted:	3/29/93	3/29/93	3/29/93	3/29/93	3/29/93
Date Analyzed: 4/1/93 4/1/93 4/1/93 4/1/93 4/1/93	Date Analyzed:	4/1/93	4/1/93	4/1/93	4/1/93	4/1/93
Instrument Identification: HP-3A HP-3A HP-3A HP-3B	Instrument Identification:	HP-3A	HP-3A	НР-ЗА	НР-ЗА	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard Analytes reported as NID, were not detected above the stated reporting limit

SEQUQIA ANALYTICAL

Project Manager

Please Note \* Non-Diese Mixture is probably gasorine

3030907 KE < 2>

Attention: Mardo Kaprealian, P.E. First Sample #: Tata cha an tamini milimedesia a tahang masika enang kang menggam kabebang kang dang menggapang menggapang kan

Sample Matrix:

ார் பத்தில் பார்கள் நடித்திரியில் இதில் அண்டியாக்கி ஓக்கிய முறியில் பிரி Client Project ID; Unocal #2512, 1300 Davis St., San Leandro

Sampled: Received:

Mar 22, 1993 Mar 24, 1993

Water Analysis Method: EPA 3510/3520/8015

Reported:

Apr 6, 1993

303-0908

#### TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS as HYDRAULIC FLUID

Analyte	Reporting Limit μg/L	Sample I.D. 303-0908 EB8	Sample I.D. 303-0909 EB9		 
Extractable Hydrocarbons	250	N.D.	N.D.		
Chromatogram Pa	ttern:				

### **Quality Control Data**

Report Limit Multiplication Factor:	1.0	1.0
Date Extracted:	3/29/93	3/29/93
Date Analyzed:	3/30/93	3/30/93
Instrument Identification:	HP-3B	HP-3A

Extractable Hydrocarbons are quantitated against a fresh hydraulic fluid standard Analytes reported as NID, were not detected above the stated reporting limit

SEQUØIA ANALYTICAL

Project Manager



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.

Matrix Descript:

Analysis Method: SM 5520 B&F (Gravimetric)

First Sample #: 303-0907

ing, Inc. Client Project ID: Unocal #2512, 1300 Davis St., San Leandro Sampled: 3/22 & 3/23/93

Received: Mar 24, 1993: Extracted: Mar 24, 1993

Mar 26, 1993; Analyzed: Apr 6, 1993 Reported: . O 1900 per la reconstruit la value de la value de la value de la la value de la value de la value de la value

#### TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)
303-0907	EB7	N.D.
303-0908	EB8	N.D.
303-0909	EB9	N.D.
303-0910	EB10	N.D.

5.0		
-----	--	--

Analytes reported as NID, were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Project Manager

Client Project ID: Sample Descript: Concord, CA 94520 Analysis Method:

Unocal #2512, 1300 Davis St., San Leandro

Mar 23, 1993 Sampled: Received:

Mar 24, 1993 Analyzed: Apr 2, 1993

Attention: Mardo Kaprealian, P.E.

Water, EB7 EPA 5030/8010 Lab Number: 303-0907

Apr 6, 1993 Reported: 

## **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	1.0	·····	N.D.
Carbon tetrachloride	0.50		N.D.
Chlorobenzene	0.50	,	N.D.
Chloroethane	1.0		N.D.
2-Chloroethylvinyl ether	1.0		N.D.
Chloroform	0.50		N.D.
Chloromethane	1.0		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		N.D.
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		N.D.
1,1,1-Trichloroethane	0.50		N.D.
1,1,2-Trichloroethane	0.50	***************************************	N.D.
Trichloroethene	0.50		N.D.
Trichlorofluoromethane	0.50	**,********	N.D.
Vinyl chloride	1.0		N.D.

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

SEQUOJA ANALYTICAL

Scott A Chieffo Project Manager

Client Project ID: Sample Descript:

Unocal #2512, 1300 Davis St., San Leandro

Sampled: Received: Analyzed:

Mar 22, 1993 Mar 24, 1993

Water, EB8 Analysis Method: EPA 5030/8010 Attention: Mardo Kaprealian, P.E. Lab Number: 303-0908

Apr 1, 1993 Reported: Apr 6, 1993 - CONTRACIONES PROPEROS. - COMENCARS EN CONTRACOR DE CONTRACORDOR DE CONTRACOR DE CONTRACORDA DE

## **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	1.0	***************************************	N.D.
Carbon tetrachloride	0.50		N.D.
Chlorobenzene	0.50		N.D.
Chloroethane	1.0	***************************************	N.D.
2-Chloroethylvinyl ether	1.0		N.D.
Chloroform	0.50		N.D.
Chloromethane	1.0		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		N.D.
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		N.D.
1,1,1-Trichloroethane	0.50		N.D.
1,1,2-Trichloroethane	0.50		N.D.
Trichloroethene	0.50		N.D.
Trichlorofluoromethane	0.50	***************************************	N.D.
Vinyl chloride	1.0		N.D.

Analytes reported as NID, were not present above the stated limit of detection

SEQUØIA ANALYTICAL

Scott A Chieffo Project Manager

Attention: Mardo Kaprealian, P.E. i kaj la irani.

Sample Descript:

Analysis Method:

Lab Number:

ete Comencia Communication (Communication Communication Co

Water, EB9

EPA 5030/8010 303-0909

าง เกาะสาย พ.ศ. 2 ตาย เกาะ ค.ศ. 2 และ ค.ศ. 2 การ ค.ศ. 2 การ ค.ศ. 2 ค

Mar 22, 1993 Received: Mar 24, 1993

Analyzed: Apr 1, 1993. Reported: Apr 6, 1993 :

## 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	1.0	***************************************	N.D.
Carbon tetrachloride	0.50	********************************	N.D.
Chlorobenzene	0.50	***************************************	N.D.
Chloroethane	1.0	***************************************	N.D.
2-Chloroethylvinyl ether	1.0		N.D.
Chloroform	0.50		N.D.
Chloromethane	1.0	··	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		N.D.
trans-1,2-Dichloroethene	0.50		N.D.
1,2-Dichloropropane	0.50	***************************************	N.D.
cls-1,3-Dichlaropropene	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
l'etrachioroethene	0.50		. 12
1,1,1-Trichloroethane	0.50	***************************************	N.D.
1,1,2-Trichloroethane	0.50	***************************************	N.D.
Trichloroethene.	<b>0.50</b>	*************************	
Trichlorofluoromethane	0.50	***************************************	N.D.
Vinyl chloride	1.0		N.D.

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

SEQUOTA ANALYTICAL

Scott A' Chieffo Project Manager

Attention: Mardo Kaprealian, P.E.

Client Project ID: Sample Descript: Analysis Method:

TO MAINWARANT LAD

Lab Number:

Unocal #2512, 1300 Davis St., San Leandro Water, EB10 EPA 5030/8010 303-0910

Sampled: Received: Analyzed: Reported: Mar 23, 1993 Mar 24, 1993 Apr 2, 1993

## **HALOGENATED VOLATILE ORGANICS (EPA 8010)**

Analyte	Detection Limit µg/L		Sample Results µg/L
Bromodichloromethane	20	14	N,D,
Bromoform	20	***************************************	N.D.
Bromomethane	40		N.D.
Carbon tetrachloride	20		N.D.
Chlorobenzene	20		N.D.
Chloroethane	40		N.D.
2-Chloroethylvinyl ether	40		N.D.
Chloroform	20		N.D.
Chloromethane	40		N.D.
Dibromochloromethane	20		N.D.
1,3-Dichlorobenzene	20		N.D.
1,4-Dichlorobenzene	20	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
1,2-Dichlorobenzene	20		N.D.
1,1-Dichloroethane	20		N.D.
1,2-Dichloroethane	20		N.D.
1,1-Dichloroethene	20		N.D.
cis-1,2-Dichloroethene	20		N.D.
trans-1,2-Dichloroethene	20		N.D.
1,2-Dichloropropane	20		N.D.
cis-1,3-Dichloropropene	20	***************************************	N.D.
trans-1,3-Dichloropropene	20	***************************************	N.D.
Methylene chloride	200		N.D.
1,1,2,2-Tetrachloroethane	20		N.D.
Tetrachloroethene	20	******************************	. 250
1,1,1-Trichloroethane	20		N.D.
1,1,2-Trichloroethane	20	***************************************	N.D.
Trichloroethene	20	***************************************	N.D.
Trichlorofluoromethane	20	***************************************	N.D.
Vinyl chloride	40		N.D.

Analytes reported as NID, were not present above the stated limit of detection. Because matrix effects and, or other factors required additional sample dilution, detection, mits for this sample have been raised.

SEQUOIA ANALYTICAL

Project Manager



(510) 686-9600 • FAX (510) 686-9689

Kaprealian Engineering, Inc. Client Project ID: 2401 Stanwell Drive, Suite 400

Unocal #2512, 1300 Davis St., San Leandro

Matrix: Water

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group 3030907-910

Reported: Apr 6, 1993

#### QUALITY CONTROL DATA REPORT

. Por lenguar de la proposició de la portena de como en la portena de la portena

ANALYTE			Ethyl-				
	Benzene	Toluene	Benzene	Xylenes	Diesel	Oil & Grease	
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015	SM 5520	
Analyst:	J.F.	J.F.	J.F.	J.F.	K. Wimer	D. Newcomb	
Conc. Spiked:	20	20	20	60	300	100	
Units:	µg/L	µg/L	µg/L	μg/L	μg/L	mg/L	
LCS Batch#:	2LC\$032593	2LCS032593	2LC\$032593	2LCS032593	BLK032993	BLK032493	
Date Prepared:	3/25/93	3/25/93	3/25/93	3/25/93	3/29/93	3/24/93	
Date Analyzed:	3/25/93	3/25/93	3/25/93	3/25/93	4/1/93	3/24/93	
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3B	N/A	
LCS %							
Recovery:	102	103	105	120	96	95	
Control Limits:	80-120%	80-120%	80-120%	80-120%	80-120%	80-120%	
	11. <b>9</b> 94. T. S.	the stage stage of	e je subjektorija Vijektorija				
MS/MSD							
Batch #:	3030897	3030897	3030897	3030897	032993	032493	
Date Prepared:	3/25/93	3/25/93	3/25/93	3/25/93	3/29/93	3/24/93	
Date Analyzed:	3/25/93	3/25/93	3/25/93	3/25/93	4/1/93	3/24/93	
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3B	N/A	
Matrix Spike							
% Recovery:	95	100	105	108	96	95	
Matrix Spike Duplicate %							
Recovery:	95	100	105	108	102	95	
Relative %							
Difference:	0 C	0.0	00	0.0	ô 4	0.0	

Laboratory Blank contained the following analytes. None detected

SEQUOIA ANALYTICAL

Please Note

The LCS is a control sample of known interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample barch results. Due to matrix effects, the QC limits for MS/MSDs are advisory only

and are not used to accept or reject batch results

Matrix:

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Concord, CA 94520

Water

Attention: Mardo Kaprealian, P.E. QC Sample Goup: 3030907-910 Programme and the second second

Reported: Apr 6, 1993 

#### **QUALITY CONTROL DATA REPORT**

ANALYTE	1,1-Dichloroethene	Trichloroethene	Chioro-	 
	·		benzene	 
Method:	EPA 8010	EPA 8010	EPA 8020	
Analyst:	K. Nill	K. Nill	K. Nill	
Conc. Spiked:	100	100	100	
Units:	μg/L	μg/L	μg/L	
LCS Batch#:	BLK040293	BLK040293	BLK040293	
Date Prepared:	4/2/93	4/2/93	4/2/93	
Date Analyzed:	4/2/93	4/2/93	4/2/93	
Instrument I.D.#:	Purge 1	Purge 1	Purge 1	
1.00 %				
LCS % Recovery:	100	95	92	
necovery.	100	93	92	
Control Limits:	80-120%	80-120%	80-120%	
				0.00 ja .
MS/MSD				
Batch #:	3031173	3031173	3031173	
Date Prepared:	4/2/93	A (0 (00	1 (0 (00	
Date Analyzed:	4/2/93 4/2/93	4/2/93 4/2/93	4/2/93 4/2/93	
Instrument I.D.#:	Purge 1	Purge 1	4/2/93 Purge 1	
111011 41110111 110171 1	, argo ,	i uigo i	i dige i	
Matríx Spike				
% Recovery:	98	92	89	
Matrix Spike				
Duplicate %				
Recovery:	100	95	91	
· - · <b>- · , ·</b>	- <del></del>		<del>-</del> -	
Relative %				
Difference:	2 0	3.2	22	

Laboratory Blank contained the following analytes. None detected

SEQUOTA ANALYTICAL

Please Note

The LCS is a control sample of known interferent free matrix that is analyzed using the same reagents preparation and analitical methods employed for the samples. The LCS % recovery data is used for validation of sample patch results. Due to matrix effects, the QC limits for MS, MSD's are advisory only and are not used to accept or reject batch results

Project Manager &

3030907 KE: < 10>

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group: 3030907-910 

Reported: Apr 6, 1993

#### QUALITY CONTROL DATA REPORT

SURROGATE

Method: EPA 8015 EPA 8015 FPA 8015 EPA 8015 EPA 8015 K. Wimer Analyst: K, Wimer K. Wimer K. Wimer K. Wimer Reporting Units: μg/L μg/L μg/L μg/L μg/L Date Analyzed: Apr 1, 1993 Sample #: Matrix Blank 303-0907 303-0908 303-0909 303-0910

Surrogate

% Recovery: 98 99 87 82 110

SEQUOIA ANALYTICAL

Pelative % Difference

°, Recovery

Canc. at M.S. - Canc. of M.S.D. (Conc. at M.S. + Conc. at M.S.D.) / 2

Conc of M.S. - Conc of Sample

Spike Conc. Addea

x 100

x 100

Client Project ID: Unocal #2512, 1300 Davis St., San Leandro

Concord, CA 94520

Attention: Mardo Kaprealian, P.E. QC Sample Group: 3030907-910 Reported: Apr 6, 1993

#### **QUALITY CONTROL DATA REPORT**

SUR	ROG	ATE
-----	-----	-----

Method:	EPA 8010				
Analyst:	K, Nill	K. Nill	K. Nill	K. Nill	K. Nill
Reporting Units:	μg/L	μg/L	μg/L	μg/L	μg/L
Date Analyzed:	Apr 2, 1993	Apr 1, 1993	Apr 1, 1993	Apr 2, 1993	Apr 1, 1993
Sample #:	303-0907	303-0908	303-0909	303-0910	Matrix Blank

Surrogate #1 % Recovery:	99	86	102	130	106
Surrogate #2 % Recovery:	102	101	101	117	101

SEQUOYA ANALYTICAL

Relative % Difference

% Recovery

Conc of M.S. - Conc of Sample Spike Conc. Added

x 100

Conc. of M.S. - Conc. of M.S.D. (Conc. of M.S. + Conc. of M.S.D.) / 2

x 100

Project Manager

3030907 KE; <12>

KAPREALIAN ENGINEERING INCORPORATED

## CHAIN OF CUSTODY

. 2														_ 12		
SAMPI ER	SAMPLER SITE NAME & ADDRESS  WWW. # 2512 SAM LEGIUSA					HE & ADDRESS SAN LEMIDAN		]	AHALYSI	S REQL	JESTED	3		TURN AROUND TIME:		
WITHESSING	AGENT							57.		ا رور ا	0	*	0	3		
SAMPLE ID NO.	DATE	TIME	soil	WATER	GRAB	COMP	NO. DF CONT.	SAMPLING LOCATION	34	4	14/2	700 (552)	000	老子		REMARKS
EB)	3/23/53			X	X		6		1	*	X	+	X			3030907AF 908AF 909AF 910AF
E08	421/93			X	X		( <sub>0</sub>		1	x	X	Х	X	7	ļ	908AL
EBA	3/22/93			1	1		6		X	X	1	<b>Y</b>	X	1		90945
1187	3/22/93			X	7		6		7	x	1	4	7	<u> </u>		1 DO STOAF
			   <b></b>						_							į
																}
Redunquish	yl by: (519	mature)	3/23	ate/Ti	me 1454	)    -	Receiv	ed by: (Signature) 3/23/93	1650	for	analysi	s:				the laboratory accepting samples analysis been stored in ice?
Retinguish	by: (sig	gnature)	D	ate/Ti	me	1	leceiv	ed by: (Signature)								ed until analyzed?
Retinquishe	ed by: (Sig	gnature)	D	ate/Ti	me	1	Receiv	ed by: (Signature)							• • •	galysis have head space?
Relinquishe	ed by: (\$1g	gnature)	D	ate/Ti	me	,	Receiv	ed by: (Signature)		4.	AR	mples ature	in app	ropria	\$	oxainers and properly packaged?

TABLE 1
SUMMARY OF LABORATORY ANALYSES
SOIL

Sample <u>Number</u>	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Xylenes	Ethyl- <u>benzene</u>	TOG							
(Collected on January 3, 1989)														
EB1(5)* EB1(10)* EB1(15)* EB1(25)*	5.0 1.0 1.0 2.0	  	ND ND ND	0.05 ND ND 	ND ND ND	ND ND 	ND ND ND ND							
EB2(10) EB2(15) EB2(20) EB2(25)	  	ND ND ND 1.9	ND ND ND ND	ND ND ND ND	ND ND ND ND	ND ND ND ND								
EB3 (5) EB3 (10) EB3 (15) EB3 (20) EB3 (25)		ND ND 2.7 2.2 ND	ND ND ND ND ND	ND ND ND ND ND	ND ND ND ND ND	ND ND ND ND ND	  							
EB4 (5) EB4 (10) EB4 (15) EB4 (20) EB4 (25)	  	ND ND ND ND ND	ND ND ND ND ND	ND ND ND ND	ND ND ND ND ND	ND ND ND ND ND								
EB5(5) EB5(10) EB5(15) EB5(20) EB5(25)		ND ND 2.0 17 3.9	ND ND ND 0.12 ND	ND ND ND 0.15 ND	ND ND ND 1.4 0.17	ND ND ND 0.25 ND								
EB6(5) EB6(10) EB6(15) EB6(25)	10 160 40 3.0	1.8 73 17 ND	ND ND 0.065 ND	ND ND ND	ND ND 0.21 ND	ND ND ND ND	7,800 1,200 900 130							

TABLE 1 (Continued)

## SUMMARY OF LABORATORY ANALYSES SOIL

_	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene Xy</u>	_	thyl- enzene	TOG
	(	Collected	on March	22 and 23,	1993)		
EB7(5)* EB7(10)* EB7(15)* EB7(19.5)* EB7(23.5)	6.4♦ * 3.5♦	ND 3.2** 17** 4.4** ND	0.018 ND ND ND ND	ND ND 0.011 ND ND	ND ND 0.025 ND ND	ND ND 0.0090 ND ND	ND 140 340 80 60
EB8(5)*+ EB8(10)*+ EB8(15)*+ EB8(20)*+ EB8(23)*+	1.2 7.6	50 + + ND 5.0 + + ND ND	0.020 ND ND ND ND	0.040 ND ND ND ND	0.045 ND 0.0070 ND ND	0.062 ND 0.015 ND ND	1,700 ND ND ND ND
EB9(5)*+ EB9(10)*+ EB9(14.5);	ND	ND 2.0 ND	ND ND	ND ND ND	ND ND ND	ND ND ND	ND ND ND
EB10(5)* EB10(9.5)* EB10(15)* EB10(20)* EB10(23)*	ND ND ND ND ND	ND 1.6 ND ND ND	ND ND ND ND	ND ND ND ND ND	ND ND ND ND ND	ND ND ND ND ND	ND ND ND ND ND

NOTE: The soil samples were collected at the depths (below grade) indicated in the ( ) of the respective sample number.

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

<sup>\*</sup> All EPA method 8010 constituents were non-detectable.

<sup>+</sup> TPH as Hydraulic Fluid was non-detectable, except in sample EB8(5), where it was detected at a concentration of 470 ppm.

<sup>♦</sup> Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

<sup>♦♦</sup> Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
ND = Non-detectable.

<sup>--</sup> Indicates analysis was not performed.

TABLE 2
SUMMARY OF LABORATORY ANALYSES
SOIL

Sample <u>Number</u>	Depth (feet)	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	Ethyl- benzene	TOG
		•	(Collected	on April	17, 1989)	•		
MW1	5.0	ND	4.0	ND	ND	ND	ND	ND
MW1	10.0	ND	ND	ИD	ND	ND	ND	ND
MW1	15.0	ИD	ND	ND	ND	ND	ND	ND
MW1	17.0	ND	ND	ND	ND	ND	ND	31
MW2*	5.0	ND	ND	ND	ND	ND	ND	31
MW2*	10.0	ND	1.1	ND	ND	ND	ND	60
MW2*	15.0	ND	ND	ND	ND	ND	ND	71
MW3	5.0	ND	ND	ND	ND	ND	ND	ND
MW3	10.0	ND	1.1	ND	ND	ND	ND	ND
EWM	15.0	ИD	1.2	ND	ND	ND	ND	32
MW3	17.0	ND	6.2	ND	0.21	0.42	ND	180
		(	Collected	on August	16, 1989	)		
MW4	5.0	~-	3.3	ND	ND	0.11	ND	ND
MW4	10.0		ND	ND	ND	ND	ND	ND
MW4	15.0		ИD	ND	ND	ND	ND	ND
MW4	19.0		ND	ND	ND	ND	ND	ND
MW5	5.0		ND	ND	ND	ND	ND	ND
MW5	10.0		ND	ИD	ND	ND	ND	ND
MW5	15.0		ND	ND	ND	ND	ND	ND
MW5	20.0		20	ND	ND	ND	ND	ND
MW5	22.0	<del></del>	ND	ND	ND	ND	ND	ND
MW6	5.0		ND	ND	ND	ND	ND	ND
MW6	10.0		ND	ИD	ND	ND	ND	ND
MW6	15.0		ИD	ИD	ND	ND	ND	ND
MW6	20.0		ND	ND	ND	ИD	ND	ND

## TABLE 2 (Continued)

# SUMMARY OF LABORATORY ANALYSES SOIL

Sample <u>Number</u>	Depth (feet)	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Xylenes	Ethyl- <u>benzene</u>	TOG
		(C	ollected o	n Februar	y 11, 199	2}		
MW7(5)	5.0	ND	ND	ND	ND	ИD	ND	
MW7(9.5)	9.5	ND	ND	ИD	ND	ND	ND	
MW7(15)	15.0	ND	ND	ND	ИD	ND	ND	
MW7(16.5	) 16.5	ND	ND	ND	ND	ND	ND	

-- Indicates analysis not performed.

ND = Non-detectable.

\* EPA method 8010 constituents were non-detectable.

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

TABLE 3
SUMMARY OF LABORATORY ANALYSES
SOIL

Sample <u>Number</u>	Depth (feet)	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u> <u>Benzene</u> <u>Toluene</u>		Xylenes	Ethyl- benzene	TOG	
			(Collected	on May	11, 1989)			
SWA	16.5	21						850
SWB	16.5	18						580
SWC	16.5	26						680
SWD	16.5	16						170

<sup>--</sup> Indicates analysis was not performed.

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

TABLE 4
SUMMARY OF LABORATORY ANALYSES
WATER

Sample <u>Number</u>	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	Xylenes	Ethyl- <u>benzene</u>	DOT (mqq)		
		(Col	lected on	January	3, 1989)				
EB1	ND		ND	3.5	ND	ND			
EB2		ND	8.2	7.4	3.3	0.67	****		
EB3		ND	ND	ND	ND	ND			
EB4		ΝD	ND	ИД	ND	0.73			
EB5		340	ND	ND	ND	0.63			
EB6		1,500	1.5	1.4	12	8.1			
Collected on March 22 and 23, 1993)									
EB7*	320++	1,000+	19	ИД	ИД	6.8	ND		
EB8*+	120++	510♦♦	ND	ND	ND	ND	ND		
EB9*+	480++	2,600	ND	5.1	8.8	8.3	ND		
EB10*	ND	180♦♦	ND	ND	ND	ND	ND		

- \* All EPA method 8010 constituents were non-detectable, except for tetrachloroethene, which was detected in samples EB9 and EB10 at concentrations of 12 ppb and 250 ppb, respectively. Trichloroethene was also detected in sample EB9 at a concentration of 0.63 ppb.
- + TPH as hydraulic fluid was non-detectable.
- ++ Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

ND = Non-detectable.

-- Indicates analysis was not performed.

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

TABLE 5
SUMMARY OF LABORATORY ANALYSES
WATER

<u>Date</u>	_	PH as		<u>Be</u>	nzene	Toluene	Et <u>Xylenes</u> be	thyl- enzene	TOG (mqq)
10/30/92	MW2 MW3 MW4 MW5	NOT WELI NOT	WAS INACC SAMPLED	E TO	BLE		ND FREE PRODU	nd JCT	
	MW6 MW7		ND ND		ND ND	ND ND	ND ND	ND ND	
5/26/92	MW1 MW2	NOT	SAMPLED 2,900		8.8		36	54	
		ND	1,300,000 120 SAMPLED			66,000	160,000 2	20,000 DM	880
	MW6 MW7		ND		ND ND	ND ND	0.65 0.60	ИD	
2/27/92	MW1 MW2 MW3 MW4 MW5	NOT ND	SAMPLED 330 SAMPLED DUI 43 SAMPLED	е то	12 THE PI	12 RESENCE OF 1.0	93 FREE PRODU 2.5	10 JCT 0.37	 7
	MW6 MW7		ND 38		3.2 ND	ND 0.97	3.8 4.0	ND 0.69	 3
11/19/91	MW1 MW2 MW3 MW4		SAMPLED 220 SAMPLED DUI ND	e To	2.5 THE PI	8.4 RESENCE OF ND	14 FREE PRODU ND	2.4 ICT ND	
	MW5 MW6	NOT	SAMPLED ND		ND	ND	ND	ND	
8/15/91	MW2		SAMPLED ND		ИD	ND	ND	ИD	ND
	MW3 MW4 MW5	ND	SAMPLED DUE ND SAMPLED	OT E	A TRAG	CE OF FREE ND	PRODUCT ND	ND	ND
	MW6	10 T	ND		ИД	ND	ND	ND	ND

TABLE 5 (Continued)

# SUMMARY OF LABORATORY ANALYSES WATER

<u>Date</u>	Sample Well #	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	Benzene	Toluene		Ethyl- benzene	TOG (mqq)
5/24/9:	L MW1		ND	ND	ND	ND	ND	ND
	MW2		ND	1.5	ND	ИД	ND	ND
	MW3	2,000	23,000	940	3,400	2,600	590	ND
	MW4	ND	ND	0.64	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ИD	ND	ИD
	MW6		ND	ND	ИД	ИД	ИD	ИD
2/04/93		ND	ND	ND	0.31	0.6	2 ND	ND
	MW2	ND	ND	ND	0.38	0.8	7 ND	ИD
	EWM		AMPLED DUE			PRODUCT		
	MW4	ND	ND	ND	0.72		ND	ND
	MW5	ND	ND	ND	0.35		ND	ИД
	MW6	ИD	ND	ND	ND	ND	ND	ND
11/06/90	MW1	ND	ND	ND	ND	ND	ND	ND
, ,	MW2	ND	ND	ND	0.42		ND	ND
	MW3	940	16,000	820	1,500	770	2,200	ND
	MW4	ND	ND	ND	0.36			ND
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	1.6	0.35	ND	ND	ND
8/09/90		ND	ND	ND	ND	ND	ND	ND
	MW2	ND	ND	ИD	ND	ND	ИD	ND
	MM3	500	1,900	56	140	140	31	ND
	MW4	ND	ND	ND	ND	ND	ND	ND
	MW5	ND	ND	ND	ИД	ND	ИD	ND
	MMe	ИD	ND	ИD	ИD	ND	ND	ND
5/10/90		ND	ND	ND	ND	ND	ND	ND
	MW2	ND	43	ИD	1.0	ND	ND	ND
	MW3	850	6,200	94	460	540	160	2.8
	MW4	88	54	ND	2.0	0.37		ND
	MW5	83	ND	ND	ND	0.33		ИД
	MW6	ND	ИD	ИD	1.2	ИD	ND	ИD

TABLE 5 (Continued)
SUMMARY OF LABORATORY ANALYSES

WATER

	Sample Well_#	TPH as <u>Diesel</u>	TPH as <u>Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	Ethyl- <u>benzene</u>	TOG (mqq)
2/23/90	MWl	ND	ND	ND	ND	ND	ND	ND
	MW2	ND	44	ND	ND	ND	ND	ND
	KWM3	350	ND	0.32	ND	ND	ИИ	1.3
	MW4	ND	ND	ИD	ИД	ND	ND	ND
	MW5	ND	ND	ND	ND	ND	ND	ND
	MW6	ND	ND	ИD	ND	ND	ИD	ND
11/21/89	MW1	ND	ND	ND	ND	ND	ND	8.9
	MW2	ND	48	ND	0.5		ND	1.6
	MW3	110	1,900	ND	ND	ND	ND	3.8
	MW4	ND	ND	ND	ND	ND	ND	ND
	MW5	70	ND	ND	ND	ND	ND	ND
	MW6	ИД	ND	ND	ND	ND	ND	ND
8/29/89	MW4	120	ND	ND	ND	ND	ND	ND
	MW5	100	ND	ND	0.9		0.3	
	MW6	ND	ND	ND	ND	ND	ND	ND
8/10/89	MW1	ИД	ND	ND	ND	ND	ND	ND
	MW2	ND	ИD	ND	0.3	9 ND	ND	ND
	MW3	860	3,200	73	140	240	35	ND
4/25/89	MW1	100	ND	0.31	ND	ND	ND	
	MW2	ND	32	0.35	ND	ND	ND	
	MW3	5,700	56	ND	ND	0.		1

-- Indicates analysis was not performed.

ND = Non-detectable.

- ♦ Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.
- \* Free product was detected in well MW3; however, a water sample was collected and analyzed to determine if the product was predominantly hydrocarbon based.

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

TABLE 6
SUMMARY OF LABORATORY ANALYSES
WATER

	Sample Well #	Tetrachloro- ethene	1,1-Dichloro- ethane	1,1,1-Trichloro- ethane	Chloro- methane	1,1-Dichlo- roethene	1,2-Dichlo- robenzene
10/30/92	MW2 MW3 MW4		ND DUE TO THE PRESEN	ND ICE OF FREE PRODUCT	ND	ND	ND
	MW6 MW7	WELL WAS INAC 1.2 2.2	ND ND	ND ND	ND ND	ND ND	ND ND
5/26/92	EWM	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
	MW4 MW6 MW7	2.4 1.1 2.2	13 ND ND	3.5 ND ND	ND ND	0.83 ND	ND 1.7
2/27/92	MW2 MW3	ND NOT SAMPLED DU	ND	ND	ND	ND ND	ИD
	MW4 MW6 MW7	3.5 1.5	6.0 ND	ND ND	ND ND	ND ND	ND 1.6
11/19/91	MW2	2.4 ND	ND ND	ND ND	ND ND	ND ND	ND ND
	MW3 MW4 MW6	NOT SAMPLED DU 3.4 1.3	VE TO THE PRESENC ND ND	E OF FREE PRODUCT ND ND	ND ND	ND ND	ND
8/15/91	MW2 MW3	ND NOT <b>SAMPLED D</b> U	ND E TO THE PRESENC	ND	ND	ND	ND ND
	MW4 MW6	3.6 1.2	ND ND	ND ND ND	ND ND	ND ND	ND ND

TABLE 6 (Continued)

# SUMMARY OF LABORATORY ANALYSES WATER

<u>Date</u>	Sample Well #	Tetrachloro- ethene	1,1-Dichloro- ethane	1,1,1-Trichloro- ethane	Chloro- methane	1,1-Dichlo- roethene	1,2-Dichlo- robenzene
5/24/91	MW1	4.6	ND	ND	ND	ND	ND
	MW2	ИD	ND	ND	ND	ND	ND
	MW3	ИD	ND	ND	ND	ND	ND
	MW4	4.1	2.5	3.9	ND	ND	ND
	MW5	0.89	ND	ND	ND	ND	ND
	MW6	0.88	ND	ND	5.6	ND	ND
11/06/90	MW1	4.8	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND	ND
	MW3	ИD	ND	ND	ND	ND	ND
	MW4	2 <b>.9</b>	ND	ND	ND	ND	ND
	MW5	0 <b>.7</b>	ND	ND	ND	ND	ND
	MWG	1.2	ND	ND	ND	ND	ND
4/25/89	MW1*	3 <b>.3</b>	ND	ND	ND	ND	ND
	MW2	0.68	ND	ND	ND	ND	ND
	MW3	1.0	ND	ND	ND	ND	ND

NOTE: All EPA method 8010 constituents were non-detectable, except for those shown in the above table.

ND = Non-detectable.

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

<sup>\*</sup> Trichloroethene was detected at 0.55 ppb.