TRANSMITTAL

TO:

Mr. Scott Seery

Alameda County Health Care Services

1131 Harbor Bay Parkway Alameda, California 94501

FROM:

Deanna L. Harding

Project Coordinator Gettler-Ryan Inc.

6747 Sierra Court, Suite J Dublin, California 94568 DATE: November 17, 1998

G-R #: 180107

RE: Tosco (Unocal) SS #5430

1935 Washington Avenue San Leandro, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	October 29, 1998	Groundwater Monitoring and Sampling Report Semi-Annual 1998 - Event of September 1, 1998

COMMENTS:

At the request of Tosco Marketing Company, we are providing you a copy of the above referenced report. The site is monitored and sampled on an semi-annual basis. If you have questions please contact the Tosco Project Manager, Ms. Tina R. Berry at (925) 277-2321.

Enclosure

cc: Mr. Tim Ripp, PEG, 2025 Gateway Pl., Suite 440, San Jose, CA 95110

Mr. Michael Bakaldin, City of San Leandro Fire Dept., 835 East 14th Street, San Leandro, CA 94577

agency/5430trb.qmt



AN TO COMPANY



October 12, 1998 Project 311-038.1A

Mr. John Jang Regional Water Quality Control Board San Francisco Bay Region 2101 Webster Street, Suite 500 Oakland, California 94612

Re: 76 Service Station 5430

Quarterly Summary Report
Third Quarter 1998

Dear Mr. Jang:

As directed by Ms. Tina Berry of Tosco Marketing Company, Pacific Environmental Group, Inc. is forwarding the quarterly summary report for the following location:

Service Station

Location

5430

1935 Washington Avenue, San Leandro

If you have questions or comments, please do not hesitate to contact our office at (408) 441-7500.

Sincerely,

Pacific Environmental Group, Inc.

Timothy L. Ripp

Project Geologist

Enclosure

cc: Ms. Tina Berry, Tosco Marketing Company

Mr. Kevin Tinsley, Alameda County Environmental Health Care Services

Quarterly Summary Report Third Quarter 1998

76 Service Station 5430 1935 Washington Avenue at Castro Street San Leandro, California

County STID #: 1747 County: Alameda

BACKGROUND

Unocal files suggest that a product line leak occurred in June 1976, and that one of the original underground gasoline storage tanks failed a precision test in October 1981. In December 1981, the two original steel gasoline storage tanks were replaced with two fiberglass gasoline storage tanks. There are currently six on-site groundwater monitoring wells and one off-site groundwater monitoring well in use at the site. In July 1997, three off-site exploratory borings were drilled on the property to the south of the 76 station. Based on the findings of that investigation, the lateral extent of hydrocarbon impact to groundwater is considered delineated.

RECENT QUARTER ACTIVITIES

The product dispensers and associated underground product piping were replaced in July and August 1998. The underground waste oil storage tank was also removed and replaced with an aboveground waste oil storage tank. A report documenting those activities was submitted on September 30, 1998. Semiannual groundwater monitoring and sampling were performed in September 1998 by Gettler-Ryan.

NEXT QUARTER ACTIVITIES

The report documenting the September 1998 groundwater monitoring and sampling activities will be submitted by Gettler-Ryan.

CHARACTERIZATION/REMEDIAL STATUS

Soil contamination delineated? None encountered.

Dissolved groundwater delineated? Yes.

Free product delineated? Not applicable.

Amount of groundwater contaminant recovered this quarter? None.

Soil remediation in progress? Not applicable.

Anticipated start date? Not applicable.

Anticipated completion date? Not applicable.

Dissolved/free product remediation in progress? No.

Anticipated start? Unknown.

Anticipated completion? Unknown.

CONSULTANT: Pacific Environmental Group, Inc.



.98 JAN 27 AM 9:02

January 20, 1998 Project 311-038.1A

Mr. John Jang Regional Water Quality Control Board San Francisco Bay Region 2101 Webster Street, Suite 500 Oakland, California 94612

Re: Unocal Station 5430 Quarterly Summary Report Fourth Quarter 1997

Dear Mr. Jang:

As directed by Ms. Tina Berry of Tosco Marketing Company, Pacific Environmental Group, Inc. is forwarding the quarterly summary report for the following location:

Service Station

Location

5430

1935 Washington Avenue, San Leandro 94577

If you have questions or comments, please do not hesitate to contact our office at (408) 441-7500.

Sincerely,

Pacific Environmental Group, Inc.

Joseph Muzzio

Project Geologist

Enclosure

Ms. Tina Berry, Tosco Marketing Company

Mr. Kevin Tinsley, Alameda County Environmental Health Care Services

Quarterly Summary Report Fourth Quarter 1997

Unocal Service Station 5430 1935 Washington Avenue at Castro Street San Leandro, California

County STID #: 1747 County: Alameda

BACKGROUND

Unocal files suggest that a product line leak occurred in June 1976, and that one of the original underground gasoline storage tanks failed a precision test in October 1981. In December 1981, the two original steel gasoline storage tanks were replaced with two fiberglass gasoline storage tanks. Groundwater monitoring wells U-1 through U-3 and Borings U-A through U-E were installed in August 1993. Perimeter wells U-4 through U-7 were installed in June 1995 for further delineation of hydrocarbon impacted groundwater. Monthly groundwater monitoring and quarterly sampling of the wells was initiated in December 1993.

Alameda County Health Services (ACHS) submitted a request for delineation of hydrocarbon impacted groundwater in the southern portion of the site. Unocal submitted a workplan in January 1996. Unocal investigated former usage of the site located south of their site. The review found that the adjacent site was formerly a service station which included four USTs. PACIFIC completed an investigation to delineate the lateral extent of hydrocarbon impacted groundwater in July 1997. A report documenting the results was submitted in September 1997. Based on the investigation results groundwater impact beneath the Unocal facility was delineated.

RECENT QUARTER ACTIVITIES

No activities were performed.

NEXT QUARTER ACTIVITIES

Semiannual groundwater monitoring and sampling will be performed in March.

CHARACTERIZATION/REMEDIAL STATUS

Soil contamination delineated? None encountered.
Dissolved groundwater delineated? Yes.
Free product delineated? Not applicable.
Amount of groundwater contaminant recovered this quarter? None Soil remediation in progress? Not applicable.
Anticipated start date? Not applicable.

Anticipated completion date? Not applicable.
Dissolved/free product remediation in progress? No.
Anticipated start? Unknown.
Anticipated completion? Unknown.

CONSULTANT: Pacific Environmental Group, Inc.



October 29, 1998 G-R Job #180107

Ms. Tina R. Berry
Tosco Marketing Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

RE:

Semi-Annual 1998 Groundwater Monitoring & Sampling Report

Tosco (Unocal) Service Station #5430

1935 Washington Avenue San Leandro, California

Dear Ms. Berry:

This report documents the semi-annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On September 1, 1998, field personnel monitored and sampled six wells (U-1 through U-5, and U-7) at the above referenced site. One well (U-6) was not located (paved over).

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in the wells. Static water level data and groundwater elevations are summarized in Table 1. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets are also attached. The samples were analyzed by Sequoia Analytical. Analytical results are summarized in Table 1, and a Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

Deanna L. Harding
Project Coordinator

11.1 Ic

Senior Geologist, R.G. No. 5577

Figure 1:

Potentiometric Map

Figure 2:

Concentration Map

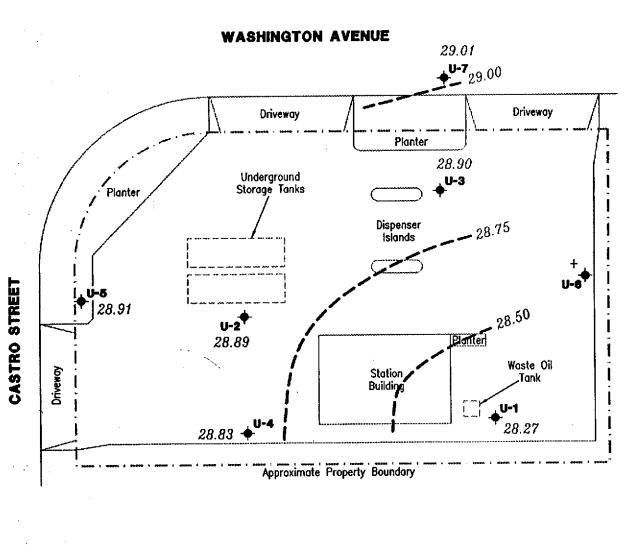
Table 1: Attachments:

Groundwater Monitoring Data and Analytical Results Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

5430.qml



EXPLANATION

♣ Groundwater monitoring well

99.99 Groundwater elevation in feet referenced to benchmark, Datum 1929, USGS adjusted

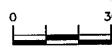
Groundwater elevation contour, dashed where inferred.

+ Well paved over



Approximate groundwater flow direction at a gradient of 0.006 Ft./Ft.





Scale in Feet

Source: Figure Modified From Drawing Provided By MPDS Services, Inc.



Gettler - Ryan Inc.

6747 Sierro Ct., Suite J (S Dublin, CA 94568

(925) 551-7555

POTENTIOMETRIC MAP

Tosco (Unocal) Service Station No. 5430 1935 Washington Avenue San Leandro, California

DATE

September 1, 1998

FIGURE

1

REVISED DATE

JOB NUMBER 180107 REVIEWED BY

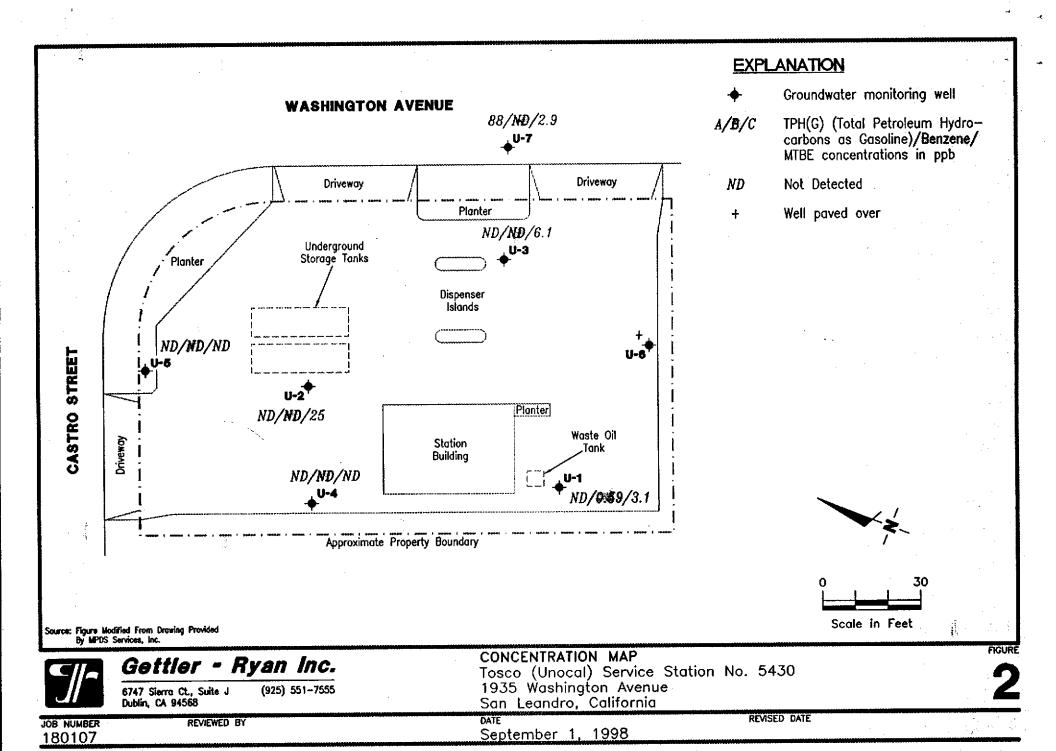


Table 1
Groundwater Monitoring Data and Analytical Results

Well ID/	Date	DTW	GWE	TPH(D)	TPH(G)	В	T	E	X	MTBE	1,2-DCB	1,2-DCA
TOC*		(ft.)	(ft.)	<				ррв				>
U-1												
56.58	08/13/93 ¹	31.60	24.98	50 ²	310	0.84	ND	2.6	1.0			
	09/07/93	31.60	24.98									
56.10	12/16/93 ¹	33.19	22.91	130^{3}	ND	ND	ND	ND	ND			· -
	01/13/94	33.06	23.04									
	02/09/94	32.70	23.40									
	03/25/94 ¹	31.07	25.03	57 ³	58	0.63	0.79	ND	0.65			••
	05/18/94	31.76	24.34									
	06/19/94 ¹	32.26	23.84	61 ³	51	ND	1.4	ND	2.7		ND	7.4
	07/27/94	33.07	23.03		**							
	08/18/94	33.50	22.60									
	09/15/941	33.93	22.17	83 ³	ND	0.50	0.85	ND	0.77		ND	9.5
	10/11/94	33.25	22.85									
	11/08/94	34.05	22.05									
	12/06/94 ¹	32.37	23.73	ND	ND	ND	ND	ND	ND		ND	5.8
	01/10/95	31,29	24.81			••						
56.09	03/14/95	27.86	28.23	71 ³	380	20	ND	ND	10			
30.07	06/20/95	28.20	27.89	170 ³	500	50	ND	ND	4.4		-	
	09/18/95	30.65	25.44	72	57	1.2	0.75	0.57	2.2	6	**	·
	12/14/95	32.20	23.89	ND	ND	0.72	1.4	1.2	3.6		ND	3.8
	03/06/96	26.53	29.56	ND	96	4.5	ND	ND	3.7	ND	· +-	
	06/04/96	27.43	28.66	170 ³	410	48	ND	3.4	7.9	ND		
•	09/06/96	30.25	25.84	ND	ND	ND	ND	ND	ND	ND		 ·
	03/08/97	26.03	30.06		ND	ND	ND	ND	ND	ND	ND	43
	09/04/97	31.56	24.53	7.0	ND	ND	ND	ND	ND	ND	ND	4.5
	03/09/98	20.63	35.46		ND	ND	ND	ND	ND	ND	ND	ND
	09/01/98	27.82	28.27		ND	0.59	ND	ND	ND	3.1	ND	8.9
U-2												
55.77	08/13/93	30.87	24.90		1,400	ND	ND	ND	ND			
	09/07/93	30.87	24.90	_						m -		
55.27	12/16/93	32.19	23.08		330	1.7	ND	11	8.5	••		
	01/13/94	32.13	23.14								 .	

Table 1
Groundwater Monitoring Data and Analytical Results

Well ID/	Date	DTW	GWE	TPH(D)	TPH(G)	В	Т	E	X	MTBE	1,2-DCB	1,2-DCA
TOC*	Date	(ft.)	(ft.)						800 000 000 000 000			>
100		(Ib)										
U-2	02/09/94	33.50	21.77								 `	
(cont)	03/25/94	30.09	25.18		130	0.70	0.78	0.65	0.64		ND	11
(D)	03/25/94										ND	ND
()	05/18/94	30.73	24.54									
	06/19/94	31.31	23.96		180 ⁴	ND	ND	ND	0.86		ND	0.54
	07/27/94	32.12	23.15									
	08/18/94	32.50	22.77									••
	09/15/94	33.00	22.27	~~	1,000 ⁵	44	ND	ND	ND		ND	0.66
	10/11/94	32.35	22.92									
	11/08/94	33.09	22.18									
	12/06/94	31.44	23.83		250	19	ND	ND	ND		ND	ND
	01/10/95	30.25	25.02	**								
55.29	03/14/95	26.36	28.93		89	ND	ND	ND	1.2			
	06/20/95	26.74	28.55		ND	ND	0.58	ND	1.7			
	09/18/95	29.65	25.64		ND	ND	ND	ND	0.85	6		
	12/14/95	31.10	24.19		ND	ND	0.89	ND	2.0	7	ND	ND
	03/06/96	25.17	30.12		ND	ND	ND	ND	ND	80		
	06/04/96	26.03	29.26		ND	ND	ND	ND	ND	110		
	09/06/96	29.18	26.11		ND	ND	ND	ND	ND	ND		
	03/08/97	24.64	30.65		ND	ND	ND	ND	ND	42		
	09/04/97	30.59	24.70		ND	ND	ND	ND	ND	46		
	03/09/98	19.22	36.07		ND	ND	ND	ND	ND	4.4	••	
:	09/01/98	26.40	28.89	-	ND	ND	ND	ND	ND	25		-
U-3		ý'										•
55.66	08/13/93	30.70	24.96		23,000	1,000	ND	1,700	1,600			
33.00	09/07/93	30.70	24.96									
55.24	12/16/93	32.08	23.16		15,000	570	ND	940	670			
JJ.27	01/13/94	31.98	23.26								 .	
	02/09/94	33.82	21.42			'					 .	
	03/25/94	30.03	25.21		18,000	560	40	1,000	770		ND	480
	05/18/94	30.66	24.58									
	06/19/94	31.19	24.05		17,000	580	ND	1,300	90		ND	410
	07/27/94	31.98	23.26									

Table 1
Groundwater Monitoring Data and Analytical Results

Well ID/	Date	DTW	GWE	TPH(D)	TPH(G)	В	Т	E	X	MTBE	1,2-DCB	1,2-DCA
TOC*		(ft,)	(ft.)	<				ррв				>
U-3	08/18/94	32.39	22.85									
(cont)	09/15/94	32.84	22.40		12,000	370	ND	970	610		ND	420
(*****)	10/11/94	32.20	23.04									
	11/08/94	33.01	22.23									
	12/06/94	31.34	23.90		17,000	390	ND	990	560		ND	430
•	01/10/95	30.23	25.01									
55.23	03/14/95	25.44	29.79		13,000	860	120	1,300	1,700			
	06/20/95	26.70	28.53		9,800	590	ND	800	1,000			
	09/18/95	29.55	25.68		9,800	600	ND	1,000	760	6		
	12/14/95	31.02	24.21		10,000	520	ND	920	630	7	ND	240
	03/06/96	25.25	29.98		19,000	1,400	ND	1,800	3,000	73	•	
	06/04/96	26.00	29.23		8,800	510	ND	600	830	ND		·
٠	09/06/96	29.06	26.17		15,000	360	20	540	450	ND		
	03/08/97	24.65	30.58		3,500	310	ND	230	630	ND	ND	100
	09/04/97	30.44	24.79		700	27	ND	48	34	ND	ND	160
	03/09/98	19.20	36.03		410	22	1.2	ND ⁹	6.1	24	ND	4.4
	09/01/98	26.33	28.90		ND	ND	ND	ND	ND	6.1	ND	ND
U-4												
55.39	03/14/95	26.52	28.87		490	3.2	2.1	0.79	1.2		ND	ND
JJ.JJ	06/20/95	26.90	28.49		ND	ND	ND	ND	1.5			
	09/18/95	29.79	25.60		ND	ND	ND	ND	ND	6	••	
	12/14/95	31.23	24.16		ND	ND	0.59	ND	0.79	7	ND	ND
	03/06/96	25.30	30.09		ND	ND	ND	ND	0.62	50		
	05/04/96	26.19	29.20		ND	ND	ND	ND	ND	290		
	09/06/96	29.32	26.07		ND	ND	ND	ND	ND	ND		
	03/08/97	24.79	30.60		ND	ND	ND	ND	ND	ND		
	09/04/97	30.71	24.68		ND	ND	ND	ND	ND	18		.
	03/09/98	19.37	36.02		ND	ND	ND	ND	ND	ND	**	
	09/01/98	26.56	28.83		ND	ND	ND	ND	ND	ND	·	
											•	
U-5	DB 14	25.22	00.00		NIP	NID	NT	MID	1.0		NID	NITS
54.18	03/14/95	25.20	28.98	-	ND	ND	ND	ND	1.2 1.6	-	ND	ND
	06/20/95	25.60	28.58	**	ND	ND	ND	ND ND	0.66			
	09/18/95	28.55	25.63		ND	ND	ND	מא	0.00			

Table 1
Groundwater Monitoring Data and Analytical Results

Well ID/	Date	DTW	GWE	TPH(D)	TPH(G)	В	T	E	X	MTBE	1,2-DCB	1,2-DCA
TOC*		(ft.)	(ft.)	····<				ррb				>
U-5	12/14/95	29.94	24.24		ND	ND	ND	ND	ND		ND	ND
(cont)	03/06/96	24.03	30.15		ND	ND	ND	ND	ND	ND		
(Cont)	06/04/96	24.91	29.27	**	ND	ND	ND	ND	ND	ND		
	09/06/96	28.06	26.12		ND	ND	ND	ND	ND	ND		••
	03/08/97	23.49	30.69		ND	ND	ND	ND	ND	ND		
	09/04/97	29.46	24.72		ND	ND	ND	ND	ND	ND		
	03/09/98	18.10	36.08		ND	ND	ND	ND	ND	ND		
	09/01/98	25.27	28.91		ND	ND	ND	ND	ND	ND	-	
U-6												*
55.36	03/14/95	26.94	28.42		14,000	170	36	790	1,500		ND	210
	06/20/95	27.15	28.21		8,500	170	11	950	1,300			
	09/18/95	29.95	25.41		9,500	260	ND	1,400	1,800	⁶		
	12/14/95	31.32	24.04		15,000	240	ND	1,400	1,700	7	ND.	370
	03/06/96	25.71	29.65		2,400	54	ND	170	250	ND		
	06/04/96	26.52	28.84		4,600	83	ND	400	520	46	·	
	09/06/96	29:41	25,95		12,000	180	6.4	690	600	95		
	03/08/97	25.25	30.11		2,000	180	ND	96	290	ND		
	09/04/97	30.75	24.61		680	17	ND	52	39	ND		
	03/09/98	19.84	35.52		690	41	8.5	3.2	140	16		
•	09/01/98		E (PAVED OVER	t)	==			leve.			-	
U-7		PK		•								
55.05	03/14/95	26.13	28.92		ND	ND	ND	ND	ND		ND	ND
	06/20/95	26.38	28.67		ND	ND	ND	ND	ND			
	09/18/95	29.21	25.84		ND	ND	ND	ND	ND		·	
	12/14/95	30.75	24.30		ND	ND	ND	ND	0.88		ND	ND
	03/06/96	25.10	29.95		ND	ND	ND	ND	ND	ND	~~	
	06/04/96	25.67	29.38		ND	ND	ND	ND	ND	ND		
	09/06/96	28.75	26.30		ND	ND	ND	ND	ND	ND		
	03/08/97	24.33	30.72		ND	ND	ND	ND	ND	ND	ND	ND
	09/04/97 ⁸	30.16	24.89		ND	ND	ND	ND	ND	ND	ND	ND
	03/09/98	18.91	36.14		ND	ND	ND	ND	ND	ND	ND	ND
	09/01/98 ¹⁰	26.04	29.01		88	ND	ND	ND	ND	2.9	ND	ND

Table 1

Groundwater Monitoring Data and Analytical Results

Well ID/ TOC*	Date	DTW (ft.)	GWE (ft.)	TPH(D) <	TPH(G)		T	Eppb	X	MTBE	1,2-DCB	1,2-DCA >
Trip Blank TB-LB 03	3/09/98				ND	ND	0.53	ND	ND	ND		
	9/01/98				ND	ND	ND	ND	ND	5.0	_	

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5430 1935 Washington Avenue San Leandro, California

EXPLANATIONS:

Groundwater monitoring data and analytical results prior to March 9, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing

B = Benzene

1,2-DCA = 1,2-Dichloroethane

DTW = Depth to Water

T = Toluene

ppb = Parts per billion

(ft.) = Feet

E = Ethylbenzene

ND = Not Detected

GWE = Groundwater Elevation

X = Xylenes

-- = Not Measured/Not Analyzed

TPH(D) = Total Petroleum Hydrocarbons as Diesel

MTBE = Methyl tertiary butyl ether

(D) = Duplicate

TPH(G) = Total Petroleum Hydrocarbons as Gasoline

1,2-DCB = 1,2-Dichlorobenzene

- * TOC elevations were surveyed March 1995, based on Benchmark provided by City of San Leandro, City Engineers Office, Datum 1929, USGS adjusted. Prior to December 16, 1993, the DTW measurements were taken from the top of well covers.
- Total Oil and Grease (TOG) was ND.
- Not a typical diesel pattern; lower boiling hydrocarbons in the boiling range of stoddard calculated as diesel.
- Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater sample collected from this well.
- Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 ppb in the sample collected from this well.
- 8 Carbon tetrachloride was detected at a concentration of 1.3 ppb.
- Detection limit raised. Refer to analytical results.
- Carbon tetrachloride was detected at a concentration of 2.0 ppb, and Chloroform was detected at a concentration of 0.60 ppb.

Note: All EPA Method 8010 constituents were ND, except as indicated above.

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using a MMC flexi-dip interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

After water levels are collected and prior to sampling, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Tosco Marketing Company, the purge water and decontamination water generated during sampling activities is transported to Tosco - San Francisco Area Refinery, located in Rodeo, California.

Vell Diameter Total Depth Depth to Water		Wel Hyc Thic Vc Fa		Samp	o, k.	Amount B (product/wa 3" = 0.38	ailed ter):	(Gallor
Well ID Vell Diameter Total Depth Depth to Water	27.82 ft.	Wel Hyc Thic Vc Fa	Il Condition: irocarbon ckness:	<u>.</u>	0. k. (feet)	Amount B (product/wa 3* = 0.38	ailed	
Well ID Vell Diameter Total Depth Depth to Water	2 in. 39.60 ft. 27.82 ft.	Well Hyd Thid Vo Fa	Il Condition: irocarbon ckness:	<u>.</u>	0. k. (feet)	Amount B (product/wa 3* = 0.38	ailed	
Vell Diameter Total Depth Depth to Water	2 in. 39.60 ft. 27.82 ft.	Hyc Thic Vo Fa	irocarbon ckness:	Ø	(feet) 17	Amount B (product/wa 3" = 0.38	ailed ter):	
otal Depth _	39.60 ft.	Thic Vo Fa	ckness:	2" = 0.	17	(product/wa 3" = 0.38	ter):	
Depth to Water	27.82 ft.	· Vo Fa	olume	2" = 0.	17	3" = 0.38		
	_	Fa						4" = 0.66
-	11.78 x v	- 617					12* = 5.80	
_		- 0177	= 2.00 x	(case	volume) =	Estimated Pu	urge Volume:	<u>6 (qa</u>
· ·	Disposable Bailer		Sam	-	-		J	
	Bailer Stack		Equi	ment		sposable Ba	aller	
G	Suction			,		essure Baile		
	Grundfos Other:					ab Sample her:		
Starting Time:	11:35		Weather Co	nditio	ns: <u>_</u>	lear_		
Sampling Time:			Water Colo	r:	Clea		Odor: /	
Purging Flow Rate:		ım.	Sediment E	escrip	tion:	none		
Did well de-water?			If yes; Tir	ne: _		Volun	ne:	(g
Time Volu		Con	ductivity hos/cm/x l ov	Tempe •F	ratur e	D.O. (mg/L)	ORP (mV)	Alkalin (ppm
11:45 3	7.30		<u>٠/ ۲ - ۲</u>	<u> </u>	6			
11:51 6	7.40		18		<u>., </u>			- .
_11.31			<u>, , a </u>	<u> </u>				
								
		<u> </u>						 ;
			RATORY INF		•		,	
		REFRIG.	PRESERV. T	YPE /	SEQUOIA	RATORY	TPH(G)/btex	ALYSES
<u>U-1</u>	3 V 0 A 2 V 0 A		HCL /	·:	3E00017	•	8016	
		··						
COMMENTS:	_							

Client/ Facility <u>#543</u>	5 <i>0</i>		_ Job#	: <u>i</u> .g	80107	· Au	. 580
•	5 Washing	ton Ave.	Date		9-1-0	18	
City: Sau		•	-	pler:	Joe		
Well ID	<u>U-2</u>	Well Cond	lition: _	0.k.			
Well Diameter	2 in.	•	LA		Amount B		
Total Depth	39.27 ft.	Thickness Volume		(feet) .17		ter):4	(Gallons) " = 0.66
Depth to Water	26.40 ft.	Factor (V)			.50		
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	VF <u>0.17</u> = <u>2.</u>	Sampling Equipment	t: Dis Ba Pro Gr	sposable Ba iller essure Baile ab Sample ther:	ailer	
Starting Time: Sampling Time: Purging Flow Ra		2 A.m Wate	r Color:	clea		Odor:^0	
Did well de-wate	er?	If yes	s; Time: _		Volun	ne:	(gal.)
Time \	/olume pH (gal.) 7.35	Conductivi µmhos/cm	ry Temp	erature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:03	4 7.38	692		2			<u></u>
11:86	<u>6.5 7.42</u>	<u> </u>	6_ 	<u> </u>			
		LABORATOR	Y INFORMA	ATION			
SAMPLE ID	(#) - CONTAINER	REFRIG. PRE	SERV. TYPE ,	/ LABO		ANAL	
U-2	3V=A	Y	ICL .	SEQUOIA	<u> </u>	TPH(G)/btex/r	ntbe
COLUMN TUTO							
COMMENTS: _							

9/97-fleidat.fm

acility #543		1 .		lob#:		0107		
\ddress: <u>1435</u>	Washing	ton Av	<u>e · </u>)ate:	-	9-1-9	18	
City: Sax	Leandra	•		Samp	ler:	oe		
Well ID	<u>U-3</u>	. Well (Condition:		0. k.			
Well Diameter	2 in	_ ,	ocarbon	D		Amount B		
Total Depth	38.53 to	Volu	ness:	2" = 0.	17		3	(<u>Gallons</u>) 4" = 0.66
Depth to Water	26.33 H	Facto	or (VF)		6" = 1.5	50	12" = 5.80	
	12.2 ×	VF 0.17	<u>2.07</u> x 3	(case	volume) =	Estimated Po	urge Volume:	6-5 [gal.]
Purge Equipment:	Disposable Baile Bailer		Samp Equip		: (Dis	oosable Ba	ailer	
	Stack				Bail			
	Grundfos				Gra	b Sample		
	Other:	 ,			Oth	er:		
Sampling Time:		0 4.M V		:	clea		Odor: <u>/</u>	<i>ગળ</i> ૯
Sampling Time: Purging Flow Rat	10: 4	<u>о А. н</u> V ¹ _{арт.} S	Water Color Sediment De	: escrip	<u>сјеа</u> otion: <u>И</u>	ં ા હ	Odor: ^	∂બ૯
Sampling Time: Purging Flow Rat	1014	<u>о А. н</u> V ¹ _{арт.} S	Water Color	: escrip	<u>сјеа</u> otion: <u>И</u>	ં ા હ	Odor: ^	<i>ગળ</i> ૯
Sampling Time: Purging Flow Rat Did well de-wate Time V	10: 4	<u>да.м</u> у _{дарт.} S	Nater Color Sediment De f yes; Time sctivity	escrip	ciea otion:	ં ા હ	Odor: ^	O अ ए
Sampling Time: Purging Flow Rat Did well de-wate Time Vi 18:25 /0:27	70! A. folume pH (gal.) 2 7.12 4 7.16	Condu Condu mho	Vater Color Sediment De f yes; Time scrivity os/cmx 1 or 7 3	escrip	ciea	ੁੱਕਵ Volun D.O.	Odor: _/\ ne:	्राgal Alkalinity
Sampling Time: Purging Flow Rat Did well de-wate Time V	7014 for? Volume pH (gal.) 7.12	Condu Condu mho	Vater Color Sediment De f yes; Time scrivity os/cmx 1 or 7 3	escrip	ciea otion:	ੁੱਕਵ Volun D.O.	Odor: _/\ ne:	0 व ् (qal Alkalinity
Sampling Time: Purging Flow Rat Did well de-wate Time Vi 18:25)0:27	70! A. folume pH (gal.) 2 7.12 4 7.16	Condu Condu mho	Vater Color Sediment De f yes; Time scrivity os/cmx 1 or 7 3	escrip	ciea	ੁੱਕਵ Volun D.O.	Odor: _/\ ne:	्राgal Alkalinity
Sampling Time: Purging Flow Rat Did well de-wate Time Vi 18:25 /8:27	70! A. folume pH (gal.) 2 7.12 4 7.16	Condu umho	Vater Color Sediment De f yes; Time scrivity os/cmx 1 or 7 3	escrip	ciea dition: M	ੁੱਕਵ Volun D.O.	Odor: _/\ ne:	0 त ् (qai
Sampling Time: Purging Flow Rat Did well de-wate Time V 10:25 /0:27 10:30 SAMPLE ID	10! Atte:	Condu Condu Condu Condu Condu Condu Condu Condu Condu Condu Condu	Nater Color Sediment Def f yes; Tim settivity pos/cmx i or 73 83	escrip	erature TION LABOR	ンイセ Volun D.O. (mg/L)	Odor:	Qal Alkalinity (ppm)
Sampling Time: Purging Flow Rat Did well de-wate Time V 10:25 10:27 10:30 SAMPLE ID	10! A. te:	Condu Condu Condu Condu Condu Condu Condu Condu Condu Condu	Nater Color Sediment De f yes; Tim sectivity os/cmx i vv 25 83 80 TORY INFO PRESERV. TO H CL	escrip	crature TION LABOR SEQUOIA	ンイセ Volun D.O. (mg/L)	Odor:^	Alkalinity (ppm)
Sampling Time: Purging Flow Rat Did well de-wate Time V 10:25 /0:27 10:30 SAMPLE ID	10! Atte:	Condu Condu Condu Condu Condu Condu Condu Condu Condu Condu Condu	Nater Color Sediment Def f yes; Tim settivity pos/cmx i or 73 83	escrip	erature TION LABOR	ンイセ Volun D.O. (mg/L)	Odor:	Alkalinity (ppm)
Sampling Time: Purging Flow Rat Did well de-wate Time V 10:25 /0:27 10:30 SAMPLE ID U-3	10! A. te:	Condu Condu Condu Condu Condu Condu Condu Condu Condu Condu	Nater Color Sediment De f yes; Tim sectivity os/cmx i vv 25 83 80 TORY INFO PRESERV. TO H CL	escrip	crature TION LABOR SEQUOIA	ンイセ Volun D.O. (mg/L)	Odor:^	Alkalinity (ppm)
Sampling Time: Purging Flow Rat Did well de-wate Time V 10:25 /0:27 10:30 SAMPLE ID U-3	10! A. te:	Condu Condu Condu Condu Condu Condu Condu Condu Condu Condu	Nater Color Sediment De f yes; Tim sectivity os/cmx i vv 25 83 80 TORY INFO PRESERV. TO H CL	escrip	crature TION LABOR SEQUOIA	ンイセ Volun D.O. (mg/L)	Odor:^	Alkalinity (ppm)

Facility #5430 Job#: 180107	
Well ID Well Diameter Total Depth Depth to Water Disposable Bailer Stack Grundfos Other: Starting Time: Sampling Time: Starting Time: Starting Time: Starting Time: Starting Time: Starting Time: Disposable Bailer Starting Time: Starting T	
Well ID Well Diameter 2 in. Hydrocarbon Thickness:	
Well ID Well Diameter 2 in. Hydrocarbon Thickness: Volume 2" = 0.17 3" = 0.38 Purge Equipment: Bailer Stack Grundfos Other: Starting Time: Purging Flow Rate: Diameter 2 in. Hydrocarbon Thickness: Volume 2" = 0.17 3" = 0.38 Factor (VF) Starting Time: Purging Flow Rate: Diameter 2 in. Hydrocarbon Thickness: Volume 2" = 0.17 3" = 0.38 Factor (VF) Sampling Equipment: Sampling Equipment: Starting Time: Purging Flow Rate: Diameter 2 in. Hydrocarbon Thickness: Volume 2" = 0.17 Sampling Equipment: Starting Time: Purging Flow Rate: Disposable Bailer Sampling Equipment: Weather Conditions: Weather Conditions: Very Conductivity Volume 2" = 0.00 Factor (VF) Sampling Equipment: Starting Time: Volume 1 in Mod A 2 in Mod A 3 in Mod A 3 in Mod A 3 in Mod A 4 in Mod A 4 in Mod A 4 in Mod A 5 in Mod A	
Total Depth Depth to Water Depth to Water Disposable Bailer Stack Grundfos Other: Starting Time: Sampling Time: Sampling Time: Starting Time: Purging Flow Rate: Disposable Bailer Starting Time: Starting Time: Purging Flow Rate: Disposable Bailer Starting Time: Starting Time: Purging Flow Rate: Disposable Bailer Sampling Equipment: Disposable Bailer Bailer Pressure Bailer Pressure Bailer Other: Starting Time: Starting Time: Starting Time: Disposable Bailer Sampling Equipment: Disposable Bailer Pressure Bailer Other: Starting Time: Starting Time: Starting Time: Starting Time: Starting Time: Other: Starting Time: Starting Time: Other: Starting Time: Other: Starting Time: Starting Time: Starting Time: Starting Time: Other: Starting Time: Starting Time: Other: Starting Time: Starting Time: Other: Starting Time: Other: Starting Time: Starting Time: Other: Odor: Odor: Odor: Odor: Odor: Odor: Odor: Other: Time Volume Starting Time: Odor: Odor: Odor: Odor: Other: Time Other: Odor: Other: Odor: Other: Other: Odor: Other: Oth	en gang () d
Total Depth Depth to Water 26.56 ft. Volume 2° = 0.17 3° = 0.38 Factor (VF) 6° = 1.50 12° = 5.80 12.47 x VF 6.17 = 2.12 x 3 (case volume) = Estimated Purge Volume: Purge Disposable Bailer Stack Purge Equipment: Bailer Equipment: Disposable Bailer Pressure Bailer Grundfos Grab Sample Other: Starting Time: 9.40 Weather Conditions: Cleck Campling Time: Volume: Volume Purging Flow Rate: 1 gpm. Sediment Description: Ac N & Disposable Bailer Pressure Bailer Grab Sample Other: Starting Time: 9.40 Weather Conditions: Cleck Campling Flow Rate: 1 gpm. Sediment Description: Ac N & Disposable Bailer Pressure Bailer Pressure Bailer Grab Sample Other: Starting Time: 9.40 Weather Conditions: Cleck Campling Flow Rate: 1 gpm. Sediment Description: Ac N & Disposable Bailer Pressure Bailer Pressur	
Depth to Water 26.56 ft. Factor (VF) 6" = 1.50 12" = 5.80 12.47	{Gallons 4* = 0.66
Purge Disposable Bailer Stack Stack Bailer Pressure Bailer Pressure Bailer Grundfos Grab Sample Other: Starting Time: 9.40 Weather Conditions: Clear Odor: A Water Color: Clear Odor: A Purging Flow Rate: I gpm. Sediment Description: ACA E If yes; Time: Volume: Time Volume pH Conductivity Temperature D.O. ORP (gal.) 7.85 G.38 G.58 (mg/L) (my/L) (mV) 4.49 4 7.39 G.40 G.59	
Sampling Time: 10:04:01 Water Color: Clear Odor: A Purging Flow Rate: 1 gpm. Sediment Description: 40 4 2 Did well de-water? If yes; Time: Volume: Volume: Time Volume pH Conductivity Temperature D.O. ORP (gal.) 7.85 G.35 G.58 Q'49 4 7.39 G-40 G5.9	6. 5 (gal.)
$\frac{9.46}{9.49}$ $\frac{2}{4}$ $\frac{7.39}{9.40}$ $\frac{6.40}{65.9}$ $\frac{65.8}{1.39}$	<i>ી</i> તિલ્
	Alkalinity (ppm)
LABORATORY INFORMATION SAMPLE ID (#) - CONTAINER REFRIG. PRESERV. TYPE LABORATORY ANA U-a 3vor Y HCL SEQUOIA TPH(G)/btex	LYSES /mtbe
	æ
COMMENTS:	

Client/ Facility <u>#54</u>	3 <i>0</i>				Job#:	<u>i</u> ;	80107	·	
Address: <u>193</u>		36.201	by A	15.	Date:		9-1-0	18	
City: San		, ,	•		Samp	ler: _	.)oe		
Well ID	U	.5_	Wel	l Condition:	(o. k.			
Well Diameter		2 in.	•	rocarbon :kness:	D	(faat)	Amount B		(Gallons)
Total Depth	38	.5/ ft.		lume	2" = 0.	17	3" = 0.38	4	" = 0.66
Depth to Water		5-27 ft.	Fac	ctor (VF)	.	6" = 1	1.50	12" = 5.80	
Purge Equipment:	Dispose Bailer Stack Suction Grundf	able Bailer		Sam		: Di Ba Pr G	sposable Ba ailer essure Baile rab Sample ther:	er ·	
Starting Time:		8: 26		Weather Co	onditio	ns: _	clear		
Sampling Time		8:45.					-	Odor: <u>^</u>	
Purging Flow R								ne:	
Time \$ 133	Volume (gal.)	рН 7.60	Cone μm	ductivity hos/cmx 1 or 3 6			D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
8:35	5	7.51	7	30	6	_			
8:38	-7 -	7.53	_ <u>_ 7.</u>	28	6:	5.7_	-		
								·	
SAMPLE ID	(#) - CO	NTAINER	LABOF	RATORY INF			DRATORY	ANAL	YSES
U-5		v Ar	Y	HCL		SEQUOI	A	TPH(G)/btex/	mtbe
		<u> </u>		<u> </u>	_	·			
COMMENTS:				<u></u>		•			

Facility #54	130		Job	بر: <u>ن</u>	80107		
Address: 19	35 Washing	tou Ave	· Dat	te:	9-1-0	18	
	Leandra	' •		mpler: <u> </u>)oe		
Well ID	U-6	_ Well Co	ondition:	0.k.			stree*?;
Well Diameter	2 ir		arbon	<i>u</i>	Amount Ba		(0-11)
Total Depth	40. N +	t. Volume		= 0.17		er):4'	
Depth to Water	r <u> </u>	t.	(41)			12 - 5.60	
Purge Equipment:	Disposable Baile Bailer Stack Suction Grundfos Other:		X 3 (ca Samplin Equipme	g ent: Dis Ba Pro Gr	sposable Ba iller essure Baile ab Sample ther:	îler r	(gal.)
		Wagpm. Se	ater Color: _ diment Desc	cription:	NONE	Odor:^ <i>0</i>	પ <u>ાટ</u>
Time	Volume pH (gal.)		ivity Ter		D.O. (mg/L)	ORP	Alkalinity (ppm)
	AN CONTAINED		ORY INFORI		BATORY	ANAL	
SAMPLE ID	(#) - CONTAINER	REFRIG. P	HCL	SEQUOIA	· · · · · · · · · · · · · · · · · · ·	TPH(G)/btex/r	
<i></i>	3 4 3 71						
	11. <i>tl</i>	<u> </u>	1	. :11		1.1	
COMMENTS:	Well wa	s pared	n Ve /	with	asph	a IT ·	
							

acility <u>#5436</u> ddress: <u>1435</u> lity: <u>Saw l</u>	Washing	tou A.	رد. Dat		0 10 7	. –	
	,	1 - 94 11		-	9 - 1 - 9	8	
lity: <u>Sau l</u>		•			_	<u> </u>	
	Leandla		Sar	npler: 🗔	08		<u> </u>
							<u></u>
Well ID	<u>U-7</u>	Well	Condition:	0. k.		 	
Vell Diameter	2 in.		rocarbon kness:	~	Amount Ba		(Gallons)
otal Depth	37.78 ft.			0.17			" = 0.66
epth to Water	26.04 ft.		tor (VF)		50		
		_	= <u>2.00</u> x 3 (ca		Estimated Pu	rge Volume: _	6 (gal.)
Purge	Disposable Bailer Bailer		Samplin Equipme		posable Ba	iler	
Equipment:	Stack		. Equip	Bai	er		
- (Suction				ssure Baile b Sample	r	
	Grundfos Other:				ner:		
	e:	<u>.map</u>	Water Color: _ Sediment Desc	ription: 💆	IONZ		
Did well de-water	?		If yes; Time:		Volum	ne:	(ga)
	olume pH gal.) 7.5	Cond µml	nos/cmx ^{i oro}	nperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
	4 7.26	7.	48 (66-0			
9:15	6 7.21	<u> 7.</u>	<u> 52 - 4</u>	55·7 <u> </u>			
	<u> </u>						
					<u></u>		
· · · · · · · · · · · · · · · · · · ·		LABOR	ATORY INFOR	MATION			
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	.*	RATORY		YSES
U-7	3 V 0 A	Y	HCL	SEQUOIA		TPH(G)/btex/	mtbe
"	2 VO A	1	<u>, , , , , , , , , , , , , , , , , , , </u>			8010	
	<u>-</u>					· · · · · · · · · · · · · · · · · · ·	
				4			

9/97-fleidat.fm

unain-o	<u> </u>	υĽ	S	00	1	_	kt	JU	U	l]
---------	----------	----	---	----	---	---	----	----	---	---	---

		_
		,
T	osco	

Teace Marketing Company 2003 Crow Caryos PL, Sta. 403 San Flamm, Callerrie 84363

Foolity Number UNOCAL SS#5430
Facility Address 1935 WASHINGTON AVE. SAN LEANDRO, CA.
Facility Address 19.13 WASH 1977 AVEL
Consultant Project Number 180107.85
Consultant Nome Gettler-Ryan Inc. (G-R Inc.)
Address 6747 Sierra Court, Suite J. Dublin, CA 94568
Address 6747 Sterra Court, autre 11, mile 11,
Project Contact (Name) Deanna L. Harding
(Phone) 510-551-7555 (Fox Number) 510-551-7888
(Phone) 310 331 1222 (100)

Oliuni or easiest	
Corleys (Nome) MS, TINA BERRY	_ 1
Contact (Name) MS. TINA BERRY (Phone) 510-2772321	
Laboratory Name Sequoia Analytical	—·
h o to thinker	
Samples Collected by (Name) JOE AJEMIAN	—
Cotteollon Date 9-1-98	-
Signature Dan Quine	

		Ļ _.	<u>)</u>	(8)	one) J E	<u> </u>						,1	Analys	• To∘B	• Perfor	med C	1009	608			DO NOT BILL
Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soll A = Air W = Water C = Chercool	Type C = Grab C = Composite D = Discrete	Тглө	Sample Preservation	load (Yes or No)	TPH Gat BTEX windTBE (8016)	TPH Dissel (8015)	Oil and Gream (5520)	Purpeable Halocarborn (8010)	Purpeable Aromatics (8020)	1	B) CE	Hetols C4CrPb In Mi (ICAP or M)						TB-LB ANALYSIS
B-LB	١	VOA	w	-		# <i>c</i> _	4	<u> </u>				<u> </u>	 		<u> </u>	-		٠.,	-		
U-1	2	34 VU4	/	G.	12:05 P. W	,	/			ļ	· ·/		ļ <u>·</u>	 	├	<u></u>	 	 	<u> </u>		
U-2	3	1	/	/_	11:12 A. J		/		<u> </u>	 	 _ _		 	-	-						
U-3	И	_	/	,	10:40 A.w				<u></u>	╂	<u> </u>		╁─┈	 	 	 	ļ — <u>-</u>		 	· · · · ·	
U-3 U-4 U-5	<_	/	1.	/	10:00 A.y	<i>;</i>	1	/		 -	 			╁			 		<u></u>		
V-5	6	/			8145			1		}	1	 	-	 	 		<u> </u>	1		-	
U-7	7			/_	7:25			 		 	<u> </u>			-	+-		1				
	<u> </u>	*		<u> </u>	<u> </u>		ļ		-	┨──		┧──	-	-	 			1	1		
	\ <u> </u>	ļ	 		ļ					-	-	\			- 	 	-	1			
		<u> </u>	 		ļ <u> </u>	 	<u> </u>		-	 	 			1							
		-	ļ	 -	 -				-	-		-	-	1-	1				1		
	<u> </u>	 	 	-	 	<u> </u>	 		 		-	┧		_	_						
	<u> </u>	ļ	1		-	1			<u> </u>	-	-		_	1 -							
ilingulahed B	y (Signoture)	1	On	genization —R Inc		 	Pro Re	oelyed I	By (Slgi	nature)	لـ		Organiz	otion		le/Ilme	 -		Turn A	2	ime (Circle Cholos)
elinquished E	y (Signature))		ganization	 -	Dots/Time		celved					Organiz	allon		te/Ilme				5	8 Hrs. Days Days contracted
elinquiahed I	y (Signature)	0,	ganization	,	Date/Time	R	ooloved	tor la	ling.	By (Slg	notur•)			ON ON	10/11m	72/0			//a _(contracted



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

SEP 23 1223

GPT1 70.57 1/1/1/1/1/

6747 Sierra Court Suite J

Dublin, CA 94568

Attention: Deanna Harding

Unocal 5430, 180107.85 -Client Proj. ID:

Sample Descript: TB-LB Matrix: LIQUID

Analysis Method: 8015Mod/8020 Lab Number: 9809008-01

Sampled: 09/01/98

Received: 09/01/98

Analyzed: 09/08/98 Reported: 09/20/98

Instrument ID: HP9

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Total Full geable Tetroleum Try diodal Sono (TTTT) That STEET and The Steet In the						
Analyte	Detection Limit ug/L	Sample Results ug/L				
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	50 2.5 0.50 0.50 0.50 0.50	N.D. 5.0 N.D. N.D. N.D. N.D.				
Surrogates Trifluorotoluene	Control Limits % 70 130	% Recovery 99				

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

SEQUOIA ANALYTICAL - ELAP #1271

Tod Granicher Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Dublin, CA 94568
Attention: Deanna Harding

Client Proj. ID: Unocal 5430, 180107.85

Sample Descript: U-1
Matrix: LIQUID

Analysis Method: 8015Mod/8020 Lab Number: 9809008-02 Sampled: 09/01/98 Received: 09/01/98

Analyzed: 09/08/98 Reported: 09/20/98

Instrument ID: HP9

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	50 2.5 0.50 0.50 0.50 0.50	0.50
Surrogates Trifluorotoluene	Control Limits % 70 130	% Recovery 96

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

SEQUOIA ANALYTICAL - ELAP #1271

Tod Granicher Project Manager



Redwood City, CA 94063 Wainut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J

Client Proj. ID: Unocal 5430, 180107.85 Sample Descript: U-1

Sampled: 09/01/98 Received: 09/01/98

Dublin, CA 94568

Matrix: LIQUID

Attention: Deanna Harding

Analysis Method: EPA 8010 Lab Number: 9809008-02

Analyzed: 09/14/98 Reported: 09/20/98

QC Batch Number: GC091498OVOA24A

Instrument ID: GCHP24_2

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/L	Sa	ample Results ug/L
Bromodichloromethane	0.50 0.50		N.D. N.D.
Bromoform	1.0		N.D.
Bromomethane	0.50		N.D.
Carbon Tetrachloride	0.50		N.D.
Chlorobenzene	1.0		N.D.
Chloroethane	0.50		N.D.
Chloroform	1.0		N.D.
Chloromethane	0.50		N.D.
Dibromochloromethane	0.50		N.D.
1,2-Dichlorobenzene	0.50		N.D.
1,3-Dichlorobenzene 1,4-Dichlorobenzene	0.50		N.D.
1,4-Dichlorobenzene 1,1-Dichloroethane	0.50		N.D.
1,2-Dichloroethane	0.50		8.9
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.
Surrogates	Control Limits %		Recovery
4-Bromofluorobenzene	70 1	30	84

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher

Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865

FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J

Attention: Deanna Harding

Dublin, CA 94568

Unocal 5430, 180107.85 Client Proj. ID:

Sample Descript: U-2 Matrix: LIQUID

Analysis Method: 8015Mod/8020

Lab Number: 9809008-03

Sampled: 09/01/98 Received: 09/01/98

Analyzed: 09/08/98 Reported: 09/20/98

Instrument ID: HP9

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	50 2.5 0.50 0.50 0.50 0.50	N.D. 25 N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene	Control Limits % 70 130	% Recovery 99

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

SEQUOIA ANALYTICAL -ELAP #1271

Tod Granicher Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 79Z-034Z

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal 5430, 180107.85

Sample Descript: U-3 Matrix: LIQUID

Analysis Method: 8015Mod/8020 Lab Number: 9809008-04

Sampled: 09/01/98 Received: 09/01/98

Analyzed: 09/08/98

Reported: 09/20/98

instrument ID: HP9

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	50 2.5 0.50 0.50 0.50 0.50	N.D. 6.1 N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene	Control Limits % 130	% Recovery 97

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

SEQUOIA ANALYTICAL - ELAP #1271

Tod Granicher Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal 5430, 180107.85

Sample Descript: U-3

Matrix: LIQUID Analysis Method: EPA 8010 Lab Number: 9809008-04 Sampled: 09/01/98 Received: 09/01/98

Analyzed: 09/14/98 Reported: 09/20/98

QC Batch Number: GC091498OVOA24A

Instrument ID: GCHP24_2

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/L	Sample Results ug/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.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-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. N.D.
trans-1,3-Dichloropropene	0.50	N.D. N.D.
Methylene chloride	5.0	N.D. N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D. N.D.
Tetrachloroethene	0.50	N.D. N.D.
1,1,1-Trichloroethane	0.50	N.D. N.D.
1,1,2-Trichloroethane	0.50	N.D. N.D.
Trichloroethene	0.50	N.D. N.D.
Trichlorofluoromethane	0.50	N.D. N.D.
Vinyl chloride	1.0	N.U.
Surrogates	Control Limits %	% Recovery
4-Bromofluorobenzene	70 130	91

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

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568

Client Proj. ID: Sample Descript: U-4

Unocal 5430, 180107.85

Sampled: 09/01/98

Matrix: LIQUID

A 1860

Received: 09/01/98

Attention: Deanna Harding

Analysis Method: 8015Mod/8020 Lab Number: 9809008-05

Analyzed: 09/08/98 Reported: 09/20/98

Instrument ID: HP9

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	50 2.5 0.50 0.50 0.50 0.50	N.D. N.D. N.D. N.D. N.D. N.D.
Surrogates Trifluorotoluene	Control Limits % 130	% Recovery 92

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

SEQUOIA ANALYTICAL - ELAP #1271

Tod Granicher Project Manager



Redwood City, CA 94063 Wainut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal 5430, 180107.85

Sample Descript: U-5

Matrix: LIQUID

Analysis Method: 8015Mod/8020

Lab Number: 9809008-06

Sampled: 09/01/98 Received: 09/01/98

> Analyzed: 09/08/98 Reported: 09/20/98

Instrument ID: HP9

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L N.D. N.D. N.D. N.D. N.D. N.D.	
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	50 2.5 0.50 0.50 0.50 0.50		
Surrogates Trifluorotoluene	Control Limits % 130	% Recovery 101	

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

SEQUOIA ANALYTICAL - ELAP #1271

Tod Granicher Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568

Attention: Deanna Harding

Unocal 5430, 180107.85 Client Proj. ID:

Sample Descript: U-7

Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9809008-07

Sampled: 09/01/98 Received: 09/01/98

Analyzed: 09/08/98 Reported: 09/20/98

Instrument ID: HP9

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE						
Analyte	Detection Limit ug/L	Sample Results ug/L				
TPPH as Gas Methyl t-Butyl Ether Benzene Toluene Ethyl Benzene Xylenes (Total) Chromatogram Pattern:	0.5	88 2.9 N.D. N.D. N.D. N.D.				
Surrogates Trifluorotoluene	Control Limits % 70 130	% Recovery 101				

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

SEQUOIA ANALYTICAL - ELAP #1271

Tod Granicher Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865

FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568

Client Proj. ID:

Unocal 5430, 180107.85

Sampled: 09/01/98 Received: 09/01/98

Sample Descript: U-7 Matrix: LIQUID Analysis Method: EPA 8010

Lab Number: 9809008-07

Analyzed: 09/14/98 Reported: 09/20/98

Attention: Deanna Harding

QC Batch Number: GC091498OVOA24A Instrument ID: GCHP24_2

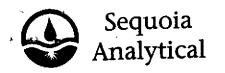
Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/L	Sample Results ug/L	
Bromodichloromethane Bromoform Bromomethane Carbon Tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane Dibromochloromethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethene cis-1,2-Dichloroethene trans-1,2-Dichloroethene trans-1,3-Dichloropropene trans-1,3-Dichloropropene Methylene chloride 1,1,2,2-Tetrachloroethane Tetrachloroethene 1,1,1-Trichloroethane Trichloroethene Trichloroethene Trichloroethene Trichloroethene Trichloroethene	0.50 0.50 1.0 0.50 1.0 0.50 1.0 0.50 1.0 0.50 0.5	N.D. N.D. 2.0 N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.	
Vinyl chloride Surrogates 4-Bromofluorobenzene	1.0 Control Limits % 70 130	% Recovery	

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

SEQUOIA ANALYTICAL -ELAP #1210

Tod Granicher Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954

(650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865

FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court, Ste. J Dublin, CA 94568

Attention: Tim Koomey

Client Project ID: Uncoal 5430, 1800107.85

QC Sample Group: 9809008

Reported: Sep 21, 1998

QUALITY CONTROL DATA REPORT

		QUALITI	CONTROL DA	I A REPORT			
Matrix:	Liquid						
Method: E	PA 8010/8020), 601/602					
Analyst:	L. Kim						
ANALYTE	1,1-DCE	TCE	Chlorobenzene	Benzene	Toluene	Chlorobenzene	
QC Batch #: C	GC0914980VO	A24A					
Sample No.: 9	809438-01						
Date Prepared:	9/14/98	9/14/98	9/14/98	9/14/98	9/14/98	9/14/98	
Date Analyzed:	9/14/98	9/14/98	9/14/98	9/14/98	9/14/98	9/14/98	
Instrument I.D.#:	gchp24_2	gchp24_2	gchp24_2	gchp24_2	gchp24_2	gchp24_2	44
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
Conc. Spiked, ug/L:	25	25	25	25	25	25	
Matrix Spike, ug/L:	20	21	25	24	25	24	
% Recovery:	80	84	100	96	100	96	
Matrix							
Spike Duplicate, ug/L:	22	22	25	26	25	25	
% Recovery:	88	88	100	104	100	100	
Relative % Difference:	9.5	4.7	0.0	8.0	0.0	4.1	
RPD Control Limits:	0-50	0-50	0-50	0-50	0-50	0-50	
LCS Batch#: \	VWLCS091498	ВА					
Date Prepared:	9/14/98	9/14/98	9/14/98	9/14/98	9/14/98	9/14/98	
Date Analyzed:	9/14/98	9/14/98	9/14/98	9/14/98	9/14/98	9/14/98	
Instrument 1.D.#:	gchp24.2	gchp24.2	gchp24.2	gchp24.2	gchp24.2	gchp24.2	
Conc. Spiked, ug/L:	25	25	25	25	25	25	
Recovery, ug/L:	21	21	24	25	25	25	
LCS % Recovery:	84	84	96	100	100	100	
Percent Recovery Cont	trol Limits:						
MS/MSD	60-140	60-140	60-140	60-140	60-140	60-140	

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

70-130

Please Note:

70-130

65-135

SEQUOIA ANALYTICAL

LCS

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 matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

70-130

70-130

70-130

Tod Granicher Project Manager



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategles 6747 Sierra Court, Ste J Dublin, CA 94568 Client Project ID:

Unocal 5430, 180107.85

Matrix:

Liquid

Attention: Deanna Harding

Work Order #:

01-07

Reported:

Sep 22, 1998

QUALITY CONTROL DATA REPORT

9809008

Analyte:	Benzene	Toluene	Ethyl	Xylenes	Gas
•			Benzene		
QC Batch#:	GC090898802009A	GC090898802009A	GC090898802009A	GC090898802009A	GC090898802009A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030				
Analyst:	J. Minkel				
MS/MSD #:	8090163	8090163	8090163	8090163	8090163
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/8/98	9/8/98	9/8/98	9/8/98	9/8/98
Analyzed Date:	9/8/98	9/8/98	9/8/98	9/8/98	9/8/98
strument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 μg/L	20 μg/L	20 μg/L	60 μg/L	280 µg/L
Result:	16	18	19	58	260
MS % Recovery:	80	90	95	97	93
Dup. Result:	17	18	20	61	260
MSD % Recov.:	85	90	100	102	93
RPD:	6.1	0.0	5.1	5.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS090898	LCS090898	LCS090898	LCS090898	LCS090898
Prepared Date:	9/8/98	9/8/98	9/8/98	9/8/98	9/8/98
Analyzed Date:	9/8/98	9/8/98	9/8/98	9/8/98	9/8/98
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 μg/L	20 μg/L	20 μg/L	60 μg/L	280 μg/L
LCS Result:	10	21	23	71	270
LCS % Recov.:	100	105	115	118	96

ſ	MS/MSD					
1	LCS	70-130	70-130	70-130	70-130	60-140
-	Control Limits					

SEQUOIA ANALYTICAL ELAP 1271

Tod Granicher Project Manager 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 matrix spike is an allquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9809008.GET <1>



Redwood City, Walnut Creek, C/-Sacramento, CA 9 Petaluma, CA 94954 FAX (650) 364-9233 FAX (925) 988-9673 FAX (916) 921-0100 FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568

Attention:

Deanna Harding

Client Proj. ID: Unocal 5430, 180107.85

Lab Proj. ID: 9809008

R. Deived: 09/01/98

Reported: 09/20/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of μ pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.)

SEQUOIA ANALYTICAL

Tod Granicher Project Manager