ENVIRONMENTAL PROTECTION

DD MAY -9 AM 10: 35

April 20, 2000 G-R #:180107

TO:

Mr. David B. De Witt

Tosco Marketing Company

2000 Crow Canyon Place, Suite 400

San Ramon, California 94583

FROM:

Deanna L. Harding

Project Coordinator Gettler-Ryan Inc.

6747 Sierra Court, Suite J Dublin, California 94568 CC:

Mr. Tim Ripp

IT Corporation

1921 Ringwood Avenue San Jose, California 95131

RE: T

Tosco (Unocal) SS #5430

1935 Washington Avenue San Leandro, California

## WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	April 17, 2000	Groundwater Monitoring and Sampling Report Semi-Annual 2000 - Event of March 9, 2000

#### COMMENTS:

This report is being sent to you for your review/comment, prior to being distributed on your behalf. If no comments are received by May 4, 2000, this report will be distributed to the following:

#### Enclosure

cc: Mr. Scott Seery, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Alameda, CA 94501 Mr. Michael Bakaldin, City of San Leandro Fire Dept., 835 East 14th Street, San Leandro, CA 94577



PROTECTION 00 APR 24 PM 4: 28

**IT Corporation** 1921 Ringwood Avenue San Jose, CA 95131-1721 Tel. 408.453.7300 Fax. 408.437.9526

A Member of The IT Group

April 19, 2000 Project 311-038.1A

Mr. Chuck Headlee Regional Water Quality Control Board San Francisco Bay Region 1515 Clay Street, Suite 1400 Oakland, California 94612

Re: 76 Service Station 5430

Quarterly Summary Report
First Quarter 2000

Dear Mr. Headlee:

As directed by Mr. David DeWitt of Tosco Marketing Company, IT Corporation (IT) 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) 453-7300.

Sincerely,

IT Corporation

Timothy L. Ripp Project Geologist

Enclosure

cc: Mr. David DeWitt, Tosco Marketing Company

Mr. Tom Peacock, Alameda County Environmental Health Care Services

## Quarterly Summary Report First Quarter 2000

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. 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.

## RECENT QUARTER ACTIVITIES

Semi-annual groundwater monitoring and sampling activities were performed March 2000.

### **NEXT QUARTER ACTIVITIES**

The report documenting the March 2000 groundwater monitoring and sampling activities will be submitted in April 2000.

### CHARACTERIZATION/REMEDIAL STATUS

Soil contamination delineated? Yes.

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**: IT Corporation

April 17, 2000 G-R Job #180107

Mr. David B. De Witt Tosco Marketing Company 2000 Crow Canyon Place, Suite 400 San Ramon, California 94583

RE:

Semi-Annual 2000 Groundwater Monitoring & Sampling Report

Tosco (Unocal) Service Station #5430

1935 Washington Avenue San Leandro, California

Dear Mr. De Witt:

This report documents the semi-annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On March 9, 2000, field personnel monitored and sampled seven wells (U-1 through U-7) at the above referenced site.

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.

No. 5577

Sincerely,

Deanna L. Harding
Project Coordinator

Stephen J. Carter

Senior Geologist, R.G. No. 5577

Figure 1:

Potentiometric Map

Figure 2:

Concentration Map

Table 1: Attachments:

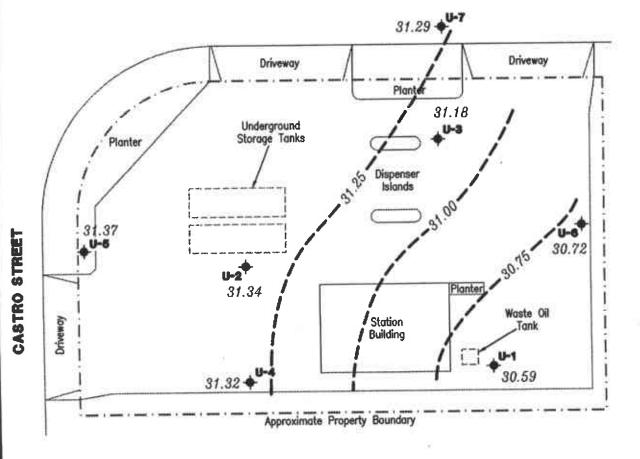
Groundwater Monitoring Data and Analytical Results
Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

5430.qml

## WASHINGTON AVENUE



## **EXPLANATION**

Groundwater monitoring well

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

Groundwater elevation contour, dashed where inferred.

Approximate groundwater flow direction at a gradient of 0.01 FL/Ft.





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



Gettier - Ryan Inc.

6747 Sierra Ct., Suite J Dublin, CA 94568 (925) 551-7555

POTENTIOMETRIC MAP

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

DATE

March 9, 2000

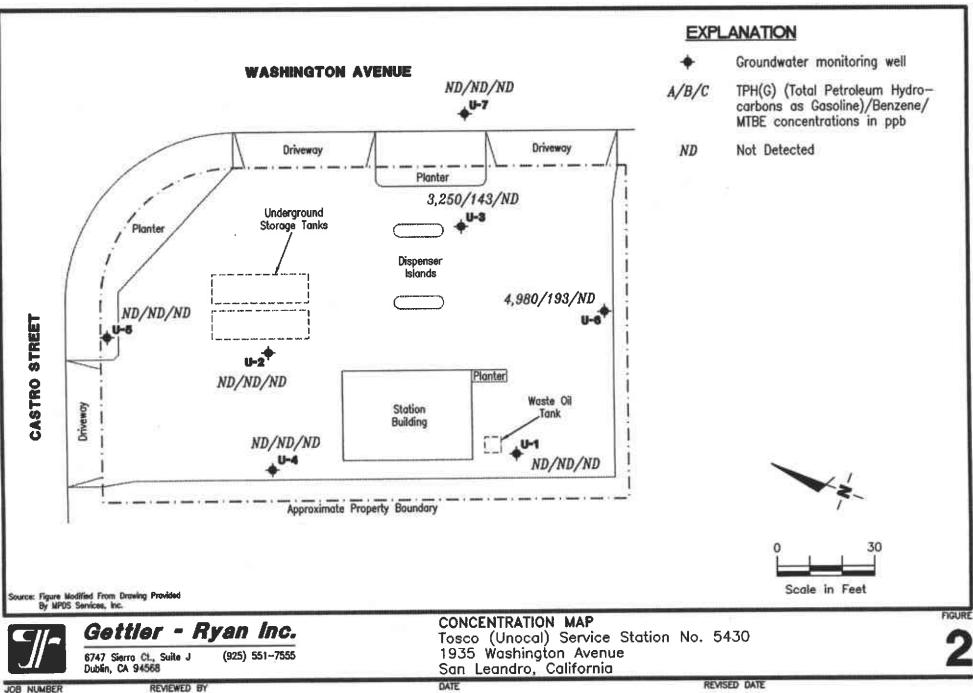
57

FIGURE

JOB NUMBER 180107

REVIEWED BY

REVISED DATE



March 9, 2000

180107

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.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-1												
56.58	08/13/93 <sup>1</sup>	31.60	24.98	$50^{2}$	310	0.84	ND	2.6	1.0			
	09/07/93	31.60	24.98									<del></del>
56.10	12/16/93 <sup>1</sup>	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									
	03/25/941	31.07	25.03	57 <sup>3</sup>	58	0.63	0.79	ND	0.65			
	05/18/94	31.76	24.34									
	06/19/94 <sup>1</sup>	32.26	23.84	61 <sup>3</sup>	51	ND	1.4	ND	2.7		ND	7.4
	07/27/94	33.07	23.03									
	08/18/94	33.50	22.60									
	09/15/94 <sup>1</sup>	33.93	22.17	83 <sup>3</sup>	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						<del></del> ,			
	12/06/94 <sup>1</sup>	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 <sup>3</sup>	380	20	ND	ND	10			
	06/20/95	28.20	27.89	$170^{3}$	500	50	ND	ND	4.4			
	09/18/95	30.65	25.44	72.00	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	<del></del>	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		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
	03/02/99	26.83	29.26		ND	ND	ND	ND	ND	ND	ND	4.5
	09/07/99	28.03	28.06		ND	ND	ND	ND	ND	ND	ND	ND
	03/09/00	25.50	30.59		ND	ND	ND	ND	ND	ND	ND	1.32

Table 1
Groundwater Monitoring Data and Analytical Results

Well ID/	A Didoconoci	Date	DTW	GWE	TPH(D)	TPH(G)	В	T	E	X	MTBE	1,2-DCB	1,2-DCA
TOC*			(ft.)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-2													
55.77		08/13/93	30.87	24.90		1,400	ND	ND	ND	ND			
		09/07/93	30.87	24.90									
55.27		12/16/93	32.19	23.08		330	1.7	ND	11	8.5			
		01/13/94	32.13	23.14									
		02/09/94	33.50	21.77									
		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 <sup>5</sup>	44	ND	ND	ND		ND	0.66
		10/11/ <b>94</b>	32.35	22.92						W-rat			
		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		<del></del>
		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		
		03/02/99	25.48	29.81		ND	ND	ND	ND	ND	16		
		09/07/99	26.51	28.78		ND	ND	ND	ND	ND	20		
		03/09/00	23.95	31.34		ND	ND	ND	ND	ND	ND		

Table 1
Groundwater Monitoring Data and Analytical Results

Well ID/	Date	DTW	GWE	TPH(D)	TPH(G)	В	T	Ð	X	MTBE	1,2-DCB	1,2-DCA
TOC*		(ft.)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-3												
55.66	08/13/93	30.70	24.96		23,000	1,000	ND	1,700	1,600			
	09/07/93	30.70	24.96									
55.24	12/16/93	32.08	23.16		15,000	570	ND	940	670			**
	01/13/94	31.98	23.26									
	02/09/94	33.82	21.42								<del></del>	
	03/25/94	30.03	25.21		18,000	560	40	1,000	770		ND	480
	05/18/94	30.66	24.58						<del></del>			
	06/19/94	31.19	24.05		17,000	580	ND	1,300	90		ND	410
	07/27/94	31.98	23.26									
	08/18/94	32.39	22.85									
	09/15/94	32.84	22.40		12,000	370	ND	970	610		ND	420
	10/11/94	32.20	23.04					<del>-</del> -				
	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 7		
	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	<del>:-</del>	8,800	510	ND	600	830	ND		
	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
	03/02/99	25.50	29.73		2,100	110	2.6	$\mathrm{ND}^9$	240	39	ND	6.7
	09/07/99 <sup>13</sup>	27.63	27.60		$2,400^{12}$	67	ND <sup>9</sup>	150	150	ND <sup>9</sup>	ND	1.1
	03/09/00	24.05	31.18		$3,250^{12}$	143	ND <sup>9</sup>	59.0	326	${ m ND}^9$	ND <sup>9</sup>	ND <sup>9</sup>

Table 1
Groundwater Monitoring Data and Analytical Results

Well ID/ TOC* U-4 55.39		(ft.)	(ft.)	(ppb)	(ppb)	Tribudado de Avenir	and the second second	s abusa di aprominina di G	กรับการและเพลงกรรค ตั้งกล่างให้ทั้งได้ก		<ul> <li>In the control of the problem of the control of the c</li></ul>	se a contra la comprene de la compre
U-4					(PPU)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
					,							
55.39											3115	MD
	03/14/95	26.52	28.87		490	3.2	2.1	0.79	1.2		ND	ND
	06/20/95	26.90	28.49		ND	ND	ND	ND	1.5	 6		
	09/18/95	29.79	25.60		ND	ND	ND	ND	ND	<sup>6</sup>		
	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		
	06/04/96	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		
	03/02/99	25.62	29.77		110	0.89	0.53	ND	0.79	4.9		
	09/07/99	26.82	28.57		ND	ND	ND	ND	ND	3.0		
	03/09/00	24.07	31.32		ND	ND	0.615	ND	1.05	ND		
U-5												
54.18	03/14/95	25.20	28.98		ND	ND	ND	ND	1.2		ND	ND
54.10	06/20/95	25.60	28.58		ND	ND	ND	ND	1.6			
	09/18/95	28.55	25.63		ND	ND	ND	ND	0.66			
	12/14/95	29.94	24.24		ND	ND	ND	ND	ND		ND	ND
	03/06/96	24.03	30.15		ND	ND	ND	ND	ND	ND		
	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		44.44
	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		
	03/02/99	24.35	29.83		ND	ND	ND	ND	ND	ND		
	09/07/99	26.39	27.79	-	ND	ND	ND	ND	ND	ND		
	03/09/00	20.39 22.81	31.37		ND	ND	ND	ND	ND	ND		

Table 1
Groundwater Monitoring Data and Analytical Results

Well ID/	Date	DTW	GWE	TPH(D)	TPH(G)	В	Т	Ē	X	MTBE	1,2-DCB	1,2-DCA
TOC*		(fi.)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
TI C												
<b>U-6</b> 55.36	03/14/95	26.94	28.42	**	14,000	170	36	790	1,500		ND	210
33.30	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		
		31.32	24.04		15,000	240	ND	1,400	1,700	7	ND	370
	12/14/95				2,400	54	ND	170	250	ND		
	03/06/96	25.71	29.65			83	ND	400	520	46		
	06/04/96	26.52	28.84		4,600			690	600	95		
	09/06/96	29.41	25.95		12,000	180	6.4					
	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	INACCESSIBLE		VER)			0					
	03/02/99	25.95	29.41		3,900	240	$ND_{\alpha}^{9}$	650	430	45		
	09/07/99	28.19	27.17		32012	14	ND <sup>9</sup>	5.2	$ND^9$	10		
	03/09/00	24.64	30.72		$4,980^{12}$	193	$ND^9$	520	365	$ND^9$		
U-7												
55.05	03/14/95	26.13	28.92		ND	ND	ND	ND	ND		ND	ND
33.03	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	<b>-</b>	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
	03/08/97		24.89		ND	ND	ND	ND	ND	ND	ND	ND
		30.16					ND ND	ND	ND	ND	ND	ND
	03/09/98	18.91	36.14		ND	ND		ND ND	ND ND	2.9	ND	ND
	09/01/98 <sup>10</sup>	26.04	29.01		88	ND	ND				ND ND	ND
	03/02/9911	25.30	29.75		ND	ND	ND	ND	ND	ND		
	09/07/99	27.27	27.78		ND	ND	ND	ND	ND	ND	ND	ND
	03/09/00 <sup>14</sup>	23.76	31.29		ND	ND	ND	ND	1.09	ND	ND	ND

# Table 1 Groundwater Monitoring Data and Analytical Results

Well ID/	Date	DT	w	GWE	TPH(D)	TPH(G)	В	T	E	X	MTBE	1,2-DCB	istički i kadini in kazan in ir
TOC*		(ft.	)	(ft.)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
Trip Blank													
TB-LB	03/09/98					ND	ND	0.53	ND	ND	ND		
	09/01/98					ND	ND	ND	ND	ND	5.0		
	03/02/99	***				ND	ND	ND	ND	ND	ND		
	09/07/99					ND	ND	ND	ND	ND	ND		
	03/09/00					ND	ND	ND	ND	ND	ND		

#### 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 GWE = Groundwater Elevation E = Ethylbenzene

ND = Not Detected

TPH(D) = Total Petroleum Hydrocarbons as Diesel

X = Xylenes

MTDE = Mothyl tertiany butyl et

-- = 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.
- <sup>3</sup> Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- <sup>4</sup> 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 reports.
- Carbon tetrachloride was detected at a concentration of 2.0 ppb, and Chloroform was detected at a concentration of 0.60 ppb.
- Carbon tetrachloride was detected at a concentration of 1.2 ppb.
- Laboratory report indicates gasoline C6-C12.
- Bromodichloromethane was detected at 1.4 ppb and Chloroform was detected at 31 ppb. All EPA Method 8010 reanalyzed by an alternate column or method to confirm the identification and/or concentration of these results.
- Laboratory report indicates Carbon tetrachloride was detected at 0.801 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 flexidip 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, temperature, pH and electrical conductivity are measured. If purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. The measurements are taken 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.

Address: <u>193</u>	5 Washing	ton A	Dat Sar		Voit		
<u>هے د</u> :الای	w Lee Co						
Well ID	<u>u-1</u>	_ We	Il Condition:		<i>L</i>		
Well Diameter			drocarbon ckness:	Ø ∣faatl	Amount E	f	(Gallons
Total Depth	39.60	<u>.                                      </u>	<del></del>	0.17			t" = 0.66
Depth to Water	25.50	ft.	actor (VF)	6" = 1	.50	12" = 5.80	
	14.10	x vf <u>2.1}</u>	= <b>2.39</b> × 3 (ca	se volume) =	Estimated P	urge Volume: _	7.19 Igal.
Purge Equipment:	Disposable Bail Bailer Stack Suction Grundfos Other:		Sampling Equipme	nt: Di Ba Pro Gr	sposable B iler essure Bail ab Sample her:	er	
Ctarting Times	10:50		Weather Condi	tions:	Rain		-
Starting Time: Sampling Time:	11:10		Water Color: _		<del> </del>	Odor:	0
· •	nte:	apm.	Sediment Desc				
Did well de-wat	er?		If yes; Time:		Volur	ne:	(ga
10:52	Volume pH	ع با	nhos/cmX/00	iperature	D.O. (mg/L)	ORP (mV)	Alkalinit (ppm)
10:58	<del>35</del> <del>7</del> ,	36 41		58.3			
							-
CAMPIEID	IM CONTAINED		RATORY INFORM		RATORY	ANAL	VSES
SAMPLE ID	#) - CONTAINER	REFRIG.	PRESERV. TYPE	SEQUOIA		TPH(G)/btex/r	
4-1	2 801	1		_	-	8010	
				<del> </del>	····		
	<u>1</u>	<u></u>					

Client/ 103 20 Facility # 5430		Job#: _	18010	7	
Address: 1835 Washing	tonAm	Date: _	3/9/0	>	
City: Son Leandro		Sampler: _		4	
Well ID <u>uv</u>	Well Condition	n: <u> </u>	Oh		
Well Diameter 2in.	Hydrocarbon		Amount		-K
Total Depth 29.27 <sub>ft</sub>	Thickness:		(product/w		(Gallons)
Depth to Water 23.95 ft.	Factor (VF)	2" = 0.17 6" =		12" = 5.80	4" = 0.66
	VF <u>0.90</u>	X 3 (case volume)	= Estimated I	Purge Volume:	7.7 / (gal.)
Purge Disposable Bailer Equipment: Bailer Stack Suction Grundfos Other:	Eq	Bi Pr G	isposable E ailer ressure Bai rab Sample ther:	ler	
Starting Time:	Weather	Conditions: _	Rain	· · · · · · · · · · · · · · · · · · ·	
Sampling Time:		ior: el			10
Purging Flow Rate: 657 g	om. Sediment	Description: _	····		
Did well de-water?	If yes; T	ime:	Volu	me:	(gal.)
Time Volume pH (gal.) 7.86	Conductivity  µmhos/cm(//00	67.6	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:40 3 7.64	<u>2:71</u>	68-0 68-2			<del></del>
				-	
	LABORATORY IN	FORMATION	<u></u>		
	REFRIG. PRESERV.		RATORY	ANAL	YSES
U-2 3 VOA	Y HC1	SEQUOIA		TPH(G)/btex/	mtbe
			-		
COMMENTS:					

Client/ To Facility # 54	30			Job#:	18010	7	
	5 Washing	ton A	اا	Date:	3/9/5	<b>b</b>	<del> </del>
City: Sa	n hearde			Sampler:	Vert	Kı,	
Well ID	<u>u-3</u>	Wel	l Condition:		4	<del></del>	
Well Diameter	2in.	_	rocarbon	<i>#</i>	Amount B	لابسر	<b>5</b>
Total Depth	38.53 tt	ſ	kness:	2" = 0.17	(product/wa 3" = 0.38		(Gallons)
Depth to Water	24.05 11.	I	ctor (VF)	6" = 1		12" = 5.80	
	14.48×	vғ <u>۵۰۱</u>	- <u>2-46x</u>	(case volume) =	Estimated Po	urge Volume:	7.38 (gai.)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:		Samı Equip	oment: Dis Ba Pre Gr	sposable Bailer essure Baile ab Sample her:	er	
Starting Time: Sampling Time: Purging Flow Ra		gpm.	Sediment D	r:l escription:	<del></del>	Odor:y	(aal.)
	/olume pH (gal.) 7-31 5 7.31 3.35	μm 		Temperature	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
SAMPLE 1D  - 3  - 3	(#) - CONTAINER  3 VOA  2 VOA	LABOR REFRIG. Y	ATORY INFO		RATORY	ANAL TPH(G)/btex/r	<del></del>
7-7							
COMMENTS: _							

Client/ To	ره د	• • • •		. 011			
Facility				Job#:	18010	<del>}</del>	
Address: 193	5 wasking	bo A	<u>u - </u>	Date:	3/9/5	೬	
City:Sa		ر-		Sample	er: Vout	the	•
				<u>.</u>			
Well ID	4-4	. We	II Condition	n:	oh	× .	
Well Diameter	2in	_ •	drocarbon	15	Amount		-
Total Depth	_ 39.03 to		ckness:	<del></del>	(feet) (product/v		(Gallons
Depth to Water	24.07 to	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	olume actor (VF)	2" = 0.17	3" = 0 6" = 1.50	.38 12" = 5.80	4" = 0.66
	19.96 x	VF <u>라 ) 구</u>	-= 2.54	( 3 (case vol	ume) = Estimated	Purge Volume:	7-62 (gal.)
Purge Equipment:	Disposable Baile Bailer Stack		Sar	npling ipment:	Disposable Bailer	Bailer	
	Suction Grundfos Other:				Pressure Ba Grab Sampl Other:	е	
Starting Time:	12:25		Weather C	onditions:	ddy		
Sampling Time:	12:45		Water Col			Odor:	าอ
Purging Flow Rat	te:	apm.	Sediment	Descriptio	ก:		
Did well de-wate	r?	<del></del>	If yes; Ti	me:	Volu	ıme:	(gal.)
	olume pH		ductivity hos/cmX/00	Temperate			Alkalinity (ppm)
1730 -	5 3.68		177	68.1			
<u> 12.55</u> _	8 7.6	<u> </u>	+.79	68.	<u> </u>	<u> </u>	
:					<u></u>		
					<u></u>	<del></del>	<del></del>
		LABOR	ATORY INF	ORMATIO	N		
SAMPLE ID	(#) - CONTAINER	REFRIG.			LABORATORY	ANAL	YSES
4-4	3 VOA	Υ	HCI	SEC	AIOUC	TPH(G)/btex/n	ntbe
	-		<u> </u>		<del></del> .		
<u> </u>		<u>.</u>		1		1	
COMMENTS: _	· · · · · · · · · · · · · · · · · · ·	`					
					·····		

		n Au	Job# Date: Samp	: <u>_</u>	18010 3/8/00 Varthe		
Well ID	<u>u-5</u>	Well C	Condition: _	Ð l	k.		
Well Diameter	2in.	Hydro	carbon 🛦		Amount Ba	ailed	
	38.51 ft.	Thickr			(product/wat		(Gallons)
Total Depth		Volun Factor	ne 2" = 0 r (VF)	.17 6" =	3" = 0.38 1.50	12" = 5.80	= 0.66
Depth to Water	22.8/ ft.		<u> </u>				
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	-	Sampling Equipment	t: Q B P G	isposable Ba ailer ressure Baile irab Sample other:	ir	
Starting Time: Sampling Time:	9:15	w	/eather Condition	bra			
Purging Flow Rat	te: gpm er? no		ediment Descri yes; Time: _			ne:	(gal.)
	Volume pH (gal.) 8.05 5 7.84 7.80	Conduc	ctivity Temp	erature f. 4 7.7	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
			TORY INFORMA		ODATORY	ANALY	/esc
SAMPLE ID	(#) - CONTAINER RE	FRIG.	HCI	SEQUO	ORATORY	TPH(G)/btex/a	
	5 1011						
				<u>.l</u>		À	
COMMENTS: _						<u> </u>	:

Address, 1975	- 11-1 him . 2	<b>.</b>	Date		3/9/2	<b>7</b> 0	
	Was hings	on /ou v			<del>- 1, 7, -</del>	10	
City:	e beand	<u>~</u>	Sam	pler:	vart	<u> </u>	
Well ID	<u>u-6</u>	Well Co	ondition:	OK			
Well Diameter	<u> </u>	<u>in.</u> Hydroc			Amount E	7/3	
Total Depth	40.00	Thickne			(product/wa 3" = 0.34		(Gallons) 1" = 0.66
Depth to Water	24.6+	F				12" = 5.80	· · · · · · · · · · · · · · · · · · ·
Purge	15.36 Disposable Bai	x vf <u><b>817</b> = 1</u>	ر کرار X 3 (case Sampling	volume) =	Estimated Po	urge Volume: <u>"</u>	7.83 <sub>(qal.)</sub>
Equipment:	Bailer	ei	Equipment		posable B	ailer	
	Stack			Bai Pre	ler ssure Baile	er	
	Grundfos			Gra	ab Sample		
	Other:			Oth	ner:	<del></del>	
Starting Time:	1:10	We	ather Condition	ons:	p clh		
Sampling Time:	1:30		iter Color:			Odor:	wild
Purging Flow Ra	te:	<u>apm.</u> Sec	diment Descrip	ption:			
Did well de-wate	er?	lf y	es; Time: _		Volun	ne:	(gal.)
	/-l	Conducti	vity Temp		D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
Time \ 17/3	/olume pH (gal.) 7.0	<u> </u>					
1:13	(gal.)	<u> </u>	4 <u>71</u> L 31.	4			
1:13	(gal.) 7.0	<u> ।/-स</u>	4 <u>71</u> L 31.	4	-		
1:13	(gal.) 7.0	<u> </u>	4 <u>71</u> L 31.	4			
1:13	(gal.) 7.0	<u> </u>	4 <u>71</u> L 31.	4			
1:13	(gal.) 7.0	/	4	8			
1:13 1:15 1:18	(#) - CONTAINER	LABORATO REFRIG. PP	ORY INFORMA	TION	ATORY	ANALY	YSES
1:13	2.5 7.0 5 7.16 8 7.16	LABORATO REFRIG. PP	ST 31.  ST 31.  ST 31.  ST 31.  ST 31.  ST 31.	TION	ATORY	ANAL\ TPH(G)/btex/m	
1:13 1:15 1:18	(#) - CONTAINER	LABORATO REFRIG. PP	ORY INFORMA	TION LABOR	ATORY	<del></del>	
1:13 1:15 1:18	(#) - CONTAINER	LABORATO REFRIG. PP	ORY INFORMA	TION LABOR	ATORY	<del></del>	
1:13 1:15 1:18	(#) - CONTAINER	LABORATO REFRIG. PP	ORY INFORMA	TION LABOR	ATORY	<del></del>	

Client/ Tod	63,	, ,			5 A L A B		
Facility # 54	39				8010 7		
Address: 193	5 Washing	ton A	<u>Na</u> Da	te:	3 9 / SE	>	
<u> حمد</u> City:		- 1		mpler:	Voitle	**	
			<del></del>				- <del></del>
Well ID	4.7	Wel	l Condition:	_ 0N			
Well Diameter	<u>2 in</u>		Irocarbon ckness:	D (feet)	Amount E	त्र	(Gallons)
Total Depth	37.78 ft	· v	olume 2" =	= 0.17	3" = 0.3		" = 0.66
Depth to Water	23.76 ft	. Fa	ctor (VF)	6" = 1	.50	12 = 3.60	
	14.02 x	VF 0.17	= 238 x 3 (ca	ise volume) =	Estimated P	urge Volume: _	7. /J (gal.)
Purge	Disposable Bailer	r	Samplin Equipme	g Di	sposable B	ailer	
Equipment:	Bailer Stack		Edabine		iller	21101	
	Suction				essure Baile		4
	Grundfos Other:				ab Sample ther:		
			· ·	<del></del>			
Starting Time:	10:13		Weather Cond	itions:	Rain		<u></u>
Sampling Time:	10:35		Water Color: _	cle		<u>کیم :</u> Odor	<u> </u>
Purging Flow Ra	te:	_map.	Sediment Desc	cription: _			
	er? <b>\rightarrow</b>		If yes; Time:		Volur	ne:	(gal.)
			_		<b>D</b> .0	077	Alledies
Time V	Volume pH			nperature	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
10:15 -	(gal.) 8.0			68-1			
10.18	7.85	<u> </u>		58.7 59.0			<del> </del>
10:21	<u> 700</u>	<u> </u>	<u> </u>	<u> </u>	-	<u> </u>	
					<del></del>	·	
						··· - ··· ·	
SAMPLE ID	(#) - CONTAINER	LABOF REFRIG.	ATORY INFORI PRESERV. TYPE		RATORY	ANAL	YSES
u-7	3 VoA	Y	HCI	SEQUOI	<u> </u>	TPH(G)/btex/r	ntbe
<b>u-</b> 7	2 VOA	~	4-0	~		801	
	<u> </u>						
COMMENTS: _	· · · · · · · · · · · · · · · · · · ·						· · · · · · · · · · · · · · · · · · ·

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	<b>~</b> .		New York			1

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1
TOSCO
Total Marketing Company

Trace Marketing Company 2000 Crow Conyon FL, Ste. 400 Sen Remon, Galfornia 84363

Inquished By (Signature)

	01/4117
Consultant Name Gettler-Ryan Inc. (G-R Inc.)  Consultant Name Gettler-Ryan Inc. (G-R Inc.)	Contact (Name) Mr. DAJIO DEUJITT  (Phone) (925-277-2384  Laboratory Name Sequoia Analytical  Laboratory Release Number Samples Collected by (Name) Varthes 1284/100 Collection Date 364/000  Signature Varett Darlof DO NO
	Analyses To Be Performed DO NO TB-LB

				/Ph	one)51	0-551-755	<u>5(</u> Fox	Number	<u>)                                    </u>	:521=	/000	_ 5	gnoture.		<u> </u>		<del>-7</del> -				
		<del></del>		<u>,,,,</u>									Analyse	• То В•	Perfor	ned			<del></del>		DO NOT BILL
Sampie Numbor	Lob Sample Number	Number of Containers	Motrix S = Soil A = Air W = Water C = Charcool	Type (C at Grab G-4. Composite D - Discrete	Дme	Sample Procervation	iced (Yes or No)	1PH Gat 81EX W/MTBE (3016) (3020)	TPH Dicasi (8015)	Off and Gream (5520)	Purgeable Halocarbons (8010)	Purgeable Arematics (8020)	Purgeable Organica (8240)	Extractable Organics (8270)	Hetais Cd,Cr,Pb,Zn,Mi (ICAP or AA)	8010					TB-LB ANALYSIS
- T D		1	W	Ca		#01	1	X		ļ		ļ	<u> </u>					•	<del> </del>	<del> </del>	
15:45 /		3	- w	٠.	11500	u	~	X	<u></u>		ļ		<del> </del> -			X			<del> </del>	<del> </del>	
1B-LB - 4-1 - 4-3 - 4-5 - 4-6 - 4-7		3	~	4	1152/AL	4	વ	X	ļ	<u> </u>	<u> </u>		<del> </del>	ļ						<del> </del>	
<u>u-u</u>	-	5	-u	4	72 511 12 64 93 64	4.	٠.	X	<u> </u>			<u> </u>	ļ	<u> </u>		X	<u> </u>	l	<del> </del>	<del> </del>	<del></del>
<u> </u>		3	w.	4	17	44	4	4		<u> </u>	<u> </u>	<u> </u>	ļ	<u> </u>	<u> </u>	<del> </del>			<del> </del>	┼	
44	<del> </del> -	3	4	4	230	4	~	X			.		<u> </u>	ļ	ļ <u>.</u>	ļ <u>.</u>		 			
<u> </u>	<u> </u>	3	-		13°	4	~	X					<u> </u>		<u> </u>		<u> </u>		┼	<del> </del>	
<u>U-6</u>		5	-	<u></u>	1033		14	X							<u> </u>	K			<del> </del>	<del> </del>	
4.7	<u> </u>		-	<del>-</del> -	10-71	1		<del> </del>								<u> </u>	<b></b>			-	
	<u> </u>	1-	\		-			1							<u> </u>			<b></b>			
\ - <del></del>	<u> </u>	<del> </del> -	<del> </del>	<del> </del>	-	<del> </del>	1								<u> </u>			<u> </u>	<u> </u>		
		<del> </del>	<b></b> -	-	-		<del> </del>	1	1										<u> </u>		
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elinquished B)	7.7 0	400	1	ganization —R In		Date/Time 53	Re	oolved K	By (Slo	nature	ユー ク 2s		Organiza	olion	Do 3	19/11m	t735 3		Turn A	2	Nme (Circle Cholos)
enquiehed B	y (Signature			ganization		3/9/co Time	R	•celved	By (Sig	natur•)			Organiz	ation	Do	te/Ilme				6	18 Hrs. 5 Days 0 Days

Reviewed For Laboratory By (Signature)

Date/Time

Organization



March 23, 2000

RECEIVED

HAR 20 2000

GETTLER-RYAN INC.

Deanna Harding Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568

RE: Tosco(4)/L003091

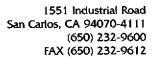
Dear Deanna Harding:

Enclosed are the results of analyses for sample(s) received by the laboratory on March 9, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson Project Manager

CA ELAP Certificate Number I-2360





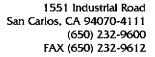
Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568 Project Number: Unocal SS#5430
Project Manager: Deanna Harding

Sampled: 3/9/00 Received: 3/9/00 Reported: 3/23/00

### **ANALYTICAL REPORT FOR L003091**

			<del></del>
Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
TB-LB	L003091-01	Water	3/9/00
U-1	L003091-02	Water	3/9/00
U-2	L003091-03	Water	3/9/00
U-3	L003091-04	Water	3/9/00
U-4	L003091-05	Water	3/9/00
U-5	L003091-06	Water	3/9/00
U-6	L003091-07	Water	3/9/00
U-7	L003091-08	Water	3/9/00







Gettler-Ryan/Geostrategies(1) Project: Tosco(4) Sampled: 3/9/00
6747 Sierra Court, Suite D Project Number: Unocal SS#5430 Received: 3/9/00
Dublin, CA 94568 Project Manager: Deanna Harding Reported: 3/23/00

Sample Description:

Laboratory Sample Number:

TB-LB L003091-01

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
		Seque	oia Analytica	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C1	12), BTEX an	d MTBE by	DHS LUFT					
Purgeable Hydrocarbons as Gasoline	0030092	3/20/00	3/20/00		50.0	ND	ug/l	
Benzene	<b>91</b>	n	n		0.500	ND	11	
Toluene	<b>11</b>	n	n		0.500	ND	11	
Ethylbenzene	11	**	н		0.500	ND	11	
Xylenes (total)	u .	17	rt .		0.500	ND	11	
Methyl tert-butyl ether	<b>11</b>	H	71		5.00	ND	**	
Surrogate: a,a,a-Trifluorotoluene	rr	"	"	70.0-130		90.7	%	



Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D

Project:

Tosco(4)

Sampled: 3/9/00

Dublin, CA 94568

Project Number: Project Manager: Unocal SS#5430 Deanna Harding

Received: 3/9/00 Reported: 3/23/00

Sample Description:

Laboratory Sample Number:

**U-1** 

L003091-02

	Batch	Date	Date	Specific Method/	Reporting	Da14	T Inita	Notes*
Analyte	Number	Prepared	Analyzed	Surrogate Limits	Limit	Result	Units	inotes
		Semin	ia Analytical	- San Carlos				
Total Purgeable Hydrocarbons (C6-C)	12). BTEX ar			- Dan Carros				
Purgeable Hydrocarbons as Gasoline	0030091	3/20/00	3/20/00		50.0	ND	ug/l	
Benzene	н	11	n		0.500	ND	#	
Toluene	17	11	17		0.500	ND	11	
Ethylbenzene	11	IF	**		0.500	ND	. 11	
Xylenes (total)	11	н	71		0.500	ND	11	
Methyl tert-butyl ether	н	į į	н		5.00	ND	11	
Surrogate: a,a,a-Trifluorotoluene	17	#	n	70.0-130		98.7	%	
Durroguic. u,u,u-111/1401010146116								
Volatile Organic Compounds by EPA	Method 8010	<u>)B</u>						
Freon 113	0030115	3/22/00	3/23/00		1.00	ND	ug/l	
Bromodichloromethane	**	H	Ħ		0.500	ND	H	
Bromoform	er	11	**		0.500	ND	**	
Bromomethane	. 4	1t	н		1.00	ND	**	
Carbon tetrachloride	₹1	H	Pt .		0.500	ND	**	
Chlorobenzene	**	n	н		0.500	ND	11	
Chloroethane	91		11		1.00	ND	н	
2-Chloroethylvinyl ether	11	**	**		1.00	ND	11	
Chloroform	и	11	11		0.500	ND	11	
Chloromethane	**	11	tt.		1.00	ND	rı .	
Dibromochloromethane	17	11	#		0.500	ND	11	
1,3-Dichlorobenzene	**	II	P		0.500	ND	11	
1,4-Dichlorobenzene	11	н	n		0.500	ND	P1	
1,2-Dichlorobenzene	11	,,	я		0.500	ND	11	
1,1-Dichloroethane	111	to	•		0.500	ND	11	
·	H	11	11		0.500	1.32	**	
1,2-Dichloroethane	n .	"	II .		0.500	ND	st	
1,1-Dichloroethene	R	<b>61</b>	n		0.500	ND	10	
cis-1,2-Dichloroethene	11	11	н		0.500	ND	н	
trans-1,2-Dichloroethene		n	н		0.500	ND	н	
1,2-Dichloropropane	"	 H	11		0.500	ND	H	
cis-1,3-Dichloropropene	"	н	71		0.500	ND	17	
trans-1,3-Dichloropropene	" 11	" #	# #			ND	#	
Methylene chloride		"	"		5.00	ND ND	91	
1,1,2,2-Tetrachloroethane	**	11	**	•	0.500	ND	11	
Tetrachloroethene					0.500		ti .	
1,1,1-Trichloroethane		"	11		0.500	ND	11	
1,1,2-Trichloroethane	11	ff 	H		0.500	ND	**	
Trichloroethene	n	II.	н		0.500	ND	 H	
Trichlorofluoromethane		H	11		0.500	ND		
Vinyl chloride	*1		·· //	70.0-130	0.500	ND 84.5	%	

Sequoia Analytical - San Carlos



1551 Industrial Road San Carlos, CA 94070-4111 (650) 232-9600 FAX (650) 232-9612

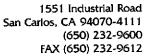
Gettler-Ryan/Geostrategies(1) Project: Tosco(4) Sampled: 3/9/00
6747 Sierra Court, Suite D Project Number: Unocal SS#5430 Received: 3/9/00
Dublin, CA 94568 Project Manager: Deanna Harding Reported: 3/23/00

Sample Description:

**Laboratory Sample Number:** 

U-2 L003091-03

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method/ Surrogate Limits	Reporting Limit	Result	Units	Notes*
		<u>Seque</u>	oia Analytica	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C	12), BTEX ar	nd MTBE by	DHS LUFT					,
Purgeable Hydrocarbons as Gasoline	0030091	3/20/00	3/20/00		50.0	ND	ug/l	
Benzene	н	17	**		0.500	ND	11	
Toluene	11	H	11		0.500	ND	ч	
Ethylbenzene	17	П	17		0.500	ND	11	
Xylenes (total)	IT	41	lt.		0.500			
Methyl tert-butyl ether	H	11	Ħ			ND		
Surrogate: a,a,a-Trifluorotoluene	п	"	п	70.0-130	5.00	ND 102	%	<del></del>





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D

Project Number: Unocal SS#5430

Project: Tosco(4)

Sampled: 3/9/00

Reported:

Received: 3/9/00 3/23/00

Dublin, CA 94568

Sample Description: **Laboratory Sample Number:** 

U-3

Project Manager: Deanna Harding

L003091-04

	Batch	Date	Date	Specific Method/	Reporting	D 14	T Imit-	Notes*
Analyte	Number	Prepared	Analyzed	Surrogate Limits	Limit	Result	Units	Mores
		Segno	is Analytical	- San Carlos				
Total Purgeable Hydrocarbons (C6-C1	2). BTEX ar							
Purgeable Hydrocarbons as Gasoline	0030099	3/21/00	3/22/00		500	3250	ug/l	1
Benzene	н	B	*1		5.00	143	H	
Toluene	**	π	11		5.00	ND	it.	
Ethylbenzene	я	11	*1		5.00	59.0	Ħ	
Xylenes (total)	11	19	11		5.00	326	11	
Methyl tert-butyl ether	11	H	11		50.0	ND	11	
Surrogate: a,a,a-Trifluorotoluene	rr .	п	m .	70.0-130		107	%	
Valatile Organic Commonnels by FDA	Mathad 9010	10						2
Volatile Organic Compounds by EPA ! Freon 113	0030115	3/22/00	3/23/00		25.0	ND	ug/l	=
Bromodichloromethane	#	3/22/00 II	5/25/00 #		12.5	ND	n	
Bromodichioromethane Bromoform	**	17	11		12.5	ND	Ħ	
	11	n	11		25.0	ND	u	
Bromomethane	,,	н	n		12.5	ND	17	
Carbon tetrachloride	11	••	11		12.5	ND	n	
Chlorobenzene	11	*11	17		25.0	ND	**	
Chloroethane					25.0 25.0	ND	n	
2-Chloroethylvinyl ether	)† 	 17	, , , , , , , , , , , , , , , , , , ,			ND	H	
Chloroform		17	" !		12.5		11	
Chloromethane	**				25.0	ND	77	
Dibromochloromethane	**	lf .	77		12.5	ND	 11	
1,3-Dichlorobenzene	**	17	Ħ		12.5	ND	#	
1,4-Dichlorobenzene	11	11	*1		12.5	ND		
1,2-Dichlorobenzene	11	11	11		12.5	ND	11	
1,1-Dichloroethane	H	11	Ħ		12.5	ND	. 11	
1,2-Dichloroethane	н	H	Ħ		12.5	ND	**	
1,1-Dichloroethene	11	H	. "		12.5	ND	17	
cis-1,2-Dichloroethene	**	**	**		12.5	ND	n	
trans-1,2-Dichloroethene	**	17	17		12.5	ND	11	
1,2-Dichloropropane	#1	n			12.5	ND	If	
cis-1,3-Dichloropropene	41	11	#		12.5	ND	н	
trans-1,3-Dichloropropene	11	**	**		12.5	ND	11	
Methylene chloride	If.	11	11		125	ND	m	
1,1,2,2-Tetrachloroethane	n	п	n		12.5	ND	11	
Tetrachloroethene	ŗ,	rt	H		12.5	ND	я	
	4*	n	**		12.5	ND	**	
1,1,1-Trichloroethane	11	rı .	It.		12.5	ND	**	
1,1,2-Trichloroethane	**		н		12.5	ND	11	
Trichloroethene	.,	н	**		12.5	ND	11	
Trichlorofluoromethane	**	71	н		12.5	ND	11	
Vinyl chloride Surrogate: 1-Chloro-2-fluorobenzene	<u>"</u>			70.0-130	14.7	81.7	%	

Sequoia Analytical - San Carlos



Gettler-Ryan/Geostrategies(1)
Project: Tosco(4)
Sampled: 3/9/00
6747 Sierra Court, Suite D
Project Number: Unocal SS#5430
Project Manager: Deanna Harding
Reported: 3/23/00

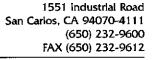
Sample Description:

**Laboratory Sample Number:** 

U-4

T	~	•	^^	1	05
	416	J. 11		I	1117

	Batch	Date	Date	Specific Method/	Reporting			
Analyte	Number	Prepared	Analyzed	Surrogate Limits	Limit	Result	Units	Notes*
		6		. C C				
m . In . II				l - San Carlos				
Total Purgeable Hydrocarbons (C6-C)	<u>l 2), BTEX ar</u>	<u>id MTBE by</u>	DHS LUFT					
Purgeable Hydrocarbons as Gasoline	0030107	3/22/00	3/22/00		50.0	ND	ug/l	
Benzene		11	11		0.500	ND	11	
Toluene	н	#	<b>11</b>		0.500	0.615	It	
Ethylbenzene	rı .	Ħ	#1		0.500	ND	lt.	
Xylenes (total)	rı	#	H		0.500	1.05	н	
Methyl tert-butyl ether	H	11	71		5.00	ND	11	
Surrogate: a,a,a-Trifluorotoluene	н	"	"	70.0-130	<del></del>	99.7	%	





Gettler-Ryan/Geostrategies(1) Project: Tosco(4) Sampled: 3/9/00 6747 Sierra Court, Suite D Project Number: Unocal SS#5430 Received: 3/9/00 Dublin, CA 94568 Project Manager: Deanna Harding Reported: 3/23/00

Sample Description:

**Laboratory Sample Number:** 

U-5

L003091-06

	Batch	Date	Date	Specific Method/	Reporting		_	
Analyte	Number Prepared		Analyzed	Surrogate Limits	Limit	Result	Units	Notes*
		Seau	oia Analytica	l - San Carlos				
Total Purgeable Hydrocarbons (C6-C	12), BTEX ar							
Purgeable Hydrocarbons as Gasoline	0030091	3/20/00	3/20/00		50.0	ND	ug/l	
Benzene	11	"	ti.		0.500	ND	H	
Toluene	11	11	H		0.500	ND	n	
Ethylbenzene	11	4	н		0.500	ND	tt	
Xylenes (total)	Ħ	**	н		0.500	ND	11	
Methyl tert-butyl ether	Ħ	н	н		5.00	ND	11	
Surrogate: a,a,a-Trifluorotoluene	"	п	11	70.0-130		91.0	%	



Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D

Project: Tosco(4)

Sampled: 3/9/00

Dublin, CA 94568

Project Number: Unocal SS#5430

Project Manager: Deanna Harding

Received: 3/9/00 Reported: 3/23/00

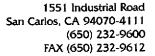
Sample Description:

**Laboratory Sample Number:** 

U-6

L003091-07

	Batch	Date	Date	Specific Method/	Reporting			
Analyte	Number	Prepared	Analyzed	Surrogate Limits	Limit	Result	Units	Notes*
		<b>6</b> .						
				l - San Carlos				
Total Purgeable Hydrocarbons (C6-C1	<u>2), BTEX at</u>	id MTBE by	DHS LUFT					
Purgeable Hydrocarbons as Gasoline	0030099	3/21/00	3/22/00		500	4980	ug/l	1
Benzene	Ħ	11	11		5.00	193	H	
Toluene	н	11	11		5.00	ND	11	
Ethylbenzene	H	H .	17		5.00	520	и	
Xylenes (total)	H.	17	TF.		5.00	365	11	
Methyl tert-butyl ether	tt	11	11		50.0	ND	#1	
Surrogate: a,a,a-Trifluorotoluene	"	"	rr .	70.0-130		100	%	





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568

Project:

Project Manager:

Tosco(4)

Project Number: Unocal SS#5430 Deanna Harding

Sampled: 3/9/00

Received: 3/9/00

Reported:

3/23/00

Sample Description:

**Laboratory Sample Number:** 

U-7

L003091-08

Date	Specific Method/	Reporting			
l Analyzed	Surrogate Limits	Limit	Result	Units	Notes*
uoia Analytic	il - San Carlos				
by DHS LUFT					
3/21/00		50.0	ND	ug/l	
Ħ		0.500	ND	11	
Ħ	_	0.500	ND	11	
**		0.500	ND	17	•
**		0.500	1.09	n	
Ħ		5.00	ND	lt	<b>,</b>
"	70.0-130		102	%	
3/23/00		1.00	ND	ug/l	
II .		0.500	ND	#	
n		0.500	ND	11	
į,		1.00	ND	11	
н		0.500	0.801	**	
"		0.500	ND	11	
**		1.00	ND	11	
11		1.00	ND	н	
#1		0.500	ND	H	
11		1.00	ND	97	
н		0.500	ND	**	
Ħ		0.500	ND	**	
'n		0.500	ND	11	
**		0.500	ND	н .	
17		0.500	ND	11	
11		0.500	ND	11	
11		0.500	ND	н	
11		0.500	ND	н	
If		0.500	ND	17	
H		0.500	ND	n	
"		0.500	ND	Ħ	
ır		0.500	ND	#1	
Ħ		5.00	ND	H	
11		0.500	ND	11	
11		0.500	ND	11	
#		0.500	ND	H	
11		0.500	ND	ĮI.	
ıt		0.500	ND	H	
н		0.500	ND	17	
			ND	71	
	70.0-130		79.4	%	
_	H	H	" 0.500 " 0.500	" 0.500 ND " 0.500 ND	" 0.500 ND " 0.500 ND "

Sequoia Analytical - San Carlos

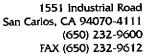


Gettler-Ryan/Geostrategies(1)
Project: Tosco(4)
Sampled: 3/9/00
6747 Sierra Court, Suite D
Project Number: Unocal SS#5430
Received: 3/9/00
Dublin, CA 94568
Project Manager: Deanna Harding
Reported: 3/23/00

## Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control Sequoia Analytical - San Carlos

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
D. I. 000000			_		_					
Batch: 0030091	Date Prepar		<u>0</u>		Extrac	tion Method: EP.	A 5030B	[P/T]		
Blank	0030091-BI	<u>.K1</u>								
Purgeable Hydrocarbons as Gasoline	3/20/00			ND	ug/l	50.0				
Benzene				ND	**	0.500				
Toluene	"			ND	H	0.500				
Ethylbenzene	TI			ND	**	0.500				
Xylenes (total)	#I			ND	17	0.500				
Methyl tert-butyl ether	11			ND	17	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.4	"	70.0-130	104			
LCS	0030091-BS	<u> </u>								
Benzene	3/20/00	10.0		8.73	ug/l	70.0-130	87.3			
Toluene	"	10.0		8.09	"	70.0-130	80.9			
Ethylbenzene	**	10.0		8.07	m	70.0-130	80.7			
Xylenes (total)	H	30.0		24.3	Ħ	70.0-130	81.0			
Surrogate: a,a,a-Trifluorotoluene	ff .	10.0		10.6	ff	70.0-130	106			
LCS	0030091-BS	22								
Purgeable Hydrocarbons as Gasoline	3/20/00	250		226	ug/l	70.0-130	90.4			
Surrogate: a,a,a-Trifluorotoluene	#	10.0	<del></del>	9.53	"	70.0-130	95.3			
Matrix Spike	0020001 340	P1 T.A	03140-01							
Benzene	0030091-M: 3/20/00			0.52		60.0.140	95.3			
Toluene	3/20/00	10.0 10.0	ND ND	9.53 9.01	ug/l "	60.0-140	90.1			
Ethylbenzene	11	10.0	ND	9.01	**	60.0-140 60.0-140	90.1			
Xylenes (total)	H	30.0			я					
Surrogate: a,a,a-Trifluorotoluene	n	10.0	ND	27.8	н	60.0-140	<b>92.7</b> 95.1	<del> </del>		
surroguie. a,u,u-17tjiuorototuene		10.0		9.51		70.0-130	93.1			
Matrix Spike Dup	0030091-M	<u>SD1 L0</u>	03140-01							
Benzene	3/20/00	10.0	ND	8.53	ug/l	60.0-140	85.3	25.0	11.1	
Toluene	11	10.0	ND	7.90	77	60.0-140	79.0	25.0	13.1	
Ethylbenzene	**	10.0	ND	7.84	tr	60.0-140	78.4	25.0	14.8	
Xylenes (total)	Ħ	30.0	ND	24.0	Ħ	60.0-140	80.0	25.0	14.7	
Surrogate: a,a,a-Trifluorotoluene	<i>y</i>	10.0	· .	8.86	"	70.0-130	88.6			
Batch: 0030092	Date Prepai	red: 3/20/0	0		Extrac	tion Method: EPA	A 5030B	(P/T)		
Blank	0030092-BI		_					<u></u>		
Purgeable Hydrocarbons as Gasoline	3/20/00			ND	ug/l	50.0				
Benzene	n			ND	II .	0.500				
Toluene	II .			ND	IT	0.500				
Ethylbenzene	It			ND	11	0.500				
Xylenes (total)	II .					0.000				

Sequoia Analytical - San Carlos





Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D Dublin, CA 94568

Project: Tosco(4)

Project Manager: Deanna Harding

Project Number: Unocal SS#5430

Sampled: 3/9/00

Received: 3/9/00 Reported: 3/23/00

# Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control Sequoia Analytical - San Carlos

Analyze		Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Methyl teri-buryl ether   3/20/00	Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Methyl terr-buryl ether   3/20/00											
LCS	<del></del>	•	<u>LK1</u>	• .		n	<b>5</b> 00				
CS   Benzene   3/20/00   10.0   9.69   ug/l   70.0-130   96.9   70.0-130   96.9   70.0-130   96.9   70.0-130   92.9   70.0-130   92.9   70.0-130   92.9   70.0-130   92.9   70.0-130   92.9   70.0-130   92.9   70.0-130   92.9   70.0-130   92.9   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.3   70.0-130   92.5						ug/l		105		<del></del>	
Benzene   3/20/00   10.0   9.69   ug/l   70.0-130   96.9   10.0   70.0-130   92.9   10.0   10.0   92.9   10.0   92.9   10.0   92.9   10.0   92.9   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.3   10.0   92.5   10.0	Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.5	"	70.0-130	105			
Toluene " 10.0 9.29 " 70.0-130 92.9   Ehylbenzene " 10.0 9.23 " 70.0-130 92.3   Surrogate: a, a, a-Trifluorotoluene " 10.0 9.15 " 70.0-130 91.5    LCS	<u>LCS</u>	0030092-B	<u>\$1</u>								
Total	Benzene	3/20/00	10.0								
Sylenes (total)   "   30.0   27.4   "   70.0-130   91.3	Toluene	**	10.0		9.29						
LCS	Ethylbenzene	H	10.0								
LCS		17	30.0				70.0-130				
Purgeable Hydrocarbons as Gasoline   3/20/00   250   226   ug/l   70.0-130   90.4		H	10.0		9.15	H	70.0-130	91.5			
Purgeable Hydrocarbons as Gasoline   3/20/00   250   226   ug/l   70.0-130   90.4	LCS	0030092-B	S2								
Matrix Spike   9030092-MS1   L003140-13   Benzene   3/20/00   10.0   ND   10.5   "   60.0-140   105   Ethylbenzene   "   10.0   ND   10.5   "   60.0-140   105   Sylenes (total)   "   30.0   ND   30.5   "   60.0-140   102   Sylenes (total)   "   30.0   ND   30.5   "   60.0-140   102   Sylenes (total)   "   30.0   ND   30.5   "   60.0-140   102   Sylenes (total)   "   30.0   ND   30.5   "   60.0-140   102   Sylenes (total)   "   30.0   ND   30.5   "   60.0-140   102   Sylenes (total)   "   30.0   ND   30.5   "   60.0-140   102   Sylenes (total)   "   70.0-130   101   T   T   T   T   T   T   T   T   T					226	ug/l					
Benzene   3/20/00   10.0   ND   10.7   ug/l   60.0-140   107     Toluene   "   10.0   ND   10.5   "   60.0-140   105     Ethylbenzene   "   10.0   ND   10.5   "   60.0-140   105     Ethylbenzene   "   10.0   ND   10.5   "   60.0-140   105     Surrogate: a,a,a-Trifluorotoluene   "   10.0   ND   30.5   "   60.0-140   102     Surrogate: a,a,a-Trifluorotoluene   "   10.0   ND   11.1   ug/l   60.0-140   101     Benzene   3/20/00   10.0   ND   11.1   ug/l   60.0-140   111   25.0   3.67     Toluene   "   10.0   ND   10.9   "   60.0-140   109   25.0   3.74     Ethylbenzene   "   10.0   ND   10.8   "   60.0-140   108   25.0   2.82     Extraction Method: EPA 5030B [P/T]     Barch: 0030099   Date Prepared: 3/21/00   ND   "   0.500     Benzene   "   10.0   ND   "   0.500     Ethylbenzene   "   10.0   ND   "   0.500     Ethylbenzene   "   10.0   ND   "   0.500     Methyl tert-butyl ether   "   10.0   9.86   "   70.0-130   98.6      LCS   0030099-BS1					9.57		70.0-130	95.7			
Benzene   3/20/00   10.0   ND   10.7   ug/l   60.0-140   107     Toluene   "   10.0   ND   10.5   "   60.0-140   105     Ethylbenzene   "   10.0   ND   10.5   "   60.0-140   105     Ethylbenzene   "   10.0   ND   10.5   "   60.0-140   105     Surrogate: a,a,a-Trifluorotoluene   "   10.0   ND   30.5   "   60.0-140   102     Surrogate: a,a,a-Trifluorotoluene   "   10.0   ND   11.1   ug/l   60.0-140   101     Benzene   3/20/00   10.0   ND   11.1   ug/l   60.0-140   111   25.0   3.67     Toluene   "   10.0   ND   10.9   "   60.0-140   109   25.0   3.74     Ethylbenzene   "   10.0   ND   10.8   "   60.0-140   108   25.0   2.82     Extraction Method: EPA 5030B [P/T]     Barch: 0030099   Date Prepared: 3/21/00   ND   "   0.500     Benzene   "   10.0   ND   "   0.500     Ethylbenzene   "   10.0   ND   "   0.500     Ethylbenzene   "   10.0   ND   "   0.500     Methyl tert-butyl ether   "   10.0   9.86   "   70.0-130   98.6      LCS   0030099-BS1	Matrix Snike	0030092-M	(S1 L	003140 <u>-13</u>							
Toluene " 10.0 ND 10.5 " 60.0-140 105 Ethylbenzene " 10.0 ND 10.5 " 60.0-140 105 Xylenes (total) " 30.0 ND 30.5 " 60.0-140 102  Surrogate: a,a,a-Trifluorotoluene " 10.0 ND 10.1 " 70.0-130 101  Matrix Spike Dup					10.7	ug/l	60.0-140	107			
Ethylbenzene " 10.0 ND 10.5 " 60.0-140 105		n					60.0-140	105			
Xylenes (total)	•	н				#1	60.0-140	105			
Matrix Spike Dup   0030092-MSD1   L003140-13   L003140-13   Benzene   3/20/00   10.0   ND   11.1   ug/l   60.0-140   111   25.0   3.67   Toluene   10.0   ND   10.9   60.0-140   109   25.0   3.74   Ethylbenzene   10.0   ND   10.8   60.0-140   108   25.0   2.82   Xylenes (total)   30.0   ND   32.5   60.0-140   108   25.0   5.71	·	11			30.5	Ħ	60.0-140	102			
Benzene   3/20/00   10.0   ND   11.1   ug/l   60.0-140   111   25.0   3.67     Toluene   "   10.0   ND   10.9   "   60.0-140   109   25.0   3.74     Ethylbenzene   "   10.0   ND   10.8   "   60.0-140   108   25.0   2.82     Xylenes (total)   "   30.0   ND   32.5   "   60.0-140   108   25.0   2.82     Xylenes (total)   "   70.0-130   101     Batch: 0030099		II			10.1	if	70.0-130	101			
Benzene   3/20/00   10.0   ND   11.1   ug/l   60.0-140   111   25.0   3.67     Toluene   "   10.0   ND   10.9   "   60.0-140   109   25.0   3.74     Ethylbenzene   "   10.0   ND   10.8   "   60.0-140   108   25.0   2.82     Kylenes (total)   "   30.0   ND   32.5   "   60.0-140   108   25.0   2.82     Kylenes (total)   "   70.0-130   101     Batch: 0030099	Matrix Snike Dup	0030092-M	ISD1 L	0031 <u>40-13</u>							
Toluene					11.1	ug/l	60.0-140	111			
Ethylbenzene " 10.0 ND 10.8 " 60.0-140 108 25.0 2.82 Xylenes (total) " 30.0 ND 32.5 " 60.0-140 108 25.0 5.71  Surrogate: a,a,a-Trifluorotoluene " 10.0	<u> </u>		10.0	ND	10.9	H	60.0-140	109	25.0	3.74	
Xylenes (total)	_ <del>_</del>	11	10.0	ND	10.8	57	60.0-140	108			
Surrogate: a,a,a-Trifluorotoluene	•	17	30.0	ND	32.5	**	60.0-140		25.0	5.71	·
Blank   O030099-BLK1     Purgeable Hydrocarbons as Gasoline   3/21/00   ND   ug/l   50.0     Benzene   "   ND   "   0.500     Toluene   "   ND   "   0.500     Ethylbenzene   "   ND   "   0.500     Xylenes (total)   "   ND   "   0.500     Methyl tert-butyl ether   "   ND   "   5.00     Surrogate: a,a,a-Trifluorotoluene   "   10.0   9.86   "   70.0-130   98.6     LCS   O030099-BS1     Benzene   3/21/00   10.0   7.95   ug/l   70.0-130   79.5     Toluene		н	10.0		10.1	Ħ	70.0-130	101			
Blank   0030099-BLK1     S0.0   S0.	Ratch: 0030099	Date Prena	red: 3/21/	00		Extra	ction Method: EP	A 5030B	[P/T]		
Purgeable Hydrocarbons as Gasoline   3/21/00   ND   ug/l   50.0				_							
ND					ND	ug/l	50.0				
Toluene " 0.500 Ethylbenzene " ND " 0.500 Xylenes (total) " 0.500 Methyl tert-butyl ether " ND " 5.00  Surrogate: a,a,a-Trifluorotoluene " 10.0 9.86 " 70.0-130 98.6  LCS 0030099-BS1 Benzene 3/21/00 10.0 7.95 ug/l 70.0-130 79.5	<u> </u>				ND		0.500				
Ethylbenzene "	· · · · · · · · · · · · · · · · · · ·	н			ND	17	0.500				
Xylenes (total)	- *	17			ND	#1	0.500				
Methyl tert-butyl ether         "         ND "         5.00           Surrogate: a,a,a-Trifluorotoluene         "         10.0         9.86 "         70.0-130 98.6           LCS         0030099-BS1           Benzene         3/21/00 10.0         7.95 ug/l         70.0-130 79.5           70.0 130 73.0         73.0	•	n			ND	11	0.500	ı			
Surrogate:     a,a,a-Trifluorotoluene     "     10.0     9.86     "     70.0-130     98.6       LCS     0030099-BS1       Benzene     3/21/00     10.0     7.95     ug/l     70.0-130     79.5       70.0 130     73.0	• • •	#1			ND	11					
Benzene 3/21/00 10.0 7.95 ug/l 70.0-130 79.5		n	10.0		9.86	π	70.0-130	98.6			
Benzene 3/21/00 10.0 7.95 ug/l 70.0-130 79.5	LCS	0030099-B	S1								
700 # 700 120 730					7.95	ug/l	70.0-130	79.5			
TOMOTO TAXABLE TO TAXA	Toluene		10.0		7.30		70.0-130	73.0			

Sequoia Analytical - San Carlos

RPD

RPD



Gettler-Ryan/Geostrategies(1) Project: Tosco(4) Sampled: 3/9/00
6747 Sierra Court, Suite D Project Number: Unocal SS#5430 Received: 3/9/00
Dublin, CA 94568 Project Manager: Deanna Harding Reported: 3/23/00

Spike

Date

## Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control Sequois Analytical - San Carlos

QC

Reporting Limit Recov.

Sample

	Date	<b>Sp</b> 1ке	Sample	QC		Reporting Limit	Recov.	KPD	KPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
LCS (continued)	0030099-BS	1								
Ethylbenzene	3/21/00	10.0		7.33	ng/l	70.0-130	73.3			
Xylenes (total)	3/21/00	30.0		7.33 22.4	ug/l "	70.0-130	73.3 74.7			
Surrogate: a,a,a-Trifluorotoluene	н	10.0		10.6	н	70.0-130	106			
Burroguie. u,a,a-11y1u070101uene		10.0		10.0		70.0-130	100			
<u>LCS</u>	0030099-BS	<u>2</u>								
Purgeable Hydrocarbons as Gasoline	3/21/00	250		215	ug/l	70.0-130	86.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.6	"	70.0-130	106			
Matrix Spike	0030099-MS	1 1.0	003153-04							
Purgeable Hydrocarbons as Gasoline	3/21/00	250	ND	240	ug/l	60.0-140	96.0			
Surrogate: a,a,a-Trifluorotoluene	# J721/00	10.0		9.39	"	70.0-130	93.9			
-										
Matrix Spike Dup	<u>0030099-MS</u>	<u>D1 L(</u>	<u> 003153-04</u>							
Purgeable Hydrocarbons as Gasoline	3/21/00	250	ND	238	ug/l	60.0-140	95.2	25.0	0.837	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.55	Ħ	70.0-130	95.5			
Batch: 0030107	Date Prepare	ed: 3/22/0	0		Extrac	ction Method: EPA	A 5030B	(P/TI		
Blank	0030107-BL		_							
Purgeable Hydrocarbons as Gasoline	3/22/00			ND	ug/l	50.0				
Benzene	n			ND	11	0.500				
Toluene	**			ND	**	0.500				
Ethylbenzene	17			ND	n	0.500				
Xylenes (total)	H			ND	17	0.500				
Methyl tert-butyl ether	II.			ND	47	5.00				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.7	"	70.0-130	107			
LCS	0030107-BS1	ı								
Benzene	3/22/00	10.0		11.4	ug/l	70.0-130	114			
Toluene	11	10.0		11.4	n n8\1	70.0-130	110			
Ethylbenzene	91	10.0		10.9	H	70.0-130	109			
Xylenes (total)	#1	30.0		32.4	11	70.0-130	109			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.0	п	70.0-130	100			
LCS	0030107-BS2									
Purgeable Hydrocarbons as Gasoline	3/22/00	250		283	ug/l	70.0-130	113			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		12.1	n	70.0-130	121			
Matrix Spike	0030107-MS	<u>1</u> L0	03154-05							
Benzene	3/22/00	10.0	ND	8.48	ug/l	60.0-140	84.8			
Toluene	n	10.0	ND	8.02	"	60.0-140	80.2			
Ethylbenzene	"	10.0	ND	7.41		60.0-140	74.1			
					•					

Sequoia Analytical - San Carlos



				4 10 10 0
Gettler-Ryan/Geostrategies(1)	Project:	Tosco(4)	Sampled:	3/9/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5430	Received:	3/9/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported:	3/23/00

# Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control Sequoia Analytical - San Carlos

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov.	RPD Limit	RPD % Notes*
Matrix Spike (continued)	0030107-M	S1 L	003154-05						
Xylenes (total)	3/22/00	30.0	ND	23.5	ug/l	60.0-140	78.3		
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.43	"	70.0-130	94.3		
Matrix Spike Dup	0030107-M	SD1 L	003154-05						
Benzene	3/22/00	10.0	ND	9.94	ug/l	60.0-140	99.4	25.0	15.9
Toluene	Ħ	10.0	ND	9.46	H_	60.0-140	94.6	25.0	16.5
Ethylbenzene	**	10.0	ND	9.19	11	60.0-140	91.9	25.0	21.4
Xylenes (total)	11	30.0	ND	28.4	41	60.0-140	94.7	25.0	19.0
Surrogate: a,a,a-Trifluorotoluene	11	10.0		9.76	Ħ	70.0-130	97.6		



Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite D

Project:

Spike

Tosco(4)

Sampled: 3/9/00

RPD

RPD

Dublin, CA 94568

Project Number: Unocal SS#5430 Project Manager: Deanna Harding

Date

Reported: 3/23/00

Reporting Limit Recov.

Received: 3/9/00

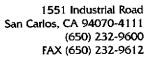
### Volatile Organic Compounds by EPA Method 8010B/Quality Control Sequoia Analytical - San Carlos

QC

Sample

1	244	opino	omnbic	Ų		techat one pume	ICCCOV.	IU D	14D
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 0030115	Date Prepar	red: 3/22/0	Λ		Extrac	tion Method: EPA	1 5030R	(P/T)	
Blank	0030115-BI		<u>v</u>		Extrac	don Michou. 1717	LOUJUD	11/11	
Freon 113	3/22/00	<u> </u>		ND	ug/l	1.00			
Bromodichloromethane	11			ND	η η	0.500			
Bromoform	77			ND	"	0.500			
Bromomethane	**			ND	**	1.00			
Carbon tetrachloride	n			ND	11	0.500			
Chlorobenzene	**			ND	97	0.500		-	
Chloroethane	**			ND	17	1.00			
2-Chloroethylvinyl ether	67			ND	*	1.00			
Chloroform	11			ND	H	0.500			
Chloromethane	H			ND		1.00			
Dibromochloromethane	15			ND		0.500			
1,3-Dichlorobenzene	n			ND	H	0.500			
1,4-Dichlorobenzene	t!			ND		0.500			
1,2-Dichlorobenzene	Ħ			ND	n	0.500			
1,1-Dichloroethane	11			ND	It	0.500			
1,2-Dichloroethane	1F			ND	H	0.500			
1,1-Dichloroethene	17			ND	11	0.500			
cis-1,2-Dichloroethene	11			ND	n	0.500			
trans-1,2-Dichloroethene	11			ND	11	0.500			
1,2-Dichloropropane	11			ND	11	0.500			
cis-1,3-Dichloropropene	ff			ND	a	0.500			
trans-1,3-Dichloropropene	н			ND	71	0.500			
Methylene chloride	*1			ND	ė1	5.00			
1,1,2,2-Tetrachloroethane	*1			ND	44	0.500			
Tetrachloroethene	н			ND	91	0.500			
1,1,1-Trichloroethane	н			ND	**	0.500			
1,1,2-Trichloroethane	**			ND	,,	0.500			
Trichloroethene	11			ND	**	0.500			
Trichlorofluoromethane	н			ND	1)	0.500			
Vinyl chloride	**			ND	77	0.500			
Surrogate: 1-Chloro-2-fluorobenzene	"	10.0		8.26	"	70.0-130	82.6	· ·	
, , , , , , , , , , , , , , , , , , , ,				0.40		, 4,,,	52.5		
LCS	0030115-BS	1							
Chlorobenzene	3/22/00	10.0		7.87	ug/l	70.0-130	78.7		
1,1-Dichloroethene	"	10.0		8.40	H	65.0-135	84.0		
Trichloroethene	n	10.0		8.62	P	70.0-130	86.2		
Surrogate: 1-Chloro-2-fluorobenzene	Ħ	10.0		8.39	rr .	70.0-130	83.9		
Matrix Spike	0030115-MS	S1 LA	03091-08						
Chlorobenzene	3/23/00	10.0	ND	9.40	ug/l	60.0-140	94.0		
			- 1-	2		20.0 1.0			

Sequoia Analytical - San Carlos

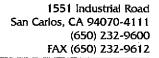




Gettler-Ryan/Geostrategies(1)	Project: Tosco(4)	Sampled: 3/9/00
6747 Sierra Court, Suite D	Project Number: Unocal SS#5430	Received: 3/9/00
Dublin, CA 94568	Project Manager: Deanna Harding	Reported: 3/23/00

## Volatile Organic Compounds by EPA Method 8010B/Quality Control Sequoia Analytical - San Carlos

	Date	Spike	_	QC		Reporting Limit		RPD	RPD	NT-4*
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	70	Notes*
Matrix Spike (continued)	0030115-MS	<u>81</u>	L003091-08							
1,1-Dichloroethene	3/23/00	10.0	ND	9.63	ug/l	60.0-140	96.3			
Trichloroethene	D	10.0	ND	<b>9</b> .71	H	60.0-140	97.1			
Surrogate: 1-Chloro-2-fluorobenzene	rr	10.0		8.70	0	70.0-130	87.0			
Matrix Spike Dup	0030115-MS	<u>SD1</u>	L003091-08							
Chlorobenzene	3/23/00	10.0	ND	8.05	ug/l	60.0-140	80.5	25.0	15.5	
1.1-Dichloroethene	Ħ	10.0	ND	8.84	11	60.0-140	88.4	25.0	8.55	
Trichloroethene	**	10.0	ND	8.93	11	60.0-140	89.3	25.0	8.37	
Surrogate: 1-Chloro-2-fluorobenzene	"	10.0		8.22	"	70.0-130	82.2			





Gettler-Ryan/Geostrategies(1)
Project: Tosco(4)
Sampled: 3/9/00
6747 Sierra Court, Suite D
Project Number: Unocal SS#5430
Project Manager: Deanna Harding
Reported: 3/23/00

#### **Notes and Definitions**

#	Note
1	Chromatogram Pattern: Gasoline C6-C12
2	This sample was diluted due to high non-target compounds.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference