R0253

GETTLER-RYAN INC.

ENVIRONMENTAL PROTECTION
00 APR 18 PM 1:07

TRANSMITTAL

April 7, 2000
G-R #:180062

LOP 1111

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

CC: Mr. Doug Lee
Gettler-Ryan Inc.
Dublin, CA

FROM: Deanna L. Harding
Project Coordinator
Gettler-Ryan Inc.
6747 Sierra Court, Suite J
Dublin, California 94568

RE: Tosco (Unocal) SS #5781
3535 Pierson Street
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	April 4, 2000	Groundwater Monitoring and Sampling Report Annual 2000 - Event of February 26, 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 ***April 17, 2000,*** this report will be distributed to the following:

Enclosure

cc: **Ms. Susan Hugo, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Alameda, CA 94502**

agency/5781dbd.qmt

GETTLER-RYAN INC.

April 4, 2000
G-R Job #180062

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

RE: Annual 2000 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #5781
3535 Pierson Street
Oakland, California

Dear Mr. De Witt:

This report documents the annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On February 26, 2000, field personnel monitored and sampled one well (MW-A) at the above referenced site.

A static groundwater level was measured and the well was checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in the well. Static water level and groundwater elevation data are summarized in Table 1. A Groundwater Elevation Map is included as Figure 1.

The groundwater samples were collected from the monitoring well as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheet is 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

Deanna L. Harding
Project Coordinator

Douglas J. Lee
Senior Geologist, R.G. No. 6882

REGISTERED GEOLOGIST
DOUGLAS J. LEE
No. 6882
STATE OF CALIFORNIA

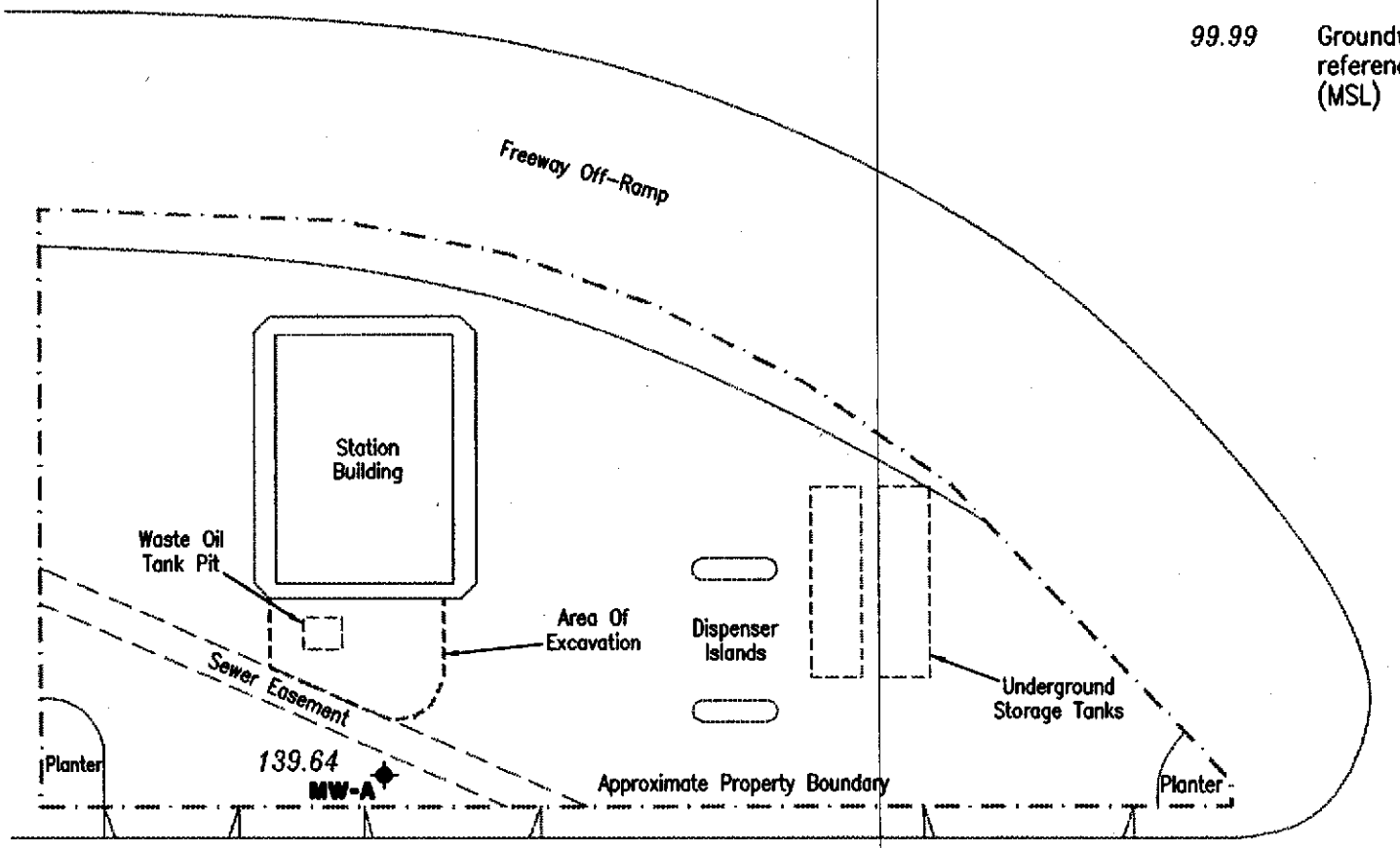
Figure 1: Groundwater Elevation Map
Figure 2: Concentration Map
Table 1: Groundwater Monitoring Data and Analytical Results
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

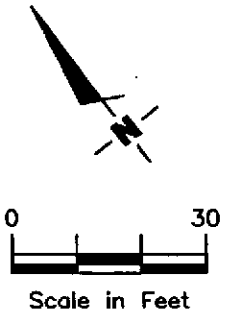
5781.qml

EXPLANATION

✦ Groundwater monitoring well

99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)





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

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

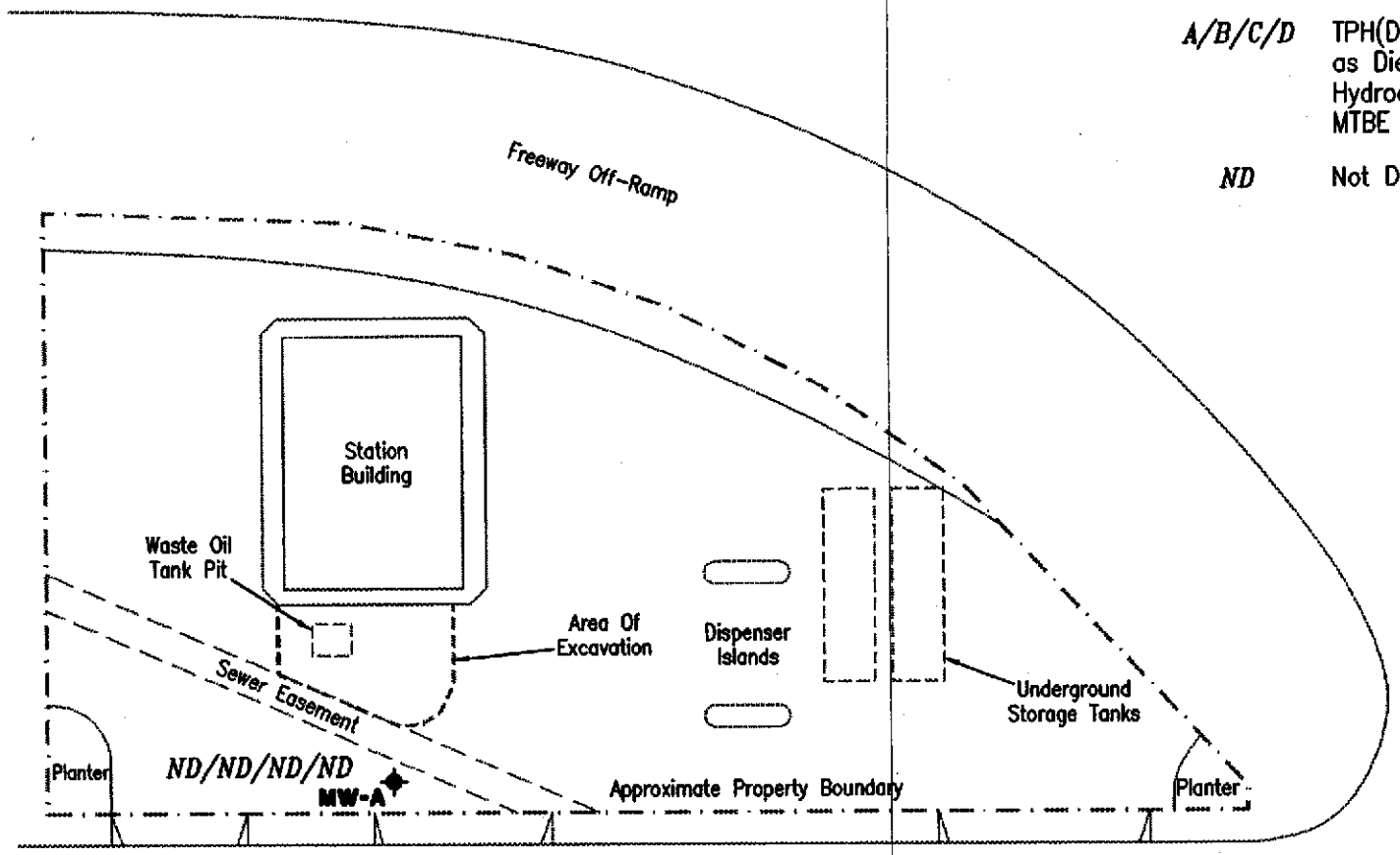
GROUNDWATER ELEVATION MAP
Unocal Service Station No. 5781
3535 Pierson Street
Oakland, California

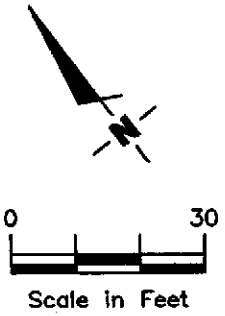
FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180062		February 26, 2000	

EXPLANATION

- ✦ Groundwater monitoring well
- *A/B/C/D* TPH(D) (Total Petroleum Hydrocarbons as Diesel/TPH(G) (Total Petroleum Hydrocarbons as Gasoline)/Benzene/ MTBE concentrations in ppb
- *ND* Not Detected





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

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CONCENTRATION MAP
Unocal Service Station No. 5781
3535 Pierson Street
Oakland, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180062		February 26, 2000	

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5781

3535 Pierson Street

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(D) (ppb)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-A	12/18/90[1]	--	--	73	ND	ND	ND	ND	ND	--
	05/03/91[1]	--	--	ND	ND	ND	ND	ND	ND	--
	08/07/91[1]	--	--	ND	ND	ND	ND	ND	ND	--
	11/08/91[1]	--	--	ND	ND	ND	ND	ND	ND	--
151.80	02/06/92[1]	19.88	131.92	ND	ND	ND	ND	ND	ND	--
	08/04/92[1]	18.95	132.85	ND	ND	ND	ND	ND	0.51	--
	02/10/93[1]	17.71	134.09	ND	ND	ND	ND	ND	ND	--
	02/10/94[1]	15.25	136.55	ND	ND	ND	0.52	ND	0.92	--
	02/09/95[1]	15.68	136.12	ND	ND	ND	ND	ND	ND	--
	02/06/96[2]	12.52	139.28	120[3]	ND	ND	ND	ND	2.1	--
	02/05/97[1]	13.01	138.79	61[4]	ND	ND	ND	ND	ND	ND
	02/02/98[1,5]	11.91	139.89	ND	ND	ND	ND	ND	ND	ND
	02/22/99[6]	11.24	140.56	ND	ND	ND	ND	ND	ND	ND
	02/26/00[7]	**12.16**	**139.64**	**ND**	**ND**	**ND**	**1.01**	**ND**	**ND**	**ND**
Trip Blank										
TB-LB	02/02/98	--	--	--	ND	ND	ND	ND	ND	ND
	02/22/99	--	--	--	ND	ND	ND	ND	ND	ND
	02/26/00	--	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5781

3535 Pierson Street

Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory results prior to February 2, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing elevation
DTW = Depth to Water
(ft.) = Feet
GWE = Groundwater Elevation
TPH(D) = Total Petroleum Hydrocarbons as Diesel
TPH(G) = Total Petroleum Hydrocarbons as Gasoline

B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary butyl ether

ppb = Parts per billion
ppm = Parts per million
ND = Not Detected
-- = Not Measured/Not Analyzed
TOG = Total Oil and Grease

* TOC elevation has been surveyed relative to Mean Sea Level (msl) (Elevation = 119.80 msl).

1 TOG and all EPA Method 8010 compounds were ND.

2 TOG and all EPA Method 8010 compounds were ND except for tetrachloroethene, which was detected at a concentration of 1.8 ppb.

3 Laboratory report indicates the hydrocarbons detected did not appear to be diesel.

4 Laboratory report indicates the hydrocarbons detected appeared to be diesel and non-diesel mixture.

5 All EPA Method 8010 constituents were ND. Total recoverable petroleum hydrocarbons TRPH/TOG by SM 5520 B&F, was detected at 7 ppm.

6 TOG and all EPA Method 8010 compounds were ND except for Methylene chloride, which was detected at a concentration of 10 ppb.

7 TOG and all EPA Method 8010 compounds analyzed by EPA Method 8260B were ND except for Bromodichloromethane, which was detected at a concentration of 7.33 ppb, and Chloroform at 44.8 ppb.

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, 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.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility #5781 Job#: 180062

Address: 3535 Pierson Date: 2-26-00

City: Oakland Sampler: Joe

Well ID MW-A Well Condition: O.K.

Well Diameter 2 in. Hydrocarbon Thickness: 0 (feet) Amount Bailed (product/water): 0 (Gallons)

Total Depth 45.05 ft.

Depth to Water 12.16 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.50	12" = 5.80

32.89 X VF 0.17 = 5.60 X 3 (case volume) = Estimated Purge Volume: 17 (gal.)

Purge Equipment: Disposable Bailer; Bailer; Stack; Suction; Grundfos; Other: _____

Sampling Equipment: Disposable Bailer; Bailer; Pressure Bailer; Grab Sample; Other: _____

Starting Time: 9:18 Weather Conditions: Heavy rain

Sampling Time: 9:45 A.m Water Color: clear Odor: none

Purging Flow Rate: 1 gpm. Sediment Description: none

Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity (mS) µmhos/cm X	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:30	6	8.07	12.85	71.2			
9:33	11	7.99	12.76	73.2			
9:36	17	7.56	12.73	73.4			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-A	3 VOA	Y	HCl	SEQUOIA	TPH(G)/btex/mtbe
	2 VOA	"	"	"	8010
	1 AmG	"	"	"	TOG
	1 AmG	"	—	"	TPHD

COMMENTS: _____

Chain-of-Custody-Reco

TOSCO

Tosco Marketing Company
2003 Dow Canyon Pl., Ste. 420
San Ramon, California 94583

Facility Number: UNOCAL SS #5781 (00240)
Facility Address: 3535 PIERSON STREET, OAKLAND CA
Consultant Project Number: 180062
Consultant Name: Gettler-Ryan Inc. (G-R Inc.)
Address: 6747 Sierra Court, Suite J, Dublin, CA 94568
Project Contact (Name): Deanna L. Harding
(Phone): 925-551-7555 (Fax Number): 925-551-7888

Contact (Name): MR. DAVID DEWITT
(Phone): (925) 277-2384
Laboratory Name: Sequoia Analytical
Laboratory Release Number:
Samples Collected by (Name): JOE ASEMAN
Collection Date: 2-26-00
Signature: Joe Aseman

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Electric	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: TPH Gas + BTEX w/MTBE (8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					DO NOT BILL TB-LB ANALYSI Remarks
TB-LB		VOA	W	G	–	HCL	Y	✓												
MW-A		5 VOA 2x1 liter amber	/	/	9:45	/	/	✓	✓	✓	✓									

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	G-R Inc.	2-26-00 2:00 P.M.			2/26/00 1400
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

Sequoia
Analytical

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

March 15, 2000

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

RE: Tosco/L002240

Dear Deanna Harding

Enclosed are the results of analyses for sample(s) received by the laboratory on February 26, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wayne Stevenson
Project Manager

CA ELAP Certificate Number I2360

Sequoia Analytical

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

ANALYTICAL REPORT FOR L002240

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
TB-LB	L002240-01	Water	2/26/00
MW-A	L002240-02	Water	2/26/00

Sequoia Analytical

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
TB-LB			**L002240-01**				**Water**	
Purgeable Hydrocarbons as Gasoline	0030045	3/9/00	3/9/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70.0-130*		*115*	*%*	
MW-A			**L002240-02**				**Water**	
Purgeable Hydrocarbons as Gasoline	0030049	3/10/00	3/10/00		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	**1.01**	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		5.00	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	*70.0-130*		*120*	*%*	

Sequoia Analytical

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

Volatile Organic Compounds by EPA Method 8010B
Sequoia Analytical - San Carlos

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-A			**L002240-02**				**Water**	**1**
Freon 113	0030035	3/9/00	3/9/00		2.50	ND	ug/l	
Bromodichloromethane	"	"	"		1.25	**7.33**	"	
Bromoform	"	"	"		1.25	ND	"	
Bromomethane	"	"	"		2.50	ND	"	
Carbon tetrachloride	"	"	"		1.25	ND	"	
Chlorobenzene	"	"	"		1.25	ND	"	
Chloroethane	"	"	"		2.50	ND	"	
2-Chloroethylvinyl ether	"	"	"		2.50	ND	"	
Chloroform	"	"	"		1.25	**44.8**	"	
Chloromethane	"	"	"		2.50	ND	"	
Dibromochloromethane	"	"	"		1.25	ND	"	
1,3-Dichlorobenzene	"	"	"		1.25	ND	"	
1,4-Dichlorobenzene	"	"	"		1.25	ND	"	
1,2-Dichlorobenzene	"	"	"		1.25	ND	"	
1,1-Dichloroethane	"	"	"		1.25	ND	"	
1,2-Dichloroethane	"	"	"		1.25	ND	"	
1,1-Dichloroethene	"	"	"		1.25	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.25	ND	"	
trans-1,2-Dichloroethene	"	"	"		1.25	ND	"	
1,2-Dichloropropane	"	"	"		1.25	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.25	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.25	ND	"	
Methylene chloride	"	"	"		12.5	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.25	ND	"	
Tetrachloroethene	"	"	"		1.25	ND	"	
1,1,1-Trichloroethane	"	"	"		1.25	ND	"	
1,1,2-Trichloroethane	"	"	"		1.25	ND	"	
Trichloroethene	"	"	"		1.25	ND	"	
Trichlorofluoromethane	"	"	"		1.25	ND	"	
Vinyl chloride	"	"	"		1.25	ND	"	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	*63.0-118*		*102*	%	
Surrogate: Toluene-d8	"	"	"	*73.0-125*		*102*	"	
Surrogate: 4-BFB	"	"	"	*68.0-118*		*88.9*	"	

Sequoia Analytical

1551 Industrial Road
San Carlos, CA 94070-4111
(650) 232-9600
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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

Conventional Chemistry Parameters by APHA/EPA Methods
Sequoia Analytical - Morgan Hill

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MW-A			**L002240-02**				**Water**	
Oil & Grease	0C03031	3/3/00	3/6/00	SM 5520B	5.00	ND	mg/l	

Sequoia Analytical

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M
Sequoia Analytical - Petaluma

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-A			**L002240-02**				**Water**	
Diesel (C10-C24)	0030169	3/8/00	3/9/00		50.0	ND	ug/l	
Surrogate: o-Terphenyl	"	"	"	*50.0-150*		*94.6*	%	

Sequoia Analytical

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

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*
Batch: 0030045	**Date Prepared: 3/9/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0030045-BLK1**									
Purgeable Hydrocarbons as Gasoline	3/9/00			**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*		*12.2*	"	*70.0-130*	*122*			
LCS	**0030045-BS1**									
Benzene	3/9/00	10.0		8.01	ug/l	70.0-130	80.1			
Toluene	"	10.0		8.20	"	70.0-130	82.0			
Ethylbenzene	"	10.0		8.93	"	70.0-130	89.3			
Xylenes (total)	"	30.0		25.5	"	70.0-130	85.0			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*12.0*	"	*70.0-130*	*120*			
LCS	**0030045-BS2**									
Purgeable Hydrocarbons as Gasoline	3/9/00	250		260	ug/l	70.0-130	104			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*13.4*	"	*70.0-130*	*134*			*2*
Matrix Spike	**0030045-MS1**		**L003077-01**							
Purgeable Hydrocarbons as Gasoline	3/9/00	250	ND	242	ug/l	60.0-140	**96.8**			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*10.9*	"	*70.0-130*	*109*			
Matrix Spike Dup	**0030045-MSD1**		**L003077-01**							
Purgeable Hydrocarbons as Gasoline	3/9/00	250	ND	253	ug/l	60.0-140	**101**	25.0	**4.25**	
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*11.5*	"	*70.0-130*	*115*			
Batch: 0030049	**Date Prepared: 3/10/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0030049-BLK1**									
Purgeable Hydrocarbons as Gasoline	3/10/00			**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*		*12.7*	"	*70.0-130*	*127*			
LCS	**0030049-BS1**									
Benzene	3/10/00	10.0		8.40	ug/l	70.0-130	84.0			
Toluene	"	10.0		8.63	"	70.0-130	86.3			

Sequoia Analytical

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

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*
LCS (continued)	**0030049-BS1**									
Ethylbenzene	3/10/00	10.0		9.43	ug/l	70.0-130	94.3			
Xylenes (total)	"	30.0		26.9	"	70.0-130	89.7			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*12.7*	"	*70.0-130*	*127*			
LCS	**0030049-BS2**									
Purgeable Hydrocarbons as Gasoline	3/10/00	250		245	ug/l	70.0-130	98.0			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*13.8*	"	*70.0-130*	*138*			*2*
Matrix Spike	**0030049-MS1**		**L003013-10**							
Benzene	3/10/00	10.0	ND	7.60	ug/l	60.0-140	**76.0**			
Toluene	"	10.0	ND	7.24	"	60.0-140	**72.4**			
Ethylbenzene	"	10.0	ND	7.38	"	60.0-140	**73.8**			
Xylenes (total)	"	30.0	ND	20.6	"	60.0-140	**68.7**			
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*11.8*	"	*70.0-130*	*118*			
Matrix Spike Dup	**0030049-MSD1**		**L003013-10**							
Benzene	3/10/00	10.0	ND	8.27	ug/l	60.0-140	**82.7**	25.0	**8.44**	
Toluene	"	10.0	ND	8.14	"	60.0-140	**81.4**	25.0	**11.7**	
Ethylbenzene	"	10.0	ND	8.33	"	60.0-140	**83.3**	25.0	**12.1**	
Xylenes (total)	"	30.0	ND	23.1	"	60.0-140	**77.0**	25.0	**11.4**	
Surrogate: a,a,a-Trifluorotoluene	"	*10.0*		*12.1*	"	*70.0-130*	*121*			

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

Volatile Organic Compounds by EPA Method 8260A/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*
Batch: 0030035	**Date Prepared: 3/7/00**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0030035-BLK1**									
Freon 113	3/7/00			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				
Chlorobenzene	"			ND	"	0.500				
Chloroethane	"			ND	"	1.00				
2-Chloroethylvinyl ether	"			ND	"	1.00				
Chloroform	"			ND	"	0.500				
Chloromethane	"			ND	"	1.00				
Dibromochloromethane	"			ND	"	0.500				
1,3-Dichlorobenzene	"			ND	"	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				
1,2-Dichloroethane	"			ND	"	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,2,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	0.500				
Surrogate: 1,2-Dichloroethane-d4	"	*10.0*		*9.36*	"	*63.0-118*	*93.6*			
Surrogate: Toluene-d8	"	*10.0*		*10.4*	"	*73.0-125*	*104*			
Surrogate: 4-BFB	"	*10.0*		*9.30*	"	*68.0-118*	*93.0*			
Blank	**0030035-BLK2**									
Freon 113	3/9/00			ND	ug/l	1.00				
Bromodichloromethane	"			ND	"	0.500				
Bromoform	"			ND	"	0.500				
Bromomethane	"			ND	"	1.00				
Carbon tetrachloride	"			ND	"	0.500				

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

Volatile Organic Compounds by EPA Method 8260A/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*
Blank (continued)	**0030035-BLK2**									
Chlorobenzene	3/9/00			**ND**	ug/l	**0.500**				
Chloroethane	"			**ND**	"	**1.00**				
2-Chloroethylvinyl ether	"			**ND**	"	**1.00**				
Chloroform	"			**ND**	"	**0.500**				
Chloromethane	"			**ND**	"	**1.00**				
Dibromochloromethane	"			**ND**	"	**0.500**				
1,3-Dichlorobenzene	"			**ND**	"	**0.500**				
1,4-Dichlorobenzene	"			**ND**	"	**0.500**				
1,2-Dichlorobenzene	"			**ND**	"	**0.500**				
1,1-Dichloroethane	"			**ND**	"	**0.500**				
1,2-Dichloroethane	"			**ND**	"	**0.500**				
1,1-Dichloroethene	"			**ND**	"	**0.500**				
cis-1,2-Dichloroethene	"			**ND**	"	**0.500**				
trans-1,2-Dichloroethene	"			**ND**	"	**0.500**				
1,2-Dichloropropane	"			**ND**	"	**0.500**				
cis-1,3-Dichloropropene	"			**ND**	"	**0.500**				
trans-1,3-Dichloropropene	"			**ND**	"	**0.500**				
Methylene chloride	"			**ND**	"	**5.00**				
1,1,2,2-Tetrachloroethane	"			**ND**	"	**0.500**				
Tetrachloroethene	"			**ND**	"	**0.500**				
1,1,1-Trichloroethane	"			**ND**	"	**0.500**				
1,1,2-Trichloroethane	"			**ND**	"	**0.500**				
Trichloroethene	"			**ND**	"	**0.500**				
Trichlorofluoromethane	"			**ND**	"	**0.500**				
Vinyl chloride	"			**ND**	"	**0.500**				
Surrogate: 1,2-Dichloroethane-d4	"	*10.0*		*10.7*	"	*63.0-118*	*107*			
Surrogate: Toluene-d8	"	*10.0*		*9.73*	"	*73.0-125*	*97.3*			
Surrogate: 4-BFB	"	*10.0*		*9.50*	"	*68.0-118*	*95.0*			
Blank	**0030035-BLK3**									
Freon 113	3/13/00			**ND**	ug/l	**1.00**				
Bromodichloromethane	"			**ND**	"	**0.500**				
Bromoform	"			**ND**	"	**0.500**				
Bromomethane	"			**ND**	"	**1.00**				
Carbon tetrachloride	"			**ND**	"	**0.500**				
Chlorobenzene	"			**ND**	"	**0.500**				
Chloroethane	"			**ND**	"	**1.00**				
2-Chloroethylvinyl ether	"			**ND**	"	**1.00**				
Chloroform	"			**ND**	"	**0.500**				
Chloromethane	"			**ND**	"	**1.00**				
Dibromochloromethane	"			**ND**	"	**0.500**				

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

Volatile Organic Compounds by EPA Method 8260A/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*
Blank (continued)	**0030035-BLK3**									
1,3-Dichlorobenzene	3/13/00			ND	ug/l	0.500				
1,4-Dichlorobenzene	"			ND	"	0.500				
1,2-Dichlorobenzene	"			ND	"	0.500				
1,1-Dichloroethane	"			ND	"	0.500				
1,2-Dichloroethane	"			ND	"	0.500				
1,1-Dichloroethene	"			ND	"	0.500				
cis-1,2-Dichloroethene	"			ND	"	0.500				
trans-1,2-Dichloroethene	"			ND	"	0.500				
1,2-Dichloropropane	"			ND	"	0.500				
cis-1,3-Dichloropropene	"			ND	"	0.500				
trans-1,3-Dichloropropene	"			ND	"	0.500				
Methylene chloride	"			ND	"	5.00				
1,1,2,2-Tetrachloroethane	"			ND	"	0.500				
Tetrachloroethene	"			ND	"	0.500				
1,1,1-Trichloroethane	"			ND	"	0.500				
1,1,2-Trichloroethane	"			ND	"	0.500				
Trichloroethene	"			ND	"	0.500				
Trichlorofluoromethane	"			ND	"	0.500				
Vinyl chloride	"			ND	"	0.500				
Surrogate: 1,2-Dichloroethane-d4	"	*10.0*		*9.42*	"	*63.0-118*	*94.2*			
Surrogate: Toluene-d8	"	*10.0*		*10.4*	"	*73.0-125*	*104*			
Surrogate: 4-BFB	"	*10.0*		*8.66*	"	*68.0-118*	*86.6*			
LCS	**0030035-BS1**									
Chlorobenzene	3/7/00	10.0		9.84	ug/l	70.0-130	98.4			
1,1-Dichloroethene	"	10.0		9.83	"	65.0-135	98.3			
Trichloroethene	"	10.0		10.3	"	70.0-130	103			
Surrogate: 1,2-Dichloroethane-d4	"	*10.0*		*9.39*	"	*63.0-118*	*93.9*			
Surrogate: Toluene-d8	"	*10.0*		*10.3*	"	*73.0-125*	*103*			
Surrogate: 4-BFB	"	*10.0*		*9.39*	"	*68.0-118*	*93.9*			
LCS	**0030035-BS2**									
Chlorobenzene	3/9/00	10.0		9.37	ug/l	70.0-130	93.7			
1,1-Dichloroethene	"	10.0		10.0	"	65.0-135	100			
Trichloroethene	"	10.0		10.1	"	70.0-130	101			
Surrogate: 1,2-Dichloroethane-d4	"	*10.0*		*10.4*	"	*63.0-118*	*104*			
Surrogate: Toluene-d8	"	*10.0*		*9.78*	"	*73.0-125*	*97.8*			
Surrogate: 4-BFB	"	*10.0*		*9.32*	"	*68.0-118*	*93.2*			
LCS	**0030035-BS3**									
Chlorobenzene	3/13/00			9.28	ug/l	70.0-130				

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Gettler-Ryan/Geostrategies(1)	Project: Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number: Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager: Deanna Harding	Reported: 3/15/00

Volatile Organic Compounds by EPA Method 8260A/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*
LCS (continued)	**0030035-BS3**									
1,1-Dichloroethene	3/13/00			9.70	ug/l	65.0-135				
Trichloroethene	"			10.1	"	70.0-130				
Surrogate: 1,2-Dichloroethane-d4	"	*10.0*		*9.29*	"	*63.0-118*	*92.9*			
Surrogate: Toluene-d8	"	*10.0*		*10.5*	"	*73.0-125*	*105*			
Surrogate: 4-BFB	"	*10.0*		*8.65*	"	*68.0-118*	*86.5*			
Matrix Spike	**0030035-MS1**		**L003006-03**							
Chlorobenzene	3/7/00	10.0	ND	9.61	ug/l	60.0-140	**96.1**			
1,1-Dichloroethene	"	10.0	ND	9.82	"	60.0-140	**98.2**			
Trichloroethene	"	10.0	ND	10.2	"	60.0-140	**102**			
Surrogate: 1,2-Dichloroethane-d4	"	*10.0*		*9.86*	"	*63.0-118*	*98.6*			
Surrogate: Toluene-d8	"	*10.0*		*9.97*	"	*73.0-125*	*99.7*			
Surrogate: 4-BFB	"	*10.0*		*9.57*	"	*68.0-118*	*95.7*			
Matrix Spike Dup	**0030035-MSD1**		**L003006-03**							
Chlorobenzene	3/7/00	10.0	ND	9.88	ug/l	60.0-140	**98.8**	25.0	**2.77**	
1,1-Dichloroethene	"	10.0	ND	9.81	"	60.0-140	**98.1**	25.0	**0.102**	
Trichloroethene	"	10.0	ND	10.2	"	60.0-140	**102**	25.0	**0**	
Surrogate: 1,2-Dichloroethane-d4	"	*10.0*		*9.62*	"	*63.0-118*	*96.2*			
Surrogate: Toluene-d8	"	*10.0*		*10.1*	"	*73.0-125*	*101*			
Surrogate: 4-BFB	"	*10.0*		*9.35*	"	*68.0-118*	*93.5*			

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

Conventional Chemistry Parameters by APHA/EPA Methods/Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0C03031	**Date Prepared: 3/3/00**					**Extraction Method: General Prep**				
Blank	**0C03031-BLK1**									
Oil & Grease	3/6/00			ND	mg/l	5.00				
LCS	**0C03031-BS1**									
Oil & Grease	3/6/00	20.0		19.3	mg/l	70-130	96.5			
LCS Dup	**0C03031-BSD1**									
Oil & Grease	3/6/00	20.0		19.0	mg/l	70-130	95.0	30	1.57	

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M/Quality Control
Sequoia Analytical - Petaluma

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0030169	**Date Prepared: 3/8/00**					**Extraction Method: EPA 3510B**				
Blank	**0030169-BLK1**									
Diesel (C10-C24)	3/9/00			ND	mg/l	0.0500				
Surrogate: o-Terphenyl	"	*0.100*		*0.0917*	"	*50.0-150*	*91.7*			
LCS	**0030169-BS1**									
Diesel (C10-C24)	3/9/00	1.00		0.875	mg/l	50.0-150	87.5			
Surrogate: o-Terphenyl	"	*0.100*		*0.0835*	"	*50.0-150*	*83.5*			
LCS Dup	**0030169-BSD1**									
Diesel (C10-C24)	3/9/00	1.00		0.906	mg/l	50.0-150	90.6	20.0	3.48	
Surrogate: o-Terphenyl	"	*0.100*		*0.0839*	"	*50.0-150*	*83.9*			

**Refer to end of report for text of notes and definitions.*

Sequoia Analytical

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Gettler-Ryan/Geostrategies(1)	Project:	Tosco	Sampled: 2/26/00
6747 Sierra Court, Suite D	Project Number:	Unocal SS#5781/180062	Received: 2/26/00
Dublin, CA 94568	Project Manager:	Deanna Harding	Reported: 3/15/00

Notes and Definitions

#	Note
1	Sample was analyzed by EPA method 8260B.
2	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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