GETTLER-RYAN INC.

Nesponson

TRANSMITTAL

March 1, 2001 G-R #: 180022

TO:

Mr. David B. De Witt

Tosco Marketing Company

2000 Crow Canyon Place, Suite 400

San Ramon, California 94583

CC:

Mr. Keith Romstad

ERI, Inc.

73 Digital Drive, Suite 100

Novato, California 94949

FROM:

Deanna L. Harding

Project Coordinator

Gettler-Ryan Inc.

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

Tosco(Unocal) SS #7176

7850 Amador Valley Blvd.

Dublin, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	February 23, 2001	Groundwater Monitoring and Sampling Report First Quarter - Event of January 8, 2001

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 *March 14, 2001*, this report will be distributed to the following:

cc: Mr. Amir K. Gholami, REHS, Alameda County Health Care Services, 1131 Harbor Bay Pkwy., Alameda, CA 94502

Enclosure

trans/7176-DBD

February 23, 2001 G-R Job #180022

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

RE: First Quarter Event of January 8, 2001

Groundwater Monitoring & Sampling Report Tosco (Unocal) Service Station #7176

7850 Amader Valley Poulsyard

7850 Amador Valley Boulevard

Dublin, California

Dear Mr. De Witt:

This report documents the most recent quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached).

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. Dissolved Oxygen Concentrations are summarized in Table 3. 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 Tables 1 and 2. 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

Stanban I Cartar

Senior Geologist, R.G. No. 5577

Figure 1:

Potentiometric Map

Figure 2:

Concentration Map

Table 1:

Groundwater Monitoring Data and Analytical Results

Table 2:

Groundwater Analytical Results - Oxygenate Compounds

Table 3:

Dissolved Oxygen Concentrations

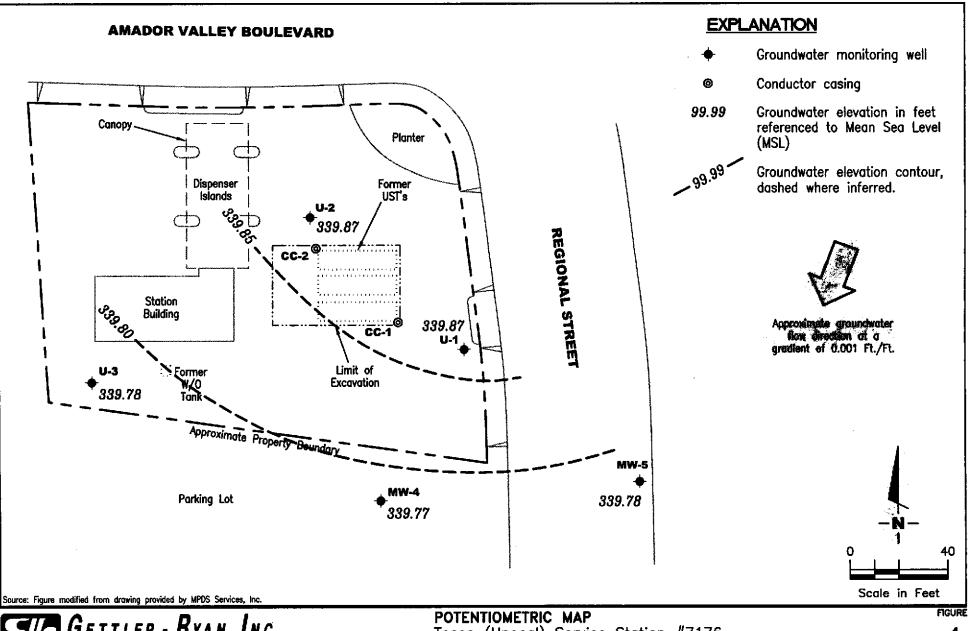
Attachments:

Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

7176.qm1





REVIEWED BY

Tosco (Unocal) Service Station #7176 7850 Amador Valley Boulevard

Dublin, California

DATE

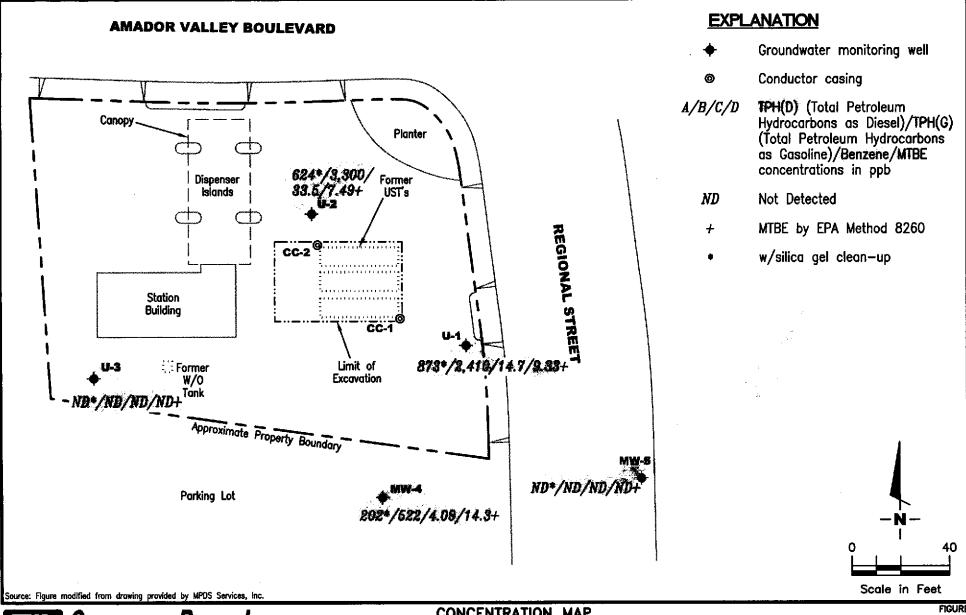
REVISED DATE

180022

PROJECT NUMBER

January 8, 2001

FILE NAME: P:\Enviro\Tosco\7176\Q01-7176.DWG | Layout Tab: Pol1



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

REVIEWED BY

CONCENTRATION MAP

Tosco (Unocal) Service Station #7176 7850 Amador Valley Boulevard Dublin, California

REVISED DATE

DATE January 8, 2001

180022 FILE NAME: P:\ENVIRO\TOSCO\7176\Q01-7176.DWG | Layout Tab: Con1

PROJECT NUMBER

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/		DATE	DTW	S.I.	GWE	TPH-D♦	TPH-G	В	T	E	X	MTHS.
TOC*			(ft.)	(fl. bgs.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-1												
355.62		07/08/95	12.59	10.0-30.0	343.03	$9,400^{3}$	39,000	1,500	19	1,600	5,200	
		10/12/95	15.38		340.24	4,2005	33,000	1,400	ND	1,400	3,100	7
		01/11/96 ¹	16.33		339.29	8,200 ⁵	8,300	690	11	680	1,500	8
		04/11/96 ²	12.20		343.42	630 ⁵	3,200	110	ND	180	290	790
		07/10/96	13.84		341.78	2,2005	2,600	81	4.4	210	230	510
		10/30/96	15.85		339.77	560 ⁵	2,200	67	19	140	150	360
		01/27/97	12.20		343.42	$2,300^{5}$	4,600	98	ND	360	290	150
		04/08/97	13.46		342.16	1,300 ⁵	2,800	50	ND	220	140	ND
		07/17/97	15.30		340.32	460 ⁶	2,300	30	4.5	140	94	190
		10/17/97	16.33		339.29	510 ⁶	1,500	31	6.7	110	88	220
		01/19/98	14.34		341.28	101,900/1,300 ¹⁰	3,100	46	3.4	310	200	170
355.59	NP	04/23/98	11.16		344.43	/1,700 ¹¹	3,400	72	3.8	470	350	280
	NP	07/08/98	12.67		342.92	$2,000^{14}$	4,500	51	ND^{12}	590	430	190
		10/05/98	14.57		341.02	/2,500 ¹⁰	$7,500^{16}$	53	ND^{12}	680	350	190/180 ¹⁷
		01/04/99	15.35		340.24	112,700/2,50011	10,000 ¹⁹	ND ¹²	ND ¹²	1,200	540	ND^{12}
		04/05/99	13.64		341.95	10920/570 ¹⁰	4,900	34	ND^{12}	350	150	150/55 ¹⁷
		07/01/99	14.39		341.20	$^{10}2,700/3,600^{26}$	10,000	45	ND ¹²	850	420	260/110 ¹⁷
		09/30/99	15.32		340.27	102,360/1,680 ¹⁰	$7,150^{27}$	ND ¹²	ND ¹²	415	84.4	12ND/19517
		01/03/00	16.51		339.08	²⁶ 2,000/1,700 ²⁶	$5,400^{27}$	28	8.4	180	33	160/120 ¹⁷
		04/04/00	12.89		342.70	²⁶ 990/1,400 ²⁶	4,800 ²⁷	30	ND^{12}	210	93	170/160 ¹⁷
		07/14/00	14.56		341.03	²⁶ 2,800/1,200 ²⁶	$6,200^{27}$	41	16	170	32	170/120 ¹⁷
		10/27/00	15.96		339.63	²⁶ 1,400/1,300 ²⁶	3,830 ¹⁶	16.8	- ND ¹²	68.6	7.99	55.2/38 ¹⁷
		01/08/01	15.72		339.87	/873 ²⁹	2,410 ¹⁶	14.7	4.30	30.5	5.04	34.5/9.22
U-2												
356.59		07/08/95	12.68	10.0-30.0	343.91	4,700 ³	17,000	430	ND	2,200	590	
		10/12/95	16.01		340.58	3,600 ⁵	24,000	310	60	1,900	190	7
		01/11/96 ^t	17.06		339.53	8,600 ⁵	10,000	210	55	1,400	240	8
		04/11/96 ²	12.75	-	343.84	1,900 ⁵	7,700	130	27	1,100	110	340
		07/10/96	14.42		342.17	2,300 ⁵	5,600	59	15	610	42	250
		10/30/96	16.82		339.77	1,800 ⁵	7,700	67	35	1,000	54	260
		01/27/97	12.91		343.68	660 ⁵	1,600	14	ND	130	7.0	100
						- 	.,		. 12	150	7.0	100

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/		DATE	DTW	S.I.	GWE	TPH-D♦	TPH-G	В	T	E	X	MTBE
TOC*			(ft.)	(ft. bgs.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-2		04/08/97	14.07	10.0-30.0	342.52	$2,000^5$	4,300	35	ND	400	16	ND
(cont)		07/17/97	15.96	10.0-30.0	340.63	1,300 ⁶	6,200	17	22	410	ND	130
(COIII)		10/17/97	17.03		339.56	1,400 ⁶	7,100	71	26	520	50	ND
		01/19/98	15.10		341.49	102,100/1,500 ¹⁰	5,300	46	11	350	16	110
356.55	NP	04/23/98	11.74		344.81	/1,200 ¹¹	3,200	23	11	210	38	160
330.33	NP	07/08/98	13.27		343.28	1,100 ¹⁴	1,600	34	8.5	100	7.4	190
	TAL	10/05/98	14.90		341.65	/1,300 ¹⁰	2,90018	37	8.4	110	7.3	78
		01/04/99	15.94		340.61	11670/250 ²⁰	$2,200^{21}$	35	ND ¹²	17	ND ¹²	86
		04/05/99	14.19		342.36	10660/490 ¹⁰	4,900	21	77	130	310	100/6.9 ¹⁷
		07/03/99	14.19		341.57	²⁴ 210/440 ²⁶	$1,500^{25}$	7.6	ND ¹²	ND ¹²	ND ¹²	¹² ND/35 ¹⁷
		09/30/99	16.00		340.55	10483/340 ¹⁰	256 ²⁷	1.85	ND ¹²	2.42	ND ¹²	26.3/29.8 ¹⁷
		01/03/00	17.20		339.35	²⁶ 2,400/1,900 ²⁶	3,400 ²⁷	23	13	ND ¹²	44	46/14 ¹⁷
		04/04/00	13.50		343.05	²⁶ 1,000/1,000 ²⁶	$3,600^{27}$	34	17	56	ND ¹²	59/25 ¹⁷
		07/14/00	15.23		341,32	²⁶ 1,000/350 ²⁶	$3,100^{27}$	16	13	15	10	100/19 ¹⁷
		10/27/00	16.74		339.81	²⁶ 2,000/1,900 ²⁶	4,180 ¹⁶	30.4	10.2	14.6	ND ¹²	55.5/15 ¹⁷
		01/08/01	16.68		339.87	/ 624 ²⁹	3,366 ¹⁶	33.5	7.32	3.49	ND ¹²	66.7/7.49 ¹⁷
		•										
U-3						•						
358.13		07/08/95	14.58	10.0-30.0	343.55	710 ³	1,1004	0.57	2.1	1. 7	2.4	
		10/12/95	17.60		340.53	470 ⁶	560	ND	0.87	0.7	1,1	
		01/11/96 ¹	18.65		339.48	260 ⁶	230	0.62	0.91	0.97	1.9	
		04/11/96	13.20		344.93	ND	68 ⁹	ND	ND	ND	ND	ND
		07/10/96	15.98		342.15	ND	ND	ND	ND	ND	ND	ND
		10/30/96	18.24		339.89	ND	70	ND	ND	ND	ND	ND
		01/27/97	14.41		343.72	ND	ND	ND	ND	ND	ND	ND
		04/08/97	15.73		342.40	ND	ND	ND	ND	ND	ND	ND
		07/17/97	17.54		340.59	ND	ND	ND	ND	ND	ND	ND
		10/17/97	18.64		339.49	63 ⁶	ND	ND	ND	ND	ND	ND
		01/19/98	16.67		341.46	¹⁰ 68/ND	ND	ND	ND	ND	ND	ND
358.09	NP	04/23/98	13.28		344.81	/ND	ND	ND	ND	ND	ND	ND
	NP	07/08/98	14.90		343.19	80 ¹⁵	ND	ND	ND	ND	ND	ND
		10/05/98	16.50		341.59	/ND	ND	ND	ND	ND	ND	ND
		01/04/99	17.70		340.39	ND	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	S.I.	GWE	TPH-D♦	TPH-G	В	Т	Е	X	МТВЕ
TOC*		(ft.)	(ft. bgs.)	(msl)	(ppb)	(ppb)	(ppb)	(ррв)	(ppb)	(ppb)	(ppb)
U-3	04/05/99	15.67	10.0-30.0	342.42	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
(cont)	07/01/99	16.79		341.30	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
	09/30/99	17.60		340.49	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
	01/03/00	18.86		339.23	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
	04/04/00	15.10		342.99	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
	07/14/00	16.85		341.24	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
	10/27/00	18.35		339.74	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
	01/08/01	18.31		339.78	/ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
MW-4											
356.41	04/23/98	12,11	10.0-25.0	344.30	/1,400 ¹¹	2,500	5.9	6.4	16	31	ND^{12}
•	07/08/98	13.70		342.71	1,40011	$1,000^{13}$	ND ¹²	ND ¹²	ND^{12}	ND ¹²	ND ¹²
	10/05/98	15.18		341.23	/230 ¹⁰	890 ¹⁶	ND^{12}	ND^{12}	ND ¹²	14	ND^{12}
	01/04/99	16.39		340.02	¹⁰ 71/71 ¹⁰	230 ²²	0.56	1.3	1.4	1.8	10
	04/05/99	14.61		341.80	10340/210 ¹⁰	620^{23}	ND ¹²	1.8	2.1	ND ¹²	6.0/9.317
	07/01/99	15.43		340.98	²⁴ 260/310 ²⁶	70019	2.1	ND^{12}	1.9	2.4	¹² ND/21 ¹⁷
	09/30/99	16.27		340.14	10420/220 ¹⁰	582 ²⁷	2.60	1.30	1.98	ND^{12}	23.1/22.5 ¹⁷
	01/03/00	17.50		338.91	²⁶ 250/260 ²⁶	800 ²⁷	4.2	4.6	3.3	11	31/1717
	04/04/00	13.91		342.50	10,15460/340 ²⁶	710 ²⁷	2.0	1.3	4.4	2.0	21/2217
	07/14/00	15.58		340.83	²⁶ 220/76 ²⁶	490 ²⁸	0.89	1.3	0.85	1.8	21/1217
	10/27/00	16.96		339.45	²⁶ 160/120 ²⁶	598 ²¹	ND	1.56	4.65	ND	15.4/14 ¹⁷
	01/08/01	16.64		339.77	/202 ²⁹	522 ²⁷	4.09	1.69	2.53	1.26	17.2/14.3 ¹⁷
MW-5											
355.03	04/23/98	11.15	10.0-25.0	343.88	/100 ¹¹	120	0.53	0.90	1.0	3.8	13
	07/08/98	12.63		342.40	170 ^{to}	ND	ND	ND	ND	ND	12
	10/05/98	14.00		341.03	/100 ¹⁰	ND	ND	ND	ND	ND	12
	01/04/99	15.21		339.82	ND	ND	ND	ND	ND	ND	ND
	04/05/99	13.76		341.27	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
	07/01/99	14.48		340.55	ND	ND	ND	ND	ND	ND	12ND/2.317
	09/30/99	15.15		339.88	¹⁰ 60.4/ND	50.8 ²⁷	ND	ND	ND	ND	ND/ND ¹⁷
	01/03/00	16.34		338.69	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	S.I.	GWE	TPH-D♦	TPH-G	В	T	E	X	MTBE
TOC*		(ft.)	(ft. bgs.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-5	04/04/00	12.90	10.0-25.0	342.13	¹⁵ 69/ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
(cont)	07/14/00	14.48		340.55	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
	10/27/00	15.75		339.28	ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
	01/08/01	15.25		339.78	/ND	ND	ND	ND	ND	ND	ND/ND ¹⁷
Trip Blank											
TB-LB	01/19/98					ND	ND	ND	ND	ND	ND
	04/23/98					ND	ND	ND	ND	ND	ND
	07/08/98					ND	ND	ND	ND	ND	ND
	10/05/98					ND	ND	0.70	ND	0.71	ND
	01/04/99					ND	ND	0.74	ND	0.92	ND
	04/05/99					ND	ND	ND	ND	ND	ND .
	07/01/99					ND	ND	ND	ND	ND	ND
	09/30/99					ND	ND	ND	ND	ND	ND
	01/03/00					ND	ND	ND	ND	ND	ND
	04/04/00					ND	ND	ND	ND	ND	ND
	07/14/00					ND	ND	ND	ND	ND	ND
	10/27/00	~~				ND	ND	ND	ND	ND	NĐ
	01/08/01					ND.	ND	ND	ND	ND	ND

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #7176 7850 Amador Valley Boulevard Dublin, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to January 19, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing

TPH-G = Total Petroleum Hydrocarbons as Gasoline

DTW = Depth to Water

B = Benzene

S.I. = Screen Interval

T = Toluene ND = Not Detected

(ft. bgs.) = Feet Below Ground Surface

E = Ethylbenzene --= Not Measured/Not Analyzed

(ft.) = Feet

X = Xylenes

NP = No purge

(ppb) = Parts per billion

GWE = Groundwater Elevation

MTBE = Methyl tertiary butyl ether

PNA = Polynuclear Aromatic Hydrocarbons

(msl) = Mean sea level

TPH-D = Total Petroleum Hydrocarbons as Diesel

- * TOC elevations were surveyed relative to msl, per the Benchmark AM-STW1977 located at the easterly return at the most easterly corner of intersection at Amador Valley Boulevard and Starward Street (Elevation = 344.17 feet msl).
- ♦ Analytical results reported as follows: TPH-D/TPH-D with silica gel cleanup.
- PNA compound naphthalene was detected in well U-1 at a concentration of 320 ppb, and at a concentration of 310 ppb in well U-2. All other PNA compounds were ND in both wells.
- ² PNA compounds were ND.
- 3 Laboratory report indicates unidentified hydrocarbons C9-C26.
- Laboratory report indicates gasoline and unidentified hydrocarbons >C12.
- Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- 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.
- Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- Laboratory report indicates unidentified hydrocarbons C9-C24.
- Laboratory report indicates diesel and unidentified hydrocarbons <C14.
- Detection limit raised. Refer to analytical reports.
- Laboratory report indicates unidentified hydrocarbons >C8.
- Laboratory report indicates unidentified hydrocarbons <C14.
- Laboratory report indicates discrete peaks.
- Laboratory report indicates weathered gasoline C6-C12.
- 17 MTBE by EPA Method 8260.
- Laboratory report indicates unidentified hydrocarbons <C8.
- Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12.
- Laboratory report indicates diesel and unidentified hydrocarbons <C16.
- Laboratory report indicates unidentified hydrocarbons C6-C12.
- Laboratory report indicates gasoline and unidentified hydrocarbons >C10.
- Laboratory report indicates gasoline and unidentified hydrocarbons < C7.

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #7176 7850 Amador Valley Boulevard Dublin, California

EXPLANATIONS: (cont)

- Laboratory report indicates unidentified hydrocarbons C10-C24.
- Laboratory report indicates gasoline and unidentified hydrocarbons <C6.
- Laboratory report indicates unidentified hydrocarbons <C16.
- Laboratory report indicates gasoline C6-C12.
- Laboratory report indicates gasoline C6-C12 + unidentified hydrocarbons C6-C12.
- Laboratory report indicates hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.

Table 2
Groundwater Analytical Results - Oxygenate Compounds

WELL ID	DATE	ETHANOL	TBA	MTBE	DIPE	ЕТВЕ	TAME	EDB	1,2-DCA
		(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
U-1	04/05/99	ND^1	ND^1	55	ND^1	ND	NDI	ND¹	ND^1
0-1	07/01/99	ND	ND	110	ND	ND	ND	ND	ND
	09/30/99	ND ¹	ND ¹	195	ND^1	ND^1	ND^1	ND	ND^1
	01/03/00	ND	ND	120	ND	ND	ND	ND	ND
	04/04/00	ND ¹	ND ¹	160	ND^1	ND^1	ND^1	ND¹	ND^1
	07/14/00	ND ^t	ND^1	120	ND^{1}	ND^{t}	ND^1	ND^1	ND^1
	10/27/00	ND	ND	38	ND	ND	ND	ND	ND
	01/08/01	ND ¹	ND ¹	9.33	ND ¹	ND ¹	ND ¹	ND ¹	ND^1
									1
U-2	04/05/99	ND ¹	ΝDι	6.9	ND ¹	ND ¹	ND ¹	ND^1	ND
	07/01/99	ND	ND	35	ND	ND	ND	ND	ND
	09/30/99	ND	ND	29.8	ND	ND	ND	ND	ND
÷	01/03/00	ND	ND	14	ND	ND	ND	ND	ND
	04/04/00	ND	\mathbf{ND}^1	25	ND^1	ND^1	NDι	ND	ND^1
	07/14/00	ND	ND	19	ND	ND	ND	ND	ND
	10/27/00	ND	ND	15	ND	ND	ND	ND	ND
	01/08/01	ND ¹	ND¹	7.49	ND ^t	NDI	ND¹	ND ¹	ND ¹
U-3	04/05/99	ND	ND	ND	ND	ND	ND	ND	ND
0-3	07/01/99	ND	ND	ND	ND	ND	ND	ND	ND
	09/30/99	ND	ND	ND	ND	ND	ND	ND	ND
	01/03/00	ND	ND	ND	ND	ND	ND	ND	ND
	04/04/00	ND	ND	ND	ND	ND	ND	ND	ND
	07/14/00	ND	ND	ND	ND	ND	ND	ND	ND
	10/27/00	ND	ND	ND	ND	ND	ND	ND	ND
	01/08/01	ND	ND	ND	ND	ND	ND	ND	ND

Table 2
Groundwater Analytical Results - Oxygenate Compounds
Tosco (Unocal) Service Station #7176

WELL ID	DATE	ETHANOL	TBA	MTBE	DIPE	ETBE	TAME	EDB	1,2-DCA
		(ppb)	(ppb)	(ppb)	(ppb)	(ррв)	(ppb)	(ppb)	(ppb)
MW-4	04/05/99	ND	ND	9.3	ND	ND	ND	ND	ND
	07/01/99	ND	ND	21	ND	ND	ND	ND	ND
	09/30/99	ND	ND	22.5	ND	ND	ND	ND	ND
	01/03/00	ND	ND	17	ND	ND	ND	ND	ND
	04/04/00	ND	ND	22	ND	ND	ND	ND	ND
	07/14/00	ND	ND	12	ND	ND	ND	ND	ND
	10/27/00	ND	ND	14	ND	ND	ND	ND	ND
	01/08/01	ND	ND	14.3	ND	ND	ND	ND	ND
MW-5	04/05/99	ND	ND	ND	ND	ND	ND	ND	ND
	07/01/99	ND	ND	2.3	ND	ND	ND	ND	ND
	09/30/99	ND	ND	ND	ND	ND	ND	ND	ND
	01/03/00	ND	ND	ND	ND	ND	ND	ND	ND
	04/04/00	ND	ND	ND	ND	ND	ND	ND	ND
	07/14/00	ND	ND	ND	ND	ND	ND	ND	ND
	10/27/00	ND	ND	ND	ND	ND	ND	ND	ND
	01/08/01	ND	ND	ND	ND	ND	ND	ND	ND

Table 2

Groundwater Analytical Results - Oxygenate Compounds

Tosco (Unocal) Service Station #7176 7850 Amador Valley Boulevard Dublin, California

EXPLANATIONS:

TBA = Tertiary butyl alcohol

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

EDB = 1,2-Dibromomethane

1,2-DCA = 1,2-Dichloroethane

(ppb) = Parts per billion

ND = Not Detected

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

Detection limit raised. Refer to analytical reports.

Table 3

Dissolved Oxygen Concentrations

Tosco (Unocal) Service Station #7176 7850 Amador Valley Boulevard Dublin, California

WELL ID	DATE	Before Purging	After Purging
		(mg/L)	(mg/L)
U-1	01/11/96	٠	3.41
∪-1	04/11/96	3.77	3.78
	07/10/96 ¹	1.22	5.70
	10/30/96 ¹	1.41	
	01/27/97 ¹	1.34	
	04/08/97 ¹	2.09	
	04/08/97 07/17/97 ¹	2.00	
	10/17/97	1.86	
	01/19/98 ¹	2.91	
	04/23/98 ¹	0.59	
	04/23/98 ¹		
	U7/U8/98°	1.10	
U-2	01/11/96		3.99
	04/11/96	3.32	3.41
	07/10/96 ¹	1.01	
	10/30/96 ¹	1.42	
	01/27/971	1.29	
	04/08/97 ¹	1.69	**
	07/17/97	2.08	.
	10/17/97 ¹	1.80	
	01/19/98 ¹	2.95	
	04/23/98 ¹	0.55	
	07/08/98 ¹	1.36	
U-3	01/11/96		5.05
· -	04/11/96	5.16	4.96
	07/10/96 ¹	3.44	
	10/30/961	2.18	
	01/27/97 ¹	2.61	
	04/08/971	3.73	
	07/17/97 ¹	2.65	
	10/1 7 /97 ¹	2.44	
	01/19/98 ¹	6.51	
	04/23/98 ¹	4.72	
	07/08/981	4.35	
CC-1	10/02/95	2.83	

EXPLANATIONS:

Dissolved oxygen concentrations prior to January 19, 1998, were compiled from reports prepared by MPDS Services, Inc.

CC-1 = Conductor casing in the underground storage tank backfill

-- = Not Measured

(mg/L) = milligrams per liter

The wells were not purged on this date.

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 an 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.

Client/ Facility # <u>7/</u>	76		Jol	o#:	1800:	22	· · · · · · · · · · · · · · · · · · ·
	50 Amadoc	Valley	Rd. Da	te:	1-8-0	1	
City:				mpler:	Joe.		
Well ID	<u>U-1</u>	We	Il Condition:		oik.		
Well Diameter	2 _{in.}	-	irocarbon	3.	Amount B	سخفر	
Total Depth	27.80 +		ckness:	= 0.17	3" = 0.3		(g#.) ' = 0.66
Depth to Water	15.72 A	I .	ctor (VF)		1.50	12" = 5.80	
Purge Equipment:	12 08 x Disposable Bailer Bailer Stack Suction Grundfos Other:	1	Samplin Equipme	g ant: Di Ba Pr G	= Estimated P isposable Bailer ressure Bailer rab Sample	ailer	6. 5 tost.)
Starting Time: Sampling Time: Purging Flow Rat Did well de-wate	te:	5 <u>A</u> -w	Weather Condi Water Color: _ Sediment Desc If yes; Time:	ription: ±	ione '	Odor: 7	
Time	Volume pH (gal.)	Con µm	ductivity (1 ⁰⁾ Te hos/cm ×	mperature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
10:06	2 715			85.2		. <u> </u>	
10:10	4 7.10			66.1	~	· ———	·
<u> 10:14 </u>	6.5 7.14		4.75	65.8			`
			RATORY INFOR				
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE		ORATORY	TPHG. BTE	
U-1	3 V 0 A	Υ,	HCL HCL		1/	(6) 0xy's 1,2	
	1 Aug.	//	7.1-5		ĉi.	TPHD (w. S	
COMMENTS: _	1						

Client/ Facility #7/	76	1144	Job#:	1800	22	
•	50 Amador	Vallent	-	1 0		
	blis	- 1		ler: <u>Toe</u>		
City.	211.4					
Well ID	0-2	Well	Condition:	o.k.		
Well Diameter	2 in	•	rocarbon	Amount	-	
Total Depth	26.46 +		kness:	<u>in.</u> (product/) 17 3" = 0		' = 0.66
Depth to Water	16.68 "	1	tor (VF)	6* = 1.50	12" = 5.80	
	9.78 ×	VF 017		volume) = Estimated	Purge Volume: _	S lost 1
Purge	Disposable Bailer	> ·	Sampling			
Equipment:	Bailer Stack	•	Equipment:	Disposable Bailer	Bailer	
	Suction Grundfos	•.		Pressure Ba Grab Sampi		
	Other:			Other:		
Starting Time:	10:35		Weather Condition	s: Rainy		
Sampling Time:	(0:5		Water Color:			
Purging Flow Rat	e:	opm.	Sediment Descript	tion: Nede	·- 	
Did well de-wate	r?		If yes; Time:	Volu	ıme:	(gal_)
	olume pH	Cond	luctivity 00 Tempe	rature D.O. (mg/L)		Alkalinity (ppm)
	(gal.) 1.5 7.17		Q1 65		(312.7)	(የያተ። /
10:05	3 7-2	7 4.	82 65.		- 	
10:48	7.3	3 4	86 66	2		
					_	<u>, </u>
						
						
SAMPLE ID	(#) - CONTAINER	REFRIG.	ATORY INFORMAT PRESERV. TYPE	LABORATORY	ANALY	'SES
U-2	3404	γ.	HCL	seq.	TPHG. BTE	x, MTBE
	2 VO A	= /	HCL	"	(6) 0x4's 1,2	
	1 Aug.	. //		i,	TPHD (w. 5	· gel)
		<u> </u>				
COMMENTS: _						
	·					

9/37-fieldat.frm

acility # <u>7/</u>	76	<u> </u>	_ Job#:	1800	22	
	TO Amader	Valley Rd.	Date:	1-8-0	<u> </u>	
	blin			ler: <u>Joe</u>		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	**************************************					
Well ID	<u>U-3</u>	Well Co	ndition:	o.k.		
Vell Diameter	2 _{in} _	Hydroca		Amount		
otal Depth	28.41 +	Thickne: Volume	2" = 0.			(gai) = 0.66
Depth to Water	1831 #	Factor (VF)	6" = 1.50		
	x	VF 0.17 =	.72 x 3 (case	volume) = Estimated	Purge Volume:	5.5 (pal.)
Purge Equipment:	Disposable Bailer Bailer	>	Sampling Equipment:	Disposable I	Bailer	,
	Stack			Bailer Pressure Ba	iler	
÷	Suction Grundfos	•		Grab Sampi		
	Other:			Other:	_	
Sampling Time: Purging Flow Rat Did weil de-wate	te: 05	gpm. Sec	•			
Time \	Volume pH (gal.)	Conducti µmhos/c		(mg/L)	ORP (mV)	Alkalinity (ppm)
8.50	1.5 7.6					
		1260	66.	4		,
<u>8:53</u> 8:54	7.50		/ /	3		
8'53 8'54	3 7.46	12.65	/ /	3		
	3 7.46 		/ /	<u> </u>		
8:54	<i>Ş</i>	LABORATI	ORY INFORMA	TION	ANAL	YSES
	(#) - CONTAINER	LABORATO	ORY INFORMA	TION LABORATORY	ANAL'	
8:54	<i>Ş</i>	LABORATO REFRIG. PF	ORY INFORMA	TION		x, mire
8:54	(#) - CONTAINER 3 V 0 14	LABORATO	ORY INFORMA	TION LABORATORY 5°2,	TPNG. 8TE	x, mise
8:54	(#) - CONTAINER 3 NO A 2 NO A	LABORATO REFRIG. PF	ORY INFORMA	TION LABORATORY \$'cq.	TPNG. 8TE	, PCA /EPB
8:54 SAMPLE ID U-3	(#) - CONTAINER 3 NO A 2 NO A	LABORATO REFRIG. PF	ORY INFORMA	TION LABORATORY \$'cq.	TPNG. 8TE	, MTBE , PCA /EPB
8:54	(#) - CONTAINER 3 NO A 2 NO A	LABORATO REFRIG. PF	ORY INFORMA	TION LABORATORY \$'cq.	TPNG. 8TE	, MIGE , PCA /EPB

Client/ Facility #7/	76		Job#:	1800	22
Address: 78	50 Amador	Valley B	Date:	1-8-	01
City:		<u></u>		ler: <u>50 e</u>	
Well ID	mw-d	Well	Condition:	ock	
Well Diameter	2 _{in} _	•	rocarbon	Amount	And the same of th
Total Depth	25.40 n		kness:		(gal.) 0.38 4" = 0.66
Depth to Water	16.64		tor (VF)	6" = 1.50	
Purge Equipment:	9.76 x Disposable Bailer Bailer Stack Suction Grundfos Other:	7	Sampling Equipment:	Disposable Bailer Pressure Bailer Grab Samp	ailer Ne
Starting Time: Sampling Time: Purging Flow Rat Did well de-wate	9:20 9:45 e: 0.5c	A.m	Sediment Descript	ion: New	Odor: Milo
	Volume pH (gal.) 1.5 7.59 3 7.42 4.5 7.27	4. 4.	19 65.	(mg/L 3	
SAMPLE ID	(#) - CONTAINER	LABOR REFRIG.	ATORY INFORMAT	TION LABORATORY	ANALYSES
MW-4	3404	Υ,	HCC	seq.	TPHG. BTEX, MTBE
	2 VOA	:/	HCL	i i	(6) 0xy's 1,2, DCA /EPB
	I FWY.		-	***	17HV (W. 3. 97)
COMMENTS: _					

lient/ acility # <u>7/</u>	76		Job#:	1800		
	O Amader	Valley Rd.	Date:	1-8-0	<u> </u>	
ity:				r: <u>50e</u>		
Weil ID	<u>mw-5</u>	Well Con	dition:	O.k.	<u></u>	
Vell Diameter	2 _{in.}	Hydrocar	/ L	Amount i		(oal.)
otal Depth	24.88 +	Thicknes	s: 2" = 0.17			" = 0.66
epth to Water	15.25 #	Factor (V		6" = 1.50	12" = 5.80	
	9,63 x	VF 017 -/	64 x 3 (case vol	ume) = Estimated	Purge Volume: _	<u> </u>
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:		Sampling Equipment: Or	Disposable E Bailer Pressure Bai Grab Sample ther:	ler e	7
Sampling Time: Purging Flow Rat Did well de-wate	:e:	pm. Sed	iment Descriptio	on: weekVolu		
Time	Volume pH (gal.)	Conductiv	rity (d) Tempera	ture D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u> X'10 </u>	1.5 7.88	13.61			_	
8:16	7.68		<u> </u>			·
8:20	5 7.61		<u> </u>			
SAMPLE ID	(#) - CONTAINER		RY INFORMAT	ION LABORATORY		LYSES
NW-S	3 NO 4	Υ.	HCL	seq.		Ex, MTBE
	2 40 A	11	HCL	- 11		2,DCA /EPB
	1 Aug.	//		it	TPND (w.	>. qe/)
		<u> </u>				
COMMENTS: _						

	1
T	osco
Took	Haristan Company Construct Parks &

TOS		Cone	Facili ultant Pr ultant He iddress_f	lly Address roject Hus ome <u>Ge</u> 5747 S ontact (H	. <u>785</u> nber ttler ierra ome) _D	OCAL SS# O Amador 18002 -Ryan Ind Court. Seanna L. 0-551-75	Vall 2.85 c. (G Suire Hard	ey Bl R In I, D	c.) uhlfi	n, CA	9456	- - -	Laboralo Laborala Samplee	ry Name ry Retsa Collecte L Date _	(Phone Section Huming of the Control	uoia	(92 Ana: ∑o∈	5) 2) Lytic	77-23 :a1		
Sample Number	Leb Sample Number	Number of Contohers	Metrix S = Soil A = Ar W = Water C = Cherpool	Type 6 = Grab C = Campashs D = Clearte		Sample Preservation	load (Yes or No.)	TPH Cast ETEX WANTER TO BOOK	1	į	Pureable Halocarbors (8010)	mordee	VuojAe	To B	Letches CAC:Pb.Zr.Ni (ICup or AA)	60					DO NOT BILL TB-LB ANALYSIS Remarks
B-LB		704	W	Ġ	,	N CL	Y	V					ļ				· · · ·	· ·			RUN Silies Gel
U-1		i And	/	/	10:15		/	 	1				 .		·	✓ /					Diesel hits.
U.2		lt		/	9:10	 		1	 	-	<u> </u>		.			∨					Diesel Aides
U-3		4			9:45			1	1	<u> </u>	_		 	 -		<u> </u>				 	
1w-4		11		/ 1	8:32	ļ	<i>x</i>	1	7						 	Ž		<u>-</u> -		1	
MW-5_			. /	 					-	\vdash		-	┨╌─	 	 						
				<u> </u>				╁	-					 	 					1	
		-	<u></u>	<u>-</u>		<u> </u>		1			 										
				 				-	\vdash			 									
								+	 	 			-								,
								-	 												•
_					 			_	 												
					<u> </u>			•													·
lingulahed By	حننک	· · · · · ·	G-	onization R Inc	. //	Date/Time 3 6 -8-c Date/Time		celved B	<u>in (</u>	Ox.			Organiza Organiza		10	•/Ijm• (// 0/ •/Iim•	500		Turn Ar	24 46 6	ne (Cirole Cholee) Hre. Hre. Daye
Ilnquiehed By	(Signature)		Org	onizetion		Date/Time	R	raleved F	or Lobo	oratory I	ly (Signo	olur+)			Dat	•/Tim•			. (_	Days





February 21, 2001

Deanna Harding Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568 RE: Tosco(1) / L101035

Enclosed are the results of analyses for samples received by the laboratory on 01/08/01. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya Pelt

Project Manager

CA ELAP Certificate Number 2360

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

Project: Tosco(1)

Project Number: Unocal SS#7176 Project Manager: Deanna Harding Reported: 02/21/01 12:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L101035-01	Water	01/09/01 00:00	01/08/01 15:00
U-1	L101035-02	Water	01/08/01 10:25	01/08/01 15:00
U-2	L101035-03	Water	01/08/01 10:55	01/08/01 15:00
U-3	L101035-04	Water	01/08/01 09:10	01/08/01 15:00
MW-4	L101035-05	Water	01/08/01 09:45	01/08/01 15:00
MW-5	L101035-06	Water	01/08/01 08:32	01/08/01 15:00

6747 Sierra Court, Suite J

Project: Tosco(1)

Project Number: Unocal SS#7176 Project Manager: Deanna Harding

Reported: 02/21/01 12:20

Dublin CA, 94568

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<u> </u>	pled: 01/09/01 00:00	Received:	01/08/01	15:00					
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l	1	1010036	01/10/01	01/10/01	DHS LUFT	
Benzene	ND	0.500	**	tr	p	Ħ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	n	
Toluene	ND	0.500	Ħ	Ħ	н	H	н	H	
Ethylbenzene	ND	0.500	n			H	н	н	
Xylenes (total)	ND	0.500		**		н	*	**	
Methyl tert-butyl ether	ND	5.00	n	**			*		
Surrogate: a,a,a-Trifluorotoluene		86.1 %	70-	130	#	п	п	"	
U-1 (L101035-02) Water Sampled	l: 01/08/01 10:25 R	eceived: 01/0	08/01 15:0	00					
Purgeable Hydrocarbons as Gasolii	ne 2410	250	ug/l	5	1010043	01/11/01	01/11/01	DHS LUFT	P-02
Benzene	14.7	2.50	. P	n	#1	•	**	Ħ	
Toluene	4.30	2.50		#	П	Ħ	#	**	
Ethylbenzene	30.5	2.50	R	n	#	Ħ	#	11	
Xylenes (total)	5.04	2.50	-	"	**	H	Ħ	11	
Methyl tert-butyl ether	34.5	25.0	**	"	H	h	*	#	
Surrogate: a,a,a-Trifluorotoluene		115%	70-	130	u	**	n	n .	
U-2 (L101035-03) Water Sampled	d: 01/08/01 10:55 R	eceived: 01/	08/01 15:	00					
Purgeable Hydrocarbons as Gasoli	ne 3300	250	ug/l	5	1010043	01/11/01	01/11/01	DHS LUFT	P-02
Benzene	33.5	2.50	п	#	n	#	n	•	
Toluene	7.32	2.50	H	n	н	n	#	#	
Ethylbenzene	3.49	2.50	*	Ħ	17	Ħ	Ħ	п	
Xylenes (total)	ND	2.50		"	**	n	#	н	
Methyl tert-butyl ether	66.7	25.0	#	n			n	Ħ	
Surrogate: a,a,a-Trifluorotoluene		164 %	70-	130	"	π	*		S-04

6747 Sierra Court, Suite J

Dublin CA, 94568

Project: Tosco(1)

Project Number: Unocal SS#7176

Project Manager: Deanna Harding

Reported:

02/21/01 12:20

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-3 (L101035-04) Water Sampled: 01/6	08/01 09:10 I	Received: 01/0	8/01 15:	00					
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l	1	1010036	01/10/01	01/10/01	DHS LUFT	
Benzene	ND	0.500		n	Ħ	"	•	n	
Toluene	ND	0.500	*	ıı	н	#	ęr	"	
Ethylbenzene	ND	0.500	**	Ħ	m	n	**	*	
Xylenes (total)	ND	0.500	*	**	*	n		7	
Methyl tert-butyl ether	ND	5.00	#	11	#	**			
Surrogate: a,a,a-Trifluorotoluene		77.6 %	70-	-130	,,	"	11	#	
MW-4 (L101035-05) Water Sampled:	01/08/01 09:45	Received: 0	1/08/01	15:00	_	<u> </u>			
Purgeable Hydrocarbons as Gasoline	522	50.0	ug/l	1	1010043	01/11/01	01/11/01	DHS LUFT	P-01
Benzene	4.09	0.500	ű			#1	11	Ħ	
Toluene	1.69	0.500	**	-	Ħ	77	11		
Ethylbenzene	2,53	0.500	61		•	n	11	n n	
Xylenes (total)	1.26	0.500	Ħ	ŧŧ	-	n	**	· #	
Methyl tert-butyl ether	17.2	5.00	*	н	11			**	
Surrogate: a,a,a-Trifluorotoluene		152 %	70	-130	"	"	n	"	S-04
MW-5 (L101035-06) Water Sampled:	01/08/01 08:3	2 Received: (1/08/01	15:00					
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l	1	1010036	01/10/01	01/10/01	DHS LUFT	-
Benzene	ND	0.500	n	ų	*	н	n	*	
Toluene	ND	0.500		₩	H	и .	11		
Ethylbenzene	ND	0.500	*	n	Ħ	**	n	•	
Xylenes (total)	ND	0.500	**	*	n	11	•		
Methyl tert-butyl ether	ND	5.00		•	h	tt	***		
Surrogate: a,a,a-Trifluorotoluene		81.5 %	70	-130	#	"	"	H	

6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Unocal SS#7176 Project Manager: Deanna Harding Reported: 02/21/01 12:20

Volatile Organic 8 Oxyganated Compounds by EPA Method 8260B Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-1 (L101035-02) Water	Sampled: 01/08/01 10:25	Received: 01/0	8/01 15:	00				·	
Ethanol	ND	2500	ug/l	2.5	1010040	01/10/01	01/10/01	EPA 8260B	
1,2-Dibromoethane	ND	5.00	**	**	**	**	#	u	
1,2-Dichloroethane	ND	5.00	n	**	44	"	Ħ	41	
Di-isopropyl ether	ND	5.00	**	#	Ħ	Ħ	п	. #	
Ethyl tert-butyl ether	ND	5.00	**	**	Ħ	H	н	**	
Methyl tert-butyl ether	9.33	5.00	n	n	**	W	*	n	
Tert-amyl methyl ether	. ND	5.00	H	n	Ħ	*	•	11	
Tert-butyl alcohol	ND	250	"	*		11	"		
Surrogate: 1,2-Dichloroeth	ane-d4	109 %	76-	-114	n n		"	"	
Surrogate: Toluene-d8	www.wr	104 %		-110	Ħ	*		"	
-	Sampled: 01/08/01 10:55)8/01 15 :	00					
Ethanol	ND		ug/l	1.25	1010045	01/11/01	01/11/01	EPA 8260B	
1,2-Dibromoethane	ND		" "	π	н	H	n	**	
1,2-Dichloroethane	ND		*	H	n	P		Ħ	
Di-isopropyl ether	ND		**		**	*	•	u ·	
Ethyl tert-butyl ether	ND					*1	**		
Methyl tert-butyl ether	7.49			•	•	ų	#	•	
Tert-amyl methyl ether	ND			#		17	n	#	
Tert-butyl alcohol	ND		•	n	11		"	n .	
Surrogate: 1,2-Dichloroeti	hane_dd	105 %	76	-114	#	n	 !!	H	
Surrogate: Toluene-d8	iune u y	97.4 %		-110	,,	m	n	#	
U-3 (L101035-04) Water	Sampled: 01/08/01 09:10	Received: 01/0	08/01 15	:00					
Ethanol	ND		ug/l	ī	1010045	01/11/01	01/11/01	EPA 8260B	
1,2-Dibromoethane	ND		#	11	•	*	Ħ	Ħ	
1,2-Dichloroethane	ND		4	•		•	"	Ħ	
Di-isopropyl ether	ND		#	н	п	11		Ħ	
Ethyl tert-butyl ether	ND			H	n	11	n.	tř	
Methyl tert-butyl ether	ND		n		H	#	**	n	
Tert-amyl methyl ether	ND		#	**	п	n	Ħ	**	
Tert-butyl alcohol	ND		4	tt.	•	#	н	11	_
		102 %	76	i-114	"	"	п	H	
Surrogate: 1,2-Dichloroet Surrogate: Toluene-d8	nune-14	102 %		3-110	"	*	*	*	

6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Unocal SS#7176

Reported: 02/21/01 12:20

Project Manager: Deanna Harding

Volatile Organic 8 Oxyganated Compounds by EPA Method 8260B

Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (L101035-05) Water	Sampled: 01/08/01 09:45	Received: 0	1/08/01 15:	00					
Ethanol	ND	1000	ug/l	1	1010045	01/11/01	01/11/01	EPA 8260B	
1,2-Dibromoethane	ND	2.00	n	Ħ	**	n	*	•	
1,2-Dichloroethane	ND	2.00	**	"	Ħ	•	н	11	
Di-isopropyl ether	ND	2.00	Ħ	н	11	Ħ	u	Ħ	
Ethyl tert-butyl ether	ND	2.00	11	**	Ħ	. #	**	**	
Methyl tert-butyl ether	14.3	2.00	n			Ħ	Ħ	π	
Tert-amyl methyl ether	ND	2.00		#	п	**	**	m	
Tert-butyl alcohol	ND	100	**	н	*	**	n	H	
Surrogate: 1,2-Dichloroethane-	d4	103 %	76-11	4	n n	п	n	n	
Surrogate: Toluene-d8		95.8 %	88-11	0	n		H	H	
MW-5 (L101035-06) Water	Sampled: 01/08/01 08:32	Received: 0	1/08/01 15	:00					
Ethanol	ND	1000	ug/l	1	1010045	01/11/01	01/11/01	EPA 8260B	
1,2-Dibromoethane	ND	2.00	Ħ	**	n	Ħ	n	•	
1,2-Dichloroethane	ND	2.00	Ħ	11	n	"	•	n	
Di-isopropyl ether	ND	2.00	н	Ħ		Ħ	11	#1	
Ethyl tert-butyl ether	ND	2.00	*	11		H	u	H	
Methyl tert-butyl ether	ND	2.00	п	11	•	н	#	н	
Tert-amyl methyl ether	ND	2.00	Ħ	m	11	•	H	Ħ	
Tert-butyl alcohol	ND	100	π	# _	•	11		π	
Surrogate: 1,2-Dichloroethane-	-d4	107 %	76-1	14	"	"	"	"	
Surrogate: Toluene-d8		94.6 %	88-1	10	n	u	**	n	

Project: Tosco(1)

6747 Sierra Court, Suite J Dublin CA, 94568 Project Number: Unocal SS#7176 Project Manager: Deanna Harding Reported: 02/21/01 12:20

Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M w/ S.G. Clean-up Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
U-1 (L101035-02) Water	Sampled: 01/08/01 10:25	Received: 01/6	8/01 15:	00					
Diesel (C10-C24)	873	50.0	ug/l	1	1010213	01/11/01	01/16/01	EPA 8015M-SVOA	HC-12
Surrogate: o-Terphenyl		111 %	50-	150	"	#	"	*	
U-2 (L101035-03) Water	Sampled: 01/08/01 10:55	Received: 01/0	8/01 15:	60					
Diesel (C10-C24)	624	50.0	ug/l	1	1010213	01/11/01	01/16/01	EPA 8015M-SVOA	HC-12
Surrogate: o-Terphenyl		101 %	50-	-150	n	"	**	"	
U-3 (L101035-04) Water	Sampled: 01/08/01 09:10	Received: 01/0)8/01 1 5:	00					
Diesel (C10-C24)	ND	50.0	ug/l	1	1010213	01/11/01	01/16/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl	·	106 %	50-	-150	rr	п	n	#	
MW-4 (L101035-05) Wat	er Sampled: 01/08/01 09:4	S Received: 0	1/08/01	15:00					
Diesel (C10-C24)	202	50.0	u g /l	1	1010213	01/11/01	01/16/01	EPA 8015M-SVOA	HC-12
Surrogate: o-Terphenyl		97.4 %	50-	-150	"	"	"	*	,
MW-5 (L101035-06) Wat	ter Sampled: 01/08/01 08:3	32 Received: ()1/08/01	15:00					
Diesel (C10-C24)	ND	50.0	ug/l	1	1010213	01/11/01	01/17/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl	- 	104 %	50-	-150	n.	"	77		

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

Project: Tosco(1)

Project Number: Unocal SS#7176 Project Manager: Deanna Harding

Reported: 02/21/01 12:20

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

* * **		Reporting	TT_**	Spike	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte	Result	Limit	Units	Level		78KEX	141111111111111111111111111111111111111	102		
Batch 1010036 - EPA 5030B (P/T)	. <u>.</u> .									•
Blank (1010036-BLK1)				Prepared o	& Analyze	ed: 01/10/	01			
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	н							
Foluene	ND	0.500								
Ethylbenzene	ND	0.500	4							
Xylenes (total)	ND	0.500	u							
Methyl tert-butyl ether	ND	5.00	**							
Surrogate: a,a,a-Trifluorotoluene	8.29		п	10.0		82.9	70-130			
LCS (1010036-BS1)		_		Prepared	& Analyz	ed: 01/10/				
Benzene	8.64	0.500	ug/l	10.0		86.4	70-130			
Foluene	7.98	0.500	ч	10.0		79.8	70-130			
Ethylbenzene	8.29	0.500	17	10.0		82.9	70-130			
Kylenes (total)	24.9	0.500	n	30.0	_	83.0	70-130			
Surrogate: a,a,a-Trifluorotoluene	8.50		"	10.0		85.0	70-130			
LCS (1010036-BS2)				Prepared	& Analyz	ed: 01/10/			· · · · · · · · · · · · · · · · · · ·	
Purgeable Hydrocarbons as Gasoline	250	50.0	ug/l	250		100	70-130			
Surrogate: a,a,a-Trifluorotoluene	7.34		н	10.0	-	73.4	70-130			
Matrix Spike (1010036-MS1)	So	urce: L10103	35-04	Prepared	& Analyz	ed: 01/10/	01			
Benzene	8.84	0.500	ug/l	10.0	ND	88.4	60-140			
Toluene	8.10	0.500	77	10.0	ND	81.0	60-140			
Ethylbenzene	8.45	0.500		10.0	NĐ	84.5	60-140			
Xylenes (total)	25.1	0.500	M	30.0	ND	83.7	60-140			
Surrogate: a,a,a-Trifluorotoluene	9.64			10.0		96.4	70-130			
Matrix Spike Dup (1010036-MSD1)	So	urce: L1010:	35-04	Prepared	& Analyz	zed: 01/10				
Benzene	9,45	0.500	ug/l	10.0	ND	94.5	60-140	6.67	25	
Toluene	8.73	0.500	•	10.0	ND	87.3	60-140	7.49	25	
Ethylbenzene	8.89	0.500	Ħ	10.0	ND	88.9	60-140	5.07	25	
Xylenes (total)	26.5	0.500	**	30.0	ND	88.3	60-140	5.43	25	
Surrogate: a,a,a-Trifluorotoluene	10.2			10.0		102	70-130			

6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Unocal SS#7176 Project Manager: Deanna Harding Reported: 02/21/01 12:20

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010043 - EPA 5030B (P/T)										
Blank (1010043-BLK1)	_			Prepared	& Analyz	ed: 01/11/	01			
urgeable Hydrocarbons as Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	-							
foluene	ND	0.500	71						•	
Ethylbenzene	ND	0.500	**							
(ylenes (total)	ND	0.500	n							
Methyl tert-butyl ether	ND	5.00	**							
Surrogate: a,a,a-Trifluorotoluene	9.98		"	10.0		99.8	70-130			
LCS (1010043-BS1)				Prepared	& Analyz	ed: 01/11/		_		
Senzene	9.23	0.500	ug/l	10.0		92.3	70-130			
Coluene	9.12	0.500		10.0		91.2	70-130			
Ethylbenzene	9.37	0.500	n	10.0		93.7	70-130			
(ylenes (total)	28.2	0.500	**	30.0		94.0	70-130			
Surrogate: a,a,a-Trifluorotoluene	9.92		#	10.0		99.2	70-130			
LCS (1010043-BS2)				Prepared	& Analyz	ed: 01/11/	01			
Purgeable Hydrocarbons as Gasoline	258	50.0	ug/l	250		103	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.6		п	10.0		106	70-130			
Matrix Spike (1010043-MS1)	Son	urce: L10105	58-04	Prepared	& Analyz					
Purgeable Hydrocarbons as Gasoline	255	50.0	ug/l	250	ND	102	60-140			
Surrogate: a,a,a-Trifluorotoluene	11.4		n	10.0		114	70-130			
Matrix Spike Dup (1010043-MSD1)	Sou	urce: L1010	58-04	Prepared	& Analyz					
Purgeable Hydrocarbons as Gasoline	257	50.0	ug/l	250	ND	103	60-140	0.781	25	
Surrogate: a,a,a-Trifluorotoluene	11.2		,,	10.0		112	70-130			

6747 Sierra Court, Suite J Dublin CA, 94568

Project: Tosco(1)

Project Number: Unocal SS#7176 Project Manager: Deanna Harding

Reported: 02/21/01 12:20

Volatile Organic 8 Oxyganated Compounds by EPA Method 8260B - Quality Control Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010040 - EPA 5030B [P/T]		_								
Blank (1010040-BLK1)				Prepared	& Analyza	ed: 01/10/	01			
Ethanol	ND	1000	ug/l			-				
1,2-Dibromoethane	ND	2.00	*							
1,2-Dichloroethane	ND	2.00	**							
Di-isopropyl ether	ND	2.00	91							
Ethyl tert-butyl ether	ND	2.00	**							
Methyl tert-butyl ether	ND	2.00	n							
Tert-amyl methyl ether	ND	2.00	n							
Tert-butyl alcohol	ND	100	•							
Surrogate: 1,2-Dichloroethane-d4	50.1		77	50.0	-	100	76-114	~~~		
Surrogate: Toluene-d8	51.6		"	50.0		103	88-110			
Blank (1010040-BLK2)				Prepared	& Analyz	ed: 01/11/	01			
Ethanol	ND	1000	ug/l	_;						
1,2-Dibromoethane	ND	2.00	n							
1,2-Dichloroethane	ND	2.00	n							
Di-isopropyl ether	ND	2.00	**							
Ethyl tert-butyl ether	ND	2.00	н							
Methyl tert-butyl ether	ND	2.00	Ħ							
Tert-amyl methyl ether	ND	2.00	**							
Tert-butyl alcohol	ND	100	n							
Surrogate: 1,2-Dichloroethane-d4	51.3		#	50.0	****	103	76-114			
Surrogate: Toluene-d8	50.0		#	50.0		100	88-110			
Blank (1010040-BLK3)				Prepared	& Analyz	ed: 01/12/	01			
Ethanol	ND	1000	ug/l							
1,2-Dibromoethane	ND	2.00	**							
1,2-Dichloroethane	ND	2.00	п						•	
Di-isopropyl ether	ND	2.00	-							
Ethyl tert-butyl ether	ND	2.00	**							
Methyl tert-butyl ether	ND	2.00	н							
Tert-amyl methyl ether	ND	2.00	н							
Tert-butyl alcohol	ND	100	Ħ							
Surrogate: 1,2-Dichloroethane-d4	51.0		u	50.0		102	76-114			
Surrogate: Toluene-d8	50.1		n	50.0		100	88-110			

6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Unocal SS#7176 Project Manager: Deanna Harding Reported: 02/21/01 12:20

Volatile Organic 8 Oxyganated Compounds by EPA Method 8260B - Quality Control Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010040 - EPA 5030B [P/T]							· · · ·			
LCS (1010040-BS1)				Prepared	& Analyze	ed: 01/10/	01			
Methyl tert-butyl ether	54.3	2.00	ug/l	50.0		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	52.7		"	50.0		105	76-114		-	
Surrogate: Toluene-d8	51.3			50.0		103	88-110			
LCS (1010040-BS2)				Prepared	& Analyza	ed: 01/11/	01			
Methyl tert-butyl ether	49.1	2.00	ug/l	50.0		98.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	50.6	_		50.0		101	76-114			
Surrogate: Toluene-d8	50.6		77	50.0		101	88-110			
LCS (1010040-BS3)				Prenared	& Analyz	ed: 01/12/	01			
Methyl tert-butyl ether	54.2	2.00	ug/l	50.0		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	50.1		"	50.0		100	76-114		•	
Surrogate: 1,2-Dictatoroettame-u+	50.1		,,	50.0		100	88-110			
	-	I 1010£	2.02	Prenared	01/10/01	Analyzeo	l: 01/11/01			
Matrix Spike (1010040-MS1) Methyl tert-butyl ether	54.3	urce: L10105 2.00	ug/l	50.0	ND	109	60-140			
		2.00	-g-	50.0		104	76-114			
Surrogate: 1,2-Dichloroethane-d4	52.0 49.4		*	50.0		98.8	88-110			
Surrogate: Toluene-d8	47.4									
Matrix Spike Dup (1010040-MSD1)		urce: L10105					1: 01/11/01		25	
Methyl tert-butyl ether	48.6	2.00	ug/l	50.0	ND	97.2	60-140	11.1	25	
Surrogate: 1,2-Dichloroethane-d4	50.5		"	50.0		101	76-114			
Surrogate: Toluene-d8	49.5		7	50.0		99.0	88-110			
Batch 1010045 - EPA 5030B [P/T]										
Blank (1010045-BLK1)			Prepared							
Ethanol	ND	1000	ug/l							
1,2-Dibromoethane	ND	2.00	R							
1,2-Dichloroethane	ND	2.00								
Di-isopropyl ether	ND	2.00	**							
Ethyl tert-butyl ether	ND	2.00	-							
Methyl tert-butyl ether	ND	2.00	**							
Tert-amyl methyl ether	ND	2.00	**							
Tert-butyl alcohol	ND	100	Ħ							
Surrogate: 1,2-Dichloroethane-d4	49.4		#	50.0		98.8	76-114			
Surrogate: Toluene-d8	49.8		π	50.0		99.6	88-110			

Sequoia Analytical - San Carlos

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Unocal SS#7176 Project Manager: Deanna Harding Reported: 02/21/01 12:20

RPD

%REC

Volatile Organic 8 Oxyganated Compounds by EPA Method 8260B - Quality Control Sequoia Analytical - San Carlos

Reporting

Spike

Source

		reporming		Брис	00000		, ,				
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	
Batch 1010045 - EPA 5030B [P/T]											
Blank (1010045-BLK2)				Prepared & Analyzed: 01/16/01							
Ethanol	ND	1000	ug/ì								
1,2-Dibromoethane	ND	2.00	m								
1,2-Dichloroethane	ND	2.00	Ħ								
Di-isopropyl ether	ND	2.00	n								
Ethyl tert-butyl ether	ND	2.00	#								
Methyl tert-butyl ether	ND	2.00	**								
Fert-amyl methyl ether	ND	2.00	11								
Tert-butyl alcohol	ND	100	H								
Surrogate: 1,2-Dichloroethane-d4	46.0		*	50.0		92.0	76-114				
Surrogate: Toluene-d8	52.8		*	50.0		106	88-110				
LCS (1010045-BS1)	Prepared & Analyzed: 01/11/01										
Mathyl tert-butyl other	42.3	2.00	ug/l	50.0	-	84.6	70-130				
Surrogate: 1,2-Dichloroethane-d4	50.1		,,	50.0		100	76-114		<u> </u>		
Surrogate: Toluene-d8	49.0		n	50.0		98.0	88-110				
LCS (1010045-BS2)				Prepared	& Analyz	01					
Methyl tert-butyl ether	42.5	2.00	ug/l	50.0		85.0	70-130				
Surrogate: 1,2-Dichloroethane-d4	44.8		**	50.0		89.6	76-114				
Surrogate: Toluene-d8	52.0		π	50.0		104	<i>88-110</i>				
Matrix Spike (1010045-MS1)	Source: L101035-05			Prepared	& Analyz	<u>.</u>					
Methyl tert-butyl ether	58.5	2.00	ug/l	50.0	14.3	88.4	60-140				
Surrogate: 1,2-Dichloroethane-d4	54.5		H	50.0		109	76-114	-			
Surrogate: Toluene-d8	48.7		#	50.0		97.4	88-110				
Matrix Spike Dup (1010045-MSD1)	Source: L101035-05		Prepared & Analyzed: 01/11/								
Methyl tert-butyl ether	59.1	2.00	ug/l	50.0	14.3	89.6	60-140	1.02	25		
Surrogate: 1,2-Dichloroethane-d4	51.9		"	50.0		104	76-114				
Surrogate: Toluene-d8	52.0		#	50.0		104	88-110				

6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)

Project Number: Unocal SS#7176 Project Manager: Deanna Harding Reported: 02/21/01 12:20

Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M w/ S.G. Clean-up - Quality Control Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010213 - EPA 3510B							_ <u>_</u>	· · · · · · · · · · · · · · · · · · ·		
Blank (1010213-BLK1)				Prepared:	01/11/01	Analyzed	: 01/13/01			
Diesel (C10-C24)	ND	50.0	ug/l							
Surrogate: o-Terphenyl	78.7		77	100		78.7	50-150			
LCS (1010213-BS1)				Prepared:	01/11/01	Analyzed	l: 01/13/01			
Diesel (C10-C24)	797	50.0	ug/l	1000		79.7	50-150			
Surrogate: o-Terphenyl	81.8		н	100	•	81.8	50-150			
LCS Dup (1010213-BSD1)				Prepared:	01/11/01	Analyzed	l: 01/13/01			
Diesel (C10-C24)	731	50.0	ug/l	1000		73.1	50-150	8.64	20	
Surrogate: o-Terphenyl	76.2		"	100		76.2	50-150			

Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin CA, 94568 Project: Tosco(1)
Project Number: Unocal SS#7176
Project Manager: Deanna Harding

Reported: 02/21/01 12:20

Notes and Definitions

HC-12	Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
P-01	Chromatogram Pattern: Gasoline C6-C12
P-02	Chromatogram Pattern: Weathered Gasoline C6-C12
S-04	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
RPD	Relative Percent Difference

