

GETTLER-RYAN INC.

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

RECEIVED

March 14, 2001 G-R Job #180041

1:20 pm, Jun 08, 2009

Alameda County Environmental Health

RE: Annual Event of February 2, 2001

> Groundwater Monitoring & Sampling Report Tosco (Unocal) Service Station #5487 28250 Hesperian Boulevard Hayward, California

Dear Mr. De Witt:

This report documents the most recent groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R) at the referenced site. 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. 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. 6882

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:

Groundwater Monitoring Data and Analytical Results

Hardi

Table 2:

Groundwater Analytical Results - Oxygenate Compounds

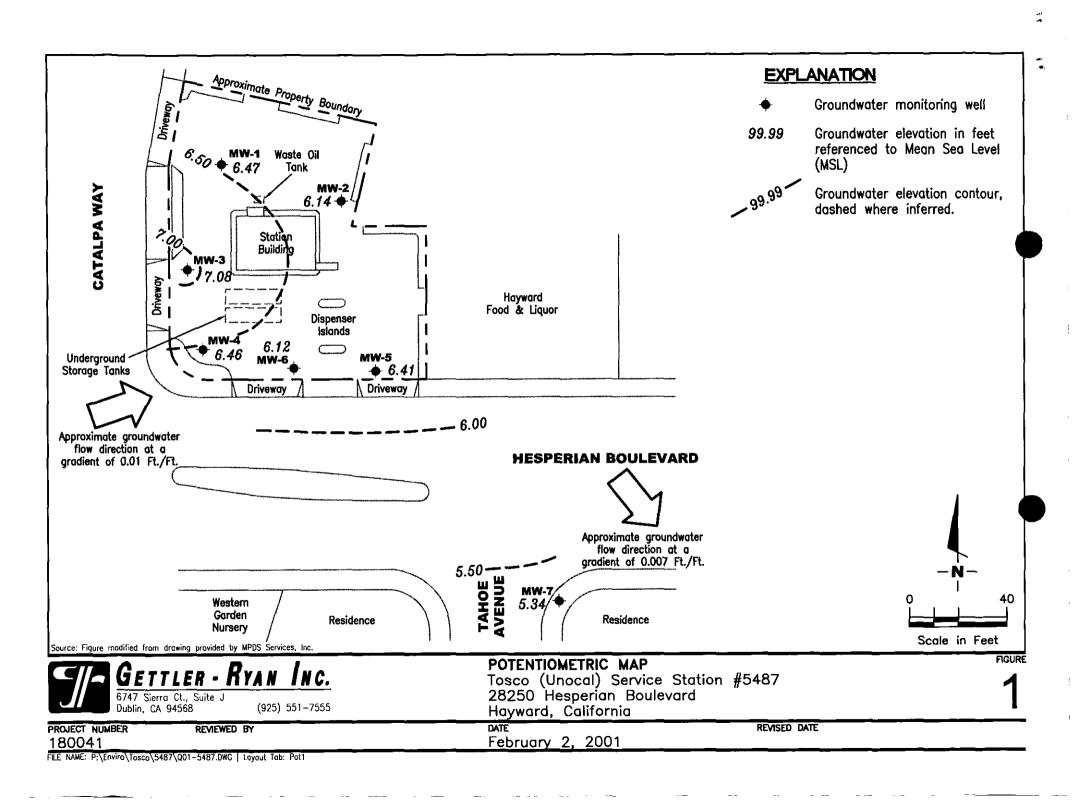
Attachments:

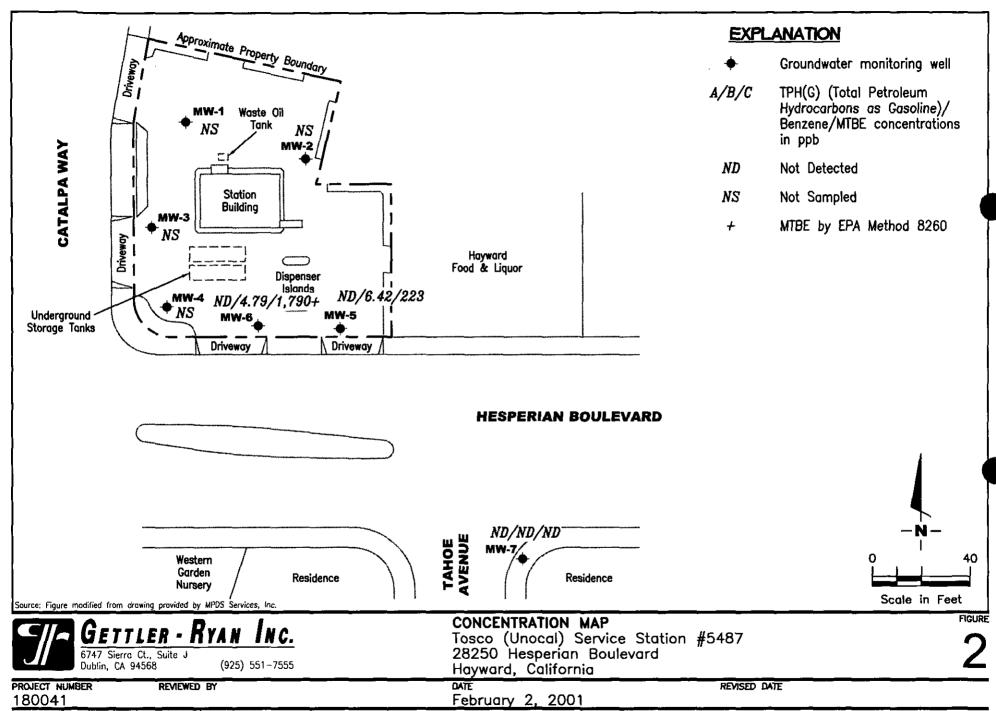
Standard Operating Procedure - Groundwater Sampling

Field Data Sheets

Chain of Custody Document and Laboratory Analytical Reports

5487.qml





FILE NAME: P:\Enviro\Tosco\5487\Q01-5487.DWG | Loyout Tab: Con1

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	TPH-G	В	T	E	X	MTBE
TOC*		(ft.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
N # T T T									
MW-1									
	04/26/891			ND	2.1	ND	ND	ND	
	08/16/89 ²			ND	ND	ND	ND	ND	
	11/14/89 ¹			ND	ND	ND	ND	ND	
	02/16/901			ND	ND	ND	ND	ND	
	05/16/901			ND	ND	ND	ND	ND	
	08/29/90 ¹			ND	ND	ND	ND	0.74	
	11/15/90 ¹			ND	ND	ND	ND	ND	
	02/11/911			ND	ND	ND	ND	ND	
	05/10/91			ND	ND	ND	ND	ND	
	08/02/91	**		ND	ND	ND	ND	ND	
	11/07/91			ND	ND	ND	ND	ND	
	08/04/92			ND	ND	ND	ND	ND	
12.57	05/03/93	6.87	5.70			W tops			
	08/05/93	7.49	5.08	ND	ND	ND	ND	ND	
11.73	11/05/93	6.98	4.75				•-		
	02/07/94	6.26	5,47						
	05/02/94	6.27	5.46						
	08/02/94	6.89	4.84	ND	ND	ND	ND	ND	
	11/02/94	7.07	4.66						
	02/01/95	5.17	6.56						
	05/02/95	5.65	6.08						
	08/03/95	6.21	5.52	ND	ND	ND	ND	ND	
	11/06/95	6.80	4.93						
	02/02/96	3.88	7.85	SAMPLED ANNUA	ALLY				
	02/07/97	4.63	7.10	SAMPLING DISCO					
	02/09/98	2.70	9.03						
	02/02/99	5.42	6.31						
	02/04/00	4.08	7.65						
	02/02/01	5.26	6,47						

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #5487

WELL ID/	DATE	DTW	GWE	TPH-G	В	T	E	X	MTBE
TOC*		(ft.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-2									
141 44 -24	04/26/89 ¹			ND	ND	ND	ND	ND	
	08/16/89 ²			ND	ND	ND	ND	ND	
	11/14/891			ND	ND	ND	ND	ND	
	02/16/90			ND	ND	ND	ND	ND	- -
	05/16/90 ¹			ND	ND	ND	ND	ND	- -
	08/29/90		· 	ND	ND	ND	ND	ND	
	11/15/90			ND	ND	ND	ND	ND	
	02/11/91			ND	ND	ND	ND	ND	
	05/10/91			ND	ND	ND	ND	ND	
	08/02/91			ND	ND	ND	ND	ND	
	11/07/91			ND	ND	ND	ND	ND	
	08/04/92			ND	ND	ND	ND	ND	
12.89	05/03/93	7.30	5.59	~-					
12.07	08/05/93	7.97	4.92	ND	ND	ND	ND	ND	
12.58	11/05/93	7.97	4.61						
12.170	02/07/94	7.09	5.49	~-					
	05/02/94	7.23	5.35	~-					
	08/02/94	7.87	4.71	ND	ND	ND	ND	ND	
	11/02/94	7.98	4.60		••				
	02/01/95	6.13	6.45	- -					- -
	05/02/95	7.04	5.54	~-		- -			
	08/03/95	7.19	5.39	ND	ND	ND	ND	ND	
	11/06/95	7.80	4.78	••					
	02/02/96	5.91	6.67	SAMPLED ANNUA					
	02/07/97	5.65	6.93	SAMPLING DISCO					
	02/09/98	3.63	8.95			~-			
	02/02/99	6.36	6.22	~~				<u></u>	
	02/04/00	6.04	6.54	~*					
	02/02/01	6.44	6.14	~-		••			

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	TPH-G	В	T	E	X	MTBE
тос*		(ft.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-3	1								
	04/26/89 ¹			ND	ND	ND	ND	ND	
	08/16/89			ND	ND	ND	ND	ND	
	11/14/89	••		ND	ND	ND	ND	ND	
	02/16/90			ND	ND	ND	ND	ND	
	05/16/90			ND	ND	ND	ND	ND	
	08/29/90			ND	ND	0.52	ND	ND	
	11/15/90			ND	ND	ND	ND	ND	
	02/11/91			ND	ND	ND	ND	ND	
	05/10/91			ND	ND	ND	ND	ND	
	08/02/91			ND	ND	ND	ND	ND	
	11/07/91			ND	ND	ND	ND	ND	
	08/04/92			ND	ND	ND	ND	ND	
12.46	05/03/93	6.82	5.64						
	08/05/93	7.50	4.96						
11.99	11/05/93	7.35	4.64						
	02/07/94	6.58	5.41						
	05/02/94	6.62	5.37						
	08/02/94	7.24	4.75	ND	ND	ND	ND	ND	
	11/02/94	7.42	4.57						
	02/01/95	5.55	6.44						
	05/02/95	5.70	6.29						
	08/03/95	6.59	5.40	ND	ND	ND	ND	ND	
	11/06/95	7.20	4.79						
	02/02/96	4.08	7.91	SAMPLED ANNUA	ALLY				
	02/07/97	5.04	6.95	SAMPLING DISCO	ONTINUED				
	02/09/98	3.11	8.88	•-					
	02/02/99	5.69	6.30						
	02/04/00	4.26	7.73						
	02/02/01	4.91	7.08						

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	TPH-G	В	T	É	X	MTBE
TOC*		(ft.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
		 .							
MW-4	04/26/89 ¹			VID	0.00	NB	\	ND	
				ND	0.33	ND	ND	ND	
	08/16/89			ND	ND	ND	ND	ND	
	11/14/89			ND	ND	ND	ND	ND	
	02/16/90			ND	ND	ND	ND	ND	
	05/16/90			ND	ND	ND	ND	ND	
	08/29/90			ND	ND	ND	ND	ND	
	11/15/90			ND	ND	ND	ND	ND	
	02/11/91			ND	ND	ND	ND	ND	
	05/10/91			ND	ND	ND	ND	ND	
	08/02/91	==	- -	ND	ND	ND	ND	ND	
	11/07/91			ND	ND	ND	ND	ND	
	08/04/92		••	ND	ND	ND	ND	ND	
12.09	05/03/93	6.60	5.49						
	08/05/93	7.28	4.81	ND	ND	ND	ND	ND	
11.58	11/05/93	7.07	4.51						
	02/07/94	6.21	5.37						
	05/02/94	6.32	5.26						
	08/02/94	6.95	4.63	ND	ND	ND	ND	ND	
	11/02/94	7.13	4.45	SAMPLED ANNUA	ALLY				
	02/01/95	5.23	6.35						••
	05/02/95	5.43	6.15						
	08/03/95	6.33	5.25	ND	ND	ND	ND	ND	
	11/06/95	6.90	4.68						
	02/02/96	3.71	7.87						
	02/07/97	4.46	7.12	SAMPLING DISCO	NTINUED				
	02/09/98	2.55	9.03						
	02/02/99	5.37	6.21						
	02/04/00	4.09	7.49						
	02/02/01	5.12	6.46						

Table 1 Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	TPH-G	В	T	E	X	MTBE
TOC*		(ft.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-5									
171 TT -D	04/26/891			ND	ND	ND	ND	ND	
	08/16/89			4,400	1,400	84	200	950	
	08/31/89			910	120	7.1	50	53	
	11/14/89			73	4.7	0.97	2.9	16	
	02/16/90			ND	ND	ND	ND	ND	
	05/16/90			1,100	310	2.8	70	110	
	08/29/90			ND	0.70	ND	0.57	1.1	
	11/15/90			ND	ND	ND	ND	0.47	
	02/11/91			58	23	ND	2.9	1.3	
	05/10/91			ND	ND	ND	ND	ND	
	08/02/91			100	43	0.33	12	5.2	
	11/07/91		- -	700	43	1.7	29	24	
	02/05/92			120	20	ND	4.4	4.7	
	05/05/92			170	45	0.48	9.0	6.8	
	08/04/92			80	13	ND	4.5	6.9	
	11/05/92		••	120	16	ND	3.5	3.0	
	02/02/93		~-	77 ³	5.0	ND	1.2	1.3	
11.18	05/03/93	6.16	5.02	260	35	ND	2.3	3.1	
	08/05/93	6.97	4.21	530	210	0.62	54	44	
10.79	11/05/93	6.81	3.98	110	12	ND	2.3	2.3	
	02/07/94	5.70	5.09	180	22	ND	6.4	5.9	
	05/02/94	5.96	4.83	170 ³	38	0.73	8.5	8.4	
	08/02/94	6.68	4.11	59	16	ND	2.4	3.1	
	11/02/94	6.86	3.93	450	73	1.6	6.2	11	
	02/01/95	4.85	5.94	170	11	ND	2.4	3.9	
	05/02/95	4.95	5.84	ND	7.5	0.51	1.2	1.6	- -
	08/03/95	6.03	4.76	ND	12	ND	0.70	ND	
	11/06/95	6.70	4.09	160	80	ND	7.4	10	120
	02/02/96	3.50	7.29	64	20	ND	3.9	6.1	150

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	ТРН-С	В	Ť	E	X	MTBE
TOC*		(ft.)	(msl)	(ppb)	(<i>ppb</i>)	(ppb)	(ppb)	(ppb)	(ppb)
MW-5	02/07/97	4.26	6.53	85	16	0.56	1.7	3.8	250
(cont)	02/09/98	2.29	8.50	220	54	ND	3.2	5.9	230
	02/02/99	5.07	5.72	61 ⁶	19	ND	1.3	2.1	110
	02/04/00	3.68	7.11	ND	8.4	ND	ND	ND	86
(02/02/01	4.38	6.41	ND	6.42	ND	ND	ND	223
MW-6	08/04/92			540	12	7.9	35	110	
	11/05/92			300	16	2.3	14	14	
	02/02/93			400^{3}	66	5.5	32	13	
11.47	05/03/93	6.28	5.19	520	47	2.6	33	48	
	08/05/93	7.05	4.42	230	25	1.6	12	29	
11.18	11/05/93	7.02	4.16	100	1.8	ND	0.79	2.2	
	02/07/94	6.00	5.18	1,100	130	14	13	130	
	05/02/94	6.18	5.00	440 ³	20	4.2	11	26	
	08/02/94	6.88	4.30	220	13	1.0	12	28	
	11/02/94	7.05	4.13	840	30	2.5	26	57	
	02/01/95	5.04	6.14	340	26	0.77	2.6	7.0	
	05/02/95	5.00	6.18	ND	5.7	ND	0.81	1.1	
	08/03/95	6.26	4.92	ND	0.76	ND	ND	ND	
	11/06/95	6.87	4.31	210	17	0.66	14	37	130
	02/02/96	3.64	7.54	300	51	0.65	30	18	280
	02/07/97	4.41	6.77	66	5.8	1.2	2.1	6.6	450
	02/09/98	2.51	8.67	ND ⁵	1.0	ND ⁵	ND ⁵	ND ⁵	450
	02/02/99	5.14	6.04	ND	2.6	ND	1.0	2.9	490
	02/04/00	4.11	7.07	110 ⁷	3.9	ND ⁵	ND ⁵	ND ⁵	830
	02/02/01	5.06	6.12	ND^5	4.79	ND ⁵	ND^5	ND ⁵	1,800/1,790

Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/	DATE	DTW	GWE	TPH-G	В	T	Е	X	MTBE
LOC*		(ft.)	(msl)	(ppb)	(ppb)	(ppb)	_(ppb)	(ppb)	(ppb)
MW-7	0=100107			N.D.	ND	ND	NID	NE	NID
	07/30/96	~-		ND	ND	ND	ND	ND	ND
9.39	02/07/97	3.75	5.64	ND	ND	ND	ND	ND	ND
	02/09/98	1.69	7.70	ND	ND	ND	ND	ND	ND
	02/02/99	4.14	5.25	ND	ND	ND	ND	ND	ND
	02/04/00	3.97	5.42	ND	ND	ND	ND	ND	ND
	02/02/01	4.05	5.34	ND	ND	ND	ND	ND	ND
MWD⁴	05/10/91	••		ND	ND	ND	ND	ND	
Trip Blank									
TB-LB	02/09/98	~-		ND	ND	ND	ND	ND	ND
	02/02/99	~-		ND	ND	ND	ND	ND	ND
	02/04/00	~-		ND	ND	ND	ND	ND	ND
	02/02/01	4-		ND	ND	ND	ND	ND	ND

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5487 28250 Hesperian Boulevard Hayward, California

EXPLANATIONS:

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

TOC = Top of Casing

B = Benzene

(ppb) = Parts per billion

DTW = Depth to Water

T = Toluene

ND = Not Detected

(ft.) = Feet

E = Ethylbenzene

-- = Not Measured/Not Analyzed

GWE = Groundwater Elevation

X = Xylenes

TOG = Total Oil and Grease

(msl) = Mean sea level

MTBE = Methyl tertiary butyl ether

TPH-D ≈ Total Petroleum Hydrocarbons as Diesel

TPH-G ≈ Total Petroleum Hydrocarbons as Gasoline

- * Prior to November 5, 1993, the elevations of the <u>Top of Well Covers</u> have been surveyed relative to Mean Sea Level (msl), per the City of Hayward Benchmark (Elevation = 10.97 feet, msl). TOC elevations are relative to Mean Sea Level (msl), per the City of Hayward Benchmark (Elevation = 10.97 feet msl).
- 1 TPH-D. TOG and all EPA Method 8010 constituents were ND.
- TOG for the samples collected from MW-1 and MW-2 were 23 ppm and 7.4 ppm, respectively. TPH-D and all EPA Method 8010 constituents were ND for both samples.
- Laboratory report indicates that the hydrocarbons detected appear to be a gasoline and non-gasoline mixture.
- 4 MWD was a quality assurance duplicate water sample collected from well MW-5.
- Detection limit raised. Refer to analytical reports.
- 6 Laboratory report indicates unidentified hydrocarbons C6-C12.
- Laboratory report indicates gasoline C6-C12.
- 8 MTBE by Method 8260.

Table 2

Groundwater Analytical Results - Oxygenate Compounds

Tosco (Unocal) Service Station #5487 28250 Hesperian Boulevard Hayward, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-6	02/02/01	ND¹	ND¹	1,790	ND¹	ND ¹	ND ¹	ND ¹	ND ¹

EXPLANATIONS:

ANALYTICAL METHOD:

TBA = Tertiary butyl alcohol

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

1,2-DCA = 1,2-Dichloroethane

EDB = 1,2-Dibromoethane

(ppb) = Parts per billion

ND = Not Detected

EPA Method 8260 for Oxygenate Compounds

Detection limit raised. Refer to analytical reports.

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/	٧٦		lob#	: 1800	4.1	
Facility # 54		1			-	
Address:	250 Hespe	cian Bly	<u></u> Date:	2-2-0	<u>'</u>	
City: Ha	yward "		_ Samp	oler: 504		
						
Well ID	mw_l	Well Co	ondition:	0. C		
Well Diameter	2_in	Hydroc	: L	. Amount B	السيرسينيع	
Total Depth	27.16 +	Thickne Volum	c 2° = 0.	<u>in</u> <u>lproduct/wi</u> 17	8 4	= 0.66
Depth to Water	5.26 +	Factor	(VF) 	6" = 1.50	12" = 5.50	
	x	VF =	X 3 (case	volume) = Estimated P	urge Volume:	lcal \
Purge	Disposable Bailer		Sampling			
Equipment:	Bailer · Stack		Equipment:	Disposable Bailer	ailer	
	Suction	•.		Pressure Baile	er	
	Grundfos			-Grab Sample		
	Other:			Other:		
Starting Time:		W	eather Condition	s: cloud	1	
Sampling Time:				clear	,	
	e:s	ann. Se	diment Descrip	don:		
Did well de-water	7	If	yes; Time:	Volum	ne:	(cal_)
			ivity Tempe			
-	olume pH (gal.)	Conduct µmhos/	ivity Temper		ORP (mV)	Alkalinity (ppm)
	• /		•		•	4.7
	/	- /			·	
	/ . _ /	7				
				<u>/</u>		
					/	/ .
4		LABORAT	ORY INFORMA	TION		
SAMPLE ID	IF - CONTAINER		RESERV. TYPE	LABORATORY	ANALY	rses
mw-	3 YEA	Y	HCL	Sequoia	TPHG, BTEX	, MT8E
			/			
COMMENTS:	M. O.A.	- · - · · - · · · · -		<u>-</u>	-	
COMMEN 12: —	<u> </u>					
						

Client/ Facility #_54	87		,	Job#: _	1800	4-1	
	250 Hespe	cian F	stud.	Date: _	2-2-0	1	
	ywacd			Sampler:			
Well ID	w_2	We	Il Condition:		9.		
Well Diameter	2-in	Hyo	irocarbon		Amount B	ailed	
	23.75 +	•	ckness:	() in	(product/we	ميستنع	10-11
Total Depth		- 1		2° = 0.17			° ≈ 0.66
Depth to Water	6.44 1	- F	ccor (VF)	o = 1	1.50	12" = 5.50	
Burns	X	•			= Estimated Pr	urge Volume: _	(Cal.)
Purge Equipment:	Disposable Bailer Bailer	•	Samp Equip	_	sposable Ba	iled	,
	Stack				ailer		
	Suction Grundfos				essure Baile rab Sample	er .	
•	Other:				————	_	
	· 		•	·			
Starting Time:			Weather Co	nditions: _	claray		
Sampling Time:			Water Color	:	on C	Odor	
Purging Flow Rate	e:o	pm.	Sediment De	escription: _	·		
Did well de-water	17		If yes; Tim	e:	Volum	e:	
	(gal.)	Con µro	ductivity N	Temperature	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
			/_				·
			/- -				/
			/ -			<u> </u>	
						/	•
	/	1 4 800	RATORY INFO	ODNA A TION			
SAMPLETO	(#) - CONTAINER /	REFRIG.	PRESERV. T		RATORY	ANAL	YSES
mw -	3 Yen	Y	HCL	See	₁ voia	TPHG, BTE	MTBE
			<u> </u>			1	
COMMENTS: _	m. only						
		•			·		-

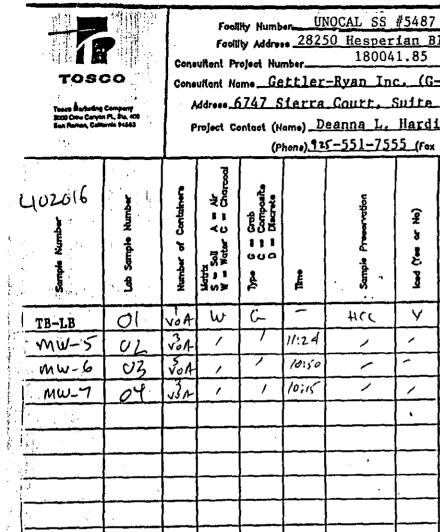
Client/ Facility #_54	87		·	Job#:	1800	4-1	
•	1250 Hespe	cian E	31/2.	Date:	2-2-0	1	
Cian Wa	yward	-			500		
City:	· Masta			Sampler			
Well ID	_mw_3	We	ll Condition:		0. C		
Well Diameter	2;n	•	drocarbon ckness:	W:	· Amount B	سيست	
Total Depth	24.35 .		olune	2" = 0.17			= 0.6ô
Depth to Water	4.9/ .	F	ector (VF)		5° ≈ 1.50	12" = 5.50	
	×	VF	. * X	3 (case volum	ne) = Estimated P	urge Volume:	(cal_)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	•	Sam Equi	oment:	Disposable Baller Bailer Pressure Baile Grab Sample er:	et.	,
Starting Time:			Weather Co	onditions:	_clave-		
Sampling Time:			Water Colo	r:	clear	Odor:	
Purging Flow Rat	ie:	pm.	Sediment D	escription:	·		
Did well de-wate	er7		If yes; Tin	ne:	Volun	ne:	للمعلى
Time	Volume pH (gal.)	Con µm	ductivity the) Temperatu	ne D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
	/		<i>/</i>				
	-/·		/ ·			·	
	/		-/ ·			-/-	
							,
SAMPLE ID	(J) - CONTAINER	LABO REFRIG.	RATORY INF		N LABORATORX	ANAL	rses
Ww.	3 YeA	I/Υ	HCL		Sequoia	TPHG, BTEX	
	,						
						1	
COMMENTS:	Mionly				······		

Client/ Facility # <u>5</u>	187	<u></u>	Job	#: _18	004-1	
	8250 Hespe	rian B	vol. Date	e: <u>2-2</u>	-0	
City: Hi	ayward "		Sam	npler:	Joe	
Well ID	mw-4	Weli	Condition:	Ø. k		•
Well Diameter	2:n	•	ocarbon	Ave.	unt Bailed عند	_
Total Depth	24.55 +		ness:		= 0.38	
Depth to Water	5.12 4		or (VF)	6" = 1.50		
	>	VF	= X 3 (cas	e volume) = Estima	sted Purge Volume:	ical)
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:		Sampling Equipmen	t: Disposat Bailer Pressure Grab San Other:	mple	,
Starting Time:			Weather Conditi	ons: _clo	va ~	
Sampling Time:		•	Water Color:	cloar	Odor	
	te:	- -	•			
Did well de-wate	er?			•	/olume:	
Time	Volume pH (gal.)	Conde	activity W Tempostem Y		O. ORP	Alkalinity (ppm)
						- <u></u>
	/			<u> </u>		
	-/-		<i>-</i> -/			-/
						·- ·
		LABOR	ATORY INFORM	ATION		
SAMPLETO	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATOR		LYSES
mw-	3404	Y	HCL	Sequoio	TPHG, BT	ex, mtbe
		 				
}		 		 		
L	1	<u>.l</u>			<u></u>	
COMMENTS:	Mionly					

Client/ Facility #_54	87			Job#:	1800	4-1	
Address: _28	250 Hespe	cian 1	31001.	Date:	2-2-0	1	
City: Ha			·	Sampler	500		
Well ID	mw_5	We	ell Condition):	0.		
Well Diameter	2 _{in}	-	drocarbon	1 D	* Amount E	ميستر د	
Total Depth	24.10 +		ckness:	2" = 0.17	in_ (product/w 3" = 0.3		1gel)
Depth to Water	4.38 =	1	octor (VF)		6" = 1.50	12" = 5.50	0.00
	19.72 ×	VF	1 = 3.35	(3 (case volu	me) = Estimated F	^b urge Volume: "	10 1011
Purge Equipment:	Disposable Bailer Bailer Stack			npling .ipment:	Disposable B Bailer		,
	Suction Grandfos Other:	·	••	Oth ;	Pressure Bail Grab Sample er:		
Starting Time: Sampling Time: Purging Flow Rate		24A.m	Water Co	Conditions: or: Description	cloar) u =
Did well de-water	• -			•	Volur	ne:	(cal.)
	Tolume pH (g2L)	Cor µm	nductivity !!	Temperatu F	ure D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:10	3.5 7.26		58		· · · · · · · · · · · · · · · · · · ·		
11.12 -	7 7.36 10 · 7.39		50	72.2		· · · · · · · · · · · · · · · · · · ·	
<u> </u>						·	•
		LABO	RATORY IN	IFORMATIO	N		
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV		LABORATORY		.YSES
mu-s	3464	<u> </u>	HCL		Sequoia	TPHG, BTE	X,MTBC
COMMENTS: _							
		•					

Client/ Facility # <u>54</u>	87		_ Job#	1800	4-	
Address: 28	250 Hespe	cian Blue	Date:	2-2-0	1	-
City: Ha	, i			iler: <u>Joe</u>		
Well ID	_mw_6	Well Co	ndition:	0. C	•	
Well Diameter	2in_	Hydroca	· 2.	Amount E	a marganita	
Total Depth	17.78 +	Thickne Volume	····	in toroduct/w		ELLA L
Deoth to Water	5.06	Factor (17 3" = 0.3 6" = 1.50		
·	12.72 x	VF 017 =	2.16 x 3 (case	volume) = Estimated P	urge Volume: 6 5 Ic	ئلم
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos		Sampling Equipment:	Disposable B Bailer Pressure Bail Grab Sample	_	•
•	Other:		.,->	Other:	_	
Starting Time: Sampling Time: Purping Flow Bate	10:5 10:5	OAM Wa		is: <u>Cloud</u>	,	
Did well de-water	, -		•	Volum	ne:	للم
	'olume pH (gal.)	μmhos/c	•	(mg/L)	ORP Alkalin (mV) (ppm	-
10:35 10:37 10:39	$\frac{2}{4}$ $\frac{7.30}{6.6}$ $\frac{7.30}{7.26}$			2.2		
SAMPLE ID	(#) - CONTAINER		ORY INFORMAT RESERV. TYPE	TION LABORATORY	ANALYSES	
ww-6	3 Von	Y ·	HCL	Sequoia	TPHG BTEX, MTBG	7
V// C	2 VOA .	/:	/ .		16) 0x4, 1,2 004/E	018 64
					<u> </u>	<u></u>
		·				
COMMENTS:			<u>.</u>		· · · · · · · · · · · · · · · · · · ·	
		•				

Client/ Facility #_54	87			Job#:	18000	[]	
	250 Hespe	rian B	ilval.	Date:	2-2-0	1	
City: Ha	yward			Sampler:	50 e		
Well ID	mw_7	Wei	I Condition	:	9.		
Well Diameter	2;n		lrocarbon	. 2	Amount B	ailed	-
Total Depth	19,10 to		ckness:	in in 2" = 0.17	(product/we 3" = 0.38		(cal.)
Depth to Water	4.05 +	- 1	ctor (VF)		1.50	12" = 5.50	- 0.86
	_15.05 x	VF 0117	= 2.56;	(3 (case volume) :	Estimated Pt	urge Volume:	8 losts
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:			Ba Pr ·G	sposable Ba ailer essure Baile rab Sample	er	,
	9:4 	Am pro	Water Col Sediment If yes; To	Conditions: or: Description: ime:	· · · · · · · · · · · · · · · · · · ·	Odor:n	
	olume pH (gal.)	Con µm	ductivity V hos/cm Y	Temperature	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
10:00				7/2			
1002	<u>5 7.36</u> 8 7.29		0.44	71.6	 		· ——
10.04	<u> </u>	+ 	<i>0-48</i>				
							-:
		LABO	RATORY IN	FORMATION			
SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV.		DRATORY	ANAL	
ww-	3 V&A	<u> </u>	HCL		<i>tuoia</i>	TPHG, BTE	K,MTBE
		<u> </u>	1			.i,	
COMMENTS: _							
		•					



*	lehed By	(Signature)	·	Org	onization		Date/Time	R	ecleved f	or Labo	ratory B	ly (Signal	ture)			Dole	/IImø				As Cor		
Inqui	efed By	(Signature)		Org	anizeVon	t)at•/Tim•	R	eceived E	dy (Sign	ature)	······································	- "	Organizat	lon	Dote	/Time				6 (Hre. Daye Daye	
S	$1 \otimes $	eu-		1 '	R Inc		- 2 - 01			1/h	02	<u></u>	_ _	· .		12/	2/0		l		24	Hra.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
liner	ah A. D.	(Signature)	<u> </u>	Om	onization	<u> </u>	ode/Time .o. A	5. R	oolyed J	(Slan	otu/a)	اـــــــــــــــــــــــــــــــــــــ	10)rganizai	ion	Dol	/Tirpe	1240	 	Turn Are	und Thr	ie (Circle	Cholos)
			 		 -		}	 -		 	-												es tra-
				<u> </u>	 		·	 -	-		-	 		-				 -		 	 	ļ <u>.</u>	
			<u></u>	<u> </u>	<u> </u>			<u> </u>	_	-	-			 -			·	-	 	 	 -	·	114
	. ,	. :			ļ <u>.</u>	<u> </u>			_	 	-					ļ <u>.</u>		 -	 -		 		1 1 1 1
									_	<u>. </u>	 			-	<u> </u>			 	 	-	 		
								ļ						 					 	 			
																	•		ļ	<u> </u>	 		41
														<u> </u>									(a)
								,										 		<u> </u>	<u> </u>		
	u-7	04.	VSA	/	1	10:15		1	/											<u> </u>	<u> </u>		fag (K. S.)
	u-6	03	VOA		7	10:50		_	17							·	\leq						
	y-5	02	30A		1	11:24		1	17								,		12.				44, 4
TB-	T D	01	VOA	W	C	-	HCC	У	17										<u>. </u>				
02	6)6	Lab Sample Number	Mumber of Containers	Metrics S = Soll A = Air W = Water C = Charcool	Type G = Grab C = Composite D = Discrete	-E	Sample Preservation	load (Yee or No)	TPH Gant STEX WANTEE	TPH Gosel (8015)	Oil and Gream (5520)	Purpeable Halocarbors (2010)	Purysable Aromatics (8020)	Purysable Organics (8240)	Extractable Organics of (8270)	CAC PEZONI	1,20ch					TB-L	NOT BILL B ANALYSI
, 			!		(P	hone)	5-551-75	22_(F	Mumb	er).163	-171-	7000	=1.				-						
30 84	ID CION CANA IN PLANAN, CAR	broke 94565	P	roject C			eanna L.			. 425		7000			Date_		- <u>0 </u>						1)
Te	nece Marketing	Сопропу	4				Court.			Dubli	nCA	9456	ia	Samples	Collecte	d by (1	lame)_	200	= A-7	EMIA	2	<u></u>	18.75
•	TOS	င္ဝ					-Ryan In	لكسمت	3-R_I	nc.)			_] :	Laborato	ry Relaci	se Hum	ber						
			Cone		ncjeat Ku		1000	1.85	22,44,		HAIL	<u>on</u>	_ [,	aborato	ry Hame								187 v
1				Fool	illy Numb	282	NOCAL SS 50 Hesper	#548 1an	Blvd.	. HAY	WARD	CA	-		Contact	(Nome)	<u>Mt</u>	(. <u>DA</u>	277-2	SARA SEMIT	T	<u>,</u>	i i i i i i i i i i i i i i i i i i i
	.51	经价值证	7		<u></u>	ŕr	TOOLT CO	#E 1.0	7 .											 Vetat m	ידי	: -	· 人名英格兰特里尔



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

February 20, 2001

Deanna Harding Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Dublin, CA 94568 RE: Tosco(1) / L102016

Enclosed are the results of analyses for samples received by the laboratory on 02/02/01. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jetonya K. Put

Latonya Pelt Project Manager

CA ELAP Certificate Number 2360

Gettler-Ryan/Geostrategies(1) 6747 Sierra Court, Suite J Project: Tosco(1)

Project Number: Unocal SS#5487 Project Manager: Deanna Harding

Reported: 02/20/01 14:29

Dublin CA, 94568

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L102016-01	Water	02/02/01 00:00	02/02/01 12:40
MW-5	L102016-02	Water	02/02/01 11:24	02/02/01 12:40
MW-6	L102016-03	Water	02/02/01 10:50	02/02/01 12:40
MW-7	L102016-04	Water	02/02/01 10:15	02/02/01 12:40

Project: Tosco(1)

6747 Sierra Court, Suite J

Project Number: Unocal SS#5487

Dublin CA, 94568

Project Manager: Deanna Harding

Reported: 02/20/01 14:29

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
TB-LB (L102016-01) Water Sam	pled: 02/02/01 00:00	Received:	02/02/01	12:40	··				
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l	1	1020052	02/16/01	02/16/01	DHS LUFT	
Benzene	ND	0.500	#		•	**	#	"	
Toluene	ND	0.500	н	#	**		**	n	
Ethylbenzene	ND	0.500	स	m	n	Ħ	n	n	
Xylenes (total)	ND	0.500	m		Ħ	н	**	n	
Methyl tert-butyl ether	ND	5.00	**	н	**	**	"	n	
Surrogate: a,a,a-Trifluorotoluene		91.3 %	70-	130	n	"		"	
MW-5 (L102016-02) Water Samp	oled: 02/02/01 11:24	Received: 0	2/02/01	12:40			_		
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l	1	1020048	02/15/01	02/15/01	DHS LUFT	
Веплепе	6.42	0.500	**	•	Ħ	#		n	
Toluene	ND	0.500	**	**	n	"	"	"	
Ethylbenzene	ND	0.500	**	**	n	Ħ		**	
Xylenes (total)	ND	0.500	n	H	n	н	#	и	
Methyl tert-butyl ether	223	5.00	**	**	4	**	n	Ħ	
Surrogate: a,a,a-Trifluorotoluene		90.6 %	70-	130	*	,,	n	"	
MW-6 (L102016-03) Water Samp	oled: 02/02/01 10:50	Received: 0	2/02/01	12:40					
Purgeable Hydrocarbons as Gasoline	ND	125	ug/l	2.5	1020048	02/16/01	02/16/01	DHS LUFT	<u> </u>
Benzene	4.79	1.25	**	n	tj	Ħ	n	17	
Toluene	ND	1.25	n	**	H	н	#	и	
Ethylbenzene	ND	1.25	n	n	n	11	•	n	
Xylenes (total)	ND	1.25	n	π	**	Ħ	tt	n	
Methyl tert-butyl ether	1800	100		20				11	M-04
Surrogate: a,a,a-Trifluorotoluene		103 %	70-	130	"	"	"	tr	

Project: Tosco(1)

6747 Sierra Court, Suite J

Project Number: Unocal SS#5487

Reported:

Dublin CA, 94568

Project Manager: Deanna Harding

02/20/01 14:29

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
MW-7 (L102016-04) Water Sampled: 0	2/02/01 10:15	Received: 0	2/02/01 1	2:40					
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/i	1	1020048	02/16/01	02/16/01	DHS LUFT	
Benzene	ND	0,500	#	#	n	"	**	n	
Toluene	ND	0.500	n	n		Ħ	*	Ħ	
Ethylbenzene	ND	0.500	н	н	n	n	н	II .	
Xylenes (total)	ND	0.500	*		H	**	**	**	
Methyl tert-butyl ether	ND	5.00		n	π	**	n	in .	
Surrogate: a,a,a-Trifluorotoluene		98.5 %	70-	130		"	"	n	

Project: Tosco(1)

6747 Sierra Court, Suite J

Project Number: Unocal SS#5487

Reported: 02/20/01 14:29

Dublin CA, 94568

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-6 (L102016-03) Water	Sampled: 02/02/01 10:50	Received: 0	2/02/01 1	2:40					
Ethanol	ND	12500	ug/l	12.5	1020022	02/06/01	02/06/01	EPA 8260B	
1,2-Dibromoethane	ND	25.0	n	н	n	н	*	H	
1,2-Dichloroethane	ND	25.0	*	**	. *	*	u	н	
Di-isopropyl ether	ND	25.0	n	n	Ħ	"	**	**	
Ethyl tert-butyl ether	ND	25.0	n		u	ħ	н	n	
Methyl tert-butyl ether	1790	25.0	h	н	**	и	н	Ħ	
Tert-amyl methyl ether	ND	25.0	Ħ	**		*	**	**	
Tert-butyl alcohol	ND	1250	*	**	**				
Surrogate: 1,2-Dichloroethan	e-d4	109 %	76-1	14	m	"	"	"	
Surrogate: Toluene-d8		102 %	88-1	10	"	**	"	•	

6747 Sierra Court, Suite J **Dublin CA**, 94568

Project: Tosco(1)

Project Number: Unocal SS#5487 Project Manager: Deanna Harding

Reported: 02/20/01 14:29

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 1020048 - EPA 5030B (P/T)										
Blank (1020048-BLK1)				Prepared	& Analyze	xd: 02/15/	01			
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	**							
Toluene	ND	0.500	**							
Ethylbenzene	ND	0.500	**							
Xylenes (total)	ND	0.500	**							
Methyl tert-butyl ether	ND	5.00	н							
Surrogate: a,a,a-Trifluorotoluene	10.3		n n	10.0		103	70-130			
Blank (1020048-BLK2)				Prepared	& Analyze	:d: 02/16/	01			
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	#							
Toluene	ND	0.500	n							
Ethylbenzene	ND	0.500								
Xylenes (total)	ND	0.500	**							
Methyl tert-butyl ether	ND .	5.00	Ħ							
Surrogate: a,a,a-Trifluorotoluene	10.1		,,	10.0		101	70-130		<u> </u>	
LCS (1020048-BS1)				Prepared	& Analyze	xd: 02/15/	01			
Benzene	11.9	0.500	ug/l	10.0		119	70-130			
Toluene	12.0	0.500	"	10.0		120	70-130			
Ethylbenzene	12.1	0.500	*	10.0		121	70-130			
Xylenes (total)	36.3	0.500	n	30.0		121	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.5	·	n	10.0		105	70-130			
LCS (1920048-BS2)				Prepared	& Analyze	ed: 02/15/	01			
Purgeable Hydrocarbons as Gasoline	273	50.0	ug/l	250		109	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.6		"	10.0		106	70-130	-		

Project: Tosco(1)

6747 Sierra Court, Suite J Dublin CA, 94568 Project Number: Unocal SS#5487 Project Manager: Deanna Harding Reported: 02/20/01 14:29

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1020048 - EPA 5030B (P/T)		··-						<u></u>		
LCS (1020048-BS3)				Prepared	& Analyzo	ed: 02/16/	01			
Benzene	9.94	0.500	ug/l	10.0		99.4	70-130			
Toluene	10.3	0.500	n	10.0		103	70-130			
Ethylbenzene	10.6	0.500	Ħ	10.0		106	70-130			
Xylenes (total)	31.9	0.500	**	30.0		106	70-130			
Surrogate: a,a,a-Trifluorotoluene	10.7		Ħ	10.0		107	70-130			
LCS (1020048-BS4)				Prepared	& Analyze	ed: 02/16/	01			
Purgeable Hydrocarbons as Gasoline	245	50.0	ug/l	250		98.0	70-130			
Surrogate: a,a,a-Trifluorotoluene	11.3		n	10.0		113	70-130		**	
Matrix Spike (1020048-MS1)	Sour	rce: L10205	80-08	Prepared	& Analyzo	ed: 02/15/	01			
Purgeable Hydrocarbons as Gasoline	235	50.0	ug/l	250	ND	94.0	60-140			
Surrogate: a,a,a-Trifluorotoluene	10.2		# .	10.0		102	70-130			
Matrix Spike Dup (1020048-MSD1)	Sou	rce: L10205	0-08	Prepared	& Analyze	ed: 02/15/	01			
Purgeable Hydrocarbons as Gasoline	219	50.0	ug/l	250	ND	87.6	60-140	7.05	25	
Surrogate: a,a,a-Trifluorotoluene	10.8		#	10.0		108	70-130			
Batch 1020052 - EPA 5030B (P/Γ)			_							
Blank (1020052-BLK1)				Prepared	& Analyza	ed: 02/16/	01			
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500								
Toluene	ND	0.500	**							
Ethylbenzene	ND	0.500	н							
Xylenes (total)	ND	0.500	**							
Methyl tert-butyl ether	ND	5.00	n						·	
Surrogate: a,a,a-Trifluorotoluene	8.09		"	10.0		80.9	70-130		<u>_</u>	

6747 Sierra Court, Suite J

Dublin CA, 94568

Project: Tosco(1)

Project Number: Unocal SS#5487 Project Manager: Deanna Harding Reported: 02/20/01 14:29

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 1020052 - EPA 5030B (P/T)										
Blank (1020052-BLK2)	·			Prepared a	& Analyze	d: 02/17/0	01		_	-
Purgeable Hydrocarbons as Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	**							
Toluene	ND	0.500								
Ethylbenzene	ND	0.500	#							
Xylenes (total)	ND	0.500	n							
Methyl tert-butyl ether	ND	5.00				_	_		_	
Surrogate: a,a,a-Trifluorotoluene	8.55	_ _	"	10.0		85.5	70-130			
LCS (1020052-BS1)				Prepared &	& Analyze	d: 02/16/0	101			
Benzene	9.60	0.500	ug/l	10.0		96.0	70-130			
Toluene	9.89	0.500	n	10.0		98.9	70-130			
Ethylbenzene	10.1	0.500	#	10.0		101	70-130			
Xylenes (total)	30.7	0.500	Ħ	30.0		102	70-130			
Surrogate: a,a,a-Trifluorotoluene	9.04		"	10.0		90.4	70-130			
LCS (1020052-BS2)				Prepared &	& Analyze	d: 02/16/0	21			
Purgeable Hydrocarbons as Gasoline	256	50.0	ug/l	250		102	70-130			
Surrogate: a,a,a-Trifluorotoluene	8.49		н	10.0		84.9	70-130	<u> </u>		
LCS (1020052-BS3)				Prepared &	& Analyze	d: 02/17/0				
Benzene	9.48	0.500	ug/l	10.0		94.8	70-130			
Toluene	9.62	0.500	н .	10.0		96.2	70-130			
Ethylbenzene	9.95	0.500	Ħ	10.0		99.5	70-130			
Xylenes (total)	30.0	0.500		30.0		100	70-130			
Surrogate: a,a,a-Trifluorotoluene	9.05	*1,	#	10.0		90.5	70-130			
LCS (1020052-BS4)				Prepared &	& Analyze	d: 02/17/0	211			
Purgeable Hydrocarbons as Gasoline	259	50.0	ug/l	250		104	70-130		··	
Surrogate: a,a,a-Trifluorotoluene	8.79		н	10.0		87.9	70-130			

Project: Tosco(1)

6747 Sierra Court, Suite J

Project Number: Unocal SS#5487

Reported: 02/20/01 14:29

Dublin CA, 94568

Project Manager: Deanna Harding

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

}		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1020052 - EPA 5030B (P/T)										
Matrix Spike (1020052-MS1)	Sour	ce: L10209	5-01	Prepared	& Analyz	ed: 02/17/	01			
Purgeable Hydrocarbons as Gasoline	262	50.0	ug/l	250	ND	105	60-140		· · · · · · · · · · · · · · · · · · ·	
Surrogate: a,a,a-Trifluorotoluene	8.97		"	10.0		89.7	70-130			
Matrix Spike Dup (1020052-MSD1)	Sour	ce: L10209	5-01	Prepared	& Analyz	ed: 02/17/	01			
Purgeable Hydrocarbons as Gasoline	229	50.0	ug/l	250	ND	91.6	60-140	13.4	25	
Surrogate: a,a,a-Trifluorotoluene	7.84		#	10.0		78.4	70-130			

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

Project Number: Unocal SS#5487 Project Manager: Deanna Harding Reported: 02/20/01 14:29

RPD

%REC

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

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	
Batch 1020022 - EPA 5030B [P/T]	· · · · · · · · · · · · · · · · · · ·								<u></u>	<u> </u>	
Blank (1020022-BLK1)	Prepared & Analyzed: 02/06/01										
Ethanol	ND	1000	ug/l								
1,2-Dibromoethane	ND	2.00	*								
1,2-Dichloroethane	ND	2.00	**								
Di-isopropyl ether	ND	2.00	н								
Ethyl tert-butyl ether	ND	2.00	*								
Methyl tert-butyl ether	ND	2.00	n								
Tert-amyl methyl ether	ND	2.00	**								
Tert-butyl alcohol	ND	100									
Surrogate: 1,2-Dichloroethane-d4	51.6		н	50.0		103	76-114				
Surrogate: Toluene-d8	50.0		*	50.0		100	88-110				
Blank (1020022-BLK2)	Prepared & Analyzed: 02/06/01										
Ethanol	ND	1000	ug/l								
1,2-Dibromoethane	ND	2.00	*								
1,2-Dichloroethane	ND	2.00	n								
Di-isopropyl ether	ND	2.00	n								
Ethyl tert-butyl ether	ND	2.00	*								
Methyl tert-butyl ether	ND	2.00	n								
Tert-amyl methyl ether	ND	2.00	*								
Tert-butyl alcohol	ND	100	n								
Surrogate: 1,2-Dichloroethane-d4	50.8		#	50.0		102	76-114				
Surrogate: Toluene-d8	49.9		Ħ	50.0		99.8	88-110				
Blank (1020022-BLK3)		Prepared & Analyzed: 02/07/01									
Ethanol	ND	1000	ug/l		Ť						
1,2-Dibromoethane	ND	2.00	17								
1,2-Dichloroethane	ND	2.00	н								
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	Ħ								
Tert-butyl alcohol	ND	100	п			_					
Surrogate: 1,2-Dichloroethane-d4	55.8		н	50.0		112	76-114				
Surrogate: Toluene-d8	49.9		"	50.0		99.8	88-110				

Project: Tosco(1)

6747 Sierra Court, Suite J

Project Number: Unocal SS#5487

Reported: 02/20/01 14:29

Dublin CA, 94568

Project Manager: Deanna Harding

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 1020022 - EPA 5030B [P/T]											
LCS (1020022-BS1)	Prepared & Analyzed: 02/06/01										
Methyl tert-butyl ether	54.4	2.00	ug/l	50.0		109	70-130				
Surrogate: 1,2-Dichloroethane-d4	56.1		"	50.0		112	76-114				
Surrogate: Toluene-d8	50.1		"	50.0		100	88-110				
LCS (1020022-BS2)	Prepared & Analyzed: 02/06/01										
Methyl tert-butyl ether	49.1	2.00	ng/l	50.0	<u>-</u>	98.2	70-130				
Surrogate: 1,2-Dichloroethane-d4	51.3		"	50.0		103	76-114	_			
Surrogate: Toluene-d8	49.8		"	50.0		99.6	88-110				
LCS (1020022-BS3)		_		Prepared &	& Analyze	<u>d</u> : 02/07/0)1_	_			
Methyl tert-butyl ether	52.3	2.00	ug/l	50.0		105	70-130				
Surrogate: 1,2-Dichloroethane-d4	53.3		#	50.0		107	76-114				
Surrogate: Toluene-d8	5 0 .3		"	50.0		101	88-110				
Matrix Spike (1020022-MS1)	Sou	rce: L10201)	1-10	Prepared &	& Analyze	d: 02/06/0			_		
Methyl tert-butyl ether	55.2	2.00	ug/l	50.0	ND	110	60-140				
Surrogate: 1,2-Dichloroethane-d4	54.1		"	50.0		108	76-114				
Surrogate: Toluene-d8	50.7		"	50.0		101	88-110				
Matrix Spike Dup (1020022-MSD1)	Sou	rce: L10201	1-10	Prepared & Analyzed: 02/06/01							
Methyl tert-butyl ether	48.5	2.00	ug/l	50.0	ND	97.0	60-140	12.9	25		
Surrogate: 1,2-Dichloroethane-d4	50.6		н	50.0		101	76-114				
Surrogate: Toluene-d8	50.4		*	50.0		101	88-110				

Project: Tosco(1)

6747 Sierra Court, Suite J

Project Number: Unocal SS#5487

Dublin CA, 94568

Project Manager: Deanna Harding

Reported: 02/20/01 14:29

Notes and Definitions

M-04 MTBE was reported from second analysis.

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