

March 20, 2001 G-R Job #180021

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

### **RECEIVED**

9:32 am, Mar 23, 2009

Alameda County Environmental Health

RE:

First Semi-Annual Event of February 2, 2001

Groundwater Monitoring & Sampling Report

Tosco (Unocal) Service Station #6419

6401 Dublin Boulevard Dublin, 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. 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, 2 and 4. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Deanna L. Harding
Project Coordinator

Stephen J. Carter
Senior Geologist, R.G. No. 5577

Figure 1:

Potentiometric Map

Figure 2:

Potentiomenic Map

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Concentration Map

Table 1:

Groundwater Monitoring Data and Analytical Results

Table 2:

Groundwater Analytical Results - Metals

Table 3:

Dissolved Oxygen Concentrations

Table 4:

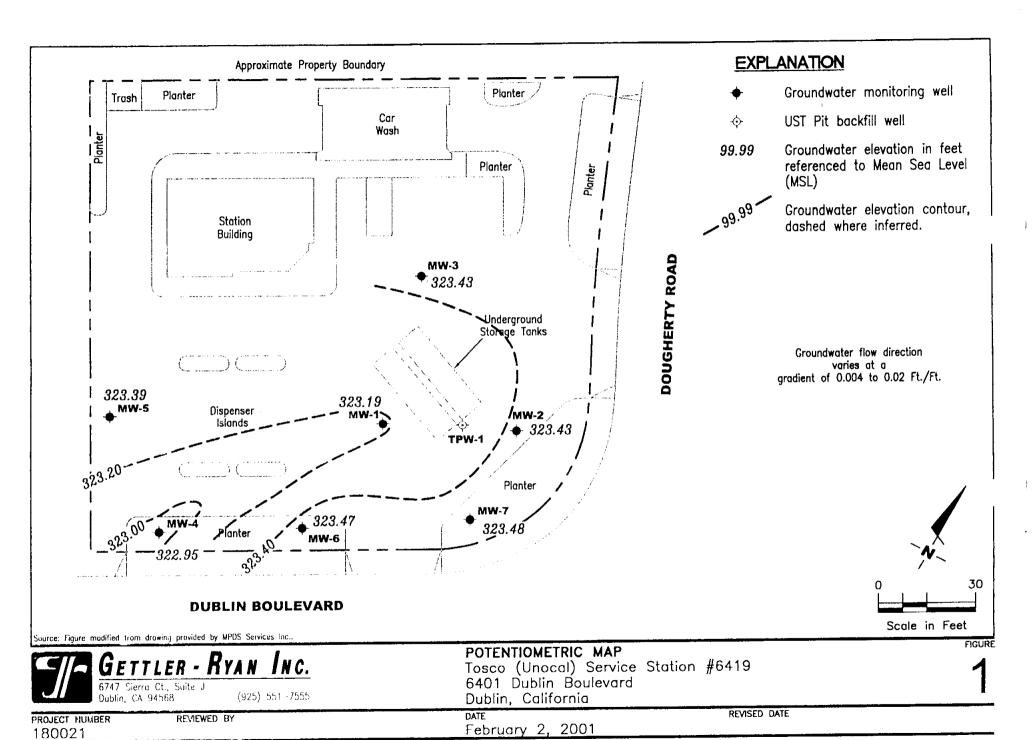
Groundwater Analytical Results - Oxygenate Compounds Standard Operating Procedure - Groundwater Sampling

Attachments:

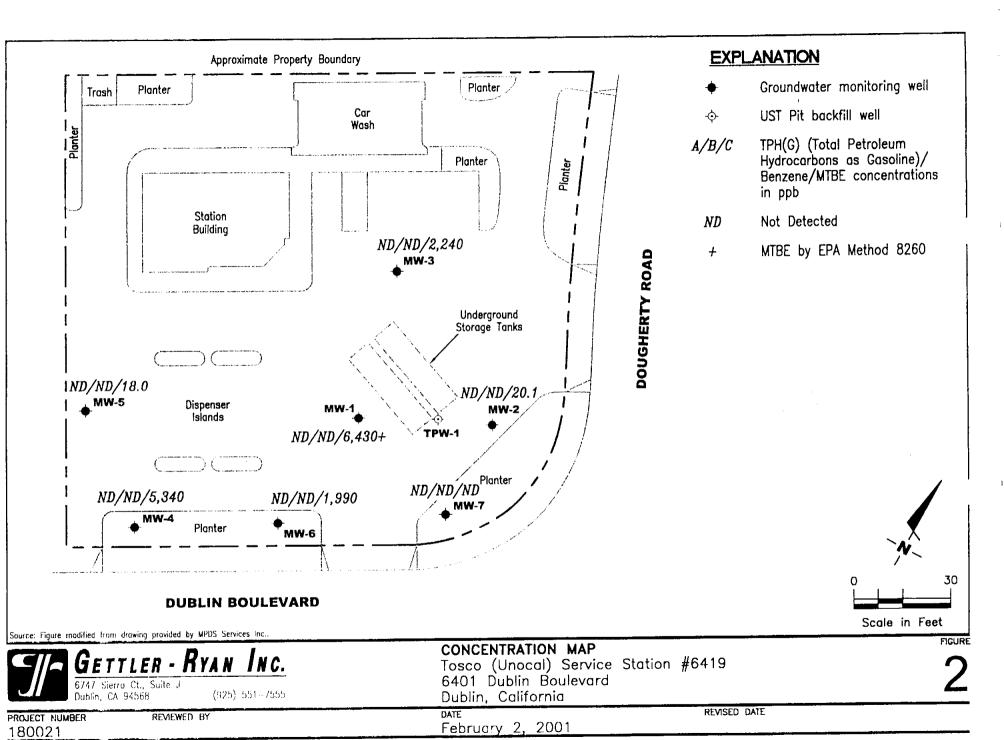
Field Data Sheets

A414.4m.

Chain of Custody Document and Laboratory Analytical Reports



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Table 1
Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #6419
6401 Dublin Boulevard
Dublin, California

WELL ID/	DATE	DTW	GWE	TPH-D	TPH-G	В	T	E	X	MTBE
TOC*	17/1/12	(ft.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(pph)	(pph)	(pph)
100	<u> </u>	<u> </u>								
MW-1										
330.45	03/14/94	7.27	323.18	8101	$1,800^2$	17	ND	ND	ND	
	08/25/94	8.57	321.88	9103	$9,200^{2}$	48	ND	540	ND	
	09/30/94	8.78	321.67							
	10/20/94	8.98	321.47							
	11/18/94	7.69	322,76	9103	5,100	3.3	ND	560	38	
	12/20/94	7.58	322.87							
	01/17/95	6.03	324.42							
	02/15/95	6.29	324.16	660 <sup>1</sup>	3,300	13	ND	180	5.2	
	03/13/95	5.64	324.81							
	04/06/95	5.62	324.83							•
	05/17/95	6.26	324.19	$200^{3}$	130	0.75	ND	1.5	ND	
	06/15/95	6.75	323.70							
	08/25/95	7.91	322.54		490	9.1	ND	21	2.0	5
	11/28/95	9.03	321.42		1,400	18	3.0	98	3.6	5
	02/26/96	5.77	324.68		560	9.3	ND	22	ND	1,300
	08/23/96	7.78	322.67		ND	ND	ND	ND	ND	640
330.23	02/17/97	5.73	324.50		$120^{4}$	1.0	0.95	ND	ND	280
5.10.2.	08/18/97	7.38	322.85		ND	ND	ND	ND	ND	100
	02/02/986	5.10	325.13		$ND^7$	130	$ND^7$	$ND^7$	$ND^7$	32,000
	08/24/98	6.73	323.50	-+	$ND^7$	$ND^7$	$ND^7$	$ND^7$	$ND^{7}$	26,000/24,0008
	02/10/99	5.46	324.77		ND <sup>7</sup>	$\mathrm{ND}^7$	$ND^7$	$ND^7$	ND <sup>7</sup>	84,000/100,0008
	04/12/99	6.38	323.85		$ND^7$	$ND^7$	$ND^7$	$ND^7$	$ND^7$	140,000/120,000 <sup>8</sup>
330.21	05/21/99	5.95	324.26		••					
.1.11.21	08/02/99	6.75	323.46		$ND^{?}$	$ND^7$	$ND^7$	$ND^7$	$ND^7$	91,000/140,000 <sup>10</sup>
	02/11/00	6.44	323.77		$ND^7$	$ND^7$	$ND^7$	$ND^7$	$ND^7$	38,000/39,0008
330.18**	07/26/00 <sup>13</sup>	7.08	323,10		146 <sup>12</sup>	ND	ND	ND	ND	30,900/42,800 <sup>10</sup>
3,30,10	02/02/01	6,99	323.19		$\mathbf{ND}^7$	$ND^7$	$ND^7$	$ND^7$	$ND^7$	5,380/6,430 <sup>8</sup>

Table 1
Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, California

WELL ID/	DATE	DTW	GWE	TPH-D	TPH-G	В	T	Е	X	MTBE
TOC*		(ft.)	(msl)	(pph)	(ppb)	(pph)	(ppb)	(pph)	(ppb)	(ppb)
		V /								
MW-2										
330.40	03/14/94	7.23	323.17		ND	ND	2.8	1.1	8.0	
	08/25/94	8.41	321.99		ND	ND	ND	ND	ND	
	09/30/94	8.73	321.67		<del>-</del> -					
	10/20/94	8.92	321.48						**	
	11/18/94	7.67	322.73		ND	ND	ND	ND	ND	
	12/20/94	7.48	322.92							**
	01/17/95	6.00	324.40					•-		<del></del>
	02/15/95	6.16	324.24		ND	ND	ND	ND	ND	
	03/13/95	5.59	324.81							
	04/06/95	5.51	324.89	<del></del>						
	05/17/95	6.15	324.25		ND	ND	ND	ND	ND	<del>-</del> -
	06/15/95	6.61	323.79							
	08/25/95	7.45	322.95		ND	ND	ND	ND	ND	
	11/28/95	8.85	321.55		ND	ND	ND	ND	ND	
	02/26/96	5.49	324.91	••	ND	ND	ND	ND	ND	
	08/23/96	7.44	322.96	SAMPLED AN	NUALLY					••
330.27	02/17/97	5.64	324.63		ND	ND	ND	ND	ND	ND
	08/18/97	7.40	322.87		**					••
	02/02/98	5.09	325.18		ND	ND	ND	ND	ND	62
	08/24/98	6.70	323.57							
	02/10/99	5.56	324.71		ND	ND	ND	ND	ND	130
330,30	05/21/99	5.98	324.32							
	08/02/99	6.72	323.58	**	ND	ND	ND	ND	ND	120
	02/11/00	6.43	323.87	*-	ND	ND	ND	ND	ND	39
330.24**	07/26/0013	7.03	323.21		ND	ND	ND	ND	ND	89.9
	02/02/01	6.81	323.43		ND	ND	ND	ND	ND	20.1

Table 1
Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard

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WELL ID/	DATE	DTW	GWE	TPH-D	ТРН-С	В	Т	Е	X	MTBE
TOC*		(ft.)	(msl)	(ppb)	(ppb)	(ppb)	(ppb)	(pph)	(ppb)	(pph)
	<del></del>								-	
MW-3										
331.11	03/14/94	7.93	323.18		150 <sup>4</sup>	ND	ND	ND	ND	
	08/25/94	9.20	321.91		$130^{4}$	ND	ND	ND	ND	
	09/30/94	9.43	321.68	**						
	10/20/94	9.64	321.47							~~
	11/18/94	8.39	322.72		1304	ND	ND	ND	ND	
	12/20/94	8.20	322.91							
	01/17/95	6.72	324.39							
	02/15/95	6.93	324.18		1304	ND	ND	ND	ND	
	03/13/95	6.30	324.81							
	04/06/95	8.20	322.91						*-	
	05/17/95	6.88	324.23	•	99 <sup>4</sup>	ND	ND	ND	ND	
	06/15/95	7.35	323.76						**	
	08/25/95	8.20	322.91		ND	ND	ND	ND	ND	5
	11/28/95	9.52	321.59		ND	ND	ND	ND	ND	
	02/26/96	6.25	324.86		ND	ND	ND	ND	ND	5
	08/23/96	7.98	323.13	SAMPLED AN	NNUALLY	<del></del>				
330,68	02/17/97	6.07	324.61		ND	ND	ND	ND	ND	68
	08/18/97	7.82	322.86							
	02/02/98	5.50	325.18		ND	ND	ND	ND	ND	100
	08/24/98	7.12	323,56							
	02/10/99	5.80	324.88		ND	ND	ND	ND	ND	92
330.49	05/21/99	6.16	324.33							
	08/02/99	6.95	323.54		ND	ND	ND	ND	ND	140
	02/11/00	6.71	11		ND	ND	ND	ND	ND	46
330.60**	07/26/00 <sup>13</sup>	7.35	323.25		ND	ND	ND	ND	ND	927
	02/02/01	7.17	323.43		$ND^7$	$ND^7$	$ND^7$	ND <sup>7</sup>	ND <sup>7</sup>	2,240

Fable 1
Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, California

WELL ID/	DATE	DTW	GWE	TPH-D	Dublin, Cali TPH-G	В	T	E	X	мтве
WELL ID/	DATE	(ft.)	(msl)	(pph)	(ppb)	(ppb)	(ppb)	(ppb)	(pph)	(ppb)
10C*		(11.)	. (mst)	(PP#)	(РРО)	(PF 5)				
MW-4										
330.36	05/21/99 <sup>9</sup>	6.43	323.93		ND	ND	ND	ND	ND	960/910 <sup>8</sup>
	08/02/99	7.34	323.02		ND	10	ND	13	11	ND
	02/11/00	6,92	323.44		ND	ND	ND	ND	ND	2,700
30.35**	07/26/00 <sup>13</sup>	7.68	322.67		ND	ND	ND	ND	ND	3,710
	02/02/01	7.40	322.95		$ND^7$	ND <sup>7</sup>	$ND^7$	ND <sup>7</sup>	$ND^7$	5,340
<b>MW-5</b> 330.20	05/21/99 <sup>9</sup>	5.99	324.21		ND	ND	ND	ND	ND	32/33 <sup>8</sup>
130.20	08/02/99	6.83	323.37		ND	ND	ND	ND	ND	230
	02/11/00	6.34	323.86		ND	ND	ND	ND	ND	98
	07/26/00	7.06	323.14		ND	ND	ND	ND	ND	25.9
	02/02/01	6.81	323.39		ND	ND	ND	ND	ND	18.0
	Vian Vian Vi		2232							
MW-6								LVD.	NIIN	2,200/2,3008
330.49	05/21/99°	6.24	324.25		ND	ND	ND	ND	ND	2,200/2,300 ND
	08/02/99	7.10	323.39		ND	ND	ND	ND	ND	2,500
	02/11/00	6.60	323.89		ND	ND	ND	ND	ND	
	07/26/00 <sup>13</sup>	7.31	323.18		ND	ND	ND	ND	ND	4,280
	02/02/01	7.02	323.47		$ND^7$	$ND^7$	$ND^7$	ND <sup>7</sup>	ND <sup>7</sup>	1,990
MW-7										ų
330,43	05/21/99 <sup>9</sup>	6.13	324.30		ND	ND	ND	ND	ND	22/228
	08/02/99	6.92	323.51		ND	ND	ND	ND	ND	31
	02/11/00	6.50	323.93		ND	ND	ND	ND	ND	20
	07/26/00 <sup>13</sup>	7.18	323.25		ND	ND	ND	ND	ND	17.9
	02/02/01	6.95	323.48		ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results

Toseo (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, California

DATE	DTW	GWE	TPH-D	TPH-G	В .	T	E	X	MTBE
	(ft.)	(msl)	(ppb)	(pph)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
							.16	MD	MD
02/02/98			*	ND	ND	ND	ND		ND
08/24/98				ND	ND	ND	ND	ND	ND
				ND	ND	ND	ND	ND	ND
						ND	ND	ND	ND
								ND	ND
									ND
08/02/99			==	ND	ND				
02/11/00	-~	==		ND	ND	ND	ND	ND	ND
		4.5	-e	ND	ND	ND	ND	ND	ND
02/02/01		**		ND	ND	ND	ND	ND	ND
( ( ( ( )	08/24/98 02/10/99 04/12/99 05/21/99 08/02/99 02/11/00	02/02/98 08/24/98 02/10/99 04/12/99 05/21/99 08/02/99 02/11/00 7/26/00 <sup>13</sup>	02/02/98	02/02/98	02/02/98 ND 08/24/98 ND 02/10/99 ND 04/12/99 ND 05/21/99 ND 08/02/99 ND 08/02/99 ND 08/02/99 ND 07/26/00 <sup>13</sup> ND	02/02/98 ND	02/02/98 ND	02/02/98 ND	02/02/98 ND

#### Cable 1

#### Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, 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

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

(msl) = Mean sea level

MTBE = Methyl tertiary butyl ether

TPH-D = Total Petroleum Hydrocarbons as Diesel TPH-G = Total Petroleum Hydrocarbons as Gasoline

- \* TOC elevations have been surveyed relative to msl, per the benchmark on the northwest corner of Dougherty Road and Sierra Way (Elevation = 331.728 feet msl). These TOC elevations have been used prior to the February 17, 1997 monitoring event. TOC elevations have been resurveyed (after station rebuilding) relative to Mean Sea Level (msl), per the Benchmark on the northwest corner of Dougherty Road and Sierra Way (Elevation = 331.728 feet msl).
- \*\* TOC elevations were surveyed on August 18, 2000. The benchmark for the survey was a chiseled square on top center of the concrete curb at the north curb return at the northwest corner of the intersection of Dougherty Road and Dublin Boulevard. (Benchmark Elevation = 330.60 ft., NGVD 1929)
- Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
- Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.
- 3 Laboratory report indicates the hydrocarbons detected did not appear to be diesel.
- <sup>4</sup> Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.
- 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.
- Well appears to be obstructed at approximately 9 feet.
- Detection limit raised. Refer to analytical reports.
- 8 MTBE by EPA Method 8260.
- Ethanol, t-butanol, di-isopropyl ether (DIPE), ethyl t-butyl ether (ETBE), and t-amyl methyl ether (TAME) by EPA Method 8260 were all ND.
- MTBE by EPA Method 8260, was analyzed past EPA recommended hold time.
- TOC has been damaged. Cannot accurately calculate GWE.
- Laboratory report indicates unidentified hydrocarbons C6-C12.
- Laboratory report indicates insufficient preservative to reduce ample pH to less than 2. Sample was analyzed within 14 days, but beyond the seventh day recommended for Benzene, Toluene, Xylene and Ethylbenzene.

## Table 2 Groundwater Analytical Data - Metals

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, California

WELL ID	DATE	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Nickel (ppm)	Zinc (ppm)
MW-1	03/14/94	ND	0.012	ND	0.030	0.039
_	08/25/94	ND	ND	0.024	ND	ND
_	11/18/94	ND	0.076	ND	0.067	ND
	02/15/95	ND	ND	ND	ND	ND
	05/17/95	ND	ND	ND	0.021	ND

### **EXPLANATIONS:**

Groundwater laboratory analytical results were compiled from reports prepared by MPDS Services, Inc.

(ppm) = Parts per million

ND = Not Detected

Table 3
Dissolved Oxygen Concentrations

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard Dublin, California

WELL ID	DATE	Before Purging (mg/L)	After Purging (mg/L)
A # 1 1 1	02/15/05		4.30
MW-1	02/15/95		1.20
_	05/17/95	<del></del>	2.71
	08/25/95		3.25
	11/28/95		
	02/26/96	5.23	1.41
	08/23/96	3.83	N/A
	02/17/97	0.82	0.78
	08/18/97	1.28	2.35
MW-2	02/15/95		1.90
	02/26/96	0.62	0.43
	08/23/96	2.04	N/A
	02/17/97	0.90	0.82
	08/18/97	1.16	
MW-3	02/15/95		2.60
	05/17/95		1.13
	08/25/95		1.86
	11/28/95		6.81
	02/26/96	16.83	1.11
	08/23/96	3.29	N/A
	02/17/97	0.80	0.80
	08/18/97	1.43	

### **EXPLANATIONS:**

Dissolved oxygen concentrations were compiled from reports prepared by MPDS Services, Inc.

mg/L = milligrams per liter

-- = Not Measured

N/A = Not Applicable

#### Table 4

### **Groundwater Analytical Results - Oxygenate Compounds**

Tosco (Unocal) Service Station #6419 6401 Dublin Boulevard

Dublin, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (pph)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-I	07/26/00 <b>02/02/01</b>	 	ND <sup>1</sup>	42,800 <b>6,430</b>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>1</sup>	ND <sup>t</sup>	ND <sup>1</sup>

### **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

.-- = Not Analyzed

ND = Not Detected

EPA Method 8260 for Oxygenate Compounds

<sup>&</sup>lt;sup>1</sup> 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.

## NELL MONITORING/SAMPLING FIELD DATA SHEET

ddress 641	Ol Dublin 1			12/01		- <del></del>
	iblio, ca.		Sampler:1	• •		
	(010), 000					
Well ID	mw-1	Well Conditio	n: <u>0k</u>		. <del></del>	
Vell Diameter	2in.	Hydrocarbon Thickness:	D. DO (feet)	Amount Bail	ed 🗲	S(Gallons
otal Depth	9.23 tt.	Volume				
epth to Water	6.99 tt.	Factor (VF)	6" = 1.	50 1	2" = 5.80	
	2.24 x	VF 0.17 =0.38	X 3 (case volume) =	Estimated Purgo	e Volume: _	1. 5 (gal.)
Purge (	Disposable Bailer Bailer		mpling uipment: Dis	posable Baile		
4	Stack		Bai			
	Suction Grundfos			ssure baller ab Sample		
	Other:			ner:		
					1	
Starting Time:	j <b>n</b> ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	1414				
_	12:30	<del></del>	Conditions:		<u> </u>	
Sampling Time:	17:40	Water Co	olor:l	<u> </u>		
Sampling Time: Purging Flow Rat	17;40 te:	Water Co	olor: t Description:			
Sampling Time: Purging Flow Rat	17:40	Water Co	olor:l			
Sampling Time: Purging Flow Rat Did well de-wate	17;40 te:	Water Conductivity	t Description: Time: Temperature	Volume D.O.	·	(gal
Sampling Time: Purging Flow Rat Did well de-wate Time V	17; 40 te:	Water Conductivity	t Description: Time: Temperature •F	Volume	:	(gal
Sampling Time: Purging Flow Rat Did well de-wate Time V	17;40 te:	Water Conductivity	t Description: Time: Temperature  •F  60.7	Volume D.O.	·	(gal
Sampling Time: Purging Flow Rat Did well de-wate  Time V  17.37	17,40 te:	Water Conductivity  µmhos/cm  131/	t Description: Time:  Temperature  •F  60.7  61.3	Volume D.O.	·	(gal.
Sampling Time: Purging Flow Rat Did well de-wate  Time V  17.37	17; 40 te:	Water Conductivity  µmhos/cm  131/	t Description: Time:  Temperature  •F  60.7  61.3	Volume D.O.	·	(gal.
Sampling Time: Purging Flow Rat Did well de-wate  Time V  17.37	17,40 te:	Water Conductivity  µmhos/cm  131/	t Description: Time:  Temperature  •F  60.7  61.3	Volume D.O.	·	(gal.
Sampling Time: Purging Flow Rat Did well de-wate  Time V  17.37	17,40 te:	Water Conductivity  µmhos/cm  131/	t Description: Time:  Temperature  •F  60.7  61.3	Volume D.O.	·	(gal
Sampling Time: Purging Flow Rat Did well de-wate  Time V  17.37	17,40 te:	Water Conductivity  µmhos/cm  131/  1320	Temperature  •F  60.7  61.3	Volume D.O.	·	(gal
Sampling Time: Purging Flow Rat Did well de-wate  Time V  17.37	17,40 te:	Water Conductivity   Conductivity	Temperature  •F  60.7  61.3	Volume D.O. (mg/L)	·	(gal
Sampling Time: Purging Flow Rat Did well de-wate Time V 17,37 して、34	17;40 te:	Water Conductivity   Conductivity	Temperature  F  60.7  61. 3  61. 6  NFORMATION  7. TYPE / LABOR	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
Sampling Time: Purging Flow Rat Did well de-wate  Time V  17.37  17.34  17.36  SAMPLE ID	17;40  te:	Water Conductivity  µmhos/cm  129-7  131/  132-0  LABORATORY II	Temperature  F  60.7  61. 3  61. 6  NFORMATION  7. TYPE / LABOR	D.O. (mg/L)	ORP (mV)	(gal.
Sampling Time: Purging Flow Rat Did well de-wate  Time V  17.37  17.34  17.36  SAMPLE ID	17;40  te:	Water Conductivity  µmhos/cm  129-7  131/  132-0  LABORATORY II	Temperature  F  60.7  61. 3  61. 6  NFORMATION  7. TYPE / LABOR	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
Sampling Time: Purging Flow Rat Did well de-wate  Time V  17.37  17.34  17.36  SAMPLE ID	17;40  te:	Water Conductivity  µmhos/cm  129-7  131/  132-0  LABORATORY II	Temperature  F  60.7  61. 3  61. 6  NFORMATION  7. TYPE / LABOR	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
Sampling Time: Purging Flow Rate Did well de-wate  Time V  17.37  17.34  17.36  SAMPLE ID  MW-1	17;40  te:	Water Conductivity   Conductivity      Mater Conductivity	Temperature  F  60.7  61. 3  61. 6  NFORMATION  7. TYPE / LABOR	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)

9/97-fieldet.frm

## "'ELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility <u>To S</u>	co #	6419			Job#:	180021		
Address: 64					Date:	2/2/01		
City: De						Varthe		
Well ID	Mw	1-2	We	II Condition	: <u>0</u> k	·		
Well Diameter		2 in.		drocarbon ckness:	D. 00 (fee	Amount B	lailed	3 (Gallons)
Total Depth	<u></u>	60 ft.		olume	<del></del> -	3" = 0.38		10anoris) 1" = 0.66
Depth to Water	6	- B ( ft.		ctor (VF)		= 1.50		
Duran					: 3 (case volume	) = Estimated Po	urge Volume: .	5, 5 (gal.)
Purge Equipment:	Disposa Bailer	able Bailer				Disposable Ba	ailer	
	Stack	· \				Bailer		
	Suction					Pressure Baile Grab Sample		
			<del></del>			Other:		
Starting Time:		2:35		Weather (	Conditions:	cleer	047	
Sampling Time:		1:52					Odor:_/4	<u></u>
Purging Flow Ra					Description:	Volum		
Did well de-wate	er <i>?</i>	<i>'-</i> 0		ii yes;	ime:	VOIUI	ne:	(qal.)
Time \		pН		ductivity	Temperature			Alkalinity
10:37	(gal.) 2	7-73		hos/cm	65.4	(mg/L)	(mV)	(ppm)
10:33	4	7.58		2110	66,2			
10:41	5.5	7.50	<u>t                                     </u>	2120	66.5	··· <del></del>		<del></del>
	····							
						<del></del>	<u> </u>	
	·						<del></del>	
SAMPLE ID	(#) - CON	TAINER	LABOR REFRIG.		FORMATION	•	ANAL	YSES
MW-2	3 y V C	A	Y	HOI	SEQU	OIA	TPH(G)/btex/	mtbe
								,
							:	
<u></u>		1		1			i	į
				1		·	<u> </u>	
COMMENTS:				1			<u> </u>	

9/97-Reidet, fret

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility <u>To S</u>	co # 6419	)		Job#:	180021		
Address: 64	OI Dublin	BIVA.			2/2/01		
	ublio, co				Varth.		
Well ID	_MW-3	_ We	Il Conditio	n:	k		
Well Diameter	2		drocarbon	בי מיני	Amount E	Bailed	3
Total Depth	18.50		ckness:		$\frac{\text{(product/w)}}{3"} = 0.3$		(Gallons)
Depth to Water	7.17	1	actor (VF)		= 1.50	12" = 5.80	Y = 0.00
Purge Equipment:	Disposable Baile Bailer Stack Sugtion Grundfos		Sa	mpling	Disposable B Bailer Pressure Bail Grab Sample	ailer er	(gal.)
, -	Other:		Water Co	lor:	Other:	ougt Odor: N	
Did well de-wat	er?		If yes; T	ime:	Volur	ne:	(gal.)
Time	Volume pH (gal.) 7.67 7.57 6 7.4	2 <u>μπ</u>	ductivity shos/cm 274 854	Temperature 69.3 62.8 68.6	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
SAMPLE ID	(#) - CONTAINER	LABOF		FORMATION		ANAL	YSES
MW- 3	3 Y VOA	Y	HC	SEQU	JOIA	TPH(G)/btex/n	ntbe
						·	
COMMENTS: _							

## TLL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility <u>To S</u>	co # 6419			Job#:	180021		
	y To sco # 6 4/9  ss: 6401 Dublio BIVA.  Dublio , Ca.  Vell ID MW-4 Well Container  Depth 19.15 ft. Volume PH Conducting Grands  Sell de-water? 11.55 Mel Conducting Grands  Sell de-water? 12.50 Mel Conducting Grands  Sell de-water? 13.50 Mel Conducting Grands  Sell de-water? 13.50 Mel Conducting Grands  Sell de-water? 13.50 Mel Grands  Sell de-water? 14.50 Mel Grands  Sell de-water? 15.50 Mel Grands  Sell de-water 15.50 Me			Date:	2/2/01		
				Sampler: _	Varthe	۷	
Well ID	mw-4	Wel	l Condition:	OK			
Active To Sco # 6 4/9  Address: 6401 Dublin Blog. Date: 2/2/0/  City: Dublic Ca. Sampier: Varther  Well ID MW 4 Well Condition: Dk  Well Diameter 2 in Hydrocarbon Thickness: 0.00 (text) (product/water): 4 confount Bailed Thickness: 0.00 (text) (pro							
Total Depth	19.15 tt						
Depth to Water	7.40 ft	Fa					0.00
			•		= Estimated Po	urge Volume: _	6.0 (gal.)
Purge Equipment:	· · · · · · · · · · · · · · · · · · ·	•			isposable B	ailer	
		•	•	В			
					•		
Sampling Time:	11:55		Water Cold	or:	la	Odor: <i>c</i>	~ <u>~</u>
-		apm.		-			/on! \
Did Weit de-Wate			11 yes, 11				1981.7
Time \	_			Temperature •F			
<del></del>	7-68		762		(Mg/L)		(рри)
	4 7.50						<del></del>
11:45	6 +.4	<u> </u>	<u> </u>	66.7	•	<del></del>	
	<del></del>				<del></del>		<del></del>
SAMPLE ID	(#) - CONTAINER				ORATORY	ANAL	Y <b>S</b> ES
MW-4		<del></del>		<del></del>		<del></del>	
		L	1			<u> </u>	
COMMENTS: _					<del> </del>		· · · · · · · · · · · · · · · · · · ·
		· · · · · · · · · · · · · · · · · · ·			····		· .

9/97-Reldat.frm

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Address: <u>64</u>	co # 6419 Ol Dublin ublio, Ca.	13/1/2.		180021 2/2/01 Vaztke		
Well ID	MW-5	Well Condition	on: OK	,		
Well Diameter	2 in.	Hydrocarbor	ነ . <i>ያ. ከ</i> ተጋ	Amount B	ailed	3
Total Depth	19,40 tt.	Thickness: _ Volume	2" = 0.17			(Gallons)
Depth to Water	6-81 ft.	Factor (VF)		1.50		1 = 0.66
Purge Equipment:	Disposable Bailer Bailer Stack Suction Grundfos Other:	<b>E</b> .	ampling quipment: Di Ba Pr Gr	sposable Ba sposable Ba siler essure Baile ab Sample	iller r	6.5 (gal.)
	10:05 10:20 e: ' (	Water C	Conditions:  olor:  t Description:  Time:		Odor: M	
10:07	olume pH (gal.) 7.77 7.54 6.5 7.51	Conductivity  µmhos/cm  1825  (827)  183 U	Temperature	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
SAMPLE ID			/. TYPE / LABO		ANAL	
MW. 5	3 y V O A	Y HC	SEQUOLA		TPH(G)/btex/n	ntbe
COMMENTS:						

9/37-fieldet.frm

## 'LL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility <u>To S</u>	co # 6419			Job#:	18	0021		
	01 Dublin			Date:	2	12/01		
	ublio, ca			Sample	•	arthe		
Well ID	MW-6	Well	Condition	: <u></u>	ok			
Well Diameter			rocarbon kness:	0.00	(feet) (i	Amount Ba	ailed	3 (Gallons)
Total Depth	19.35 +		lume	2" = 0.17		3" = 0.38	4	= 0.66
Depth to Water	7.02	Fac	tor (VF)		6" = 1.50	0 	12" = 5.80	
Purge Equipment:	Disposable Baile Bailer		San	3 (case voli npling ipment:	Disp	osable Ba		(gal.)
	Stack Suction Grundfos Other:				Grab	er sure Baile o Sample er:		
Starting Time: Sampling Time:				or:	cle		Odor: ve	
	ter?			-			ne:	
Time	Volume pH (gal.) 7.6	$\frac{O}{2} = \frac{\mu m}{2}$	luctivity hos/cm O90	Temperar 667	, <b>&gt;</b>	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
12:11	6.5 7.3							
SAMPLE ID	(#) - CONTAINER	LABOR REFRIG.	ATORY IN	FORMATI		ATORY	ANA	YSES
MW-6	3 Y VOA	Y Y	HC	<del></del>	EQUOIA		TPH(G)/btex/	<del></del>
		1						
L		1	L				l	
COMMENTS:						<del></del>		<del></del>
					<del></del>	<del></del>		· · · · · · · · · · · · · · · · · · ·
							· <del>- · · · · · · · · · · · · · · · · · ·</del>	

## NELL MONITORING/SAMPLING FIELD DATA SHEET

Client/ Facility <u>To S</u> e	co # 6419			Job#:	180021		
	Ol Dublin			Date:	2/2/01		
	ublio, Ca			Sampler:			
Well ID	MW-7	_ Wel	l Condition:	OK			
Well Diameter	2ir		lrocarbon ckness:	9.00 (feet)	Amount B	ailed	(Gallons)
Total Depth	19.35 +		olume	2" = 0.17	3" = 0.38	4	
Depth to Water	6.95 ,	fa.	ctor (VF)	6" = 1	1.50	12" = 5.80	
Purge Equipment:	Disposable Bailer Stack Suction Grundfos Other:	er i	Sam	Ba Pr G	sposable Bailer essure Bailer rab Sample ther:	eiler)	(gal.)
	9:30 9:47 hte: / er?		Water Cold	onditions: or: <u>'les</u> Description: _ me:		Odor:_ <u>rv</u>	
Time 9:32 9:34	Volume pH (gal.) 2 2.6 4 2.7 6.5 7.4	Con 4m / 1.	ductivity thos/cm 764 734	Temperature  OF  OY  O  S  E  66.7	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
	7.1						
SAMPLE ID	(#) - CONTAINER	LABOR		FORMATION TYPE / LABO	DRATORY	ANAL	YSES
MW-7	3 Y VOA	Y	HOI	SEQUOI		TPH(G)/btex/	ntbe
		1				<u> </u>	
COMMENTS:	<del>.</del> <del>.</del>					·	<del> </del>



Relinquished By (Signature)

Foolity Number UNOCAL SS# 6419
Facility Address 6401 Dublin Blvd. Dublin CA
Consultant Project Number 180021.85
Consultant Home Gettler-Ryan Inc. (G-R Inc.)
Address 6747 Sierra Court, Suite J. Dublin, CA 94568
Address DI 11 DIELLA MILLE

Contact (Nome) Mr. DAVID DEWITT (Phone) (925) 277-2384 W102072 Laborolory Hame Sequoia Analytical Laboratory Release Number\_ Samples Collected by (Name) Varther Tash ilas

Yease Marketing - 2000 Case Carpon San Ramon, Calk	a 71. 34. ~~	Р	roject Co	nlact (Ho	ım•) <u>D</u> €	anna L. )-551-755	Hardi 5 (Fox	ng Number	510-	551-	788 <b>8</b>	_   c	olleation Ignature .	Noc	the C	ald						=
	<del>1</del> 1			(P)	10∏ 11 - 11 - 11 - 11 - 11 - 11 - 11 - 11	<u> </u>		1.	·				Analy••	. To Be	Perfor	ned	<del></del>	ı	1		DO NOT BILL TB-LB ANALYSIS	s
Sample Number	Lab Sample Number	Number of Containers	Matter S = Soil A = Air K = Water C = Charcoal	Type G = Grab C = Composite D = Clearete	71.73◆	Scriple Preservation	load (Yes or No)	TPH Gat BTEX WANTEE	1PH Giosel (8015)	Oil and Graces (5520)	Purpeable Halocarbors (8010)	Purpedble Arematics (8020)	Purgeable_Organics (8240)	Extractable Organica (8270)	CACTBLIANI (ICAP or AA)	HTBE (8260)					Remarks *Convirm MTBE	
TB-LB	OIA	1	w	ئ		Hel	<u> </u>	X	ļ	ļ					<sup> </sup>	X		<del></del> -			Hit f.Mw-1 only	
	DQA-E	5	4	7	12.12 M	بو	u	X					- <del></del> -								H,+(MW-1004 by 77780 (82	ω
MW-2	03A-C	3		٠,	105/10	٠	42	X	<b> </b> -	ļ	<u> </u>										:	_
MW-3	04A-C	3	4	ч	1125	<u> </u>		X			-		-									_
HW.4	05A-C	3	n		115/20	u	<u> </u>	X		<u> </u>	- <del> </del>		-	<del> </del>	<del>                                     </del>							_
HW5	06A-C	3			10-AV	<u> </u>	4	X		-		-			-							_
144-6	DJA-C	3	٦_	-	1200		4	X							1	· · · · · · · · · · · · · · · · · · ·						
14W-7	08A-C	3	4	4	947			12				-	-	-								<del>-</del> -
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			ļ	ļ	ļ	ļ.———		-	-	-	-	+	1-	+								_
			<del> </del>	- <del> </del> -		ļ			-		-	<del>                                     </del>	<del> </del>									_
			1		1	Dole/Time (C)	<u>ا</u>	eoelved	By (Slg:	noture)		1	Organiza			le/Time	/		Turn A		Ilme (Cirole Choloe)	
Relinquished By Relinquished By	B. L. J.	<u>ب</u>	G	janization -R Inc ganization		Date/Time OT 2/2/01 Date/Time	M /	1/6/	<u>i loi</u>	//·			Sije Organize			of fine	175			4	14 Hre. 18 Hre. 3 Doye	
Relinguished P	11/11			ganlzatlor		Date/Time	/ R	ealeved	For Lab	oratory	By (Sigi	natur•)		· · · ·	i	le/Ilme	· 				O Days Contracted	

Mile. lini.

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20 February, 2001

Deanna L. Harding Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin, CA 94568

RE: Unocal Sequoia Report W102072

Enclosed are the results of analyses for samples received by the laboratory on 02-Feb-01 16:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwater Project Manager

CA ELAP Certificate #1271





Dublin CA, 94568

Project: Unocal

Project Number: Unocal # 6419 Project Manager: Deanna L. Harding **Reported**: 20-Feb-01 07:52

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	W102072-01	Water	02-Feb-01 00:00	02-Feb-01 16:10
MW-1	W102072-02	Water	02-Feb-01 12:40	<b>02-Feb-</b> 01 16:10
MW-2	W102072-03	Water	02-Feb-01 10:52	<b>02-Feb-</b> 01 16:10
MW-3	W102072-04	Water	02-Feb-01 11:25	02-Feb-01 16:10
MW-4	W102072-05	Water	02-Feb-01 11:55	02-Feb-01 16:10
MW-5	W102072-06	Water	02-Feb-01 10:20	02-Feb-01 16:10
MW-6	W102072-07	Water	02-Feb-01 12:20	<b>02-Feb-</b> 01 16:10
MW-7	W102072-08	Water	02-Feb-01 09:47	02- <b>Fe</b> b-01 16:10

Sequoia Analytical - Walnut Creek

Charlie Westwater, Project Manager

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.



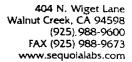
Dublin CA, 94568

Project: Unocal

Project Number: Unocal # 6419 Project Manager: Deanna L. Harding **Reported**: 20-Feb-01 07:52

## Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M Sequoia Analytical - Petaluma

Analyte	Result	porting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (W102072-01) Water	Sampled: 02-Feb-01 00:00	Receive	d: <b>02-F</b> e	b-01 16:10					
Gasoline	ND	50.0	ug/l	1	1020385	15-Feb-01	15-Feb-01	EPA 8015M/8020M	
Benzene	ND	0.500	11	n	н	н	11	is	
Toluene	ND	0.500	**	u	**	17	H	Ħ	
Ethylbenzene	ND	0.500	Ħ	11	11	**	н	tr	
Xylenes (total)	ND	0.500		M	"	n.	"	11	
Methyl tert-butyl ether	ND	2.50	**	"	"	*	"	11	
Surrogate: a,a,a-Trifluorotolue	ne	100 %	65	-135	"		"	"	
Surrogate: 4-Bromofluorobenze	ene	105 %	65	-135	n	"	"	"	
MW-1 (W102072-02) Water	Sampled: 02-Feb-01 12:40	Receive	d: 02-Fe	b-01 16:10					
Gasoline	ND	1000	ug/l	20	1020385	15-Feb-01	15-Feb-01	EPA 8015M/8020M	
Benzene	ND	10.0	•1	11	н	11	"	"	
Toluene	ND	10.0	11	**	U	11	"	п	
Ethylbenzene	ND	10.0	11	"	"	п	n	*	
Xylenes (total)	ND	10.0	11	**	11	**	υ	11	
Methyl tert-butyl ether	5380	50.0	••	"	11	14	"	n	
Surrogate: a,a,a-Trifluorotolue	ne	98.7%	. 65	-135	n	"	"	tt	
Surrogate: 4-Bromofluorobenze	ene	103 %	65	-135	"	"	<i>"</i> .	"	
MW-2 (W102072-03) Water	Sampled: 02-Feb-01 10:52	Receive	d: 02-Fe	b-01 16:10					
Gasoline	ND	50.0	ug/l	1	1020385	15-Feb-01	15-Feb-01	EPA 8015M/8020M	
Benzene	ND	0.500	u	"	n	**	**	10	
Toluene	ND	0.500	*1	**	11	ч	H	*	
Ethylbenzene	ND	0.500	11	D	**	и	n	**	
Xylenes (total)	ND	0.500	**	If	**	**	**	11	
Methyl tert-butyl ether	20.1	2.50	31	н	**	11	11	I e	
Surrogate: a,a,a-Trifluorotolue	ne	97.7 %	65	-135	"	"	<i>"</i>	n	
Surrogate: 4-Bromofluorobenz	ene	105 %	65	-135	"	"	"	н	





Dublin CA, 94568

Project: Unocal

Project Number: Unocal # 6419

Reported:

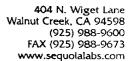
Project Manager: Deanna L. Harding

20-Feb-01 07:52

# Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M Sequoia Analytical - Petaluma

Analyte	R Result	eporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W102072-04) Water	Sampled: 02-Feb-01 11:25	Receive	d: 02-Fe	b-01 16:10					
Gasoline	ND	500	ug/l	10	1020385	15-Feb-01	15-Feb-01	EPA 8015M/8020M	
Benzene	ND	5.00	н	11	H	rt .	**	**	
Toluene	ND	5.00	**	"	"	**	н	п	
Ethylbenzene	ND	5.00	11	n	"	n	"	W.	
Xylenes (total)	ND	5.00	"	n	11	"	11	11	
Methyl tert-butyl ether	2240	25.0	"	Ħ	"	u	"	"	
Surrogate: a,a,a-Trifluorotolue	ene	100 %	65	-135	"	"	"	p	
Surrogate: 4-Bromofluorobenz	ene	104 %	65	-135	"	"	"	"	
MW-4 (W102072-05) Water	Sampled: 02-Feb-01 11:55	Receive	d: 02-Fe	b-01 16:10					
Gasoline	ND	1000	ug/l	20	1020385	15-Feb-01	15-Feb-01	EPA 8015M/8020M	
Benzene	ND	10.0	"	"	п	(**	"	H	
Toluene	ND	10.0	u	*1	11	u	ч	**	
Ethylbenzene	ND	10.0	**	и	11	**	и	**	
Xylenes (total)	ND	10.0	11	11	19	11	11	11	
Methyl tert-butyl ether	5340	50.0	н	**	*1	11	t)	"	
Surrogate: a,a,a-Trifluorotolu	ene	97.3 %	65	5-135	"	n	"	"	
Surrogate: 4-Bromofluoroben	zene	105 %	65	5-135	"	n	"	"	
MW-5 (W102072-06) Water	Sampled: 02-Feb-01 10:20	Receive	d: 02-Fe	eb-01 16:10					
Gasoline	ND	50.0	ug/l	1	1020385	15-Feb-01	15-Feb-01	EPA 8015M/8020M	
Benzene	ND	0.500	"	lt	**	,,	· ·	н	
Toluene	ND	0.500	**	**	"	"	**	,,	
Ethylbenzene	ND	0.500	н	**	**	11	11	••	
Xylenes (total)	ND	0.500	**	11	11	u	**	p	
Methyl tert-butyl ether	18.0	2.50	"	**	17	"	"	"	
Surrogate: a,a,a-Trifluorotolu	ene	98.0 %	6.	5-135		и		n	
Surrogate: 4-Bromofluoroben.	zene	106 %	63	5-135	"	n	н	"	

£





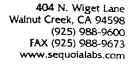
Gettler Ryan, Inc. - Dublin

6747 Sierra Court Suite J Dublin CA, 94568 Project: Unocal

Project Number: Unocal # 6419 Project Manager: Deanna L. Harding **Reported:** 20-Feb-01 07:52

# Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M Sequoia Analytical - Petaluma

Analyte	R Result	eporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (W102072-07) Water	Sampled: 02-Feb-01 12:20	Receive	d: 02-Feb	-01 16:10					
Gasoline	ND	500	ug/l	10	1020385	15-Feb-01	15-Feb-01	EPA 8015M/8020M	-
Benzene	ND	5.00	**	"		n	**	"	
Toluene	ND	5.00	11	**	H	h	n	**	
Ethylbenzene	ND	5.00	ч	**	**	н	u	n	
Xylenes (total)	ND	5.00	"	11	**	"	**	n	
Methyl tert-butyl ether	1990	25.0	1)	**	44	"	"	н	
Surrogate: a,a,a-Trifluorotolue	ene	97.0 %	65-	135	"	"	и	"	
Surrogate: 4-Bromofluorobenz	rene	102 %	65-	135	"	"	"		
MW-7 (W102072-08) Water	Sampled: 02-Feb-01 09:47	Receive	d: <b>02-F</b> eb	-01 16:10					
Gasoline	ND	50.0	ug/l	1	1020385	15-Feb-01	15-Feb-01	EPA 8015M/8020M	
Benzene	ND	0.500	*1	н	U	"	•	н	
Toluene	ND	0.500	н	н	u	n	**	p	
Ethylbenzene	ND	0.500	**	н	n	"	**	**	
Xylenes (total)	ND	0.500	44	P1	t*	**	"	11	
Methyl tert-butyl ether	ND	2.50	п	Ħ	U	"	**	n	
Surrogate: a,a,a-Trifluorotolue	ene	98.0 %	65-	135	и		<i>"</i>	"	
Surrogate: 4-Bromofluorobenz	rene	105 %	65-	135	"	"	,,	"	





Project: Unocal

Project Number: Unocal # 6419 Project Manager: Deanna L. Harding

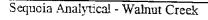
**Reported:** 20-Feb-01 07:52

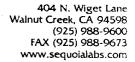
Dublin CA, 94568

## Volatile Organic Compounds by EPA Method 8260B

### Sequoia Analytical - Petaluma

Analyte	R Result	eporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W102072-02) Water	Sampled: 02-Feb-01 12:40	Receive	i: 02-Fel	b-01 16:10		· · · · ·			
Methyl tert-butyl ether	6430	200	ug/l	400	1020397	16-Feb-01	16-Feb-01	EPA 8260B	<del> </del>
Surrogate: Dibromofluorometh	ane	107%	88-	-118	"	"	"	"	<del></del>





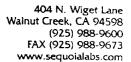
Gettler Ryan, Inc. - Dublin

6747 Sierra Court Suite J Dublin CA, 94568 Project: Unocal

Project Number: Unocal # 6419 Project Manager: Deanna L. Harding **Reported**: 20-Feb-01 07:52

## Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1020385 - EPA 5030, waters			<del></del>							
Blank (1020385-BLK1)	<del> </del>	······································		Prepared	& Analyz	ed: 15-Fel	p-01			····
Gasoline	ND	50.0	ug/l							
Benzene	ND	0.500	**							
Toluene	ND	0.500	**							
Ethylbenzene	ND	0.500	Ħ							
Xylenes (total)	ND	0.500	н							
Methyl tert-butyl ether	ND	2.50	н							
Surrogate: a, a, a-Trifluorotoluene	280		"	300		93.3	65-135			
Surrogate: 4-Bromofluorobenzene	292		"	300		97.3	65-135			
Blank (1020385-BLK2)				Prepared	& Analyz	ed: 16-Feb	o-01			
Gasoline	ND	50.0	ug/i							
Senzene	ND	0.500	"							
Foluene	ND	0.500	и							
Ethylbenzene	ND	0.500	н							
(ylenes (total)	ND	0.500	"							
Methyl tert-butyl ether	ND	2.50								
urrogate: a, a, a-Trifluorotoluene	295		"	300		98,3	65-135			
Surrogate: 4-Bromofluorobenzene	302		"	300		101	65-135			
LCS (1020385-BS1)				Prepared a	& Analyzo	ed: 15-Feb	-01			
<del>Jasoline</del>	2470	50.0	ug/l	2750	<b>-</b>	89.8	65-135		<del></del>	<del></del>
Benzene	39.0	0.500	0	32.0		122	65-135			
l'oluene	188	0.500	11	193		97.4	65-135			
thylbenzene	42.3	0.500	ч	46.0		92.0	65-135			
(ylenes (total)	231	0.500		231		100	65-135			
lethyl tert-butyl ether	66.1	2.50	н	52.0		127	65-135			
urrogate: a, a, a-Trifluorotoluene	288		"	300		96.0	65-135	<del></del>	<del></del>	
urrogate: 4-Bromofluorobenzene	303		"	300		101	65-135			



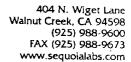
Gettler Ryan, Inc. - Dublin

6747 Sierra Court Suite J Dublin CA, 94568 Project: Unocal

Project Number: Unocal # 6419 Project Manager: Deanna L. Harding **Reported**: 20-Feb-01 07:52

# Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1020385 - EPA 5030, waters										
LCS (1020385-BS2)	Prepared & Analyzed: 16-Feb-01									
Gasoline	2400	50.0	ug/l	2750	- · · ·	87.3	65-135			
Benzene	38.8	0.500	**	32.0		121	65-135			
Coluene	186	0.500	#	193		96.4	65-135			
thylbenzene	42.4	0.500	Ħ	46.0		92.2	65-135			
(ylenes (total)	231	0.500	**	231		100	65-135			
Aethyl tert-butyl ether	68.2	2.50	**	52.0		131	65-135			
urrogate: a, a, a-Trifluorotoluene	303	- ·		300		101	65-135			
urrogate: 4-Bromofluorobenzene	313		"	300		104	65-135			
Matrix Spike (1020385-MS1)	Source: W102072-03		Prepared	& Analyz	ed: 15-Fel					
Gasoline	2640	50.0	ug/l	2750	ND	96.0	65-135			
Benzene	39.5	0.500	n	32.0	ND	123	65-135			
oluene	191	0.500	,,	193	ND	98.8	65-135			
thylbenzene	43.3	0.500		46.0	ND	94.1	65-135			
(vienes (total)	236	0.500		231	ND	102	65-135			
lethyl tert-butyl ether	89.4	2.50	19	52.0	20.1	133	65-135			
urrogate: a,a,a-Trifluorotoluene	297		"	300		99.0	65-135			
urrogate: 4-Bromofluorobenzene	326		"	300		109	65-135			
Aatrix Spike Dup (1020385-MSD1)	Source: W102072-03		Prepared & Analyzed: 15-Feb-01							
asoline and a soline	2570	50.0	ug/l	2750	ND	93.5	65-135	2.69	20	
enzene	38.9	0.500	**	32.0	ND	122	65-135	1.53	20	
foluene	191	0.500	H	193	ND	98.8	65-135	0	20	
thylbenzene	43.2	0.500		46.0	ND	93.9	65-135	0.231	20	
(ylenes (total)	235	0.500	**	231	ND	102	65-135	0.425	20	
lethyl tert-butyl ether	87.0	2.50	n	52.0	20.1	129	65-135	2.72	20	
urrogate: a, a, a-Trifluorotoluene	299			300		99.7	65-135		<del></del>	
Surrogate: 4-Bromofluorobenzene	322		"	300		107	65-135			





Project: Unocal

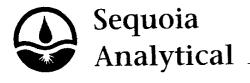
Project Number: Unocal # 6419

Project Manager: Deanna L. Harding

**Reported:** 20-Feb-01 07:52

## Volatile Organic Compounds by EPA Method 8260B - Quality Control Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 1020397 - EPA 5030 waters			<del></del>								
Blank (1020397-BLK1)	Prepared & Analyzed: 15-Feb-01										
Methyl tert-butyl ether	ND	0.500	ug/l		<del></del>						
Surrogate: Dibromofluoromethane	5.00		"	5.00		100	88-118				
Blank (1020397-BLK2)				Prepared & Analyzed: 16-Feb-01							
Methyl tert-butyl ether	ND	0.500	ug/l		-,-			<del></del>			
Surrogate: Dibromofluoromethane	5.21		"	5.00	·	104	88-118		<del></del> <u></u> -		
LCS (1020397-BS1)				Prepared & Analyzed: 15-Feb-01							
Methyl tert-butyl ether	5,54	0.500	ug/l	5.00		111	79-118				
Surrogate: Dibromofluoromethane	5.18	<del></del>		5.00	<del></del>	104	88-118				
LCS (1020397-BS2)				Prepared & Analyzed: 16-Feb-01							
Methyl tert-butyl ether	5.78	0.500	ug/l	5.00		116	79-118	<del></del>			
Surrogate: Dibromofluoromethane	5.29		"	5.00		106	88-118				
Matrix Spike (1020397-MS1)	Source: P102342-10		Prepared of	ed: 15-Feb	n-Ω1						
Methyl tert-butyl ether	99.7	2.50	ug/l	25.0	71.9	111	79-118			<del></del>	
Surrogate: Dibromofluoromethane	5.03	'		5.00		101	88-118	<u> </u>			
Matrix Spike Dup (1020397-MSD1)	Source: P102342-10		Prepared & Analyzed: 15-Feb-01								
fethyl tert-butyl ether	99.8	2.50	ug/l	25.0	71.9	112	79-118	0.100	20		
urrogate: Dibromofluoromethane	5.04		"	5.00		101	88-118			·	



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Gettler Ryan, Inc. - Dublin

6747 Sierra Court Suite J

Dublin CA, 94568

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Project: Unocal

Project Number: Unocal # 6419

Project Manager: Deanna L. Harding

Reported:

20-Feb-01 07:52

### **Notes and Definitions**

DET Analyte DETECTED

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