

RECEIVED

2:11 pm, Apr 21, 2009

Alameda County
Environmental Health

June 11, 1997

Tosco Marketing Company
Environmental Compliance Department
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

Attention: Ms. Tina R. Berry

RE: ORC Study Data
Unocal Service Station #0746
3943 Broadway
Oakland, California

Dear Ms. Berry:

Attached please find data for the monitoring and sampling events of March 12, 1997, and April 17, 1997 at the above referenced site. Included are: a summary of dissolved oxygen readings; depth to water field data; and laboratory analyses results.

Should you have any questions, please do not hesitate to contact our office at (510) 602-5120.

Sincerely,

MPDS Services, Inc.



Jarrel F. Crider

/jfc

Attachments: Dissolved Oxygen Data
Field Depth to Water Data
Laboratory Analyses
Chain of Custody Documentation

Dissolved Oxygen Measurements

Well	Date	Dissolved Oxygen Concentrations	
		Before Purging (mg/L)	After Purging (mg/L)
MW-1	3/12/97	4.28	N/A
	4/17/97	4.18	N/A
MW-2	3/12/97	2.90	N/A
MW-3	3/12/97	3.20	N/A
	4/17/97	2.38	N/A
MW-4	3/12/97	3.50	N/A
	4/17/97	2.46	N/A
MW-5	3/12/97	2.25	N/A
	4/17/97	2.19	N/A
MW-6	3/12/97	3.10	N/A
MW-7	3/12/97	1.70	N/A
MW-8	3/12/97	Parked Over	
	4/17/97	Parked Over	
MW-9	3/12/97	3.00	N/A
	4/17/97	3.17	N/A
MW-10	3/12/97	1.10	N/A
MW-11	3/12/97	1.25	N/A
MW-12	3/12/97	1.50	N/A

mg/L = Milligrams per liter.

N/A = Not applicable.

Note: Measurements were taken using a LaMotte DO4000 dissolved oxygen meter.

WELL MONITORING/SAMPLING

SERVICE STATION NO. 0746 CITY: Oakland

ADDRESS: 3943 Goodwin

FIELD TECHNICIAN: John Giddings

FIELD ACTIVITIES

MONITORING (DATE) 3-18-97 SAMPLING (DATE) 3-18-97 PURGING
 (PUMP/BAIL)
 (WELL #S) _____

WELL#	DEPTH TO WATER		WELL DEPTH	PRODUCT THICKNESS	SHEEN		VOLUME PURGED		
	BEFORE PURGING				AFTER PURGING	YES	NO	WATER	PRODUCT
	TIME	READING							
MW 1	9:25	7.51	20.00	Ø	-	Ø	Ø		
		"							
MW 2	9:00	8.88	20.10	Ø	-	Ø	Ø		
		"							
MW 3	9:40	9.48	22.85	Ø	-	Ø	Ø		
		"							
MW 4	9:35	9.31	20.05	Ø	-	Ø	Ø		
		"							
MW 5	9:37	9.00	20.60	Ø	-	Ø	Ø		
		"							
MW 6	9:03	7.18	19.98	Ø	-	Ø	Ø		
		"							
MW 7	9:05	8.20	18.10	Ø	-	Ø	Ø		
		"							
MW 9	9:30	9.05	22.00	Ø	-	Ø	Ø		
		"							

WELL MONITORING/SAMPLING

SERVICE STATION NO. 0746 CITY: Oakland

ADDRESS: 3943 Broadway

FIELD TECHNICIAN: Joc

FIELD ACTIVITIES

MONITORING (DATE) 4-17-97 SAMPLING (DATE) 4-17-97 PURGING

(PUMP/BAIL)

(WELL #'s) _____

WELL#	DEPTH TO WATER		WELL DEPTH	PRODUCT THICKNESS	SHEEN		VOLUME PURGED	
	BEFORE PURGING	AFTER PURGING			YES	NO	WATER	PRODUCT
	TIME	READING						
MW-1	8:40	7.70	—	0		✓	—	
		"						
MW-2	7:35	10.59		0				
		"						
MW-3	9:20	9.94	—	0		✓	—	
		"						
MW-4	9:00	9.47	—	0		✓	—	
		"						
MW-5	9:03	9.82	—	0		✓	—	
		"						
MW-6	7:45	7.82		0				
		"						
MW-7	7:50	8.53		0				
		"						
MW-8	—		parked over see notes					



MPDS Services 2401 Stanwell Dr., Ste. 300 Concord, CA 94520 Attention: Jarrel Crider	Client Project ID: Unocal #0746, 3943 Broadway, Oakland Matrix Descript: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 703-1418	Sampled: Mar 12, 1997 Received: Mar 12, 1997 Reported: Mar 28, 1997
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TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Purgeable Hydrocarbons µg/L	Benzene µg/L	Toluene µg/L	Ethyl Benzene µg/L	Total Xylenes µg/L
703-1418	MW-1	ND	ND	ND	ND	ND
703-1419	MW-3	9,700	460	ND	300	330
703-1420	MW-4	520	9.2	ND	ND	ND
703-1421	MW-5	19,000	1,300	4.9	1,000	2,700
703-1422	MW-9	ND	ND	ND	ND	ND

Detection Limits:	50	0.50	0.50	0.50	0.50
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Total Purgeable Petroleum Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as ND were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services	Client Project ID: Unocal #0746, 3943 Broadway, Oakland	Sampled: Mar 12, 1997
2401 Stanwell Dr., Ste. 300	Matrix Descript: Water	Received: Mar 12, 1997
Concord, CA 94520	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Mar 28, 1997
Attention: Jarrel Crider	First Sample #: 703-1418	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Chromatogram Pattern	DL Mult. Factor	Date Analyzed	Instrument ID	Surrogate Recovery, % QC Limits: 70-130
703-1418	MW-1	--	1.0	3/25/97	HP-2	79
703-1419	MW-3	Gasoline	100	3/25/97	HP-2	83
703-1420	MW-4	Gasoline	5.0	3/25/97	HP-2	93
703-1421	MW-5	Gasoline	20	3/25/97	HP-2	125
703-1422	MW-9	--	1.0	3/25/97	HP-2	74

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





**Sequoia
Analytical**

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FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #0746, 3943 Broadway, Oakland
Sample Descript: Water
Analysis for: MTBE (Modified EPA 8020)
First Sample #: 703-1418

Sampled: Mar 12, 1997
Received: Mar 12, 1997
Analyzed: Mar 25, 1997
Reported: Mar 28, 1997

LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit µg/L	Sample Result µg/L
703-1418	MW-1	5.0	N.D.
703-1419	MW-3	250	N.D.
703-1420	MW-4	13	N.D.
703-1421	MW-5	50	260
703-1422	MW-9	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager

7031418.MPD <3>





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #0746, 3943 Broadway, Oakland
Matrix: Liquid

QC Sample Group: 7031418-422

Reported: Mar 28, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill

MS/MSD				
Batch#:	7031418	7031418	7031418	7031418
Date Prepared:	3/25/97	3/25/97	3/25/97	3/25/97
Date Analyzed:	3/25/97	3/25/97	3/25/97	3/25/97
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike				
% Recovery:	100	115	105	107
Matrix Spike Duplicate %				
Recovery:	90	105	90	97
Relative % Difference:	11	9.1	15	9.8

LCS Batch#:	2LCS032597	2LCS032597	2LCS032597	2LCS032597
Date Prepared:	3/25/97	3/25/97	3/25/97	3/25/97
Date Analyzed:	3/25/97	3/25/97	3/25/97	3/25/97
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	75	90	85	83

% Recovery Control Limits:	60-140	60-140	60-140	60-140
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager



CHAIN OF CUSTODY

SAMPLER			UNOCAL					ANALYSES REQUESTED						TURN AROUND TIME:	
John Giddings WITNESSING AGENCY			S/S # <u>0746</u> CITY: <u>Oakland</u>					TPH-GAS BTEX	TPH-DIESEL	TOG	8010	MTBE			Regular REMARKS
			ADDRESS: <u>3943 Broadway</u>												
SAMPLE ID NO.	DATE	TIME	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION								
MW1	3-17-97		/			2 UOA's		/					7031418	A-B MTBE 5 ppb.	
MW3	"		/			"		/					7031419		
MW4	"		✓			"		✓					7031420		
MW5	"		/			"		/					7031421		
MW9	"		/			"		/					7031422		
RELINQUISHED BY: [Signature] (SIGNATURE)			DATE/TIME 3/17/97 09:05 (SIGNATURE)		RECEIVED BY: [Signature] (SIGNATURE)		THE FOLLOWING <u>MUST BE</u> COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:								
[Signature] (SIGNATURE)			3/17 09:45 (SIGNATURE)		[Signature] (SIGNATURE)		1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE? Y								
[Signature] (SIGNATURE)			[Signature] (SIGNATURE)		[Signature] (SIGNATURE)		2. WILL SAMPLES REMAIN REFRIGERATED UNTIL ANALYZED? Y								
[Signature] (SIGNATURE)			[Signature] (SIGNATURE)		[Signature] (SIGNATURE)		3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE? N								
[Signature] (SIGNATURE)			[Signature] (SIGNATURE)		[Signature] (SIGNATURE)		4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED? Y								
[Signature] (SIGNATURE)			[Signature] (SIGNATURE)		[Signature] (SIGNATURE)		SIGNATURE: [Signature]			TITLE: Analyst		DATE: 3/17/97			



MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #0746, 3943 Broadway, Oakland
Matrix Descript: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 704-1046

Sampled: Apr 17, 1997
Received: Apr 17, 1997
Reported: May 2, 1997

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Purgeable Hydrocarbons µg/L	Benzene µg/L	Toluene µg/L	Ethyl Benzene µg/L	Total Xylenes µg/L
704-1046	MW-1	ND	ND	ND	ND	ND
704-1047	MW-3	23,000	1,600	ND	920	1,500
704-1048	MW-4	110	2.6	ND	ND	ND
704-1049	MW-5	20,000	1,500	ND	840	1,400
704-1050	MW-9	ND	ND	ND	ND	ND

Detection Limits:	50	0.50	0.50	0.50	0.50
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Total Purgeable Petroleum Hydrocarbons are quantitated against a fresh gasoline standard. Analytes reported as ND were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





**Sequoia
Analytical**

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FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #0746, 3943 Broadway, Oakland
Matrix Descript: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 704-1046

Sampled: Apr 17, 1997
Received: Apr 17, 1997
Reported: May 2, 1997

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Sample Number	Sample Description	Chromatogram Pattern	DL Mult. Factor	Date Analyzed	Instrument ID	Surrogate Recovery, % QC Limits: 70-130
704-1046	MW-1	--	1.0	4/21/97	HP-2	84
704-1047	MW-3	Gasoline	200	4/21/97	HP-2	100
704-1048	MW-4	Gasoline	1.0	4/21/97	HP-2	94
704-1049	MW-5	Gasoline	200	4/21/97	HP-2	92
704-1050	MW-9	--	1.0	4/21/97	HP-2	86

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





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FAX (916) 921-0100

MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #0746, 3943 Broadway, Oakland
Sample Descript: Water
Analysis for: MTBE (Modified EPA 8020)
First Sample #: 704-1046

Sampled: Apr 17, 1997
Received: Apr 17, 1997
Analyzed: Apr 21, 1997
Reported: May 2, 1997

LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit µg/L	Sample Result µg/L
704-1046	MW-1	5.0	29
704-1047	MW-3	500	N.D.
704-1048	MW-4	5.0	N.D.
704-1049	MW-5	500	N.D.
704-1050	MW-9	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Signature on File

Alan B. Kemp
Project Manager





MPDS Services
2401 Stanwell Dr., Ste. 300
Concord, CA 94520
Attention: Jarrel Crider

Client Project ID: Unocal #0746, 3943 Broadway, Oakland
Matrix: Liquid

QC Sample Group: 7041046-050

Reported: May 2, 1997

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb

MS/MSD Batch#:	7040985	7040985	7040985	7040985
Date Prepared:	4/21/97	4/21/97	4/21/97	4/21/97
Date Analyzed:	4/21/97	4/21/97	4/21/97	4/21/97
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	85	105	95	98
Matrix Spike Duplicate % Recovery:	85	100	95	95
Relative % Difference:	0.0	4.9	0.0	3.5

LCS Batch#:	2LCS042197	2LCS042197	2LCS042197	2LCS042197
Date Prepared:	4/21/97	4/21/97	4/21/97	4/21/97
Date Analyzed:	4/21/97	4/21/97	4/21/97	4/21/97
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
LCS % Recovery:	90	105	100	100

% Recovery Control Limits:	60-140	60-140	60-140	60-140
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

Alan B. Kemp
Project Manager



M P D S Services, Inc.

2401 Stanwell Drive, Suite 400, Concord, CA 94522
 Tel: (610) 602-5120 Fax: (610) 609-1910

9704290

CHAIN OF CUSTODY

SAMPLER (JOE) HOVSIA AJEMIAN			UNOCAL S/S # <u>0746</u> CITY: <u>Oakland</u>				ANALYSES REQUESTED							TURN AROUND TIME:						
WITNESSING AGENCY			ADDRESS: <u>3943 Broadway</u>				TPH-GAS BTX	TPH-DIESEL	TOG	E010					Regular					
															REMARKS					
SAMPLE ID NO.	DATE	TIME	WATH	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION													
MW-1	4-17-97	9:50 A.M.	/	/		2 x 0A	wells	/												
MW-3	/	10:30 A.M.	/	/		/	/	/												
MW-4	/	10:13 A.M.	/	/		/	/	/												
MW-5	/	11:00 A.M.	/	/		/	/	/												
MW-9	/	10:50 A.M.	/	/		/	/	/												

MTBE: SPL

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	THE FOLLOWING MUST BE COMPLETED BY THE LABORATORY ACCEPTING SAMPLES FOR ANALYSES:			
(SIGNATURE) <i>Joe Ajemian</i>	4-17-97 12:35 P.M.	(SIGNATURE) <i>Alfred</i> 4/17/97	1. HAVE ALL SAMPLES RECEIVED FOR ANALYSIS BEEN STORED ON ICE?			
(SIGNATURE) <i>Alfred</i> 4/17/97	4-17 MDD	(SIGNATURE) <i>Alfred</i>	2. WILL SAMPLES REMAIN UNFLUENTIATED UNTIL ANALYZED?			
(SIGNATURE) <i>Alfred</i>	4-17-97	(SIGNATURE) <i>Alfred</i>	3. DID ANY SAMPLES RECEIVED FOR ANALYSIS HAVE HEAD SPACE?			
(SIGNATURE) <i>Alfred</i>	4-17-97	(SIGNATURE) <i>Alfred</i>	4. WERE SAMPLES IN APPROPRIATE CONTAINERS AND PROPERLY PACKAGED?			
			SIGNATURE:	TITLE:	DATE:	
			<i>Alfred</i>	<i>Superior</i>	4/17/97	