GETTLER-RYAN INC.

TRANSMITTAL

April 26, 1999
G-R #:180062

R0253

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

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

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

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

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	April 21, 1999	Groundwater Monitoring and Sampling Report Annual 1999 - Event of February 22, 1999

COMMENTS:

This report is being sent to you for your review/comment, prior to being distributed on your behalf. If no comments are received by ***May 6, 1999***, this report will be distributed to the following:

Enclosure

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

agency/5781dbd.qmt

GETTLER-RYAN INC.

April 21, 1999
G-R Job #180062

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

RE: Annual 1999 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #5781
3535 Pierson Street
Oakland, California

Dear Mr. De Witt:

This report documents the annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On February 22, 1999, field personnel monitored and sampled one well (MW-A) at the above referenced site.

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

The groundwater samples were collected from the monitoring well as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheet is also attached. The samples were analyzed by Sequoia Analytical. Analytical results are summarized in Table 1, and a Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

Deanna L. Harding
Project Coordinator

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

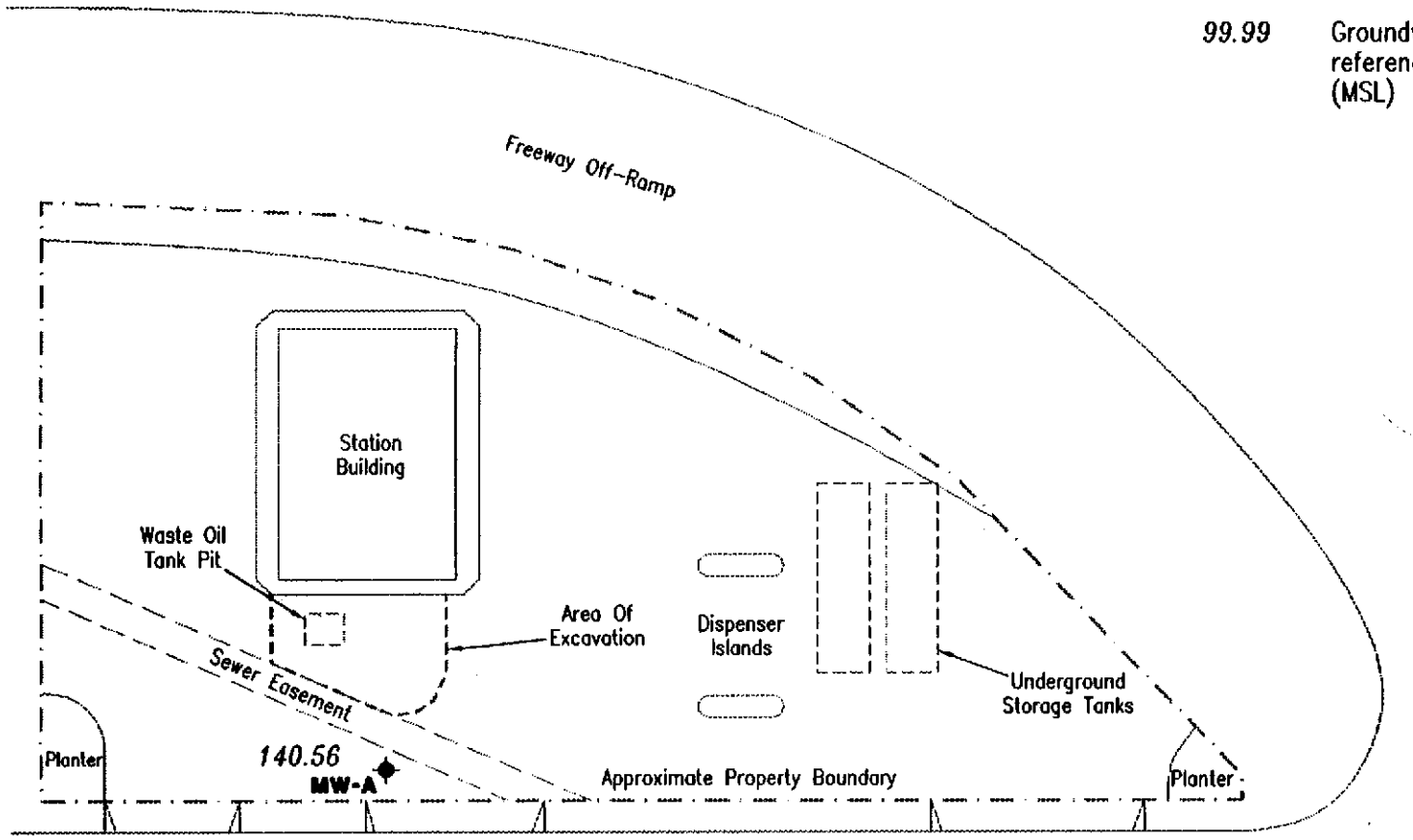
REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

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

5781.qml

EXPLANATION

- ✦ Groundwater monitoring well
- *99.99* Groundwater elevation in feet referenced to Mean Sea Level (MSL)



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

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

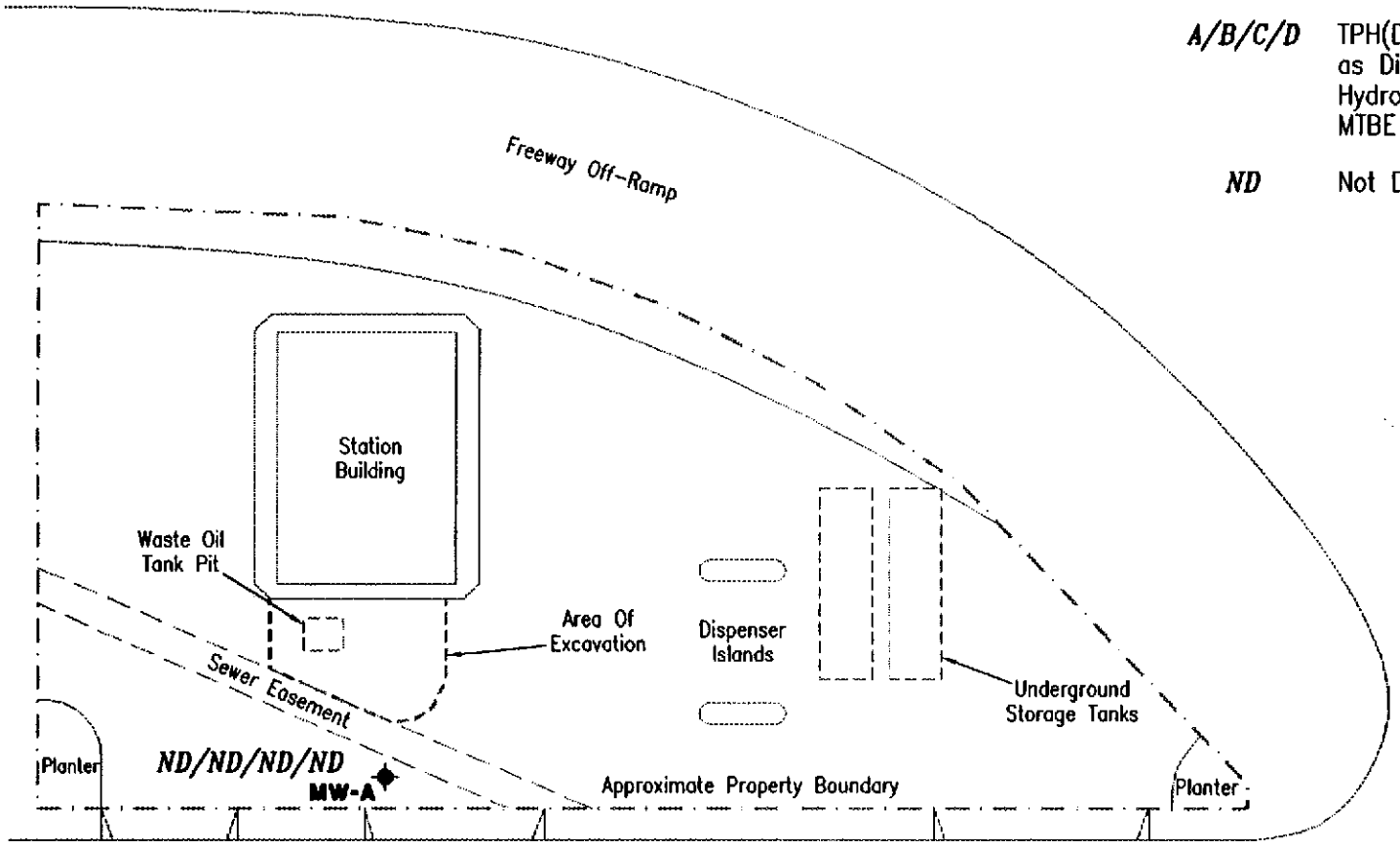
GROUNDWATER ELEVATION MAP
Unocal Service Station No. 5781
3535 Pierson Street
Oakland, California

FIGURE **1**

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180062		February 22, 1999	

EXPLANATION

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



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

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

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

FIGURE **2**

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180062		February 22, 1999	

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5781

3535 Pierson Street

Oakland, California

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

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #5781

3535 Pierson Street

Oakland, California

EXPLANATIONS:

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

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

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

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

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

1 TOG and all EPA Method 8010 compounds were ND.

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

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

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

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

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

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using a MMC flexi-dip interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

After water levels are collected and prior to sampling, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Tosco Marketing Company, the purge water and decontamination water generated during sampling activities is transported to Tosco - San Francisco Area Refinery, located in Rodeo, California.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/ Facility #5781 Job#: 180062

Address: 3535 Piersont. Date: 2-22-99

City: Oakland Sampler: Joe

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

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

Total Depth 45.00 ft.

Depth to Water 11.24 ft.

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

33.76 X VF 0.17 = 5.74 X 3 (case volume) = Estimated Purge Volume: 17.5 (gal.)

Purge Equipment:
- Disposable Bailer
- Bailer
- Stack
- (Suction)
- Grundfos
- Other: _____

Sampling Equipment:
- (Disposable Bailer)
- Bailer
- Pressure Bailer
- Grab Sample
- Other: _____

Starting Time: 1:15 Weather Conditions: Clear

Sampling Time: 1:45 P.M Water Color: clear Odor: none

Purging Flow Rate: 2 gpm. Sediment Description: none

Did well de-water? yes If yes; Time: 1:28 P.M Volume: @ 15 (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1:25	6	7.27	3.85	69.7			
1:26	16	7.37	4.66	72.2			
1:35	17.5	7.40	4.72	71.5			

LABORATORY INFORMATION

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

COMMENTS: _____

TOSCO

Tosco Marketing Company
2000 Crow Canyon Pl., Ste. 400
San Ramon, California 94583

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

Contact (Name): MR. DAVID DEWITT
(Phone): (925) 277-2384
Laboratory Name: Sequoia Analytical
Laboratory Release Number:
Samples Collected by (Name): JOE A JEMIAN
Collection Date: 2-22-99 9902508
Signature:

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: TPH Gas + BTEX w/MTBE (8020)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (TCLP or AA)					DO NOT BILL TB-LB ANALYSIS Remarks
TB-LB		1 VOA	W	—	—	HCl	Yes	X				9022145								
MW A		5 VOA 2 Amb	"	G	11:45 p.m.	"	"	"	✓	✓	✓	9022146			A-G					

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	G-R Inc.	2-22-99 6:00 p.m.			2/22/99 1805
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time 2/22/99 1805

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Gettler-Ryan - Dublin	Client Project ID:	Unocal SS#5781, Oakland	Sampled:	Feb 22, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Water	Received:	Feb 22, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Mar 10, 1999
Attention: Deanna Harding	First Sample #:	902-2145		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 902-2145 TB-LB	Sample I.D. 902-2146 MW-A
Purgeable Hydrocarbons	50	N.D.	N.D.
Benzene	0.50	N.D.	N.D.
Toluene	0.50	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.
MTBE	2.5	N.D.	N.D.
Chromatogram Pattern:		--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	2/27/99	2/27/99
Instrument Identification:	HP-9	HP-9
Surrogate Recovery, %: (QC Limits = 70-130%)	93	93

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley

Julianne Fegley
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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Gettler-Ryan - Dublin	Client Project ID:	Unocal SS#5781, Oakland	Sampled: Feb 22, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Water	Received: Feb 22, 1999
Dublin, CA 94568	Analysis Method:	EPA 3510/8015 Mod.	Reported: Mar 10, 1999
Attention: Deanna Harding	First Sample #:	902-2146	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 902-2146 MW-A
Extractable Hydrocarbons	50	N.D.
Chromatogram Pattern:		--

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	2/25/99
Date Analyzed:	2/26/99
Instrument Identification:	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

Sequoia Analytical

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Gettler-Ryan - Dublin	Client Project ID:	Unocal SS#5781, Oakland	Sampled: Feb 22, 1999
6747 Sierra Court, Suite J	Matrix Descript:	Water	Received: Feb 22, 1999
Dublin, CA 94568	Analysis Method:	SM 5520 B&F (Gravimetric)	Extracted: Mar 1, 1999
Attention: Deanna Harding	First Sample #:	902-2146	Analyzed: Mar 1, 1999
			Reported: Mar 10, 1999

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)	Detection Limit Multiplication Factor
902-2146	MW-A	N.D.	1.0

Detection Limits:	5.0

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley

Julianne Fegley
Project Manager

Sequoia Analytical

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Gettler-Ryan - Dublin	Client Project ID:	Unocal SS#5781, Oakland	Sampled:	Feb 22, 1999
6747 Sierra Court, Suite J	Sample Descript:	Water, MW-A	Received:	Feb 22, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8010	Analyzed:	Mar 4, 1999
Attention: Deanna Harding	Lab Number:	902-2146	Reported:	Mar 10, 1999

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	**5.0**	**10**
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Surrogates	Control Limit %		% Recovery
Chloro-2-fluorobenzene	50	150	114
4-Bromofluorobenzene	50	150	100

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

SEQUOIA ANALYTICAL, #1271

Julianne Fegley

Julianne Fegley
Project Manager

Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal SS#5781, Oakland
Matrix: Liquid
QC Sample Group: 9022145-146

Reported: Mar 10, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater
MS/MSD Batch#:	9022146	9022146	9022146	9022146
Date Prepared:	2/27/99	2/27/99	2/27/99	2/27/99
Date Analyzed:	2/27/99	2/27/99	2/27/99	2/27/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	110	120	120	120
Matrix Spike Duplicate % Recovery:	110	120	120	120
Relative % Difference:	0.0	0.0	0.0	0.0
LCS Batch#:	9LCS022799	9LCS022799	9LCS022799	9LCS022799
Date Prepared:	2/27/99	2/27/99	2/27/99	2/27/99
Date Analyzed:	2/27/99	2/27/99	2/27/99	2/27/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
LCS % Recovery:	115	120	120	120
% Recovery Control Limits:	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

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

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal SS#5781, Oakland
Matrix: Liquid
QC Sample Group: 9022145-146

Reported: Mar 10, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene	Diesel	Oil & Grease
Method:	EPA 8010	EPA 8010	EPA 8010	EPA 8015M,	SM 5520
Analyst:	P. Kosovskaya	P. Kosovskaya	P. Kosovskaya	K. Grubb	L. Diaz
MS/MSD Batch#:	9021917	9021917	9021917	BLK022599	BLK022499B
Date Prepared:	3/4/99	3/4/99	3/4/99	2/25/99	2/24/99
Date Analyzed:	3/4/99	3/4/99	3/4/99	2/25/99	2/24/99
Instrument I.D.#:	HP-6	HP-6	HP-6	HP-3A	Manual
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	500 µg/L	100 mg/L
Matrix Spike % Recovery:	100	95	75	92	86
Matrix Spike Duplicate % Recovery:	115	105	80	86	92
Relative % Difference:	14	10	6.5	4.3	6.7
LCS Batch#:	LCS030499	LCS030499	LCS030499	LCS022599	LCS030199
Date Prepared:	3/4/99	3/4/99	3/4/99	2/25/99	3/1/99
Date Analyzed:	3/4/99	3/4/99	3/4/99	2/25/99	3/1/99
Instrument I.D.#:	HP-6	HP-6	HP-6	HP-3A	Manual
LCS % Recovery:	85	95	90	88	100
% Recovery Control Limits:	65-135	70-130	70-130	60-140	70-130

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

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.