GETTLER-RYAN INC.

TRANSMITTAL

TO: Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, California 94502

DATE: March 18, 1998
G-R #: 180068

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

RE: Tosco (Unocal) SS #1871
96 MacArthur Blvd.
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	February 20, 1998	Groundwater Monitoring and Sampling Report First Quarter 1998-Event of January 14, 1998

COMMENTS: Pulled for file review?

At the request of Tosco Marketing Company, we are providing you a copy of the above referenced report. The site is monitored and sampled on a semi-annual basis in January and July. If you have questions please contact the Tosco Project Manager, Ms. Tina R. Berry at (510) 277-2321.

Enclosure

cc: Mr. Dave Vossler, Gettler-Ryan Inc., Novato, CA 94945

agency/1871trb.qmt

GETTLER-RYAN INC.

February 20, 1998
G-R Job #180068

Ms. Tina R. Berry
Tosco Marketing Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

RE: First Quarter 1998 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

Dear Ms. Berry:

This report documents the semi-annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On January 14, 1998, field personnel monitored and sampled five wells (MW-1 through MW-5) at the above referenced site.

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, and a Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,

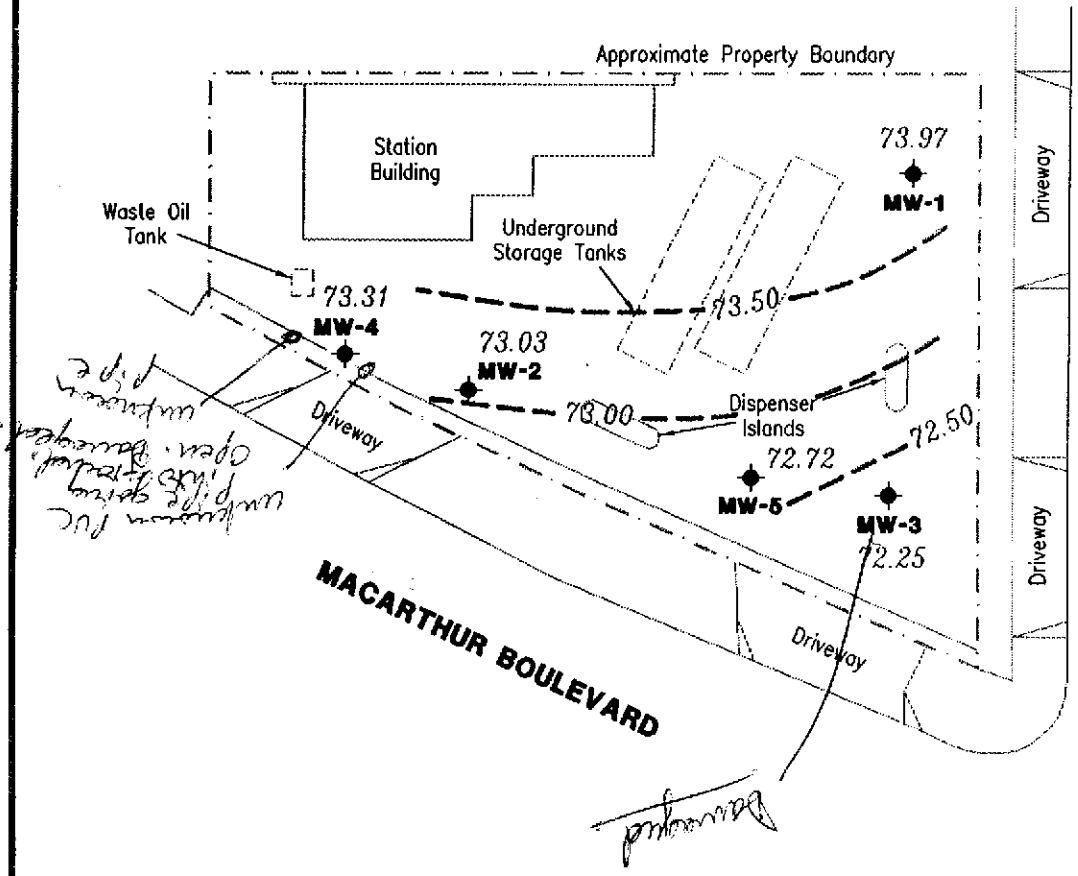
Deanna L. Harding
Project Manager

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

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

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

1871.qml



EXPLANATION

- Groundwater monitoring well
- 99.99 — Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 — Groundwater elevation contour, dashed where inferred.

Approximate groundwater flow direction at a gradient of 0.04 Ft./Ft.

N

0 30

Scale in Feet

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

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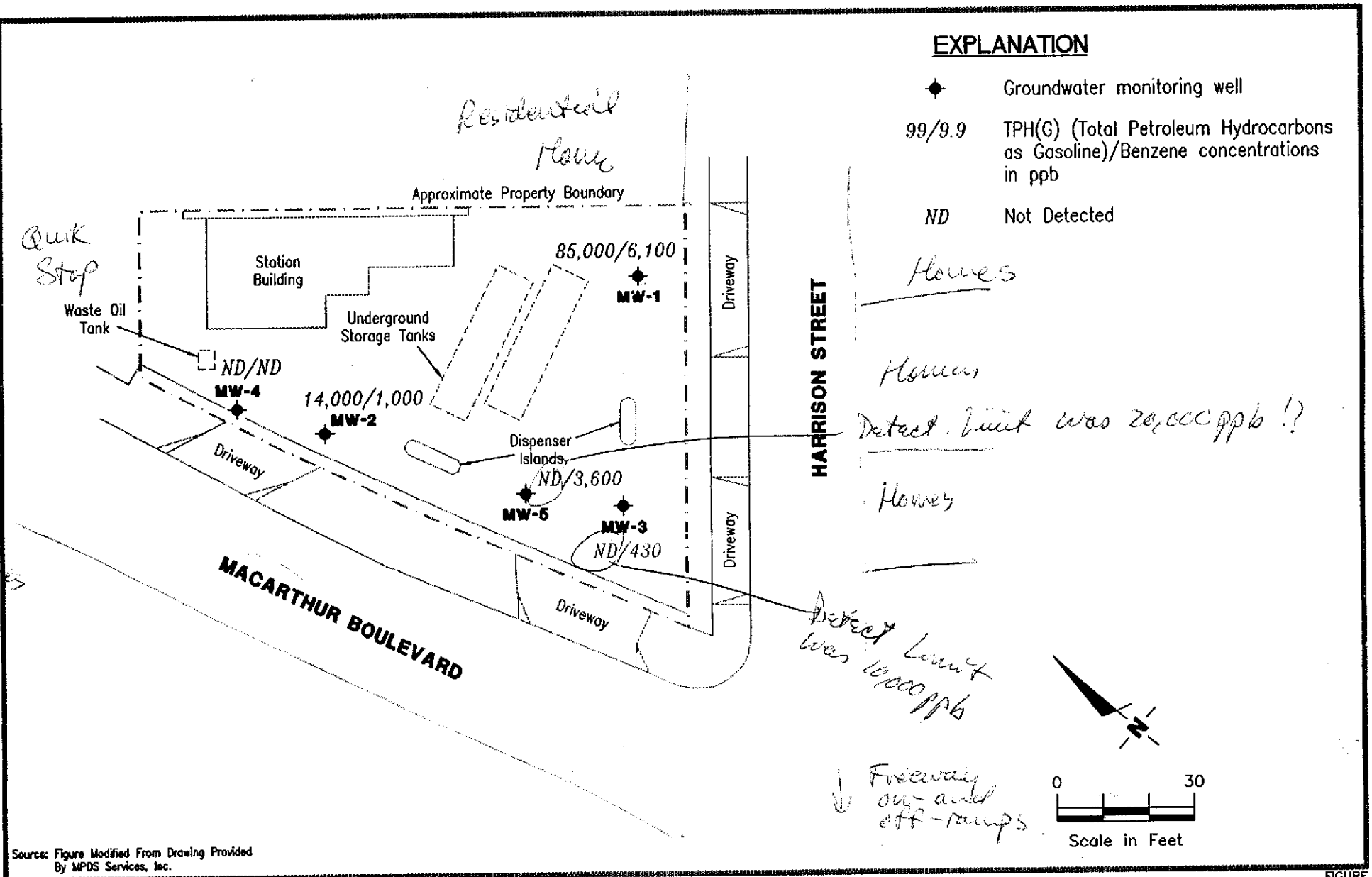
Dublin, CA 94568

POTENTIOMETRIC MAP
Tosco (Unocal) Service Station No. 1871
96 MacArthur Boulevard
Oakland, California

FIGURE 1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
180068		January 14, 1998	



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

FIGURE 2

Gettler - Ryan Inc.

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Dublin, CA 94568
(510) 551-7555

CONCENTRATION MAP
Tosco (Unocal) Service Station No. 1871
96 MacArthur Boulevard
Oakland, California

JOB NUMBER 180068

REVIEWED BY

DATE January 14, 1998

REVISED DATE

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G)	B	T	E	X	MTBE
				<--------		ppb			-------->
MW-1	11/03/92			260,000	2,300	4,600	3,700	17,000	--
	01/25/93			120,000	2,100	4,600	4,900	22,000	--
	04/29/93			100,000	850	2,000	4,300	19,000	--
	07/16/93			29,000	590	560	980	4,200	--
	10/19/93			67,000	1,400	2,600	2,900	5,000	--
	01/20/94			92,000	1,200	3,000	3,400	17,000	--
	04/13/94			51,000	1,000	2,600	3,200	15,000	--
	07/13/94			35,000	550	150	1,400	5,700	--
	10/10/94			52,000	1,000	810	3,300	12,000	--
	01/10/95			810	16	18	59	250	--
	04/17/95			48,000	880	530	2,500	11,000	--
	07/24/95			48,000	1,500	420	2,700	9,700	--
	10/23/95			47,000	780	210	2,100	11,000	270
	01/18/96			30,000	1,500	500	3,500	13,000	2,400
	04/18/96			66,000	2,700	2,200	3,100	13,000	57,000
86.24	07/24/96	14.15	72.09	5,600	2,100	ND	160	160	24,000
	10/24/96	14.85	71.39	110,000	7,500	8,000	3,300	14,000	58,000
	01/28/97	11.25	74.99	94,000	7,700	19,000	3,100	15,000	120,000
	07/29/97	14.67	71.57	ND	ND	ND	ND	ND	70,000
	01/14/98	**12.27**	**73.97**	**85,000**	**6,100**	**10,000**	**3,000**	**17,000**	**110,000**
MW-2	11/03/92			140	2.2	ND	ND	2.0	--
	01/25/93			2,100	56	1.1	90	140	--
	04/29/93			1,500	290	ND	33	11	--
	07/16/93			510*	17	0.60	3.2	2.5	--
	10/19/93			670	24	1.1	7.7	23	--
	01/20/94			820	97	ND	12	ND	--
	04/13/94			550	71	ND	5.1	1.3	--
	07/13/94			2,000	490	ND	17	13	--
	10/10/94			2,300	340	ND	25	ND	--
	01/10/95			850	3.8	ND	8.5	1.3	--
	04/17/95			1,300	4.7	ND	8.3	1.2	--
	07/24/95			960	20	ND	4.2	6.2	--
	10/23/95			ND	ND	ND	ND	ND	19

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G)	B	T	E	X	MTBE
				<--------		ppb			-------->
MW-2	01/18/96			900	300	86	7.6	18	4,300
(cont)	04/18/96			18,000	3,600	680	890	4,100	19,000
81.66	07/24/96	10.02	71.64	100,000	13,000	21,000	2,700	16,000	120,000
	10/24/96	10.78	70.88	800	110	17	11	20	20,000
	01/28/97	7.70	73.96	45,000	2,400	2,900	2,000	7,600	29,000
	07/29/97	10.28	71.38	ND	1.2	0.72	0.63	0.62	17,000
	01/14/98	**8.63**	**73.03**	**14,000**	**1,000**	**150**	**790**	**3,300**	**23,000**
MW-3	11/03/92			2,100	120	15	38	200	--
	01/25/93			2,300	80	1	55	52	-
	04/29/93			4,500	1,700	ND	200	140	--
	07/16/93			4,000*	1,100	28	52	70	--
	10/19/93			3,800	42	ND	50	56	--
	01/20/94			4,200	11	ND	21	15	--
	04/13/94			4,200	210	ND	36	53	--
	07/13/94			1,800**	16	16	ND	21	--
	10/10/94			4,300	11	ND	12	ND	--
	01/10/95			310	4.6	ND	3.5	2.1	--
	04/17/95			7,800	ND	4.6	300	450	--
	07/24/95			3,200	170	ND	22	16	--
	10/23/95			3,900	55	ND	19	11	4,500
	01/18/96			2,200	270	33	26	18	5,500
	04/18/96			6,000	1,800	ND	100	230	48,000
82.55	07/24/96	12.17	70.38	ND	2,500	ND	ND	ND	71,000
	10/24/96	12.65	69.90	3,800	660	ND	15	ND	65,000
	01/28/97	9.50	73.05	4,400	250	13	87	47	54,000
	07/29/97	11.99	70.56	ND	3,500	ND	220	ND	75,000
	01/14/98	**10.30**	**72.25**	**ND[3]**	**430**	**ND[3]**	**100**	**380**	**37,000**
MW-4	04/18/96			ND	630	ND	ND	ND	18,000
82.04	07/24/96	10.47	71.57	ND	ND	ND	ND	5.2	3,900
	10/24/96	11.14	70.90	ND	ND	ND	ND	ND	6,300
	01/28/97	7.94	74.10	1,200	490	ND	17	6.8	16,000

Table 1

Groundwater Monitoring Data and Analytical Results

Tosco (Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G)	B	T	E	X	MTBE
				<--------		ppb			-------->
MW-4	07/29/97	10.86	71.18	50	1.5	0.61	0.73	0.78	15,000
(cont)	**01/14/98**	**8.73**	**73.31**	**ND[3]**	**ND[3]**	**ND[3]**	**ND[3]**	**ND[3]**	**5,200**
MW-5	04/18/96			31,000	5,500	1,400	1,700	8,100	66,000
81.80	07/24/96	10.80	71.00	32,000	6,400	ND	1,600	6,100	120,000
	10/24/96	11.40	70.40	17,000	6,900	ND	970	130	84,000
	01/28/97	7.76	74.04	19,000	6,100	62	82	310	160,000
	07/29/97	11.58	70.22	ND	ND	ND	ND	ND	71,000
	01/14/98	**9.08**	**72.72**	**ND[3]**	**3,600**	**ND[3]**	**ND[3]**	**ND[3]**	**80,000**
Trip Blank									
TB-LB	**01/14/98**	**--**	**--**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing elevation
DTW = Depth to Water
(ft.) = Feet
GWE = Groundwater Elevation
(msl) = Referenced relative to mean sea level
TPH(G) = Total Petroleum Hydrocarbons as Gasoline

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

ppb = Parts per billion
ND = Not Detected
-- = Not Measured/Not Analyzed

* TOC elevations were re-surveyed by Kier & Wright in May, 1996, per City of Oakland Benchmark No. 2310, a cut square in concrete curb at mid point of return at the northeast corner of El Dorado and Fairmont Street. (Elevation = 77.53 msl).

1 Laboratory report indicates the presence of discrete peaks not indicative of gasoline.

2 Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

3 Detection limit raised. Refer to analytical results.

Depth to water and groundwater elevation history will be updated in future reports.

Table 2

Groundwater Analytical Results

Tosco (Unocal) Service Station #1871

96 MacArthur Boulevard

Oakland, California

Well ID	Date	TPH(D)	TOG	VOC	SVOC
		<-------- ppb -------->			
MW-4	04/18/96	110[1]	ND	ND	--
	07/24/96	ND	ND	ND	ND
	10/24/96	ND	ND	ND	ND[2]
	01/28/97	210[3]	ND	ND	ND[4]
	07/29/97	ND	ND	ND	ND
	01/14/98	**ND**	**ND**	**ND**	**ND**

EXPLANATIONS:

Groundwater analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TPH(D) = Total Petroleum Hydrocarbons as Diesel
TOG = Total Oil and Grease
VOC = Volatile Organic Compounds by EPA Method 8010
SVOC = Semi-Volatile Organic Compounds by EPA Method 8270
ppb = Parts per billion
-- = Not Analyzed
ND = Not Detected

1 Laboratory report indicates the hydrocarbons detected did not appear to contain diesel.
2 Bis (2-ethylhexyl) phthalate was detected at a concentration of 14 ppb.
3 Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.
4 Naphthalene was detected at a concentration of 17 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 or equivalent. 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.

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 # 1871 Job#: 180068

Address: 96 MacArthur Blvd. Date: 1-14-98

City: Oakland Sampler: Joe

Well ID: MW-1 Well Condition: O.K

Well Diameter: 4 in. Hydrocarbon Thickness: ____ in. Amount Bailed (product/water): ____ (gal.)

Total Depth: 24.12 ft.

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

Depth to Water: 12.27 ft.

11.85 ~~11.82~~ X VF 0.66 = ~~7.80~~ 7.82 X 3 (case volume) = Estimated Purge Volume: 24 (gal.)

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

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

Starting Time: 11:30 Weather Conditions: Heavy rain

Sampling Time: 12:50 P.m. Water Color: clear Odor: ~~no~~ yes

Purging Flow Rate: 1.6 gpm. Sediment Description: None

Did well de-water? No If yes; Time: ____ Volume: ____ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:35	0	7.15	7.30	67.9			
11:40	8	7.02	6.98	69.5			
11:45	16	6.95	6.94	70.2			
11:50	24	6.93	6.95	69.3			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-1	2 VOA		HCl		TPHG-BTEX-MTBE

COMMENTS: ____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 1871 Job#: 180068

Address: 96 MacArthur Blvd. Date: 1-14-98

City: Oakland Sampler: Joe

Well ID MW-2 Well Condition: OK

Well Diameter 4 in. Hydrocarbon Thickness: ____ in. Amount Bailed (product/water): ____ (gal.)

Total Depth 24.72 ft.

Depth to Water 8.63 ft.

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

16.09 X VF 0.66 = 10.62 X 3 (case volume) = Estimated Purge Volume: 32 (gal.)

Purge Equipment: Disposable Bailer / Bailer / Stack / Suction / Grundfos / Other: ____

Sampling Equipment: Disposable Bailer / Bailer / Pressure Bailer / Grab Sample / Other: ____

Starting Time: 10:00 Weather Conditions: Heavy rain

Sampling Time: 10:35 AM Water Color: clear Odor: Slight

Purging Flow Rate: 2 gpm. Sediment Description: None

Did well de-water? NO If yes; Time: ____ Volume: ____ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
10:07	0	7.59	4.85	66.8			
10:15	11	7.42	4.46	71.2			
10:20	21	7.30	4.37	70.4			
10:25	32	7.44	4.39	70.1			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	2 VOA		HCl		TPHG, BTEX-MTBE

COMMENTS: ____

9/97-fieldat.frm

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 1871 Job#: 180068

Address: 96 MacArthur Blvd. Date: 1-14-98

City: Oakland Sampler: Joe

Well ID MW-3 Well Condition: O.K

Well Diameter 4 in. Hydrocarbon Thickness: ____ in. Amount Bailed (product/water): ____ (gal.)

Total Depth 23.69 ft.

Depth to Water 10.30 ft.

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

13.39 X VF 0.66 = 8.84 X 3 (case volume) = Estimated Purge Volume: 27 (gal.)

Purge Equipment:
Disposable Bailer
Bailer
Stack
(Suction)
Grundfos
Other: ____

Sampling Equipment:
(Disposable Bailer)
~~Bailer~~
Pressure Bailer
Grab Sample
Other: ____

Starting Time: 9:00 Weather Conditions: Rainy

Sampling Time: 9:38 Am Water Color: ~~Red~~ clear Odor: ~~Gasoline~~ Slight

Purging Flow Rate: 1.35 gpm. Sediment Description: None

Did well de-water? No If yes; Time: ____ Volume: ____ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:10	0	7.88	6.38	69.9			
9:16	9	7.36	6.42	71.2			
9:22	18	7.19	6.31	70.6			
9:30	27	7.22	6.26	70.3			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	2 VOA		HCL		TPHG, BTEX-MTBE

COMMENTS: ____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 1871 Job#: 180068

Address: 96 MacArthur Blvd. Date: 1-14-98

City: Oakland Sampler: Joe

Well ID MW-4 Well Condition: O.K

Well Diameter 2 in. Hydrocarbon Thickness: ____ in. Amount Bailed (product/water): ____ (gal.)

Total Depth 19.56 ft.

Depth to Water 8.73 ft.

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

10.83 X VF 0.17 = 1.84 X 3 (case volume) = Estimated Purge Volume: 6 (gal.)

Purge Equipment: (Disposable Bailer) ~~Bailer~~ Stack ~~Stetson~~ Grundfos Other: ____

Sampling Equipment: (Disposable Bailer) ~~Bailer~~ Pressure Bailer Grab Sample Other: ____

Starting Time: 8:00 Weather Conditions: Rainy

Sampling Time: 8:42 A.M Water Color: clear Odor: None

Purging Flow Rate: 0.5 gpm. Sediment Description: none

Did well de-water? No If yes; Time: ____ Volume: ____ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
8:15	0	7.29	5.33	65.8			
8:20	2	7.20	6.02	66.1			
8:25	4	7.18	5.94	66.2			
8:30	6	7.22	5.90	66.3			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	4 VOA		HCL		TPHG, BTEX-MTBE- 8010
	3 Amber		—		TOG, TPHD, 8270

COMMENTS: ____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Client/
Facility # 1871 Job#: 180068

Address: 96 MacArthur Blvd. Date: 1-14-98

City: Oakland Sampler: JOC

Well ID MW-5 Well Condition: OK

Well Diameter 2 in. Hydrocarbon Thickness: ____ in. Amount Bailed (product/water): ____ (gal.)

Total Depth 20.00 ft.

Depth to Water 9.08 ft.

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

10.92 X VF 0.17 = 1.86 X 3 (case volume) = Estimated Purge Volume: 6 (gal.)

Purge Equipment: ~~Disposable Bailer~~ ~~Bailer~~ Stack Suction Grundfos Other: ____

Sampling Equipment: Disposable Bailer Bailer Pressure Bailer Grab Sample Other: ____

Starting Time: 10:50 Weather Conditions: Raining

Sampling Time: 11:30 A.M. Water Color: clear Odor: Considerable

Purging Flow Rate: 0.6 gpm. Sediment Description: None

Did well de-water? No If yes; Time: ____ Volume: ____ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:02	0	7.18	2.28	67.0			
11:05	2	7.10	2.35	65.8			
11:08	4	7.05	2.26	66.3			
11:12	6	7.12	2.30	66.5			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-5	2 VOA		HCL		TPHG, BTEX, MTBE

COMMENTS: ____

9/97-fieldet.frm

98017168

Chain-of-Custody-Record

TOSCO

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

Facility Number: UNOCAL SS# 1871
Facility Address: 96 MacArthur Blvd
Consultant Project Number: 180068
Consultant Name: Gettler-Ryan Inc. (G-R Inc.)
Address: 6747 Sierra Court, Suite J, Dublin, CA 94568
Project Contact (Name): Deanna L. Harding
(Phone) 510-551-7555 (Fax Number) 510-551-7888

Contact (Name): MS. TINA BERRY
(Phone): (510) 277-2321
Laboratory Name: Sequoia Analytical
Laboratory Release Number:
Samples Collected by (Name): JOE ASEMIAN
Collection Date: 1-14-98
Signature:

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air 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 (ICAP or AA)						DO NOT BILL TB-LB ANALYSIS Remarks
TB-LB	01	1		G	—	HCL	Yes	✓													
MW-1	02	2 VOA	W	G	12:50 P.M.	HCL	Yes	✓													
MW-2	03	2 VOA	"	"	10:35 A.M.	"	"	✓													
MW-3	04	2 VOA	"	"	9:38 A.M.	"	"	✓													
MW-4	05	2 VOA 3 Amb.	"	"	8:42 A.M.	"	"	✓	✓	✓	✓			✓							
MW-5	06	2 VOA	"	"	11:20 A.M.	"	"	✓													

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
	G-R Inc.	1-14-98 4:15		G-R	1/14/98 4:46	24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
	G-R	1/15/98		SEQ	1/14/98	5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	10 Days (circled)
	SEQ	1/15/98		1/15/98	1407	As Contracted

JA 15 4 07

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Unocal SS#1871, 180068	Sampled: 01/14/98
6747 Sierra Court Suite J	Sample Descript: TB-LB	Received: 01/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/28/98
Attention: Deanna Harding	Lab Number: 9801768-01	Reported: 01/30/98

QC Batch Number: GC012898BTEX18A
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	81

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal SS#1871, 180068	Sampled: 01/14/98
6747 Sierra Court Suite J	Sample Descript: MW-1	Received: 01/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/28/98
Attention: Deanna Harding	Lab Number: 9801768-02	Reported: 01/30/98

QC Batch Number: GC012898BTEX18A
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	20000	85000
Methyl t-Butyl Ether	1000	110000
Benzene	200	6100
Toluene	200	10000
Ethyl Benzene	200	3000
Xylenes (Total)	200	17000
Chromatogram Pattern:		GAS

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	80

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal SS#1871, 180068
Sample Descript: MW-2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9801768-03

Sampled: 01/14/98
Received: 01/15/98

Analyzed: 01/28/98
Reported: 01/30/98

QC Batch Number: GC012898BTEX18A
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	5000	14000
Methyl t-Butyl Ether	250	23000
Benzene	50	1000
Toluene	50	150
Ethyl Benzene	50	790
Xylenes (Total)	50	3300
Chromatogram Pattern:		GAS

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	94

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal SS#1871, 180068	Sampled: 01/14/98
6747 Sierra Court Suite J	Sample Descript: MW-3	Received: 01/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/28/98
Attention: Deanna Harding	Lab Number: 9801768-04	Reported: 01/30/98

QC Batch Number: GC012898BTEX18A
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	N.D.
Methyl t-Butyl Ether	**500**	**37000**
Benzene	**100**	**430**
Toluene	100	N.D.
Ethyl Benzene	**100**	**100**
Xylenes (Total)	**100**	**380**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	91

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal SS#1871, 180068	Sampled: 01/14/98
6747 Sierra Court Suite J	Sample Descript: MW-4	Received: 01/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/28/98
Attention: Deanna Harding	Lab Number: 9801768-05	Reported: 01/30/98

QC Batch Number: GC012898BTEX18A
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2000	N.D.
Methyl t-Butyl Ether	**100**	**5200**
Benzene	20	N.D.
Toluene	20	N.D.
Ethyl Benzene	20	N.D.
Xylenes (Total)	20	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	89

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal SS#1871, 180068	Sampled: 01/14/98
6747 Sierra Court Suite J	Sample Descript: MW-4	Received: 01/15/98
Dublin, CA 94568	Matrix: LIQUID	Extracted: 01/19/98
	Analysis Method: EPA 8015 Mod	Analyzed: 01/20/98
Attention: Deanna Harding	Lab Number: 9801768-05	Reported: 01/30/98

QC Batch Number: GC011998OHBPEXB
Instrument ID: GCHP5A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	161 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
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Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Client Proj. ID: Unocal SS#1871, 180068
Lab Proj. ID: 9801768

Sampled: 01/14/98
Received: 01/15/98
Analyzed: see below

Attention: Deanna Harding

Reported: 01/30/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9801768-05				
Sample Desc : **LIQUID,MW-4**				
TRPH (SM 5520 B&F)	mg/L	01/21/98	5.0	N.D.

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal SS#1871, 180068	Sampled: 01/14/98
6747 Sierra Court Suite J	Sample Descript: MW-4	Received: 01/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: EPA 8010	Analyzed: 01/21/98
Attention: Deanna Harding	Lab Number: 9801768-05	Reported: 01/30/98

QC Batch Number: GC012198801009A
Instrument ID: GCHP09

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/L	Sample Results ug/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.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-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	N.D.
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 Limits %		% Recovery
1-Chloro-2-fluorobenzene	70	130	97

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal SS#1871, 180068	Sampled: 01/14/98
6747 Sierra Court Suite J	Sample Descript: MW-4	Received: 01/15/98
Dublin, CA 94568	Matrix: LIQUID	Extracted: 01/19/98
	Analysis Method: EPA 8270	Analyzed: 01/21/98
Attention: Deanna Harding	Lab Number: 9801768-05	Reported: 01/30/98

QC Batch Number: MS0113988270EXA
Instrument ID: H5

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/L	Sample Results ug/L
Acenaphthene	5.0	N.D.
Acenaphthylene	5.0	N.D.
Anthracene	5.0	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	5.0	N.D.
Benzo(b)fluoranthene	5.0	N.D.
Benzo(k)fluoranthene	5.0	N.D.
Benzo(g,h,i)perylene	5.0	N.D.
Benzo(a)pyrene	5.0	N.D.
Benzyl alcohol	5.0	N.D.
Bis(2-chloroethoxy)methane	5.0	N.D.
Bis(2-chloroethyl)ether	5.0	N.D.
Bis(2-chloroisopropyl)ether	5.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	5.0	N.D.
Butyl benzyl phthalate	5.0	N.D.
4-Chloroaniline	10	N.D.
2-Chloronaphthalene	5.0	N.D.
4-Chloro-3-methylphenol	5.0	N.D.
2-Chlorophenol	5.0	N.D.
4-Chlorophenyl phenyl ether	5.0	N.D.
Chrysene	5.0	N.D.
Dibenzo(a,h)anthracene	5.0	N.D.
Dibenzofuran	5.0	N.D.
Di-n-butyl phthalate	10	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	5.0	N.D.
Diethyl phthalate	5.0	N.D.
2,4-Dimethylphenol	5.0	N.D.
Dimethyl phthalate	5.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.
2,4-Dinitrotoluene	5.0	N.D.
2,6-Dinitrotoluene	5.0	N.D.
Di-n-octyl phthalate	5.0	N.D.
Fluoranthene	5.0	N.D.

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Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Unocal SS#1871, 180068
Sample Descript: MW-4
Matrix: LIQUID
Analysis Method: EPA 8270
Lab Number: 9801768-05

Sampled: 01/14/98
Received: 01/15/98
Extracted: 01/19/98
Analyzed: 01/21/98
Reported: 01/30/98

QC Batch Number: MS0113988270EXA
Instrument ID: H5

Analyte	Detection Limit ug/L	Sample Results ug/L
Fluorene	5.0	N.D.
Hexachlorobenzene	5.0	N.D.
Hexachlorobutadiene	5.0	N.D.
Hexachlorocyclopentadiene	10	N.D.
Hexachloroethane	5.0	N.D.
Indeno(1,2,3-cd)pyrene	5.0	N.D.
Isophorone	5.0	N.D.
2-Methylnaphthalene	5.0	N.D.
2-Methylphenol	5.0	N.D.
4-Methylphenol	5.0	N.D.
Naphthalene	5.0	N.D.
2-Nitroaniline	10	N.D.
3-Nitroaniline	10	N.D.
4-Nitroaniline	10	N.D.
Nitrobenzene	5.0	N.D.
2-Nitrophenol	5.0	N.D.
4-Nitrophenol	10	N.D.
n-Nitrosodiphenylamine	5.0	N.D.
n-Nitroso-di-n-propylamine	5.0	N.D.
Pentachlorophenol	10	N.D.
Phenanthrene	5.0	N.D.
Phenol	5.0	N.D.
Pyrene	5.0	N.D.
1,2,4-Trichlorobenzene	5.0	N.D.
2,4,5-Trichlorophenol	10	N.D.
2,4,6-Trichlorophenol	5.0	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	21	110	42
Phenol-d5	10	110	29
Nitrobenzene-d5	35	114	68
2-Fluorobiphenyl	43	116	70
2,4,6-Tribromophenol	10	123	66
p-Terphenyl-d14	33	141	66

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal SS#1871, 180068	Sampled: 01/14/98
6747 Sierra Court Suite J	Sample Descript: MW-5	Received: 01/15/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/28/98
Attention: Deanna Harding	Lab Number: 9801768-06	Reported: 01/30/98

QC Batch Number: GC012898BTEX18A
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	20000	N.D.
Methyl t-Butyl Ether	**1000**	**80000**
Benzene	**200**	**3600**
Toluene	200	N.D.
Ethyl Benzene	200	N.D.
Xylenes (Total)	200	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	81

Possible to request
Dave Pichette

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies	Client Proj. ID: Unocal SS#1871, 180068	Received: 01/15/98
6747 Sierra Court Suite J		
Dublin, CA 94568	Lab Proj. ID: 9801768	Reported: 01/30/98
Attention: Deanna Harding		

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 20 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

TPGBMW: Samples 768-4,5 & 6 were reshot to confirm analytes.

pH analysis:
The voas had a pH = 1

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies
6747 Sierra Court, Ste J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Unocal SS#1871, 180068
Matrix: Liquid
Work Order #: 9801768 -01-06
Reported: Jan 30, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC012898BTEX18A	GC012898BTEX18A	GC012898BTEX18A	GC012898BTEX18A	GC012898BTEX18A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	980188103	980188103	980188103	980188103	980188103
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/28/98	1/28/98	1/28/98	1/28/98	1/28/98
Analyzed Date:	1/28/98	1/28/98	1/28/98	1/28/98	1/28/98
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	8.4	8.5	8.5	25	59
MS % Recovery:	84	85	85	83	98
Dup. Result:	8.6	8.8	8.7	27	60
MSD % Recov.:	86	88	87	90	100
RPD:	2.4	3.5	2.3	7.7	1.7
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK012898	BLK012898	BLK012898	BLK012898	BLK012898
Prepared Date:	1/28/98	1/28/98	1/28/98	1/28/98	1/28/98
Analyzed Date:	1/28/98	1/28/98	1/28/98	1/28/98	1/28/98
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	10	10	10	32	71
LCS % Recov.:	100	100	100	107	118
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Project ID:	Unocal SS#1871, 180068	
6747 Sierra Court, Ste J	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Deanna Harding	Work Order #:	9801768-05	Reported: Jan 30, 1998

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-Benzene
QC Batch#:	GC012198801009A	GC012198801009A	GC012198801009A
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030
Analyst:	M. McLachlan	M. McLachlan	M. McLachlan
MS/MSD #:	980188301	980188301	980188301
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	1/20/98	1/20/98	1/20/98
Analyzed Date:	1/21/98	1/21/98	1/21/98
Instrument I.D.#:	GCHP9	GCHP9	GCHP9
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
Result:	24	25	27
MS % Recovery:	96	100	108
Dup. Result:	27	26	28
MSD % Recov.:	108	104	112
RPD:	12	3.9	3.6
RPD Limit:	0-25	0-25	0-25

LCS #:	BLK012198	BLK012198	BLK012198
Prepared Date:	1/21/98	1/21/98	1/21/98
Analyzed Date:	1/21/98	1/21/98	1/21/98
Instrument I.D.#:	GCHP9	GCHP9	GCHP9
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
LCS Result:	29	26	28
LCS % Recov.:	116	104	112

MS/MSD	60-140	60-140	60-140
LCS	65-135	70-130	70-130
Control Limits			

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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6747 Sierra Court, Ste J	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Deanna Harding	Work Order #:	9801768-05	Reported: Jan 30, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC0119980HBPEXB
Analy. Method:	EPA 8015M
Prep. Method:	EPA 3510
Analyst:	D. Lockhart
MS/MSD #:	980179301
Sample Conc.:	360
Prepared Date:	1/19/98
Analyzed Date:	1/19/98
Instrument I.D.#:	GCHP5
Conc. Spiked:	1000 µg/L
Result:	1400
MS % Recovery:	104
Dup. Result:	1300
MSD % Recov.:	94
RPD:	7.4
RPD Limit:	0-50

LCS #:	BLK011998
Prepared Date:	1/19/98
Analyzed Date:	1/19/98
Instrument I.D.#:	GCHP5
Conc. Spiked:	1000 µg/L
LCS Result:	950
LCS % Recov.:	95

MS/MSD	50-150
LCS	60-140
Control Limits	

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies	Client Project ID:	Unocal SS#1871, 180068	
6747 Sierra Court, Ste J	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Deanna Harding	Work Order #:	9801768-05	Reported: Jan 30, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Phenol	2-Chlorophenol	1,4-Dichloro-benzene	N-Nitroso-Di-N-propylamine
QC Batch#:	MS0113988270EXA	MS0113988270EXA	MS0113988270EXA	MS0113988270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510
Analyst:	E. Manuel	E. Manuel	E. Manuel	E. Manuel
MS/MSD #:	980119308	980119308	980119308	980119308
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/13/98	1/13/98	1/13/98	1/13/98
Analyzed Date:	1/14/98	1/14/98	1/14/98	1/14/98
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
Result:	75	140	131	139
MS % Recovery:	38	70	66	70
Dup. Result:	79	135	109	134
MSD % Recov.:	40	68	55	67
RPD:	5.2	3.6	18	3.7
RPD Limit:	0-30	0-30	0-30	0-30

LCS #:	LCS011998	LCS011998	LCS011998	LCS011998
Prepared Date:	1/19/98	1/19/98	1/19/98	1/19/98
Analyzed Date:	1/21/98	1/21/98	1/21/98	1/21/98
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
LCS Result:	72	126	121	133
LCS % Recov.:	36	63	61	67

MS/MSD LCS Control Limits	12-110	27-123	36-97	41-116

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SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies	Client Project ID:	Unocal SS#1871, 180068	
6747 Sierra Court, Ste J	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Deanna Harding	Work Order #:	9801768-05	Reported: Jan 30, 1998

QUALITY CONTROL DATA REPORT

Analyte:	1,2,4-Trichloro-benzene	4-Chloro-3-Methylphenol	Acenaphthene	4-Nitrophenol
QC Batch#:	MS0113988270EXA	MS0113988270EXA	MS0113988270EXA	MS0113988270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510
Analyst:	E. Manuel	E. Manuel	E. Manuel	E. Manuel
MS/MSD #:	980119308	980119308	980119308	980119308
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/13/98	1/13/98	1/13/98	1/13/98
Analyzed Date:	1/14/98	1/14/98	1/14/98	1/14/98
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
Result:	149	154	141	76
MS % Recovery:	75	77	71	38
Dup. Result:	141	150	138	76
MSD % Recov.:	71	75	69	38
RPD:	5.5	2.6	2.2	0.0
RPD Limit:	0-30	0-30	0-30	0-30

LCS #:	LCS011998	LCS011998	LCS011998	LCS011998
Prepared Date:	1/19/98	1/19/98	1/19/98	1/19/98
Analyzed Date:	1/21/98	1/21/98	1/21/98	1/21/98
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
LCS Result:	144	156	135	71
LCS % Recov.:	72	78	68	36

MS/MSD LCS Control Limits	39-98	23-97	46-118	10-80

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies	Client Project ID:	Unocal SS#1871, 180068	
6747 Sierra Court, Ste J	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Deanna Harding	Work Order #:	9801768-05	Reported: Jan 30, 1998

QUALITY CONTROL DATA REPORT

Analyte:	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
QC Batch#:	MS0113988270EXA	MS0113988270EXA	MS0113988270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510
Analyst:	E. Manuel	E. Manuel	E. Manuel
MS/MSD #:	980119308	980119308	980119308
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	1/13/98	1/13/98	1/13/98
Analyzed Date:	1/14/98	1/14/98	1/14/98
Instrument I.D.#:	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L
Result:	156	163	150
MS % Recovery:	78	82	75
Dup. Result:	149	161	141
MSD % Recov.:	75	81	71
RPD:	4.6	1.2	6.2
RPD Limit:	0-30	0-30	0-30

LCS #:	LCS011998	LCS011998	LCS011998
Prepared Date:	1/19/98	1/19/98	1/19/98
Analyzed Date:	1/21/98	1/21/98	1/21/98
Instrument I.D.#:	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L
LCS Result:	150	140	150
LCS % Recov.:	75	70	75

MS/MSD LCS Control Limits	24-96	9-103	26-127

SEQUOIA ANALYTICAL

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Gettler Ryan/Geostrategies	Client Project ID:	Unocal SS#1871, 180068	
6747 Sierra Court, Ste J	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Deanna Harding	Work Order #:	9801768-05	Reported: Jan 30, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Total Recoverable Petroleum Hydrocarbons
QC Batch#:	IN011398552000A
Analy. Method:	SM 5520BF
Prep. Method:	SM 5520BF
Analyst:	P. Cheung
BS/BSD #:	BLK011398
Sample Conc.:	N.D.
Prepared Date:	1/13/98
Analyzed Date:	1/14/98
Instrument I.D.#:	MANUAL
Conc. Spiked:	10 mg/L
Result:	7.3
BS % Recovery:	73
Dup. Result:	8.4
BSD % Recov.:	84
RPD:	14
RPD Limit:	0-30

LCS #:	LCS012098
Prepared Date:	1/20/98
Analyzed Date:	1/21/98
Instrument I.D.#:	MANUAL
Conc. Spiked:	10 mg/L
LCS Result:	8.1
LCS % Recov.:	81

MS/MSD	60-140
LCS	70-130
Control Limits	

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Table 1 - Chemical Analytical Data

Former Tosco 76 Branded Facility No. 1871
96 Mac Arthur Boulevard
Oakland, California

Sample ID	Date Collected	Sample Depth (feet)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-Benzene (ppm)	Xylenes (ppm)	MTBE (ppm)	TPHd (ppm)	O&G (ppm)	HVOCs (ppm)	SVOCs (ppm)
GASOLINE UST PIT EXCAVATION (SOIL)												
SW1	5/11/98	11.5	ND	ND	ND	ND	ND	1.9	NR	NR	NR	NR
SW2	5/11/98	11.5	ND	0.031	ND	ND	0.015	3.8	NR	NR	NR	NR
SW3	5/11/98	11.5	2,000	9.7	29	38	150	16	NR	NR	NR	NR
SW4	5/11/98	11.5	1,800	5.5	82	49	290	15	NR	NR	NR	NR
SW3-5 } *	5/12/98	11.0	5.0[4]	0.049	0.051	0.050	0.20	6.6	NR	NR	NR	NR
SW4-5 } *	5/12/98	11.0	ND	0.080	ND	ND	0.039	12	NR	NR	NR	NR
GASOLINE UST PIT EXCAVATION (WATER)												
Water-FT	5/11/98	NA	620	ND	18	13	83	ND	NR	NR	NR	NR
WASTE OIL UST PIT EXCAVATION (SOIL)												
WO1	5/11/98	11.0	ND	ND	ND	ND	ND	ND	ND	140	ND	ND
WASTE OIL UST PIT EXCAVATION (WATER)												
Water-WO	5/11/98	NA	0.090[4]	ND	ND	ND	ND	ND	0.890[1]	ND	ND[2]	ND
PRODUCT PUMP ISLANDS (SOIL)												
P1	5/11/98	4.0	ND	ND	ND	ND	ND	0.74	NR	NR	NR	NR
P2	5/11/98	4.0	15[3]	ND	0.056	0.10	0.19	ND	NR	NR	NR	NR
DISPOSAL CHARACTERIZATION SAMPLE (SOIL FROM WASTE OIL UST PIT)												
WO SP1	5/12/98	NA	ND	ND	ND	ND	0.014	NR	6.8[5]	110	ND	ND[6]

* 5' distance from initial sample

Table 1 - Chemical Analytical Data

Former Tosco 76 Branded Facility No. 1871
96 Mac Arthur Boulevard
Oakland, California

Sample ID	Date Collected	Sample Depth (feet)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-Benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
DISPOSAL CHARACTERIZATION SAMPLES								
SP1 (A-D)	5/12/98	NA	ND	ND	ND	ND	0.015	19
SP1 (E-H)	5/12/98	NA	170[3]	2.9	0.74	0.78	3.2	2.2
SP1 (I-L)	5/12/98	NA	60	1.5	5.5	6.6	27	5.9
SP1 (M-P)	5/12/98	NA	380	1.6	5.6	7.5	34	4.6
SP1 (Q-T)	5/12/98	NA	50	0.32	0.90	0.81	3.5	4.9
SP1 (U-X)	5/12/98	NA	1,200	9.0	26	28	100	2.1
SP1 (Y,Z,1,2)	5/12/98	NA	130	0.94	2.8	2.3	12	3.5
SP1 (3,4,5,6)	5/12/98	NA	13[4]	0.36	0.57	0.22	0.92	1.9

Sample ID	Date Collected	Sample Depth (feet)	Lead (ppm)	Chromium (ppm)	Nickel (ppm)	Zinc (ppm)	Cadmium (ppm)	TPHhf (ppm)
WO1	5/11/98	11.0	1.0	18	21	61	ND	NR
WO SP1	5/12/98	NA	3.0	30	56	57	ND	NR
Water-WO	5/11/98	NA	ND	0.053	0.055	0.065	ND	NR
H-1	5/12/98	8.0	NR	NR	NR	NR	NR	ND
H-2	5/12/98	8.0	NR	NR	NR	NR	NR	ND

EXPLANATION:

ND = none detected
NA = not applicable
ppm = parts per million
NR = analysis not requested
MTBE = methyl tert-butyl ether

ANALYTICAL LABORATORY;

Sequoia Analytical (ELAP # 1271)

Table 1 - Chemical Analytical Data

Former Tosco 76 Branded Facility No. 1871
96 Mac Arthur Boulevard
Oakland, California

NOTES:

[1] = Laboratory reports indicates unidentified hydrocarbons <C14

[2] = None of the analytes detected except bromodichloromethane (0.0058 ppm), chloroform (0.014 ppm), dibromochloromethane (0.0019 ppm), 1,4-dichlorobenzene (0.00089 ppm), 1,2-dichlorobenzene (0.0028 ppm), and tetrachloroethene (0.0017 ppm).

[3] = Laboratory reports indicates gasoline and unidentified hydrocarbons >C8

[4] = Laboratory reports indicates gasoline and discrete peaks

[5] = Laboratory reports indicates unidentified hydrocarbons >C16

[6] = Non of the analytes detected except for phenanthrene (0.350 ppm), pyrene (0.380 ppm), and fluoranthene (0380 ppm).

ANALYTICAL METHODS:

TPHg = Total Petroleum Hydrocarbons as gasoline according to EPA Method 8015 Modified.

TPHd = Total Petroleum Hydrocarbons as diesel according to EPA Method 8015 Modified.

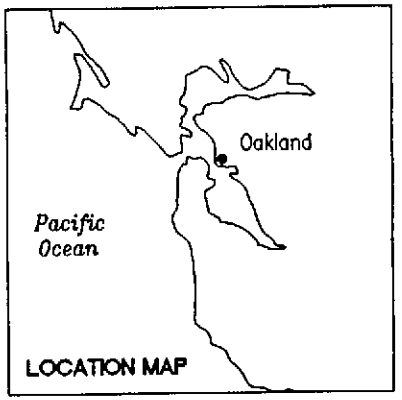
TPHhf = Total Petroleum Hydrocarbons as hydraulic fluid according to EPA Method 8015 Modified.

O&G = Total recoverable petroleum oil according to Standard Methods 5520 E&F(Gravimetric).

HVOCs = Halogenated volatile organic compounds according to EPA Method 8010.

SVOCs = Semi-volatile organic compounds according to EPA Method 8270.

Metals = EPA Method 6010.



N

0 2000

Scale in Feet

Base Map: USGS Topographic Map

FIGURE 1

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

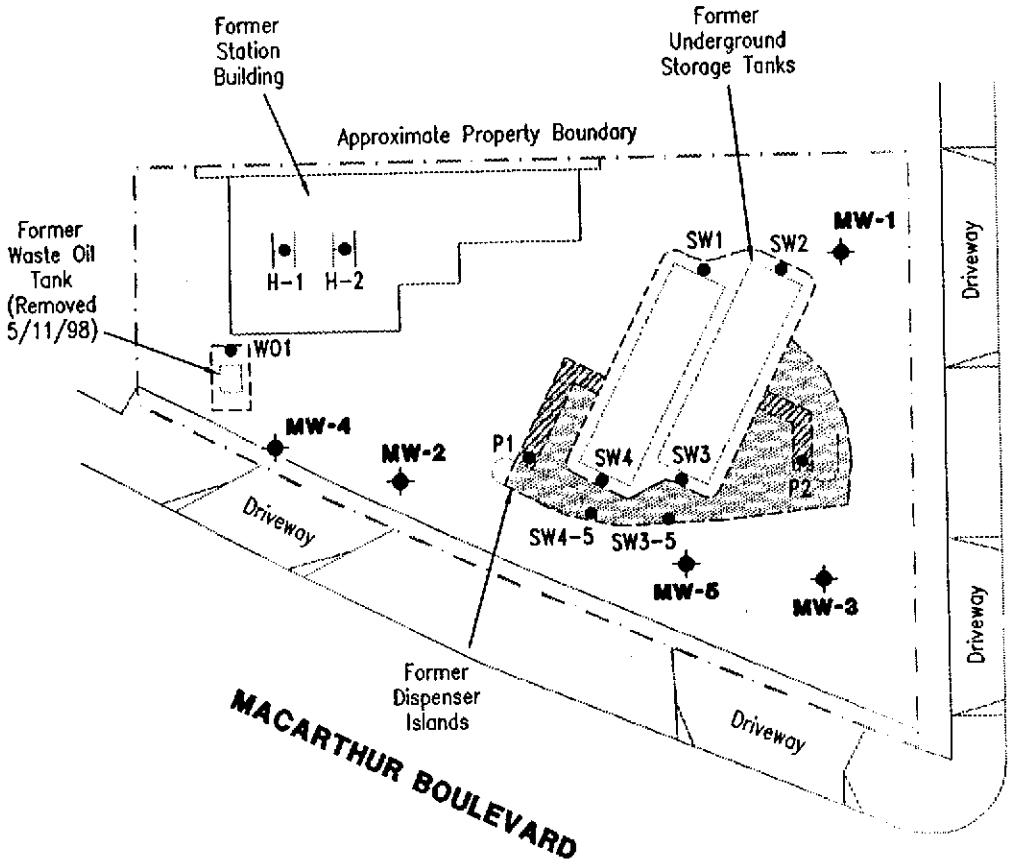
VICINITY MAP
Former Tosco 76 Branded Facility No. 1871
96 MacArthur Boulevard
Oakland, California

JOB NUMBER 140165

REVIEWED BY

DATE July, 1998

REVISED DATE



EXPLANATION

- Groundwater monitoring well
- Soil sample location
- Product piping trench
- Tank excavation
- Over excavation

N

0 30

Scale in Feet

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

FIGURE 2

Gettler - Ryan Inc.

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

SITE PLAN/SOIL SAMPLE LOCATION MAP
Former Tosco 76 Branded Facility No. 1871
96 MacArthur Boulevard
Oakland, California

JOB NUMBER 140165.02

REVIEWED BY

DATE July, 1998

REVISED DATE

GETTLER-RYAN INC.

FIELD METHODS AND PROCEDURES

Site Safety Plan

Field work performed by Gettler-Ryan Inc. (GR) is conducted in accordance with GR's Health and Safety Plan and the Site Safety Plan. GR personnel and subcontractors who perform work at the site are briefed on the contents of these plans prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Samples

Soil samples are collected from the wall or base of the excavation with a hand-driven sampling device fitted with a 2-inch-diameter, clean brass tube or stainless steel liner. If safety considerations preclude collection of the samples with the drive sampler, the excavating equipment is used to bring soil from the pit wall to the surface, where a sample tube is filled by driving it into the soil in the excavator's bucket. After removal from the sampling device, sample tubes are covered on both ends with teflon sheeting, capped, labeled, and place in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory.

If it is necessary to collect a sample of groundwater standing in the UST pit, the sample is collected by lowering a new, clean teflon bailer into the pit from a safe position along the pit wall. Once filled and retrieved, the groundwater in the bailer is carefully decanted into the appropriate containers supplied by the analytical laboratory. If required, preservative is added to the sample bottles by the laboratory prior to delivery. The samples are then labeled and place in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory.

Field Screening of Soil Samples

A PID is used to perform head-space analysis in the field for the presence of organic vapors from soil samples. This test procedure involves placing a small amount of the soil to be screened in a sealable plastic bag. The bag is warmed in the sun to allow organic compounds in the soil sample to volatilize. The PID probe is inserted through the wall of the bag and into the headspace inside, and the meter reading is recorded in the field notes. An alternative method involves placing a plastic cap over the end of the sample tube. The PID probe is placed through a hole in the plastic cap, and vapors with the covered tube measured. Head-space screening is performed and results recorded as reconnaissance data only. GR does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Storing and Sampling of Soil Stockpiles

Excavated material is stockpiled on and covered with plastic sheeting. Stockpile samples are collected and analyzed for disposal classification on the basis of one composite sample per 100 cubic yards of soil. Stockpile samples are composed of four discrete soil samples, each collected from an arbitrary location on the stockpile. The four discrete samples are then composited in the laboratory prior to analysis. Each discrete stockpile sample is collected by removing the upper 12 to 18 inches of soil, and them driving the stainless steel or brass sample tube into the stockpiled material with a mallet or drive sampler. The sample tubes are then covered on both ends with teflon sheeting, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.

FORWARD
INCORPORATED

P.O. Box 6336
1145 W. Charter Way • Stockton, CA 92506
(209) 466-4482 • (800) 204-4242 • FAX (209) 466-1067

June 4, 1998

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

Attention: Haig Kavork

RE: ***FORWARD, INC.*** Approval No. 685822
Disposal of Petroleum Contaminated Soils from
Former Unocal No. 1871
96 MacArthur Blvd., Oakland CA

Dear Mr. Kavork:

FORWARD, INC. is pleased to confirm the disposal of 1,252.78 tons of soil from the referenced site. The material was received at our Manteca, California facility on 5/8/98, 5/12/98 and 5/13/98. The waste was placed in a Class II Class 2 waste management unit.

Approval for this material was based on the information provided in the waste profile and associated materials submitted by Gettler-Ryan on behalf of Tosco Marketing Company (Generator). Acceptance of the waste is subject to the "Terms and Conditions" agreed to and signed by the generator or agent therof in the waste profile.

Thank you for the opportunity to be of service. Should you have any questions regarding this matter, please do not hesitate to contact our office at (800) 204-4242.

Sincerely,

FORWARD, INC.

Brad J. Bonner

Brad J. Bonner
Sales Manager

cc: Clyde Galantine, Gettler-Ryan

BJB/ls

F:\FORWARD\MERGE FORMS\CONSULTANT CONFIRMATION OF DISPOSAL

MATERIAL ANALYSIS REPORT BY ACCOUNT

For the period / / - 06/02/98
Detailed report for sites 00 - 99
Accounts 685822 - 685822 Customer Types - Z Materials - ZZZZZZZZZZ Material Types - Z

Date	Material	Type	Customer	Type	Tickets	Count	Est. vol.	Act. Vol.	Est. Wt.	Actual Wt.	Charge
05/08/98	STOCKPILET	P	685822	B	01-083038	0	18	18	27.36	27.36	0.00
05/08/98	STOCKPILET	P	685822	B	01-083046	0	18	18	26.98	26.98	0.00
05/08/98	STOCKPILET	P	685822	B	01-083051	0	18	18	24.45	24.45	0.00
05/08/98	STOCKPILET	P	685822	B	01-083052	0	18	18	25.48	25.48	0.00
05/08/98	STOCKPILET	P	685822	B	01-083053	0	18	18	25.89	25.89	0.00
05/08/98	STOCKPILET	P	685822	B	01-083056	0	18	18	25.49	25.49	0.00
05/08/98	STOCKPILET	P	685822	B	01-083058	0	18	18	23.56	23.56	0.00
05/08/98	STOCKPILET	P	685822	B	01-083066	0	18	18	24.93	24.93	0.00
05/08/98	STOCKPILET	P	685822	B	01-083089	0	18	18	26.74	26.74	0.00
05/08/98	STOCKPILET	P	685822	B	01-083097	0	18	18	29.61	29.61	0.00
05/08/98	STOCKPILET	P	685822	B	01-083110	0	18	18	25.50	25.50	0.00
05/08/98	STOCKPILET	P	685822	B	01-083112	0	18	18	28.28	28.28	0.00
05/08/98	STOCKPILET	P	685822	B	01-083115	0	18	18	23.01	23.01	0.00
05/08/98	STOCKPILET	P	685822	B	01-083116	0	18	18	20.66	20.66	0.00
05/12/98	STOCKPILET	P	685822	B	01-083275	0	18	18	29.96	29.96	0.00
05/12/98	STOCKPILET	P	685822	B	01-083284	0	18	18	23.87	23.87	0.00
05/12/98	STOCKPILET	P	685822	B	01-083286	0	18	18	25.01	25.01	0.00
05/12/98	STOCKPILET	P	685822	B	01-083289	0	18	18	29.68	29.68	0.00
05/12/98	STOCKPILET	P	685822	B	01-083290	0	18	18	23.78	23.78	0.00
05/12/98	STOCKPILET	P	685822	B	01-083293	0	18	18	20.83	20.83	0.00
05/12/98	STOCKPILET	P	685822	B	01-083296	0	18	18	27.37	27.37	0.00
05/12/98	STOCKPILET	P	685822	B	01-083298	0	18	18	21.30	21.30	0.00
05/12/98	STOCKPILET	P	685822	B	01-083307	0	18	18	25.78	25.78	0.00
05/12/98	STOCKPILET	P	685822	B	01-083308	0	18	18	24.06	24.06	0.00
05/12/98	STOCKPILET	P	685822	B	01-083311	0	18	18	26.51	26.51	0.00
05/12/98	STOCKPILET	P	685822	B	01-083322	0	18	18	28.27	28.27	0.00
05/12/98	STOCKPILET	P	685822	B	01-083334	0	18	18	26.51	26.51	0.00
05/12/98	STOCKPILET	P	685822	B	01-083342	0	18	18	26.87	26.87	0.00
05/12/98	STOCKPILET	P	685822	B	01-083344	0	18	18	25.92	25.92	0.00
05/12/98	STOCKPILET	P	685822	B	01-083351	0	18	18	33.72	33.72	0.00
05/12/98	STOCKPILET	P	685822	B	01-083352	0	18	18	23.94	23.94	0.00
05/12/98	STOCKPILET	P	685822	B	01-083354	0	18	18	24.05	24.05	0.00
05/12/98	STOCKPILET	P	685822	B	01-083356	0	18	18	25.16	25.16	0.00
05/12/98	STOCKPILET	P	685822	B	01-083358	0	18	18	26.07	26.07	0.00
05/12/98	STOCKPILET	P	685822	B	01-083363	0	18	18	27.98	27.98	0.00
05/12/98	STOCKPILET	P	685822	B	01-083364	0	18	18	27.01	27.01	0.00
05/12/98	STOCKPILET	P	685822	B	01-083371	0	18	18	28.84	28.84	0.00
05/12/98	STOCKPILET	P	685822	B	01-083372	0	18	18	32.91	32.91	0.00
05/13/98	STOCKPILET	P	685822	B	01-083401	0	18	18	25.54	25.54	0.00
05/13/98	STOCKPILET	P	685822	B	01-083403	0	18	18	25.04	25.04	0.00
05/13/98	STOCKPILET	P	685822	B	01-083406	0	18	18	23.91	23.91	0.00
05/13/98	STOCKPILET	P	685822	B	01-083407	0	18	18	28.27	28.27	0.00
05/13/98	STOCKPILET	P	685822	B	01-083416	0	18	18	25.24	25.24	0.00
05/13/98	STOCKPILET	P	685822	B	01-083426	0	18	18	28.30	28.30	0.00
05/13/98	STOCKPILET	P	685822	B	01-083432	0	18	18	29.90	29.90	0.00
05/13/98	STOCKPILET	P	685822	B	01-083433	0	18	18	23.22	23.22	0.00

MATERIAL ANALYSIS REPORT BY ACCOUNT

For the period / / - 06/02/98
Detailed report for sites 00 - 99
Accounts 685822 - 685822 Customer Types - Z Materials - ZZZZZZZZZZ Material Types - Z

Date	Material	Type	Customer	Type	Tickets	Count	Est. vol.	Act. Vol.	Est. Wt.	Actual Wt.	Charge
05/13/98	STOCKPILET	P	685822	B	01-083435	0	18	18	27.85	27.85	0.00
05/13/98	STOCKPILET	P	685822	B	01-083443	0	18	18	22.17	22.17	0.00
	TOSCO MARKETING	(T.BERRY)				48	0	864	864	1252.78	1252.78	0.00
	Average						0	18	18	26.00	26.00	0.00
	Report Total					48	0	864	864	1252.78	1252.78	0.00
	Report Average						0	18	18	26.00	26.00	0.00