



GETTLER-RYAN INC.

RG-2444

TRANSMITTAL

May 22, 2002

G-R #180299

JUN 11 2002

TO: Mr. David B. De Witt
Phillips 66 Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

CC: Mr. Daniel Vargas
Secor International, Inc.
2301 Leghorn Street
Mountain View, CA 94043

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

RE: Tosco (Unocal) Service Station
#7124
10151 East 14th Street
Oakland, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	May 20, 2002	Groundwater Monitoring and Sampling Report Second Quarter - Event of April 8, 2002

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 **June 6, 2002**, this report will be distributed to the following:

cc: Ms. Eva Chu, Alameda County Health Care Services, 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

Enclosure



GETTLER-RYAN INC.

May 20, 2002
G-R Job #180299

Mr. David B. De Witt
Phillips 66 Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

JUN 11 2002

RE: Second Quarter Event of April 8, 2002
Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #7124
10151 East 14th Street
Oakland, California

Dear Mr. De Witt:

This report documents the well development and the most recent groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R) at the referenced site. All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached).

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in the wells. Static water level data and groundwater elevations are summarized in Table 1. A Potentiometric Map is included as Figure 1.

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

Sincerely,

Deanna L. Harding
Project Coordinator

Douglas J. Lee
Senior Geologist, R.G. No. 6882

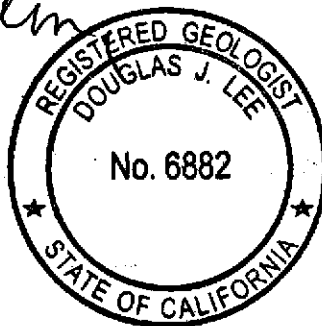
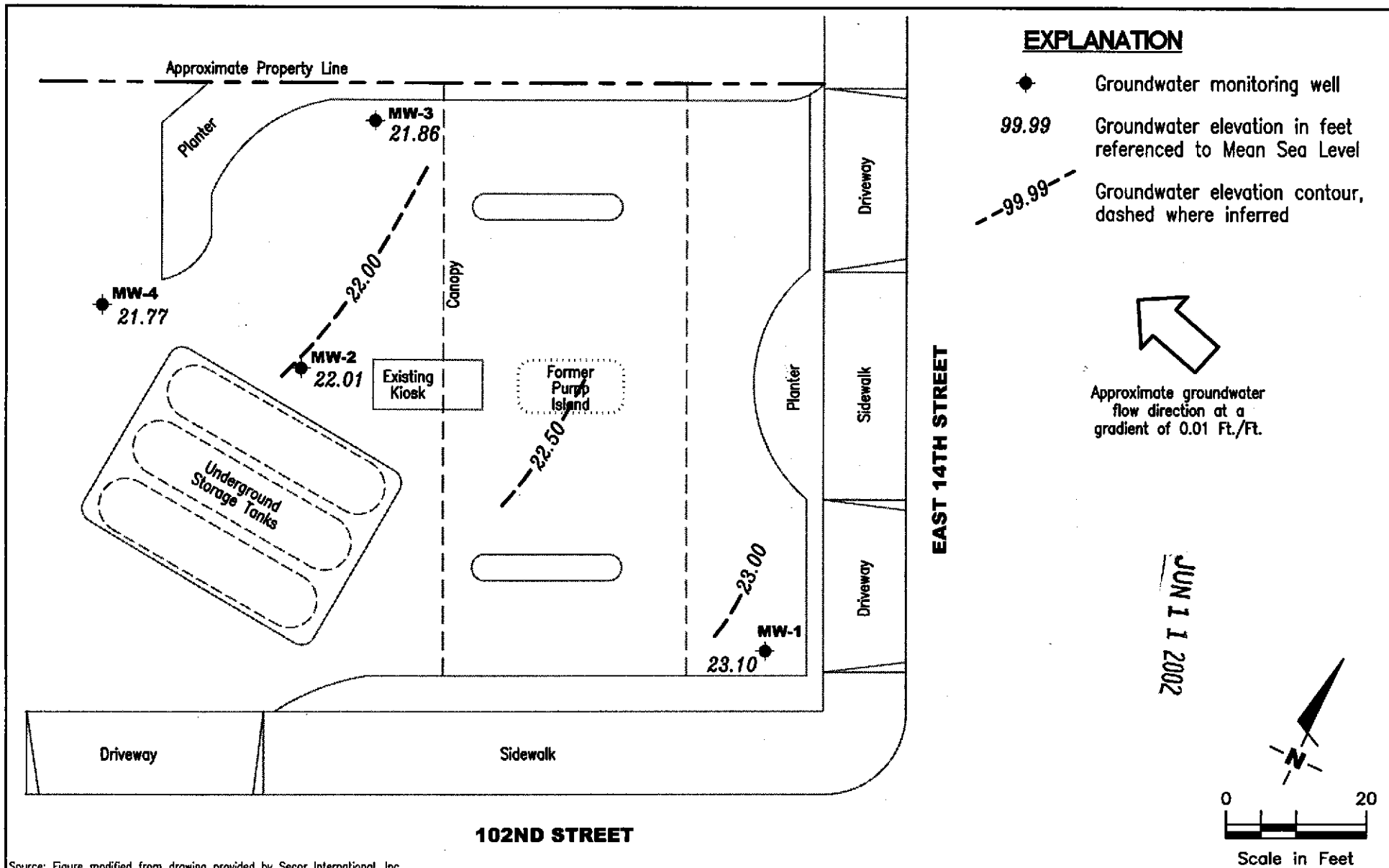


Figure 1: Potentiometric Map
Figure 2: Concentration Map
Table 1: Groundwater Monitoring Data and Analytical Results
Table 2: Groundwater Analytical Results
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

7124.qml



Source: Figure modified from drawing provided by Secor International, Inc.

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

POTENTIOMETRIC MAP
 Tosco (Unocal) Service Station #7124
 10151 East 14th Street
 Oakland, California

FIGURE

1

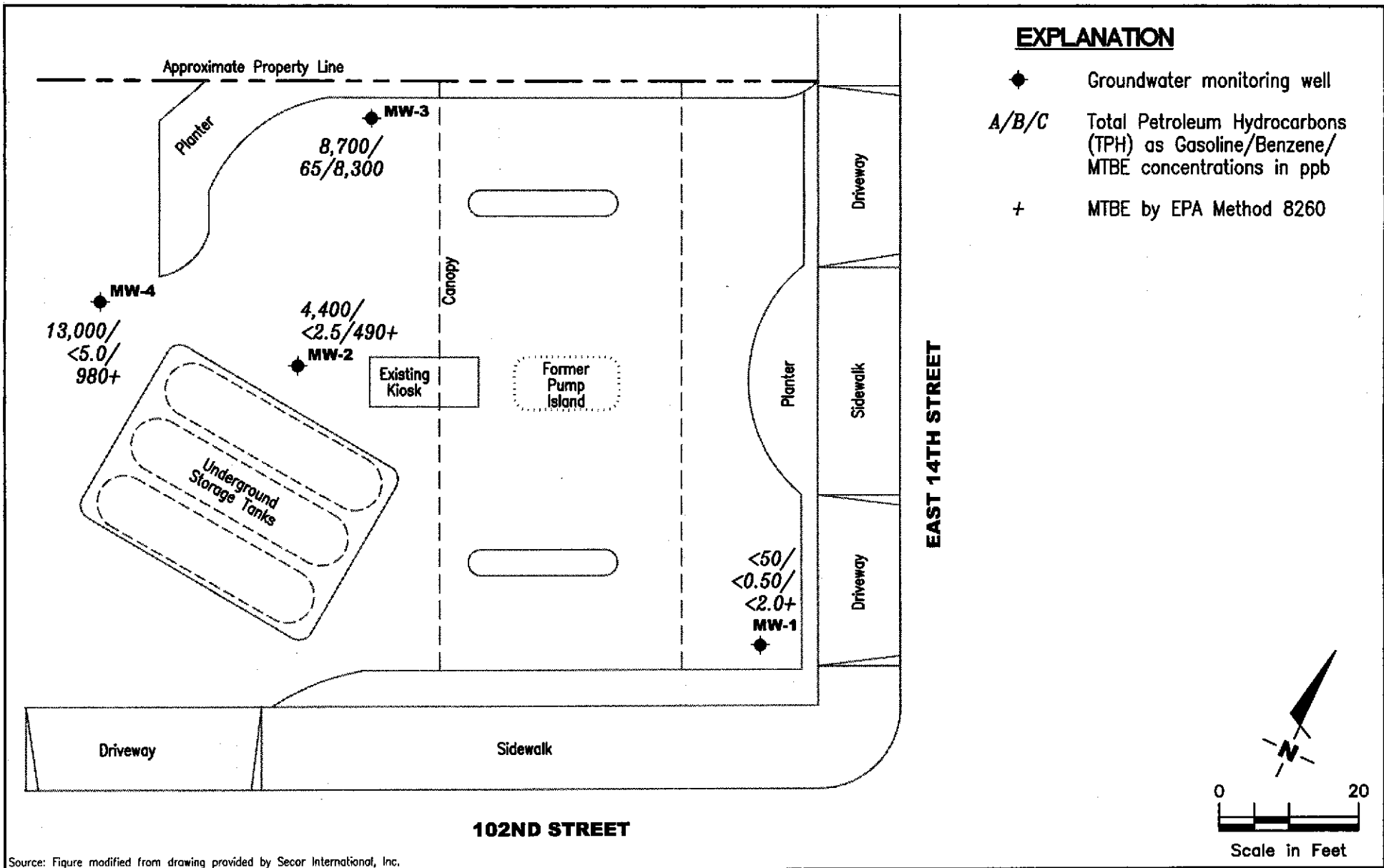
PROJECT NUMBER
 180299

REVIEWED BY

DATE
 April 8, 2002

REVISED DATE

FILE NAME: P:\Enviro\TOSCO\7124\002-7124.DWG | Layout Tab: Pot2



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

CONCENTRATION MAP
 Tosco (Unocal) Service Station #7124
 10151 East 14th Street
 Oakland, California

FIGURE
2

PROJECT NUMBER: 180299 REVIEWED BY: DATE: April 8, 2002 REVISED DATE:

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Unocal) Service Station #7124
 10151 East 14th Street
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1 37.37	04/08/02 ¹	14.27	23.10	<50	<0.50	<0.50	<0.50	<0.50	<2.5/<2.0 ²
MW-2 37.87	04/08/02 ¹	15.86	22.01	4,400	<2.5	<2.5	6.4	<2.5	380/490 ²
MW-3 37.72	04/08/02 ¹	15.86	21.86	8,700	65	<25	400	<25	6,500/8,300 ²
MW-4 38.36	04/08/01 ¹	16.59	21.77	13,000	<5.0	<5.0	28	<5.0	790/980 ²
Trip Blank TB-LB	04/08/02	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #7124
10151 East 14th Street
Oakland, California

EXPLANATIONS:

TOC = Top of Casing

(ft.) = Feet

DTW = Depth to Water

GWE = Groundwater Elevation

(msl) = 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

-- = Not Measured/Not Analyzed

* TOC elevations were surveyed on March 18, 2002, by Mid Coast Engineers. The benchmark used for the survey is HT0281, a benchmark disk in a concrete headwall on the east side of Railroad Avenue approximately 500 feet south of 85th Avenue (Benchmark Elevation = 11.50 feet NGVD 29).

¹ Well development performed.

² MTBE by EPA Method 8260.

Table 2
Groundwater Analytical Results - Oxygenate Compounds
 Tosco (Unocal) Service Station #7124
 10151 East 14th Street
 Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-1	04/08/02	<500	<100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-2	04/08/02	<10,000	<2,000	490	<40	<40	<40	<40	<40
MW-3	04/08/02	<250,000	<50,000	8,300	<1,000	<1,000	<1,000	<1,000	<1,000
MW-4	04/08/02	<25,000	<5,000	980	<100	<100	<100	<100	<100

EXPLANATIONS:

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

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

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 well development, each well is monitored for the presence of free-phase hydrocarbons and the depth to water is recorded. Wells are then developed by alternately surging the well with the bailer, then purging the well with a pump to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized.

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 Phillips 66 Company, the purge water and decontamination water generated during sampling activities is transported to Phillips 66 - San Francisco Refinery, located in Rodeo, California.

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/
Facility Tosco(Unocal) SS#7124
Address: 10151 East 14th Street
City: Oakland, CA

Job#: 180299
Date: 4/18/02
Sampler: HAIG KEVORK

Well ID MW-1

Well Condition: NEW

Well Diameter 4 in.

Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)

Total Depth (~~23.50~~) 25.40 ft.

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

Depth to Water 14.27 ft.

11.13 x VF 0.66 = 7.3 x ¹⁰/₃ (case volume) = Estimated Purge Volume: 73 (gal.)

Purge Equipment: Disposable Bailer
Stack
Suction
Grundfos
Other: STANL. STEEL BAILER 4"

Sampling Equipment: Disposable Bailer
Bailer
Pressure Bailer
Grab Sample

Starting Time: 1410
Sampling Time: 1540
Purging Flow Rate: VARIES gpm.
Did well de-water? *NO

Weather Conditions: SUNNY
Water Color: CLOUDY Odor: _____
Sediment Description: SILT
If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1429	10	7.85	499	19.5			
1437	20	7.59	543	18.8			
1444	30	7.28	466	19.3			
1500	45	7.15	451	19.1			
1518	60	7.13	448	19.4			
1532	75	7.10	442	19.3			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-1	5 VOA's	Y	HCL	SEQUOIA	G/BTEX/MTBE
					80X4'S 8260

COMMENTS: () TOTAL DEPTH PRIOR TO DEVELOPMENT,
* GOOD RECOVERY

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/
Facility Tosco(Unocal) SS#7124
Address: 10151 East 14th Street
City: Oakland, CA

Job#: 180299
Date: 4/8/02
Sampler: HAG KIEWORK

Well ID MW-2

Well Condition: NEW

Well Diameter 4 in.

Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)

Total Depth (24.25) 25.46 ft.

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

Depth to Water 15.86 ft.

9.60 x VF 0.66 = 6 x 3 (case volume) = Estimated Purge Volume: 60 (gal.)

Purge Equipment: Disposable Bailer
 Bailer
 Stack
 Suction
 Grundfos
Other: STAINL. STEEL BAILEY

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

Starting Time: 1727
Sampling Time: 1850
Purging Flow Rate: VARIES gpm.
Did well de-water? * NO

Weather Conditions: SUNNY
Water Color: CLOUDY Odor: _____
Sediment Description: SILT
If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1745	6	7.19	508	19.4			
1757	10	6.88	485	19.1			
1805	20	6.83	476	19.0			
1815	30	6.80	480	19.2			
1823	40	6.81	482	18.9			
1835	50	6.80	485	18.8			
1845	60	6.79	482	18.6			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	5 VOAIS	Y	HCL	SEQUOIA	G/BTISK/MTBE 804158260

COMMENTS: (C) TOTAL DEPTH PRIOR TO DEVELOPMENT.
* GOOD RECOVERY

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/
Facility Tosco(Unocal) SS#7124
Address: 10151 East 14th Street
City: Oakland, CA

Job#: 180299
Date: 4/8/02
Sampler: HAI G KEVORK

Well ID MW-3

Well Condition: NEW

Well Diameter 4 in.

Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)

Total Depth (225.38 ft.

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

Depth to Water 15.86 ft.

9.52 x VF 0.66 x 6 (case volume) = Estimated Purge Volume: 60 (gal.)

Purge Equipment: Disposable Bailer
 Stack
 Suction
 Grundfos
Other: STAINLESS STEEL BAILER 4"

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

Starting Time: 1856

Weather Conditions: SUNNY

Sampling Time: 2010

Water Color: CLOUDY Odor: _____

Purging Flow Rate: VARIES gpm.

Sediment Description: SILT

Did well de-water? * NO

If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1912	6	7.16	722	17.8			
1923	10	7.04	594	18.2			
1930	20	6.89	583	18.7			
1937	30	6.84	585	18.5			
1945	40	6.80	569	18.8			
1953	50	6.81	580	18.3			
2002	60	6.80	584	18.2			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	5 VOA'S	Y	HCL	SEDLUOIA	G/BTEX/MTBE 80XY'S 8260

COMMENTS: () TOTAL DEPTH PRIOR TO DEVELOPMENT.
* GOOD RECOVERY

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/
Facility Tosco(Unocal) SS#7124
Address: 10151 East 14th Street
City: Oakland, CA

Job#: 180299
Date: 4/8/02
Sampler: HAIG KEVORK

Well ID MW-4
Well Diameter 4 in.
Total Depth (22.0) 25.44 ft.
Depth to Water 16.59 ft.

Well Condition: NEW
Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)
Volume Factor (VF) 2" = 0.17 3" = 0.38 4" = 0.66
6" = 1.50 12" = 5.80

8.85 x VF 0.66 = 5.8 x 10 (case volume) = Estimated Purge Volume: 58 (gal.)

Purge Equipment: Disposable Bailer
Bailer
 Stack
 Suction
 Grundfos
 Other: STAINLESS STEEL BAILER 4"

Sampling Equipment: Disposable Bailer
 Bailer
 Pressure Bailer
 Grab Sample

Starting Time: 1550
Sampling Time: 1720
Purging Flow Rate: VARIES gpm.
Did well de-water? NO

Weather Conditions: SUNNY
Water Color: CLOUDY Odor: _____
Sediment Description: SILT
If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1605	6	7.42	662	19.6			
1618	15	7.27	568	18.5			
1625	25	7.10	527	19.1			
1642	40	6.92	531	19.3			
1650	50	6.90	525	18.8			
1712	60	6.86	533	18.4			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	5 VOA'S	Y	HCL	SEQUOIA	GIBTEX/MTBE
					804138260

COMMENTS: (C) TOTAL DEPTH PRIOR TO DEVELOPMENT,
* GOOD RECOVERY,



**Sequoia
Analytical**

1455 McDowell Blvd, North Ste D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342
www.sequoialabs.com

23 April, 2002

Deanna Harding
Gettler-Ryan - Dublin
6747 Sierra Ct, Suite J
Dublin, CA 94568

RECEIVED

APR 3 2002

GETTLER-RYAN, INC.
GENERAL CONTRACTOR

RE: Tosco/Phillips
Sequoia Work Order: P204186

Enclosed are the results of analyses for samples received by the laboratory on 04/09/02 10:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angelee Cari

Angelee Cari
Client Services Representative

CA ELAP Certificate #2374



Gettler-Ryan - Dublin
6747 Sierra Ct, Suite J
Dublin CA, 94568

Project: Tosco/Phillips
Project Number: 7124/Oakland, Ca
Project Manager: Deanna Harding

Reported:
04/23/02 14:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	P204186-01	Water	04/08/02 00:00	04/09/02 10:30
MW-1	P204186-02	Water	04/08/02 15:40	04/09/02 10:30
MW-2	P204186-03	Water	04/08/02 18:50	04/09/02 10:30
MW-3	P204186-04	Water	04/08/02 20:10	04/09/02 10:30
MW-4	P204186-05	Water	04/08/02 17:20	04/09/02 10:30

Sequoia Analytical - Petaluma

Angelee Cari

Angelee Cari, Client Services Representative

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.



Gettler-Ryan - Dublin
6747 Sierra Ct, Suite J
Dublin CA, 94568

Project: Tosco/Phillips
Project Number: 7124/Oakland, Ca
Project Manager: Deanna Harding

Reported:
04/23/02 14:41

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (P204186-01) Water Sampled: 04/08/02 00:00 Received: 04/09/02 10:30									
Gasoline (C6-C12)	ND	50	ug/l	1	2040268	04/11/02	04/11/02	EPA 8015M/8020M	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		104 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	65-135		"	"	"	"	
MW-1 (P204186-02) Water Sampled: 04/08/02 15:40 Received: 04/09/02 10:30									
Gasoline (C6-C12)	ND	50	ug/l	1	2040268	04/11/02	04/11/02	EPA 8015M/8020M	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		101 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	65-135		"	"	"	"	
MW-2 (P204186-03) Water Sampled: 04/08/02 18:50 Received: 04/09/02 10:30									
Gasoline (C6-C12)	4400	250	ug/l	5	2040268	04/11/02	04/11/02	EPA 8015M/8020M	
Benzene	ND	2.5	"	"	"	"	"	"	
Toluene	ND	2.5	"	"	"	"	"	"	
Ethylbenzene	6.4	2.5	"	"	"	"	"	"	QR-04
Xylenes (total)	ND	2.5	"	"	"	"	"	"	
Methyl tert-butyl ether	380	12	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		100 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	65-135		"	"	"	"	



Gettler-Ryan - Dublin
 6747 Sierra Ct, Suite J
 Dublin CA, 94568

Project: Tosco/Phillips
 Project Number: 7124/Oakland, Ca
 Project Manager: Deanna Harding

Reported:
 04/23/02 14:41

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (P204186-04) Water Sampled: 04/08/02 20:10 Received: 04/09/02 10:30									
Gasoline (C6-C12)	8700	2500	ug/l	50	2040268	04/11/02	04/11/02	EPA 8015M/8020M	
Benzene	65	25	"	"	"	"	"	"	
Toluene	ND	25	"	"	"	"	"	"	
Ethylbenzene	400	25	"	"	"	"	"	"	
Xylenes (total)	ND	25	"	"	"	"	"	"	
Methyl tert-butyl ether	6500	120	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		101 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	65-135		"	"	"	"	
MW-4 (P204186-05) Water Sampled: 04/08/02 17:20 Received: 04/09/02 10:30									
Gasoline (C6-C12)	13000	500	ug/l	10	2040268	04/11/02	04/11/02	EPA 8015M/8020M	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	28	5.0	"	"	"	"	"	"	QR-04
Xylenes (total)	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	790	25	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %	65-135		"	"	"	"	

Gettler-Ryan - Dublin
 6747 Sierra Ct, Suite J
 Dublin CA, 94568

 Project: Tosco/Phillips
 Project Number: 7124/Oakland, Ca
 Project Manager: Deanna Harding

 Reported:
 04/23/02 14:41

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (P204186-02) Water Sampled: 04/08/02 15:40 Received: 04/09/02 10:30									
Tert-amyl methyl ether	ND	2.0	ug/l	.1	2040478	04/19/02	04/19/02	EPA 8260B	
Tert-butyl alcohol	ND	100	"	"	"	"	"	"	
Di-isopropyl ether	ND	2.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	2.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	2.0	"	"	"	"	"	"	
Ethanol	ND	500	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		119 %	84-122		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		118 %	74-135		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		110 %	84-119		"	"	"	"	
MW-2 (P204186-03) Water Sampled: 04/08/02 18:50 Received: 04/09/02 10:30									
Tert-amyl methyl ether	ND	40	ug/l	20	2040478	04/19/02	04/19/02	EPA 8260B	
Tert-butyl alcohol	ND	2000	"	"	"	"	"	"	
Di-isopropyl ether	ND	40	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	40	"	"	"	"	"	"	
1,2-Dichloroethane	ND	40	"	"	"	"	"	"	
Ethanol	ND	10000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	40	"	"	"	"	"	"	
Methyl tert-butyl ether	490	40	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		117 %	84-122		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %	74-135		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		112 %	84-119		"	"	"	"	



Gettler-Ryan - Dublin
6747 Sierra Ct, Suite J
Dublin CA, 94568

Project: Tosco/Phillips
Project Number: 7124/Oakland, Ca
Project Manager: Deanna Harding

Reported:
04/23/02 14:41

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (P204186-04) Water Sampled: 04/08/02 20:10 Received: 04/09/02 10:30									
Tert-amyl methyl ether	ND	1000	ug/l	500	2040478	04/19/02	04/19/02	EPA 8260B	
Tert-butyl alcohol	ND	50000	"	"	"	"	"	"	"
Di-isopropyl ether	ND	1000	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1000	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1000	"	"	"	"	"	"	"
Ethanol	ND	250000	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	1000	"	"	"	"	"	"	"
Methyl tert-butyl ether	8300	1000	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		115 %		84-122	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %		74-135	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		110 %		84-119	"	"	"	"	"
MW-4 (P204186-05) Water Sampled: 04/08/02 17:20 Received: 04/09/02 10:30									
Tert-amyl methyl ether	ND	100	ug/l	50	2040478	04/19/02	04/19/02	EPA 8260B	
Tert-butyl alcohol	ND	5000	"	"	"	"	"	"	"
Di-isopropyl ether	ND	100	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	100	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	100	"	"	"	"	"	"	"
Ethanol	ND	25000	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	100	"	"	"	"	"	"	"
Methyl tert-butyl ether	980	100	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		114 %		84-122	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		118 %		74-135	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		115 %		84-119	"	"	"	"	"

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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 Limits	RPD	RPD Limit	Notes
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Batch 2040268 - EPA 5030, waters
Blank (2040268-BLK1)

Prepared & Analyzed: 04/11/02

Gasoline (C6-C12)	ND	50	ug/l						
Benzene	ND	0.50	"						
Toluene	ND	0.50	"						
Ethylbenzene	ND	0.50	"						
Xylenes (total)	ND	0.50	"						
Methyl tert-butyl ether	ND	2.5	"						
<hr/>									
<i>Surrogate: a,a,a-Trifluorotoluene</i>	325		"	300		108		65-135	
<i>Surrogate: 4-Bromofluorobenzene</i>	311		"	300		104		65-135	

Blank (2040268-BLK2)

Prepared & Analyzed: 04/12/02

Gasoline (C6-C12)	ND	50	ug/l						
Benzene	ND	0.50	"						
Toluene	ND	0.50	"						
Ethylbenzene	ND	0.50	"						
Xylenes (total)	ND	0.50	"						
Methyl tert-butyl ether	ND	2.5	"						
<hr/>									
<i>Surrogate: a,a,a-Trifluorotoluene</i>	326		"	300		109		65-135	
<i>Surrogate: 4-Bromofluorobenzene</i>	306		"	300		102		65-135	

LCS (2040268-BS1)

Prepared & Analyzed: 04/11/02

Gasoline (C6-C12)	2690	.50	ug/l	2750		98		65-135	
Benzene	40.8	0.50	"	34.0		120		65-135	
Toluene	198	0.50	"	206		96		65-135	
Ethylbenzene	47.2	0.50	"	48.5		97		65-135	
Xylenes (total)	231	0.50	"	244		95		65-135	
Methyl tert-butyl ether	65.4	2.5	"	54.5		120		65-135	
<hr/>									
<i>Surrogate: a,a,a-Trifluorotoluene</i>	354		"	300		118		65-135	
<i>Surrogate: 4-Bromofluorobenzene</i>	319		"	300		106		65-135	



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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
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Batch 2040268 - EPA 5030, waters

LCS (2040268-BS2)

Prepared & Analyzed: 04/12/02

Gasoline (C6-C12)	2620	50	ug/l	2750		95	65-135			
Benzene	38.1	0.50	"	34.0		112	65-135			
Toluene	180	0.50	"	206		87	65-135			
Ethylbenzene	44.6	0.50	"	48.5		92	65-135			
Xylenes (total)	209	0.50	"	244		86	65-135			
Methyl tert-butyl ether	65.8	2.5	"	54.5		121	65-135			
Surrogate: a,a,a-Trifluorotoluene	348		"	300		116	65-135			
Surrogate: 4-Bromofluorobenzene	333		"	300		111	65-135			

Matrix Spike (2040268-MS1)

Source: P204186-02

Prepared & Analyzed: 04/11/02

Gasoline (C6-C12)	2750	50	ug/l	2750	ND	99	65-135			
Benzene	40.1	0.50	"	34.0	ND	118	65-135			
Toluene	197	0.50	"	206	ND	96	65-135			
Ethylbenzene	47.4	0.50	"	48.5	ND	98	65-135			
Xylenes (total)	229	0.50	"	244	ND	94	65-135			
Methyl tert-butyl ether	65.1	2.5	"	54.5	ND	119	65-135			
Surrogate: a,a,a-Trifluorotoluene	344		"	300		115	65-135			
Surrogate: 4-Bromofluorobenzene	321		"	300		107	65-135			

Matrix Spike Dup (2040268-MSD1)

Source: P204186-02

Prepared & Analyzed: 04/11/02

Gasoline (C6-C12)	2770	50	ug/l	2750	ND	99	65-135	0.7	20	
Benzene	39.3	0.50	"	34.0	ND	116	65-135	2	20	
Toluene	198	0.50	"	206	ND	96	65-135	0.5	20	
Ethylbenzene	46.7	0.50	"	48.5	ND	96	65-135	1	20	
Xylenes (total)	224	0.50	"	244	ND	92	65-135	2	20	
Methyl tert-butyl ether	64.0	2.5	"	54.5	ND	117	65-135	2	20	
Surrogate: a,a,a-Trifluorotoluene	343		"	300		114	65-135			
Surrogate: 4-Bromofluorobenzene	328		"	300		109	65-135			

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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 2040478 - EPA 5030 waters										
Blank (2040478-BLK1)										
Prepared & Analyzed: 04/19/02										
Tert-amyl methyl ether	ND	2.0	ug/l							
Tert-butyl alcohol	ND	100	"							
Di-isopropyl ether	ND	2.0	"							
1,2-Dibromoethane (EDB)	ND	2.0	"							
1,2-Dichloroethane	ND	2.0	"							
Ethanol	ND	500	"							
Ethyl tert-butyl ether	ND	2.0	"							
Methyl tert-butyl ether	ND	2.0	"							
<i>Surrogate: Dibromofluoromethane</i>	4.77		"	4.20		114	84-122			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.66		"	4.20		111	74-135			
<i>Surrogate: Toluene-d8</i>	4.60		"	4.20		110	84-119			
LCS (2040478-BS1)										
Prepared & Analyzed: 04/19/02										
Methyl tert-butyl ether	5.31	2.0	ug/l	5.00		106	79-118			
<i>Surrogate: Dibromofluoromethane</i>	5.08		"	4.20		121	84-122			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.76		"	4.20		113	74-135			
<i>Surrogate: Toluene-d8</i>	4.75		"	4.20		113	84-119			
Matrix Spike (2040478-MS1)										
Source: P204186-03 Prepared & Analyzed: 04/19/02										
Methyl tert-butyl ether	587	40	ug/l	100	490	97	79-118			
<i>Surrogate: Dibromofluoromethane</i>	5.06		"	4.20		120	84-122			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.90		"	4.20		117	74-135			
<i>Surrogate: Toluene-d8</i>	4.78		"	4.20		114	84-119			
Matrix Spike Dup (2040478-MSD1)										
Source: P204186-03 Prepared & Analyzed: 04/19/02										
Methyl tert-butyl ether	572	40	ug/l	100	490	82	79-118	3	20	
<i>Surrogate: Dibromofluoromethane</i>	5.01		"	4.20		119	84-122			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.88		"	4.20		116	74-135			
<i>Surrogate: Toluene-d8</i>	4.84		"	4.20		115	84-119			



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04/23/02 14:41

Notes and Definitions

- QR-04 Primary and confirmation results varied by greater than 40% RPD. The results may still be useful for their intended purpose.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference