

PS-409



GETTLER-RYAN INC.

TRANSMITTAL

November 29, 2002

G-R #180225

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

CC: Mr. Paul Blank
ERI, Inc.
73 Digital Drive, Suite 100
Novato, California

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

RE: **Tosco 76 Service Station
#1156
4276 MacArthur Boulevard
Oakland, California**

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	November 18, 2002	Groundwater Monitoring and Sampling Report Fourth Quarter - Event of October 7, 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 **December 12, 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
Mr. Bob Hale, Alameda County Public Works Agency, Water Resources Section, 951 Turner Court, Suite 300,
Hayward, CA 94545

Enclosure

trans/1156-DBD



GETTLER-RYAN Inc.

November 18, 2002
G-R Job #180225

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

RE: Fourth Quarter Event of October 7, 2002
Groundwater Monitoring & Sampling Report
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

Dear Mr. De Witt:

This report documents the most recent groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R) at the referenced site. All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached). A joint groundwater monitoring event was conducted with the Shell Service Station, located at 4255 MacArthur Boulevard, Oakland, California.

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in any of 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 and submitted to a state certified laboratory for analyses. The field data sheets for this event are attached. Analytical results are presented in the table(s) listed below. A Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

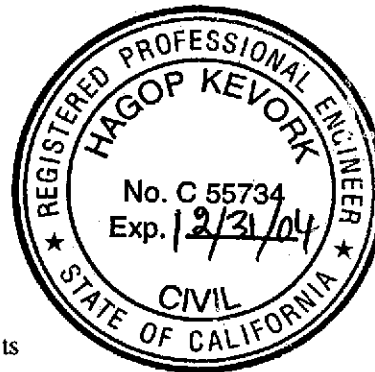
Sincerely,

Deanna L. Harding
FOR-

Deanna L. Harding
Project Coordinator

Hagop Kevork

Hagop Kevork
P.E. No. C55734

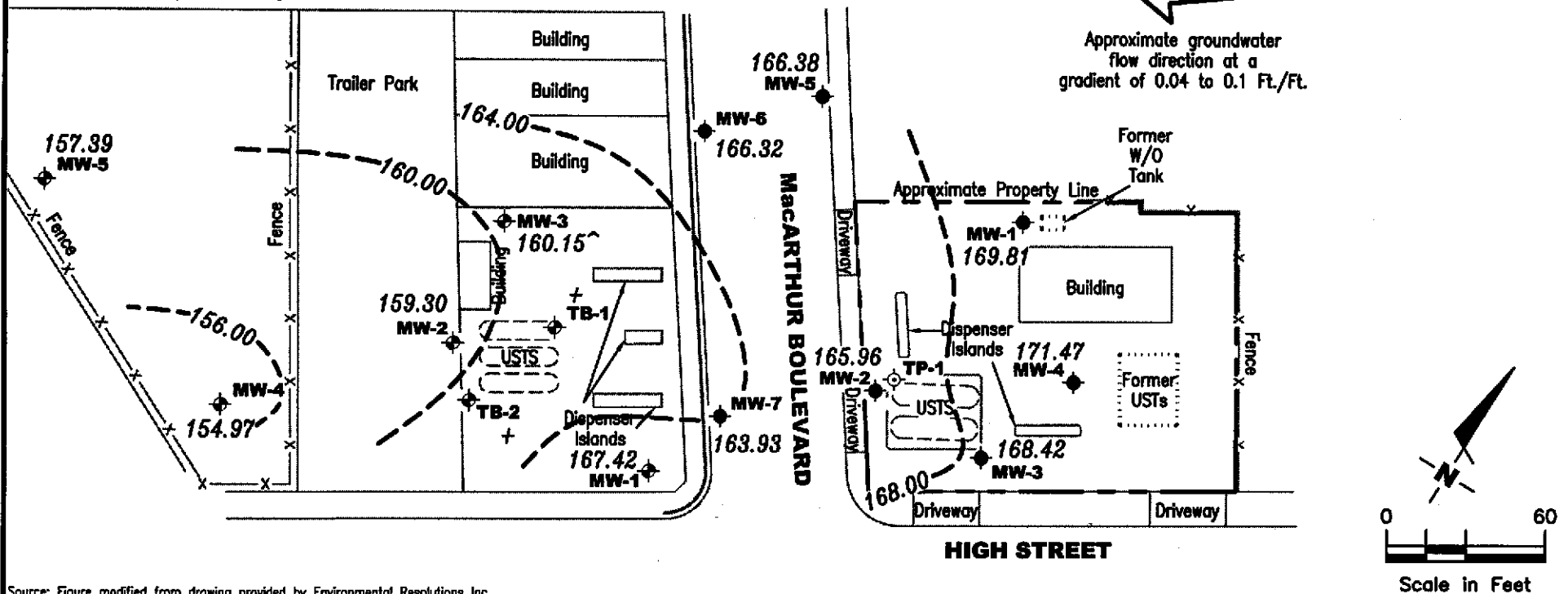


- Figure 1: Potentiometric Map
- Figure 2: Concentration Map
- Table 1: Groundwater Monitoring Data and Analytical Results
- Table 2: Groundwater Analytical Results
- Table 3: Groundwater Analytical Results
- Table 4: Joint Groundwater Monitoring Data - Provided by Blaine Tech Services, Inc.
- Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

EXPLANATION

- ◆ Groundwater monitoring well (Tosco) 99.99 Groundwater elevation in feet referenced to Mean Sea Level ^ Groundwater elevation corrected for the presence of free product
- ◆ Groundwater monitoring well (Shell) ---99.99--- Groundwater elevation contour, dashed where inferred
- ⊕ Tank Pit Backfill Well + TOC not available

Note: Joint groundwater monitoring data provided by Cambria when available



Source: Figure modified from drawing provided by Environmental Resolutions Inc.

GETTLER - RYAN INC.
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POTENTIOMETRIC MAP
 Tosco 76 Service Station #1156
 4276 MacArthur Boulevard
 Oakland, California

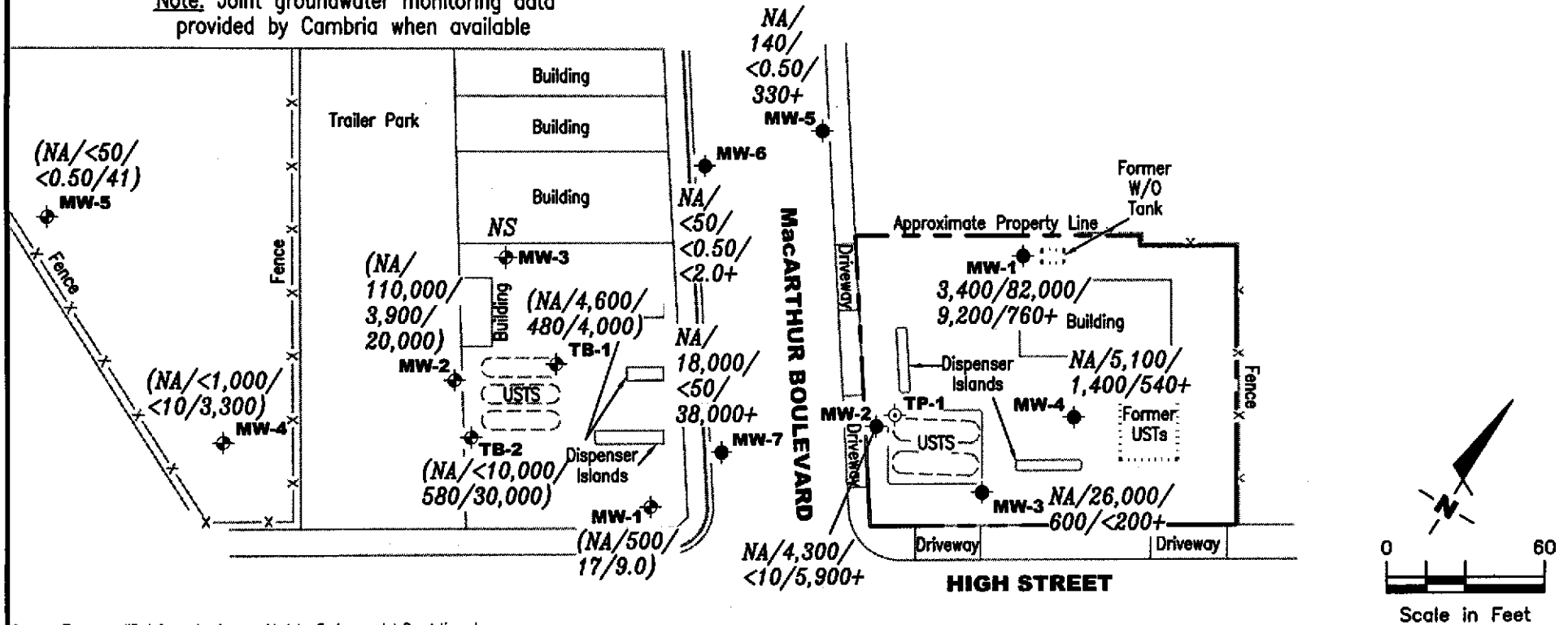
FIGURE
1

PROJECT NUMBER 180225	REVIEWED BY	DATE October 7, 2002	REVISED DATE
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EXPLANATION

◆	Groundwater monitoring well (Tosco)	A/B/C/D	Total Petroleum Hydrocarbons (TPH) as Diesel/TPH as Gasoline/Benzene/MTBE concentrations in ppb	+	MTBE by EPA Method 8260
⊕	Groundwater monitoring well (Shell)	()	Analyses by EPA Method 8260	NS	Not Sampled
⊖	Tank Pit Backfill Well			NA	Not Analyzed

Note: Joint groundwater monitoring data provided by Cambria when available



Source: Figure modified from drawing provided by Environmental Resolutions Inc.

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CONCENTRATION MAP
 Tosco 76 Service Station #1156
 4276 MacArthur Boulevard
 Oakland, California

FIGURE
2

PROJECT NUMBER 180225	REVIEWED BY	DATE October 7, 2002	REVISED DATE
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Table 1
Groundwater Monitoring Data and Analytical Results
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (msl)	Product							
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1												
174.86	07/20/99 ⁵	7.50	5.0-25.0	167.36	--	16,000 ²	120,000	11,000	27,000	3,300	18,000	ND ¹
	09/28/99	8.75		166.11	<0.01	2,410 ²	6,020 ⁶	1,030	1,040	68.5	412	321/333 ³
	01/07/00	9.05		165.83**	0.02	7,870 ^{2,4}	72,700 ⁶	7,410	13,900	2,070	9,620	ND ¹
	03/31/00	7.18		167.68	0.00	3,600 ²	92,000 ⁶	10,000	23,000	3,200	14,000	ND ¹
	07/14/00	7.68		167.18	0.00	8,580 ²	108,000 ⁶	8,250	18,700	3,750	17,800	ND ¹
	10/03/00	7.99		166.87	0.00	9,260 ²	96,000 ⁶	8,760	20,000	3,350	15,600	ND ¹
	01/03/01	9.18		165.68	0.00	11,000 ⁸	37,000 ⁶	5,800	13,000	1,700	8,100	2,200
	04/04/01	8.05		166.81	0.00	14,000 ⁸	86,900 ⁶	7,780	18,500	2,470	11,800	¹ ND/481 ³
	07/17/01	7.01		167.85	0.00	2,200 ⁸	79,000 ⁶	5,600	11,000	2,800	12,000	¹ ND/230 ³
177.54	10/03/01	7.89		169.65	0.00	--	99,000 ⁶	8,200	18,000	3,000	16,000	<2,500
	10/05/01	7.91		169.63	0.00	13,000 ²	--	--	--	--	--	--
	01/28/02	5.98		171.56	0.00	4,400 ¹¹	110,000 ¹²	8,900	19,000	2,600	12,000	3,000/440 ³
	04/25/02	6.19		171.35	0.00	9,000 ¹³	93,000	8,100	18,000	3,000	15,000	810/670 ³
	07/18/02	6.99		170.55	0.00	9,200 ¹³	69,000	5,400	10,000	2,100	10,000	<500/620 ³
	10/07/02	7.73		169.81	0.00	3,400	82,000	9,200	20,000	2,600	13,000	1,300/760 ³
MW-2												
173.01	07/20/99	5.40	5.0-25.0	167.61	--	--	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	4,500/11,000 ^{3,4}
	09/28/99	5.60		167.41	0.00	--	1,390 ⁶	124	ND ¹	62.9	43.1	5,280/6,150 ³
	01/07/00	5.92		167.09	0.00	--	1,450 ⁶	99.0	ND ¹	23.8	16.0	33,100
	03/31/00	5.23		167.78	0.00	--	ND ¹	42	ND ¹	ND ¹	ND ¹	17,000
	07/14/00	5.52		167.49	0.00	--	ND ¹	44.7	ND ¹	ND ¹	ND ¹	66,500
	10/03/00	6.04		166.97	0.00	--	ND ¹	56.7	ND ¹	ND ¹	ND ¹	57,500
	01/03/01	6.42		166.59	0.00	--	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	49,000
	04/04/01	6.14		166.87	0.00	--	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	38,700/37,800 ³
	07/17/01	5.30		167.71	0.00	--	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹	65,000/56,000 ³
173.50	10/03/01	7.38		166.12	0.00	--	<250	2.7	<2.5	<2.5	<2.5	14,000/18,000 ³

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco 76 Service Station #1156
 4276 MacArthur Boulevard
 Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (msl)	Product							
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-2	01/28/02	5.68	5.0-25.0	167.82	0.00	--	<250	2.5	4.4	2.8	7.4	11,000/10,000 ³
(cont)	04/25/02	5.82		167.68	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	8,400/8,100 ³
	07/18/02	6.90		166.60	0.00	--	<500	<5.0	<5.0	<5.0	<5.0	4,300/8,800 ³
	10/07/02	7.54		165.96	0.00	--	4,300	<10	27	21	75	7,100/5,900 ³
MW-3												
178.44	07/20/99	8.50	5.0-25.0	169.94	--	--	1,000	76	52	79	76	330
	09/28/99	8.31		170.13	0.00	--	1,860 ⁶	174	95.4	71.8	135	443/288 ¹
	01/07/00	8.56		169.88	0.00	--	28,400 ⁶	2,450	3,090	1,560	3,910	1,940
	03/31/00	8.42		170.02	0.00	--	26,000 ⁶	1,300	2,900	2,600	3,500	2,800
	07/14/00	8.61		169.83	0.00	--	24,500 ⁶	1,850	2,630	2,750	3,900	548
	10/03/00	9.14		169.30	0.00	--	22,000 ⁶	1,910	2,020	2,400	2,680	965
	01/03/01	9.06		169.38	0.00	--	14,000 ⁶	1,600	1,100	2,300	1,400	3,300
	04/04/01	8.98		169.46	0.00	--	19,600 ⁶	1,150	1,470	2,100	1,820	1,050/450 ³
	07/17/01	7.46		170.98	0.00	--	26,000 ⁶	1,500	2,100	2,100	3,400	¹ ND/350 ³
178.13	10/03/01	9.81		168.32	0.00	--	22,000 ⁶	830	1,900	1,700	3,000	<1,000
	01/28/02	7.39	170.74	0.00	--	30,000 ¹²	880	2,600	1,800	4,300	3,200/210 ³	
	04/25/02	7.86	170.27	0.00	--	18,000	500	2,000	1,300	3,800	500/260 ³	
	07/18/02	8.83	169.30	0.00	--	37,000	1,800	3,800	2,200	8,000	<250/270 ³	
	10/07/02	9.71	168.42	0.00	--	26,000	600	2,000	1,800	6,400	<120/<200 ³	
MW-4												
179.10	07/20/99	7.40	5.0-25.0	171.70	--	--	69	2.7	0.77	ND	7.1	100
	09/28/99	7.19		171.91	0.00	--	4,050 ⁶	1,250	72.0	51.3	133	416/459 ³
	01/07/00	8.98		170.12	0.00	--	7,010 ⁶	2,260	167	271	276	764
	03/31/00	7.26		171.84	0.00	--	5,500 ⁶	1,800	230	330	400	1,000
	07/14/00	7.67		171.43	0.00	--	7,940 ⁶	2,810	332	450	247	1,530

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.I. (ft. bgs)	GWE (msl)	Product							
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-4	10/03/00	8.12	5.0-25.0	170.98	0.00	--	11,400 ⁶	3,110	437	519	816	1,040
(cont)	01/03/01 ⁷	9.10		170.00	0.00	--	8,600 ⁶	2,500	340	480	960	850
	04/04/01	8.63		170.47	0.00	--	9,950 ⁶	2,380	126	416	725	1,140/819 ³
	07/17/01	6.49		172.61	0.00	--	10,000 ⁶	2,300	110	410	800	1,200/900 ³
178.96	10/03/01	7.01		171.95	0.00	--	7,800 ⁶	2,100	85	380	390	580/820 ³
	01/28/02	6.21		172.75	0.00	--	12,000 ¹²	2,100	130	350	670	1,100/500 ³
	04/25/02	5.49		173.47	0.00	--	3,300	1,300	42	270	250	680/600 ³
	07/18/02	8.28		170.68	0.00	--	4,800	1,300	71	290	220	530/760 ³
	10/07/02	7.49		171.47	0.00	--	5,100	1,400	110	330	380	650/540 ³
MW-5												
169.18	10/03/01 ¹⁰	2.81	--	166.37	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	1,800/2,100 ³
	01/28/02	1.88		167.30	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	650/550 ³
	04/25/02	1.99		167.19	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	2,200/2,400 ³
	07/18/02	2.49		166.69	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	530/690 ³
	10/07/02	2.80		166.38	0.00	--	140	<0.50	<0.50	<0.50	<0.50	300/330 ³
MW-6												
169.04	10/03/01 ¹⁰	2.87	--	166.17	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	200/270 ³
	01/28/02	1.82		167.22	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	04/25/02	2.01		167.03	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	07/18/02	2.44		166.60	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5/<2.0 ³
	10/07/02	2.72		166.32	0.00	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5/<2.0 ³

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	S.L. (ft. bgs)	GWE (msl)	Product							
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-7												
171.64	10/03/01 ¹⁰	7.62	--	164.02	0.00	--	10,000 ⁹	210	<50	<50	800	35,000/40,000 ³
	01/28/02	7.21		164.43	0.00	--	<1,000	<10	<10	<10	<10	42,000/38,000 ³
	04/25/02	7.25		164.39	0.00	--	<5,000	660	<50	<50	<50	42,000/45,000 ³
	07/18/02	8.12		163.52	0.00	--	<5,000	130	<50	<50	<50	51,000/53,000 ³
	10/07/02	7.71		163.93	0.00	--	18,000	<50	<50	<50	<50	33,000/38,000 ³
Trip Blank												
TB-LB	07/20/99	--	--	--	--	--	--	--	--	--	--	--
	09/28/99	--		--	--	--	ND	ND	ND	ND	ND	ND
	01/07/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	03/31/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	07/14/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	10/03/00	--		--	--	--	ND	ND	ND	ND	ND	ND
	01/03/01	--		--	--	--	ND	ND	ND	ND	ND	ND
	04/04/01	--		--	--	--	ND	ND	ND	ND	ND	ND
	07/17/01	--		--	--	--	ND	ND	ND	ND	ND	ND
	10/03/01	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	10/05/01	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	01/28/02	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	04/25/02	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	07/18/02	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
QA	10/07/02	--		--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco 76 Service Station #1156
 4276 MacArthur Boulevard
 Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to September 28, 1999, were compiled from reports prepared by Environmental Resolutions, Inc.

TOC = Top of Casing

(ft.) = Feet

DTW = Depth to Water

S.I. = Screen Interval

(ft. bgs) = Feet Below Ground Surface

GWE = Groundwater Elevation

(msl) = Mean sea level

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

ND = Not Detected

-- = Not Measured/Not Analyzed

QA =Quality Assurance

* TOC elevations were resurveyed in September 2001, by Morrow Surveying. TOC elevations are based on City of Oakland Benchmark No. 3967, (Elevation = 174.40 feet, msl).

** GWE has been corrected due to the presence of free product; correction factor: $[(TOC - DTW) + (Product\ Thickness \times 0.77)]$.

¹ Detection limit raised. Refer to analytical reports.

² Laboratory report indicates unidentified hydrocarbons C9-C24.

³ MTBE by EPA Method 8260.

⁴ Laboratory analyzed sample past EPA recommended holding time.

⁵ Total Recoverable Petroleum Oil was ND.

⁶ Laboratory report indicates gasoline C6-C12.

⁷ This sample was originally analyzed within holding time. Re-analysis for confirmation or dilution was performed past the recommended holding time.

⁸ Laboratory report indicates unidentified hydrocarbons <C16.

⁹ Laboratory report indicates weathered gasoline C6-C12.

¹⁰ Well development performed.

¹¹ Laboratory report indicates unidentified hydrocarbons C10-C28.

¹² Laboratory report indicates gasoline C6-C10.

¹³ Laboratory report indicates hydrocarbon pattern is present in the requested fuel quantitation range but it does not resemble the pattern of the requested fuel.

Table 2
Groundwater Analytical Results
 Tosco 76 Service Station #1156
 4276 MacArthur Boulevard
 Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)	HVOCs (ppb)	SVOCs (ppb)
MW-1	07/20/99	--	--	11,000 ³	--	--	--	--	--	ND ¹	ND ²
	09/28/99	--	ND ⁶	333	ND ⁶	ND ⁶	ND ⁶	--	--	ND ⁴	ND ⁵
	01/07/00	--	--	--	--	--	--	--	--	ND ^{7,8}	ND ⁹
	03/31/00	--	--	--	--	--	--	--	--	-- ¹¹	ND ¹⁰
	07/14/00	--	--	--	--	--	--	--	--	ND ¹²	ND ¹³
	10/03/00	--	--	--	--	--	--	--	--	ND ¹⁵	ND ¹⁴
	01/03/01	--	--	--	--	--	--	--	--	ND ¹⁵	ND ¹⁶
	04/04/01	ND ⁶	ND ⁶	481	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ¹⁷	ND ¹⁸
	07/17/01	ND ⁶	ND ⁶	230	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ²⁰	ND ¹⁹
	01/28/02	--	--	440	--	--	--	--	--	--	--
	04/25/02	--	--	670	--	--	--	--	--	--	--
	07/18/02	<2,500	<100	620	<10	<10	<10	<10	<10	--	--
10/07/02	<50,000	<10,000	760	<200	<200	<200	<200	<200	--	--	
MW-2	09/28/99	--	ND ⁶	6,150	ND ⁶	ND ⁶	ND ⁶	--	--	--	--
	04/04/01	ND ⁶	ND ⁶	37,800	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ⁶	--	--
	07/17/01	ND ⁶	ND ⁶	56,000	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ⁶	--	--
	10/03/01	--	--	18,000	--	--	--	--	--	--	--
	01/28/02	--	--	10,000	--	--	--	--	--	--	--
	04/25/02	--	--	8,100	--	--	--	--	--	--	--
	07/18/02	<25,000	<1,000	8,800	<100	<100	<100	<100	<100	--	--
	10/07/02	<100,000	<20,000	5,900	<400	<400	<400	<400	<400	--	--
MW-3	09/28/99	--	ND ⁶	288	ND ⁶	ND ⁶	8.80	--	--	--	--
	04/04/01	ND ⁶	ND ⁶	450	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ⁶	--	--
	07/17/01	ND ⁶	ND ⁶	350	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ⁶	--	--
	01/28/02	--	--	210	--	--	--	--	--	--	--

Table 2
Groundwater Analytical Results
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)	HVOCs (ppb)	SVOCs (ppb)
MW-3	04/25/02	--	--	260	--	--	--	--	--	--	--
(cont)	07/18/02	<1,200	<50	270	<5.0	<5.0	<5.0	<5.0	<5.0	--	--
	10/07/02	<50,000	<10,000	<200	<200	<200	<200	<200	<200	--	--
MW-4	09/28/99	--	ND ⁶	459	ND ⁶	ND ⁶	ND ⁶	--	--	--	--
	04/04/01	ND ⁶	ND ⁶	819	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ⁶	--	--
	07/17/01	ND ⁶	ND ⁶	900	ND ⁶	ND ⁶	ND ⁶	ND ⁶	ND ⁶	--	--
	10/03/01	--	--	820	--	--	--	--	--	--	--
	01/28/02	--	--	500	--	--	--	--	--	--	--
	04/25/02	--	--	600	--	--	--	--	--	--	--
	07/18/02	<2,500	<100	760	<10	<10	<10	49	<10	--	--
	10/07/02	<50,000	<10,000	540	<200	<200	<200	<200	<200	--	--
MW-5	10/03/01	--	--	2,100	--	--	--	--	--	--	--
	01/28/02	--	--	550	--	--	--	--	--	--	--
	04/25/02	--	--	2,400	--	--	--	--	--	--	--
	07/18/02	<500	<20	690	<2.0	<2.0	<2.0	<2.0	<2.0	--	--
	10/07/02	<500	<100	330	<2.0	<2.0	<2.0	<2.0	<2.0	--	--
MW-6	10/03/01	--	--	270	--	--	--	--	--	--	--
	07/18/02	<500	<20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--
	10/07/02	<500	<100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	--

Table 2
Groundwater Analytical Results
 Tosco 76 Service Station #1156
 4276 MacArthur Boulevard
 Oakland, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)	HVOCs (ppb)	SVOCs (ppb)
MW-7	10/03/01	--	--	40,000	--	--	--	--	--	--	--
	01/28/02	--	--	38,000	--	--	--	--	--	--	--
	04/25/02	--	--	45,000	--	--	--	--	--	--	--
	07/18/02	<5,000	33,000	53,000	<20	<20	<20	<20	<20	--	--
	10/07/02	<100,000	26,000	38,000	<400	<400	<400	<400	<400	--	--

Table 2
Groundwater Analytical Results
 Tosco 76 Service Station #1156
 4276 MacArthur Boulevard
 Oakland, California

EXPLANATIONS:

Groundwater laboratory analytical results prior to September 28, 1999, were compiled from reports prepared by Environmental Resolutions, Inc.

TBA = Tertiary butyl alcohol

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

EDB = 1,2-Dibromoethane

HVOCs = Halogenated Volatile Organic Compounds

SVOCs = Semi-Volatile Organic Compounds

(ppb) = Parts per billion

ND = Not Detected

-- = Not Analyzed

- ¹ All HVOCs were ND except for Chlorobenzene at 12 ppb; 1,2-Dichlorobenzene (1,2-DCB) at 3.9 ppb; 1,1-Dichloroethane (1,1-DCA) at 2.0 ppb; 1,2-Dichloroethane (1,2-DCA) at 20 ppb; cis-1,2-Dichloroethene (cis-1,2-DCE) at 3.6 ppb and 1,2-Dichloropropane (1,2-DCP) at 0.92 ppb.
- ² All SVOCs were ND except for Benzyl alcohol at 37 ppb; 2,4-Dimethylphenol at 140 ppb; 2-Methylnaphthalene at 240 ppb; 4-Methylphenol at 27 ppb and Naphthalene at 600 ppb.
- ³ Laboratory analyzed sample past EPA recommended holding time.
- ⁴ All HVOCs were ND except for Benzene at 6,130 ppb; Ethylbenzene at 1,590 ppb; Naphthalene at 534 ppb; Toluene at 11,900 ppb; 1,2,4-Trimethylbenzene at 1,240 ppb; 1,3,5-Trimethylbenzene at 318 ppb and Total Xylenes at 7,360 ppb.
- ⁵ All SVOCs were ND (with a raised detection limit) except for 2,4-Dimethylphenol at 13.6 ppb; 2-Methylnaphthalene at 87.4 ppb; 2-Methylphenol at 26.4; 4-Methylphenol at 35.6 and Naphthalene at 292 ppb.
- ⁶ Detection limit raised. Refer to analytical reports.
- ⁷ All HVOCs were ND (with a raised detection limit) except for Benzene at 8,380 ppb; Ethylbenzene at 2,380 ppb; Naphthalene at 1,050 ppb; n-Propylbenzene at 371 ppb; Toluene at 17,600 ppb; 1,2,4-Trimethylbenzene at 2,210 ppb; 1,3,5-Trimethylbenzene at 597 ppb and Total Xylenes at 10,800 ppb.
- ⁸ EPA Method 8260 for HVOCs.
- ⁹ All SVOCs were ND (with a raised detection limit) except for 2-Methylnaphthalene at 315 ppb and Naphthalene at 615 ppb.
- ¹⁰ All SVOCs were ND except for Bis(2-ethylhexyl)phthalate at 10 ppb; 1,2-DCB at 6.2 ppb; 2-Methylnaphthalene at 73 ppb; 2-Methylphenol at 31 ppb; 4-Methylphenol at 18 ppb and Naphthalene at 140 ppb. Laboratory report indicates all SVOCs were analyzed outside the EPA recommended holding time.
- ¹¹ Laboratory did not analyze for HVOCs.
- ¹² All HVOCs were ND (with a raised detection limit) except for Tetrachloroethene at 334 ppb.
- ¹³ All SVOCs were ND (with a raised detection limit) except for 2-Methylnaphthalene at 300 ppb and Naphthalene at 690 ppb.
- ¹⁴ All SVOCs were ND (with a raised detection limit) except for Benzoic acid at 362 ppb; Bis(2-ethylhexyl)phthalate at 51.6 ppb; 2-Methylnaphthalene at 98.1 ppb; 4-Methylphenol at 28.9 ppb and Naphthalene at 361 ppb.
- ¹⁵ All HVOCs were ND (with a raised detection limit).
- ¹⁶ All SVOCs were ND (with a raised detection limit) except for 2-Methylnaphthalene at 180 ppb and Naphthalene at 400 ppb.
- ¹⁷ All HVOCs were ND except for cis-1,2-DCA at 3.4 ppb; 1,2-DCA at 5.7 ppb; Chlorobenzene at 5.6 ppb and 1,2-DCB at 4.6 ppb.
- ¹⁸ All SVOCs were ND except for Benzoic acid at 28 ppb; Bis(2-ethylhexyl)phthalate at 55 ppb; 2-Methylnaphthalene at 78 ppb and Naphthalene at 490 ppb.

Table 2
Groundwater Analytical Results
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

EXPLANATIONS: (cont)

- ¹⁹ All SVOCs were ND except for Bis(2-ethylhexyl)phthalate at 400 ppb; 1,2-DCB at 18 ppb; 2,4-Dimethylphenol at 16 ppb; 2-Methylnaphthalene at 290 ppb; 2-Methylphenol at 47 ppb; 4-Methylphenol at 25 ppb; Naphthalene at 740 ppb and N-Nitrosodimethylamine at 7.7 ppb.
- ²⁰ Volatile Organic Compounds (VOCs) by EPA Method 8021B were ND with a raised detection limit.

ANALYTICAL METHODS:

EPA Method 8260 for Oxygenate Compounds

EPA Method 8010 for HVOCs

EPA Method 8270 for SVOCs

Table 3
Groundwater Analytical Results
 Tosco 76 Service Station #1156
 4276 MacArthur Boulevard
 Oakland, California

WELL ID	DATE	cis-1,2-DCE (ppb)	1,2-DCA (ppb)	PCE (ppb)	Chloro- benzene (ppb)	HVOCs (ppb)	Bis(2- ethylhexyl)ph thalate (ppb)	2-Methylnaph- thalene (ppb)	2-Methyl- phenol (ppb)	4-Methyl- phenol (ppb)	Naphthalene (ppb)	SVOCs (ppb)
MW-1	07/18/02	1.3	<1.6	<0.60	5.9	<0.50-10 ¹	120	420	13	25	910	<5.0-20 ²

Table 3
Groundwater Analytical Results
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

EXPLANATIONS:

Groundwater laboratory analytical results prior to September 28, 1999, were compiled from reports prepared by Environmental Resolutions, Inc. Historical Halogenated and Semi-Volatile Organic Compound data are presented in Table 2.

cis-1,2-DCE = cis-1,2-Dichloroethene

1,2-DCA = 1,2-Dichloroethane

PCE = Tetrachloroethene

HVOCs = Halogenated Volatile Organic Compounds

SVOCs = Semi-Volatile Organic Compounds

(ppb) = Parts per billion

¹ All other HVOCs were less than the reporting limit except for Chloroethane was detected at 1.1 ppb, 1,4-Dichlorobenzene was detected at 1.3 ppb and 1,2-Dichlorobenzene was detected at 5.8 ppb.

² All other SVOCs were less than the reporting limit except for Phenol was detected at 32 ppb.

ANALYTICAL METHODS:

EPA Method 8010/8021 for HVOCs

EPA Method 8270 for SVOCs

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	Elevatio n (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-1	11/17/1993	410	21	11	7.9	47	NA	NA	175.79	8.59	NA	167.20	NA	NA	NA
MW-1	1/20/1994	1,200	180	19	48	47	NA	NA	175.79	8.22	NA	167.57	NA	NA	NA
MW-1	4/25/1994	3,100	610	<10	130	27	NA	NA	175.79	7.63	NA	168.16	NA	NA	NA
MW-1	7/7/1994	2,400	1,000	10	250	20	NA	NA	175.79	8.31	NA	167.48	NA	NA	NA
MW-1	10/27/1994	2,200	500	3.1	72	1.8	NA	NA	175.79	8.84	NA	166.95	NA	NA	NA
MW-1	11/17/1994	NA	NA	NA	NA	NA	NA	NA	175.79	7.60	NA	168.19	NA	NA	NA
MW-1	11/28/1994	NA	NA	NA	NA	NA	NA	NA	175.79	7.56	NA	168.23	NA	NA	NA
MW-1	1/13/1995	570	75	2.5	6.7	11	NA	NA	175.79	7.11	NA	168.68	NA	NA	NA
MW-1	4/12/1995	1,800	480	<5.0	79	<5.0	NA	NA	175.79	7.08	NA	168.71	NA	NA	NA
MW-1	7/25/1995	120	15	1.1	2.1	2.9	NA	NA	175.79	7.73	NA	168.06	NA	NA	NA
MW-1 (D)	7/25/1995	300	88	2.4	11	6.5	NA	NA	175.79	7.73	NA	168.06	NA	NA	NA
MW-1	10/18/1995	130	9.5	0.8	1.3	1.7	NA	NA	175.79	8.42	NA	167.37	NA	NA	NA
MW-1 (D)	10/18/1995	120	11	0.8	1.4	1.8	NA	NA	175.79	8.42	NA	167.37	NA	NA	NA
MW-1	1/17/1996	250	22	0.9	1.6	2.3	NA	NA	175.79	7.83	NA	167.96	NA	NA	NA
MW-1	4/25/1996	<50	4.6	<0.5	<0.5	0.6	500b	NA	175.79	7.35	NA	168.44	NA	NA	NA
MW-1	7/17/1996	<250	15	<2.5	<2.5	<2.5	540	NA	175.79	7.70	NA	168.09	NA	NA	NA
MW-1	10/1/1996	1,200	500	12	57	82	1,900	NA	175.79	8.07	NA	167.72	NA	NA	NA
MW-1	1/22/1997	640	170	4.3	33	33	1,200	NA	175.79	7.21	NA	168.58	NA	NA	NA
MW-1	4/8/1997	<200	34	<2.0	3.3	4.3	950	NA	175.79	7.75	NA	168.04	NA	NA	NA
MW-1 (D)	4/8/1997	<200	66	<2.0	6.4	8	740	NA	175.79	7.75	NA	168.04	NA	NA	NA
MW-1	7/8/1997	190	49	1.2	5.8	8.6	560	NA	175.79	8.01	NA	167.78	NA	NA	NA
MW-1	10/8/1997	<100	7	<1.0	<1.0	<1.0	620	NA	175.79	8.10	NA	167.69	NA	NA	NA
MW-1	1/9/1998	970	390	12	48	71	1,200	NA	175.79	7.14	NA	168.65	NA	NA	NA
MW-1	4/13/1998	<50	136	<0.50	1.5	1.8	170	NA	175.79	6.78	NA	169.01	NA	NA	NA
MW-1	7/17/1998	2,500	750	11	88	67	150	NA	175.79	7.28	NA	168.51	NA	NA	NA
MW-1	10/2/1998	8,000	970	36	270	440	35	NA	175.79	7.77	NA	168.02	NA	NA	NA
MW-1	2/3/1999	210	56	0.82	<0.50	3.2	220	NA	175.79	7.45	NA	168.34	NA	1.4	NA
MW-1	4/29/1999	<50	4.5	<0.50	0.56	<0.50	140	196	175.79	7.58	NA	168.21	NA	1.2	140
MW-1	7/23/1999	<50.0	<0.500	<0.500	<0.500	<0.500	120	111*	175.79	8.51	NA	167.28	NA	1.0	NA
MW-1	11/1/1999	<50.0	<0.500	<0.500	<0.500	<0.500	2.90	NA	175.79	8.30	NA	167.49	NA	1.4	-71
MW-1	1/17/2000	<50	<0.50	<0.50	<0.50	<0.50	3.30	NA	175.79	8.04	NA	167.75	NA	16.9	64
MW-1	4/17/2000	<50.0	1.08	<0.500	<0.500	<0.500	<2.50	NA	175.79	8.00	NA	167.79	NA	1.8	112

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
 Shell-branded Service Station
 4255 MacArthur Boulevard
 Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	Elevatio n (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-1	7/26/2000	125	54.3	2.16	5.45	9.86	33.1	NA	175.79	7.52	NA	168.27	NA	13.2	-140
MW-1	10/12/2000	101	40.7	2.68	3.00	5.18	25.0	NA	175.79	7.71	NA	168.08	NA	>20	534
MW-1	1/15/2001	<50.0	0.633	<0.500	0.505	1.74	<2.50	NA	175.79	7.33	NA	168.46	NA	16.9	-127
MW-1	4/9/2001	<50.0	<0.500	<0.500	<0.500	0.927	<2.50	NA	175.79	7.68	NA	168.11	NA	12.8	-117
MW-1	7/24/2001	<50	4.0	0.65	0.53	1.3	NA	<5.0	175.79	8.00	NA	167.79	NA	>20	43
MW-1	10/31/2001	<50	4.4	<0.50	<0.50	0.98	NA	<5.0	175.79	7.94	NA	167.85	NA	13.6	123
MW-1	1/10/2002	<50	2.2	<0.50	<0.50	1.2	NA	6.1	175.79	7.63	NA	168.16	NA	0.1	63
MW-1	4/25/2002	<50	2.0	<0.50	<0.50	<0.50	NA	<5.0	175.79	7.76	NA	168.03	NA	0.3	54
MW-1	7/18/2002	<50	6.1	<0.50	<0.50	0.98	NA	<5.0	175.79	8.29	NA	167.50	NA	1.1	32
MW-1	10/7/2002	500	17	14	11	60	NA	9.0	175.76	8.34	NA	167.42	NA	2.8	-26

MW-2	11/17/1993	31,000	9,400	4,600	1,000	3,900	NA	NA	170.91	12.31	NA	158.60	NA	NA	NA
MW-2	1/20/1994	40,000	6,900	5,600	780	4,100	NA	NA	170.91	11.48	NA	159.43	NA	NA	NA
MW-2 (D)	1/20/1994	41,000	7,200	6,200	900	4,800	NA	NA	170.91	11.48	NA	159.43	NA	NA	NA
MW-2	4/25/1994	60,000	9,300	6,100	1,400	6,200	NA	NA	170.91	10.84	NA	160.07	NA	NA	NA
MW-2	7/7/1994	280,000a	40,000	26,000	8,100	32,000	NA	NA	170.91	11.89	NA	159.02	NA	NA	NA
MW-2 (D)	7/7/1994	53,000	13,000	6,600	2,000	8,400	NA	NA	170.91	11.89	NA	159.02	NA	NA	NA
MW-2	10/27/1994	130,000	14,000	12,000	2,400	13,000	NA	NA	170.91	12.89	NA	158.02	NA	NA	NA
MW-2 (D)	10/27/1994	390,000	8,800	7,000	1,700	11,000	NA	NA	170.91	12.89	NA	158.02	NA	NA	NA
MW-2	11/17/1994	NA	NA	NA	NA	NA	NA	NA	170.91	9.11	NA	161.80	NA	NA	NA
MW-2	11/28/1994	NA	NA	NA	NA	NA	NA	NA	170.91	9.22	NA	161.69	NA	NA	NA
MW-2	1/13/1995	75,000	5,900	12,000	3,100	17,000	NA	NA	170.91	8.10	NA	162.81	NA	NA	NA
MW-2	4/12/1995	100,000	8,500	11,000	2,400	12,000	NA	NA	170.91	10.12	NA	160.79	NA	NA	NA
MW-2 (D)	4/12/1995	80,000	4,200	9,300	2,500	12,000	NA	NA	170.91	10.12	NA	160.79	NA	NA	NA
MW-2	7/25/1995	NA	NA	NA	NA	NA	NA	NA	170.91	11.53	NA	159.80	0.52	NA	NA
MW-2	10/18/1995	NA	NA	NA	NA	NA	NA	NA	170.91	14.02	NA	158.99	0.13	NA	NA
MW-2	1/17/1996	NA	NA	NA	NA	NA	NA	NA	170.91	10.27	NA	160.78	0.17	NA	NA
MW-2	4/25/1996	NA	NA	NA	NA	NA	NA	NA	170.91	11.68	NA	159.25	0.03	NA	NA
MW-2	7/17/1996	NA	NA	NA	NA	NA	NA	NA	170.91	12.78	NA	158.81	0.48	NA	NA
MW-2	10/1/1996	NA	NA	NA	NA	NA	NA	NA	170.91	14.21	NA	156.70	0.28	NA	NA
MW-2	1/22/1997	NA	NA	NA	NA	NA	NA	NA	170.91	10.92	NA	160.08	0.11	NA	NA
MW-2	4/8/1997	NA	NA	NA	NA	NA	NA	NA	170.91	14.12	NA	156.95	0.20	NA	NA

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
 Shell-branded Service Station
 4255 MacArthur Boulevard
 Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	Elevatio n (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-2	7/8/1997	NA	NA	NA	NA	NA	NA	NA	170.91	14.98	NA	156.08	0.19	NA	NA
MW-2	10/8/1997	NA	NA	NA	NA	NA	NA	NA	170.91	12.97	NA	157.98	0.05	NA	NA
MW-2	1/8/1998	NA	NA	NA	NA	NA	NA	NA	170.91	12.54	NA	158.43	0.08	NA	NA
MW-2	4/13/1998	180,000	2,800	5,200	2,400	13,000	71,000	NA	170.91	10.05	NA	160.86	NA	NA	NA
MW-2	7/17/1998	NA	NA	NA	NA	NA	NA	NA	170.91	11.75	NA	159.24	0.10	NA	NA
MW-2	10/2/1998	NA	NA	NA	NA	NA	NA	NA	170.91	16.78	NA	154.22	0.11	NA	NA
MW-2	2/3/1999	NA	NA	NA	NA	NA	NA	NA	170.91	9.90	9.82	161.07	0.08	NA	NA
MW-2	4/29/1999	NA	NA	NA	NA	NA	NA	NA	170.91	9.86	9.81	161.09	0.05	NA	NA
MW-2	7/23/1999	65,800	6,500	4,480	1,960	8,960	46,600	58,500*	170.91	14.45	NA	156.46	NA	1.4	NA
MW-2	11/1/1999	NA	NA	NA	NA	NA	NA	NA	170.91	11.84	11.81	159.09	0.03	NA	NA
MW-2	1/17/2000	46,000	6,000	2,400	1,500	5,500	50,000	31,000	170.91	11.00	NA	159.91	NA	1.3	-54
MW-2	4/17/2000	96,300	8,150	10,200	2,820	14,900	112,000	108,000	170.91	11.06	NA	159.85	NA	2.6	125
MW-2	7/26/2000	72,400	8,680	5,620	2,810	13,400	66,200	46,300	170.91	12.82	NA	158.09	NA	2.2	113
MW-2	10/12/2000	63,200	5,840	4,180	2,310	11,100	61,200	66,600	170.91	11.32	NA	159.59	NA	0.4	55
MW-2	1/15/2001	59,700	2,630	4,800	2,050	11,500	44,400	5,080	170.91	10.19	NA	160.72	NA	1.1	-22
MW-2	4/9/2001	56,900	1,860	2,550	1,810	9,720	40,000	46,600	170.91	11.15	NA	159.76	NA	1.0	-55
MW-2	7/24/2001	84,000	3,000	4,600	2,500	13,000	NA	41,000	170.91	11.67	NA	159.24	NA	0.2	53
MW-2	10/31/2001	45,000	2,200	3,000	1,500	7,700	NA	29,000	170.91	11.04	NA	159.87	NA	1.2	-17
MW-2	1/10/2002	28,000	840	740	760	3,300	NA	32,000	170.91	9.58	NA	161.33	NA	2.1	-76
MW-2	4/25/2002	41,000	1,900	2,000	1,200	6,900	NA	17,000	170.91	11.40	NA	159.51	NA	0.8	-95
MW-2	7/18/2002	87,000	2,000	2,200	1,400	10,000	NA	19,000	170.91	12.68	NA	158.23	NA	0.7	-34
MW-2	10/7/2002	110,000	3,900	6,700	2,700	15,000	NA	20,000	170.88	11.58	NA	159.30	NA	1.4	-52
MW-3	11/17/1993	18,000	5,400	660	720	2,200	NA	NA	174.61	15.40	NA	159.21	NA	NA	NA
MW-3	1/20/1994	55,000	13,000	2,600	2,200	6,500	NA	NA	174.61	14.61	NA	160.00	NA	NA	NA
MW-3	4/25/1994	96,000	11,000	1,600	3,100	9,900	NA	NA	174.61	13.12	NA	161.49	NA	NA	NA
MW-3 (D)	4/25/1994	78,000	12,000	1,900	2,600	7,300	NA	NA	174.61	13.12	NA	161.49	NA	NA	NA
MW-3	7/7/1994	NA	NA	NA	NA	NA	NA	NA	174.61	14.54	NA	160.07	0.02	NA	NA
MW-3	10/27/1994	NA	NA	NA	NA	NA	NA	NA	174.61	15.62	NA	159.03	0.05	NA	NA
MW-3	11/17/1994	NA	NA	NA	NA	NA	NA	NA	174.61	13.83	NA	160.78	NA	NA	NA
MW-3	11/28/1994	NA	NA	NA	NA	NA	NA	NA	174.61	14.02	NA	160.59	NA	NA	NA
MW-3	1/13/1995	180,000	3,200	2,700	1,700	5,200	NA	NA	174.61	12.13	NA	162.48	NA	NA	NA

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	Elevatio n (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-3 (D)	1/13/1995	23,000	4,000	690	960	3,000	NA	NA	174.61	12.13	NA	162.48	NA	NA	NA
MW-3	4/12/1995	56,000	8,700	1,500	2,100	6,300	NA	NA	174.61	12.96	NA	161.65	NA	NA	NA
MW-3	7/25/1995	NA	NA	NA	NA	NA	NA	NA	174.61	14.28	NA	160.38	0.06	NA	NA
MW-3	10/18/1995	NA	NA	NA	NA	NA	NA	NA	174.61	15.88	NA	158.77	0.05	NA	NA
MW-3	1/17/1996	NA	NA	NA	NA	NA	NA	NA	174.61	13.86	NA	160.94	0.24	NA	NA
MW-3	4/25/1996	NA	NA	NA	NA	NA	NA	NA	174.61	13.82	NA	160.81	0.02	NA	NA
MW-3	7/17/1996	NA	NA	NA	NA	NA	NA	NA	174.61	16.11	NA	158.52	0.03	NA	NA
MW-3	10/1/1996	46,000	7,300	530	1,700	3,900	3,200	NA	174.61	16.56	NA	158.05	NA	NA	NA
MW-3 (D)	10/1/1996	47,000	7,100	530	1,700	4,000	2,900	NA	174.61	16.56	NA	158.05	NA	NA	NA
MW-3	1/22/1997	82,000	5,200	1,300	2,800	8,900	1,100	NA	174.61	13.07	NA	161.54	NA	NA	NA
MW-3 (D)	1/22/1997	61,000	8,400	1,100	2,300	7,000	2,700	NA	174.61	13.07	NA	161.54	NA	NA	NA
MW-3	4/8/1997	NA	NA	NA	NA	NA	NA	NA	174.61	17.09	NA	157.54	0.03	NA	NA
MW-3	7/8/1997	56,000	8,800	580	2,000	4,900	2,800	NA	174.61	15.85	NA	158.76	NA	NA	NA
MW-3	10/8/1997	48,000	8,000	590	1,700	3,400	5,100	NA	174.61	16.22	NA	158.39	NA	NA	NA
MW-3	1/8/1998	47,000	9,400	810	2,300	4,700	6,300	NA	174.61	13.80	NA	160.81	NA	NA	NA
MW-3 (D)	1/8/1998	48,000	8,100	750	2,000	4,100	5,800	NA	174.61	13.80	NA	160.81	NA	NA	NA
MW-3	4/13/1998	32,000	6,800	540	1,400	3,400	4,000	NA	174.61	12.97	NA	161.64	NA	NA	NA
MW-3 (D)	4/13/1998	36,000	7,300	660	1,600	3,700	4,000	NA	174.61	12.97	NA	161.64	NA	NA	NA
MW-3	7/17/1998	71,000	11,000	590	2,200	6,900	3,900	NA	174.61	11.51	NA	163.10	NA	NA	NA
MW-3 (D)	7/17/1998	76,000	12,000	700	2,600	8,000	3,000	NA	174.61	11.51	NA	163.10	NA	NA	NA
MW-3	10/2/1998	66,000	8,900	510	2,000	4,900	4,600	NA	174.61	16.50	NA	158.11	NA	NA	NA
MW-3 (D)	10/2/1998	59,000	9,400	460	2,000	4,900	4,700	NA	174.61	16.50	NA	158.11	NA	NA	NA
MW-3	2/3/1999	36,000	6,800	300	1,600	2,900	18,000	NA	174.61	15.21	NA	159.40	NA	1.3	NA
MW-3	4/29/1999	45,000	8,100	580	2,200	5,800	4,700	5,150	174.61	15.43	NA	159.18	NA	1.5	-68
MW-3	7/23/1999	29,400	3,540	215	810	3,800	4,720	6,950*	174.61	14.95	NA	159.66	NA	1.3	NA
MW-3	11/1/1999	20,000	4,190	294	1,060	1,740	5,540	8,590	174.61	14.66	NA	159.95	NA	0.6	-110
MW-3	1/17/2000	17,000	3,900	89	1,100	1,200	7,900	NA	174.61	13.94	NA	160.67	NA	1.3	-40
MW-3	4/17/2000	28,100	5,240	247	1,540	2,750	16,600	NA	174.61	14.00	NA	160.61	NA	1.1	-86
MW-3	7/26/2000	24,300	6,680	159	1,610	1,640	17,100	NA	174.61	13.72	NA	160.89	NA	0.9	-70
MW-3	10/12/2000	14,300	2,630	86.7	241	1,360	16,300	NA	174.61	14.15	NA	160.46	NA	0.9	50
MW-3	1/15/2001	22,100	4,400	266	977	2,990	13,200	NA	174.61	13.05	NA	161.56	NA	1.3	-40
MW-3	4/9/2001	33,800	7,100	147	1,700	2,660	13,000	NA	174.61	13.59	NA	161.02	NA	0.6	-56

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
 Shell-branded Service Station
 4255 MacArthur Boulevard
 Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	Elevatio n (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-3	7/24/2001	220,000	5,600	1,900	4,400	19,000	NA	12,000	174.61	14.43	NA	160.18	NA	0.4	29
MW-3	10/31/2001	65,000	2,700	510	1,800	7,200	NA	9,800	174.61	14.59	NA	160.02	NA	0.9	-27
MW-3	1/10/2002	66,000	2,400	490	1,700	6,600	NA	5,500	174.61	12.65	NA	161.96	NA	1.7	-76
MW-3	4/25/2002	55,000	4,600	460	2,400	6,900	NA	8,100	174.61	14.13	NA	160.48	NA	1.2	-96
MW-3	7/18/2002	56,000	3,300	270	1,700	5,000	NA	8,400	174.61	15.48	15.45	159.15	0.03	0.8	-41
MW-3	10/7/2002	NA	NA	NA	NA	NA	NA	NA	174.59	14.60	14.40	160.15	0.20	NA	NA
MW-4	11/17/1994	NA	NA	NA	NA	NA	NA	NA	164.06	6.62	NA	157.44	NA	NA	NA
MW-4	11/28/1994	2,900	200	17	76	260	NA	NA	164.06	6.11	NA	157.95	NA	NA	NA
MW-4	1/13/1995	1,900	130	5.6	13	40	NA	NA	164.06	6.05	NA	158.01	NA	NA	NA
MW-4	4/12/1995	680	150	<2.0	10	13	NA	NA	164.06	6.31	NA	157.75	NA	NA	NA
MW-4	7/25/1995	340	100	0.8	8.8	3	NA	NA	164.06	7.36	NA	156.70	NA	NA	NA
MW-4	10/18/1995	150	31	<0.5	3.5	0.8	NA	NA	164.06	8.54	NA	155.52	NA	NA	NA
MW-4	1/17/1996	290	14	<0.5	1.8	0.8	NA	NA	164.06	8.48	NA	155.58	NA	NA	NA
MW-4	4/25/1996	<500	65	<5	<5	<5	1,700	NA	164.06	7.40	NA	156.66	NA	NA	NA
MW-4 (D)	4/25/1996	<500	66	<5	8.7	<5	1,500	NA	164.06	7.40	NA	156.66	NA	NA	NA
MW-4	7/17/1996	<500	84	<5.0	6.5	<5.0	1,500	NA	164.06	7.75	NA	156.31	NA	NA	NA
MW-4 (D)	7/17/1996	<500	54	<5.0	<5.0	<5.0	1,700	2,100	164.06	7.75	NA	156.31	NA	NA	NA
MW-4	10/1/1996	<500	1.9	<5.0	<5.0	<5.0	3,000	NA	164.06	8.82	NA	155.24	NA	NA	NA
MW-4	1/22/1997	580	130	<2.5	18	5.2	1,200	NA	164.06	7.51	NA	156.55	NA	NA	NA
MW-4	4/8/1997	770	200	7	26	55	1,500	8	164.06	7.18	NA	156.88	NA	NA	NA
MW-4	7/8/1997	570	78	<5.0	14	11	1,200	NA	164.06	9.00	NA	155.06	NA	NA	NA
MW-4 (D)	7/8/1997	640	81	<5.0	16	19	1,600	NA	164.06	9.00	NA	155.06	NA	NA	NA
MW-4	10/8/1997	<500	40	<5.0	7.4	5.4	1,400	NA	164.06	8.97	NA	155.09	NA	NA	NA
MW-4 (D)	10/8/1997	<500	36	<5.0	5.9	<5.0	1,400	NA	164.06	8.97	NA	155.09	NA	NA	NA
MW-4	1/8/1998	<1,000	55	<10	13	<10	2,000	NA	164.06	7.90	NA	156.16	NA	NA	NA
MW-4	4/13/1998	350	110	2.4	20	26	<2.5	NA	164.06	7.35	NA	156.71	NA	NA	NA
MW-4	7/17/1998	210	66	0.78	5.4	9.8	1,700	NA	164.06	6.95	NA	157.11	NA	NA	NA
MW-4	10/2/1998	<50	0.69	<0.50	<0.50	<0.50	2,900	NA	164.06	7.35	NA	156.71	NA	NA	NA
MW-4	2/3/1999	560	120	2.5	29	34	6,800	NA	164.06	7.71	NA	156.35	NA	0.9	NA
MW-4	4/29/1999	390	80	1.9	13	19	7,000	8,360	164.06	7.83	NA	156.23	NA	1.1	-125
MW-4	7/23/1999	460	93.6	8.40	25.2	28.8	3,760	6,000*	164.06	11.33	NA	152.73	NA	0.9	NA

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
Shell-branded Service Station
4255 MacArthur Boulevard
Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	Elevatio n (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
MW-4	11/1/1999	77.3	0.520	<0.500	<0.500	<0.500	539	NA	164.06	10.66	NA	153.40	NA	2.8	3
MW-4	1/17/2000	160	27	<0.50	12	6.3	12,000	NA	164.06	10.15	NA	153.91	NA	3.9	-17
MW-4	4/17/2000	<500	26	6.38	9.35	10.4	9,070	NA	164.06	10.10	NA	153.96	NA	1.7	-129
MW-4	7/26/2000	<500	22.7	<5.00	7.59	6.96	7,660	NA	164.06	10.09	NA	153.97	NA	1.4	-137
MW-4	10/12/2000	172	19.8	<0.500	7.47	4.50	8,290	NA	164.06	9.35	NA	154.71	NA	3.5	529
MW-4	1/15/2001	53.6	1.50	<0.500	2.45	1.80	9,260	NA	164.06	8.77	NA	155.29	NA	2.3	53
MW-4	4/9/2001	<500	<5.00	<5.00	<5.00	5.52	10,300	NA	164.06	7.75	NA	156.31	NA	1.0	-133
MW-4	7/24/2001	58	3.8	<0.50	3.2	2.9	NA	1,700	164.06	10.07	NA	153.99	NA	0.5	106
MW-4	10/31/2001	<1,000	<10	<10	<10	<10	NA	7,400	164.06	9.97	NA	154.09	NA	0.8	22
MW-4	1/10/2002	<2,000	<20	<20	<20	<20	NA	12,000	164.06	8.53	NA	155.53	NA	8.9	224
MW-4	4/25/2002	<2,000	<20	<20	<20	<20	NA	7,900	164.06	7.33	NA	156.73	NA	3.6	-84
MW-4	7/18/2002	<2,000	<20	<20	<20	<20	NA	7,200	164.06	9.05	NA	155.01	NA	1.7	120
MW-4	10/7/2002	<1,000	<10	<10	<10	<10	NA	3,300	164.03	9.06	NA	154.97	NA	2.5	33
MW-5	1/4/2002	NA	NA	NA	NA	NA	NA	NA	NA	5.62	NA	NA	NA	NA	NA
MW-5	1/10/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	110	164.06	5.88	NA	158.18	NA	3.3	172
MW-5	4/25/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	73	164.06	6.81	NA	157.25	NA	0.3	-44
MW-5	7/18/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	75	164.06	7.38	NA	156.68	NA	0.4	170
MW-5	10/7/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	41	164.14	6.75	NA	157.39	NA	1.5	16
TB-1	4/29/1999	NA	NA	NA	NA	NA	NA	NA	NA	6.00	NA	NA	NA	3.8	-132
TB-1	11/1/1999	NA	NA	NA	NA	NA	NA	NA	NA	12.65	NA	NA	NA	0.2	-165
TB-1	1/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	7.72	NA	NA	NA	0.8	-178
TB-1	4/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	7.65	NA	NA	NA	0.5	-152
TB-1	7/26/2000	NA	NA	NA	NA	NA	NA	NA	NA	5.13	NA	NA	NA	1.0	-124
TB-1	10/12/2000	NA	NA	NA	NA	NA	NA	NA	NA	5.20	NA	NA	NA	0.7	-73
TB-1	1/15/2001	NA	NA	NA	NA	NA	NA	NA	NA	5.09	NA	NA	NA	1.2	-118
TB-1	4/9/2001	NA	NA	NA	NA	NA	NA	NA	NA	4.96	NA	NA	NA	1.0	-72
TB-1	7/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	6.03	NA	NA	NA	1.4	31
TB-1	10/31/2001	1,000	85	<10	<10	42	NA	4,100	NA	5.89	NA	NA	NA	1.8	88
TB-1	1/10/2002	5,000	410	390	65	620	NA	9,000	NA	7.47	NA	NA	NA	2.0	95
TB-1	4/25/2002	5,000	780	60	49	91	NA	6,000	NA	11.71	NA	NA	NA	1.7	-136

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
 Shell-branded Service Station
 4255 MacArthur Boulevard
 Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	Elevatio n (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
TB-1	7/18/2002	Insufficient water		NA	NA	NA	NA	NA	NA	13.50	NA	NA	NA	NA	NA
TB-1	10/7/2002	4,600	480	36	98	200	NA	4,000	NA	12.95	NA	NA	NA	1.6	-48
TB-2	4/29/1999	NA	NA	NA	NA	NA	NA	NA	NA	4.76	NA	NA	NA	4.2	-108
TB-2	11/1/1999	NA	NA	NA	NA	NA	NA	NA	NA	11.33	NA	NA	NA	0.5	-148
TB-2	1/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	9.79	NA	NA	NA	0.7	-162
TB-2	4/17/2000	NA	NA	NA	NA	NA	NA	NA	NA	9.75	NA	NA	NA	0.9	-121
TB-2	7/26/2000	NA	NA	NA	NA	NA	NA	NA	NA	4.73	NA	NA	NA	0.9	-85
TB-2	10/12/2000	NA	NA	NA	NA	NA	NA	NA	NA	4.05	NA	NA	NA	0.6	-47
TB-2	1/15/2001	NA	NA	NA	NA	NA	NA	NA	NA	3.87	NA	NA	NA	0.7	-91
TB-2	4/9/2001	46,600	1,240	1,310	1,110	12,100	31,300	NA	NA	3.76	NA	NA	NA	0.8	-24
TB-2	7/24/2001	11,000	630	<25	310	200	NA	11,000	NA	4.75	NA	NA	NA	0.4	-51
TB-2	10/31/2001	7,500	530	1,500	100	500	NA	2,500	NA	4.24	NA	NA	NA	0.6	-7
TB-2	1/10/2002	<5,000	480	47	34	110	NA	12,000	NA	6.26	NA	NA	NA	1.3	-81
TB-2	4/25/2002	4,700	470	140	<20	80	NA	7,400	NA	11.78	NA	NA	NA	0.9	-107
TB-2	7/18/2002	7,500	630	650	<25	390	NA	44,000	NA	12.34	NA	NA	NA	0.9	-67
TB-2	10/7/2002	<10,000	580	<100	<100	180	NA	30,000	NA	11.62	NA	NA	NA	1.0	-41

TABLE 4
Joint Groundwater Monitoring Data and Analytical Results
 Shell-branded Service Station
 4255 MacArthur Boulevard
 Oakland, CA

Well ID	Date	TPH-G (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8020 (µg/L)	MTBE 8260 (µg/L)	TOC (MSL)	Depth to Water (ft.)	Depth to SPH (ft.)	Elevatio n (MSL)	SPH Thickness (ft.)	DO Reading (ppm)	ORP Reading (mV)
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Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to July 24, 2001, analyzed by EPA Method 8015.

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to July 24, 2001, analyzed by EPA Method 8020.

MTBE = Methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

SPH = Separate-Phase Hydrocarbons

GW = Groundwater

µg/L = Parts per billion

MSL = Mean sea level

ft = Feet

<n = Below detection limit

D = Duplicate sample

NA = Not applicable

DO = Dissolved Oxygens

ppm = Parts per million

ORP = Oxidation Reduction Potential

mV = Millivolts

Notes:

* = Sample analyzed outside the EPA recommended holding time.

a = Ground water surface had a sheen when sampled.

b = MTBE value is estimated by Sequoia Analytical of Redwood City, California.

Site surveyed March 14, 2002, by Virgil Chavez Land Surveying of Vallejo, California.

When separate-phase hydrocarbons are present, ground water elevation is adjusted using the relation:

Corrected ground water elevation = Top-of-casing elevation - depth to water + (0.8 x hydrocarbon thickness).

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

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

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

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 disposable 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 and is labeled as QA. 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.



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #1156 Job Number: 180225
 Site Address: 4276 Macarthur Event Date: 10-7-02 (inclusive)
 City: Oakland, CA Sampler: Joc

Well ID: MW-1 Well Condition: O.K.
 Well Diameter: 2 in.
 Total Depth: 25.11 ft.
 Depth to Water: 7.73 ft.
17.38 xVF 0.17 = 2.95 x3 (case volume) = Estimated Purge Volume: 9 gal.

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

Purge Equipment:
 Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Other: _____

Sampling Equipment:
 Disposable Bailer _____
 Pressure Bailer _____
 Discrete Bailer _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: 0 ft
 Visual Confirmation/Description:
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 1156 Weather Conditions: Hot
 Sample Time/Date: 1217 10-7-02 Water Color: clear Odor: yes
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm) ¹⁵⁰⁰	Temperature (°F)	D.O. (mg/L)	ORP (mV)
<u>1205</u>	<u>3</u>	<u>6.58</u>	<u>0.58</u>	<u>73.8</u>		
<u>1207</u>	<u>6</u>	<u>6.69</u>	<u>0.96</u>	<u>73.4</u>		
<u>1209</u>	<u>9</u>	<u>6.81</u>	<u>0.91</u>	<u>73.9</u>		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>5</u> x vial	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G(8015)/BTEX+MTBE(8021)/ 8 Oxy's(8260)</u>
	<u>1</u> x Amber	<u>YES</u>	<u>NP</u>	<u>SEQUOIA</u>	<u>TPH-D</u>

COMMENTS: _____

Add/Replaced Lock: _____ Add/Replaced Plug: _____ Size: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #1156 Job Number: 180225
 Site Address: 4276 Macarthur Event Date: 10-7-02 (inclusive)
 City: Oakland, CA Sampler: SoC

Well ID: MW-2 Well Condition: o.k.
 Well Diameter: 2 in.
 Total Depth: 24.13 ft.
 Depth to Water: 7.54 ft.
 $16.59 \times VF \text{ (at 7)} = 2.82 \times 3 \text{ (case volume)} = \text{Estimated Purge Volume: } 8.5 \text{ gal.}$

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

Purge Equipment:
 Disposable Bailor _____
 Stainless Steel Bailor _____
 Stack Pump _____
 Suction Pump ✓
 Grundfos _____
 Other: _____

Sampling Equipment: ✓
 Disposable Bailor _____
 Pressure Bailor _____
 Discrete Bailor _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: 0 ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 1126 Weather Conditions: Hot
 Sample Time/Date: 1147 / 10-7-02 Water Color: clear Odor: yes
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>1134</u>	<u>3</u>	<u>7.07</u>	<u>2.21</u>	<u>75.1</u>		
<u>1136</u>	<u>5.5</u>	<u>6.86</u>	<u>2.22</u>	<u>74.7</u>		
<u>1138</u>	<u>8.5</u>	<u>6.84</u>	<u>2.33</u>	<u>74.2</u>		
_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2</u>	<u>5 x voa vial</u>	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G(8015)/BTEX+MTBE(8021)/ 8 Oxy's(8260)</u>
	<u>x Amber</u>	<u>YES</u>	<u>NP</u>	<u>SEQUOIA</u>	<u>TPH-D</u>

COMMENTS: _____

Add/Replaced Lock: _____ Add/Replaced Plug: _____ Size: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #1156 Job Number: 180225
 Site Address: 4276 Macarthur Event Date: 10-7-02 (inclusive)
 City: Oakland, CA Sampler: Joc

Well ID: MW-3 Well Condition: o.k.
 Well Diameter: 2 in.
 Total Depth: 25.05 ft.
 Depth to Water: 9.71 ft.
15.34 xVF 0.17 = 2.61 x3 (case volume) = Estimated Purge Volume: 8 gal.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Purge Equipment:
 Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Other: _____

Sampling Equipment:
 Disposable Bailer _____
 Pressure Bailer _____
 Discrete Bailer _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: 0 ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 1040 Weather Conditions: Hot
 Sample Time/Date: 1115 / 10-7-02 Water Color: clear Odor: yes
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (°F)	D.O. (mg/L)	ORP (mV)
<u>1057</u>	<u>3</u>	<u>7.15</u>	<u>2.58</u>	<u>75.3</u>	_____	_____
<u>1100</u>	<u>5.5</u>	<u>7.18</u>	<u>2.96</u>	<u>75.0</u>	_____	_____
<u>1102</u>	<u>8</u>	<u>7.26</u>	<u>3.02</u>	<u>74.7</u>	_____	_____
_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>5</u> x vov vial	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G(8015)/BTEX+MTBE(8021)/ 8 Oxy's(8260)</u>
	<u>x Amber</u>	<u>YES</u>	<u>NP</u>	<u>SEQUOIA</u>	<u>TPH-D</u>

COMMENTS: _____

Add/Replaced Lock: _____ Add/Replaced Plug: _____ Size: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #1156 Job Number: 180225
 Site Address: 4276 Macarthur Event Date: 10-7-02 (inclusive)
 City: Oakland, CA Sampler: Jee

Well ID: MW-4 Well Condition: o.k.
 Well Diameter: 2 in.
 Total Depth: 25.3 ft.
 Depth to Water: 7.49 ft.
 Volume Factor (VF) table:

3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

 $17.82 \times VF 0.17 = 3.03 \times 3 \text{ (case volume)} = \text{Estimated Purge Volume: } 9.5 \text{ gal.}$

Purge Equipment:
 Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Suction Pump /
 Grundfos _____
 Other: _____

Sampling Equipment:
 Disposable Bailer _____
 Pressure Bailer _____
 Discrete Bailer _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: 0 ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 1004 Weather Conditions: Hot
 Sample Time/Date: 1030 10-7-02 Water Color: clear Odor: yes
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm) f	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>1015</u>	<u>5</u>	<u>7.51</u>	<u>5.96</u>	<u>73.8</u>		
<u>1017</u>	<u>6</u>	<u>7.50</u>	<u>5.82</u>	<u>74.0</u>		
<u>1020</u>	<u>9.5</u>	<u>7.58</u>	<u>5.77</u>	<u>74.1</u>		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>5</u> x voa vial	YES	HCL	SEQUOIA	TPH-G(8015)/BTEX+MTBE(8021)/ 8 Oxy's(8260)
	<u>1</u> x Amber	YES	NP	SEQUOIA	TPH-D

COMMENTS: _____

Add/Replaced Lock: _____ Add/Replaced Plug: _____ Size: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #1156 Job Number: 180225
 Site Address: 4276 Macarthur Event Date: 10-7-02 (inclusive)
 City: Oakland, CA Sampler: Joc

Well ID: MW-5 Well Condition: o.k.
 Well Diameter: 2 in.
 Total Depth: 25.39 ft.
 Depth to Water: 2.80 ft.
22.59 xVF 0.17 = 3.84 x3 (case volume) = Estimated Purge Volume: 12 gal.

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

Purge Equipment:
 Disposable Bailor _____
 Stainless Steel Bailor _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Other: _____

Sampling Equipment:
 Disposable Bailor _____
 Pressure Bailor _____
 Discrete Bailor _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: _____ ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 0738 Weather Conditions: Hot
 Sample Time/Date: 0808 10-7-02 Water Color: clear Odor: none
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm) ¹⁰⁰	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0750</u>	<u>4</u>	<u>7.71</u>	<u>7.37</u>	<u>73.3</u>		
<u>0753</u>	<u>8</u>	<u>7.61</u>	<u>7.45</u>	<u>74.0</u>		
<u>0755</u>	<u>12</u>	<u>7.56</u>	<u>7.50</u>	<u>74.4</u>		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>5</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G(8015)/BTEX+MTBE(8021)/ 8 Oxy's(B260)</u>
	<u>x Amber</u>	<u>YES</u>	<u>NP</u>	<u>SEQUOIA</u>	<u>TPH-D</u>

COMMENTS: _____

Add/Replaced Lock: _____ Add/Replaced Plug: _____ Size: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #1156 Job Number: 180225
 Site Address: 4276 Macarthur Event Date: 10-7-04 (inclusive)
 City: Oakland, CA Sampler: Joe

Well ID: MW-6
 Well Diameter: 2 in.
 Total Depth: 24.91 ft.
 Depth to Water: 2.72 ft.

Well Condition: o.k.

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

22.19 xVF 0.17 = 3.77 x3 (case volume) = Estimated Purge Volume: 11.5 gal.

Purge Equipment:

Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Other: _____

Sampling Equipment:

Disposable Bailer _____
 Pressure Bailer _____
 Discrete Bailer _____
 Other: _____

Time Started:	_____ (2400 hrs)
Time Bailed:	_____ (2400 hrs)
Depth to Product:	_____ ft
Depth to Water:	_____ ft
Hydrocarbon Thickness:	<u>0</u> ft
Visual Confirmation/Description:	_____
Skimmer / Absorbant Sock (circle one)	
Amt Removed from Skimmer:	_____ gal
Amt Removed from Well:	_____ gal
Product Transferred to:	_____

Start Time (purge): 0825 Weather Conditions: Hot
 Sample Time/Date: 0904 / 10-7-04 Water Color: clear Odor: none
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm) ¹⁰	Temperature (°C)	D.O. (mg/L)	ORP (mV)
<u>0835</u>	<u>4</u>	<u>7.49</u>	<u>8.84</u>	<u>72.9</u>		
<u>0837</u>	<u>8</u>	<u>7.40</u>	<u>8.73</u>	<u>73.0</u>		
<u>0840</u>	<u>11.5</u>	<u>7.36</u>	<u>8.65</u>	<u>73.1</u>		
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>5 x vov vial</u>	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G(8015)/BTEX+MTBE(8021)/ 8 Oxy's(8260)</u>
	<u>Amber</u>	<u>YES</u>	<u>NP</u>	<u>SEQUOIA</u>	<u>TPH-D</u>

COMMENTS:

Add/Replaced Lock: _____

Add/Replaced Plug: _____ Size: _____



GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility #: Tosco #1156 Job Number: 180225
 Site Address: 4276 Macarthur Event Date: 10-7-02 (inclusive)
 City: Oakland, CA Sampler: Joe

Well ID: MW-7 Well Condition: o.k.
 Well Diameter: 2 in.
 Total Depth: 25.51 ft.
 Depth to Water: 7.71 ft.
17.8 xVF 0.17 = 3.03 x3 (case volume) = Estimated Purge Volume: 9.5 gal.

Volume	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
Factor (VF)	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Purge Equipment:
 Disposable Bailer _____
 Stainless Steel Bailer _____
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Other: _____

Sampling Equipment:
 Disposable Bailer _____
 Pressure Bailer _____
 Discrete Bailer _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: 0 ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 0915 Weather Conditions: Hot
 Sample Time/Date: 0942 10-7-02 Water Color: clear Odor: yes
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
<u>0925</u>	<u>3</u>	<u>6.68</u>	<u>1.95</u>	<u>75.0</u>		
<u>0927</u>	<u>6</u>	<u>6.71</u>	<u>1.92</u>	<u>74.6</u>		
<u>0930</u>	<u>9.5</u>	<u>6.75</u>	<u>1.99</u>	<u>74.4</u>		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-7</u>	<u>5</u> x voa vial	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH-G(8015)/BTEX+MTBE(8021)/ 8 Oxy's(8260)</u>
	x Amber	YES	NP	SEQUOIA	TPH-D

COMMENTS: _____

Add/Replaced Lock: _____ Add/Replaced Plug: _____ Size: _____

ML200302

Gettler-Ryan Inc., Chain-of-Custody

Tosco Corp./ Phillips 66 Co. 2000 Crow Canyon Place Suite 400 San Ramon, CA 94583	Facility Number	#1156	Laboratory Name	SEBODIA ANALYTICAL
	Facility Address	4275 MACARTHUR, OAKLAND, CA	Consultant	GETTLER-RYAN, INC. DEANNA L. HARDING
	Global ID	T0600102279	Project	180225.80
	Client Contact	MR. DAVID B. DEWITT	Address	6747 SIERRA CT., SUITE J, DUBLIN CA 94568
	Phone	(925) 277-2384	Phone	(925) 551-7555
			Fax	(925) 551-7889
			Samples Collected by	JOE ASEMIAN

SAMPLE ID	Number of Containers Matrix	S = Soil A = Air W = Water C = Charcoal	Sample Preservation	Date/Time (2400 Hrs)	TPH-GAS/BTEX/MTBE EPA 8015/8021B	TPH-DIESEL EPA 8015	TPH-DIESEL w/SUBCO gel EPA 8015	TPH-GAS EPA 8015	TPH-GAS/BTEX/MTBE EPA 8260	OXYGENATES EPA 8260	METHANOL EPA 8015	TOTAL OIL & GREASE EPA 9320	METALS Cd, Cr, Pb, Zn, Ni	NITRATE/SULFATE/AMMONIUM EPA 300 SERIES	HYDROCS (8010) EPA 8021B	VOC'S (8210) EPA 8260	SVOC'S EPA 8270	Remarks
QA	W	W	HC	10-7-02	✓													
MW-1	6	1	1	1217	✓	✓				✓								
MW-2	5	1	1	1147	✓					✓								
MW-3	"	1	1	1115	✓					✓								
MW-4	"	1	1	1030	✓					✓								
MW-5	"	1	1	0808	✓					✓								
MW-6	"	1	1	0904	✓					✓								
MW-7	"	1	1	0942	✓					✓								

- OXYGENATES 8260
- 1 - MTBE
 - 2 - TBA
 - 3 - TAME
 - 4 - DIPE
 - 5 - ETBE
 - 6 - 1,2-DCA
 - 7 - EDB
 - 8 - ETHANOL

Relinquished By (Signature)	Organization	Date/Time 2000	Received By (Signature)	Organization	Date/Time 2000	Lead Y/N	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 72 Hrs. 5 Days 10 Days As Contracted
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Lead Y/N	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Organization	Date/Time	Lead Y/N	

16 08

MSA 10-000.DWG | Layout Tab: Model



5 November, 2002

Deanna Harding
Gettler Ryan/Geostrategies - Tosco/Unocal
6747 Sierra Ct, Suite J
Dublin, CA 94568

RECEIVED

NOV 09 2002

GETTLER-RYAN INC.
GENERAL CONTRACTORS

RE: Tosco (76) SS #1156, Oakland, Ca
Sequoia Work Order: MLJ0332

Enclosed are the results of analyses for samples received by the laboratory on 10/09/02
16:08. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James Hartley
Project Manager

CA ELAP Certificate #1210



Gettler Ryan/Geostrategies - Tosco/Unocal
6747 Sierra Ct, Suite J
Dublin CA, 94568

Project: Tosco (76) SS #1156, Oakland, Ca
Project Number: 4276 MacArthur, Oakland, CA
Project Manager: Deanna Harding

MLJ0332
Reported:
11/05/02 15:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
QA	MLJ0332-01	Water	10/07/02 00:00	10/09/02 16:08
MW-1	MLJ0332-02	Water	10/07/02 12:17	10/09/02 16:08
MW-2	MLJ0332-03	Water	10/07/02 11:47	10/09/02 16:08
MW-3	MLJ0332-04	Water	10/07/02 11:15	10/09/02 16:08
MW-4	MLJ0332-05	Water	10/07/02 10:30	10/09/02 16:08
MW-5	MLJ0332-06	Water	10/07/02 08:08	10/09/02 16:08
MW-6	MLJ0332-07	Water	10/07/02 09:04	10/09/02 16:08
MW-7	MLJ0332-08	Water	10/07/02 09:42	10/09/02 16:08



Gettler Ryan/Geostrategies - Tosco/Unocal
6747 Sierra Ct, Suite J
Dublin CA, 94568

Project: Tosco (76) SS #1156, Oakland, Ca
Project Number: 4276 MacArthur, Oakland, CA
Project Manager: Deanna Harding

MLJ0332
Reported:
11/05/02 15:02

**Diesel Hydrocarbons (C10-C28) by EPA 8015B modified
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MLJ0332-02) Water Sampled: 10/07/02 12:17 Received: 10/09/02 16:08									
Diesel Range Organics (C10-C28)	3400	200	ug/l	4	2J11017	10/11/02	10/15/02	8015Bm	
<i>Surrogate: n-Octacosane</i>		121 %	34-123		"	"	"	"	



Gettler Ryan/Geostrategies - Tosco/Unocal
6747 Sierra Ct, Suite J
Dublin CA, 94568

Project: Tosco (76) SS #1156, Oakland, Ca
Project Number: 4276 MacArthur, Oakland, CA
Project Manager: Deanna Harding

MLJ0332
Reported:
11/05/02 15:02

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B
Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
QA (MLJ0332-01) Water Sampled: 10/07/02 00:00 Received: 10/09/02 16:08									
Gasoline Range Organics	ND	50	ug/l	1	2100606	10/18/02	10/18/02	EPA 8015B/8021B	
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		107 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93 %	65-135		"	"	"	"	
MW-1 (MLJ0332-02) Water Sampled: 10/07/02 12:17 Received: 10/09/02 16:08									
Gasoline Range Organics	8200	1000	ug/l	200	2100557	10/17/02	10/17/02	EPA 8015B/8021B	
Benzene	9200	100	"	"	"	"	"	"	
Toluene	20000	100	"	"	"	"	"	"	
Ethylbenzene	2600	100	"	"	"	"	"	"	
Xylenes (total)	13000	100	"	"	"	"	"	"	
Methyl tert-butyl ether	1300	500	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		107 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91 %	65-135		"	"	"	"	
MW-2 (MLJ0332-03) Water Sampled: 10/07/02 11:47 Received: 10/09/02 16:08									
Gasoline Range Organics	4300	1000	ug/l	20	2100557	10/17/02	10/17/02	EPA 8015B/8021B	
Benzene	ND	10	"	"	"	"	"	"	
Toluene	27	10	"	"	"	"	"	"	
Ethylbenzene	21	10	"	"	"	"	"	"	
Xylenes (total)	75	10	"	"	"	"	"	"	
Methyl tert-butyl ether	7100	50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		105 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92 %	65-135		"	"	"	"	



Gettler Ryan/Geostrategies - Tosco/Unocal
6747 Sierra Ct, Suite J
Dublin CA, 94568

Project: Tosco (76) SS #1156, Oakland, Ca
Project Number: 4276 MacArthur, Oakland, CA
Project Manager: Deanna Harding

MLJ0332
Reported:
11/05/02 15:02

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B
Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (MLJ0332-04) Water Sampled: 10/07/02 11:15 Received: 10/09/02 16:08									
Gasoline Range Organics	26000	2500	ug/l	50	2100403	10/17/02	10/17/02	EPA 8015B/8021B	
Benzene	600	25	"	"	"	"	"	"	
Toluene	2000	25	"	"	"	"	"	"	
Ethylbenzene	1800	25	"	"	"	"	"	"	
Xylenes (total)	6400	25	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	120	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		98 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	65-135		"	"	"	"	
MW-4 (MLJ0332-05) Water Sampled: 10/07/02 10:30 Received: 10/09/02 16:08									
Gasoline Range Organics	5100	1000	ug/l	20	2100403	10/17/02	10/17/02	EPA 8015B/8021B	
Benzene	1400	10	"	"	"	"	"	"	
Toluene	110	10	"	"	"	"	"	"	
Ethylbenzene	330	10	"	"	"	"	"	"	
Xylenes (total)	380	10	"	"	"	"	"	"	
Methyl tert-butyl ether	650	50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		101 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	65-135		"	"	"	"	
MW-5 (MLJ0332-06) Water Sampled: 10/07/02 08:08 Received: 10/09/02 16:08									
Gasoline Range Organics	140	50	ug/l	1	2100403	10/17/02	10/17/02	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	300	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		100 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	65-135		"	"	"	"	

Sequoia Analytical - Morgan Hill

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.



Gettler Ryan/Geostrategies - Tosco/Unocal
6747 Sierra Ct, Suite J
Dublin CA, 94568

Project: Tosco (76) SS #1156, Oakland, Ca
Project Number: 4276 MacArthur, Oakland, CA
Project Manager: Deanna Harding

MLJ0332
Reported:
11/05/02 15:02

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B
Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (MLJ0332-07) Water Sampled: 10/07/02 09:04 Received: 10/09/02 16:08									
Gasoline Range Organics	ND	50	ug/l	1	2100403	10/17/02	10/17/02	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		99 %		65-135	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		65-135	"	"	"	"	
MW-7 (MLJ0332-08) Water Sampled: 10/07/02 09:42 Received: 10/09/02 16:08									
Gasoline Range Organics	18000	5000	ug/l	100	2100557	10/17/02	10/17/02	EPA 8015B/8021B	
Benzene	ND	50	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
Ethylbenzene	ND	50	"	"	"	"	"	"	
Xylenes (total)	ND	50	"	"	"	"	"	"	
Methyl tert-butyl ether	33000	250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		106 %		65-135	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92 %		65-135	"	"	"	"	



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6747 Sierra Ct, Suite J
Dublin CA, 94568

Project: Tosco (76) SS #1156, Oakland, Ca
Project Number: 4276 MacArthur, Oakland, CA
Project Manager: Deanna Harding

MLJ0332
Reported:
11/05/02 15:02

**Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MLJ0332-02) Water Sampled: 10/07/02 12:17 Received: 10/09/02 16:08									
1,2-Dibromoethane (EDB)	ND	200	ug/l	100	2100309	10/21/02	10/21/02	EPA 8260B	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
Tert-butyl alcohol	ND	10000	"	"	"	"	"	"	
Methyl tert-butyl ether	760	200	"	"	"	"	"	"	
Di-isopropyl ether	ND	200	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	200	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	200	"	"	"	"	"	"	
Ethanol	ND	50000	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		96 %	60-140	"	"	"	"	"	
MW-2 (MLJ0332-03) Water Sampled: 10/07/02 11:47 Received: 10/09/02 16:08									
1,2-Dibromoethane (EDB)	ND	400	ug/l	200	2100309	10/21/02	10/21/02	EPA 8260B	
1,2-Dichloroethane	ND	400	"	"	"	"	"	"	
Tert-butyl alcohol	ND	20000	"	"	"	"	"	"	
Methyl tert-butyl ether	5900	400	"	"	"	"	"	"	
Di-isopropyl ether	ND	400	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	400	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	400	"	"	"	"	"	"	
Ethanol	ND	100000	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		91 %	60-140	"	"	"	"	"	
MW-3 (MLJ0332-04) Water Sampled: 10/07/02 11:15 Received: 10/09/02 16:08									
1,2-Dibromoethane (EDB)	ND	200	ug/l	100	2100309	10/21/02	10/21/02	EPA 8260B	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
Tert-butyl alcohol	ND	10000	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	200	"	"	"	"	"	"	
Di-isopropyl ether	ND	200	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	200	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	200	"	"	"	"	"	"	
Ethanol	ND	50000	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		93 %	60-140	"	"	"	"	"	



Gettler Ryan/Geostrategies - Tosco/Unocal 6747 Sierra Ct, Suite J Dublin CA, 94568	Project: Tosco (76) SS #1156, Oakland, Ca Project Number: 4276 MacArthur, Oakland, CA Project Manager: Deanna Harding	MLJ0332 Reported: 11/05/02 15:02
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Volatile Organic Compounds by EPA Method 8260B
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (MLJ0332-05) Water Sampled: 10/07/02 10:30 Received: 10/09/02 16:08									
1,2-Dibromoethane (EDB)	ND	200	ug/l	100	2100309	10/21/02	10/21/02	EPA 8260B	
1,2-Dichloroethane	ND	200	"	"	"	"	"	"	
Tert-butyl alcohol	ND	10000	"	"	"	"	"	"	
Methyl tert-butyl ether	540	200	"	"	"	"	"	"	
Di-isopropyl ether	ND	200	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	200	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	200	"	"	"	"	"	"	
Ethanol	ND	50000	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		97 %	60-140	"	"	"	"	"	
MW-5 (MLJ0332-06) Water Sampled: 10/07/02 08:08 Received: 10/09/02 16:08									
1,2-Dibromoethane (EDB)	ND	2.0	ug/l	1	2100309	10/21/02	10/21/02	EPA 8260B	
1,2-Dichloroethane	ND	2.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	100	"	"	"	"	"	"	
Di-isopropyl ether	ND	2.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	2.0	"	"	"	"	"	"	
Ethanol	ND	500	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		92 %	60-140	"	"	"	"	"	
MW-5 (MLJ0332-06RE1) Water Sampled: 10/07/02 08:08 Received: 10/09/02 16:08									
Methyl tert-butyl ether	330	20	ug/l	10	2100309	10/21/02	10/21/02	EPA 8260B	
<i>Surrogate: 1,2-DCA-d4</i>		98 %	60-140	"	"	"	"	"	
MW-6 (MLJ0332-07) Water Sampled: 10/07/02 09:04 Received: 10/09/02 16:08									
1,2-Dibromoethane (EDB)	ND	2.0	ug/l	1	2100309	10/21/02	10/21/02	EPA 8260B	
1,2-Dichloroethane	ND	2.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	100	"	"	"	"	10/21/02	"	
Methyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	2.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	2.0	"	"	"	"	"	"	
Ethanol	ND	500	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		94 %	60-140	"	"	"	"	"	



Gettler Ryan/Geostrategies - Tosco/Unocal
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Project Manager: Deanna Harding

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Reported:
11/05/02 15:02

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (MLJ0332-08) Water Sampled: 10/07/02 09:42 Received: 10/09/02 16:08									
1,2-Dibromoethane (EDB)	ND	400	ug/l	200	2100309	10/21/02	10/21/02	EPA 8260B	
1,2-Dichloroethane	ND	400	"	"	"	"	"	"	
Tert-butyl alcohol	26000	20000	"	"	"	"	"	"	
Di-isopropyl ether	ND	400	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	400	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	400	"	"	"	"	"	"	
Ethanol	ND	100000	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		94 %	60-140		"	"	"	"	
MW-7 (MLJ0332-08RE1) Water Sampled: 10/07/02 09:42 Received: 10/09/02 16:08									
Methyl tert-butyl ether	38000	4000	ug/l	2000	2100309	10/21/02	10/21/02	EPA 8260B	
<i>Surrogate: 1,2-DCA-d4</i>		94 %	60-140		"	"	"	"	



Gettler Ryan/Geostrategies - Tosco/Unocal
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Project Manager: Deanna Harding

MLJ0332
Reported:
11/05/02 15:02

**Diesel Hydrocarbons (C10-C28) by EPA 8015B modified - Quality Control
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD	RPD Limit	Notes
Batch 2J11017 - EPA 3510C									
Blank (2J11017-BLK1)					Prepared: 10/11/02 Analyzed: 10/15/02				
Diesel Range Organics (C10-C28)	ND	50	ug/l						
<i>Surrogate: n-Octacosane</i>	43.3		"	50.0		86.6 34-123			
Laboratory Control Sample (2J11017-BS1)					Prepared: 10/11/02 Analyzed: 10/15/02				
Diesel Range Organics (C10-C28)	412	50	ug/l	500		82.4 51-128			
<i>Surrogate: n-Octacosane</i>	38.5		"	50.0		77.0 34-123			
Laboratory Control Sample Dup (2J11017-BSD1)					Prepared: 10/11/02 Analyzed: 10/15/02				
Diesel Range Organics (C10-C28)	401	50	ug/l	500		80.2 51-128	2.71	27	
<i>Surrogate: n-Octacosane</i>	40.5		"	50.0		81.0 34-123			



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Project Manager: Deanna Harding

MLJ0332
Reported:
11/05/02 15:02

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B - 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 2100403 - EPA 5030, waters

Blank (2100403-BLK1)

Prepared & Analyzed: 10/17/02

Gasoline Range Organics	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	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	286		"	300		95	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	312		"	300		104	65-135			

Laboratory Control Sample (2100403-BS1)

Prepared & Analyzed: 10/17/02

Gasoline Range Organics	2360	50	ug/l	2750		86	65-135			
Benzene	37.4	0.50	"	34.0		110	65-135			
Toluene	194	0.50	"	208		93	65-135			
Ethylbenzene	40.8	0.50	"	49.0		83	65-135			
Xylenes (total)	206	0.50	"	241		85	65-135			
Methyl tert-butyl ether	54.1	2.5	"	56.0		97	65-135			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	317		"	300		106	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	323		"	300		108	65-135			

Matrix Spike (2100403-MS1)

Source: P210373-02

Prepared & Analyzed: 10/17/02

Gasoline Range Organics	2440	50	ug/l	2750	ND	89	65-135			
Benzene	39.3	0.50	"	34.0	ND	116	65-135			
Toluene	205	0.50	"	208	ND	99	65-135			
Ethylbenzene	43.2	0.50	"	49.0	ND	88	65-135			
Xylenes (total)	220	0.50	"	241	ND	91	65-135			
Methyl tert-butyl ether	59.1	2.5	"	56.0	ND	106	65-135			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	326		"	300		109	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	324		"	300		108	65-135			

Gettler Ryan/Geostrategies - Tosco/Unocal
 6747 Sierra Ct, Suite J
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 Project: Tosco (76) SS #1156, Oakland, Ca
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 Project Manager: Deanna Harding

 MLJ0332
 Reported:
 11/05/02 15:02

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B - 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 2100403 - EPA 5030, waters
Matrix Spike Dup (2100403-MSD1)

Source: P210373-02

Prepared & Analyzed: 10/17/02

Gasoline Range Organics	2380	50	ug/l	2750	ND	87	65-135	2	20	
Benzene	38.3	0.50	"	34.0	ND	113	65-135	3	20	
Toluene	201	0.50	"	208	ND	97	65-135	2	20	
Ethylbenzene	42.4	0.50	"	49.0	ND	87	65-135	2	20	
Xylenes (total)	216	0.50	"	241	ND	90	65-135	2	20	
Methyl tert-butyl ether	64.1	2.5	"	56.0	ND	114	65-135	8	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	323		"	300		108	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	322		"	300		107	65-135			

Batch 2100557 - EPA 5030, waters
Blank (2100557-BLK1)

Prepared & Analyzed: 10/17/02

Gasoline Range Organics	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	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	313		"	300		104	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	288		"	300		96	65-135			

Laboratory Control Sample (2100557-BS1)

Prepared & Analyzed: 10/17/02

Gasoline Range Organics	2510	50	ug/l	2750		91	65-135			
Benzene	39.9	0.50	"	34.0		117	65-135			
Toluene	200	0.50	"	208		96	65-135			
Ethylbenzene	46.4	0.50	"	49.0		95	65-135			
Xylenes (total)	222	0.50	"	241		92	65-135			
Methyl tert-butyl ether	65.3	2.5	"	56.0		117	65-135			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	345		"	300		115	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	305		"	300		102	65-135			



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Project: Tosco (76) SS #1156, Oakland, Ca
Project Number: 4276 MacArthur, Oakland, CA
Project Manager: Deanna Harding

MLJ0332
Reported:
11/05/02 15:02

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B - 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 2100557 - EPA 5030, waters

Matrix Spike (2100557-MS1)		Source: P210374-03			Prepared & Analyzed: 10/17/02					
Gasoline Range Organics	2560	50	ug/l	2750	82	90	65-135			
Benzene	40.9	0.50	"	34.0	ND	120	65-135			
Toluene	211	0.50	"	208	0.19	101	65-135			
Ethylbenzene	48.3	0.50	"	49.0	0.30	98	65-135			
Xylenes (total)	227	0.50	"	241	0.25	94	65-135			
Methyl tert-butyl ether	120	2.5	"	56.0	62	104	65-135			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	346		"	300		115	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	295		"	300		98	65-135			

Matrix Spike Dup (2100557-MSD1)		Source: P210374-03			Prepared & Analyzed: 10/17/02					
Gasoline Range Organics	2600	50	ug/l	2750	82	92	65-135	2	20	
Benzene	41.7	0.50	"	34.0	ND	123	65-135	2	20	
Toluene	215	0.50	"	208	0.19	103	65-135	2	20	
Ethylbenzene	48.5	0.50	"	49.0	0.30	98	65-135	0.4	20	
Xylenes (total)	231	0.50	"	241	0.25	96	65-135	2	20	
Methyl tert-butyl ether	123	2.5	"	56.0	62	109	65-135	2	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	349		"	300		116	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	297		"	300		99	65-135			

Batch 2100606 - EPA 5030, waters

Blank (2100606-BLK1)		Prepared & Analyzed: 10/18/02								
Gasoline Range Organics	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	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	306		"	300		102	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	285		"	300		95	65-135			

Gettler Ryan/Geostrategies - Tosco/Unocal
 6747 Sierra Ct, Suite J
 Dublin CA, 94568

 Project: Tosco (76) SS #1156, Oakland, Ca
 Project Number: 4276 MacArthur, Oakland, CA
 Project Manager: Deanna Harding

 MLJ0332
 Reported:
 11/05/02 15:02

Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015B/8021B - 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 2100606 - EPA 5030, waters

Laboratory Control Sample (2100606-BS1)				Prepared & Analyzed: 10/18/02						
Gasoline Range Organics	2410	50	ug/l	2750		88	65-135			
Benzene	39.2	0.50	"	34.0		115	65-135			
Toluene	199	0.50	"	208		96	65-135			
Ethylbenzene	45.3	0.50	"	49.0		92	65-135			
Xylenes (total)	218	0.50	"	241		90	65-135			
Methyl tert-butyl ether	65.0	2.5	"	56.0		116	65-135			
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Surrogate: <i>a,a,a</i> -Trifluorotoluene	339		"	300		113	65-135			
Surrogate: 4-Bromofluorobenzene	295		"	300		98	65-135			

Matrix Spike (2100606-MS1)				Source: P210387-01 Prepared & Analyzed: 10/18/02						
Gasoline Range Organics	2460	50	ug/l	2750	26	89	65-135			
Benzene	40.9	0.50	"	34.0	ND	120	65-135			
Toluene	213	0.50	"	208	0.21	102	65-135			
Ethylbenzene	47.6	0.50	"	49.0	ND	97	65-135			
Xylenes (total)	229	0.50	"	241	0.33	95	65-135			
Methyl tert-butyl ether	58.9	2.5	"	56.0	ND	105	65-135			
<hr/>										
Surrogate: <i>a,a,a</i> -Trifluorotoluene	347		"	300		116	65-135			
Surrogate: 4-Bromofluorobenzene	286		"	300		95	65-135			

Matrix Spike Dup (2100606-MSD1)				Source: P210387-01 Prepared & Analyzed: 10/18/02						
Gasoline Range Organics	2450	50	ug/l	2750	26	88	65-135	0.4	20	
Benzene	40.4	0.50	"	34.0	ND	119	65-135	1	20	
Toluene	210	0.50	"	208	0.21	101	65-135	1	20	
Ethylbenzene	46.8	0.50	"	49.0	ND	96	65-135	2	20	
Xylenes (total)	225	0.50	"	241	0.33	93	65-135	2	20	
Methyl tert-butyl ether	60.0	2.5	"	56.0	ND	107	65-135	2	20	
<hr/>										
Surrogate: <i>a,a,a</i> -Trifluorotoluene	350		"	300		117	65-135			
Surrogate: 4-Bromofluorobenzene	290		"	300		97	65-135			



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**Volatile Organic Compounds by EPA Method 8260B - Quality Control
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100309 - EPA 5030B [P/T]										
Blank (2100309-BLK1) Prepared & Analyzed: 10/21/02										
Tert-butyl alcohol	ND	5.0	ug/l							
Methyl tert-butyl ether	ND	0.50	"							
Di-isopropyl ether	ND	0.50	"							
Ethyl tert-butyl ether	ND	0.50	"							
Tert-amyl methyl ether	ND	0.50	"							
Ethanol	ND	50	"							
<i>Surrogate: 1,2-DCA-d4</i>	23.0		"	25.0		92	60-140			
Laboratory Control Sample (2100309-BS1) Prepared & Analyzed: 10/21/02										
Methyl tert-butyl ether	23.9	0.50	ug/l	21.8		110	60-140			
<i>Surrogate: 1,2-DCA-d4</i>	22.5		"	25.0		90	60-140			
Matrix Spike (2100309-MS1) Source: MLJ0332-06 Prepared & Analyzed: 10/21/02										
Methyl tert-butyl ether	332	0.50	ug/l	21.8	330	9	60-140			
<i>Surrogate: 1,2-DCA-d4</i>	21.1		"	25.0		84	60-140			
Matrix Spike Dup (2100309-MSD1) Source: MLJ0332-06 Prepared & Analyzed: 10/21/02										
Methyl tert-butyl ether	345	0.50	ug/l	21.8	330	69	60-140	4	25	QM-4X
<i>Surrogate: 1,2-DCA-d4</i>	22.1		"	25.0		88	60-140			



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Notes and Definitions

- QM-4X The spike recovery was outside of control limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- 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

Alameda County
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Environmental Health