



GETTLER-RYAN INC.

TRANSMITTAL

DEC 04 2001

November 16, 2001

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 12, 2001	Groundwater Monitoring and Sampling Report Fourth Quarter - Event of October 3 and 5, 2001

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 **November 29, 2001**, 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

Need well installation Rpt.

trans/1156-DBD



GETTLER-RYAN INC.

November 12, 2001
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 3 and 5, 2001
Groundwater Monitoring & Sampling Report
Tosco 76 Service Station #1156
4276 MacArthur Boulevard
Oakland, California

Dear Mr. De Witt:

This report documents the most recent well development and 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 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 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,

- FOR -

Deanna L. Harding
Project Coordinator

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

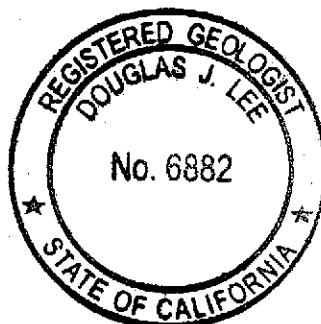
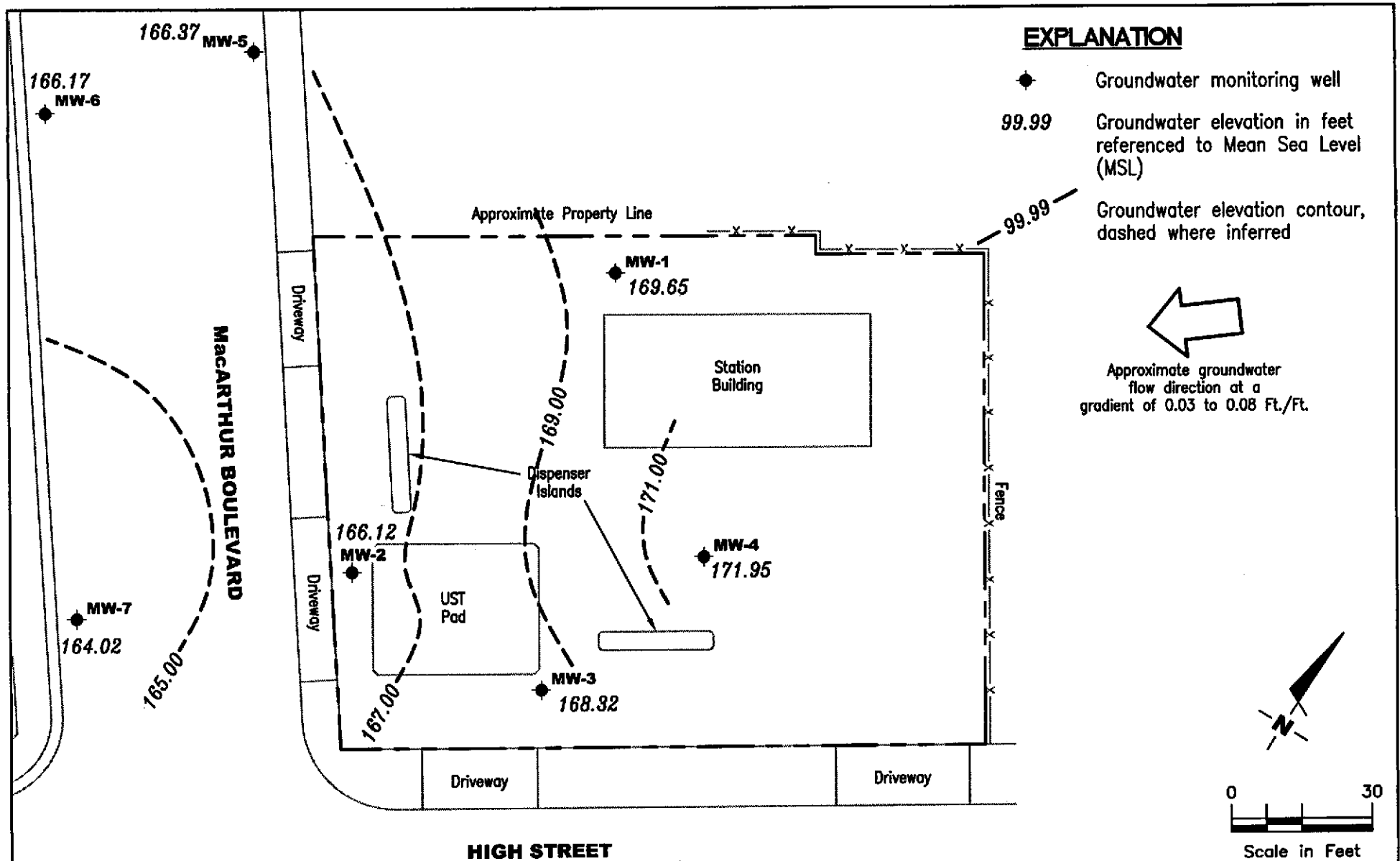


Figure 1: Potentiometric Map
Figure 2: Concentration Map
Table 1: Groundwater Monitoring Data and Analytical Results
Table 2: Groundwater Analytical Results
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

1156.qml



Source: Figure modified from drawing provided by GR Inc. and ER Inc.

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

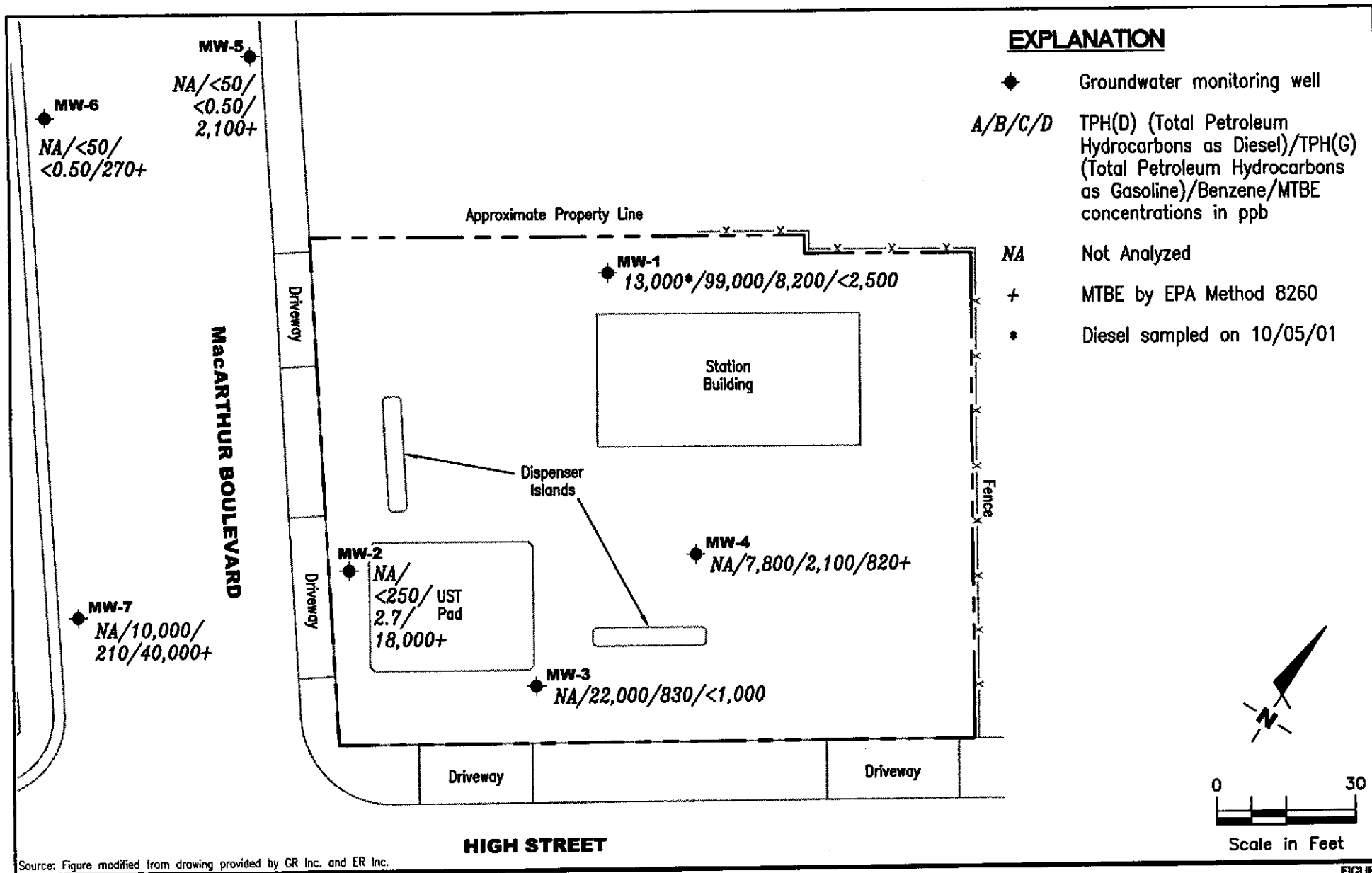
FIGURE
1

PROJECT NUMBER
 180225

REVIEWED BY

DATE
 October 3, 2001

REVISED DATE



Source: Figure modified from drawing provided by GR Inc. and ER 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 3, 2001

REVISED DATE

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

WELL ID/ TOC*	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	--	99,000⁶	8,200	18,000	3,000	16,000	<2,500
	10/05/01	7.91		169.63	0.00	13,000²	--	--	--	--	--	--
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	14,000/18,000³

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

WELL ID/ TOC*	DATE	DIW (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-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 ³
	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
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
	10/03/00	8.12		170.98	0.00	--	11,400 ⁶	3,110	437	519	816	1,040
	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
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

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

WELL ID/ TOC*	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-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
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
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

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	TPH-D = Total Petroleum Hydrocarbons as Diesel	(ppb) = Parts per billion
DTW = Depth to Water	TPH-G = Total Petroleum Hydrocarbons as Gasoline	ND = Not Detected
(ft.) = Feet	B = Benzene	-- = Not Measured/Not Analyzed
S.I. = Screen Interval	T = Toluene	
(ft. bgs) = Feet Below Ground Surface	E = Ethylbenzene	
GWE = Groundwater Elevation	X = Xylenes	
(msl) = Mean sea level	MTBE = Methyl tertiary butyl ether	

* 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.

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
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	--	--	--	--	--	--	--
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	--	--
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	--	--	--	--	--	--	--
MW-5	10/03/01	--	--	2,100	--	--	--	--	--	--	--

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-6	10/03/01	--	--	270	--	--	--	--	--	--	--
MW-7	10/03/01	--	--	40,000	--	--	--	--	--	--	--

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	TAME = Tertiary amyl methyl ether	(ppb) = Parts per billion
MTBE = Methyl tertiary butyl ether	EDB = 1,2-Dibromoethane	ND = Not Detected
DIPE = Di-isopropyl ether	HVOCs = Halogenated Volatile Organic Compounds	-- = Not Analyzed
ETBE = Ethyl tertiary butyl ether	SVOCs = Semi-Volatile Organic Compounds	

- 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

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

**TOSCO 76 SERVICE STATION #1156
OAKLAND, CA**

**MONITORING AND SAMPLING
EVENT OF OCTOBER 3, 2001**

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/
Facility # 1156
Address: 4276 MacArthur Blvd.
City: Oakland

Job#: 180225
Date: 10-3-01
Sampler: Joe

Well ID MW-1
Well Diameter 2 in.
Total Depth 25.17 ft.
Depth to Water 7.89 ft.

Well Condition: O.K.
Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)
Volume Factor (VF) $2" = 0.17$ $3" = 0.38$ $4" = 0.66$
 $6" = 1.50$ $12" = 5.80$

17.28 x VF 0.17 = 2.94 x 3 (case volume) = Estimated Purge Volume: 9 (gal.)

Purge Equipment: Disposable Bailer
Bailer
Stack
Suction
Grundfos
Other: _____

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

Starting Time: 2:50
Sampling Time: 3:10 p.m. (1510)
Purging Flow Rate: 1 gpm.
Did well de-water? _____

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

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 1000$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>2:57</u>	<u>3</u>	<u>7.30</u>	<u>1.20</u>	<u>72.2</u>	_____	_____	_____
<u>2:59</u>	<u>6</u>	<u>7.32</u>	<u>1.21</u>	<u>72.5</u>	_____	_____	_____
<u>3:01</u>	<u>9</u>	<u>7.36</u>	<u>1.24</u>	<u>72.6</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>3Y04</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/Facility # 1156 Job#: 180225
 Address: 4276 MacArthur Blvd. Date: 10-3-01
 City: Oakland Sampler: Joe

Well ID MW-2 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)
 Total Depth 25.48 ft
 Depth to Water 7.38 ft

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

18.1 x VF 0.17 = 3.08 x 3 (case volume) = Estimated Purge Volume: 9.5 (gal.)

Purge Equipment: Disposable Bailer, Bailer, Stack, Suction, Grundfos, Other: _____
 Sampling Equipment: Disposable Bailer, Bailer, Pressure Bailer, Grab Sample, Other: _____

Starting Time: 3:08 Weather Conditions: clear
 Sampling Time: 3:35.8 min (1535) Water Color: clear Odor: yes
 Purging Flow Rate: 1 gpm Sediment Description: _____
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^2$	Temperature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>3:22</u>	<u>3</u>	<u>7.18</u>	<u>2.68</u>	<u>72.9</u>			
<u>3:24</u>	<u>6</u>	<u>7.10</u>	<u>2.72</u>	<u>73.6</u>			
<u>3:26</u>	<u>9.5</u>	<u>7.12</u>	<u>2.80</u>	<u>73.4</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-2</u>	<u>3 Vol</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>

COMMENTS: _____

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/
 Facility # 1156 Job#: 180225
 Address: 4276 MacArthur Blvd. Date: 10-3-01
 City: Oakland Sampler: Joe

Well ID MW-3 Well Condition: OK
 Well Diameter 2 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)
 Total Depth 25.03 ft.
 Depth to Water 9.81 ft.

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

15.22 X VF 0.17 = 2.59 X 3 (case volume) = Estimated Purge Volume: 8 (gal.)

Purge Equipment: Disposable Bailer Bailer Stack ~~Section~~ Grundfos Other: _____
 Sampling Equipment: Disposable Bailer Bailer Pressure Bailer Grab Sample Other: _____

Starting Time: 2:12 Weather Conditions: clear
 Sampling Time: 2:42 P.M. (1442) Water Color: clear Odor: yes
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm $\times 10^3$	Temperature F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>2:20</u>	<u>2.5</u>	<u>7.46</u>	<u>1.92</u>	<u>73.1</u>			
<u>2:21</u>	<u>5.5</u>	<u>7.50</u>	<u>1.95</u>	<u>73.4</u>			
<u>2:33</u>	<u>8</u>	<u>7.42</u>	<u>1.93</u>	<u>73.4</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>3YOK</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>

COMMENTS: _____

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility # 1156 Job#: 180225
 Address: 4276 MacArthur Blvd. Date: 10-3-01
 City: Oakland Sampler: Joe

Well ID: MW-4 Well Condition: OK
 Well Diameter: 2 in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 gal.
 Total Depth: 25.32 ft
 Depth to Water: 7.01 ft

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

18.31 x VF 0.17 = 3.11 x 3 (case volume) = Estimated Purge Volume: 9.5 gal.

Purge Equipment: Disposable Bailer
 Bailer
 Stack
 Suction
 Grundfos
 Other: _____

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

Starting Time: 1:40 Weather Conditions: clear
 Sampling Time: 2:05 P.M. (1405) Water Color: clear Odor: yes
 Purging Flow Rate: 1 gpm Sediment Description: _____
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^2$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>1:50</u>	<u>3</u>	<u>7.46</u>	<u>4.58</u>	<u>72.9</u>			
<u>1:52</u>	<u>6</u>	<u>7.36</u>	<u>4.90</u>	<u>73.3</u>			
<u>1:55</u>	<u>9.5</u>	<u>7.25</u>	<u>4.93</u>	<u>73.3</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-4</u>	<u>3VOL</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBE</u>

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: Tasco # 1156 Job#: 180285
 Address: 4276 Mac Arthur Blvd Date: 10-3-01
 City: Oakland, CA Sampler: Joe

Well ID: MW-5 Well Condition: OK
 Well Diameter: 2 in. Hydrocarbon Thickness: 0 Ft. Amount Bailed (product/water): 0 (gal.)
 Total Depth: 25.42 ft. Volume Factor (VF): 2" = 0.17, 3" = 0.38, 4" = 0.66
 Depth to Water: 2.81 ft. 6" = 1.50, 12" = 5.80

22.61 x VF 0.17 = 384 x 3 (case volume) = Estimated Purge Volume: 39 (gal.)

Purge Equipment: Disposable Bailer, Bailer, Stack, Suction, Grundfos, Other: _____
 Sampling Equipment: Disposable Bailer, Bailer, Pressure Bailer, Grab Sample, Other: _____

Starting Time: 11:00 Weather Conditions: clear
 Sampling Time: 12:02 P.M. (1202) Water Color: turbid Odor: none
 Purging Flow Rate: 1 gpm Sediment Description: _____
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity (µmhos/cm)	Temperature (°F)	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:08	4	7.37	8.97	73.8			
11:11	7	7.41	9.15	74.0			
11:14	11	7.42	9.16	73.9			
11:20	15	7.42	9.20	73.6			
11:24	19	7.45	9.21	73.5			
11:27	21	7.46	9.22	73.8			
11:37	25	7.43	9.21	73.9			
11:40	29	7.44	9.24	74.1			
11:45	34	7.48	9.26	73.6			
11:49	39	7.46	9.30	73.8			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-5	30A	Y	HCC	Seq.	TPHG, STEY, MTBE

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: Tasco # 1156 Job#: 180285
 Address: 4276 MacArthur Blvd. Date: 10-3-01
 City: Oakland, CA Sampler: Joe

Well ID: MW-6 Well Condition: O.K.
 Well Diameter: 2 in. Hydrocarbon Thickness: 0 Ft. Amount Bailed (product/water): 0 (gal.)
 Total Depth: 25.32 ft.
 Depth to Water: 2.87 ft.

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

22.45 x VF 0.17 = 3.82 x 3 (case volume) = Estimated Purge Volume: 39 (gal.)

Purge Equipment: Disposable Bailer, Bailer, Stack, ~~Suction~~, Grundfos, Other: _____
 Sampling Equipment: Disposable Bailer, Bailer, Pressure Bailer, Grab Sample, Other: _____

Starting Time: 9:10 Weather Conditions: Clear
 Sampling Time: 10:40 A.M. (1040) Water Color: Turbid Odor: none
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm $\times 10^0$	Temperature $^{\circ}$ F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:21	4	7.49	10.16	75.1			
9:25	8	7.52	10.11	74.6			
9:35	12	7.55	9.85	74.1			
9:39	16	7.58	9.90	73.9			
10:00	20	7.55	9.92	74.0			
10:03	23	7.51	9.95	74.0			
10:15	26	7.58	9.98	73.8			
10:20	31	7.56	9.94	74.1			
10:26	35	7.54	9.91	74.2			
10:30	39	7.55	9.95	73.9			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-6	300A	Y	HCL	Seq.	TPH, BTEX, MTBE

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: Tasco # 1156 Job#: 180285
 Address: 4276 Mac Arthur Blvd. Date: 10-3-01
 City: Oakland, CA Sampler: Joc

Well ID: MW-7 Well Condition: OK
 Well Diameter: 2 in. Hydrocarbon Thickness: 0 Ft. Amount Bailed (product/water): 0 (gal.)
 Total Depth: 25.51 ft.
 Depth to Water: 7.62 ft.

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

17.89 x VF 0.17 = 3.04 x 3 (case volume) = Estimated Purge Volume: 31 (gal.)

Purge Equipment: Disposable Bailer, Bailer, Stack, Suction, Grundfos, Other: _____
 Sampling Equipment: Disposable Bailer, Bailer, Pressure Bailer, Grab Sample, Other: _____

Starting Time: 12:12 Weather Conditions: clear
 Sampling Time: 1:23 P.m. (1323) Water Color: murky Odor: yes
 Purging Flow Rate: 1 gpm. Sediment Description: _____
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm $\times 10^2$	Temperature $^{\circ}$ F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
12:20	3	7.10	3.65	73.6			
12:23	6	7.08	3.62	73.4			
12:29	9	6.98	3.68	73.5			
12:32	12	6.97	4.01	73.8			
12:45	15	6.98	3.69	73.8			
12:48	18	6.95	3.69	73.5			
12:59	21	6.92	3.70	73.9			
1:03	24	6.92	3.72	73.6			
1:10	27	6.92	3.71	73.5			
1:14	31	6.92	3.76	73.4			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-7	3 vol	X	HCL	Seq	TPHC, BTEX, MTBE

COMMENTS: _____



**Sequoia
Analytical**

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18 October, 2001

Deanna Harding
Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite J
Dublin, CA 94568

RECEIVED

OCT 18 2001

GETTLER-RYAN INC.
GENERAL CONTRACTORS

RE: Tosco(1)
Sequoia Report: L110027

Enclosed are the results of analyses for samples received by the laboratory on 10/03/01 19:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya K. Pelt

Latonya Pelt
Project Manager

CA ELAP Certificate #2360

Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite J
Dublin CA, 94568

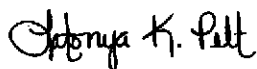
Project: Tosco(1)
Project Number: Tosco (76) SS#1156, Oakland, CA
Project Manager: Deanna Harding

Reported:
10/18/01 07:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L110027-01	Water	10/03/01 00:00	10/03/01 19:00
MW-1	L110027-02	Water	10/03/01 15:10	10/03/01 19:00
MW-2	L110027-03	Water	10/03/01 15:35	10/03/01 19:00
MW-3	L110027-04	Water	10/03/01 14:42	10/03/01 19:00
MW-4	L110027-05	Water	10/03/01 14:05	10/03/01 19:00
MW-5	L110027-06	Water	10/03/01 12:02	10/03/01 19:00
MW-6	L110027-07	Water	10/03/01 10:40	10/03/01 19:00
MW-7	L110027-08	Water	10/03/01 13:23	10/03/01 19:00

Sequoia Analytical - San Carlos



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.

Latonya Pelt, Project Manager

Gettler-Ryan/Geostrategies(1)
 6747 Sierra Court, Suite J
 Dublin CA, 94568

 Project: Tosco(1)
 Project Number: Tosco (76) SS#1156, Oakland, CA
 Project Manager: Deanna Harding

Reported:
 10/18/01 07:08

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B

Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (L110027-01) Water Sampled: 10/03/01 00:00 Received: 10/03/01 19:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100059	10/12/01	10/12/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.1 %	70-130		"	"	"	"	
MW-1 (L110027-02) Water Sampled: 10/03/01 15:10 Received: 10/03/01 19:00									
Purgeable Hydrocarbons as Gasoline	99000	25000	ug/l	500	1100059	10/12/01	10/12/01	DHS LUFT	P-01
Benzene	8200	250	"	"	"	"	"	"	
Toluene	18000	250	"	"	"	"	"	"	
Ethylbenzene	3000	250	"	"	"	"	"	"	
Xylenes (total)	16000	250	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2500	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		94.7 %	70-130		"	"	"	"	
MW-2 (L110027-03) Water Sampled: 10/03/01 15:35 Received: 10/03/01 19:00									
Purgeable Hydrocarbons as Gasoline	ND	250	ug/l	5	1100059	10/12/01	10/12/01	DHS LUFT	
Benzene	2.7	2.5	"	"	"	"	"	"	
Toluene	ND	2.5	"	"	"	"	"	"	
Ethylbenzene	ND	2.5	"	"	"	"	"	"	
Xylenes (total)	ND	2.5	"	"	"	"	"	"	
Methyl tert-butyl ether	14000	1000	"	200	"	"	"	"	M-04
<i>Surrogate: a,a,a-Trifluorotoluene</i>		95.5 %	70-130		"	"	"	"	

Gettler-Ryan/Geostrategies(1)
 6747 Sierra Court, Suite J
 Dublin CA, 94568

 Project: Tosco(1)
 Project Number: Tosco (76) SS#1156, Oakland, CA
 Project Manager: Deanna Harding

 Reported:
 10/18/01 07:08

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B
Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (L110027-04) Water Sampled: 10/03/01 14:42 Received: 10/03/01 19:00									
Purgeable Hydrocarbons as Gasoline	22000	10000	ug/l	200	1100059	10/12/01	10/12/01	DHS LUFT	P-01
Benzene	830	100	"	"	"	"	"	"	
Toluene	1900	100	"	"	"	"	"	"	
Ethylbenzene	1700	100	"	"	"	"	"	"	
Xylenes (total)	3000	100	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1000	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		82.7 %	70-130	"	"	"	"	"	
MW-4 (L110027-05) Water Sampled: 10/03/01 14:05 Received: 10/03/01 19:00									
Purgeable Hydrocarbons as Gasoline	7800	2500	ug/l	50	1100059	10/12/01	10/12/01	DHS LUFT	P-01
Benzene	2100	25	"	"	"	"	"	"	
Toluene	85	25	"	"	"	"	"	"	
Ethylbenzene	380	25	"	"	"	"	"	"	
Xylenes (total)	390	25	"	"	"	"	"	"	
Methyl tert-butyl ether	580	250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		83.9 %	70-130	"	"	"	"	"	
MW-5 (L110027-06) Water Sampled: 10/03/01 12:02 Received: 10/03/01 19:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100058	10/12/01	10/12/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	1800	100	"	20	"	"	10/15/01	"	M-04
<i>Surrogate: a,a,a-Trifluorotoluene</i>		105 %	70-130	"	"	"	10/12/01	"	

Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite J
Dublin CA, 94568

Project: Tosco(1)
Project Number: Tosco (76) SS#1156, Oakland, CA
Project Manager: Deanna Harding

Reported:
10/18/01 07:08

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B
Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (L110027-07) Water Sampled: 10/03/01 10:40 Received: 10/03/01 19:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100058	10/12/01	10/12/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	200	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		112 %	70-130		"	"	"	"	
MW-7 (L110027-08) Water Sampled: 10/03/01 13:23 Received: 10/03/01 19:00									
Purgeable Hydrocarbons as Gasoline	10000	5000	ug/l	100	1100058	10/12/01	10/12/01	DHS LUFT	P-02
Benzene	210	50	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
Ethylbenzene	ND	50	"	"	"	"	"	"	
Xylenes (total)	800	50	"	"	"	"	"	"	
Methyl tert-butyl ether	35000	500	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		104 %	70-130		"	"	"	"	

Gettler-Ryan/Geostrategies(1)
 6747 Sierra Court, Suite J
 Dublin CA, 94568

 Project: Tosco(1)
 Project Number: Tosco (76) SS#1156, Oakland, CA
 Project Manager: Deanna Harding

 Reported:
 10/18/01 07:08

MTBE Confirmation by EPA Method 8260B
Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (L110027-03) Water Sampled: 10/03/01 15:35 Received: 10/03/01 19:00									
Methyl tert-butyl ether	18000	200	ug/l	100	1100045	10/16/01	10/16/01	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		96.6 %	76-114		"	"	"	"	
MW-4 (L110027-05) Water Sampled: 10/03/01 14:05 Received: 10/03/01 19:00									
Methyl tert-butyl ether	820	12	ug/l	6.25	1100045	10/16/01	10/16/01	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		93.4 %	76-114		"	"	"	"	
MW-5 (L110027-06) Water Sampled: 10/03/01 12:02 Received: 10/03/01 19:00									
Methyl tert-butyl ether	2100	40	ug/l	20	1100045	10/16/01	10/16/01	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		96.8 %	76-114		"	"	"	"	
MW-6 (L110027-07) Water Sampled: 10/03/01 10:40 Received: 10/03/01 19:00									
Methyl tert-butyl ether	270	5.0	ug/l	2.5	1100045	10/16/01	10/16/01	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		95.4 %	76-114		"	"	"	"	
MW-7 (L110027-08) Water Sampled: 10/03/01 13:23 Received: 10/03/01 19:00									
Methyl tert-butyl ether	40000	1000	ug/l	500	1100045	10/16/01	10/16/01	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		95.2 %	76-114		"	"	"	"	

Gettler-Ryan/Geostrategies(1)
 6747 Sierra Court, Suite J
 Dublin CA, 94568

 Project: Tosco(1)
 Project Number: Tosco (76) SS#1156, Oakland, CA
 Project Manager: Deanna Harding

 Reported:
 10/18/01 07:08

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1100058 - EPA 5030B (P/T)										
Blank (1100058-BLK1) Prepared & Analyzed: 10/12/01										
Purgeable Hydrocarbons as Gasoline	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	5.0	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	8.99		"	10.0		89.9	70-130			
LCS (1100058-BS1) Prepared & Analyzed: 10/12/01										
Benzene	8.98	0.50	ug/l	10.0		89.8	70-130			
Toluene	9.12	0.50	"	10.0		91.2	70-130			
Ethylbenzene	9.23	0.50	"	10.0		92.3	70-130			
Xylenes (total)	27.6	0.50	"	30.0		92.0	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.0		"	10.0		100	70-130			
LCS (1100058-BS2) Prepared & Analyzed: 10/12/01										
Purgeable Hydrocarbons as Gasoline	279	50	ug/l	250		112	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	11.2		"	10.0		112	70-130			
Matrix Spike (1100058-MS1) Source: L110022-02 Prepared & Analyzed: 10/12/01										
Benzene	10.2	0.50	ug/l	10.0	ND	102	60-140			
Toluene	10.1	0.50	"	10.0	ND	101	60-140			
Ethylbenzene	10.3	0.50	"	10.0	ND	103	60-140			
Xylenes (total)	30.9	0.50	"	30.0	ND	103	60-140			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.0		"	10.0		100	70-130			
Matrix Spike Dup (1100058-MSD1) Source: L110022-02 Prepared: 10/12/01 Analyzed: 10/13/01										
Benzene	10.2	0.50	ug/l	10.0	ND	102	60-140	0.00	25	
Toluene	10.2	0.50	"	10.0	ND	102	60-140	0.985	25	
Ethylbenzene	10.4	0.50	"	10.0	ND	104	60-140	0.966	25	
Xylenes (total)	31.1	0.50	"	30.0	ND	104	60-140	0.645	25	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.3		"	10.0		103	70-130			

Gettler-Ryan/Geostrategies(1)
 6747 Sierra Court, Suite J
 Dublin CA, 94568

 Project: Tosco(1)
 Project Number: Tosco (76) SS#1156, Oakland, CA
 Project Manager: Deanna Harding

 Reported:
 10/18/01 07:08

**Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control
 Sequoia Analytical - San Carlos**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1100059 - EPA 5030B (P/T)										
Blank (1100059-BLK1)										
Prepared & Analyzed: 10/12/01										
Purgeable Hydrocarbons as Gasoline	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	5.0	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.1		"	10.0		101	70-130			
LCS (1100059-BS1)										
Prepared & Analyzed: 10/12/01										
Benzene	8.25	0.50	ug/l	10.0		82.5	70-130			
Toluene	8.27	0.50	"	10.0		82.7	70-130			
Ethylbenzene	8.34	0.50	"	10.0		83.4	70-130			
Xylenes (total)	24.6	0.50	"	30.0		82.0	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	9.65		"	10.0		96.5	70-130			
LCS (1100059-BS2)										
Prepared & Analyzed: 10/12/01										
Purgeable Hydrocarbons as Gasoline	241	50	ug/l	250		96.4	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	9.15		"	10.0		91.5	70-130			
Matrix Spike (1100059-MS1)										
Source: L110023-02 Prepared & Analyzed: 10/12/01										
Benzene	8.86	0.50	ug/l	10.0	ND	88.6	60-140			
Toluene	8.74	0.50	"	10.0	ND	87.4	60-140			
Ethylbenzene	9.00	0.50	"	10.0	ND	90.0	60-140			
Xylenes (total)	25.7	0.50	"	30.0	ND	85.7	60-140			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	9.58		"	10.0		95.8	70-130			
Matrix Spike Dup (1100059-MSD1)										
Source: L110023-02 Prepared: 10/12/01 Analyzed: 10/13/01										
Benzene	8.80	0.50	ug/l	10.0	ND	88.0	60-140	0.679	25	
Toluene	8.69	0.50	"	10.0	ND	86.9	60-140	0.574	25	
Ethylbenzene	8.91	0.50	"	10.0	ND	89.1	60-140	1.01	25	
Xylenes (total)	26.0	0.50	"	30.0	ND	86.7	60-140	1.16	25	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	8.54		"	10.0		85.4	70-130			



Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite J
Dublin CA, 94568

Project: Tosco(1)
Project Number: Tosco (76) SS#1156, Oakland, CA
Project Manager: Deanna Harding

Reported:
10/18/01 07:08

MTBE Confirmation by EPA Method 8260B - Quality Control
Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1100045 - EPA 5030B [P/T]										
Blank (1100045-BLK1) Prepared & Analyzed: 10/09/01										
Methyl tert-butyl ether	ND	2.0	ug/l							
Surrogate: 1,2-Dichloroethane-d4	56.1		"	50.0		112	76-114			
Blank (1100045-BLK2) Prepared & Analyzed: 10/16/01										
Methyl tert-butyl ether	ND	2.0	ug/l							
Surrogate: 1,2-Dichloroethane-d4	49.0		"	50.0		98.0	76-114			
LCS (1100045-BS1) Prepared & Analyzed: 10/09/01										
Methyl tert-butyl ether	57.3	2.0	ug/l	50.0		115	70-130			
Surrogate: 1,2-Dichloroethane-d4	55.4		"	50.0		111	76-114			
LCS (1100045-BS2) Prepared & Analyzed: 10/16/01										
Methyl tert-butyl ether	49.6	2.0	ug/l	50.0		99.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	51.7		"	50.0		103	76-114			
Matrix Spike (1100045-MS1) Source: L110026-03 Prepared & Analyzed: 10/09/01										
Methyl tert-butyl ether	88.5	2.0	ug/l	50.0	37	103	60-140			
Surrogate: 1,2-Dichloroethane-d4	55.5		"	50.0		111	76-114			
Matrix Spike Dup (1100045-MSD1) Source: L110026-03 Prepared & Analyzed: 10/09/01										
Methyl tert-butyl ether	83.8	2.0	ug/l	50.0	37	93.6	60-140	9.56	25	
Surrogate: 1,2-Dichloroethane-d4	54.6		"	50.0		109	76-114			

Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite J
Dublin CA, 94568

Project: Tosco(1)
Project Number: Tosco (76) SS#1156, Oakland, CA
Project Manager: Deanna Harding

Reported:
10/18/01 07:08

Notes and Definitions

M-04 MTBE was reported from second analysis.
P-01 Chromatogram Pattern: Gasoline C6-C12
P-02 Chromatogram Pattern: Weathered Gasoline C6-C12
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

**TOSCO 76 SERVICE STATION #1156
OAKLAND, CA**

**MONITORING AND SAMPLING
EVENT OF OCTOBER 5, 2001**

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/
Facility # 1156
Address: 4276 MacArthur Blvd.
City: Oakland

Job#: 180225
Date: 10-5-01
Sampler: Joe

Well ID: MW-1
Well Diameter: 2 in.
Total Depth: 25.17 ft.
Depth to Water: 7.91 ft.

Well Condition: OK

Hydrocarbon Thickness:	Amount Bailed (product/water):		
<input checked="" type="checkbox"/> in.	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

17.26 x VF 0.17 = 2.93 x 3 (case volume) = Estimated Purge Volume: 9 gal.

Purge Equipment: Disposable Bailer
Bailer
Stack
Suction
Grundfos
Other: _____

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

Starting Time: 2:45
Sampling Time: 3:10 P.M. (1510)
Purging Flow Rate: 1 gpm
Did well de-water? _____

Weather Conditions: Foggy
Water Color: _____ Odor: yes
Sediment Description: _____
If yes; Time: _____ Volume: _____ gal.

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^0$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>2:52</u>	<u>3</u>	<u>7.46</u>	<u>1.47</u>	<u>66.1</u>	_____	_____	_____
<u>2:58</u>	<u>6</u>	<u>7.16</u>	<u>1.51</u>	<u>66.4</u>	_____	_____	_____
<u>3:03</u>	<u>9</u>	<u>7.21</u>	<u>1.52</u>	<u>66.5</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>1 Amb</u>	<u>Y</u>	<u>HCL</u>	<u>Seq.</u>	<u>TPHG, BTEX, MTBC</u>
_____	_____	_____	_____	_____	_____

COMMENTS: _____



**Sequoia
Analytical**

1551 Industrial Road
San Carlos, CA 94070
(650) 232-9600
FAX (650) 232-9612
www.sequoialabs.com

19 October, 2001

Deanna Harding
Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite J
Dublin, CA 94568

RECEIVED
OCT 19 2001
GETTLER-RYAN INC.
GENERAL CONTRACTORS

RE: Tosco(1)
Sequoia Report: L110047

Enclosed are the results of analyses for samples received by the laboratory on 10/05/01 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Richard Yee For Latonya Pelt
Project Manager

CA ELAP Certificate #2360



Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite J
Dublin CA, 94568

Project: Tosco(1)
Project Number: Tosco (76) SS#1156, Oakland, CA
Project Manager: Deanna Harding

Reported:
10/19/01 14:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	L110047-01	Water	10/05/01 00:00	10/05/01 17:00
MW-1	L110047-02	Water	10/05/01 15:10	10/05/01 17:00

Sequoia Analytical - San Carlos

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.

Richard Yee For Latonya Pelt, Project Manager

Gettler-Ryan/Geostrategies(1)
 6747 Sierra Court, Suite J
 Dublin CA, 94568

 Project: Tosco(1)
 Project Number: Tosco (76) SS#1156, Oakland, CA
 Project Manager: Deanna Harding

 Reported:
 10/19/01 14:52

Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B
Sequoia Analytical - San Carlos

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (L110047-01) Water Sampled: 10/05/01 00:00 Received: 10/05/01 17:00									
Purgeable Hydrocarbons as Gasoline	ND	50	ug/l	1	1100067	10/16/01	10/16/01	DHS LUFT	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		118 %		70-130	"	"	"	"	



Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite J
Dublin CA, 94568

Project: Tosco(1)
Project Number: Tosco (76) SS#1156, Oakland, CA
Project Manager: Deanna Harding

Reported:
10/19/01 14:52

**Diesel Hydrocarbons (C9-C24) by 8015B
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (L110047-02) Water Sampled: 10/05/01 15:10 Received: 10/05/01 17:00									
Diesel Range Organics (C9-C24)	13000	1000	ug/l	20	1J17048	10/17/01	10/19/01	DHS LUFT	D-15
<i>Surrogate: n-Pentacosane</i>		136 %	50-150		"	"	"	"	

Gettler-Ryan/Geostrategies(1)
 6747 Sierra Court, Suite J
 Dublin CA, 94568

 Project: Tosco(1)
 Project Number: Tosco (76) SS#1156, Oakland, CA
 Project Manager: Deanna Harding

 Reported:
 10/19/01 14:52

**Total Purgeable Hydrocarbon (C6-C12) by EPA 8015M and BTEX/MTBE by EPA 8021B - Quality Control
 Sequoia Analytical - San Carlos**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1100067 - EPA 5030B (P/T)
Blank (1100067-BLK1)

Prepared & Analyzed: 10/16/01

Purgeable Hydrocarbons as Gasoline	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	5.0	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	8.05		"	10.0		80.5	70-130			

LCS (1100067-BS1)

Prepared & Analyzed: 10/16/01

Benzene	9.51	0.50	ug/l	10.0		95.1	70-130			
Toluene	9.45	0.50	"	10.0		94.5	70-130			
Ethylbenzene	9.70	0.50	"	10.0		97.0	70-130			
Xylenes (total)	28.9	0.50	"	30.0		96.3	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	8.01		"	10.0		80.1	70-130			

LCS (1100067-BS2)

Prepared & Analyzed: 10/16/01

Purgeable Hydrocarbons as Gasoline	228	50	ug/l	250		91.2	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	11.6		"	10.0		116	70-130			

Matrix Spike (1100067-MS1)

Source: L110034-07

Prepared & Analyzed: 10/16/01

Benzene	8.75	0.50	ug/l	10.0	ND	87.5	60-140			
Toluene	8.71	0.50	"	10.0	ND	87.1	60-140			
Ethylbenzene	9.13	0.50	"	10.0	ND	91.3	60-140			
Xylenes (total)	27.3	0.50	"	30.0	ND	91.0	60-140			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.6		"	10.0		106	70-130			

Matrix Spike Dup (1100067-MSD1)

Source: L110034-07

Prepared & Analyzed: 10/16/01

Benzene	9.51	0.50	ug/l	10.0	ND	95.1	60-140	8.32	25	
Toluene	9.28	0.50	"	10.0	ND	92.8	60-140	6.34	25	
Ethylbenzene	9.63	0.50	"	10.0	ND	96.3	60-140	5.33	25	
Xylenes (total)	28.7	0.50	"	30.0	ND	95.7	60-140	5.00	25	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.3		"	10.0		103	70-130			

Gettler-Ryan/Geostrategies(1)
 6747 Sierra Court, Suite J
 Dublin CA, 94568

 Project: Tosco(1)
 Project Number: Tosco (76) SS#1156, Oakland, CA
 Project Manager: Deanna Harding

 Reported:
 10/19/01 14:52

Diesel Hydrocarbons (C9-C24) by 8015B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1J17048 - EPA 3510B
Blank (1J17048-BLK1)

Prepared: 10/17/01 Analyzed: 10/18/01

Diesel Range Organics (C9-C24)	ND	50	ug/l							
<i>Surrogate: n-Pentacosane</i>	45.3		"	50.0		90.6	50-150			

LCS (1J17048-BS1)

Prepared: 10/17/01 Analyzed: 10/18/01

Diesel Range Organics (C9-C24)	387	50	ug/l	500		77.4	60-140			
<i>Surrogate: n-Pentacosane</i>	45.9		"	50.0		91.8	50-150			

LCS Dup (1J17048-BSD1)

Prepared: 10/17/01 Analyzed: 10/18/01

Diesel Range Organics (C9-C24)	370	50	ug/l	500		74.0	60-140	4.49	50	
<i>Surrogate: n-Pentacosane</i>	45.7		"	50.0		91.4	50-150			



Gettler-Ryan/Geostrategies(1)
6747 Sierra Court, Suite J
Dublin CA, 94568

Project: Tosco(1)
Project Number: Tosco (76) SS#1156, Oakland, CA
Project Manager: Deanna Harding

Reported:
10/19/01 14:52

Notes and Definitions

D-15 Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
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