



Texaco Refining  
and Marketing Inc

10 Universal City Plaza  
Universal City CA 91608

July 18, 1996

**ENV - STUDIES, SURVEYS, & REPORTS**

**500 Grand Avenue  
Oakland, California**

Ms. Susan Hugo  
Alameda County Environmental  
Health Department  
1131 Harbor Bay Pky.  
Alameda, CA 94502-6577

Dear Ms. Hugo:

Enclosed is the 2nd Quarter 1996 Groundwater Monitoring and Sampling Report for the subject site.

If you have any questions or comments regarding this site, please call me at (818) 505-3113.

Best Regards,

Deborah Pryor  
Project Manager  
Texaco Refining & Marketing Inc. - EH&S

DRP:hs  
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P:\DRP\500\QMRLET.DOC

Enclosures

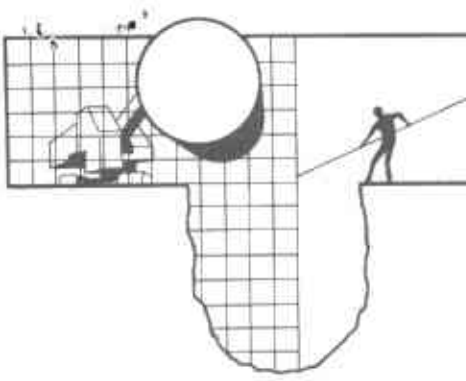
cc: Mr. Richard Hiatt  
CRWQCB - San Francisco Bay Region  
2101 Webster St., Suite 500  
Oakland, CA 94612

RAOFile-UCPFile -DRPryor(w/enclosures) - RZielinski (w/o enclosures)

pr:

ENVIRONMENTAL  
PROTECTION  
96 JUL 24 PM 3:39

**Groundwater Monitoring and Sampling  
Second Quarter, 1996  
at the  
Former Texaco Service Station  
500 Grand Avenue  
Oakland, CA**



June 4, 1996

**Groundwater Monitoring and Sampling  
Second Quarter, 1996  
at the  
Former Texaco Service Station  
500 Grand Avenue  
Oakland, CA**

This letter presents the results of groundwater monitoring and sampling conducted by Blaine Tech Services, Inc. on April 30, 1996, at the site referenced above (see Plate 1, Site Vicinity Map). Based on groundwater level measurements, the areal hydraulic gradient was estimated to be southeast (see Plate 2, Groundwater Gradient Map). TPHg and benzene concentrations are shown on Plate 3. Tables 1 and 2 list historical groundwater monitoring data and analytical results, respectively.

The certified analytical report, chain-of-custody, field data sheets, bill of lading, and quarterly summary report are in the Appendix, along with Texaco Environmental Services' Standard Operating Procedures.

A handwritten signature in cursive script, reading "James Keller".

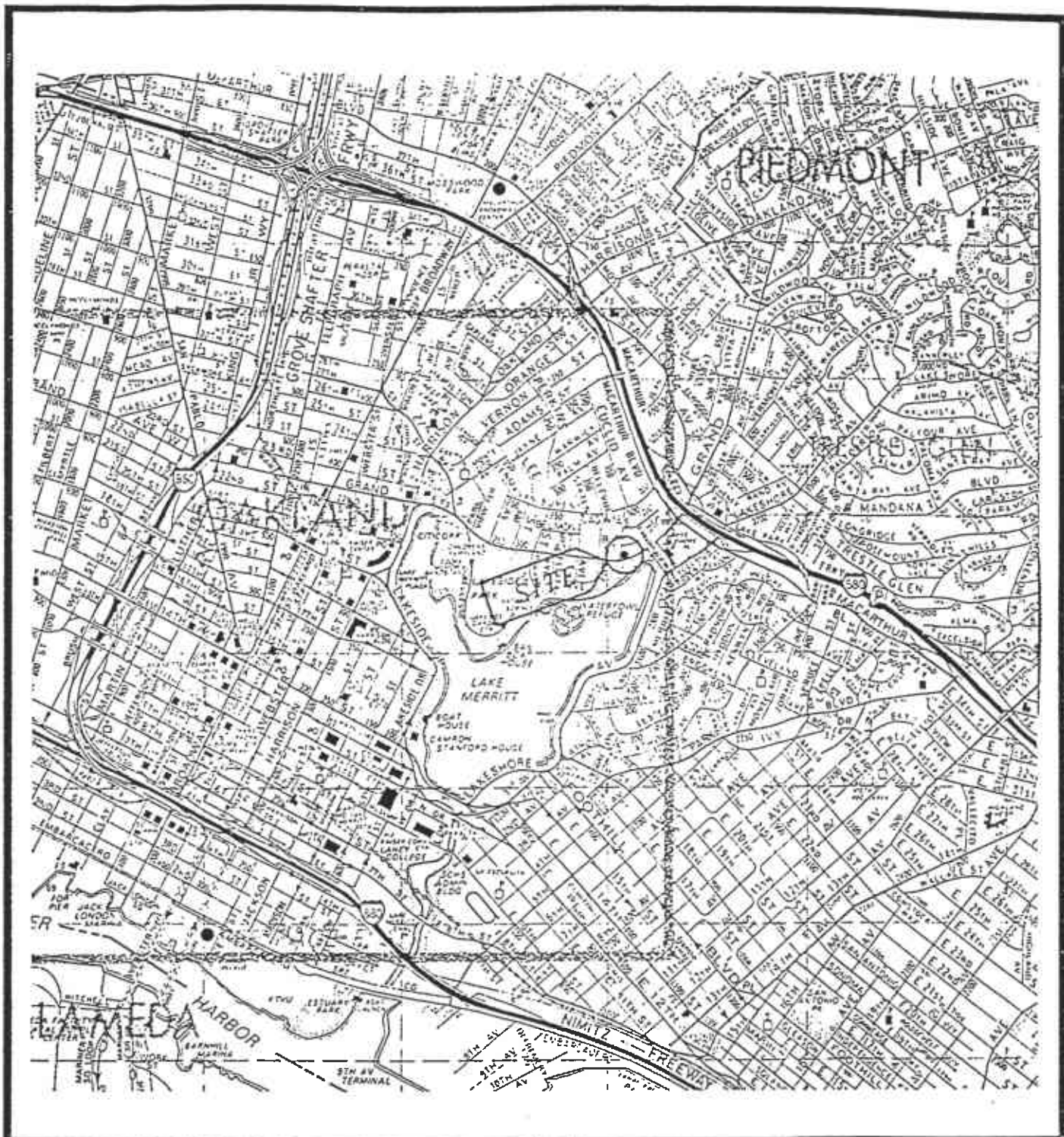
James Keller  
Vice President  
Blaine Tech Services, Inc.

A handwritten signature in cursive script, reading "John K. Hofer".

John K. Hofer, CEG  
Engineering Geologist, EG-1065  
Geoconsultants, Inc.



JPK:mc



**SOURCE:**

1993 THE THOMAS GUIDE  
ALAMEDA COUNTY, PAGE 9 (D4)



MILE

1" = 2200'



**TEXACO**

REFINING AND MARKETING, INC.  
TEXACO ENVIRONMENTAL SERVICES

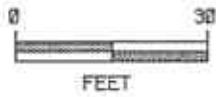
PLATE 1

SITE VICINITY MAP

FORMER TEXACO SERVICE STATION

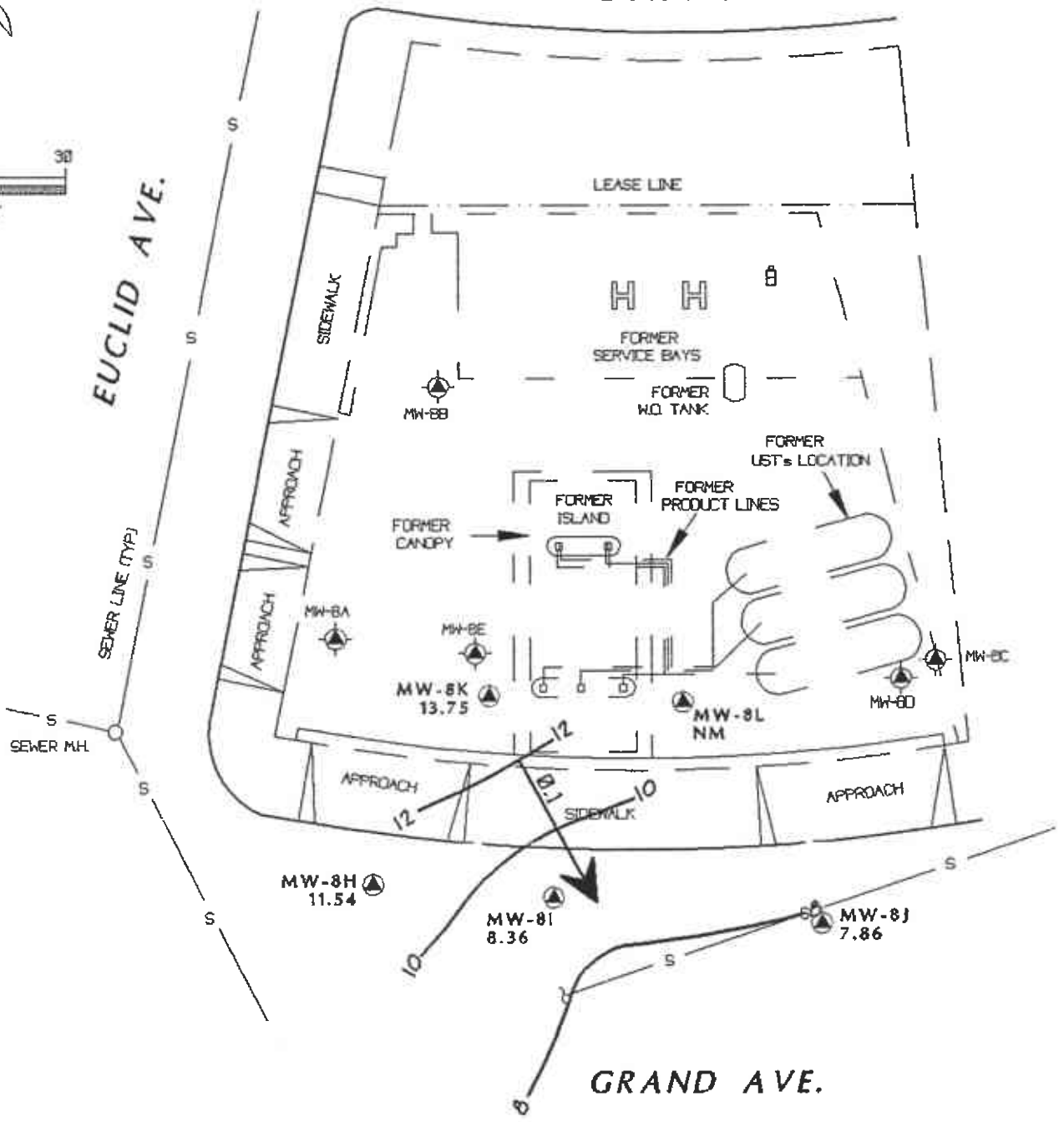
500 GRAND AVE. / EUCLID AVE.

oakland, CALIFORNIA



BURK ST.

EUCLID AVE.



**EXPLANATION**

- MW-8F GROUND-WATER MONITORING WELL LOCATION AND WELL NUMBER
- MW-8C ABANDONED GROUND-WATER MONITORING WELL LOCATION AND WELL NUMBER
- 6.79 GROUND-WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- NM NOT MEASURED
- 6 GROUND-WATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL
- 0.1 APPROXIMATE DIRECTION OF GROUND-WATER FLOW. GRADIENT INDICATED IN FEET / FEET



LAKE MERRIT PARK

TITLE : GROUND-WATER ELEVATION CONTOUR MAP - APRIL 30, 1996

LOCATION : FORMER TEXACO SERVICE STATION 500 GRAND AVE./ EUCLID AVE., OAKLAND, CALIFORNIA

SOURCE : TEXACO; REFINING AND MARKETING ENVIRONMENTAL SERVICES

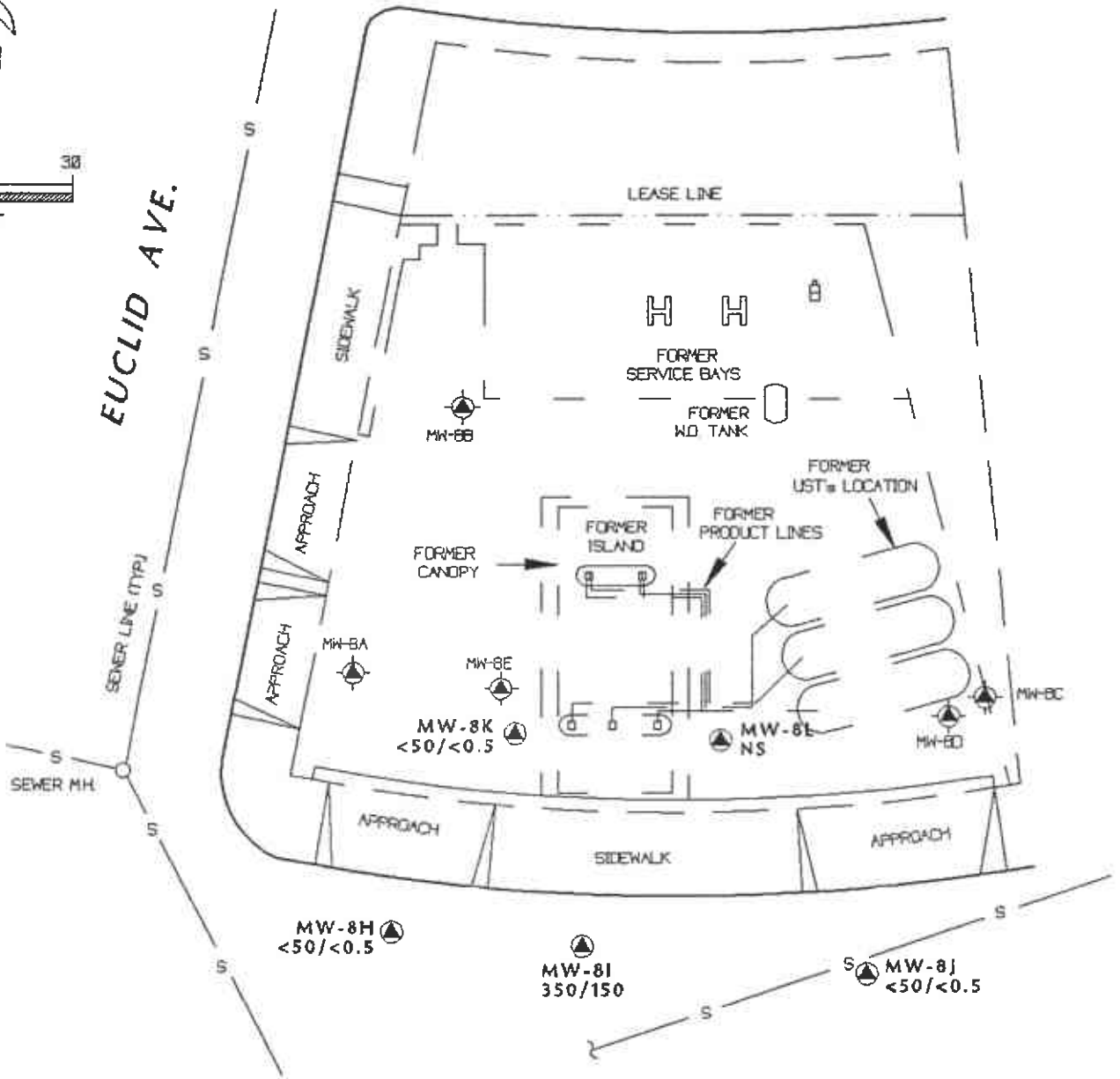


**GEOCONSULTANTS, INC**  
 SAN JOSE, CALIFORNIA  
 Project No. G756-11  
 DRAWING NO. TEXACO/OK-GK-EU/MB43056



BURK ST.

EUCLID AVE.



GRAND AVE.

**EXPLANATION**

- MW-8I GROUNDWATER MONITORING WELL LOCATION AND WELL NUMBER
- MW-8C ABANDONED GROUNDWATER MONITORING WELL LOCATION AND WELL NUMBER
- 350/150 TPH AS GASOLINE / BENZENE CONCENTRATIONS (ug/L)
- NS NOT SAMPLED



LAKE MERRIT  
PARK

TITLE : TPH AS GASOLINE AND BENZENE CONCENTRATIONS MAP -  
APRIL 30, 1996

LOCATION : FORMER TEXACO SERVICE STATION  
500 GRAND AVE./ EUCLID AVE., OAKLAND, CALIFORNIA

SOURCE : TEXACO: REFINING AND MARKETING ENVIRONMENTAL SERVICES



**GEOCONSULTANTS, INC**  
SAN JOSE, CALIFORNIA  
Project No. Q758-11  
DRAWING NO. TEXACO/DK-GR-EU/G043836

Table 1  
Groundwater Elevation Data  
500 Grand Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)	Depth to Water (feet, TOC)	Elevation of Groundwater (feet, MSL)
MW-8A	Well Properly Abandoned			
MW-8B	Well Properly Abandoned			
MW-8C	Well Properly Abandoned			
MW-8D	Well Properly Abandoned			
MW-8E	Well Properly Abandoned			
MW-8F	03/29/91	97.94		
	01/23/92		10.24	87.70
	02/28/92		9.93	88.01
	03/26/92		8.78	89.16
	04/30/92		9.36	88.58
	09/28/92		11.83	86.11
	11/19/92		11.22	86.72
	02/12/93		9.66	88.28
	05/06/93		8.83	89.11
	08/16/93	14.04 *	10.16	3.88
	10/12/93		10.60	3.44
	02/03/94		9.29	4.75
	05/31/94		9.34	4.70
	08/25/94		10.14	3.90
	11/02/94		10.42	3.62
	01/31/95		7.47	6.57
	05/18/95		8.00	6.04
	08/29/95		8.08	5.96
	11/02/95		8.70	5.34
	02/05/96		7.16	6.88
	04/30/96		7.25	6.79

Table 1  
Groundwater Elevation Data  
500 Grand Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)	Depth to Water (feet, TOC)	Elevation of Groundwater (feet, MSL)
MW-8G	04/23/91	97.24		
	01/23/92		11.30	85.94
	02/28/92		10.83	86.41
	03/26/92		9.20	88.04
	04/30/92		9.00	88.24
	09/28/92		13.32	83.92
	11/19/92		Well Inaccessible	
	02/12/93		Well Inaccessible	
	05/06/93		11.18	86.06
	08/16/93	13.32 *	9.51	3.81
	10/12/93		10.93	2.39
	02/03/94		9.69	3.63
	05/31/94		9.24	4.08
	08/25/94		9.74	3.58
	11/02/94		10.08	3.24
	01/31/95		5.75	7.57
	05/18/95		6.60	6.72
	08/29/95		8.14	5.18
	11/02/95		9.16	4.16
	02/05/96		7.18	6.14
04/30/96		7.00	6.32	
MW-8H	03/29/91	98.90		
	01/23/92		3.74	95.16
	02/28/92		4.44	94.46
	03/26/92		4.21	94.69
	04/30/92		3.46	95.44
	09/28/92		Well Inaccessible	
	11/19/92		3.75	95.15
	02/12/93		4.12	94.78
	05/06/93		3.85	95.05
	08/16/93	15.04 *	3.88	11.16
	10/12/93		3.80	11.24
	02/03/94		3.71	11.33
	05/31/94		3.80	11.24
	08/25/94		3.89	11.15
	11/02/94		3.64	11.40
	01/31/95		3.58	11.46
	05/18/95		3.53	11.51
	08/29/95		3.55	11.49
	11/02/95		3.49	11.55
	02/05/96		3.54	11.50
04/30/96		3.50	11.54	



Table 1  
Groundwater Elevation Data  
500 Grand Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)	Depth to Water (feet, TOC)	Elevation of Groundwater (feet, MSL)
MW-8I	03/29/91	98.27		
	01/23/92		6.33	91.94
	02/28/92		6.55	91.72
	03/26/92		6.45	91.82
	04/30/92		6.48	91.79
	09/28/92		Well Inaccessible	
	11/19/92		6.37	91.90
	02/12/93		6.44	91.83
	05/06/93		6.36	91.91
	08/16/93	14.40 *	6.35	8.05
	10/12/93		5.99	8.41
	02/03/94		5.84	8.56
	05/31/94		6.25	8.15
	08/25/94		6.31	8.09
	11/02/94		6.10	8.30
	01/31/95		5.83	8.57
	05/18/95		6.09	8.31
	08/29/95		6.09	8.31
	11/02/95		6.26	8.14
	02/05/96		5.97	8.43
04/30/96		6.04	8.36	
MW-8J	03/29/91	97.69		
	01/23/92		6.31	91.38
	02/28/92		6.28	91.41
	03/26/92		6.20	91.49
	04/30/92		6.48	91.21
	09/28/92		Well Inaccessible	
	11/19/92		6.55	91.14
	02/12/93		7.46	90.23
	05/06/93		6.21	91.48
	08/16/93	13.82 *	6.29	7.53
	10/12/93		5.87	7.95
	02/03/94		5.98	7.84
	05/31/94		6.10	7.72
	08/25/94		6.01	7.81
	11/02/94		5.90	7.92
	01/31/95		5.07	8.75
	05/18/95		5.33	8.49
	08/29/95		3.50	10.32
	11/02/95		5.94	7.88
	02/05/96		5.34	8.48
04/30/96		5.96	7.86	

Table 1  
Groundwater Elevation Data  
500 Grand Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)	Depth to Water (feet, TOC)	Elevation of Groundwater (feet, MSL)
MW-8K	08/16/93	15.18 *	2.08	13.10
	10/12/93		1.95	13.23
	02/03/94		1.48	13.70
	05/31/94		1.59	13.59
	08/25/94		2.00	13.18
	11/02/94		2.10	13.08
	01/31/95		1.35	13.83
	05/18/95		1.36	13.82
	08/29/95		1.55	13.63
	11/02/95		1.88	13.30
	02/05/96		1.46	13.72
	04/30/96		1.43	13.75
	MW-8L	08/16/93	14.44 *	2.47
10/12/93			2.36	12.08
02/03/94			2.82	11.62
05/31/94			2.66	11.78
08/25/94			2.34	12.10
11/02/94			Well Obstructed	
01/31/95			0.08	14.36
05/18/95			0.42	14.02
08/29/95			Well Inaccessible	
11/02/95			Well Inaccessible	
02/05/96			Well Inaccessible	
04/30/96			Well Inaccessible	
* = New well elevation survey performed on August 16, 1993 based on mean sea level (MSL). Prior data based on arbitrary site data.				
TOC = Top of Casing				

Table 2  
Groundwater Analytical Data  
500 Grand Avenue, Oakland, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TPHd (ppm)	TPH as Other* (ppm)
MW-8A	Well properly abandoned								
MW-8B	Well properly abandoned								
MW-8C	Well properly abandoned								
MW-8D	Well properly abandoned								
MW-8E	Well properly abandoned								
MW-8F	01/23/92	<50	4.0	1.3	<0.5	1.9	NA	1.3	NA
	04/30/92	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<500
	09/28/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
	11/19/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
	02/12/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	NA
	05/06/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.1	<50
	08/16/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50
	10/12/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50
	02/03/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50
	05/31/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	0.53
	08/25/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	1.4
	11/02/94	<50	<0.5	<0.5	<0.5	<0.5	NA	0.52	<5
	01/31/95	<50	<0.5	<0.5	<0.5	<0.5	NA	0.29	<5
	05/18/95	<50	<0.5	<0.5	<0.5	<0.5	NA	0.054	<5
	08/29/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.083	<5
	11/02/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.051	<5
	02/05/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	0.89
	04/30/96	<50	<0.5	<0.5	<0.5	<0.5	NA	0.062	<.005
MW-8G	** 01/24/92	<50	<0.5	<0.5	<0.5	<0.5	NA	0.98	NA
	04/30/92	<50	1.7	<0.5	<0.5	<0.5	NA	<0.05	<500
	09/28/92	Well Dry							
	11/19/92	Well Inaccessible							
	02/12/93	Well Inaccessible							
	04/29/93	<50	<0.5	<0.5	<0.5	<0.5	NA	0.06	<250
	08/16/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50
	10/12/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50
	02/03/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50
	05/31/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<0.2
	08/25/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	0.86
	11/02/94	<50	<0.5	<0.5	<0.5	<0.5	NA	0.53	<5
	01/31/95	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
	05/18/95	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
	08/29/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.12	<5
	11/02/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.14	<5
	02/05/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	0.51
	04/30/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<.005

Table 2  
Groundwater Analytical Data  
500 Grand Avenue, Oakland, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TPHd (ppm)	TPH as Other* (ppm)	
MW-8H	01/23/92	110	7.2	1.2	4.7	3.2	NA	<0.06	NA	
	04/30/92	190	11	1.5	5.6	3.6	NA	0.09	<500	
	09/28/92	Well Inaccessible								
	11/19/92	130	6.8	<0.5	1.1	1.5	NA	NA	NA	
	02/12/93	73	5.9	<0.5	0.8	<0.5	NA	NA	NA	
	05/06/93	57	1.7	<0.5	<0.5	<0.5	NA	<0.1	<50	
	08/16/93	<50	0.5	<0.5	0.5	1.4	NA	<0.05	<50	
	10/12/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50	
	02/03/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50	
	05/31/94	<50	0.79	<0.5	<0.5	<0.5	NA	<0.05	1.6	
	08/25/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	4.0	
	11/02/94	<50	<0.5	<0.5	<0.5	<0.5	NA	0.76	<5	
	01/31/95	<50	<0.5	<0.5	<0.5	<0.5	NA	0.19	<5	
	05/18/95	<50	<0.5	<0.5	<0.5	<0.5	NA	0.37	6.6	
	08/29/95	<50	<0.5	<0.5	<0.5	<0.5	<10	1.0	<5	
	11/02/95	<50	<0.5	<0.5	<0.5	<0.5	<10	<0.05	5.8	
	02/05/96	<50	<0.5	<0.5	<0.5	<0.5	NA	0.19	2.3	
04/30/96	<50	<0.5	<0.5	<0.5	<0.5	NA	1.80	0.0087		
MW-8I	01/23/92	820	420	7	27	20	NA	0.21	NA	
	04/30/92	2,200	1,800	19	180	25	NA	0.43	<500	
	09/28/92	Well Inaccessible								
	11/19/92	720	120	1.1	29	13	NA	NA	NA	
	02/12/93	4,000	970	9.2	52	36	NA	NA	NA	
	05/06/93	1,400	370	2.4	40	8.4	NA	<0.01	<50	
	08/16/93	<50	3.1	<0.5	6	<0.5	NA	<0.05	<50	
	10/12/93	<50	1.4	<0.5	<0.5	<0.5	NA	<0.05	<50	
	02/03/94	1,000	270	3.2	51	14	NA	<0.05	<50	
	05/31/94	1,400	330	4.6	52	16	NA	<0.05	0.33	
	08/25/94	540	14	0.58	30	4.3	NA	<0.05	0.73	
	11/02/94	310	5.7	0.74	20	<0.5	NA	0.37	<5	
	01/31/95	840	290	4.5	45	1.6	NA	0.91	<5	
	05/18/95	1,700	390	7.8	80	10	NA	1.1	<5	
08/29/95	300	81	<0.5	13	0.63	<10	0.56	<5		
11/02/95	81	<0.5	4.1	1.5	<0.5	<10	0.16	<5		
02/05/96	300	75	0.75	8.4	1.2	NA	0.14	<0.5		
04/30/96	350	150	0.77	3.2	1.3	NA	<0.05	<.005		

Table 2  
Groundwater Analytical Data  
500 Grand Avenue, Oakland, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TPHd (ppm)	TPH as Other* (ppm)	
MW-8J	01/23/92	<50	1	<0.5	<0.5	<0.5	NA	<0.05	NA	
	04/30/92	<50	2	<0.5	<0.5	<0.5	NA	<0.05	<500	
	09/28/92	Well Inaccessible								
	11/19/92	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	
	02/12/93	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	
	05/06/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.01	<50	
	08/16/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50	
	10/12/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50	
	02/03/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50	
	05/31/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<0.2	
	08/25/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	1.0	
	11/02/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5	
	01/31/95	<50	3.7	<0.5	<0.5	<0.5	NA	<0.05	<5	
	08/29/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.25	<5	
	05/18/95	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5	
	08/29/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.25	<5	
	11/02/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.52	<5	
02/05/96	<50	<0.5	<0.5	<0.5	<0.5	NA	0.065	1.0		
04/30/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<.005		
MW-8K	05/21/93	54	12	<0.5	<0.5	<0.5	NA	<0.05	<50	
	08/16/93	<50	<0.5	<0.5	1.0	<0.5	NA	<0.05	<50	
	10/24/93	<50	4.2	<0.5	<0.5	<0.5	NA	<0.05	<50	
	02/03/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50	
	05/31/94	<50	1.0	0.57	<0.5	<0.5	NA	<0.05	<0.2	
	08/25/94	<50	0.78	<0.5	<0.5	<0.5	NA	<0.05	0.98	
	11/02/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5	
	01/31/95	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5	
	05/18/95	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5	
	08/29/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.16	<5	
	11/02/95	<50	<0.5	<0.5	<0.5	<0.5	<10	<0.05	<5	
02/05/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<0.5		
04/30/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<.005		

Table 2  
Groundwater Analytical Data  
500 Grand Avenue, Oakland, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TPHd (ppm)	TPH as Other* (ppm)
MW-8L	05/21/93	76	1.1	<0.5	<0.5	6	NA	<0.05	<50
	08/16/93	<50	<0.5	<0.5	0.7	1.1	NA	<0.05	<50
	10/12/93	110	13	<0.5	6	<0.5	NA	<0.05	<50
	02/03/94	590	61	2.4	<0.5	110	NA	<0.05	<50
	05/31/94	410	77	<0.5	20	1.1	NA	<0.05	<0.2
	08/25/94	260	16	<0.5	2.5	<0.5	NA	<0.05	1.1
	11/02/94	Not Sampled							
	01/31/95	Not Sampled							
	05/18/95	Not Sampled							
	08/29/95	Not Sampled							
	11/02/95	Not Sampled							
	02/05/96	Not Sampled							
MTBE = Methyl-tert-butylether									
ppb = parts per billion									
ppm = parts per million									
NA = Not Analyzed									
< = Less than the detection limit for the specified method of analysis.									
* = Includes "heavy" petroleum hydrocarbons such as waste oil, mineral spirits, jet fuel, or fuel oil.									
** = Non-diesel mix >C16. The certified analytical report for sample MW-8G was revised on 10/21/93.									

801 Western Avenue.  
Glendale, CA 91201  
818/247-5737  
Fax: 818/247-9797

LOG NO: G96-04-650

Received: 01 MAY 96  
Mailed : 14 MAY 96

Ms. Caron French  
Blaine Tech Services  
985 Timothy Drive  
San Jose, California 95133

Purchase Order: 94-1446346+4370

Requisition: 624880235  
Project: FKEP1014L

REPORT OF ANALYTICAL RESULTS

Page 1

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TRPH (CADHS/418.1) ug/L	TPH (CADHS/3510)		Dilution Factor Times	TPH-d mg/L	Carbon Range	TPH/BTEX (CADHS/8020)		TPH-g ug/L
			Date Extracted Date	Date Analyzed Date				Date Analyzed Date	Dilution Factor Times	
RDL						0.05			1	50
1*MW8 F	04/30/96	<5	05/06/96	05/08/96	1	0.062	C10-C25	05/03/96	1	<50
2*MW8 G	04/30/96	<5	05/06/96	05/08/96	1	<0.05	C10-C25	05/03/96	1	<50
3*MW8 H	04/30/96	8.7	05/06/96	05/09/96	2	1.8	C10-C25	05/06/96	1	<50
4*MW8 I	04/30/96	<5	05/06/96	05/08/96	1	<0.05	C10-C25	05/03/96	1	350
5*MW8 J	04/30/96	<5	05/06/96	05/08/96	1	<0.05	C10-C25	05/03/96	1	<50
6*MW8 K	04/30/96	<5	05/06/96	05/08/96	1	<0.05	C10-C25	05/03/96	1	<50

Deborah Pryor  
500 Grand Ave., Oakland  
Alameda County

The diesel range organics quantitated in the following samples did not display a typical diesel pattern:  
MW8 F and MW8 H.  
J. Winter, 5/15/96



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 818/247-5737  
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LOG NO: G96-04-650

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REPORT OF ANALYTICAL RESULTS

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AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)					Carbon Range
		Benzene ug/L	Toluene ug/L	Ethyl-Benzene ug/L	Total Xylenes Isomers ug/L		
RDL		0.5	0.5	0.5	0.5		
1*MW8 F	04/30/96	<0.5	<0.5	<0.5	<0.5	C6-C12	
2*MW8 G	04/30/96	<0.5	<0.5	<0.5	<0.5	C6-C12	
3*MW8 H	04/30/96	<0.5	<0.5	<0.5	<0.5	C6-C12	
4*MW8 I	04/30/96	150	0.77	3.2	1.3	C6-C12	
5*MW8 J	04/30/96	<0.5	<0.5	<0.5	<0.5	C6-C12	
6*MW8 K	04/30/96	<0.5	<0.5	<0.5	<0.5	C6-C12	





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 985 Timothy Drive  
 San Jose, California 95133

Purchase Order: 94-1446346+4370

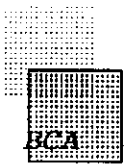
Requisition: 624880235  
 Project: FKEP1014L

REPORT OF ANALYTICAL RESULTS

Page 3

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TRPH	TPH	TPH/BTEX (CADHS/8020)						
		(CADHS/418.1)	(CADHS/3510)	Dilution Factor	TPH-d	Carbon Range	Date Analyzed	Dilution Factor	TPH-g	
		mg/L		Times	mg/L		Date	Times	ug/L	
			Date Extracted	Date Analyzed						
RDL						0.05			1	50
7*EB	04/30/96	<5	05/06/96	05/08/96	1	<0.05	C10-C25	05/03/96	1	<50



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 San Jose, California 95133

Purchase Order: 94-1446346+4370

Requisition: 624880235  
 Project: FKEP1014L

REPORT OF ANALYTICAL RESULTS

Page 4

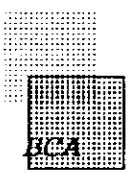
AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)					Carbon Range
		Benzene ug/L	Toluene ug/L	Ethyl-Benzene ug/L	Total Xylenes Isomers ug/L		
RDL		0.5	0.5	0.5	0.5		
7*EB	04/30/96	<0.5	<0.5	<0.5	<0.5	C6-C12	

*Greta Galoustian*  
 Greta Galoustian, Laboratory Director

The analytical results within this report relate only to the specific compounds and samples investigated and may not necessarily reflect other apparently similar material from the same or a similar location.

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SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE.....	METHOD.....	EQUIP.	BATCH..	ID.NO
			ANALYZED				
04650*1	MW8 F	IR.PET.TESNC	05.04.96	418.1	533-17	9659	8106
		DIESEL.3520.TES	05.08.96	8015M	536-25	9671	8042
		GAS.BTX.TESNC	05.03.96	8015M.TX	536-35	96464	6843
04650*2	MW8 G	IR.PET.TESNC	05.04.96	418.1	533-17	9659	8106
		DIESEL.3520.TES	05.08.96	8015M	536-25	9671	8042
		GAS.BTX.TESNC	05.03.96	8015M.TX	536-35	96464	6843
04650*3	MW8 H	IR.PET.TESNC	05.04.96	418.1	533-17	9659	8106
		GAS.BTX.TESNC	05.06.96	8015M.TX	536-36	96664	6843
		DIESEL.3520.TES	05.09.96	8015M	536-25	9671	8042
04650*4	MW8 I	IR.PET.TESNC	05.04.96	418.1	533-17	9659	8106
		DIESEL.3520.TES	05.08.96	8015M	536-25	9671	8042
		GAS.BTX.TESNC	05.03.96	8015M.TX	536-35	96464	6843
04650*5	MW8 J	IR.PET.TESNC	05.04.96	418.1	533-17	9659	8106
		DIESEL.3520.TES	05.08.96	8015M	536-25	9671	8042
		GAS.BTX.TESNC	05.03.96	8015M.TX	536-35	96464	6843
04650*6	MW8 K	IR.PET.TESNC	05.04.96	418.1	533-17	9659	8106
		DIESEL.3520.TES	05.08.96	8015M	536-25	9671	8042
		GAS.BTX.TESNC	05.03.96	8015M.TX	536-35	96464	6843
04650*7	EB	IR.PET.TESNC	05.04.96	418.1	533-17	9659	8106
		DIESEL.3520.TES	05.08.96	8015M	536-25	9671	8042
		GAS.BTX.TESNC	05.03.96	8015M.TX	536-35	96464	6843

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

ORDER QC REPORT FOR G9604650

DATE REPORTED : 05/14/96

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LABORATORY CONTROL STANDARDS  
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Oil&Grease/SM5520F	05.04.96	C6051343*1 9659	1.91	1.33	mg/L	144
DRO/8015M		C605899*1				
Date Analyzed	05.08.96	9671	05/08/96	05/08/96	Date	N/A
Date Calibrated	05.08.96	9671	04/17/96	04/17/96	Date	N/A
Date Extracted	05.08.96	9671	05/06/96	05/06/96	Date	N/A
TPH (Diesel Range)	05.08.96	9671	1.01	1.00	mg/L	101
Naphthalene Reported	05.08.96	9671	0.0537	0.0500	mg/L	107
Naphthalene Theoretical	05.08.96	9671	0.0500	0.0500	mg/L	100
o-Terphenyl Reported	05.08.96	9671	0.0523	0.0500	mg/L	105
o-Terphenyl Theoretical	05.08.96	9671	0.0500	0.0500	mg/L	100
DRO/8015M		C605900*1				
Date Analyzed	05.08.96	9671	05/08/96	05/08/96	Date	N/A
Date Calibrated	05.08.96	9671	04/17/96	04/17/96	Date	N/A
Date Extracted	05.08.96	9671	05/06/96	05/06/96	Date	N/A
TPH (Diesel Range)	05.08.96	9671	0.954	1.00	mg/L	95
Naphthalene Reported	05.08.96	9671	0.0602	0.0500	mg/L	120
Naphthalene Theoretical	05.08.96	9671	0.0500	0.0500	mg/L	100
o-Terphenyl Reported	05.08.96	9671	0.0516	0.0500	mg/L	103
o-Terphenyl Theoretical	05.08.96	9671	0.0500	0.0500	mg/L	100
GRO		C605490*1				
Date Analyzed	05.03.96	96464	05/03/96	05/03/96	Date	N/A
Benzene	05.03.96	96464	21.2	15.2	ug/L	139
Toluene	05.03.96	96464	96.3	97.4	ug/L	99
Ethylbenzene	05.03.96	96464	20.2	20.4	ug/L	99
Total Xylene Isomers	05.03.96	96464	111	119	ug/L	93
TPH (Gasoline Range)	05.03.96	96464	1110	1100	ug/L	101
a,a,a-Trifluorotoluene Rep.	05.03.96	96464	39.4	50.0	ug/L	79
a,a,a-Trifluorotoluene Th.	05.03.96	96464	50.0	50.0	ug/L	100
GRO		C605762*1				
Date Analyzed	05.06.96	96664	05/06/96	05/06/96	Date	N/A
Benzene	05.06.96	96664	16.6	15.2	ug/L	109
Toluene	05.06.96	96664	95.7	97.4	ug/L	98
Ethylbenzene	05.06.96	96664	20.5	20.4	ug/L	100
Total Xylene Isomers	05.06.96	96664	116	119	ug/L	97
TPH (Gasoline Range)	05.06.96	96664	1140	1100	ug/L	104
a,a,a-Trifluorotoluene Rep.	05.06.96	96664	51.0	50.0	ug/L	102
a,a,a-Trifluorotoluene Th.	05.06.96	96664	50.0	50.0	ug/L	100

BC ANALYTICAL

ORDER QC REPORT FOR G9604650

DATE REPORTED : 05/14/96

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ADDITIONAL LCS PRECISION (DUPLICATES)  
 BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
. DRO/8015M							
Date Analyzed		05.08.96	9671	05/08/96	05/08/96	Date	N/A
Date Calibrated		05.08.96	9671	04/17/96	04/17/96	Date	N/A
Date Extracted		05.08.96	9671	05/06/96	05/06/96	Date	N/A
TPH (Diesel Range)		05.08.96	9671	1.01	0.954	mg/L	6
Naphthalene Reported		05.08.96	9671	0.0537	0.0602	mg/L	11
Naphthalene Theoretical		05.08.96	9671	0.0500	0.0500	mg/L	0
o-Terphenyl Reported		05.08.96	9671	0.0523	0.0516	mg/L	1
o-Terphenyl Theoretical		05.08.96	9671	0.0500	0.0500	mg/L	0

BC ANALYTICAL

ORDER QC REPORT FOR G9604650

DATE REPORTED : 05/14/96

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MATRIX QC ACCURACY (SPIKES)  
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS %	MSD %	TRUE RESULT	UNIT	
Oil&Grease/SM5520F	9604650*4	05.04.96	9659	136	128	2.13	mg/L	
TPH	9605060*12							
TPH (Diesel Range)		05.08.96	9671	123 Q	109	1.04	mg/L	Q
Naphthalene Reported		05.08.96	9671	96	90	0.0500	mg/L	
Naphthalene Theoretical		05.08.96	9671	100	100	0.0500	mg/L	
o-Terphenyl Reported		05.08.96	9671	95	87	0.0500	mg/L	
o-Terphenyl Theoretical		05.08.96	9671	100	100	0.0500	mg/L	
GRO	9604650*2							
Benzene		05.03.96	96464	129 Q	136 Q	15.2	ug/L	Q
Toluene		05.03.96	96464	94	97	97.4	ug/L	
Ethylbenzene		05.03.96	96464	94	97	20.4	ug/L	
Total Xylene Isomers		05.03.96	96464	89	92	119	ug/L	
TPH (Gasoline Range)		05.03.96	96464	111	109	1100	ug/L	
a,a,a-Trifluorotoluene Rep.		05.03.96	96464	117	119	50.0	ug/L	
a,a,a-Trifluorotoluene Th.		05.03.96	96464	100	100	50.0	ug/L	
GRO	9604651*5							
Benzene		05.06.96	96664	102	96	15.2	ug/L	
Toluene		05.06.96	96664	91	86	97.4	ug/L	
Ethylbenzene		05.06.96	96664	93	90	20.4	ug/L	
Total Xylene Isomers		05.06.96	96664	90	87	120	ug/L	
TPH (Gasoline Range)		05.06.96	96664	100	99	1100	ug/L	
a,a,a-Trifluorotoluene Rep.		05.06.96	96664	106	104	50.0	ug/L	
a,a,a-Trifluorotoluene Th.		05.06.96	96664	100	100	50.0	ug/L	

## BC ANALYTICAL

ORDER QC REPORT FOR G9604650

Page 1:

DATE REPORTED : 05/14/96

MATRIX QC PRECISION (DUPLICATE SPIKES)  
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS RESULT	MSD RESULT	UNIT	RELATIVE % DIFF
. Oil&Grease/SM5520F	9604650*4	05.04.96	9659	2.90	2.73	mg/L	6
. DRO/8015M	9605060*12						
Date Analyzed		05.08.96	9671	05/08/96	05/08/96	Date	N/A
Date Calibrated		05.08.96	9671	04/17/96	04/17/96	Date	N/A
Date Extracted		05.08.96	9671	05/06/96	05/06/96	Date	N/A
TPH (Diesel Range)		05.08.96	9671	1.27	1.13	mg/L	12
Naphthalene Reported		05.08.96	9671	0.0478	0.0448	mg/L	6
Naphthalene Theoretical		05.08.96	9671	0.0500	0.0500	mg/L	0
o-Terphenyl Reported		05.08.96	9671	0.0475	0.0435	mg/L	9
o-Terphenyl Theoretical		05.08.96	9671	0.0500	0.0500	mg/L	0
. GRO	9604650*2						
Date Analyzed		05.03.96	96464	05/03/96	05/03/96	Date	N/A
Benzene		05.03.96	96464	19.6	20.6	ug/L	5
Toluene		05.03.96	96464	91.6	94.8	ug/L	3
Ethylbenzene		05.03.96	96464	19.1	19.8	ug/L	4
Total Xylene Isomers		05.03.96	96464	106	109	ug/L	3
TPH (Gasoline Range)		05.03.96	96464	1220	1200	ug/L	2
a,a,a-Trifluorotoluene Rep.		05.03.96	96464	58.7	59.3	ug/L	1
a,a,a-Trifluorotoluene Th.		05.03.96	96464	50.0	50.0	ug/L	0
. GRO	9604651*5						
Date Analyzed		05.06.96	96664	05/06/96	05/06/96	Date	N/A
Benzene		05.06.96	96664	15.5	14.6	ug/L	6
Toluene		05.06.96	96664	88.3	84.2	ug/L	5
Ethylbenzene		05.06.96	96664	18.9	18.3	ug/L	3
Total Xylene Isomers		05.06.96	96664	108	104	ug/L	4
TPH (Gasoline Range)		05.06.96	96664	1100	1090	ug/L	1
a,a,a-Trifluorotoluene Rep.		05.06.96	96664	53.2	51.9	ug/L	2
a,a,a-Trifluorotoluene Th.		05.06.96	96664	50.0	50.0	ug/L	0

BC ANALYTICAL

ORDER QC REPORT FOR G9604650

DATE REPORTED : 05/14/96

Page 1

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)  
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
Oil&Grease/SM5520F	05.04.96	9659	0	NA	mg/L	418.1
. DRO/8015M B605490*1						
Date Analyzed	05.08.96	9671	05/08/96	NA	Date	8015M
Time Analyzed	05.08.96	9671	11:08	NA	Hours	8015M
Date Extracted	05.08.96	9671	05/06/96	NA	Date	8015M
TPH (Diesel Range)	05.08.96	9671	0	0.05	mg/L	8015M
Naphthalene Reported	05.08.96	9671	0.0527	0.01	mg/L	8015M
Naphthalene Theoretical	05.08.96	9671	0.0500	NA	mg/L	8015M
o-Terphenyl Reported	05.08.96	9671	0.0557	0.01	mg/L	8015M
o-Terphenyl Theoretical	05.08.96	9671	0.0500	NA	mg/L	8015M
. GRO B605271*1						
Date Analyzed	05.03.96	96464	05/03/96	NA	Date	8015M.TX
Benzene	05.03.96	96464	0	0.5	ug/L	8015M.TX
Toluene	05.03.96	96464	0	0.5	ug/L	8015M.TX
Ethylbenzene	05.03.96	96464	0	0.5	ug/L	8015M.TX
Total Xylene Isomers	05.03.96	96464	0	0.5	ug/L	8015M.TX
TPH (Gasoline Range)	05.03.96	96464	0	50	ug/L	8015M.TX
a,a,a-Trifluorotoluene Rep.	05.03.96	96464	51.0	NA	ug/L	8015M.TX
a,a,a-Trifluorotoluene Th.	05.03.96	96464	50.0	NA	ug/L	8015M.TX
. GRO (8020) B605549*1						
Date Analyzed	05.03.96	96464	05/03/96	NA	Date	8015M
Benzene	05.03.96	96464	0	0.3	ug/L	8015M
Toluene	05.03.96	96464	0	0.3	ug/L	8015M
Ethylbenzene	05.03.96	96464	0	0.3	ug/L	8015M
Methyl-tert-butylether	05.03.96	96464	0	30	ug/L	8015M
Total Xylene Isomers	05.03.96	96464	0	0.6	ug/L	8015M
TPH (Gasoline Range)	05.03.96	96464	0	100	ug/L	8015M
a,a,a-Trifluorotoluene Rep.	05.03.96	96464	51.0	0.5	ug/L	8015M
a,a,a-Trifluorotoluene Th.	05.03.96	96464	50.0	NA	ug/L	8015M
. GRO B605412*1						
Date Analyzed	05.06.96	96664	05/06/96	NA	Date	8015M.TX
Benzene	05.06.96	96664	0	0.5	ug/L	8015M.TX
Toluene	05.06.96	96664	0	0.5	ug/L	8015M.TX
Ethylbenzene	05.06.96	96664	0	0.5	ug/L	8015M.TX
Total Xylene Isomers	05.06.96	96664	0	0.5	ug/L	8015M.TX
TPH (Gasoline Range)	05.06.96	96664	0	50	ug/L	8015M.TX
a,a,a-Trifluorotoluene Rep.	05.06.96	96664	50.2	NA	ug/L	8015M.TX
a,a,a-Trifluorotoluene Th.	05.06.96	96664	50.0	NA	ug/L	8015M.TX



METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
504650*1							
015M	Naphthalene	9671	05/08/96	0.0466	0.0500	93	
015M.TXa,a,a-	Trifluorotoluene	Re96464	05/03/96	51.0	50.0	102	
504650*2							
015M	Naphthalene	9671	05/08/96	0.0510	0.0500	102	
015M.TXa,a,a-	Trifluorotoluene	Re96464	05/03/96	50.1	50.0	100	
504650*3							
015M.TXa,a,a-	Trifluorotoluene	Re96664	05/06/96	52.6	50.0	105	
015M	Naphthalene	9671	05/09/96	0.0627	0.0500	125	
504650*4							
015M	Naphthalene	9671	05/08/96	0.0556	0.0500	111	
015M.TXa,a,a-	Trifluorotoluene	Re96464	05/03/96	52.2	50.0	104	
504650*5							
015M	Naphthalene	9671	05/08/96	0.0462	0.0500	92	
015M.TXa,a,a-	Trifluorotoluene	Re96464	05/03/96	51.8	50.0	104	
504650*6							
015M	Naphthalene	9671	05/08/96	0.0464	0.0500	93	
015M.TXa,a,a-	Trifluorotoluene	Re96464	05/03/96	50.0	50.0	100	
504650*7							
015M	Naphthalene	9671	05/08/96	0.0503	0.0500	101	
015M.TXa,a,a-	Trifluorotoluene	Re96464	05/03/96	48.4	50.0	97	

## SURROGATE RECOVERIES :

BC ANALYTICAL : GLEN LAB : 09:29:41 14 MAY 1996 - P. 1 :

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THOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
04650*2*R1							
15M	a,a,a-Trifluorotoluene	Re96464	05/03/96	50.1	50.0	100	
04650*2*S1							
15M	a,a,a-Trifluorotoluene	Re96464	05/03/96	58.7	50.0	117	
04650*2*S2							
15M	a,a,a-Trifluorotoluene	Re96464	05/03/96	59.3	50.0	119	
04650*2*T							
15M	a,a,a-Trifluorotoluene	Re96464	05/03/96	50.0	50.0	100	
04651*5*R1							
15M	a,a,a-Trifluorotoluene	Re96664	05/06/96	51.2	50.0	102	
04651*5*S1							
15M	a,a,a-Trifluorotoluene	Re96664	05/06/96	53.2	50.0	106	
04651*5*S2							
15M	a,a,a-Trifluorotoluene	Re96664	05/06/96	51.9	50.0	104	
04651*5*T							
15M	a,a,a-Trifluorotoluene	Re96664	05/06/96	50.0	50.0	100	
05060*12*R1							
15M	a,a,a-Trifluorotoluene	Re96465	05/06/96	51.6	50.0	103	
15M	Naphthalene	9671	05/08/96	0.0458	0.0500	92	
	o-Terphenyl	9671	05/08/96	0.0484	0.0500	97	
05060*12*S1							
15M	a,a,a-Trifluorotoluene	Re96465	05/06/96	55.9	50.0	112	
15M	Naphthalene	9671	05/08/96	0.0478	0.0500	96	
	o-Terphenyl	9671	05/08/96	0.0475	0.0500	95	
05060*12*S2							
15M	a,a,a-Trifluorotoluene	Re96465	05/06/96	61.2	50.0	122	
15M	Naphthalene	9671	05/08/96	0.0448	0.0500	90	
	o-Terphenyl	9671	05/08/96	0.0435	0.0500	87	
05060*12*T							
15M	a,a,a-Trifluorotoluene	Re96465	05/06/96	50.0	50.0	100	
15M	Naphthalene	9671	05/08/96	0.0500	0.0500	100	
	o-Terphenyl	9671	05/08/96	0.0500	0.0500	100	

SURROGATE RECOVERIES :

BC ANALYTICAL : GLEN LAB : 09:29:42 14 MAY 1996 - P. 2 :

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METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
605271*1*MB							
015M.TXa	a,a,a-Trifluorotoluene	Re96464	05/03/96	51.0	50.0	102	
605412*1*MB							
015M.TXa	a,a,a-Trifluorotoluene	Re96664	05/06/96	50.2	50.0	100	
605490*1*MB							
015M	Naphthalene	9671	05/08/96	0.0527	0.0500	105	
	o-Terphenyl	9671	05/08/96	0.0557	0.0500	111	
605549*1*MB							
015M	a,a,a-Trifluorotoluene	Re96464	05/03/96	51.0	50.0	102	
605490*1*LC							
015M.TXa	a,a,a-Trifluorotoluene	Re96464	05/03/96	39.4	50.0	79	
605490*1*LT							
015M.TXa	a,a,a-Trifluorotoluene	Re96464	05/03/96	50.0	50.0	100	
605762*1*LC							
015M.TXa	a,a,a-Trifluorotoluene	Re96664	05/06/96	51.0	50.0	102	
605762*1*LT							
015M.TXa	a,a,a-Trifluorotoluene	Re96664	05/06/96	50.0	50.0	100	
605899*1*LC							
015M	Naphthalene	9671	05/08/96	0.0537	0.0500	107	
	o-Terphenyl	9671	05/08/96	0.0523	0.0500	105	
605899*1*LT							
015M	Naphthalene	9671	05/08/96	0.0500	0.0500	100	
	o-Terphenyl	9671	05/08/96	0.0500	0.0500	100	
605900*1*LC							
015M	Naphthalene	9671	05/08/96	0.0602	0.0500	120	
	o-Terphenyl	9671	05/08/96	0.0516	0.0500	103	
605900*1*LT							
015M	Naphthalene	9671	05/08/96	0.0500	0.0500	100	
	o-Terphenyl	9671	05/08/96	0.0500	0.0500	100	

G9604650

Chain-of-Custody

Toxaco Environmental Services

100 Cutting Boulevard  
 Richmond, California 94004  
 Phone: (510) 230-3541  
 FAX: (510) 237-7021

Forward Results **BLAINE TECH SERVICES ATTN: CARON FRENCH**  
 Toxaco Project Coordinator Debra Pryor

Site Name: Texaco Loc# 624880235  
 Site Address: 500 Grand Ave. Oakland, CA  
 Contractor Project Number: 901420-T2  
 Contractor Name: Blaine Tech Services, Inc.  
 Address: 985 Timothy Dr., San Jose, CA 95133  
 Project Contact: Jim Keller  
 Phone/FAX: (408) 995-5535 / (408) 293-8773

Laboratory: B C Analytical  
 Turn Around Time: normal (10 day)  
 Samplers (PRINT NAME): Mike Tell  
 Sampler Signature: [Signature]  
 Date Samples Collected: 4/30/96

ANALYSIS							
TPH gas/STEX	TPH Diesel	CO/G/TPH (418.1)	TPH Ex. (CS-C35+)	VOCs B20/524	P. Halocarbons 6010/60	P. Aromatics 8020/602	Organic Lead
X	X	X					
X	Y	X					
X	Y	X					
X	Y	Y					
X	X	X					
X	Y	X					

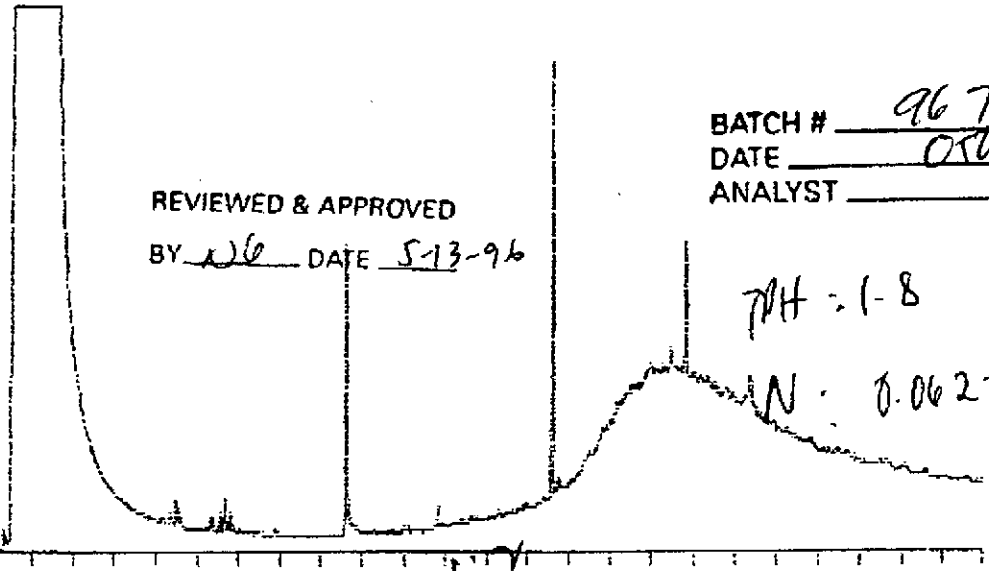
624880235  
 Alameda  
 FKEP1014K  
 DRP  
 Cooler Temp: 6°C  
 Sample Condition:  
Good  
 Comments

Sample Number	Lab Sample Number	Date/Time Collected	No. of Containers	Type of Containers	Sample Matrix	Preservative
RAW: B F		4/30 1040	7	VIA, 2		HCL
MW: G		4/30 1100	7	VIA, 2		HCL
MW: H		4/30 1135	7	VIA, 2		HCL
MW: I		4/30 1220	7	VIA, 2		HCL
MW: J		4/30 1125	7	VIA, 2		HCL
MW: K		4/30 1015	7	VIA, 2		HCL
EP		4/30 1020	7	VIA, 2		HCL

Relinquished by: Mike Tell Date: 5-1-96 Time: 1:35  
 (Signature) [Signature]  
 Relinquished by: Bill Bonds Date: 5-1-96 Time: 2:50  
 (Signature) [Signature]  
 Relinquished by: Jan Winters Date: 5/1/96 Time: 1:00  
 (Signature) [Signature]  
 Method of Shipment:

Received by: [Signature] Date: 5-1-96 Time: 1:35  
 (Signature) [Signature]  
 Received by: [Signature] Date: 5/1/96 Time: 2:00  
 (Signature) [Signature]  
 Lab Comments:





BATCH # 9671  
 DATE 050996  
 ANALYST JP

REVIEWED & APPROVED  
 BY W6 DATE 5-13-96

PH = 1.8  
 N = 0.0627

*m-a*

*NO 8 H*

*no diesel*

[Interface 6] 0-25 Min Scale: 100 Mu  
 DIESEL 25 Processed: 05-09-1996 15:34:32, segment 2, cycle 329  
 RAW DATA SAVED IN FILE L:AD19-329.PTS

\*\*\*\*\* AREA PERCENT REPORT \*\*\*\*\*

\*\*\*\*\* 05-09-1996 15:34:38 Version 5.1.5 \*\*\*\*\*  
 \* Sample Name: \*G9604650-3RE B#9671/960506/500ML>2.5ML  
 Data File: L:AD19-329 \*  
 \* Date: 05-09-1996 15:09:39 Method: DIESEL-6 \*  
 \* Interface: 6 Cycle#: 329 Operator JP Channel#: 0 Vial#: N.A. \*  
 \* Starting Peak Width: 10 Threshold: 10 Area Threshold: 1000 \*  
 \*\*\*\*\*  
 \* Instrument Type: GC 3400 536-25 Column Type: DB5 .25 \*  
 \* Solvent Description: \*  
 \* Conditions: 45 20/MIN FINAL 300 HOLD 8.25 \*  
 \* Detector 0: FID Detector 1: \*  
 \* Misc. Information: GAS:NAPHTHA:DIESEL;0-TERPH 04/17/96 \*  
 \*\*\*\*\*  
 Starting Delay: 0.00 Run Time: 25.00

PK No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/Height
1	1.333	5722	0.0125	1	3058	0.013	1.9
2	1.550	45174208	98.516300	993260	100.000	45.5	
3	5.367	4043	0.0088	1	1858	0.009	2.2
4	5.483	18971	0.0414	1	4390	0.042	4.3
5	6.567	7302	0.0159	2	3624	0.016	2.0
6	6.667	23955	0.0522	2	5608	0.053	4.3
7	9.617	135131	0.2947	1	52777	0.299	2.6
8	11.133	5208	0.0114	1	917	0.012	5.7
9	11.833	6952	0.0152	1	3483	0.015	2.0
10	12.633	5176	0.0113	1	916	0.011	5.6
11	13.167	2493	0.0054	1	722	0.006	3.5
12	14.000	4351	0.0095	1	934	0.010	4.7
13	14.617	139015	0.3032	2	79873	0.308	1.7
14	14.767	10234	0.0223	2	2435	0.023	4.2
15	15.383	3718	0.0081	2	1004	0.008	3.7
16	15.500	4756	0.0104	2	1451	0.011	3.3
17	15.833	10925	0.0238	1	1392	0.024	7.9













## TEXACO WELL MONITORING DATA SHEET

Project #: <u>960430-T2</u>	Texaco ID#: <u>602488035</u>
Sampler: <u>MT</u>	Date: <u>4/30</u>
Well I.D.: <u>MWBJ</u>	Well Diameter: 2 3 <u>4</u> 6 8 <u>    </u>
Total Well Depth: <u>14.90</u>	Depth to Water: <u>5.96</u>
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is Myron LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius <sup>2</sup> * 0.164

Purge Method:      S.S. Bailer Teflon Bailer Middleburg Electric Submersible <input checked="" type="checkbox"/> Extraction Pump Other: _____	Sampling Method: S.S. Bailer <input checked="" type="checkbox"/> Teflon Bailer Extraction Port Other: _____
--	--

<u>5.8</u>	x	<u>3</u>	=	<u>17.4</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
<u>11:12</u>	<u>70.0</u>	<u>7.6</u>	<u>1700</u>	<u>60.8</u>	<u>6</u>	
<u>11:14</u>	<u>69.8</u>	<u>7.0</u>	<u>1700</u>	<u>42.1</u>	<u>12</u>	
<u>11:15</u>	<u>70.0</u>	<u>7.0</u>	<u>1800</u>	<u>30.9</u>	<u>18</u>	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>17.4</u>
Sampling Time: <u>11:25</u>	Sampling Date: <u>4/30</u>
Sample I.D.: <u>MWBJ</u>	Laboratory: <u>BC Analytical</u>
Analyzed for: <u>Tph-G BTEX Tph-D</u>	Other: <u>TOL</u>
Equipment Blank I.D.:	Analyzed for same as primary sample

## TEXACO WELL MONITORING DATA SHEET

Project #: <u>960430-T2</u>	Texaco ID#: <u>624 88 035</u>
Sampler: <u>MFT</u>	Date: <u>4/30</u>
Well I.D.: <u>MWBK</u>	Well Diameter: <u>2</u> 3 <u>6</u> 8 <u>   </u>
Total Well Depth: <u>16.55</u>	Depth to Water: <u>1.43</u>
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC.      Meter used is Myron LpDS pH/EC Meter.      All temperatures taken in degrees Fahrenheit.	

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.17	5"	1.02
3"	0.38	6"	1.50
4"	0.66	8"	2.60
4.5"	0.83	Other	radius <sup>2</sup> * 0.164

Purge Method:      S.S. Bailer Teflon Bailer <del>X</del> Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: S.S. Bailer Teflon Bailer <del>X</del> Extraction Port Other: _____
---	---

<u>2.4</u>	$\times$	<u>3</u>	$=$	<u>7.2</u> Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
<u>10:01</u>	<u>68.6</u>	<u>6.1</u>	<u>1500</u>	<u>&gt;200</u>	<u>2.5</u>	
<u>10:04</u>	<u>68.9</u>	<u>6.0</u>	<u>1500</u>	<u>7200</u>	<u>5</u>	
<u>10:06</u>	<u>67.1</u>	<u>6.0</u>	<u>1500</u>	<u>7200</u>	<u>7.5</u>	

Did well dewater? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>7.5</u>
Sampling Time: <u>10:15</u>	Sampling Date: <u>4/30</u>
Sample I.D.: <u>MWBK</u>	Laboratory: <u>BC Analytical</u>
Analyzed for: <u>Tph-G BTEX Tph-D</u>	Other: <u>TOG</u>
Equipment Blank I.D.: <u>EB @ 10:20</u>	Analyzed for same as primary sample



**SOURCE RECORD BILL OF LADING**  
 FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM  
 GROUNDWATER WELLS AT TEXACO FACILITIES IN THE  
 STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGE-  
 WATER WHICH HAS BEEN RECOVERED FROM GROUND-  
 WATER WELLS IS COLLECTED BY THE CONTRACTOR,  
 MADE UP INTO LOADS OF APPROPRIATE SIZE AND  
 HAULED TO THE DESTINATION DESIGNATED BY TEXACO  
 ENVIRONMENTAL SERVICES (TES).

Contractor: Blaine Tech Services, Inc.  
 Address: 985 Timothy Drive  
 City, State, ZIP: San Jose, CA 95133  
 Phone: (408) 995-5535

is authorized by Texaco Environmental Services to recover, collect, apportion into loads, and haul the NON-HAZARDOUS WELL PURGEWATER that is drawn from wells at the Texaco facility listed below and to deliver that purgewater to an appropriate destination designated by TEXACO ENVIRONMENTAL SERVICES in either Redwood City, California or in Richmond, California. Transport routing of the Non-Hazardous Well Purgewater may be directed from one Texaco facility to the designated destination point; from one Texaco facility to the designated destination point via another Texaco facility; from a Texaco facility via the contractor's facility, or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of Texaco Environmental Services (TES).

This SOURCE RECORD BILL OF LADING was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the Texaco facility described below:

TEXACO #: 6024880235  
 Address: 500 Grand Ave  
 City, State, ZIP: Oakland, CA

Well I.D.	Gals.	Well I.D.	Gals.
MWB F	15		
MWB G	15		
MWB H	22.5		
MWB I	18		
MWB J	18		
MWB K	7.5		
	1		
	1		
	1		
	1		
Total gals.	<u>5 gal.</u>	added rinse water	
Total Gals. Recovered	<u>101.0</u>		

Job #: 960430-T2  
 Date: 4/30/96  
 Time: 12:30  
 Signature: [Signature]

REC'D AT: BTS  
 Date: 4/30/96  
 Time: 10:30  
 Signature: [Signature]

Texaco Environmental Services  
Standard Operating Procedures  
for Groundwater Monitoring and Sampling

The following are routine procedures to be followed by personnel obtaining field information concerning petroleum product thickness and samples of groundwater during the monitoring and sampling of Texaco sites. These procedures are designed to assure that:

- Information and samples are properly collected.
- Samples are identified, preserved and transported in a manner such that they are representative of field conditions.
- Monitoring and sampling results are reproducible.

#### Water Level Measurements

Water level measurements are needed to document groundwater flow directions and calculate gradient. By gauging the level of water in a groundwater monitoring well and comparing the compiled data, calculations can be made that determine the direction the groundwater at the monitored well is flowing and the groundwater gradient between successive monitoring wells.

- An interface probe or electronic probe is generally used to gauge the level of water in a monitoring well. When using either probe, it is slowly lowered into the well until the oscillating alarm indicating water is heard. Raise the interface probe above the water level and lower it back into the water at least three times to verify that the true depth to water is measured. The depth to water should always be measured from the same spot on the top of the well casing. The designated "Top of Casing" mark should be at the North side of the casing. Without moving the probe, read the numbers on the tape to determine the distance to water from the top of the well casing. A chalked, steel add-tape may also be used to gauge the level of water in a monitoring well. When using the steel tape, it is slowly lowered into the well until the chalked portion of the tape encounters water. Read the numbers on the tape to determine the distance from the predetermined top of the well casing. Raise the tape to the surface grade, re-chalk and lower it back into the water at least two times to verify that the true depth to water is measured. Record the depth to water on the Well Gauging Form and Groundwater Sampling Form.

#### Petroleum Product Thickness Measurements.

If free phase petroleum hydrocarbons (product) are observed floating on the groundwater surface during the water level measurement, the thickness of the product will be measured in each appropriate well. Groundwater samples will not be collected for chemical analysis from wells containing product (even a sheen) unless specifically requested by the Project Coordinator. If the Project Coordinator requests that wells containing product be sampled, only those wells with product thickness of less than 0.01 foot will be sampled. Arrangements to bail, store, and dispose of product must be made separately. When product is stored, according to Texaco policy, it will be double-contained and disposed of within 90 days of generation.



Product thicknesses will be measured using interface probes, and/or acrylic (clear plastic) bailers. The procedures for obtaining level and thickness measurements using each instrument are:

- The level of the top of the product will be measured with an interface probe. When product is suspected but not measurable with the interface probe, a visual evaluation can be made using clear bailers. A bailer will be lowered into the water/product surface so that the top of the bailer is NOT submerged; the bailer is then removed from the well and the thickness of the product visually measured and documented on the Well Gauging Form.

- When the interface probe contacts liquid, the visual/audible alarm on the reel will be activated. An oscillating alarm indicates water, a continuous alarm indicates hydrocarbon\*. To determine the exact thickness of a hydrocarbon layer, the probe should be slowly lowered to the air/hydrocarbon interface until the alarm is activated. With the probe at the exact point where the alarm comes on, read the numbers on the tape to determine the distance from the top of casing elevation mark. Next, lower the probe through the hydrocarbon layer and well into the water. An oscillating alarm will be obtained. The probe should then be raised slowly to the hydrocarbon/water interface until the point where the alarm changes from oscillating to continuous. The thickness of the hydrocarbon layer is determined by subtracting the first reading from the second reading. Record the calculated value on the Well Gauging Form and Groundwater Sampling Form.

- The process described here is equipment specific. Follow the procedures applicable for your monitoring equipment.

### Groundwater Sampling

Groundwater samples will be collected from selected groundwater monitoring wells to provide data which will be statistically representative of local groundwater conditions at the site. Groundwater samples will be collected as follows:

- All measuring and sampling equipment will be decontaminated prior to sample collection from each well and documented on the Groundwater Sampling Form.
- Prior to sampling activity, the water level in the well will be measured and the minimum purge volume of each well will be calculated using the purge volume calculation portion of the Groundwater Sampling Form. A minimum of three casing volumes will be purged prior to sample collection. The actual total volume purged will be recorded on Groundwater Sampling Form.
- Prior to sampling, a submersible pump, centrifugal pump, peristaltic pump, or a Teflon or stainless steel bailer will be used to purge a minimum of three casing volumes from each well. Purge volumes will be estimated using a flow meter or a stopwatch and a bucket to estimate flow rate, from which a time to purge the required volume will be calculated. The pump will be lowered to a depth of two to three feet from bottom of the well. When bailers are used for purging, the bailer should be gently lowered into the water and allowed to fill, then removed. Purged water may be placed into 5-gallon buckets to determine the volume of groundwater removed. Care should be taken to not agitate the water which could release volatile organics.

- Whenever possible, groundwater parameters pH, temperature (in degrees Celsius [C]), specific conductance (in micromhos per centimeters squared [umhos]), and turbidity (in National Turbidity Units [NTU]) will be monitored and recorded on the Groundwater Sampling Form.
- If a well is purged dry before three casing volumes have been removed, the sample will be taken after the well has recovered to at least 80 percent of the static water level prior to purging or after 4 hours when sufficient water volume is available to meet analytical requirements, whichever comes first. Reasonable efforts will be made to avoid dewatering wells by using low-yield pumps as necessary.
- Water samples will be collected with a stainless steel or Teflon bailer. To reduce potential cross contamination, sampling should take place in order from least to most contaminated wells. Bailer strings should be replaced between each well to avoid cross contamination from a bailer string which has absorbed contamination.
- Sample containers will be filled directly from the bailer.
- Use only sample containers prepared and provided by an analytical laboratory. Preservatives are required for some types of samples. Sample containers containing preservatives should be supplied by an analytical laboratory.
- For volatile organics analysis, each sample vial will be filled with sample water so that water stands above the lip of the vial. The cap should then be quickly placed on the vial and tightened securely. The vial should then be checked to ensure that no air bubbles are present prior to labeling the sample.
- Take site blank samples (trip and rinsate) using distilled water or laboratory supplied water from a known uncontaminated source. One trip blank and one rinsate blank sample for each site will be analyzed for each site sampling event.
- Once collected and labeled, all samples will be stored in a cooler maintained at 4 degrees Celsius using frozen water ice.

### Sample Custody Procedures

Sample custody procedures will be followed through sample collection, transfer, analysis and ultimate disposal. The purpose of these procedures is to assure that the integrity of samples is maintained during their collection and transfer. Sample quantities, types and locations will be determined before the actual field work begins. As few people as possible will handle samples. The field sampler is personally responsible for the care and custody of the collected samples until they are properly transferred.

Each sample will be labeled and sealed properly immediately after collection. Sample identification documents will be carefully prepared so that identification and chain-of-custody records can be maintained and sample disposition can be controlled. Forms will be filled out with waterproof ink. The following are sample identification documents that will be utilized during the field operations.

- Sample Identification Label
- Chain-of-Custody

Each separate sample will be identified using a label obtained from the laboratory. The sampler will complete all information, using a black waterproof pen, as follows:

The Site ID This is the name assigned to the particular sampling station.

The Sample Source. This will be the name of the well location.

The Analysis Required. This will be indicated for each sample using proper EPA reference number indicating analytical method.

The Date Taken. This will be the date the sample was collected, using the format MM-DD-YY.  
Example: 06-15-91

Noting the Time. The time the sample was collected will be given in military time.  
Example: 1430

The Method of Preservation. Preservation methods will be provided, specifying the type of preservation. For non-acidified samples, "ice" will be indicated.

The Sampler's Name. This will be printed in the "Sampled By" section. The sampler's signature will be written in the "Signed" section.

There is the potential that samples and analyses could be of an evidentiary nature. Therefore, the possession of samples must be traceable from the time samples are collected in the field until the analysis is completed and the data are entered as evidence. The tracing of the samples through the laboratory is accomplished by "chain-of-custody" procedures. Chain-of-Custody Forms will be completed for each set of samples. The sampler will sign the first "Relinquished By" line at the bottom of the chain of custody record, and will indicate the date and time of the custody transfer. Samples will not leave custody of the field technician until relinquished to another party. Custody is defined by the following criteria.

In the Actual Physical Possession. When field personnel have sample in possession, they have "custody".

In View. The samples are in the field personnel's view, after being in their physical possession.

Special Areas. Sample is kept in a locked area after being in physical possession.

Designated Area. Sample is in a designated, locked-storage area.

Transfer of samples to an analytical laboratory will be done by use of a common carrier or personal delivery. Carrier personnel will personally secure samples and sample containers in such a way that no containers can be opened in transit. The person to whom custody is being transferred will sign on the first "Received By" line of the chain-of-custody record, indicating that custody is being accepted by the carrier for all the samples

listed on the sheet. For subsequent transfers of custody, the succeeding relinquish and receipt lines will be used.

### Equipment Decontamination

All equipment that comes in contact with potentially contaminated soil or water will be decontaminated prior to and after each use (for example, after each sampling event). All purging and sampling equipment will be decontaminated with an Alconox wash and rinsed with deionized water. Decontamination water generated will be added to the purge water.

**QUARTERLY SUMMARY REPORT**  
Former Texaco Service Station/Current Parking Lot  
500 Grand Avenue, Oakland, California  
Alameda County  
Second Quarter, 1996

**HISTORY OF INVESTIGATIVE AND REMEDIAL ACTIONS**

A site preliminary subsurface investigation was conducted in May 1988. During the initial investigation, a soil gas survey was conducted, 15 soil borings were drilled, and 5 on-site groundwater monitoring wells were installed. In 1989, five off-site wells were installed. The initial five on-site wells have been abandoned and replaced by two wells located at the southern perimeter of the site.

Over 2,400 cubic yards of hydrocarbon-impacted soil have been excavated and removed from within the property boundaries. The waste oil tank, tank backfill material, and impacted soil were excavated and disposed of in September 1990. Clay sewer pipes and contaminated soil from an abandoned utility trench near the former waste oil tank were removed from the site in early 1991. Three underground storage tanks, dispenser islands and associated piping, stockpiled soils, and site structures were removed from the site in April 1992. The excavated area was backfilled and compacted using clean imported material.

**WORK PERFORMED DURING THIS QUARTER**

Quarterly groundwater monitoring and sampling was performed.

**CHARACTERIZATION STATUS**

All petroleum impacted soils underlying the site, with a possible exception of a very narrow band along the Grand Avenue sidewalk, have been removed by the extensive soil excavation activities.

Groundwater at the site has been affected by gasoline, diesel, and hydrocarbons above the range of diesel. Since the removal of on-site contaminated soils, significant reductions in TPH-g and TPH-d concentrations in groundwater have been reported for samples taken from on- and off-site wells.

**REMEDATION STATUS**

No further investigation or remediation of the vadose-zone soils is proposed. It is proposed that downgradient wells continue to be monitored to document the biodegradation of the remaining dissolved-phase hydrocarbons in the groundwater.

**WORK TO BE PERFORMED NEXT QUARTER**

Continue quarterly monitoring and sampling to record fluctuations in hydrocarbons concentrations.

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