

10 Universal City Plaza Universal City CA 91608

September 15, 1997

ENV - STUDIES, SURVEYS, & REPORTS

500 Grand Avenue Oakland, California

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

Dear Ms. Hugo:

This letter presents the results of groundwater monitoring and sampling conducted by Blaine Tech Services, Inc. on May 2, 1997 at the site referenced above.

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

Deborah R. Pryor Project Manager

Texaco Refining & Marketing Inc. - EH&S

Debruk R. Ruy

DRP:hs p:\drp\500\qmrlet.doc

Enclosure

cc: Mr. Richard Hiett

CRWQCB - San Francisco Bay Region

2101 Webster St., Suite 500

Oakland, CA 94612

RAOFile-DRPryor

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Mr. Keith Winemiller Pacific Environmental Group, Inc. 2025 Gateway Place, Suite 440 San Jose, CA 95110 97 S.2 19 PM 1: 20

Groundwater Monitoring and Sampling
Second Quarter, 1997
at the
Former Texaco Service Station
500 Grand Avenue
Oakland, CA



1680 ROGERS AVENUE SAN JOSE, CALIFORNIA 95112 (408) 573-7771 FAX (408) 573-0555 PHONE

June 12, 1997

Groundwater Monitoring and Sampling Second Quarter, 1997 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 May 2, 1997, at the site referenced above (see Plate 1, Site Vicinity Map). Based on groundwater level measurements, the areal hydraulic gradient was estimated to be south-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.

Kent Brown

Project Coordinator

Blaine Tech Services, Inc.

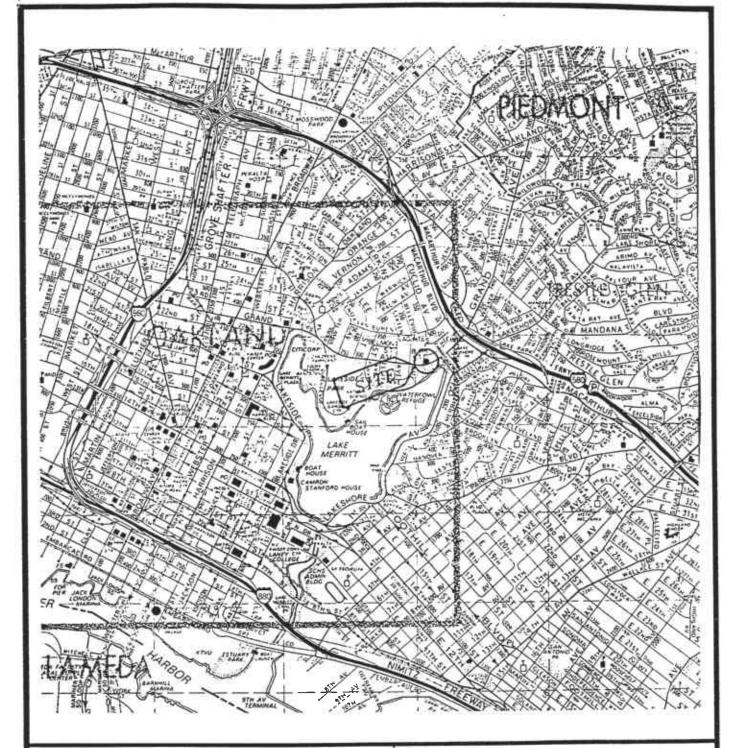
John K. Hofer, CEG

Engineering Geologist, EG-1065

Geoconsultants, Inc.

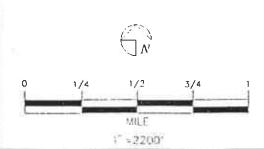
JOHN K. HOFER
NO. 1065
CERTIFIED
ENGINEERING
GEOLOGIST
OF CALIFORN

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SOURCE:

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





TEXACO

REFINING AND MARKETING, INC. TEXACO ENVIRONMENTAL SERVICES

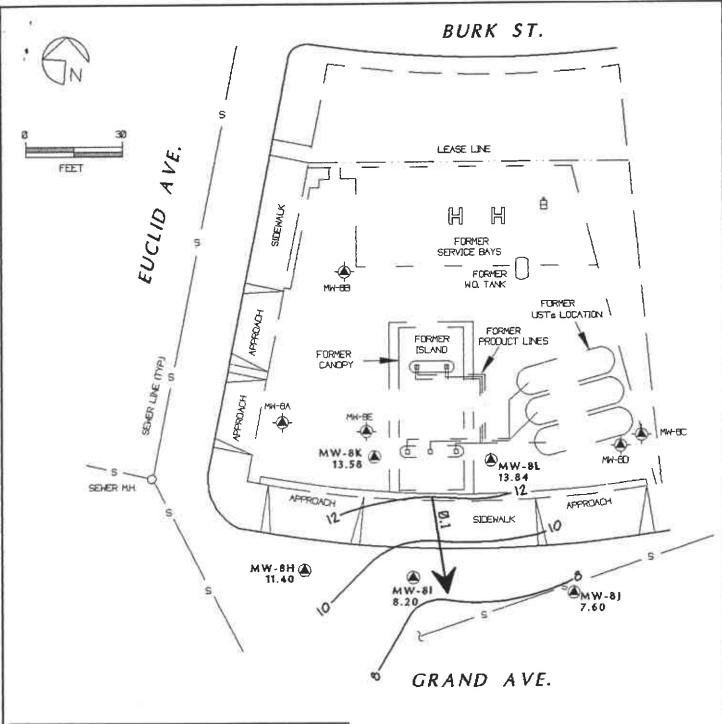
PLATE 1

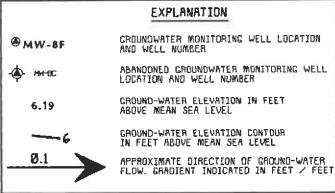
SITE VICINITY MAP

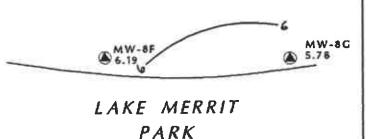
FORMER TEXACO SERVICE STATION

500 GRAND AVE. / EUCLID AVE.,

OAKLAND, CALIFORNIA







TITLE : GROUND-WATER ELEVATION CONTOUR MAP -

LOCATION: FORMER TEXACO SERVICE STATION

500 GRAND AVE / EUCLID AVE., OAKLAND, CALIFORNIA

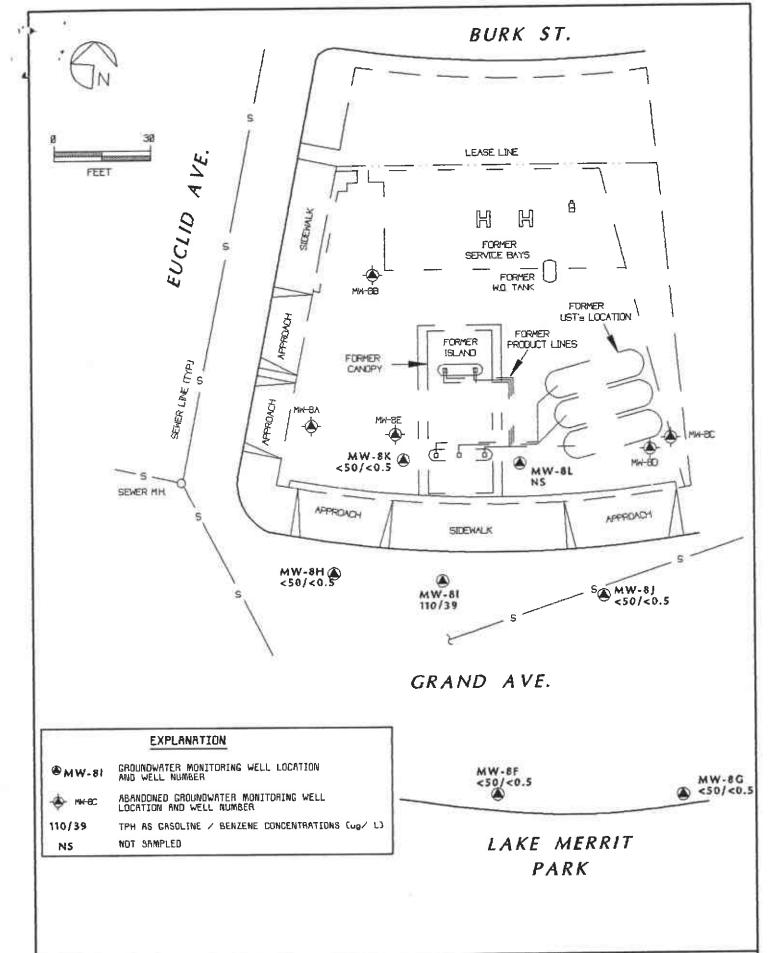
SOURCE : TEXACO, REFINING AND MARKETING ENVIRONMENTAL SERVICES



GEOCONSULTANTS, INC SAN JOSE, CALIFORNIA

Project No. 0758-11

SWING NO TEXACOLOK-GR-EU/WESE297



TITLE : TPH AS GASOLINE AND BENZENE CONCENTRATIONS MAP -

MAY 2, 1997

LOCATION: FORMER TEXACO SERVICE STATION

520 GRAND AVE./ EUCLID AVE., DAKLAND, CALIFORNIA

SOURCE : TEXACO: REFINING AND MARKETING ENVIRONMENTAL SERVICES

(1)

GEOCONSULTANTS, INC

SAN JOSE, CALIFORNIA Project No. G758-11

RAMPS NO TED/ACCI/OK-OR-EU/0058297

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

		Top of Casing	T	Depth to	Elevation of
Well	Date	Elevation	7	Water	Groundwater
Number	Gauged	(feet, MSL)	7	(feet, TOC)	(feet, MSL)
MW-8A	Well Properly	Abandoned	T		
			7		
			\Box		
MW-8B	Well Properly	Abandoned	\perp		
		4.	1		
MW-8C	Well Properly	Abandoned	+		
MW-8D	Well Properly	Abandoned	+		
W144-0D	Well 1 Topens	Abandonica	+		
MW-8E	Well Properly	Abandoned			
MW-8F	03/29/91	97.94		40.04	87.70
	01/23/92			10.24	88.01
	02/28/92		Н	9.93	89.16
	03/26/92		Н	8.78	88.58
	04/30/92		<u> </u>	9.36	86.11
_	09/28/92		Ц	11.83	86.72
	11/19/92		Н	11.22	88.28
	02/12/93		H	9.66	
	05/06/93			8.83	89.11 3.88
· · · · · · · · · · · · · · · · · · ·	08/16/93	14.04	<u>"</u>	10.16	
	10/12/93		Ш	10.60	3.44
	02/03/94		Ц	9.29	4.75
	05/31/94		Ц	9.34	4.70
	08/25/94		Ш	10.14	3.90
	11/02/94		Ц	10.42	3.62
	01/31/95		Ш	7.47	6.57
	05/18/95		Щ	8.00	6.04
	08/29/95		Ц	8.08	5.96
	11/02/95		Ц	8.70	5.34
	02/05/96		Ц	7.16	6.88
	04/30/96		Ц	7.25	6.79
	08/28/96			8.72	5.32
	12/05/96			8.16	5.88
	02/21/97			5.53	8.51
	05/02/97			7.85	6.19
					l

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

		Top of Casing		Depth to	Elevation of
Well	Date	Elevation		Water	Groundwater
Number	Gauged	(feet, MSL)		(feet, TOC)	(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		Γ	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	3.50
	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	4.10
· · · · · · · · · · · · · · · · · · ·	02/05/96			7.18	6.14
	04/30/96			7.00	6.32
	08/28/96		Γ	8.94	4.38
	12/05/96			9.22	4.10
	02/21/97	,		6.11	7.2
	05/02/97		Ţ	7.54	5.78
			Г		

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

		Top of Casing		Depth to	Elevation of
Well	Date	Elevation		Water	Groundwater
Number	Gauged	(feet, MSL)		(feet, TOC)	(feet, MSL)
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
	08/28/96			3.62	11.42
	12/05/96			3.38	11.66
	02/21/97		Γ	3.77	11.27
	05/02/97			3.64	11.40
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Table 1 Groundwater Elevation Data 500 Grand Avenue, Oakland, CA

		Top of Casing		Depth to	Elevation of
Well	Date	Elevation		Water	Groundwater
Number	Gauged	(feet, MSL)		(feet, TOC)	(feet, MSL)
I8-WM	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	91.9 <u>0</u>
	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		Γ	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
	08/28/96			6.20	8.20
	12/05/96			6.01	8.39
	02/21/97			6.15	8.25
	05/02/97			6.20	8.20

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

		Top of Casing		Depth to	Elevation of
Well	Date	Elevation	٦	Water	Groundwater
Number	Gauged	(feet, MSL)		(feet, TOC)	(feet, MSL)
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		П	6.48	91.21
	09/28/92			Well Inaccessible	
	11/19/92			6.55	91.14
	02/12/93		Γ	7.46	90.23
	05/06/93		Г	6.21	91.48
	08/16/93	13.82	*	6.29	7.53
	10/12/93		Γ	5.87	7.95
-	02/03/94			5.98	7.84
	05/31/94			6.10	7.72
i	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
1	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
	08/28/96			6.38	7.44
	12/05/96		Γ	5.94	7.88
	02/21/97			5.60	8.22
	05/02/97		L	6.22	7.60
			Ļ	200	12 10
MW-8K	08/16/93	15.18	*		13.10
	10/12/93		Ļ	1.95	13.23
	02/03/94			1.48	13.70
	05/31/94		Ļ	1.59	13.59
	08/25/94		ļ	2.00	13.18
	11/02/94		ļ	2.10	
	01/31/95		1	1.35	
	05/18/95		Ļ	1.36	
	08/29/95		4-	1.55	
	11/02/95		1	1.88	
	02/05/96		1	1.46	
	04/30/96		1	1.43	
	08/28/96		1	1.75	<u> </u>
	12/05/96		1	1.42	
	02/21/97		1	1.49	
	05/02/97		1	1.60	13.58

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

		Top of Casing		Depth to	Elevation of					
Well	Date	Elevation		Water	Groundwater					
Number	Gauged	(feet, MSL)		(feet, TOC)	(feet, MSL)					
MW-8L	08/16/93	14.44	*	2.47	11.97					
	10/12/93		Γ	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	е					
	11/02/95		Г	Well Inaccessible	e					
	02/05/96			Well Inaccessible	e					
	04/30/96			Well Inaccessible						
	08/28/96			0.75						
	12/05/96			Well Inaccessible	e					
	02/21/97			Well Inaccessible						
	05/02/97			0.60	13.84					
* = New well elevation survey performed on August 16, 1993 based on										
mean sea level (MSL). Prior data based on arbitrary site data.										
TOC = Top										

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

<u> </u>					Ethyl-				TPH as
Well	Date	TPHg	Benzene	Toluene	benzene	Xylenes	MTBE	TPHd	Other*
Number	Sampled	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppm)	(ppm)
MW-8A	Well prope	., ,							
MW-8B	Well prope	rly abando	ned						
					·				
MW-8C	Well prope	rly abando	ned						
	102 10		L,						
MW-8D	Well prope	rly abando	ned						
MW-8E	Well prope	rly abando	ned						
						4.0		4.0	NIA.
MW-8F	01/23/92	<50	4.0	1.3	<0.5	1.9	NA NA	1.3	NA -500
	04/30/92	1	<0.5	<0.5	<0.5	<0.5	NA NA	<0.05	<500
	09/28/92		<0.5	<0.5	<0.5	<0.5	NA	NA	NA
	11/19/92		<0.5	<0.5	<0.5	<0.5	NA	NA	NA
	02/12/93	<50		<0.5	<0.5	<0.5	NA	<0.05	NA
	05/06/93	<50		<0.5	<0.5	<0.5	NA	<0.1	<50
	08/16/93	<50		<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		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		<0.5	<0.5	<0.5	6.5	NA 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		<0.5	<0.5	<0.5	<0.5	NA	<0.05	0.89
	04/30/96		<0.5	<0.5	<0.5	<0.5	NA	0.062	<.005
	08/28/96		<0.5	<0.5	<0.5	<0.5	NA	<0.05	' 5
	12/05/96			17	11	46	<30	0.11	<5
	02/21/97			<0.5	<0.5	<0.5	<30	0.085	\ 5
	05/02/97	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	0.81

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

						Ethyl-				TPH as
Well		Date	TPHg	Benzene	Toluene	benzene	Xylenes	MTBE	TPHd	Other*
		Sampled	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppm)	(ppm)
	**	01/24/92	<50	<0.5	<0.5	<0.5	<0.5	NA	0.98	NA
10.00		04/30/92	<50	1.7	<0.5	<0.5	<0.5	NA	<0.05	<500
	-		Well Dry							
WW-og			Well Inacc	cessible						
			Well Inacc							
		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
	П	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
	П	01/31/95	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<u><5</u>
	П	05/18/95	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
	П	08/29/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.12	<5
	П	11/02/95	<50	<0.5	<0.5	<0.5	<0.5	<10	0.14	<5
	П	02/05/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	0.51
	П	04/30/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<.005
	П	08/28/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
	П	12/05/96		16	16	9.0	39	<30	0.057	<5
	П	02/21/97	<50	<0.5	<0.5	<0.5	<0.5	<30	0.054	<5
		05/02/97	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
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 Inac	cessible						
		11/19/92	130	6.8	<0.5	1.1	1.5	NA	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			<0.5			NA	<0.05	4.0
	Ĺ	11/02/94				<0.5		NA	0.76	<u><5</u>
		01/31/95		-		<0.5		NA	0.19	<5
	Ĺ	05/18/95			<0.5	<0.5		NA	0.37	6.6
		08/29/95		<0.5	<0.5			<10	1.0	<5
		11/02/95		<0.5		<0.5	<0.5	<10		5.8
		02/05/96			<0.5	<0.5		NA NA	0.19	2.3
		04/30/96			<0.5			NA	1.80	0.0087
		08/28/96			<0.5	<0.5		NA	<0.05	7.7
		12/05/96			7.3			<30	0.35	<5
		02/21/97			<0.5		<u> </u>	<30	0.90	<13
	L	05/02/97	<50	<0.5	<0.5	<0.5	<0.5	NA.	0.45	<5
l						<u> </u>			<u> </u>	

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

		<u> </u>	<u> </u>		Ethyl-				TPH as
Well	Date	TPHg	Benzene	Toluene	benzene	Xylenes	MTBE	TPHd	Other*
Number	Sampled	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppm)	(ppm)
MW-8I	01/23/92	820	420	7	27	20	NA	0.21	NA
10111-01	04/30/92	2,200	1,800	19	180	25	NA	0.43	<500
		Well Inacc							
	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	<u><50</u>
	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		<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 NA	0.14	<0.5
	04/30/96	350	150	0.77	3.2		NA	<0.05	<.005
	08/28/96	1100	300	2.9	3.2	2.1	NA		<5
	12/05/96	340	23	8.7	11	26	<30	0.053	<5
	02/21/97	<50	<0.5	<0.5	<0.5	<0.5	<30	0.33	<5
	05/02/97	110	39	<0.5	0.92	<0.5	NA	<0.05	<5
MW-8J	01/23/92	<50	1	<0.5	<0.5	<0.5	NA	<0.05	NA
	04/30/92			<0.5	<0.5	<0.5	NA	<0.05	<500
		Well Inac							
	11/19/92		-,	<0.5	<0.5	<0.5	NA		NA
	02/12/93			<0.5	<0.5	<0.5			NA
	05/06/93			<0.5	<0.5	<0.5	NA		<50
	08/16/93		4	<0.5	<0.5	<0.5	NA	<u> </u>	
<u> </u>	10/12/93			<0.5	<0.5	<0.5		<u> </u>	
	02/03/94			<0.5	<0.5	<0.5	NA		
	05/31/94				<0.5	<0.5	NA		
	08/25/94			<0.5	<0.5	<0.5			
	11/02/94			<0.5	<0.5	<0.5			
<u> </u>	01/31/95			<0.5	<0.5	<0.5			
	08/29/95	<u> </u>		<0.5	<0.5	<0.5			
	05/18/95				<0.5				
	08/29/95					<0.5			
	11/02/95					<0.5			
	02/05/96								
	04/30/96				<0.5				
	08/28/96	. 				<0.5			
	12/05/96					38			
	02/21/97				<0.				
	05/02/97		<0.5	<05	<0.	<0.5	N/	<0.05	<5
		1					1		<u> </u>

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

	··				Ethyl-				TPH as
Well	Date	TPHg	Benzene	Toluene	benzene	Xylenes	MTBE	TPHd	Other*
Number	Sampled	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppm)	(ppm)
MW-8K	05/21/93	54	12	<0.5	<0.5		NA	<0.05	<50
INVV OIL	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		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	NA	<0.05	<.005
	08/28/96	<50		<0.5	<0.5	<0.5	NA	<0.05	<5
	12/05/96		<0.5	<0.5	<0.5	<0.5	<30	<0.05	<5
	02/21/97	<50	<0.5	<0.5	<0.5	<0.5	<30	<0.05	<5
	05/02/97	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
MW-8L	05/21/93	76	1.1	<0.5	<0.5	6	NA	<0.05	<u><50</u>
	08/16/93	<50	<0.5	<0.5	0.7		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	Well Inac	cessible						
	01/31/95	Well Inac	cessible						
	05/18/95	Well Inac	cessible						
	08/29/95	Well Inac	cessible				,		
	11/02/95	Well Inac	cessible						
	02/05/96	Well Inac	cessible						
	04/30/96	Well Inac	cessible						
	08/28/96	Well Inac	cessible						
	12/05/96	Well Inac	cessible						
	02/21/97	Well Inac	cessible						
	05/02/97 Well Inacce					<u> </u>			
MTBE = Methyl-tert-butylether									
ppb = parts									, <u>-</u>
	s per million								
NA = Not A	Analyzed								
< = 1 ess th	an the detect	tion limit fo	or the spec	ified meth	od of anal	ysis.		<u> </u>	
* = Inclu	des "heavy"	petroleum	hydrocart	ons such	as waste	oil, minera	l spirits, je	t fuel, or fue	l oil.

 ^{* =} 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.

B C Analytical

ANALYTICAL REPORT

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

LOG NO: G97-05-120

Received: 05 MAY 97

Mailed:

Ms. Caron French Blaine Tech Services 1680 Rogers Avenue San Jose, California 95112

Purchase Order: 94-1446346+4370

Requisition: 624880235 Project: FKEP9037L

REPORT OF ANALYTICAL RESULTS

Page 1

AQUEOUS

SAMPLE DESCRIPTION		DATE SAMPLED	TRPH (CADHS/418.1)	TPH (CADHS/3510)					TPH/BTEX (CADHS/8020)		
			mg/L	Date Extracted Date	Date Analyzed Date	Dilution Factor Times	TPH-d mg/L	Carbon Rangei	Date Analyzed Date	Dilution Factor Times	TPH-g
RDL			5				0.05			1	
1*MW-8F 2*MW-8G 3*MW-8H 4*MW-8I 5*MW-8J 6*MW-8K	:	05/02/97 05/02/97 05/02/97 05/02/97 05/02/97 05/02/97	0.81 <5 <5 <5 <5 <5	05/06/97 05/06/97 05/06/97 05/06/97 05/06/97 05/06/97	05/06/97 05/06/97 05/06/97 05/06/97 05/06/97 05/06/97	1 1 1 1 1 1	<0.05 <0.05 0.45 <0.05 <0.05 <0.05	C10-C25 C10-C25 C10-C25 C10-C25 C10-C25 C10-C25	05/12/97 05/09/97 05/08/97 05/08/97 05/08/97 05/08/97	1 1 1 1 1	<50 <50 <50 110 <50 <50

Deborah Pryor 500 Grand Ave., Oakland Alameda County



B C Analytical

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REPORT OF ANALYTICAL RESULTS

Page 2

AQUEOUS

SAMPLE DESCRIPTION	DATE Sampled	TPH/BTEX (CADHS/8020)					
		Веплепе	То Іцепе	Ethyl- Benzene	Total Xylenes Isomers	Carbon Range -	
RDL.							
1*MW-8F 2*MW-8G 3*MW-8H 4*MW-8I 5*MW-8J 6*MW-8K	05/02/97 05/02/97 05/02/97 05/02/97 05/02/97 05/02/97	<0.5 <0.5 <0.5 39 <0.5 <0.5	<0.5 <0.5 <0.5 <0.5 <0.5 <0.5	<0.5 <0.5 <0.5 0.92 <0.5 <0.5	<0.5 <0.5 <0.5 <0.5 <0.5 <0.5	C6-C12 C6-C12 C6-C12 C6-C12 C6-C12 C6-C12	



ANALYTICAL REPORT

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Requisition: 624880235 Project: FKEP9037L

REPORT OF ANALYTICAL RESULTS

Page 3

		AQUEOUS	
AMPLE	DATE	TRPH	

SAMPLE DESCRIPTION	DATE SAMPLED	TRPH (CADHS/418.1)	TPH (CADHS/3510)					TPH/BTEX (CADHS/8020)		
			Date Extracted	Date Analyzed	Dilution Factor	TPH-d	Carbon Range	Date Analyzed	Dilution Factor	TPH-g
		mg/L	Date	Date	Times	mg/L 		Date	Times	ug/L
RDL		5				0.05			1	50
7*EB	05/02/97	<5	05/06/97	05/06/97	1	<0.05	C10-C25	05/12/97	1	<50



B C Analytical

ANALYTICAL REPORT

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LOG NO: G97-05-120

Received: 05 MAY 97

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Purchase Order: 94-1446346+4370

Requisition: 624880235

Project: FKEP9037L

REPORT OF ANALYTICAL RESULTS

Page 4

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)					
		Benzene	Toluene	Ethyl- To Benzene	otal Xylenes Isomers	Carbon Range	·
		ug/L	ug/L	ug/L	ug/L		
RDL	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	0.5	0.5	0.5	0.5		
7*EB	05/02/97	<0.5	1.0	<0.5	0.68	C6-C12	

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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MPLES	SAMPLE DESCRI	PTION	DETERM	DATE ANALYZED	METHOD	EQUIP.	BATCH	ID.NO
'05120*1	MW-8F		IR.PET.TESNC DIESEL.3520.TES	05.12.97 05.06.97 05.12.97	8015M	533-17 536-25 536-21	97113	8106 1020 8866
'05120*2			GAS.BTX.TESNC IR.PET.TESNC DIESEL.3520.TES	05.12.97 05.06.97	418.1 8015M	533-17 536-01 536-21	97367 97113	8106 1020 8866
⁷ 05120*3	MW-8H		IR.PET.TESNC DIESEL.3520.TES	05.12.97 05.06.97	8015M	533-17 536-25	97367	8106 1020 8171
705120*4	MW-8I		GAS.BTX.TESNC IR.PET.TESNC DIESEL.3520.TES	05.12.97 05.06.97	8015M	533 - 17 -536 - 25	97367 97113	8106 1020
⁷ 05120*5	MW-8J		GAS.BTX.TESNC IR.PET.TESNC DIESEL.3520.TES	05.12.97 05.06.97	8015M	533-17 536-01	97113	8171 8106 1020
705120*6	MW-8K	•	GAS.BTX.TESNC IR.PET.TESNC DIESEL.3520.TES	05.12.97 05.06.97		533-17 536-01	9711005 97367 97113 9711005	8171 8106 1020 8171
7 05120*7	ЕВ		GAS.BTX.TESNC IR.PET.TESNC DIESEL.3520.TES GAS.BTX.TESNC	05.12.97 05.06.97	418.1	533-17	97367 97113	8106

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

VOC ANALYTICAL, GLENDALE QC'REPORT'FOR 9705120 DATE PRINTED: 19 MAY 1997

AQUEOUS SAMPLES		METHOD BLA	NK					LAB	CONTR	OL						M	MATRI	x QC				
(=					LCS		LCSD					RPD	RPD	MS		MSD					RPD	RPD
	UNITS	RESULT	RDL I	FLG	%REC F	LG	%REC	FLG	LCL	UCL	RPD	UCL	FLG	%REC F	FLG	%REC F	ELG	LCL	UCL	RPD	UCL	FLG
Batch: IR*97367 Method: 418.1 -	- Petroleum Hvd	rocarbons.	Total	. Spe	ectropho	tom	etric.	Infr	ared													
0il&Grease/SM5520F	-	0.25	-	-	135	-	146	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-
Batch: IR*97368 Method: 418.1 -	- Petroleum Hyd	rocarbons,	Total	, Spe	ectropho	otom	etric,	Infr	ared													
Oil&Grease/SM5520F	-	0	-	-	161	-	159	-	-	-	1	-	-	-	-	-	-		-	-	-	-
Batch: GAS*976045 Method: 8015.	.TX - 8015.TX																					
Benzene	-	0	-	-	99	-	110	-	-	-	10	-	-	91	-	80	-	-	-	11	-	-
Toluene	-	0	-	-	103	-	114	-	-	-	10	-	-	92	-	93	-	-	-	1	-	-
Ethylbenzene	-	0	-	-	102	-	113	-	-	-	10	-	-	. 91	-	92	-	-	-	2	-	-
Total Xylene Isomers	_	0	-	-	103	-	114	-	-	-	10	-	-	78	-	79	-	-	-	1	-	-
TPH (Gasoline Range)	-	0	-	-	106	-	102	-	-	-	4	-	-		-	-	-	-	-	-	-	-
[a,a,a-Trifluorotoluene]	Percent	105	-	-	100	-	112	-	-	-	-	-	-	124	-	125	-	-	-	-	-	-
Batch: GAS*976044 Method: 8015	M.TX - Modified	8015																				
Benzene	ug/L	0	0.5	-	103	-	98	-	76	155	5	25	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	0.2	0.5	-	106	-	101	-	72	121	5	25	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/L	0	0.5	-	103	-	99	-	72	115	5	25	-	-	-	-	-	-	-	-	-	-
Total Xylene Isomers	ug/L	0.4	0.5	-	107	-	102	-	68	115	5	25	-	-	-	-	-	-	-	-	-	-
TPH (Gasoline Range)	ug/L	0	50	-	95	-	98	-	85	120	3	25	-	-	-	-	-	-	-	-	-	-
[a,a,a-Trifluorotolueme]	Percent	117	-	-	110	-	102	-	85	118	-	-	-	-	-	-	-	-	-	-	-	-
Batch: GAS*976045 Method: 8015	M.TX - Modified	8015																				
Benzene	ug/L	0	0.5	-	99	-	110	-	76	155	10	-	-	91	-	80	-	70	153	11		-
Toluene	ug/L	0	0.5	-	103	-	114	-	72		10	-	-	92	-	93	-	69	119	1		-
Ethy lbenzene	ug/L	0	0.5	-	102	-	113	-	72	115	10	-	-	91	-	92	-	68	116	2		-
Total Xylene Isomers	ug/L	0	0.5	-	103	_	114	-	68	115	10	-	-	78	-	79	-	- 61	118	1	25	-
TPH (Gasoline Range)	ug/L	0	50	-	106	-	102	-	85	120	4	-	-	-	-	-	-	-	-	-	-	-
[a,a,a-Trifluorotoluene]	Percent	105	-	-	100	-	112	-	85	118	-	-	-	124	Q	125	Q	85	118	-	-	-
Batch: GAS*9711005 Method: 801	5M.TX - Modifie	ed 8015																				
Benzene	ug/L	0	0.5	-	101	-	-	-	76	155	_	-	-	123	-	137	-	70	153	11		-
To luene	ug/L	0	0.5	-	103	-	-	-	72	121	-	-	-	105	-	118	-	69	119			-
Ethylbenzene	ug/L	0	0.5	-	102	-	-	-	72	115		-	-	110	-	123	Q	68	116			-
Total Xylene Isomers	ug/L	0	0.5	-	105	-	-	-	68	115	-	-	-	92	-	102	-	61	118			
TPH (Gasoline Range)	ug/L	0	50	-	99	-	-	-	85	120	-	-	-	97	-	99	-	78	124	2	25	_
<pre>[a,a,a-Trifluorotoluene]</pre>	Percent	104	-	-	96	-	-	-	85	118	-	-	-	120	Q	117	-	85	118	-	-	-

VOC ANALYTICAL, GLENDALE QC'REPORT'FOR 9705120 DATE PRINTED: 19 MAY 1997

AQUEOUS SAMPLES		METHOD BLA	ANK		LAB	CONTR	OL	,		MATR	IX QC			
				LCS	LCSD		RPI	D RPD	MS	MSD			RPD	RPD
	UNITS	RESULT	RDL FLG	%REC FLG	%REC FLG	LCL	UCL RPD UC	L FLG	%REC FLG	%REC FLG	LÇL	UCL R	PO UCL	FLG
Batch: DIESEL*97113 Method: 803	L5M - Modified	8015												
TPH (Diesel Range)	mg/L	0	0.5 -	118 -	111 -	53	155 6		109 -	119 -	88	122	9 20	-
[Naphthalene]	Percent	89		127 -	118 -	55	127 -	-	97 -	106 -	55	127		-
[o-Terphenyl]	Percent	102		103 -	96 -	69	108 -	- -	89 -	100 -	69	108	- 20	-

SURROGATE RECOVERIES : BC ANALYTICAL : GLEN LAB : 08:06:43 19 MAY 1997 - P. 1:

ETHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
705120	*1						
015M	Naphthalene o-Terphenyl	97113 97113	05/06/97 05/06/97		0.0500 0.0500	126 175	
015.TX	a,a;a-Trifluorotoluene	Re976045	05/12/97	53.0	50.0	106	
705120	*2						
015M	Naphthalene o-Terphenyl	97113 97113	05/06/97 05/06/97		0.0500 0.0500	83 94	
015M.T	Xa,a,a-Trifluorotoluene		05/09/97	44.9	50.0	90	
705120	*3						
015M	Naphthalene o-Terphenyl	97113 97113	05/06/97 05/06/97	0.0626 0.0870	0.0500 0.0500	125 174	
015M.T	Xa,a,a-Trifluorotoluene		05/08/97	46.3	50.0	93	
705120	*4						
015M	Naphthalene o-Terphenyl	97113 97113	05/06/97 05/06/97	0.0596 0.0829	0.0500 0.0500	119 166	
015M.T	Xa,a,a-Trifluorotoluene		05/08/97	42.0	50.0	84	
705120	*5						
.015M	Naphthalene	97113 97113	05/06/97 05/06/97	0.0425 0.0479	0.0500 0.0500	85 96	
015M.T	o-Terphenyl Xa,a,a-Trifluorotoluene		05/08/97	39.8	50.0	80	
705120	*6						
015M	Naphthalene	97113	05/06/97	0.0458	0.0500	92 101	
015M.T	o-Terphenyl Xa,a,a-Trifluorotoluene	97113 Re9711005	05/06/97 05/08/97	0.0507 41.8	0.0500 50.0	84	
705120	*7						
015M	Naphthalene	97113	05/06/97	0.0315	0.0500	63	
015M.T	o-Terphenyl Xa,a,a-Trifluorotoluene	97113 Re976045	05/06/97 05/12/97	0.0383 48.5	0.0500 50.0	77 97	

SURROGATE RECOVERIES : BC ANALYTICAL: GLEN LAB: 08:06:51 19 MAY 1997 - P. 1:

:=====				===		
1ETHOD	ANALYTE BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
704995	5*1*R1					
3 015M	a,a,a-Trifluorotoluene Re97110	05 05/08/97	45.7	50.0	91	
704995	5*1*\$1					
3015M	a,a,a-Trifluorotoluene Re97110	05 05/08/97	60.0	50.0	120	
704995	5*1*S2					
3015M	a,a,a-Trifluorotoluene Re97110	05 05/08/97	58.7	50.0	117	
704995	5*1*T					
3015M	a,a,a-Trifluorotoluene Re97110	05 05/08/97	50.0	50.0	100	
1705133	3*1*R1					
3 015 M	Naphthalene 97113	05/06/97		0.0500	81	
3270	o-Terphenyl 97113 2-Fluorophenol 97102	05/06/97 05/07/97	0.0459 49.2	0.0500° 75.0	92 66	
	Pheno1-d5 97102	05/07/97	40.6	75.0	54	
	Nitrobenzene-d5 97102 2-Fluorobiphenyl 97102	05/07/97 05/07/97	33.6 39.0	50.0 50.0	67 78	
	2,4,6-Tribromophenol Rep.97102		63.4	75.0	85	
3080	Terphenyl-d14 97102	05/07/97	50.0	50.0	100	
1000	Tetrachloro-meta-xylene R9784 Decachlorobiphenyl 9784	05/08/97 05/08/97	0.207 0.129	0.250 0.250	83 52	
:080	Tetrachloro-meta-xylene R9784	05/08/97	0.207	0.250	83	
260	Decachlorobiphenyl 9784 Toluene-d8 97305	05/08/97 5 05/08/97	0.129 49.3	0.250 50.0	52 99	
200	4-Bromofluorobenzene Rep.97305	5 05/08/97	50.6	50.0	101	
	Dibromofluoromethane Rep.97305	5 05/08/97	49.2	50.0	98	
705133	*1*\$1					
015M	Naphthalene 97113 o-Terphenyl 97113	05/06/97 05/06/97	0.0483 0.0443	0.0500 0.0500	97 89	
270	2-Fluorophenol 97102	05/06/97	49.8	75.0	66	
	Pheno 1-d5 97102	05/07/97	40.4	75.0	54	
	Nitrobenzene-d5 97102 2-Fluorobiphenyl 97102	05/07/97 05/07/97	34.1 39.6	50.0 50.0	68 79	
	2,4,6-Tribromophenol Rep.97102	05/07/97	68.9	75.0	92	
080	Terphenyl-d14 97102 Tetrachloro-meta-xylene R9784	05/07/97 05/08/97	51.0 0.216	50.0 0.250	102 86	
	Decachlorobiphenyl 9784	05/08/97	0.173	0.250	69	
260	Toluene-d8 973059 4-Bromofluorobenzene Rep.973059		49.2 48.5	50.0 50.0	98 97	
	Dibromofluoromethane Rep. 97305		46.3	50.0	93	
705133	*1*S2					
)15M	Naphtha lene 97113	05/06/97	0.0528	0.0500	106	
270	o-Terphenyl 97113 2-Fluorophenol 97102	05/06/97 05/07/97	0.0500 48.5	0.0500 75.0	100 65	
	Pheno1-d5 97102	05/07/97	38.9	75.0	52	

05767*1*MB

SURROGATE RECOVERIES:
BC ANALYTICAL: GLEN LAB: 08:06:52 19 MAY 1997 - P. 2:

THOD	ANALYTE I	ВАТСН	ANALYZED	REPORTED	TRUE	%REC F	FLAG					
80 60	2-Fluorobiphenyl 2,4,6-Tribromophenol Rep. Terphenyl-d14 Tetrachloro-meta-xylene R Decachlorobiphenyl	97102 9784 9784 973055 973055	05/07/97 05/07/97 05/07/97 05/07/97 05/08/97 05/08/97 05/08/97 05/08/97	50.2	50.0 50.0 75.0 50.0 0.250 0.250 50.0 50.0	69 81 88 106 78 58 99 100						
05133	*1*T		•									
:70 :80 :60	o-Terphenyl 2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromophenol Rep. Terphenyl-d14 Tetrachloro-meta-xylene R Decachlorobiphenyl	97102 9784 9784 973055 973055	05/06/97 05/06/97 05/07/97 05/07/97 05/07/97 05/07/97 05/07/97 05/08/97 05/08/97 05/08/97 05/08/97	0.0500 75.0 75.0 50.0 50.0 75.0 50.0 0.250 0.250 50.0	0.0500 0.0500 75.0 75.0 50.0 75.0 50.0 0.250 0.250 50.0 50.0	100 100 100 100						
'05169)*1*R1											
)20	a,a,a-Trifluorotoluene Re	976045	05/13/97	46.8	50.0	94						
'05169)20	a,a,a-Trifluorotoluene Re	976045	05/13/97	62.1	50.0	124						
'05169)*1*S2											
05169	a,a,a-Trifluorotoluene Re)*1*T	976045	05/13/97	62.3	50.0	125						
)20	a,a,a-Trifluorotoluene Re	976045	05/13/97	50.0	50.0	100						
05344	!*1*MB											
)15M		97113 97113	05/06/97 05/06/97		0.0500 0.0500							
05580)*1*MB											
15M	a,a,a-Trifluorotoluene Re	9711005	05/08/97	51.9	50.0	104						
05748	3*1*MB											
15M	a,a,a-Trifluorotoluene Re	976044	05/08/97	58.4	50.0	117						

SURROGATE RECOVERIES :

BC ANALYTICAL : GLEN LAB : 08	:06:53 19 MAY 1997 - P. 3:

ETHOD	ANALYTE	BATCH	ANALYZED R	EPORTED	TRUE	%REC	FLAG
11 5M	a,a,a-Trifluorotoluene	Re976045	05/12/97	52.5	50.0	105	÷
	4*1*LC	NC370043		32.0	0010	-00	
	a,a,a-Trifluorotoluene	Re9711005	05/08/97	48.0	50.0	96	
	4*1*LT						
	a,a,a-Trifluorotoluene	Re9711005	05/08/97	50.0	50.0	100	
	7*1*LC						
0 15M	a,a,a-Trifluorotoluene	Re976044	05/08/97	55.2	50.0	110	
	7*1*LT						
015M	a,a,a-Trifluorotoluene	Re976044	05/08/97	50.0	50.0	100	
705143	8*1*LC						
015M	a,a,a-Trifluorotoluene	Re976044	05/08/97	51.1	50.0	102	
705143	8*1*LT						
015M	a,a,a-Trifluorotoluene	Re976044	05/08/97	50.0	50.0	100	
:705147	1*1*LC						
3 015M	a,a,a-Trifluorotoluene	Re976045	05/12/97	50.1	50.0	100	
705147	1*1*LT						
3015M	a,a,a-Trifluorotoluene	Re976045	05/12/97	50.0	50.0	100	
:705149	94*1*LC						
3015M	a,a,a-Trifluorotoluene	Re976045	05/11/97	56.0	50.0	112	
:705149	04*1*LT						
3015M	a,a,a-Trifluorotoluene	Re976045	05/11/97	50.0	50.0	100	
:705672	2*1*LC						
:015M	Naphthalene o-Terphenyl	97113 97113	05/06/97 05/06/97	0.0634 0.0517	0.0500 0.0500		
705672	?*1*LT						
:015M	Naphthalene o-Terphenyl	97113 97113	05/06/97 05/06/97	0.0500 0.0500	0.0500 0.0500		
705673	3*1*LC						
015M	Naphtha lene	97113	05/06/97	0.0588	0.0500	118	

SURROGATE RECOVERIES:

BC ANALYTICAL: GLEN LAB: 08:06:54 19 MAY 1997 - P. 4:

TRUE %REC FLAG ANALYZED REPORTED ETHOD ANALYTE **BATCH**

o-Terphenyl 05/06/97 0.0482 0.0500 97113 96

705673*1*LT

Naphthalene o-Terphenyl 05/06/97 0.0500 0.0500 100 015M 97113

05/06/97 0.0500 0.0500 100 97113

697-05-120

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Toxaco Environmental S	orvices					Sit	o Non	10;	Te	xaco	Loc	. #	6248	8023			_	ļ
108 Cutting Boulevard	•					Sito /	\ddras	£;						akla		CA	•	.
Richmond, California 94804				Con	tractor Proje	oci Ni	mbor;			97	0501	ー名り			•		•	· ·
Phone: (510) 230-3541					Con	irecto	t Nam	o:	BI	aine	: Tc	ch S	CIV:	LCes,	LI	c.	•	1
FAX: (510) 237-7021							Addro:));	168	80 R	ogei	s_A	ve	San	Jos	e. CA 951	12	•
Forward Results to Blaine				ench	Pro	ojnat (ontac	31	_Kei	nE B	rowr	1		·				
Texaco Project Corordinator	_Deborah Pry	or				Phe	ono/FA	х:		408)	<u> 573-</u>	055	5	1 (1	408)	573-7771	-	
Laboratory:	B C Analytical					0.000.00			00000000	ΑΝΑΙ	.ver	-200.000		*****				
Turn Around Time:		3 4	`	· · · · · · · · · · · · · · · · · · ·	•	3,6969,650		**************************************	200000	73.13.73.1		<u>'</u>	···········	· · · · · · · · · · · · · · · · · · ·	*******	- 01	2	į
Samplers (PRINT NAME):	normal (1)		J		-					İ				ŀ		1)/		
Sempler Signature:	Br. He				-										- 1	DRI 62488 FKER	(0)	35.
Date Samples Collected:	5-2-17				•							İ			- 1	6710) () a 1	۳,
	<u> </u>	2000000000	1 3000 2000 2000 2000	20200000000000	200000000000000000000000000000000000000)						١.			1	FKEI	903	, / 🗀
	***										Halocarbons 8010/60	0/502			İ	0.0	E.	(a
H.P.	1		870					=	(+ 9		000	020				Ma	well	
P. C.	<u>≅</u>	, C	.5	н .		×		(418.1)	3·C3	524	25	ထ				V		
Acerba	ŭ,	1	ક્રિક	.,	* 7	X376/219	- - (i	Ĭ.	(C3)	40,52	, S	Aromatics	Lead	ľ	ł	•		i
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8	٥		. ≿	U)	n.	2) <u>}</u> =	0	<u>;:</u> -	5	a.	a;	ŏ			Commente		• 1
Wm-8t	B-2-57/ 700	7	500000000000	200,000,000	***********	! x	×				 		<u> </u>	-				···
17W-8G	1 /720	7			 	×	<u>x</u>	<u>~</u>		 -								{
Mw-8H	/ 755	7				<u> </u>	×				 -	 -	 					
Mw-81	/ 810	7		 -		 -		-^-										
Mu-81	740	7				×	×	×					 -	-				
Mu-8K	/ 840	7				x:	×).					 					
EB	1 / 725	7				X.		¥.					 		******		•	
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Signature CA-EA		15/9	77	12	20	Signa		#U	ne	uil	>/	Trei	1/1	(1)	5	15/97	12	20)
Relinquished by:		Dre:		Time:		Receiv	rd by:					į.			Dele:		Time:	
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Ralinquiahad by:		Date:		Time;		Noceiv	ւմ հչ։		•			-		C			Time:	
(Signature)	· · · · · · · · · · · · · · · · · · ·		_			(Signa												
Method of Shipment:						Lib Co	marcal	•:										
L																		į.

Well	Gai	uging	Data
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D • • • • •	Texaco dos	71511	oudging Duta	•
Project Name:	Texaco #624880235		Date: MAY	2 07
Drainet Mussham	500 Grand Ave.	* 	Date. MAY	۷, ۱۰
Project Number:	Oakland, CA	"Bette	Recorded By: છાટ્યા	
			7.50,00	

	TOC DTB Elev. (ft. Toc)	Well Dia.	DTP DTW (ft.)	PT Comments (ft.)
Mu-8F	14.48	ч	7.85	
MW-86-	14.44	ц	7.54	
Mw-8 H	14.77	ч	3.44	
Mw-8 1	14.53	t t	4.20	ORC'S ILL WELL
Mw-BJ	<u>ነ</u> ዛገን	4	6.22	
Mur-8 K	14.47	2	1,60	
MW-8L		2	0.60	BENT/ DAMKED CACILLE PO 1,25'
				10-
· ·				
	_			

TOC = Top of casing
DTB = Depth to bottom in feet below TOC
DTP = Depth to product in feet below TOC
DTW = Depth to water in feet below TOC
PT = Product thickness in feet

Project #: 970502-Z1	Texaco ID#: 624 886 235			
Sampler: 😹	Date: 5.2			
Well I.D.: Mw-8F	Well Diameter: 2 3 4 6 8			
Total Well Depth: 14.48	Depth to Water: 7.85			
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 ² * 0.164	ļ

Purge Method:

S.S. Bailer

Sampling Method: S.S. Bailer 😼

Teflon Bailer Middleburg

Teflon Bailer Extraction Port

Electric Submersible 🗸

Other:

Extraction Pump

Other: _____

ł	4.3	х	3	=	129	Gals.	
l	1 Case Volume (Gals.)		Specified Volumes		Calculated	Volume	

Time	Temp (°F)	pН	Cond.	Turbidity	Gals. Removed	Color/Odor
652	58.8	7.1	300	22	5	
653	59.2	7.1	3000	14	10	
654	59.6	7.1	3000	10	13	
Did well dewater? Yes No				Gallons actual	ly evacuated: 13	
Sampling Time: 700				Sampling Date: 5-2		
Sample I.D.: Mw-8F				Laboratory: BC Analytical		
Analyzed	Analyzed for: Tph(G BTEX Tph-D				9 4 6-	
Equipmen	Equipment Blank I.D.:				ne as primary sampl	е

Project#: 970502-21	Texaco ID#: 624 886 235
Sampler: 🖰	Date: 5-2
Well I.D.: Mu-ge-	Well Diameter: 2 3 4 6 8
Total Well Depth: 1444	Depth to Water: 1.54
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC Meter used	s Myron LpDS pHÆC Meter. All temperatures taken in degrees Fahrenheit.

Well Diameter	Multiplier	Well Dismour	Multiplier	
2"	0.17	5"	1.02	
37	0.38	6"	1.50	
4"	0.65	8"	2.60	
4.5"	0.83	Other	radius ² * 0.164	

Purge Method:

S.S. Bailer

Sampling Method: S.S. Bailer 🖊

Teflon Bailer

Teflon Bailer

Middleburg

Extraction Port

Electric Submersible ×

Other:

Extraction Pump

4.5	х	3	=	13.5	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculat	ted Valume
					4.

Time	Temp (°F)	pН	Cond.	Turbidity	Gals. Removed	Color/Odor	
707	58.4	6.8	3700	47	5		
708	51.0	6. 7	380)	41	10	•	
710	51.6	6.9	3800	94	100 14		
Did well	dewater?	Yes	№	Gallons actual	lly evacuated: أَبْ	}	
Sampling	g Time: 720			Sampling Date: 5-2			
Sample I	.D.: 1/4-9	š6-		Laboratory: BC Analytical			
Analyzeo	l for: T	ph(G B	TEX Tph-D	Other: More 1046			
Equipme	nt Blank I.l	D.:		Analyzed for same as primary sample			

Project #: 970502-21	Texaco ID#: 624 886 235
Sampler: 👦	Date: 5-2
Well I.D.: Mw-8H	Well Diameter: 2 3 4 6 8
Total Well Depth: 14.77	Depth to Water: 3.44
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is	Myron LpDS pHEC 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 ² * 0.164		
					•	

Purge Method:

S.S. Bailer

Sampling Method: S.S. Bailer *

Tesson Bailer

Teflon Bailer

Middleburg

Extraction Port

Electric Submersible

Other:

Extraction Pump

7.2	х	3	=	ما.ا2	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calcula	ited Volume

Time	Temp (°F)	pН	Cond.	Turbidity	Gals. Removed	Color/Odor	
746	GC-4	7.3	946	7 200	8		
זאר	GC.8	7.4	820	7 200	16	·	
749	67.2	7.4	780	7200	22.		
Did well	dewater?	Yes (No	Gallons actua	lly evacuated: 21	•	
Sampling	g Time: नड	55°		Sampling Date: 5.2			
Sample I	.D.: 1/4-8	H		Laboratory: BC Analytical			
Analyzeo	d for: T	ph(G B7	EX Tph-D	Other: Mark , 046			
Equipme	nt Blank I.I	D.:		Analyzed for same as primary sample			

Project #: 970502-2	, ·		Texaco ID#: 624 886 235				
Sampler: 😁			Date: 5-2				
Well I.D.: Mw-81			Well Diameter: 2 3 4 6 8				
Total Well Depth:	14.53		Depth to Water: 4.20				
Depth to Free Produ	ct:		Thickness of Free Product:				
All Measurements are referenced to	TOC. Moter used	is Myron LpDS p	HÆC Meter. All temperatures taken in degrees Fahrenheit.				
Well Diameter 2" 3" 4" 4.5"	Multiplier 0.17 0.38 0.66 0.83	Well Diam 5" 6" 8" Other	1.02 1.50 2.60 radius ² * 0.164				
m	C C Dallas		Compliant Matheds C.C. Dailon W				

Purge Method:

S.S. Bailer

Sampling Method: S.S. Bailer *

Teflon Bailer

Teflon Bailer

Middleburg

Extraction Port

Electric Submersible 4

Other:

Extraction Pump

1						
5:4	Х	3	=	14.2	Gals.	:
1 Case Volume (Gals.)		Specified Volumes		Calculate	d Volume	

Time	Temp (°F)	pН	Cond.	Turbidity	Gals. Removed	Color/Odor		
Eo3	45.6	7.3	940	47				
804	(de. 0	7.3	1000	34	12_			
300	4.4	7.3	1000	21	17			
			<u> </u>					
Did well	dewater?	Yes (No	Gallons actually evacuated: 17.6				
Sampling	g Time: 816		,	Sampling Date: 5-2				
Sample 1	.D.: M-	ŠI		Laboratory: BC Analytical				
Analyze	i for: T	ph(G B	TEX Tph-D	Other: Most 1046				
Equipme	nt Blank I.	D.:		Analyzed for same as primary sample				

Texaco ID#: 624 886 235

Project #:

970502-21

Sample	T: 88			Date: 5-2			
Well I.	D.: Mw-83			Well Diameter: 2 3 4 6 8			
Total V	Vell Depth:	14.73		Depth to Wat	ter: 6.22		
Depth t	o Free Prod	uct:		Thickness of	Free Product:		
All Measurer	nents are referenced t	o TOC.	Meter used is Myron LpDS p	H/EC Meter. All 1	temperatures taken in degrees !	Fabronheit.	
Well Diameter Multiplier Well Diameter 2" 0.17 5" 3" 0.38 6" 4" 0.66 8" 4.5" 0.83 Other			<u>reer Multin</u> 1.00 1.50 2.60 radius ² * 0.16	2 0 0			
Purge Me		S.S. Baile Teflon Ba Middlebur Electric St Extraction	iler g Ibmersible k Pump	• -	d: S.S. Bailer A Teflon Bailer Extraction Port	_	
	1 Case Volume		X 3 Specified Volum	mes Calcu	Gals.		
Time	Temp (°F)	рН	Cond.	Turbidity	Gals. Removed	Color/Odor	
791	65.6	7.8	1800	44	(<u>.</u>		
732	(₄ ,0	7.2	1400	34	12		
733	GG.4	7.2	1400	37	17		
Did wel	l dewater?	Yes (Nð	Gallons actually evacuated: 17			
Samplin	g Time: 740	>		Sampling Date: 5-2			
Sample	I.D.: 11-1	<u> </u>		Laboratory: BC Analytical			
Analyze	ed for: T	ph(GB'	TEX Tph-D	Other: Myss 1046			
Equipment Blank I.D.: 😝 👂 725				Analyzed for san	ne as primary sample	<u>e</u>	
						4	. :

Project #: 970502-21	Texaco ID#: 624 886 235
Sampler: 😹	Date: 5-2
Well I.D.: Mw-8K	Well Diameter: 2 3 4 6 8
Total Well Depth: رديم	Depth to Water: 1.60
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used	is Myron LpDS pHEC Meter. All temperatures taken in degrees Fahrenheit.
Well Diemeter Multiplier	Well Diameter Multiplier

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	radius2 * 0.164		

Purge Meth∞d:

S.S. Bailer 🛰

Sampling Method: S.S. Bailer 🛰

Teflon Bailer

Teflon Bailer

Middleburg

Extraction Port

Electric Submersible

Other:

Extraction Pump

2.4	х	3	=	7.2	Gals.	,
1 Case Volume (Gals.)		Specified Volumes		Calcu	lated Volume	

Time	Temp (°F)	pН	Cond.	Turbidity	Gals. Removed	Color/Odor		
827	46.8	7.2	1160	7200	2.5			
83-0	67.8	7.2	1200	7 200	5.0	-		
833	48.2	7.2	1200	7 200	7.25			
						·		
Did well	l dewater?	Yes (No	Gallons actua	lly evacuated: 🗽	-25		
Samplin	g Time: 8	10		Sampling Date: 5-2				
Sample :	I.D.: Mu- 8	šk		Laboratory: BC Analytical				
Analyże	d for: T	ph G B1	EX Tph-D	Other: Mast 1046				
Equipme	ent Blank I.	D.:		Analyzed for same as primary sample				

Project #: 970502-Z1	Texaco ID#: 624 886 235
Sampler: 😣	Date: 5-2
Well I.D.: Mw-8L	Well Diameter: 2 3 4 6 8
Total Well Depth: —	Depth to Water: .60
Depth to Free Product:	Thickness of Free Product:
All Measurements are referenced to TOC. Meter used is Myror	LpDS pH/EC Meter. All temperatures taken in degrees Fahrenheit.
Well Dismeter Multiplier W	Sell Diameter Multiplier
Purge Method: S.S. Bailer Teflon Bailer Middleburg Electric Submersible Extraction Pump Other:	Sampling Method: S.S. Bailer Teflon Bailer Extraction Port Other:
X 3 1 Case Volume (Gals.) Specified	= Gals. d Volumes Calculated Volume
Time Temp (°F) pH Cond	. Turbidity Gals. Removed Color/Odor
WELL ILLICCESSIBLE	E BEST OR COLLAPSED CASING
(2) 1.5	
Did well dewater? Yes No	Gallons actually evacuated:
Sampling Time:	Sampling Date: 5-2
Sample I.D.: 12-8	Laboratory: BC Analytical
Analyzed for: Tyh(G BTEX Tph)	D Other: 1046
Equipment Blank I.D.:	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 PURGEWATER WHICH HAS BEEN RECOVERED FROM GROUNDWATER 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: 1680 Rogers Avenue
City, State, ZIP: San Jose, CA 95112

Phone: (408) 573-0555

is authorized by Texaco Environmental Services to recover, collect, apportion into loads, and haut 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; 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 #:

Address: Texaco #624880235
City, State, ZIP: 500 Grand Ave.

Oakland, CA

Well I.D. Gals. Well I.D. Gals. PURCE +140 95 Total gals. 95 added rinse water Total Gals. Recovered 165 Job #: 97050L- Zz Date 5-2-97 Time 845 Signature: REC'D AT: BT> Date: 5-1-97 Time: OPEI 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 complied 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.

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

<u>The Date Taken.</u> 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.

<u>The Sampler's Name</u>. 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, 1997

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 5 off-site wells were installed. The initial 5 on-site wells have been abandoned and replaced by 2 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. Site structures, 3 underground storage tanks, dispenser islands and associated piping, and stockpiled soils 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. Submitted request to Alameda County Health Care Services Agency to reduce the frequency of groundwater monitoring and sampling in selected wells.

CHARACTERIZATION STATUS

1 C 4

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.

REMEDIATION STATUS

No further investigation or remediation of the vadose-zone soils is planned. It is proposed that down gradient wells continue to be monitored to document the biodegradation of the remaining dissolved-phase hydrocarbons in the groundwater. Oxygen release compounds were installed in December 1996 in selected wells to enhance the natural in-situ biodegradation process.

WORK TO BE PERFORMED NEXT QUARTER

Continue groundwater monitoring and sampling to record fluctuations in hydrocarbon concentrations and monitor the ORC.

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