Texaco Refining
and Marketing Inc

10 Universal City Plaza
Universal City CA 91608

May 14, 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 February 21, 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

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

Keith Winemiller
Pacific Environmental Group, Inc.
2025 Gateway Place, Suite 440
San Jose, CA 95110

RAOFile-DRPryor

pr:

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

BLAINE
TECH SERVICES INC

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

March 25, 1997

Groundwater Monitoring and Sampling
First 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 February 21, 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 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.

Francis Thie
Vice President
Blaine Tech Services, Inc.

REGISTERED GEOLOGIST
JOHN K. HOFER
NO. 1065
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

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

FPT:mc

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

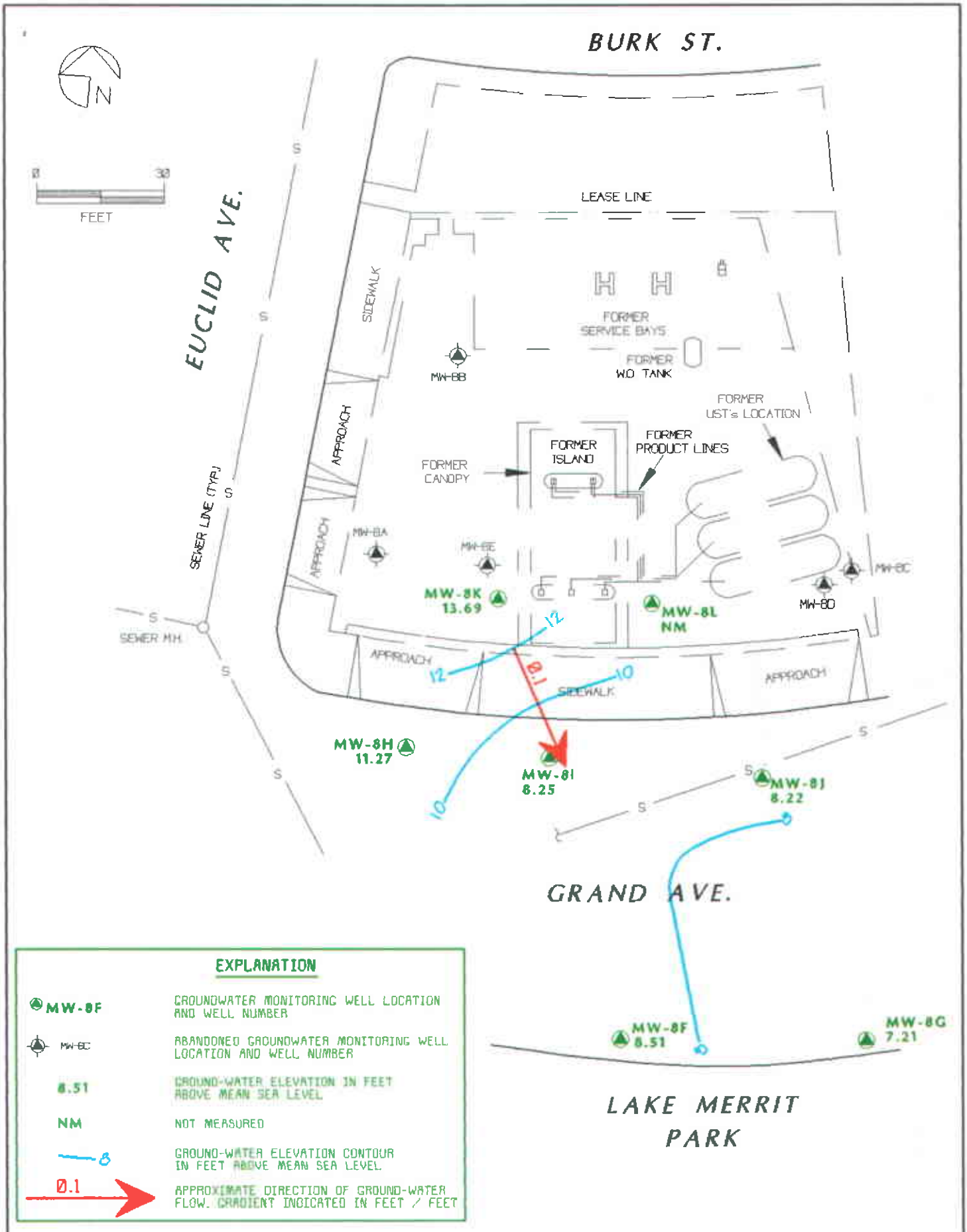
TEXACO
REFINING AND MARKETING,INC.
TEXACO ENVIRONMENTAL SERVICES

PLATE 1

SITE VICINITY MAP

FORMER TEXACO SERVICE STATION

500 GRAND AVE. / EUCLID AVE.,
OAKLAND, CALIFORNIA



EXPLANATION

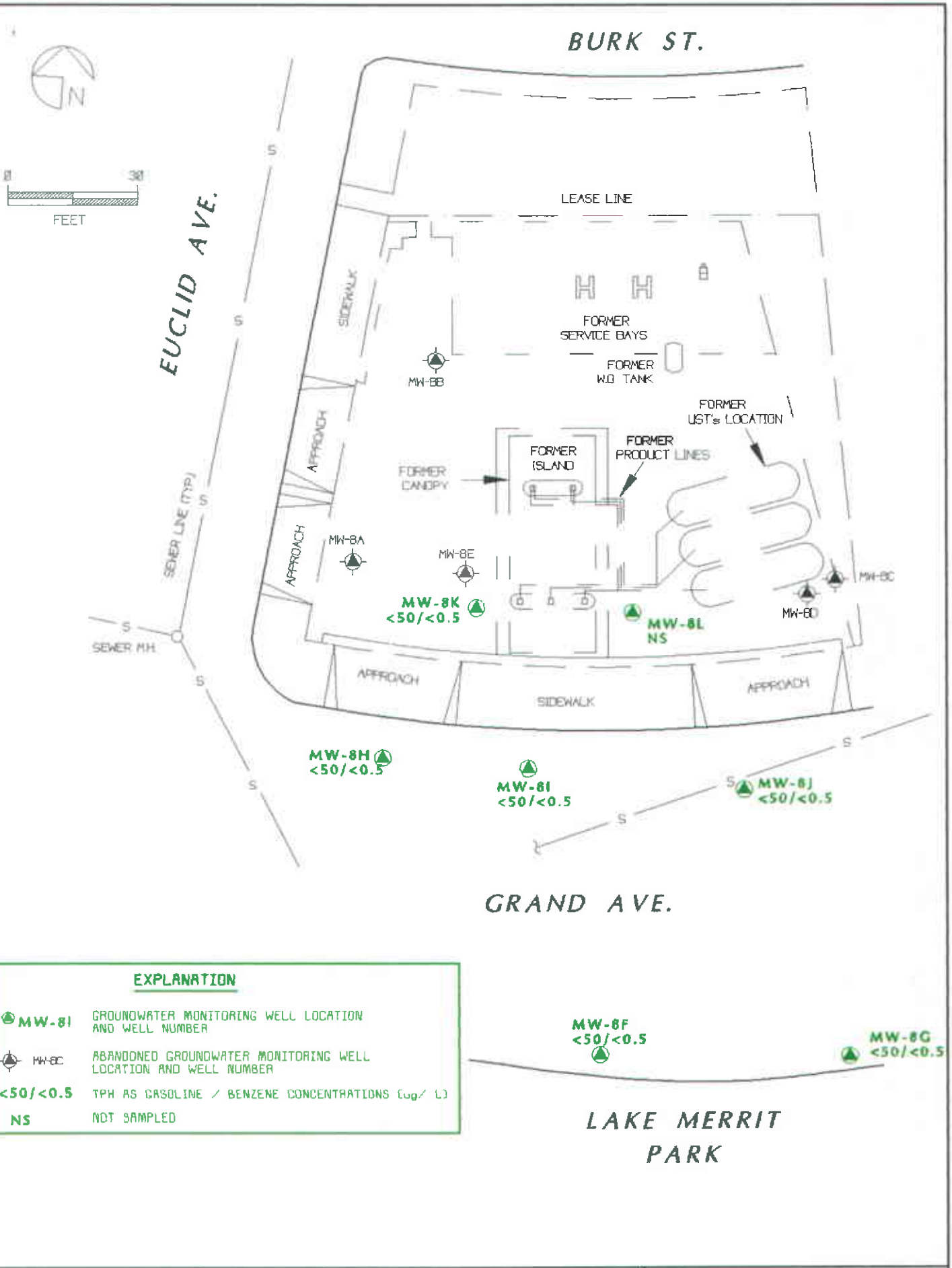
MW-8F	GROUNDWATER MONITORING WELL LOCATION AND WELL NUMBER
MW-8C	ABANDONED GROUNDWATER MONITORING WELL LOCATION AND WELL NUMBER
8.51	GROUND-WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
NM	NOT MEASURED
8	GROUND-WATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL
0.1	APPROXIMATE DIRECTION OF GROUND-WATER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

TITLE : GROUND-WATER ELEVATION CONTOUR MAP - FEBRUARY 21, 1997

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-GR-EU/W022197



EXPLANATION

MW-8I	GROUNDWATER MONITORING WELL LOCATION AND WELL NUMBER
MW-8C	ABANDONED GROUNDWATER MONITORING WELL LOCATION AND WELL NUMBER
<50/<0.5	TPH AS GASOLINE / BENZENE CONCENTRATIONS (ug/ L)
NS	NOT SAMPLED

TITLE : TPH AS GASOLINE AND BENZENE CONCENTRATIONS MAP - FEBRUARY 21, 1997

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. G758-11
DRAWING NO. TEXACO/OK-GR-EU/G022197

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
	08/28/96			8.72	5.32
	12/05/96			8.16	5.88
	02/21/97			5.53	8.51

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
	08/28/96			8.94	4.38
	12/05/96			9.22	4.10
	02/21/97			6.11	7.21

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-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			3.77	11.27

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
	08/28/96			6.20	8.20
	12/05/96			6.01	8.39
	02/21/97			6.15	8.25

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-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
	08/28/96			6.38	7.44
	12/05/96			5.94	7.88
	02/21/97			5.60	8.22
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
	08/28/96			1.75	13.43
	12/05/96			1.42	13.76
	02/21/97			1.49	13.69

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-8L	08/16/93	14.44	*	2.47	11.97
	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	
	08/28/96			0.75	13.69
	12/05/96			Well Inaccessible	
	02/21/97			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
	08/28/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
	12/05/96	210	17	17	11	46	<30	0.11	<5
	02/21/97	<50	<0.5	<0.5	<0.5	<0.5	<30	0.085	<5

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-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
		08/28/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
		12/05/96	190	16	16	9.0	39	<30	0.057	<5
		02/21/97	<50	<0.5	<0.5	<0.5	<0.5	<30	0.054	<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 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
		08/28/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	7.7
		12/05/96	100	6.2	7.3	5.0	22	<30	0.35	<5
		02/21/97	<50	<0.5	<0.5	<0.5	<0.5	<30	0.90	<13

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-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
	08/28/96	1100	300	2.9	3.2	2.1	NA	0.38	<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
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
	08/28/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
	12/05/96	160	13	14	8.9	38	<30	<0.05	<5
	02/21/97	<50	<0.5	<05	<0.5	<0.5	<30	<0.05	<5

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-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
	08/28/96	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<5
	12/05/96	<50	<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
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							
	04/30/96	Not Sampled							
	08/28/96	Not Sampled							
	12/05/96	Not Sampled							
	02/21/97	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.

B C Analytical

ANALYTICAL REPORT

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

LOG NO: G97-02-596
Received: 24 FEB 97
Mailed: MAR 5 1997

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

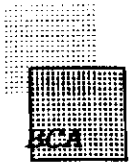
Purchase Order: 94-1446346+4370
Requisition: 624880235
Project: KFEP9037L

REPORT OF ANALYTICAL RESULTS

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TRPH (CADHS/418.1)	TPH (CADHS/3510)				TPH/BTEX (CADHS/8020)			
			Date Extracted Date	Date Analyzed Date	Dilution Factor Times	TPH-d	Carbon Range	Date Analyzed Date	Dilution Factor Times	TPH-g
		mg/L				mg/L				ug/L
RDL		5				0.05			1	50
1*MW-8F	02/21/97	<5	02/26/97	02/27/97	1	0.085	C10-C25	03/02/97	1	<50
2*MW-8G	02/21/97	<5	02/26/97	02/27/97	1	0.054	C10-C25	03/02/97	1	<50
3*MW-8H	02/21/97	13	02/26/97	03/04/97	5	0.90	C10-C25	03/02/97	1	<50
4*MW-8I	02/21/97	<5	02/26/97	03/04/97	2	0.33	C10-C25	03/02/97	1	<50
5*MW-8J	02/21/97	<5	02/26/97	02/27/97	1	<0.05	C10-C25	03/02/97	1	<50
6*MW-8K	02/21/97	<5	02/26/97	02/27/97	1	<0.05	C10-C25	03/02/97	1	<50

Deborah Pryor
500 Grand Ave., Oakland
Alameda County



B C Analytical

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

ANALYTICAL REPORT

LOG NO: G97-02-596

Received: 24 FEB 97

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

Purchase Order: 94-1446346+4370

Requisition: 624880235
Project: KFEP9037L

REPORT OF ANALYTICAL RESULTS

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020) Benzene ug/L	Toluene ug/L	Ethyl-Benzene ug/L	Methyl-tert-butylether ug/L	Total Xylenes Isomers ug/L	Carbon Range
RDL		0.5	0.5	0.5	30	0.5	
1*MW-8F	02/21/97	<0.5	<0.5	<0.5	<30	<0.5	C6-C12
2*MW-8G	02/21/97	<0.5	<0.5	<0.5	<30	<0.5	C6-C12
3*MW-8H	02/21/97	<0.5	<0.5	<0.5	<30	<0.5	C6-C12
4*MW-8I	02/21/97	<0.5	<0.5	<0.5	<30	<0.5	C6-C12
5*MW-8J	02/21/97	<0.5	<0.5	<0.5	<30	<0.5	C6-C12
6*MW-8K	02/21/97	<0.5	<0.5	<0.5	<30	<0.5	C6-C12

B C Analytical

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

ANALYTICAL REPORT

LOG NO: G97-02-596

Received: 24 FEB 97

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

Purchase Order: 94-1446346+4370

Requisition: 624880235
Project: KFEP9037L

REPORT OF ANALYTICAL RESULTS

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TRPH (CADHS/418.1)	TPH (CADHS/3510)					TPH/BTEX (CADHS/8020)		
			Date Extracted Date	Date Analyzed Date	Dilution Factor Times	TPH-d	Carbon Range	Date Analyzed Date	Dilution Factor Times	TPH-g
		mg/L				mg/L				ug/L
RDL		5				0.05			1	50
7*EB	02/21/97	<5	02/26/97	02/27/97	1	<0.05	C10-C25	03/02/97	1	<50

B C Analytical

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

ANALYTICAL REPORT

LOG NO: G97-02-596

Received: 24 FEB 97

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

Purchase Order: 94-1446346+4370

Requisition: 624880235
Project: KFEP9037L

REPORT OF ANALYTICAL RESULTS

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020) Benzene ug/L	Toluene ug/L	Ethyl-Benzene ug/L	Methyl-tert-butylether ug/L	Total Xylenes Isomers ug/L	Carbon Range .
RDL		0.5	0.5	0.5	30	0.5	
7*EB	02/21/97	<0.5	<0.5	<0.5	<30	<0.5	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.

BCA

: ORDER PLACED FOR CLIENT: Blaine Tech Services 9702596 :
: BC ANALYTICAL : GLEN LAB : 09:58:38 05 MAR 1997 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE..... ANALYZED	METHOD.....	EQUIP.	BATCH..	ID.NO
9702596*1	MW-8F	IR.PET.TESNC	02.27.97	418.1	533-17	97302	8106
		DIESEL.3520.TES	02.27.97	8015M	536-01	9754	1010
		GAS.MTBE.TESNC	03.02.97	8015M.TX	536-23	975021	7424
		|DATA.REVIEW	03.04.97				7524
9702596*2	MW-8G	IR.PET.TESNC	02.27.97	418.1	533-17	97302	8106
		DIESEL.3520.TES	02.27.97	8015M	536-01	9754	1010
		GAS.MTBE.TESNC	03.02.97	8015M.TX	536-23	975021	7424
		|DATA.REVIEW	03.04.97				7524
9702596*3	MW-8H	IR.PET.TESNC	02.27.97	418.1	533-17	97302	8106
		DIESEL.3520.TES	03.04.97	8015M	536-01	9754	1010
		GAS.MTBE.TESNC	03.02.97	8015M.TX	536-23	975021	7424
		|DATA.REVIEW	03.04.97				7524
9702596*4	MW-8I	IR.PET.TESNC	02.27.97	418.1	533-17	97302	8106
		DIESEL.3520.TES	03.04.97	8015M	536-01	9754	1010
		GAS.MTBE.TESNC	03.02.97	8015M.TX	536-23	975021	7424
		|DATA.REVIEW	03.04.97				7524
9702596*5	MW-8J	IR.PET.TESNC	02.27.97	418.1	533-17	97302	8106
		DIESEL.3520.TES	02.27.97	8015M	536-01	9754	1010
		GAS.MTBE.TESNC	03.02.97	8015M.TX	536-23	975021	7424
		|DATA.REVIEW	03.04.97				7524
9702596*6	MW-8K	IR.PET.TESNC	02.27.97	418.1	533-17	97302	8106
		DIESEL.3520.TES	02.27.97	8015M	536-01	9754	1010
		GAS.MTBE.TESNC	03.02.97	8015M.TX	536-23	975021	7424
		|DATA.REVIEW	03.04.97				7524
9702596*7	EB	IR.PET.TESNC	02.27.97	418.1	533-17	97302	8106
		DIESEL.3520.TES	02.27.97	8015M	536-01	9754	1010
		GAS.MTBE.TESNC	03.02.97	8015M.TX	536-23	975021	7424

***

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

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

VOC ANALYTICAL, GLENDALE
QC REPORT FOR 9702596
DATE PRINTED: 05 MAR 1997

AQUEOUS SAMPLES	METHOD BLANK			LAB CONTROL								MATRIX QC									
				LCS		LCSD				RPD	RPD	MS		MSD				RPD	RPD		
	UNITS	RESULT	RDL FLG	%REC	FLG	%REC	FLG	LCL	UCL	RPD	UCL	FLG	%REC	FLG	%REC	FLG	LCL	UCL	RPD	UCL	FLG
Batch: IR*97302 Method: 418.1 - Petroleum Hydrocarbons, Total, Spectrophotometric, Infrared																					
Oil&Grease/SM5520F	-	0	- -	112	-	113	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Batch: GAS*975021 Method: 8015M.TX - Modified 8015																					
Benzene	ug/L	0	0.5 -	97	-	-	-	76	155	-	-	-	88	-	82	-	70	153	7	25	-
Toluene	ug/L	0	0.5 -	91	-	-	-	72	121	-	-	-	81	-	84	-	69	119	4	25	-
Ethylbenzene	ug/L	0	0.5 -	94	-	-	-	72	115	-	-	-	83	-	87	-	68	116	5	25	-
Methyl-tert-butylether	ug/L	0	30 -	88	-	-	-	62	159	-	-	-	93	-	107	-	80	176	14	25	-
Total Xylene Isomers	ug/L	0	0.5 -	95	-	-	-	68	115	-	-	-	86	-	87	-	61	118	1	25	-
TPH (Gasoline Range)	ug/L	0	50 -	106	-	-	-	85	120	-	-	-	105	-	107	-	78	124	3	25	-
[a,a,a-Trifluorotoluene]	Percent	97	- -	118	-	-	-	85	118	-	-	-	97	-	91	-	85	118	-	-	-
Batch: DIESEL*9754 Method: 8015M - Modified 8015																					
TPH (Diesel Range)	mg/L	0	0.5 -	96	-	86	-	53	155	11	-	-	-	-	-	-	-	-	-	-	-
[Naphthalene]	Percent	104	- -	118	-	104	-	55	127	-	-	-	-	-	-	-	-	-	-	-	-
[o-Terphenyl]	Percent	105	- -	107	-	96	-	69	108	-	-	-	-	-	-	-	-	-	-	-	-

: SURROGATE RECOVERIES :
:·BC ANALYTICAL : GLEN LAB : 09:59:40 05 MAR 1997 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9702596*1							
3015M	Naphthalene	9754	02/27/97	0.0489	0.0500	98	
	o-Terphenyl	9754	02/27/97	0.0478	0.0500	96	
3015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	47.5	50.0	95	
9702596*2							
3015M	Naphthalene	9754	02/27/97	0.0455	0.0500	91	
	o-Terphenyl	9754	02/27/97	0.0469	0.0500	94	
3015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	46.4	50.0	93	
9702596*3							
3015M	Naphthalene	9754	03/04/97	0.0420	0.0500	84	
	o-Terphenyl	9754	03/04/97	0.0595	0.0500	119	
3015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	48.2	50.0	96	
9702596*4							
3015M	Naphthalene	9754	03/04/97	0.0412	0.0500	82	
	o-Terphenyl	9754	03/04/97	0.0457	0.0500	91	
3015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	46.8	50.0	94	
9702596*5							
3015M	Naphthalene	9754	02/27/97	0.0471	0.0500	94	
	o-Terphenyl	9754	02/27/97	0.0472	0.0500	94	
3015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	47.5	50.0	95	
9702596*6							
3015M	Naphthalene	9754	02/27/97	0.0466	0.0500	93	
	o-Terphenyl	9754	02/27/97	0.0441	0.0500	88	
3015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	47.9	50.0	96	
9702596*7							
3015M	Naphthalene	9754	02/27/97	0.0521	0.0500	104	
	o-Terphenyl	9754	02/27/97	0.0512	0.0500	102	
3015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	47.5	50.0	95	

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 09:59:46 05 MAR 1997 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9702596*2*R1							
8015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	46.4	50.0	93	
9702596*2*S1							
8015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	48.6	50.0	97	
9702596*2*S2							
8015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	45.3	50.0	91	
9702596*2*T							
8015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	50.0	50.0	100	
B7021713*1*MB							
8015M	Naphthalene	9754	02/27/97	0.0520	0.0500	104	
	o-Terphenyl	9754	02/27/97	0.0523	0.0500	105	
B703155*1*MB							
8015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	48.7	50.0	97	
C7023211*1*LC							
8015M	Naphthalene	9754	02/27/97	0.0590	0.0500	118	
	o-Terphenyl	9754	02/27/97	0.0536	0.0500	107	
C7023211*1*LT							
8015M	Naphthalene	9754	02/27/97	0.0500	0.0500	100	
	o-Terphenyl	9754	02/27/97	0.0500	0.0500	100	
C7023212*1*LC							
8015M	Naphthalene	9754	02/27/97	0.0521	0.0500	104	
	o-Terphenyl	9754	02/27/97	0.0480	0.0500	96	
C7023212*1*LT							
8015M	Naphthalene	9754	02/27/97	0.0500	0.0500	100	
	o-Terphenyl	9754	02/27/97	0.0500	0.0500	100	
C703308*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	58.8	50.0	118	
C703308*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	Re975021	03/02/97	50.0	50.0	100	

G97-02-596.

Chain-of-Custody

Page 1 of 1

Texaco Environmental Services
100 Cutting Boulevard
Richmond, California 94804
Phone: (510) 230-3541
FAX: (510) 237-7021

Forward Results to: Blaine Tech, ATTN: Caron French
Texaco Project Coordinator: Deborah Pryor

Site Name: Texaco Loc. #624880235
Site Address: 500 Grand Ave. Oakland, CA
Contractor Project Number: 97022-C
Contractor Name: Blaine Tech Services, Inc.
Address: 1680 Rogers Ave., San Jose, CA 95112
Project Contact: Kent Brown
Phone/FAX: (408)573-0555 / (408)573-7771

Laboratory: B C Analytical
Turn Around Time: normal (10 day).
Samplers (PRINT NAME): Kevin Carlin
Sampler Signature: K. Carlin
Date Samples Collected: 2-21-97

Sample Number	Lab Sample Number	Date/Time Collected	No. of Containers	Type of Containers	Sample Matrix	Preservative	TPH gas/BTEX	TPH Diesel	O&G/TRPH (418.1)	TPH Ex. (C8-C36+)	VOCs 8240/624	P. Halocarbons 8010/60	P. Aromatics 8020/602	Organic Lead			Comments
MW-BF							X	X	X								
MW-BG							X	X	X								
MW-BH							X	X	X								
MW-BI							X	X	X								
MW-BJ							X	X	X								
MW-BK							X	X	X								
EB							X	X	X								

DRP
624880235
FKEP9037L
Alameda

Relinquished by: (Signature)		Date: 2-24-97	Time: 4:30	Received by: (Signature)	Date: 2-24-97	Time: 4:30
Relinquished by: (Signature)	Bill Lyons	Date: 2-24-97	Time: 6:15	Received by: (Signature)	Date: 2/25/97	Time: 9:30
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:
Method of Shipment:				Lab Comments:		

P:\GWMM\FORMS\TEX-COC.XLS

500 Grand Ave., Oakland

Well Gauging Data

Date: 02-21-91

Recorded By: Kevin C.

Project Name: Texaco

Project Number: 624880235

Well ID	TOC Elev.	DTB (ft. TOC)	Well Dia. (in.)	DTP (ft.)	DTW (ft.)	PT (ft.)	Comments
mw-8 F		14.68			5.53		
mw-8 G		14.63			6.11		
mw-8 H		14.82			3.77		
mw-8 I		14.68			6.15		
mw-8 J		14.79			5.60		
mw-8 K		16.40			1.49		
mw-8 L		INACCESSIBLE	damaged well CASING				

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

TEXACO WELL MONITORING DATA SHEET

Project #: 970221-C1	Texaco ID#: ~~6498~~0235 6Z4880235
Sampler: KC	Date: 2-21-97
Well I.D.: MW-8F	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 121.68	Depth to Water: 6.53
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	radius² * 0.164

Purge Method: S.S. Bailer / Teflon Bailer / Middleburg / Electric Submersible X / Extraction Pump / Other: _____

Sampling Method: S.S. Bailer / Teflon Bailer ✓ / Extraction Port / Other: _____

5.3 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 15.9 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
13:30	69.0	7.4	1000.	16.3	6	
13:31	62.8	7.2	900	33.1	12	
13:32	63.0	7.1	900	37.2	16	

Did well dewater? Yes (No) Gallons actually evacuated: 16.

Sampling Time: 13:40 Sampling Date: 02-21-97

Sample I.D.: MW-8F Laboratory: (BC Analytical)

Analyzed for: (Tph-G) (BTEX) (Tph-D) Other: oil & Grease

Equipment Blank I.D.: Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 970221-C1	Texaco ID#: ~~6486235~~ 6248802-35
Sampler: K.C	Date: 02-21-97
Well I.D.: MW-8G	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 14.63	Depth to Water: 6.11
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	radius² * 0.164

Purge Method:
- S.S. Bailer
- Teflon Bailer
- Middleburg
- Electric Submersible ✓
- Extraction Pump
- Other: _____

Sampling Method:
- S.S. Bailer
- Teflon Bailer ✓
- Extraction Port
- Other: _____

5.6 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 16.8 Gals. (Calculated Volume)

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
13:50	63.4	6.9	1000	41.5		
13:51	61.7	6.8	2000	13.5		
13:52	61.4	6.8	2200	10.7		

Did well dewater? Yes (No) Gallons actually evacuated: 17

Sampling Time: 14:00 Sampling Date: 02-21-97

Sample I.D.: MW-8G Laboratory: BC Analytical

Analyzed for: ~~Tph-G~~ ~~BTEX~~ (Tph-D) Other: Oil & Grease

Equipment Blank I.D.: Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 970221-C1	Texaco ID#: 624802.35
Sampler: K.C.	Date: 2-21-97
Well I.D.: MW-8H	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 14.82	Depth to Water: 3.77
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	radius² * 0.164

Purge Method:
- S.S. Bailer
- Teflon Bailer
- Middleburg
- Electric Submersible X
- Extraction Pump
- Other: _____

Sampling Method: S.S. Bailer
- Teflon Bailer X
- Extraction Port
- Other: _____

7.2 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 21.6 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
12:04	67.0	7.2	780	197.4	7	
12:05	66.4	7.2	620	75.8	14	
12:06	66.0	7.1	600	64.3	22	

Did well dewater? Yes (No) Gallons actually evacuated: 22

Sampling Time: 12:15 Sampling Date: 2-21-97

Sample I.D.: MW-8H Laboratory: (BC Analytical)

Analyzed for: (TPH-G) ~~BTEX~~ (TPH-D) Other: Oil & Grease

Equipment Blank I.D.: Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 970221-C1	Texaco ID#: 64-6248802.35
Sampler: K.C	Date: 02-21-97
Well I.D.: MW-8I	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 14.68	Depth to Water: 6.15
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	radius² * 0.164

Purge Method:
- S.S. Bailer
- Teflon Bailer
- Middleburg
- Electric Submersible X
- Extraction Pump
- Other: ___

Sampling Method:
- S.S. Bailer
- Teflon Bailer X
- Extraction Port
- Other: ___

5.6 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 16.8 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
14:20	64.0	7.0	2000	7.4	6	
14:22	66.4	7.0	800	9.6	12	
14:24	66.8	6.9	820	11.3	17	

Did well dewater? Yes (No) Gallons actually evacuated: 17.

Sampling Time: 14:30 Sampling Date: 02-21-97

Sample I.D.: MW-8I Laboratory: (BC) Analytical

Analyzed for: (Tph-G) BTEX (Tph-D) Other: oil & Grease

Equipment Blank I.D.: EB @ 14:10 Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 970221-C1	Texaco ID#: 64 6248802 35
Sampler: K.C	Date: 02-21-97
Well I.D.: MW-8S	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 14.79	Depth to Water: 5.60
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	radius² * 0.164

Purge Method:
- S.S. Bailer
- Teflon Bailer
- Middleburg
- Electric Submersible x
- Extraction Pump
- Other: _____

Sampling Method: S.S. Bailer
- Teflon Bailer x
- Extraction Port
- Other: _____

6.0 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 18.0 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
12:28	69.8	7.0	620	410.4	6	
12:29	67.2	6.8	600	21.5	12	
12:30	67.0	6.9	600	15.6	18	

Did well dewater? Yes (No)

Gallons actually evacuated: 18.0

Sampling Time: 12:38

Sampling Date: 02-21-97

Sample I.D.: MW-8S

Laboratory: BC Analytical

Analyzed for: (TPH-G) BTEX (TPH-D)

Other: Oil & Grease

Equipment Blank I.D.:

Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 970221-C1	Texaco ID#: 6241880235
Sampler: K.C	Date: 2-21-97
Well I.D.: MW-8K	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 16.40	Depth to Water: 1.49
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	radius² * 0.164

Purge Method:
- S.S. Bailer
- Teflon Bailer X
- Middleburg
- Electric Submersible
- Extraction Pump
- Other: ___

Sampling Method:
- S.S. Bailer
- Teflon Bailer X
- Extraction Port
- Other: ___

2.5	x	3	=	7.5 Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
11:30	62.8	7.0	620	195.3	2.5	
11:32	62.8	6.8	600	>200	5.0	
11:34	63.2	6.9	600	>200	7.5	

Did well dewater? Yes (No)	Gallons actually evacuated: 7.5
Sampling Time: 11:45	Sampling Date: 2-21-97
Sample I.D.: MW8K	Laboratory: BC Analytical
Analyzed for: (Tph-G) (BTEX) (Tph-D)	Other: Oil & Grease
Equipment Blank I.D.:	Analyzed for same as primary sample

TEXACO WELL MONITORING DATA SHEET

Project #: 970221	Texaco ID#: 6248802 35
Sampler: K.C	Date: 2-21-97
Well I.D.: MW-8L	Well Diameter: 2 3 4 6 8 ____
Total Well Depth:	Depth to Water:
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	radius² * 0.164

Purge Method: S.S. Bailer
Teflon Bailer
Middleburg
Electric Submersible
Extraction Pump
Other: _____

Sampling Method: S.S. Bailer
Teflon Bailer
Extraction Port
Other: _____

_____ X _____ = _____ Gals.
1 Case Volume (Gals.) Specified Volumes Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Color/Odor
	Inaccessible - Piece of well				incaved in top	
		Portion				

Did well dewater? Yes No Gallons actually evacuated:

Sampling Time: Sampling Date:

Sample I.D.: Laboratory: BC Analytical

Analyzed for: Tph-G BTEX Tph-D Other:

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 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: 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 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 desitnation 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 #: 6248802 35
Address: 500 Grand Ave
City, State, ZIP: Oakland Ca

Well I.D.	Gals.	Well I.D.	Gals.
/		/	
/		/	
Purge / Water	97.5	/	
/		/	
/		/	
/		/	
/		/	
/		/	
/		/	
/		/	

Total gals. 10

added rinse water 10

Total Gals. Recovered 107.5

Job #: 970221-C1
Date 02-21-97
Time 14:45
Signature:

REC'D AT: BTS
Date: 02-21-97
Time: 16:00
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.

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
First 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.

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.

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

COMPANY CONTACT: Deborah Pryor (818) 505-3113.