



Texaco Refining
and Marketing Inc

108 Cutting Boulevard,
Richmond CA 94804

February 22, 1996

ENV - STUDIES, SURVEYS, & REPORTS

**500 Grand Avenue
Oakland, California**

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

Dear Ms. Hugo:

Enclosed is the 4th Quarter 1995 Groundwater Monitoring and Sampling Report for the subject site.

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

Best Regards,

R.R. Zielinski
Project Manager
Texaco Refining & Marketing Inc. - EH&S

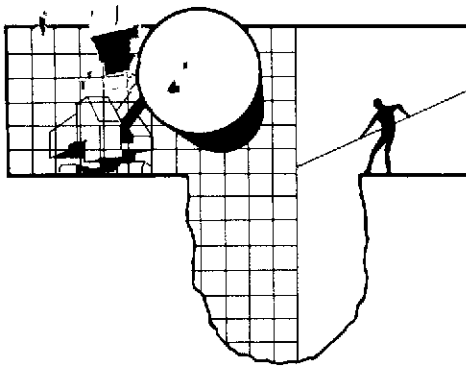
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Enclosures

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

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

pr: MK



BLAINE TECH SERVICES INC.

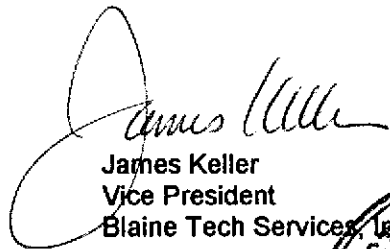
985 TIMOTHY DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773


December 20, 1995

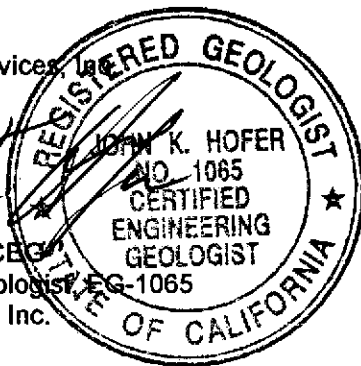
**Groundwater Monitoring and Sampling
Fourth Quarter, 1995
at the
Former Texaco Service Station
500 Grand Avenue
Oakland, CA**

This letter presents the results of groundwater monitoring and sampling conducted by Blaine Tech Services, Inc. on November 2, 1995, 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.


James Keller
Vice President
Blaine Tech Services, Inc.


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



JPK:cf



SOURCE:

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



MILE

1" = 2200'

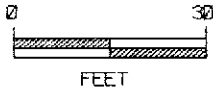


TEXACO

REFINING AND MARKETING, INC.
TEXACO ENVIRONMENTAL SERVICES

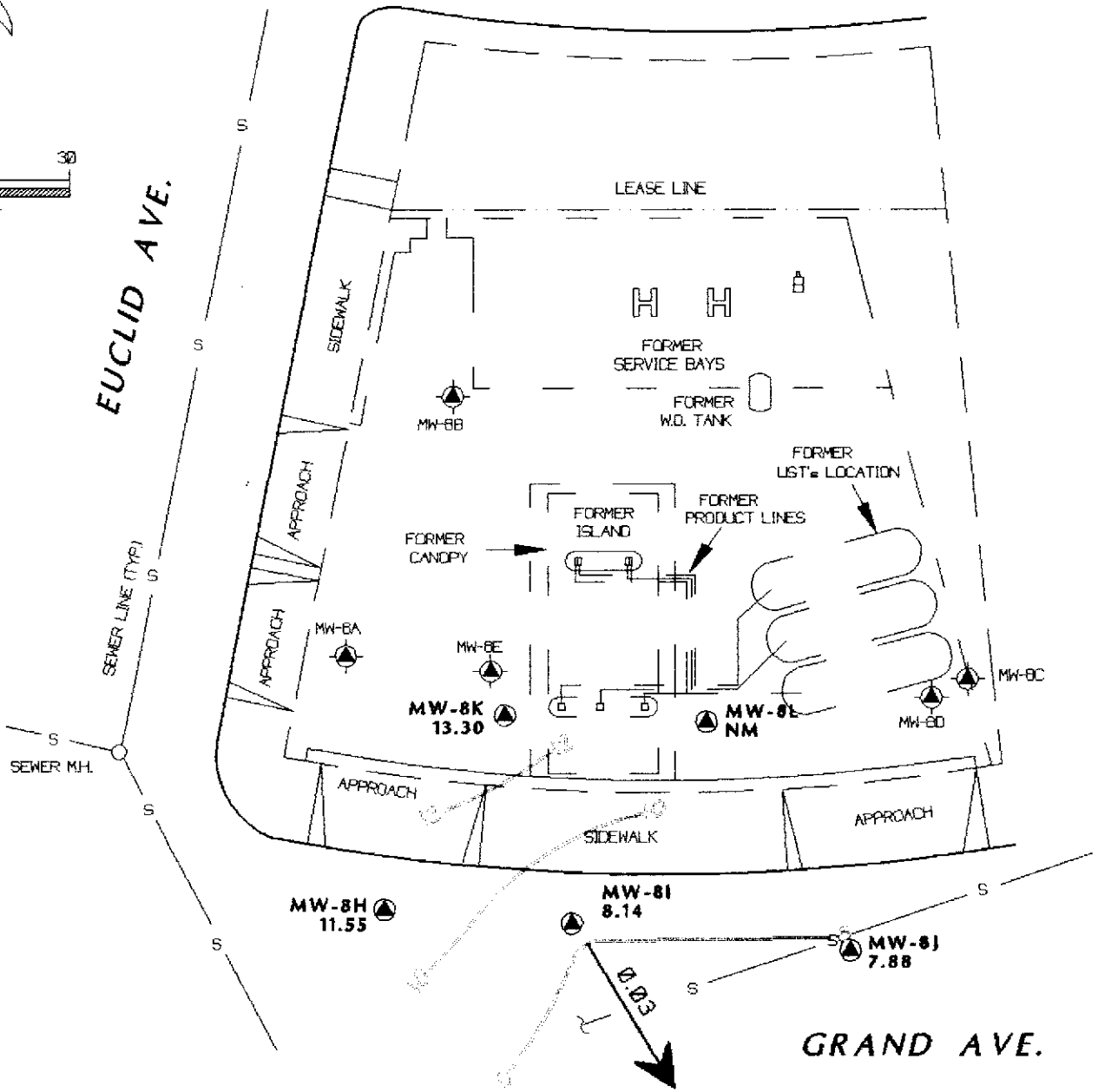
PLATE 1

SITE VICINITY MAP
FORMER TEXACO SERVICE STATION
500 GRAND AVE. / EUCLID AVE.,
OAKLAND, CALIFORNIA



BURK ST.

EUCLID AVE.



GRAND AVE.

LAKE MERRIT PARK

EXPLANATION

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

TITLE : GROUND-WATER ELEVATION CONTOUR MAP - NOVEMBER 2, 1995

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/W110295

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

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
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

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
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

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

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)	Depth to Water (feet, TOC)	Elevation of Groundwater (feet, MSL)
MW-8K	08/16/93	15.18 *	2.08	13.10
	10/12/93		1.95	13.23
	02/03/94		1.48	13.70
	05/31/94		1.59	13.59
	08/25/94		2.00	13.18
	11/02/94		2.10	13.08
	01/31/95		1.35	13.83
	05/18/95		1.36	13.82
	08/29/95		1.55	13.63
	11/02/95		1.88	13.30
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	
* = 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	NA
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	NA

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

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TPHd (ppm)	TPH as Other* (ppm)
MW-8H	01/23/92	110	7.2	1.2	4.7	3.2	NA	<0.06	NA
	04/30/92	190	11	1.5	5.6	3.6	NA	0.09	<500
	09/28/92	Well Inaccessible							
	11/19/92	130	6.8	<0.5	1.1	1.5	NA	NA	NA
	02/12/93	73	5.9	<0.5	0.8	<0.5	NA	NA	NA
	05/06/93	57	1.7	<0.5	<0.5	<0.5	NA	<0.1	<50
	08/16/93	<50	0.5	<0.5	0.5	1.4	NA	<0.05	<50
	10/12/93	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50
	02/03/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	<50
	05/31/94	<50	0.79	<0.5	<0.5	<0.5	NA	<0.05	1.6
	08/25/94	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.05	4.0
	11/02/94	<50	<0.5	<0.5	<0.5	<0.5	NA	0.76	<5
	01/31/95	<50	<0.5	<0.5	<0.5	<0.5	NA	0.19	<5
	05/18/95	<50	<0.5	<0.5	<0.5	<0.5	NA	0.37	6.6
08/29/95	<50	<0.5	<0.5	<0.5	<0.5	<10	1.0	<5	
11/02/95	<50	<0.5	<0.5	<0.5	<0.5	<10	<0.05	NA	
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	NA	

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

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

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)
EB	08/25/94	69	<0.5	<0.5	<0.5	<0.5	NA	<0.05	0.71
	11/02/94	<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	0.059	<5
	11/02/95	<50	<0.5	<0.5	<0.5	<0.5	<10	<0.05	NA
TB	08/25/94	52	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
	11/02/94	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
	05/18/95	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
	08/29/95	<50	<0.5	<0.5	<0.5	<0.5	<10	NA	NA
	11/02/95	<50	<0.5	<0.5	<0.5	<0.5	<10	NA	NA
MTBE = Methyl-tert-butylether									
EB = Equipment Blank									
TB = Trip Blank									
ppb = parts per billion									
ppm = parts per million									
NA = Not Analyzed									
< = Less than the detection limit for the specified method of analysis.									
* = Includes "heavy" petroleum hydrocarbons such as waste oil, mineral spirits, jet fuel, or fuel oil.									
** = Non-diesel mix >C16. The certified analytical report for sample MW-8G was revised on 10/21/93.									

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

LOG NO: G95-11-101

Received: 03 NOV 95

Mailed: **NOV 14 1995**

Ms. Rebecca Digerness
 Texaco Environmental Services
 108 Cutting Boulevard
 Richmond, CA 94804

Purchase Order: 94-1446346+4370

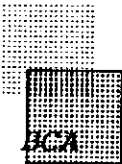
Requisition: 624880235
 Project: FKEP1014L

REPORT OF ANALYTICAL RESULTS

Page 1

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TRPH (CADHS/418.1)	TPH (CADHS/3510)		Dilution Factor	TPH-d mg/L	Carbon Range	TPH/BTEX (CADHS/8020)		TPH-g ug/L
			Date Extracted	Date Analyzed				Date Analyzed	Dilution Factor	
ROL		5000				0.05			1	50
1*MW 8F	11/02/95	<5	11/07/95	11/13/95	1	0.051	C10-C25	11/07/95	1	<50
2*MW 8G	11/02/95	<5	11/07/95	11/13/95	1	0.14	C10-C25	11/07/95	1	<50
3*MW 8H	11/02/95	5.8	11/07/95	11/13/95	1	<0.05	C10-C25	11/07/95	1	<50
4*MW 8I	11/02/95	<5	11/07/95	11/13/95	1	0.16	C10-C25	11/07/95	1	81
5*MW 8J	11/02/95	<5	11/07/95	11/13/95	1	0.052	C10-C25	11/06/95	1	<50
6*MW 8K	11/02/95	<5	11/07/95	11/13/95	1	<0.05	C10-C25	11/06/95	1	<50



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 108 Cutting Boulevard
 Richmond, CA 94804

Purchase Order: 94-1446346+4370

Requisition: 624880235

Project: FKEP1014L

REPORT OF ANALYTICAL RESULTS

Page 2

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)						Carbon Range
		Benzene ug/L	Toluene ug/L	Ethyl-Benzene ug/L	Methyl-tert-butylether ug/L	Total Xylenes Isomers ug/L		
RDL		0.5	0.5	0.5	10	0.5		
1*MW 8F	11/02/95	<0.5	<0.5	<0.5	<10	<0.5	C6-C12	
2*MW 8G	11/02/95	<0.5	<0.5	<0.5	<10	<0.5	C6-C12	
3*MW 8H	11/02/95	<0.5	<0.5	<0.5	<10	<0.5	C6-C12	
4*MW 8I	11/02/95	<0.5	4.1	1.5	<10	<0.5	C6-C12	
5*MW 8J	11/02/95	<0.5	<0.5	<0.5	<10	<0.5	C6-C12	
6*MW 8K	11/02/95	<0.5	<0.5	<0.5	<10	<0.5	C6-C12	



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Requisition: 624880235
 Project: FKEP1014L

REPORT OF ANALYTICAL RESULTS

Page 3

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TRPH	TPH	TPH/BTEX (CADHS/8020)							
		(CADHS/418.1)	(CADHS/3510)	Date Analyzed	Date Analyzed	Dilution Factor	TPH-d	Carbon Range	Date Analyzed	Dilution Factor	TPH-g
		mg/L		Date Extracted	Date Analyzed	Times	mg/L		Date	Times	ug/L
RDL		5000					0.05			1	50
7*EB	11/02/95	<5		11/07/95	11/13/95	1	<0.05	C10-C25	11/06/95	1	<50



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 Project: FKEP1014L

REPORT OF ANALYTICAL RESULTS

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AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)						Carbon Range
		Benzene ug/L	Toluene ug/L	Ethyl-Benzene ug/L	Methyl-tert-butylether ug/L	Total Xylenes Isomers ug/L		
RDL		0.5	0.5	0.5	10	0.5		
7*EB	11/02/95	<0.5	<0.5	<0.5	<10	<0.5	C6-C12	



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 Project: FKEP1014L

REPORT OF ANALYTICAL RESULTS

Page 5

AQUEOUS

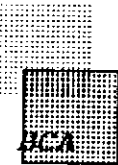
SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)	Date Analyzed Date	Dilution Factor Times	TPH-g ug/L	Benzene ug/L	Toluene ug/L	Ethyl-Benzene ug/L	Methyl-tert-butylether ug/L	Total Xylenes Isomers ug/L	Carbon Range
RDL				1	50	0.5	0.5	0.5	10	0.5	
8*TB	11/02/95	11/06/95		1	<50	<0.5	<0.5	<0.5	<10	<0.5	C6-C12

Tom Hargett
 500 Grand Ave., Oakland
 Alameda County

Jane Freeman for
 Jane Freeman, Laboratory Director

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

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SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE.....	METHOD.....	EQUIP.	BATCH..	ID.NO
			ANALYZED				
9511101*1	MW 8F	IR.PETROHC	11.10.95	418.1	533-17	95178	8106
		DIESEL.3520.TES	11.13.95	8015M	536-25	95194	8042
		GAS.BTX.TESNC	11.07.95	8015M.TX	536-35	95424	8559
9511101*2	MW 8G	IR.PETROHC	11.10.95	418.1	533-17	95178	8106
		DIESEL.3520.TES	11.13.95	8015M	536-01	95194	8042
		GAS.BTX.TESNC	11.07.95	8015M.TX	536-35	95424	8559
9511101*3	MW 8H	IR.PETROHC	11.10.95	418.1	533-17	95178	8106
		DIESEL.3520.TES	11.13.95	8015M	536-01	95194	8042
		GAS.BTX.TESNC	11.07.95	8015M.TX	536-35	95424	8559
9511101*4	MW 8I	IR.PETROHC	11.10.95	418.1	533-17	95178	8106
		DIESEL.3520.TES	11.13.95	8015M	536-01	95194	8042
		GAS.BTX.TESNC	11.07.95	8015M.TX	536-35	95424	8559
9511101*5	MW 8J	IR.PETROHC	11.10.95	418.1	533-17	95178	8106
		DIESEL.3520.TES	11.13.95	8015M	536-01	95194	8042
		GAS.BTX.TESNC	11.06.95	8015M.TX	536-35	95424	8559
9511101*6	MW 8K	IR.PETROHC	11.10.95	418.1	533-17	95178	8106
		DIESEL.3520.TES	11.13.95	8015M	536-01	95194	8042
		GAS.BTX.TESNC	11.06.95	8015M.TX	536-35	95424	8559
9511101*7	EB	IR.PETROHC	11.10.95	418.1	533-17	95178	8106
		DIESEL.3520.TES	11.13.95	8015M	536-01	95194	8042
		GAS.BTX.TESNC	11.06.95	8015M.TX	536-35	95424	8559
9511101*8	TB	GAS.BTX.TESNC	11.06.95	8015M.TX	536-35	95424	8559

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.
 ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

ORDER QC REPORT FOR G9511101

DATE REPORTED : 11/14/95

Page 1

LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
1. TRPH	11.10.95	95178	5.18	3.45	mg/L	150
2. TPH		C511903*1				
Date Analyzed	11.10.95	95194	11/10/95	11/10/95	Date	N/A
Date Extracted	11.10.95	95194	11/08/95	11/08/95	Date	N/A
TPH (Diesel Range)	11.10.95	95194	1.03	1.00	mg/L	103
Naphthalene Reported	11.10.95	95194	0.0412	0.0500	mg/L	82
Naphthalene Theoretical	11.10.95	95194	0.0500	0.0500	mg/L	100
3. TPH		C511904*1				
Date Analyzed	11.10.95	95194	11/10/95	11/10/95	Date	N/A
Date Extracted	11.10.95	95194	11/08/95	11/08/95	Date	N/A
TPH (Diesel Range)	11.10.95	95194	1.23	1.00	mg/L	123
Naphthalene Reported	11.10.95	95194	0.0523	0.0500	mg/L	105
Naphthalene Theoretical	11.10.95	95194	0.0500	0.0500	mg/L	100
4. GRO		C511773*1				
Date Analyzed	11.07.95	95424	11/07/95	11/07/95	Date	N/A
Benzene	11.07.95	95424	17.5	18.5	ug/L	95
Toluene	11.07.95	95424	91.7	91.1	ug/L	101
Ethylbenzene	11.07.95	95424	19.8	19.2	ug/L	103
Total Xylene Isomers	11.07.95	95424	106	103	ug/L	103
TPH (Gasoline Range)	11.07.95	95424	979	1000	ug/L	98
a,a,a-Trifluorotoluene Rep.	11.07.95	95424	56.4	50.0	ug/L	113
a,a,a-Trifluorotoluene Th.	11.07.95	95424	50.0	50.0	ug/L	100

BC ANALYTICAL

ORDER QC REPORT FOR G9511101

DATE REPORTED : 11/14/95

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ADDITIONAL LCS PRECISION (DUPLICATES)
 BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
1. TPH							
Date Analyzed		11.10.95	95194	11/10/95	11/10/95	Date	N/A
Date Extracted		11.10.95	95194	11/08/95	11/08/95	Date	N/A
TPH (Diesel Range)		11.10.95	95194	1.03	1.23	mg/L	18
Naphthalene Reported		11.10.95	95194	0.0412	0.0523	mg/L	24
Naphthalene Theoretical		11.10.95	95194	0.0500	0.0500	mg/L	0

BC ANALYTICAL

ORDER QC REPORT FOR G9511101

DATE REPORTED : 11/14/95

Page 1

MATRIX QC ACCURACY (SPIKES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS %	MSD %	TRUE RESULT	UNIT	
1. TRPH	9511082*2	11.10.95	95178	108	120	3.16	mg/L	
2. TPH	9511061*1							
TPH (Diesel Range)		11.10.95	95194	121	126 Q	2.2	mg/L	Q
Naphthalene Reported		11.10.95	95194	110	114	0.0500	mg/L	
Naphthalene Theoretical		11.10.95	95194	100	100	0.0500	mg/L	
3. GRO	9511100*1							
Benzene		11.06.95	95424	95	94	18.5	ug/L	
Toluene		11.06.95	95424	102	101	91.1	ug/L	
Ethylbenzene		11.06.95	95424	102	100	19.2	ug/L	
Total Xylene Isomers		11.06.95	95424	105	104	103	ug/L	
TPH (Gasoline Range)		11.06.95	95424	95	99	1000	ug/L	
a,a,a-Trifluorotoluene Rep.		11.06.95	95424	111	109	50.0	ug/L	
a,a,a-Trifluorotoluene Th.		11.06.95	95424	100	100	50.0	ug/L	

BC ANALYTICAL

ORDER QC REPORT FOR G9511101

DATE REPORTED : 11/14/95

Page 1

MATRIX QC PRECISION (DUPLICATE SPIKES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS RESULT	MSD RESULT	UNIT	RELATIVE % DIFF
1. TRPH	9511082*2	11.10.95	95178	3.42	3.79	mg/L	10
2. TPH	9511061*1						
Date Analyzed		11.10.95	95194	11/10/95	11/10/95	Date	N/A
Date Extracted		11.10.95	95194	11/08/95	11/08/95	Date	N/A
TPH (Diesel Range)		11.10.95	95194	2.41	2.46	mg/L	2
Naphthalene Reported		11.10.95	95194	0.0552	0.0569	mg/L	3
Naphthalene Theoretical		11.10.95	95194	0.0500	0.0500	mg/L	0
3. GRO	9511100*1						
Date Analyzed		11.06.95	95424	11/06/95	11/06/95	Date	N/A
Benzene		11.06.95	95424	17.5	17.4	ug/L	1
Toluene		11.06.95	95424	93.0	91.6	ug/L	2
Ethylbenzene		11.06.95	95424	19.5	19.2	ug/L	2
Total Xylene Isomers		11.06.95	95424	108	107	ug/L	1
TPH (Gasoline Range)		11.06.95	95424	952	989	ug/L	4
a,a,a-Trifluorotoluene Rep.		11.06.95	95424	55.3	54.4	ug/L	2
a,a,a-Trifluorotoluene Th.		11.06.95	95424	50.0	50.0	ug/L	0

BC ANALYTICAL

ORDER QC REPORT FOR G9511101

DATE REPORTED : 11/14/95

Page 1

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

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
1. TRPH	B511679*1	11.10.95 95178	0.13	0.2	mg/L	418.1
2. TPH	B511475*1					
Date Analyzed	11.10.95	95194	11/10/95	NA	Date	8015M
Date Extracted	11.10.95	95194	11/08/95	NA	Date	8015M
TPH (Diesel Range)	11.10.95	95194	0	0.05	mg/L	8015M
Naphthalene Reported	11.10.95	95194	0.0406	0.01	mg/L	8015M
Naphthalene Theoretical	11.10.95	95194	0.0500	NA	mg/L	8015M
3. GRO	B511407*1					
Date Analyzed	11.06.95	95424	11/06/95	NA	Date	8015M.TX
Benzene	11.06.95	95424	0	0.5	ug/L	8015M.TX
Toluene	11.06.95	95424	0	0.5	ug/L	8015M.TX
Ethylbenzene	11.06.95	95424	0	0.5	ug/L	8015M.TX
Methyl-tert-butylether	11.06.95	95424	0	NA	ug/L	8015M.TX
Total Xylene Isomers	11.06.95	95424	0	0.5	ug/L	8015M.TX
TPH (Gasoline Range)	11.06.95	95424	0	50	ug/L	8015M.TX
a,a,a-Trifluorotoluene Rep.	11.06.95	95424	51.6	NA	ug/L	8015M.TX
a,a,a-Trifluorotoluene Th.	11.06.95	95424	50.0	NA	ug/L	8015M.TX

: SURROGATE RECOVERIES :
 : BC ANALYTICAL : GLEN LAB : 14:44:54 14 NOV 1995 - P. 1 :
 =====

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9511101*1							
8015M	Naphthalene	95194	11/13/95	0.0540	0.0500	108	
8015M.TXa	,a,a-Trifluorotoluene	Re95424	11/07/95	49.1	50.0	98	
9511101*2							
8015M	Naphthalene	95194	11/13/95	0.0352	0.0500	70	
8015M.TXa	,a,a-Trifluorotoluene	Re95424	11/07/95	49.9	50.0	100	
9511101*3							
8015M	Naphthalene	95194	11/13/95	0.0366	0.0500	73	
8015M.TXa	,a,a-Trifluorotoluene	Re95424	11/07/95	49.9	50.0	100	
9511101*4							
8015M	Naphthalene	95194	11/13/95	0.0912	0.100	91	
8015M.TXa	,a,a-Trifluorotoluene	Re95424	11/07/95	48.1	50.0	96	
9511101*5							
8015M	Naphthalene	95194	11/13/95	0.0368	0.0500	74	
8015M.TXa	,a,a-Trifluorotoluene	Re95424	11/06/95	50.4	50.0	101	
9511101*6							
8015M	Naphthalene	95194	11/13/95	0.0472	0.0500	94	
8015M.TXa	,a,a-Trifluorotoluene	Re95424	11/06/95	51.8	50.0	104	
9511101*7							
8015M	Naphthalene	95194	11/13/95	0.0444	0.0500	89	
8015M.TXa	,a,a-Trifluorotoluene	Re95424	11/06/95	49.7	50.0	99	
9511101*8							
8015M.TXa	,a,a-Trifluorotoluene	Re95424	11/06/95	51.1	50.0	102	

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9511061*1*R1							
8015M	Naphthalene	95194	11/10/95	0.0474	0.0500	95	
9511061*1*S1							
8015M	Naphthalene	95194	11/10/95	0.0552	0.0500	110	
9511061*1*S2							
8015M	Naphthalene	95194	11/10/95	0.0569	0.0500	114	
9511061*1*T							
8015M	Naphthalene	95194	11/10/95	0.0500	0.0500	100	
9511100*1*R1							
8015M.TXa	a,a,a-Trifluorotoluene	Re95424	11/06/95	51.2	50.0	102	
9511100*1*S1							
8015M.TXa	a,a,a-Trifluorotoluene	Re95424	11/06/95	55.3	50.0	111	
9511100*1*S2							
8015M.TXa	a,a,a-Trifluorotoluene	Re95424	11/06/95	54.4	50.0	109	
9511100*1*T							
8015M.TXa	a,a,a-Trifluorotoluene	Re95424	11/06/95	50.0	50.0	100	
B511407*1*MB							
8015M.TXa	a,a,a-Trifluorotoluene	Re95424	11/06/95	51.6	50.0	103	
B511475*1*MB							
8015M	Naphthalene	95194	11/10/95	0.0406	0.0500	81	
C511773*1*LC							
8015M.TXa	a,a,a-Trifluorotoluene	Re95424	11/07/95	56.4	50.0	113	
C511773*1*LT							
8015M.TXa	a,a,a-Trifluorotoluene	Re95424	11/07/95	50.0	50.0	100	
C511903*1*LC							
8015M	Naphthalene	95194	11/10/95	0.0412	0.0500	82	
C511903*1*LT							
8015M	Naphthalene	95194	11/10/95	0.0500	0.0500	100	

: SURROGATE RECOVERIES :

: BC ANALYTICAL : GLEN LAB : 14:44:57 14 NOV 1995 - P. 2 :

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METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
C511904*1*LC							
8015M	Naphthalene	95194	11/10/95	0.0523	0.0500	105	
C511904*1*LT							
8015M	Naphthalene	95194	11/10/95	0.0500	0.0500	100	

G9511101

Chain of Custody

Texaco Environmental Services

108 Cutting Boulevard
 Richmond, California 94804
 Phone: (510) 238-3541
 FAX: (510) 237-7821

Forward Results to the Attention of Rebecca Digerness

Texaco Project Coordinator Tom Hargett

Site Name: Texaco Loc# 624880235
 Site Address: 500 Grand Ave. Oakland, CA
 Contractor Project Number: 951102-A1
 Contractor Name: Blaine Tech Services, Inc.
 Address: 985 Timothy Dr., San Jose, CA 95133
 Project Contact: Jim Keller
 Phone/FAX: (408) 995-5535 / (408) 293-8773

Laboratory: B C Analytical
 Turn Around Time: normal (10 day)
 Samplers (PRINT NAME): RANDY VALENTINE
 Sampler Signature: [Signature]
 Date Samples Collected: 11-2-95

ANALYSIS													Comments
TPH gas/BTEX	TPH Diesel	O&G/TPH (418.1)	TPH Ex. (C6-C36+)	VOCs B240/824	P. Halocarbons 8010/60	P. Aromatics 8020/602	Organic Lead	PHOTO TIC	MTBE				
X	X	X						X	X				-1
X	X	X						X	X				-2
X	X	X						X	X				-3
X	X	X						X	X				-4
X	X	X						X	X				-5
X	X	X						X	X				-6
X	X	X						X	X				-7
X									X				-8
													624880235
													Alameda
													TW H
													FKEP1014L

cooler temp:
 4.5°C
 sample cond:
 good

Relinquished by: [Signature] Date: 11-3-95 Time: 1350
 Relinquished by: [Signature] Date: 11-3-95 Time: 3:25
 Relinquished by: [Signature] Date: 11/3/95 Time: 5:30

Received by: [Signature] Date: 11-3-95 Time: 152
 Received by: [Signature] Date: 11/3/95 Time: 3:35

Method of Shipment:

Lab Comments:

Well Gauging Data

Project Name: TEXACO / 624880235
 Project Number: 951102-A1

Date: 11-2-95
 Recorded By: RV

Well ID	TOC Elev.	DTB (ft. TOC)	Well Dia. (in.)	DTP (ft.)	DTW (ft.)	PT (ft.)	Comments
MW8 F		14.60	4		8.70		
MW8 G		14.32	4		9.16		
MW8 H		14.98	4		3.49		
MW8 I		14.70	4		6.26		
MW8 J		14.90	4		5.94		
MW8 K		16.54	2		1.88		
MW8 L		-	-		-		INACCESSIBLE - CAR OVER WELL

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

Groundwater Sampling Form

Project Name TEXALO
 Project Number 951102-A1
 Recorded By RV

Well No. MW8F
 Well Type Monitor Extraction Other
 Sampled by RV Date 11-2-95

WELL PURGING

PURGE VOLUME

Well casing diameter
 2-inch 4-inch Other
 Well Total Depth (TD, ft. below TOC) 14.60
 Depth to Water (WL, ft. below TOC) 8.70
 Depth to free phase hydrocarbons (FP, ft. below TOC)
 Number of well volumes to be purged
 3 10 Other

PURGE METHOD

Bailor - Type
 Pump - Type E. SUB
 Other

PUMP INTAKE

Near top Depth (ft)
 Near Bottom Depth (ft) 14
 Other

Pumping Rate 8 gpm
11.6 gals
CALCULATED PURGE VOLUME
12.0 gals
ACTUAL PURGE VOLUME

PURGE VOLUME CALCULATION

$$\frac{5.90}{\text{Water Column Length}} \times \frac{.66}{\text{Multiplier}} \times \frac{3}{\text{No. Vols}} =$$

MULTIPLIER (Casing Dia. [inches] = Gallons/linear ft)
 2 = 0.17 | 3 = 0.38 | 4 = 0.65 | 4.5 = 0.83 | 5 = 1.02 | 6 = 1.5 | 8 = 2.6

GROUNDWATER PARAMETER MEASUREMENT

Meter Type MYRON L

Time/Gallons	pH	Cond. (uomhos/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
930 1 4.0	7.4	1500	59.0		7200	
931 1 8.0	6.8	3100	64.8		176	
932 1 12.0	6.8	3200	65.0		113	
/						
/						
/						
/						
/						

Comments during well purge
 Well Pumped dry. YES NO
 Purge water storage/disposal Drummed onsite Other TRUCK

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled 11-2-1940
 Bailor - Type JEF Sample port Other

GROUNDWATER SAMPLE PARAMETER MEASUREMENTS

Date/Time/% Recharge	pH	Cond. (uomhos/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
/ /						

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
<u>MW8F</u>	<u>3 40 ML VOA</u>	<u>TPH6 BTEX</u>	<u>HCl</u>	<u>BC</u>	
	<u>2 LITERS</u>	<u>TPH4 MO MTBE</u>			

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Duplicate Sample No.

Blank Samples	
Type	Sample No.
Trip	
Rinse	
Transfer	
Other:	

Groundwater Sampling Form

Project Name TEXACO Well No. MW 86
 Project Number 951102-A1 Well Type Monitor Extraction Other
 Recorded By RV Sampled by RV Date 11-2-95

WELL PURGING

PURGE VOLUME

Well casing diameter
 2-inch 4-inch Other
 Well Total Depth (TD, ft. below TOC) 14.32
 Depth to Water (WL, ft. below TOC) 9.16
 Depth to free phase hydrocarbons (FP, ft. below TOC)
 Number of well volumes to be purged
 3 10 Other

PURGE METHOD

Bailor - Type
 Pump - Type E. SUB.
 Other

PUMP INTAKE

Near top Depth (ft)
 Near Bottom Depth (ft) 14'
 Other

PURGE VOLUME CALCULATION

$$\frac{5.16}{\text{Water Column Length}} \times \frac{.66}{\text{Multiplier}} \times \frac{3}{\text{No. Vols}} =$$

MULTIPLIER (Casing Dia. [inches] = Gallons/linear ft)
 2 = 0.1713 | 3 = 0.3914 | 4 = 0.6615 | 5 = 1.0216 | 6 = 1.5118 = 2.6

Pumping Rate 8 gpm
10.2 gals
CALCULATED PURGE VOLUME
10.5 gals
ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT

Meter Type MYRONL

Time/Gallons	pH	Cond. (uomhos/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
956 1 3.5	6.8	3600	63.2		33	
957 1 7.0	7.0	3900	65.8		20	
958 1 10.5	7.0	3900	66.4			
/						
/						
/						
/						
/						

Comments during well purge
 Well Pumped dry: YES NO Purge water storage/disposal Drummed onsite Other TRUCK

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled 11-2 11010
 Bailor - Type TEF Sample port Other

GROUNDWATER SAMPLE PARAMETER MEASUREMENTS

Meter Type

Date/Time/% Recharge	pH	Cond. (uomhos/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
/ /						

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
<u>MW 86</u>	<u>3 40ml VOA</u>	<u>TPHG BTEX</u>	<u>HCl</u>	<u>BC</u>	
	<u>2 LITER</u>	<u>TPHD</u>			
		<u>NO</u>			
		<u>ATISE</u>			

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	
Rinse	
Transfer	
Other:	

Groundwater Sampling Form

Project Name TEXACO
 Project Number 951102-A1
 Recorded By RJ

Well No. MW8H
 Well Type Monitor Extraction Other
 Sampled by RJ Date 11-2-95

WELL PURGING

PURGE VOLUME

Well casing diameter
 2-inch 4-inch Other
 Well Total Depth (TD, ft. below TOC) 14.98
 Depth to Water (WL, ft. below TOC) 3.49
 Depth to free phase hydrocarbons (FP, ft. below TOC) _____
 Number of well volumes to be purged
 3 10 Other _____

PURGE VOLUME CALCULATION

$$\frac{11.49}{\text{Water Column Length}} \times \frac{.66}{\text{Multiplier}} \times \frac{3}{\text{No. Vols}} =$$

MULTIPLIER (Casing Dia. [inches] = Gallons/linear ft.)
 2 = 0.17 | 3 = 0.38 | 4 = 0.66 | 4.5 = 0.83 | 5 = 1.02 | 6 = 1.5 | 8 = 2.6

PURGE METHOD

Bailor - Type _____
 Pump - Type E, SUB
 Other _____

PUMP INTAKE

Near top Depth (ft) _____
 Near Bottom Depth (ft) 14
 Other _____
 Pumping Rate 8 gpm

22.7 gals
CALCULATED PURGE VOLUME
29.0 gals
ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT

Meter Type MYRON C

Time/Gallons	pH	Cond. (uomhcs/cm)	Temp deg C / deg F	Turbidity (NTU)	Color/Odor
1046 8.0	7.4	1000	72.6 74.6	143	
1047 16.0	7.3	790	74.6	70	
1048 23.0	7.2	820	74.4	42	
/					
/					
/					
/					
/					

Comments during well purge _____

Well Pumped dry: YES NO _____
 Purge water storage/disposal Drummed onsite Other TPUR

WELL SAMPLING

SAMPLING METHOD: _____ Date/Time Sampled 11-2 1058

Bailer - Type TEF _____ Sample port Other

GROUNDWATER SAMPLE PARAMETER MEASUREMENTS

Meter Type _____

Date/Time/% Recharge	pH	Cond. (uomhcs/cm)	Temp deg C / deg F	Turbidity (NTU)	Color/Odor
/ /					

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
<u>MW8H</u>	<u>340ml VOA</u>	<u>TPHX</u> <u>ESTEX</u>	<u>HCl</u>	<u>BC</u>	
	<u>2LITER</u>	<u>TPHD</u> <u>MO</u> <u>MTBE</u>			

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	
Rinsale	
Transfer	
Other:	

Groundwater Sampling Form

Project Name TEXACO
 Project Number 951102-A1
 Recorded By RV

Well No. MW8I
 Well Type Monitor Extraction Other
 Sampled by RV Date 11-2-95

WELL PURGING

PURGE VOLUME

Well casing diameter
 2-inch 4-inch Other
 Well Total Depth (TD, ft. below TOC) 14.70
 Depth to Water (WL, ft. below TOC) 6.26
 Depth to free phase hydrocarbons (FP, ft. below TOC) _____
 Number of well volumes to be purged
 3 10 Other _____

PURGE METHOD

Bailor - Type _____
 Pump - Type EL SUBS
 Other _____

PUMP INTAKE

Near top Depth (ft) _____
 Near Bottom Depth (ft) 14
 Other _____

Pumping Rate 8 gpm
16.2 gals
 CALCULATED PURGE VOLUME
18 gals
 ACTUAL PURGE VOLUME

PURGE VOLUME CALCULATION

$$\frac{8.44}{\text{Water Column Length}} \times \frac{.66}{\text{Multiplier}} \times \frac{3}{\text{No. Vols}} =$$

MULTIPLIER (Casing Dia. [inches] = Gallons/linear ft.)
 2 = 0.17 | 3 = 0.38 | 4 = 0.66 | 4.5 = 0.83 | 5 = 1.02 | 6 = 1.5 | 8 = 2.6

GROUNDWATER PARAMETER MEASUREMENT

Meter Type MYRON L

Time/Gallons	pH	Cond. (uomhcs/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
1105 1 6.0	7.7	960	71.0		7200	
1106 1 12.0	7.2	1200	74.2		30	
1107 1 18.0	7.2	1200	74.4		20	

Comments during well purge _____
 Well Pumped dry: YES NO
 Purge water storage/disposal Drummed onsite Other TRUCK

WELL SAMPLING

SAMPLING METHOD _____ Date/Time Sampled 11-2-95 1115

Bailer - Type JEF _____ Sample port _____ Other _____

GROUNDWATER SAMPLE PARAMETER MEASUREMENTS

Meter Type _____

Date/Time/% Recharge	pH	Cond. (uomhcs/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
MW8I	340ml UOA	TPH BTEX	HCl	BC	
	2 LITERS	TPH MO MTBE			

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Duplicate Sample No.

Blank Samples	
Type	Sample No.
Trip	
Rinsate	
Transfer	
Other:	

Groundwater Sampling Form

Project Name TEXACO Well No. MW8J
 Project Number 951102-A1 Well Type Monitor Extraction Other
 Recorded By RV Sampled by RV Date 11-2-95

WELL PURGING

PURGE VOLUME

Well casing diameter
 2-inch 4-inch Other

Well Total Depth (TD, ft. below TOC) 14.90

Depth to Water (WL, ft. below TOC) 5.94

Depth to free phase hydrocarbons (FP, ft. below TOC)

Number of well volumes to be purged
 3 10 Other

PURGE VOLUME CALCULATION

$$\frac{8.96}{\text{Water Column Length}} \times \frac{.66}{\text{Multiplier}} \times \frac{3}{\text{No. Vols}} =$$

MULTIPLIER (Casing Dia. [inches] = Gallons/linear ft.)
 2 = 0.173 | 3 = 0.38 | 4 = 0.66 | 5 = 0.63 | 6 = 1.02 | 8 = 1.5 | 10 = 2.6

PURGE METHOD

Bailor - Type
 Pump - Type E, SUB
 Other

PUMP INTAKE

Near top Depth (ft)
 Near Bottom Depth (ft) 14'
 Other

Pumping Rate 8 gpm

17.7 gals
 CALCULATED PURGE VOLUME

18.0 gals
 ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT

Meter Type MYRON L

Time/Gallons	pH	Cond. (uomhos/cm)	Temp (deg C / deg F)	Turbidity (NTU)	Color/Odor
1023 / 6.0	7.4	1800	69.6	27	
1024 / 12.0	7.2	1600	74.2	39	
1025 / 18.0	7.2	1600	74.6	30	
/					
/					
/					
/					
/					

Comments during well purge
 Well Pumped dry: YES NO Purge water storage/disposal Drummed onsite Other TRUCK

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled 11-2-1033

Bailor - Type TEF Sample port Other

GROUNDWATER SAMPLE PARAMETER MEASUREMENTS

Date/Time/% Recharge	pH	Cond. (uomhos/cm)	Temp (deg C / deg F)	Turbidity (NTU)	Color/Odor
/ /					

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
<u>MW 8 J</u>	<u>3 40ml UOA</u>	<u>TRAG BTEX</u>	<u>HCl</u>	<u>BC</u>	
	<u>2 LITERS</u>	<u>TRHP MO</u>			
		<u>MTBE</u>			

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Duplicate Sample No.

Blank Samples	
Type	Sample No.
Trip	
Rinsate	
Transfer	
Other:	

Groundwater Sampling Form

Project Name TEXACO
 Project Number 951102-A1
 Recorded By RV

Well No. MW 8K
 Well Type Monitor Extraction Other
 Sampled by RV Date 11-2-95

WELL PURGING

PURGE VOLUME

Well casing diameter
 2-inch 4-inch Other
 Well Total Depth (TD, ft. below TOC) 16.54
 Depth to Water (WL, ft. below TOC) 1.88
 Depth to free phase hydrocarbons (FP, ft. below TOC)
 Number of well volumes to be purged
 3 10 Other

PURGE METHOD

Bailor - Type TEF
 Pump - Type
 Other

PUMP INTAKE

Near top Depth (ft.)
 Near Bottom Depth (ft.)
 Other

Pumping Rate _____ gpm

$$\frac{14.66}{\text{Water Column Length}} \times \frac{.17}{\text{Multiplier}} \times \frac{3}{\text{No. Vols}} =$$

8.47 gals
CALCULATED PURGE VOLUME

MULTIPLIER (Casing Dia. [inches] = Gallons/linear ft.)
 2 = 0.17 | 3 = 0.38 | 4 = 0.66 | 4.5 = 0.63 | 5 = 1.02 | 6 = 1.5 | 8 = 2.6

7.5 gals
ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT

Meter Type M420N L

Time/Gallons	pH	Cond. (uomhcs/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
901 1 2.5	7.0	1400	74.6		7200	
904 1 5.0	7.3	1500	74.0		7200	
907 1 7.5	7.3	1500	74.0		7200	
1						
1						
1						
1						
1						

Comments during well purge _____

Well Pumped dry: YES NO Purge water storage/disposal Drummed onsite Other TRUCK

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled 11-2 1917

Bailor - Type TEF Sample port Other

GROUNDWATER SAMPLE PARAMETER MEASUREMENTS

Date/Time/% Recharge	pH	Cond. (uomhcs/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
1 1						

SAMPLING PROGRAM

Sample No.	Container #/Volume	Analysis	Preservatives	Laboratory	Comments
<u>MW 8K</u>	<u>3 40 mL VOA</u>	<u>TPMG BTEX</u>	<u>HCl</u>	<u>BC</u>	
	<u>2 LITERS</u>	<u>TPAD MO MTESE</u>	<u>HCl</u>		

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Duplicate Sample No.

Blank Samples	
Type	Sample No.
Trip	
Rinse	<u>ES @</u>
Transfer	<u>920</u>
Other	

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

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

is authorized by Texaco Environmental Services to recover,
 collect, apportion into loads, and haul the NON-HAZARDOUS
 WELL PURGEWATER that is drawn from wells at the Texaco
 facility listed below and to deliver that purgewater to an
 appropriate destination designated by TEXACO ENVIRONMENTAL
 SERVICES in either Redwood City, California or in Richmond,
 California. Transport routing of the Non-Hazardous Well
 Purgewater may be directed from one Texaco facility to the
 designated 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 #: 624880235
 Address: 500 GRAND AVE.
 City, State, ZIP: OAKLAND, CA

Well I.D.	Gals.	Well I.D.	Gals.
<u>MW8F</u>	<u>12.0</u>	<u>1</u>	
<u>MW8G</u>	<u>10.5</u>	<u>1</u>	
<u>MW8H</u>	<u>23.0</u>	<u>1</u>	
<u>MW8I</u>	<u>18.0</u>	<u>1</u>	
<u>MW8J</u>	<u>18.0</u>	<u>1</u>	
<u>MW8K</u>	<u>7.5</u>	<u>1</u>	
<u>1</u>		<u>1</u>	
<u>1</u>		<u>1</u>	
<u>1</u>		<u>1</u>	
<u>1</u>		<u>1</u>	

Total gals. _____ added rinse water 5.0
 Total Gals. 94.0
 Recovered

Job #: 951102-A1
 Date: 11-2-95
 Time: 1140
 Signature: Landy Valant

REC'D AT: BTS
 Date: 11-2-95
 Time: 1700
 Signature: Landy Valant

**Texaco Environmental Services
Standard Operating Procedures
for Groundwater Monitoring and Sampling**

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

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

Water Level Measurements

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

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

Petroleum Product Thickness Measurements.

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

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

- The level of the top of the product will be measured with an interface probe. When product is suspected but not measurable with the interface probe, a visual evaluation can be made using clear bailers. A bailer will be lowered into the water/product surface so that the top of the bailer is NOT submerged; the bailer is then removed from the well and the thickness of the product visually measured and documented on the Well Gauging Form.
- When the interface probe contacts liquid, the visual/audible alarm on the reel will be activated. An oscillating alarm indicates water, a continuous alarm indicates hydrocarbon*. To determine the exact thickness of a hydrocarbon layer, the probe should be slowly lowered to the air/hydrocarbon interface until the alarm is activated. With the probe at the exact point where the alarm comes on, read the numbers on the tape to determine the distance from the top of casing elevation mark. Next, lower the probe through the hydrocarbon layer and well into the water. An oscillating alarm will be obtained. The probe should then be raised slowly to the hydrocarbon/water interface until the point where the alarm changes from oscillating to continuous. The thickness of the hydrocarbon layer is determined by subtracting the first reading from the second reading. Record the calculated value on the Well Gauging Form and Groundwater Sampling Form.

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

Groundwater Sampling

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

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

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

Sample Custody Procedures

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

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

- Sample Identification Label
- Chain-of Custody

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Equipment Decontamination

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

**FOURTH-QUARTER 1995 PROGRESS REPORT
500 GRAND AVENUE
OAKLAND, CALIFORNIA**

HISTORY OF INVESTIGATIVE AND REMEDIAL ACTIONS

The site is the former location of a Texaco service station location. Currently the site is a fenced, vacant lot. A site preliminary subsurface investigation was conducted in May 1988.

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

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

WORK PERFORMED FOURTH QUARTER 1995

Groundwater monitoring was conducted during the quarter. Results are provided in a separate groundwater monitoring report.

PROPOSED INVESTIGATIONS OR REMEDIATION PLANS

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. No further investigation or remediation of the vadose-zone soils is proposed.

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. It is proposed that downgradient wells continue to be monitored to document the biodegradation of the remaining dissolved-phase hydrocarbons in the groundwater.

METHOD AND LOCATION OF DISPOSAL

Groundwater purged during the quarterly monitoring was transported to the Texaco Terminal in Richmond, California, for disposal.