



Texaco Refining  
and Marketing Inc

100 Curing Boulevard  
Richmond, CA 94601

July 19, 1995

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

**2200 E. 12th Street  
Oakland, California**

Mr. Thomas Peacock  
Alameda County Health Department  
1131 Harbor Way Pkwy.  
Alameda, CA 94502-6577

Dear Mr. Peacock:

This letter presents the results of groundwater monitoring and sampling conducted by Blaine Tech Services, Inc. on May 15, 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 west. (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, quarterly summary report, and bill of lading are in the Appendix. Texaco Environmental Services' Standard Operating Procedures may be found in Texaco's fourth quarter, 1994 monitoring report.

If you have any questions or comments regarding this site, please call the Texaco Environmental Services' site Project Coordinator, Karen Petryna at (510) 236-9139.

Best Regards,

Rebecca Digerness  
Environmental Assistant

Karen E. Petryna  
Engineer  
Texaco Environmental Services

RBD:hs  
P:\GWMP\QMR\2200E12\QMR.LET

Enclosures

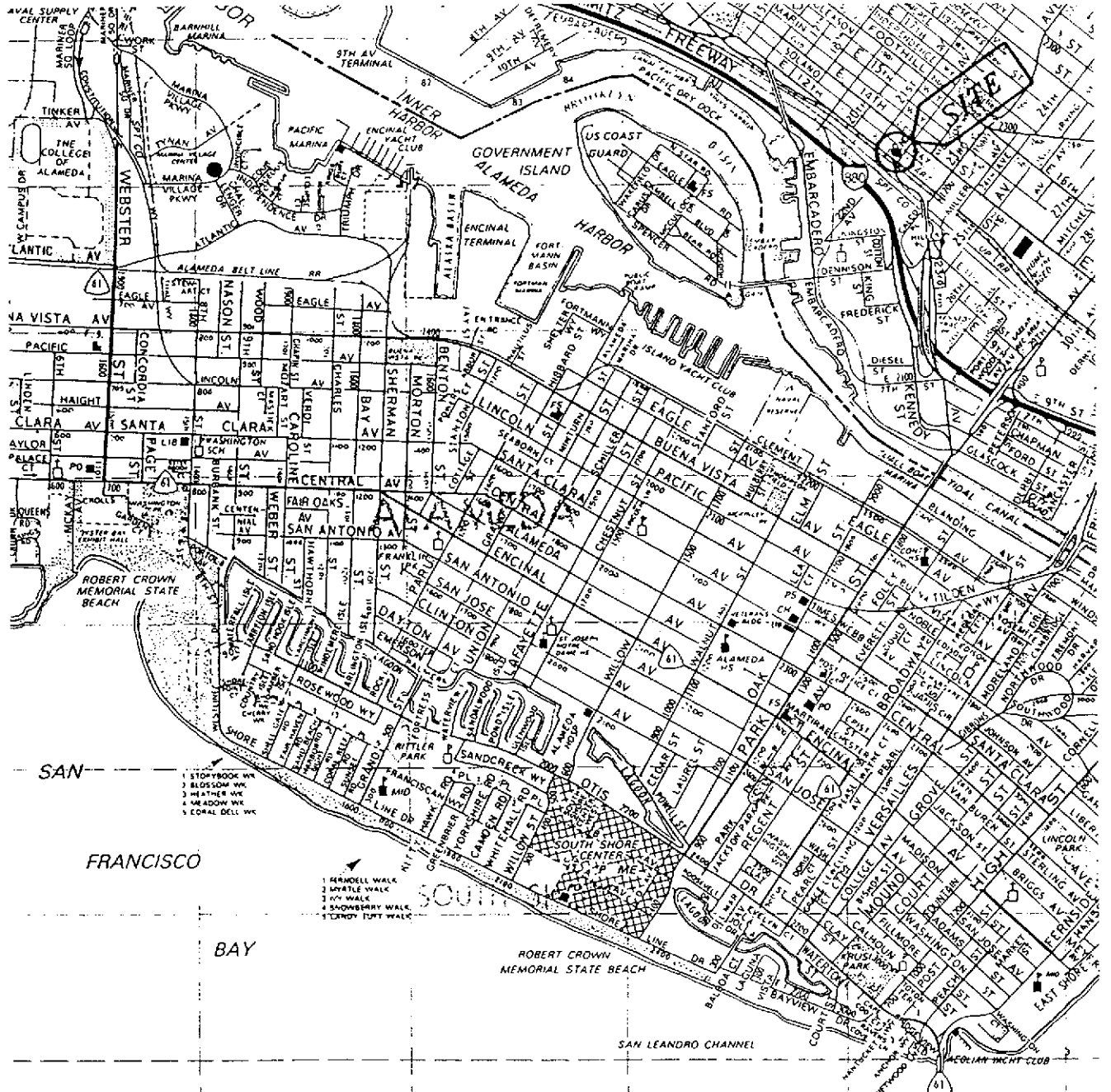
95 JUL 24 PM 2:15  
ENVIRONMENTAL SERVICES  
KAREN PETRYNA

cc: Mr. Michael Faber  
Exxon Company, U. S. A.  
2300 Clayton Rd., Suite 1250  
Concord, CA 94524

RAOFile-UCPFile (w/enclosures) RACoughlin-RRZielinski (w/o enclosures)

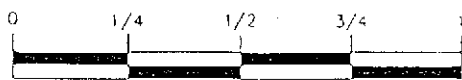
pr: REP

**Groundwater Monitoring and Sampling  
Second Quarter, 1995  
at the  
Former Texaco Service Station  
2200 East 12th Street  
Oakland, CA**



**SOURCE:**

1993 THE THOMAS GUIDE  
ALAMEDA COUNTY, PAGE 11 (E1)



MILE

1" = 2200'



**TEXACO**

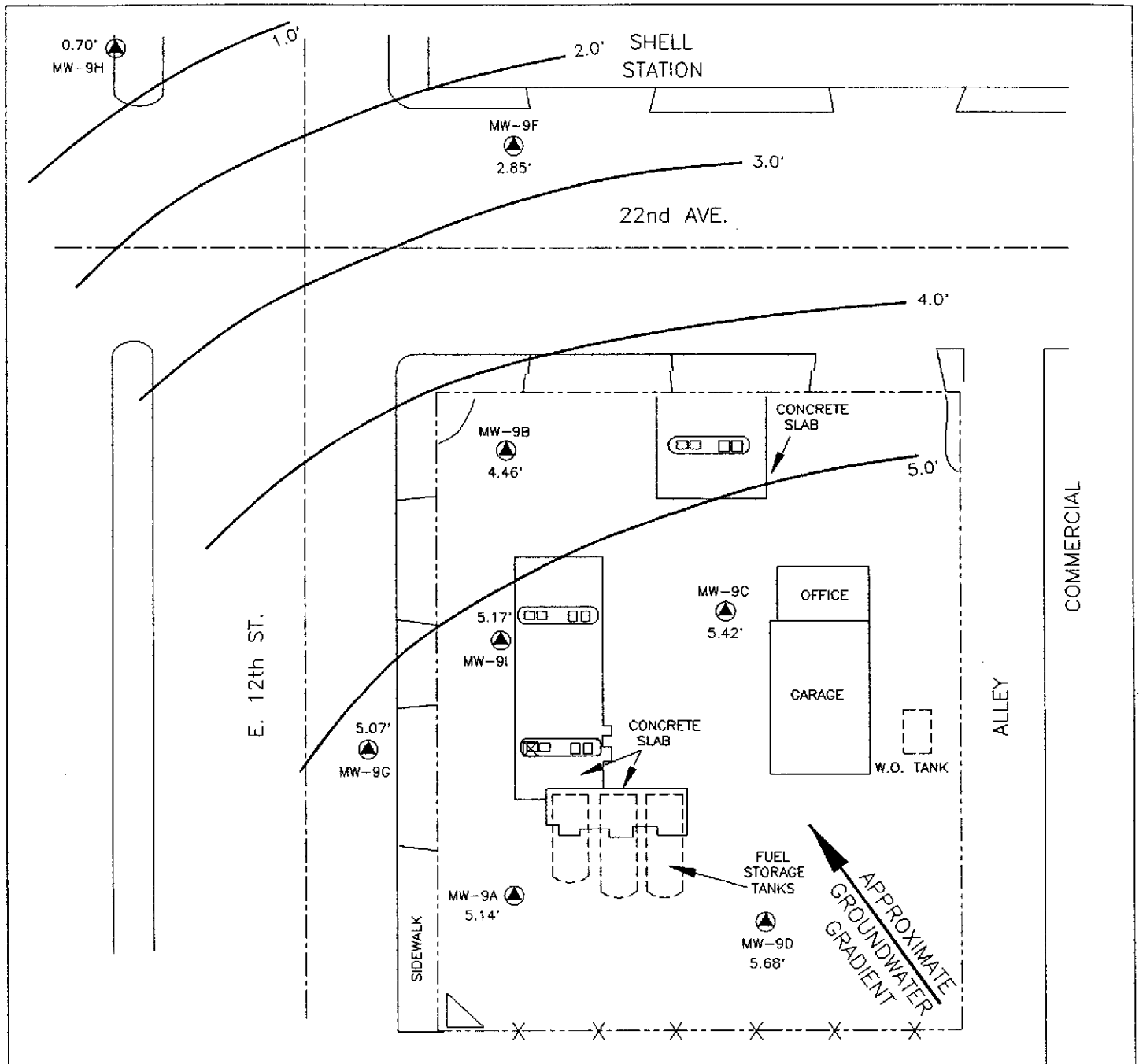
REFINING AND MARKETING, INC.  
TEXACO ENVIRONMENTAL SERVICES

PLATE 1



SITE VICINITY MAP

FORMER TEXACO SERVICE STATION

2200 E. 12th ST. / 22nd AVE.,  
OAKLAND, CALIFORNIA




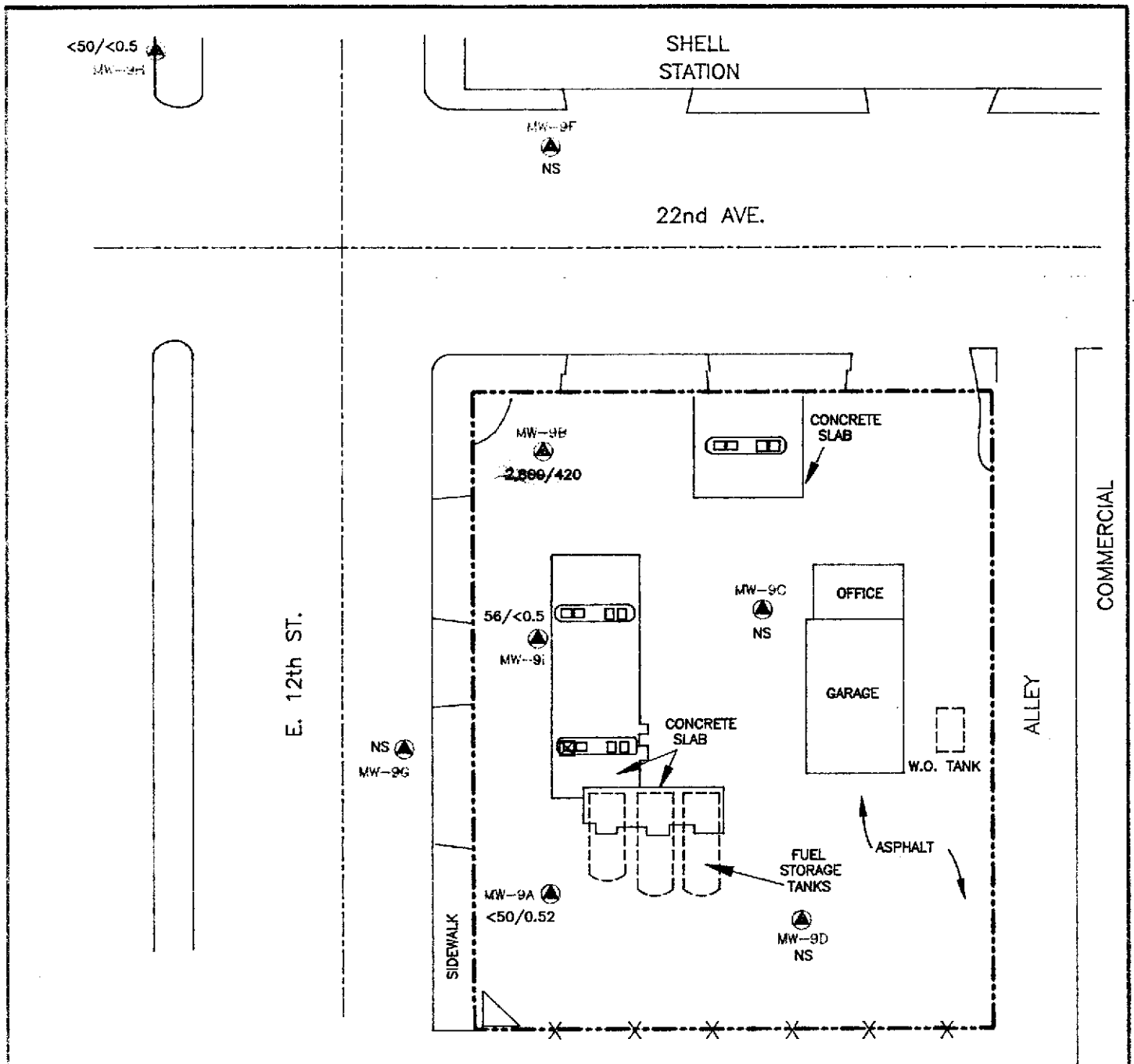
LEGEND :

-  MONITORING WELL LOCATION AND WELL NUMBER
-  GROUNDWATER CONTOUR LINE
- 5.17' GROUNDWATER ELEVATION (ABOVE MSL)



SOURCE : MATTESON ENGINEERING CONDUCTED SURVEY ON 08/04/1994

 <b>TEXACO</b> REFINING AND MARKETING INC. ENVIRONMENTAL SERVICES			
PLATE 2 : GROUNDWATER GRADIENT MAP ( 05/15/1995 ) FORMER TEXACO SERVICE STATION 2200 E. 12th ST. / 22nd AVE., OAKLAND, CALIFORNIA			
SCALE	1" = 40'-0"	LOCATION #	62-488-0088
DRAWN BY	AMA	DATE	07/06/1995
CHECKED BY		DATE	
DRAWING NO. (OAKLAND) 12-22-OK.DWG			



<50/<0.5  
MW-9H

SHELL  
STATION

MW-9F  
NS

22nd AVE.

E. 12th ST.

NS  
MW-9G

MW-9B  
2,899/420

CONCRETE  
SLAB

56/<0.5  
MW-9I

MW-9C  
NS

OFFICE

GARAGE

CONCRETE  
SLAB

W.O. TANK

MW-9A  
<50/0.52

FUEL  
STORAGE  
TANKS

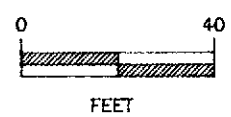
ASPHALT

MW-9D  
NS

COMMERCIAL

ALLEY

SIDEWALK



SOURCE : MATTESON ENGINEERING CONDUCTED  
SURVEY ON 08/04/1994



**TEXACO**


REFINING AND MARKETING INC.  
ENVIRONMENTAL SERVICES

PLATE 3 : TPH<sub>2</sub>/BENZENE CONCENTRATION IN GROUNDWATER  
( 05/15/1995 )

FORMER TEXACO SERVICE STATION

2200 E. 12th ST. / 22nd AVE.,  
OAKLAND, CALIFORNIA

**LEGEND :**

 MONITORING WELL LOCATION  
AND WELL NUMBER

<50/<0.5 TPH<sub>2</sub>/BENZENE CONCENTRATION IN GROUNDWATER (ppb)

NS WELL NOT SAMPLED

SCALE	1" = 40'-0"	LOCATION #	62-488-0088
DRAWN BY	AMA	DATE	07/06/1995
CHECKED BY		DATE	
DRAWING NO. (OAKLAND) 12-22-OK.DWG			

Table 1  
Groundwater Elevation Data  
2200 East 12th Street  
Oakland, CA

Well Number	Date Sampled	Elevation of Wellhead (feet)	Depth to Water (feet, TOC)	Elevation of Groundwater (feet)
MW-9A	10/12/89	100.07 *		
	2/5/92		6.93	93.14
	5/5/92		6.95	93.12
	9/14/92		7.65	92.42
	11/16/92		7.35	92.72
	2/3/93		7.85	92.22
	5/18/93		6.95	93.12
	8/26/93		7.14	92.93
	11/4/93		7.23	92.84
	2/4/94		6.70	93.37
	5/31/94		6.74	93.33
	10/26/94	11.46 **	7.06	4.40
	5/15/95		6.32	5.14
MW-9B	10/12/89	98.41 *		
	2/5/92		5.95	92.46
	5/5/92		5.92	92.49
	9/14/92		6.60	91.81
	11/16/92		6.35	92.06
	2/3/93		6.50	91.91
	5/18/93		6.42	91.99
	8/26/93		6.28	92.13
	11/4/93		6.23	92.18
	2/4/94		5.92	92.49
	5/31/94		9.22	89.19
	10/26/94	9.80 **	6.04	3.76
	5/15/95		5.34	4.46
MW-9C	10/12/89	99.73 *		
	2/5/92		6.44	93.29
	5/5/92		6.50	93.23
	9/14/92		7.00	92.73
	11/16/92		6.72	93.01
	2/3/93		5.75	93.98
	5/18/93		6.72	93.01
	8/26/93		6.84	92.89
	11/4/93		6.90	92.83
	2/4/94		6.28	93.45
	5/31/94		6.42	93.31
	10/26/94	11.14 **	6.80	4.34
	5/15/95		5.72	5.42

Table 1  
Groundwater Elevation Data  
2200 East 12th Street  
Oakland, CA

Well Number	Date Sampled	Elevation of Wellhead (feet)		Depth to Water (feet, TOC)	Elevation of Groundwater (feet)
MW-9D	10/12/89	101.46 *			
	2/5/92			7.78	93.68
	5/5/92			7.90	93.56
	9/14/92			8.45	93.01
	11/16/92			8.10	93.36
	2/3/93			7.07	94.39
	5/18/93			7.85	93.61
	8/26/93			8.30	93.16
	11/4/93			8.33	93.13
	2/4/94			7.66	93.80
	5/31/94			6.80	94.66
	10/26/94	12.90 **		8.34	4.56
	5/15/95			7.22	5.68
MW-9F	10/12/89	96.96 *			
	2/5/92			5.81	91.15
	5/5/92			5.86	91.10
	9/14/92			Not Measured	
	11/16/92			5.82	91.14
	2/3/93			5.55	91.41
	5/18/93			5.86	91.10
	8/26/93			5.86	91.10
	11/5/93			5.96	91.00
	2/4/94			5.68	91.28
	5/31/94			5.76	91.20
	10/26/94	8.37 **		5.96	2.41
	5/15/95			5.52	2.85
MW-9G	10/12/89	98.51 *			
	2/5/92			5.59	92.92
	5/5/92			5.60	92.91
	9/14/92			Not Measured	
	11/16/92			5.78	92.73
	2/3/93			5.05	93.46
	5/18/93			5.62	92.89
	8/26/93			5.86	92.65
	11/5/93			5.96	92.55
	2/4/94			5.48	93.03
	5/31/94			5.50	93.01
	10/26/94	9.95 **		5.76	4.19
	5/15/95			4.88	5.07



Table 2  
Groundwater Analytical Data  
2200 East 12th Street  
Oakland, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	
MW-9A	2/5/92	<50	1.1	1.8	0.6	1.3	
	5/5/92	<50	<0.5	<0.5	<0.5	<0.5	
	9/14/92	<50	<0.5	<0.5	<0.5	<0.5	
	11/16/92	<50	1.1	<0.5	<0.5	<0.5	
	2/3/93	140	17	19	1.6	20	
	5/18/93	<50	0.8	<0.5	1.3	7	
	8/26/93	<50	<0.5	<0.5	<0.5	<0.5	
	11/4/93	<50	<0.5	<0.5	<0.5	<0.5	
	2/4/94	<50	<0.5	<0.5	<0.5	<0.5	
	5/31/94	<50	<0.5	<0.5	<0.5	<0.5	
	10/26/94	66	<0.5	<0.5	<0.5	<0.5	
	5/15/95	<50	0.52	0.67	<0.5	<0.5	
	MW-9B	2/5/92	60	14	<0.5	2.9	2.5
		5/5/92	620	180	2.4	8.4	2.2
9/14/92		110	9.6	<0.5	<0.5	<0.5	
11/16/92		200	33	<0.5	4.2	1.4	
2/3/93		12,000	320	13	35	110	
5/18/93		180	1.1	<0.5	2.6	5.9	
8/26/93		180	36	<0.5	3	1.7	
11/4/93		98	13	<0.5	1.4	<0.5	
2/4/94		790	170	1.3	12	0.8	
5/31/94		1,000	150	2.5	8.0	2.1	
10/26/94		84	2.8	0.72	<0.5	<0.5	
5/15/95		<del>2,800</del>	<del>420</del>	25	27	6.7	
MW-9C		2/5/92	<50	<0.5	<0.5	<0.5	<0.5
		5/5/92	<50	<0.5	<0.5	<0.5	<0.5
	9/14/92	<50	<0.5	<0.5	<0.5	<0.5	
	11/16/92	<50	<0.5	<0.5	<0.5	<0.5	
	2/3/93	<50	<0.5	<0.5	<0.5	<0.5	
	5/18/93	<50	<0.5	<0.5	<0.5	<0.5	
	8/26/93	<50	<0.5	<0.5	<0.5	<0.5	
	11/4/93	<50	<0.5	<0.5	<0.5	<0.5	
	2/4/94	<50	<0.5	<0.5	<0.5	<0.5	
	5/31/94	Not Sampled					
	10/26/94	Not Sampled					
5/15/95	Not Sampled						

Table 2  
Groundwater Analytical Data  
2200 East 12th Street  
Oakland, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-9D	2/5/92	<50	<0.5	<0.5	<0.5	<0.5
	5/5/92	<50	<0.5	<0.5	<0.5	<0.5
	9/14/92	<50	<0.5	<0.5	<0.5	<0.5
	11/16/92	<50	<0.5	<0.5	<0.5	<0.5
	2/3/93	<50	<0.5	<0.5	<0.5	<0.5
	5/18/93	<50	<0.5	<0.5	<0.5	<0.5
	8/26/93	<50	<0.5	<0.5	<0.5	<0.5
	11/4/93	<50	<0.5	<0.5	<0.5	<0.5
	2/4/94	<50	<0.5	<0.5	<0.5	<0.5
	5/31/94	Not Sampled				
	10/26/94	Not Sampled				
	5/15/95	Not Sampled				
	MW-9F	2/5/92	<50	<0.5	<0.5	<0.5
5/5/92		<50	<0.5	<0.5	<0.5	<0.5
9/14/92		Not Sampled				
11/16/92		<50	<0.5	<0.5	<0.5	<0.5
2/3/93		<50	<0.5	<0.5	<0.5	<0.5
5/19/93		<50	<0.5	<0.5	1.2	6.8
8/26/93		<50	<0.5	<0.5	<0.5	<0.5
11/5/93		<50	<0.5	<0.5	<0.5	<0.5
2/4/94		<50	<0.5	<0.5	<0.5	<0.5
5/31/94		Not Sampled				
10/26/94		Not Sampled				
5/15/95		Not Sampled				
MW-9G		2/5/92	<50	<0.5	<0.5	<0.5
	5/5/92	<50	1.5	3.8	1	4.7
	9/14/92	Not Sampled				
	11/16/92	<50	<0.5	<0.5	<0.5	<0.5
	2/3/93	64	<0.5	<0.5	<0.5	<0.5
	5/19/93	<50	<0.5	<0.5	<0.5	<0.5
	8/26/93	<50	<0.5	<0.5	<0.5	<0.5
	11/5/93	<50	<0.5	<0.5	<0.5	<0.5
	2/4/94	<50	<0.5	<0.5	<0.5	<0.5
	5/31/94	Not Sampled				
	10/26/94	Not Sampled				
	5/15/95	Not Sampled				

Table 2  
Groundwater Analytical Data  
2200 East 12th Street  
Oakland, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	
MW-9H	2/5/92	<50	<0.5	<0.5	<0.5	<0.5	
	5/5/92	<50	<0.5	<0.5	<0.5	<0.5	
	9/14/92	Not Sampled					
	11/16/92	Not Sampled					
	2/3/93	280	<0.5	<0.5	<0.5	<0.5	
	5/19/93	<50	<0.5	<0.5	1.1	6.4	
	8/26/93	<50	0.8	<0.5	<0.5	<0.5	
	11/5/93	<50	<0.5	<0.5	<0.5	<0.5	
	2/4/94	<50	<0.5	<0.5	<0.5	<0.5	
	5/31/94	<50	0.92	1.1	<0.5	0.86	
	10/26/94	<50	<0.5	<0.5	<0.5	<0.5	
	5/15/95	<50	<0.5	<0.5	<0.5	<0.5	
	MW-9I	2/5/92	<50	<0.5	<0.5	<0.5	<0.5
5/5/92		<50	0.9	<0.5	<0.5	0.7	
9/14/92		<50	<0.5	<0.5	<0.5	<0.5	
11/16/92		<50	<0.5	<0.5	<0.5	<0.5	
2/2/93		240	46	1.1	2.3	2.1	
5/18/93		79	<0.5	<0.5	<0.5	<0.5	
8/26/93		<50	<0.5	<0.5	<0.5	<0.5	
11/4/93		<50	<0.5	<0.5	<0.5	<0.5	
2/4/94		<50	<0.5	<0.5	<0.5	<0.5	
5/31/94		240	0.66	0.63	<0.5	1.4	
10/26/94		150	<0.5	<0.5	<0.5	<0.5	
5/15/95		56	<0.5	0.82	<0.5	<0.5	
ppb = parts per billion							
TPHg = Total petroleum hydrocarbons analyzed as gasoline							
< = Less than the detection limit for the specified method of analysis							

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

LOG NO: 695-05-250

Received: 16 MAY 95

Mailed: **MAY 31 1995**

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

Purchase Order: 94-1446346+4370

Requisition: 624880088  
 Project: FKEP1016L

REPORT OF ANALYTICAL RESULTS

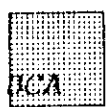
Page 1

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	Total Xylenes Isomers ug/L
1*MW-9A	05/15/95	05/18/95		1	<50	0.52	0.67	<0.5	<0.5
2*MW-9B	05/15/95	05/20/95		1	2800	420	25	27	6.7
3*MW-9H	05/15/95	05/18/95		1	<50	<0.5	<0.5	<0.5	<0.5
4*MW-9I	05/15/95	05/18/95		1	56	<0.5	0.82	<0.5	<0.5
5*EB	05/15/95	05/18/95		1	<50	<0.5	<0.5	<0.5	<0.5
6*1B	05/15/95	05/18/95		1	<50	<0.5	<0.5	<0.5	<0.5

Karen Petryna  
 2200 East Twelfth St., Oakland  
 Alameda County

*Jane Freeman*  
 Jane Freeman, Program Manager



AMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE..... ANALYZED	METHOD.....	EQUIP.	BATCH..	ID.NO
1505250*1	MW-9A	GAS.BTX.TESNC	05.18.95	8015M.TX	516-24	957208	8658
1505250*2	MW-9B	GAS.BTX.TESNC	05.20.95	8015M.TX	516-20	958128	8658
1505250*3	MW-9H	GAS.BTX.TESNC	05.18.95	8015M.TX	516-24	957208	8658
1505250*4	MW-9I	GAS.BTX.TESNC	05.18.95	8015M.TX	516-24	957208	8658
1505250*5	EB	GAS.BTX.TESNC	05.18.95	8015M.TX	516-24	957208	8658
1505250*6	TB	GAS.BTX.TESNC	05.18.95	8015M.TX	516-24	957208	8658

\*\*\*

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 G9505250

DATE REPORTED : 05/27/95

LABORATORY CONTROL STANDARDS  
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
1. TPH (8015M/8020)		C5052661*1				
Date Analyzed	05.18.95	957208	05/18/95	05/18/95	Date	N/A
Benzene	05.18.95	957208	14.1	12.5	ug/L	113
Toluene	05.18.95	957208	65.2	55.5	ug/L	117
Ethylbenzene	05.18.95	957208	14.5	12.5	ug/L	116
Total Xylene Isomers	05.18.95	957208	71.5	66.5	ug/L	108
TPH (Gasoline Range)	05.18.95	957208	747	1000	ug/L	75
2. TPH (8015M/8020)		C5052670*1				
Date Analyzed	05.23.95	957208	05/23/95	05/23/95	Date	N/A
Benzene	05.23.95	957208	10.1	12.5	ug/L	81
Toluene	05.23.95	957208	52.6	55.5	ug/L	95
Ethylbenzene	05.23.95	957208	12.3	12.5	ug/L	98
Total Xylene Isomers	05.23.95	957208	57.5	66.5	ug/L	86
TPH (Gasoline Range)	05.23.95	957208	748	1000	ug/L	75
3. TPH (8015M/8020)		C5052671*1				
Date Analyzed	05.24.95	957208	05/24/95	05/24/95	Date	N/A
Benzene	05.24.95	957208	12.5	12.5	ug/L	100
Toluene	05.24.95	957208	54.7	55.5	ug/L	99
Ethylbenzene	05.24.95	957208	12.5	12.5	ug/L	100
Total Xylene Isomers	05.24.95	957208	59.3	66.5	ug/L	89
TPH (Gasoline Range)	05.24.95	957208	828	1000	ug/L	83
4. TPH (8015M/8020)		C5052460*1				
Date Analyzed	05.20.95	958128	05/20/95	05/20/95	Date	N/A
Benzene	05.20.95	958128	15.1	12.5	ug/L	121
Toluene	05.20.95	958128	58.5	55.5	ug/L	105
Ethylbenzene	05.20.95	958128	12.5	12.5	ug/L	100
Total Xylene Isomers	05.20.95	958128	60.9	66.5	ug/L	92
TPH (Gasoline Range)	05.20.95	958128	931	1000	ug/L	93
5. TPH (8015M/8020)		C5052461*1				
Date Analyzed	05.20.95	958128	05/20/95	05/20/95	Date	N/A
Benzene	05.20.95	958128	15.6	12.5	ug/L	125
Toluene	05.20.95	958128	55.9	55.5	ug/L	101
Ethylbenzene	05.20.95	958128	13.0	12.5	ug/L	104
Total Xylene Isomers	05.20.95	958128	64.8	66.5	ug/L	97
TPH (Gasoline Range)	05.20.95	958128	928	1000	ug/L	93

BC ANALYTICAL

ORDER QC REPORT FOR G9505250

DATE REPORTED : 05/27/95

Page 1

ADDITIONAL LCS PRECISION (DUPLICATES)  
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	LC1 RESULT	LC2 RESULT	UNIT	RELATIVE % DIFF
1. TPH (8015M/8020)							
Date Analyzed		05.18.95	957208	05/18/95	05/23/95	Date	N/A
Benzene		05.18.95	957208	14.1	10.1	ug/L	33 Q
Toluene		05.18.95	957208	65.2	52.6	ug/L	21
Ethylbenzene		05.18.95	957208	14.5	12.3	ug/L	16
Total Xylene Isomers		05.18.95	957208	71.5	57.5	ug/L	22
TPH (Gasoline Range)		05.18.95	957208	747	748	ug/L	0
2. TPH (8015M/8020)							
Date Analyzed		05.20.95	958128	05/20/95	05/20/95	Date	N/A
Benzene		05.20.95	958128	15.1	15.6	ug/L	3
Toluene		05.20.95	958128	58.5	55.9	ug/L	5
Ethylbenzene		05.20.95	958128	12.5	13.0	ug/L	4
Total Xylene Isomers		05.20.95	958128	60.9	64.8	ug/L	6
TPH (Gasoline Range)		05.20.95	958128	931	928	ug/L	0

BC ANALYTICAL

ORDER QC REPORT FOR G9505250

DATE REPORTED : 05/27/95

MATRIX QC PRECISION (DUPLICATE SPIKES)  
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS RESULT	MSD RESULT	UNIT	RELATIVE % DIFF
1. TPH (8015M/8020)	9505350*1						
Date Analyzed		05.24.95	957208	05/24/95	05/24/95	Date	N/A
Benzene		05.24.95	957208	13.5	14.2	ug/l.	5
Toluene		05.24.95	957208	52.2	54.7	ug/L	5
Ethylbenzene		05.24.95	957208	11.7	12.5	ug/L	7
Total Xylene Isomers		05.24.95	957208	56.2	59.4	ug/L	6
TPH (Gasoline Range)		05.24.95	957208	766	798	ug/L	4
a,a,a-Trifluorotoluene	Reported	05.24.95	957208	50.8.0	55.6	ug/L	N/A
2. TPH (8015M/8020)	9505251*13						
Date Analyzed		05.20.95	958128	05/20/95	05/20/95	Date	N/A
Benzene		05.20.95	958128	16.3	15.6	ug/l.	4
Toluene		05.20.95	958128	70.0	64.9	ug/L	8
Ethylbenzene		05.20.95	958128	15.5	13.9	ug/L	11
Total Xylene Isomers		05.20.95	958128	78.1	68.7	ug/L	13
TPH (Gasoline Range)		05.20.95	958128	834	933	ug/L	11



BC ANALYTICAL

ORDER QC REPORT FOR G9505250

DATE REPORTED : 05/27/95

MATRIX QC ACCURACY (SPIKES)  
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS %	MSD %	TRUE RESULT	UNIT
1. TPH (8015M/8020)	9505350*1						
Benzene		05.23.95	957208	108	114	12.5	ug/L
Toluene		05.23.95	957208	94	99	55.5	ug/L
Ethylbenzene		05.23.95	957208	94	100	12.5	ug/L
Total Xylene Isomers		05.23.95	957208	85	89	66.5	ug/L
TPH (Gasoline Range)		05.23.95	957208	77	80	1000	ug/L
2. TPH (8015M/8020)	9505251*13						
Benzene		05.20.95	958128	130 Q	125	12.5	ug/L
Toluene		05.20.95	958128	126	117	55.5	ug/L
Ethylbenzene		05.20.95	958128	124	111	12.5	ug/L
Total Xylene Isomers		05.20.95	958128	117	103	66.5	ug/L
TPH (Gasoline Range)		05.20.95	958128	83	93	1000	ug/L

BC ANALYTICAL

ORDER QC REPORT FOR G9505250

DATE REPORTED : 05/27/95

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

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT	METHOD
1. TPH (8015M/8020)	B5051229*1					
Date Analyzed	05.18.95	957208	05/18/95	NA	Date	8015M.TX
Benzene	05.18.95	957208	0.30	0.5	ug/L	8015M.TX
Toluene	05.18.95	957208	0.27	0.5	ug/L	8015M.TX
Ethylbenzene	05.18.95	957208	0	0.5	ug/L	8015M.TX
Total Xylene Isomers	05.18.95	957208	0.11	0.5	ug/L	8015M.TX
TPH (Gasoline Range)	05.18.95	957208	2.1	50	ug/L	8015M.TX
2. TPH (8015M/8020)	B5051368*1					
Date Analyzed	05.23.95	957208	05/23/95	NA	Date	8015M.TX
Benzene	05.23.95	957208	0.21	0.5	ug/L	8015M.TX
Toluene	05.23.95	957208	0.39	0.5	ug/L	8015M.TX
Ethylbenzene	05.23.95	957208	0	0.5	ug/L	8015M.TX
Total Xylene Isomers	05.23.95	957208	0.11	0.5	ug/L	8015M.TX
TPH (Gasoline Range)	05.23.95	957208	3.8	50	ug/L	8015M.TX
3. TPH (8015M/8020)	B5051231*1					
Date Analyzed	05.20.95	958128	05/20/95	NA	Date	8015M.TX
Benzene	05.20.95	958128	0	0.5	ug/L	8015M.TX
Toluene	05.20.95	958128	0.49	0.5	ug/L	8015M.TX
Ethylbenzene	05.20.95	958128	0	0.5	ug/L	8015M.TX
Total Xylene Isomers	05.20.95	958128	0	0.5	ug/L	8015M.TX
TPH (Gasoline Range)	05.20.95	958128	16	50	ug/L	8015M.TX

: SURROGATE RECOVERIES :  
: BC ANALYTICAL : GLEN LAB : 07:32:03 27 MAY 1995 - P. 1 :  
=====

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9505250*i							
8015M.TXa	a,a,a-Trifluorotoluene	957208	05/18/95	49.7	50.0	99	
9505250*2							
8015M.TXa	a,a,a-Trifluorotoluene	958128	05/20/95	62.1	50.0	124	
9505250*3							
8015M.TXa	a,a,a-Trifluorotoluene	957208	05/18/95	49.5	50.0	99	
9505250*4							
8015M.TXa	a,a,a-Trifluorotoluene	957208	05/18/95	49.5	50.0	99	
9505250*5							
8015M.TXa	a,a,a-Trifluorotoluene	957208	05/18/95	49.6	50.0	99	
9505250*6							
8015M.TXa	a,a,a-Trifluorotoluene	957208	05/18/95	50.4	50.0	101	

SURROGATE RECOVERIES :

BC ANALYTICAL : GLEN LAB : 16:39:19 30 MAY 1995 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9505251*13*R1							
8015M.TXa	a,a-Trifluorotoluene	958128	05/20/95	46.4	50.0	93	
9505251*13*S1							
8015M.TXa	a,a-Trifluorotoluene	958128	05/20/95	54.0	50.0	108	
9505251*13*S2							
8015M.TXa	a,a-Trifluorotoluene	958128	05/20/95	58.6	50.0	117	
9505251*13*T							
8015M.TXa	a,a-Trifluorotoluene	958128	05/20/95	50.0	50.0	100	
9505350*1*R1							
8015M.TXa	a,a-Trifluorotoluene	957208	05/23/95	48.5	50.0	97	
9505350*1*S1							
8015M.TXa	a,a-Trifluorotoluene	957208	05/24/95	58.0	50.0	116	
9505350*1*S2							
8015M.TXa	a,a-Trifluorotoluene	957208	05/24/95	55.6	50.0	111	
9505350*1*T							
8015M.TXa	a,a-Trifluorotoluene	957208	05/24/95	50.0	50.0	100	
B5051229*1*MB							
8015M.TXa	a,a-Trifluorotoluene	957208	05/18/95	49.1	50.0	98	
B5051231*1*MB							
8015M.TXa	a,a-Trifluorotoluene	958128	05/20/95	46.5	50.0	93	
B5051368*1*MB							
8015M.TXa	a,a-Trifluorotoluene	957208	05/23/95	49.5	50.0	99	
B5051533*1*MB							
8015M.TXa	a,a-Trifluorotoluene	958128	05/23/95	45.5	50.0	91	
B5051566*1*MB							
8015M.TXa	a,a-Trifluorotoluene	957208	05/24/95	48.4	50.0	97	
C5052460*1*LC							
8015M.TXa	a,a-Trifluorotoluene	958128	05/20/95	58.2	50.0	116	

ETHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
5052460*1*LT							
015M.TXa,a,a-Trifluorotoluene		958128	05/20/95	50.0	50.0	100	
5052461*1*LC							
3015M.TXa,a,a-Trifluorotoluene		958128	05/20/95	59.7	50.0	119	
5052461*1*LT							
3015M.TXa,a,a-Trifluorotoluene		958128	05/20/95	50.0	50.0	100	
5052661*1*LC							
3015M.TXa,a,a-Trifluorotoluene		957208	05/18/95	48.6	50.0	97	
5052661*1*LT							
8015M.TXa,a,a-Trifluorotoluene		957208	05/18/95	50.0	50.0	100	
5052670*1*LC							
8015M.TXa,a,a-Trifluorotoluene		957208	05/23/95	50.0	50.0	100	
5052670*1*LT							
8015M.TXa,a,a-Trifluorotoluene		957208	05/23/95	50.0	50.0	100	
5052671*1*LC							
8015M.TXa,a,a-Trifluorotoluene		957208	05/24/95	55.0	50.0	110	
5052671*1*LT							
8015M.TXa,a,a-Trifluorotoluene		957208	05/24/95	50.0	50.0	100	
5052942*1*LC							
8015M.TXa,a,a-Trifluorotoluene		958128	05/23/95	57.3	50.0	115	
5052942*1*LT							
8015M.TXa,a,a-Trifluorotoluene		958128	05/23/95	50.0	50.0	100	
5053011*1*LC							
8015M.TXa,a,a-Trifluorotoluene		957208	05/26/95	58.4	50.0	117	
5053011*1*LT							
8015M.TXa,a,a-Trifluorotoluene		957208	05/26/95	50.0	50.0	100	

Chain-of-Custody

**Texaco Environmental Services**

108 Cutting Boulevard  
 Richmond, California 94804  
 Phone: (510) 230-3541  
 FAX: (510) 237-7821

Forward Results to the Attention of Rebecca Digerness

Texaco Project Coordinator Karen Petryna

Site Name: Texaco Loc. # 624880088

Site Address: 2200 East Twelfth St., Oakland, CA

Contractor Project Number: 950516-M2

Contractor Name: Blaine Tech Services, Inc.

Address: 985 Timothy Dr., San Jose, CA 95133

Project Contact: Don Wultz

Phone/FAX: (408) 995-5535 / (408) 293-8773

Laboratory: B C Analytical  
 Turn Around Time: normal (10 day)  
 Samplers (PRINT NAME): MICHAEL  
 Sampler Signature: [Signature]  
 Date Samples Collected: 5-15-95

ANALYSIS

Sample Number	Lot Sample Number	Date/Time Collected	No. of Containers	Type of Containers	Sample Matrix	Preservative	TPH gas/BTEX	TPH Diesel	O&G/TRPH (41B.1)	TPH Ex. (CB-C36 +)	VOCs 8240/824	P. Halocarbons 8010/80	P. Aromatics 8020/802	Organic Lead	Comments
MW-9A		5-15	3	UBA	H2O	HCL	X								-1
MW-9B		↓	3	↓	↓		X								-2
MW-9H		↓	3	↓	↓		X								-3
MW-9I		↓	3	↓	↓		X								-4
EB		↓	3	↓	↓		X								-5
TB		↓	2	↓	↓		X								-6

624880088  
 KEEP  
 KEEP 1016 L  
 Alameda Co.

Relinquished by: [Signature] Date: 5/16/95 Time: 1410  
 Relinquished by: [Signature] Date: 5-16-95 Time: 160  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Method of Shipment: \_\_\_\_\_

Received by: [Signature] Date: 5-16-95 Time: 215  
 Received by: [Signature] Date: 5/16/95 Time: 450  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Lab Comments: \_\_\_\_\_



# Groundwater Sampling Form

Project Name 4.12th Well No. MW-9A  
 Project Number 950515 M2 Well Type  Monitor  Extraction  Other  
 Recorded By mm Sampled by mm Date 5-15-95

## WELL PURGING

### PURGE VOLUME

### PURGE METHOD

Well casing diameter  
 2-inch  4-inch  Other  
 Well Total Depth (TD, ft. below TOC) 17.67

Bailor - Type \_\_\_\_\_  
 Pump - Type PERU  
 Other \_\_\_\_\_

Depth to Water (WL, ft. below TOC) 6.32  
 Depth to free phase hydrocarbons (FP, ft. below TOC) \_\_\_\_\_  
 Number of well volumes to be purged  
 3  10  Other 1.9

**PUMP INTAKE**  
 Near top Depth (ft) \_\_\_\_\_  
 Near Bottom Depth (ft) \_\_\_\_\_  
 Other \_\_\_\_\_

### PURGE VOLUME CALCULATION

Pumping Rate 1.6 gpm  
5.7 gals  
**CALCULATED PURGE VOLUME**  
6.0 gals  
**ACTUAL PURGE VOLUME**

$$\frac{11.32}{\text{Water Column Length}} \times \frac{.17}{\text{Multiplier}} \times \frac{3}{\text{No. Vols}} =$$

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

### GROUNDWATER PARAMETER MEASUREMENT

Meter Type METER/MFSU

Time/Gallons	pH	Cond. (uomhcs/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
15:10   2	7.0	800	20.0		700	
15:12   4	6.9	800	18.0		700	
15:14   6	6.9	800	17.8		700	
/						
/						
/						
/						

Comments during well purge \_\_\_\_\_

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

## WELL SAMPLING

**SAMPLING METHOD** \_\_\_\_\_ Date/Time Sampled 5-15 15:16

Bailer - Type  S.S. Sample port  Other

### GROUNDWATER SAMPLE PARAMETER MEASUREMENTS

Meter Type 1

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>MW-9A</u>	<u>3 40ml VOA</u>	<u>TPH/6</u> <u>15TRK</u>	<u>HCL</u>	<u>BC</u>	

### QUALITY CONTROL SAMPLES

#### Duplicate Samples

Original Sample No.	Duplicate Sample No.

#### Blank Samples

Type	Sample No.
Trip	
Rinsate	
Transfer	
Other:	





Project Name E 12th ST Groundwater Sampling Form Well No. MW-9H  
 Project Number 950515-102 Well Type  Monitor  Extraction  Other  
 Recorded By MLM Sampled by MLM Date 5-15-98

**WELL PURGING**

**PURGE VOLUME**

**PURGE METHOD**

Well casing diameter  
 2-inch  4-inch  Other  
 Well Total Depth (TD, ft. below TOC) 14.22

Bailor - Type  
 Pump - Type S.S.  
 Other

Depth to Water (WL, ft. below TOC) 7.88  
 Depth to free phase hydrocarbons (FP, ft. below TOC)

**PUMP INTAKE**  
 Near top Depth (ft)  
 Near Bottom Depth (ft) 14.00  
 Other

Number of well volumes to be purged  
 3  10  Other 4.2

**PURGE VOLUME CALCULATION**

Pumping Rate \_\_\_\_\_ gpm  
12.6 gals  
**CALCULATED PURGE VOLUME**  
13 gals  
**ACTUAL PURGE VOLUME**

6.34 x .66 x 3 =  
 Water Column Length Multiplier 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 MYLON/MESCI

Time/Gallons	pH	Cond. (uomhos/cm)	Temp (deg C / deg F)	Turbidity (NTU)	Color/Odor
16:04 / 5	7.6	1000	18.6	7700	
16:06 / 9	6.9	1000	18.2	7700	
16:08 / 13	6.9	1000	18.2	7700	
/					
/					
/					
/					

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

**WELL SAMPLING**

**SAMPLING METHOD** Date/Time Sampled 5-15 / 16:10

Bailer - Type  S.S. 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-9H</u>	<u>34002 UOA</u>	<u>TPAL</u> <u>STK</u>	<u>HCL</u>	<u>IBC</u>	

**QUALITY CONTROL SAMPLES**

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	
Rinsate	
Transfer	
Other:	

Project Name E. Path Groundwater Sampling Form Well No. MW-9T  
 Project Number 950515-112 Well Type  Monitor  Extraction  Other  
 Recorded By MW Sampled by MW Date 5-15

**WELL PURGING**

**PURGE VOLUME**  
 Well casing diameter  2-inch  4-inch  Other  
 Well Total Depth (TD, ft. below TOC) 11.00  
 Depth to Water (WL, ft. below TOC) 4.94  
 Depth to free phase hydrocarbons (FP, ft. below TOC) \_\_\_\_\_  
 Number of well volumes to be purged  3  10  Other 5.5

**PURGE METHOD**  
 Bailor - Type \_\_\_\_\_  
 Pump - Type E.S.  
 Other \_\_\_\_\_

**PUMP INTAKE**  
 Near top Depth (ft) \_\_\_\_\_  
 Near Bottom Depth (ft) 1300  
 Other \_\_\_\_\_

**PURGE VOLUME CALCULATION**  
 Water Column Length 9.06 x Multiplier 0.66 x No. Vols 3 = 16.5 gals  
**CALCULATED PURGE VOLUME**  
17 gals  
**ACTUAL PURGE VOLUME**

**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 MYRONL/MESCI

Time/Gallons	pH	Cond. (uomhos/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
15:48 / 6	6.0	1000	17.8		2200	
15:50 / 12	6.1	1000	17.6		2200	
15:52 / 17	6.1	1000	18.0		2200	
/						
/						
/						
/						

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

**WELL SAMPLING**

**SAMPLING METHOD** Date/Time Sampled 5-15 15:55  
 Bailor - Type  S.S. 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-9T</u>	<u>240ml VOF TMB</u>	<u>STEX</u>	<u>HCL</u>	<u>BC</u>	

**QUALITY CONTROL SAMPLES**

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	
Rinsate	
Transfer	
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 PURGEWATER WHICH HAS BEEN RECOVERED FROM GROUNDWATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE UP INTO LOADS OF APPROPRIATE SIZE AND HAULED TO THE DESTINATION DESIGNATED BY TEXACO ENVIRONMENTAL SERVICES (TES).

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

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

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

TEXACO #: 624680088  
 Address: 2200 E 12th St  
 City, State, ZIP: OAKLAND CA

Well I.D.	Gals.	Well I.D.	Gals.
MW-9A	6	/	
MW-9B	9	/	
MW-9H	17	/	
MW-9I	13	/	
/		/	
/		/	
/		/	
/		/	
/		/	
/		/	
/		/	

Total gals. \_\_\_\_\_ added rinse water \_\_\_\_\_  
 Total Gals. Recovered \_\_\_\_\_

Job #: 950515-M2  
 Date: 5-15  
 Time: 14:30  
 Signature: [Signature]

---

REC'D AT: ETS  
 Date: 17:15  
 Time: 5-15-95  
 Signature: [Signature]

**QUARTERLY SUMMARY REPORT**  
Former Texaco/Current Exxon Service Station  
2200 East 12th, Oakland, California  
Alameda County  
First Quarter, 1995

**HISTORY OF INVESTIGATIVE AND REMEDIAL ACTIONS**

Investigation began in May, 1988 and initially consisted of a sensitive receptor study and a preliminary subsurface investigation. Five shallow monitoring wells have been installed on site; three (3) wells were installed off-site. Dissolved petroleum hydrocarbons were found in water from two (2) on-site wells, downgradient of the tanks and a pump island. 20 shallow soil borings were drilled and sampled near the pump islands and underground tanks. Slug tests were performed in two (2) on-site wells to evaluate hydraulic properties of shallow saturated material. The site assessment report was completed in the third quarter of 1989. In fourth quarter, 1990 soils with hydrocarbon concentrations at and above 100 parts per million (ppm) were excavated between the sidewalk and the canopy covering the western pump islands. Following on-site treatment, the excavated soils were removed from the site to Redwood Landfill in Novato. MW-9E was abandoned, and MW-9I was installed in approximately the same location. During the third quarter of 1991, Exxon removed and replaced the underground storage tanks and product lines.

**WORK PERFORMED DURING THIS QUARTER**

Quarterly groundwater monitoring and sampling.

**CHARACTERIZATION STATUS**

The petroleum hydrocarbon plume has been delineated.

**REMEDIATION STATUS**

Not applicable.

**WORK TO BE PERFORMED NEXT QUARTER**

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

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