Texaco Refining and Marketing Inc
108 Cutting Boulevard
Richmond CA 94804

January 18, 1995

ENV - STUDIES, SURVEYS & REPORTS
2225 Telegraph Ave., Oakland, California

Mr. Thomas Peacock
Alameda County Environmental Health Department
80 Swan Way, Room 200
Oakland, CA 94621

Dear Mr. Peacock:

This letter presents the results of groundwater monitoring and sampling conducted by Blaine Tech Services, Inc. on November 11, 1994, at the site referenced above (see Plate 1, Site Vicinity Map). Based on groundwater level measurements, the areal hydraulic gradient was estimated to be south (see Plate 2, Groundwater Gradient Map). The gradient map has been reviewed by a registered professional. TPHg and benzene concentrations are shown on Plate 3. Tables 1 and 2 list historical groundwater monitoring data and analytical results, respectively.

The groundwater treatment system on site ran continously throughout the reporting period.

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.

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

Best Regards,

Rebecca Digerness
Environmental Assistant

Karen E. Petryna
Engineer
Texaco Environmental Services

RBD:hs
C:\QMR\2225T\QMR.LET

Enclosures

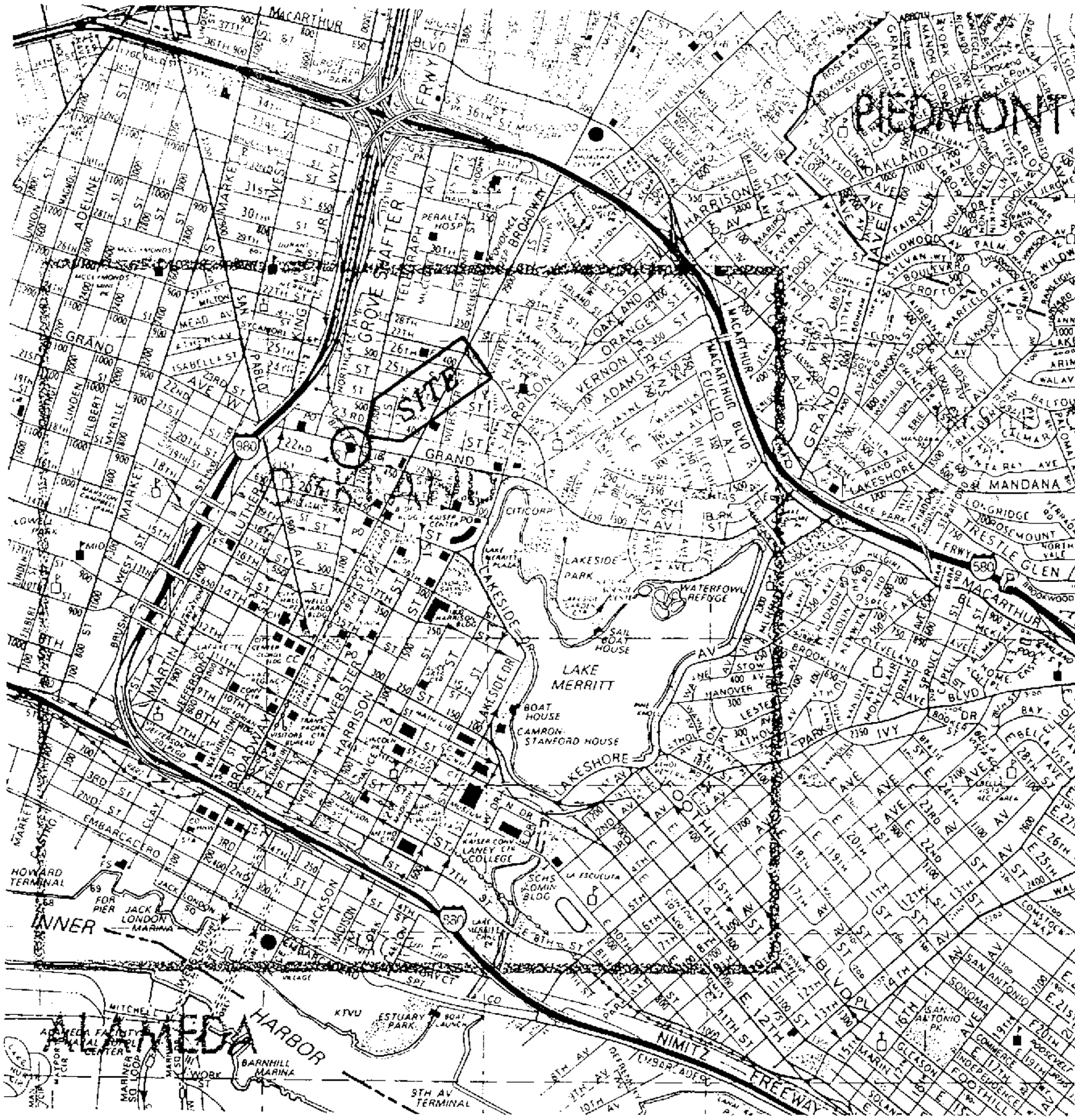
CC: Mr. Richard Hiett
CRWQCB - San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Mr. Michael Faber
Exxon Company, USA
2300 Clayton Road, Suite 1250
Concord, CA 94524-2032

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

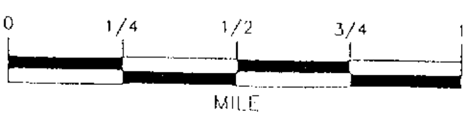
PR: KEP

Groundwater Monitoring and Sampling
Fourth Quarter, 1994
at the
Former Texaco Station
2225 Telegraph Avenue
Oakland, CA



SOURCE:

1993 THE THOMAS GUIDE
ALAMEDA COUNTY, PAGE 9 (B3)



TEXACO

REFINING AND MARKETING, INC.
TEXACO ENVIRONMENTAL SERVICES

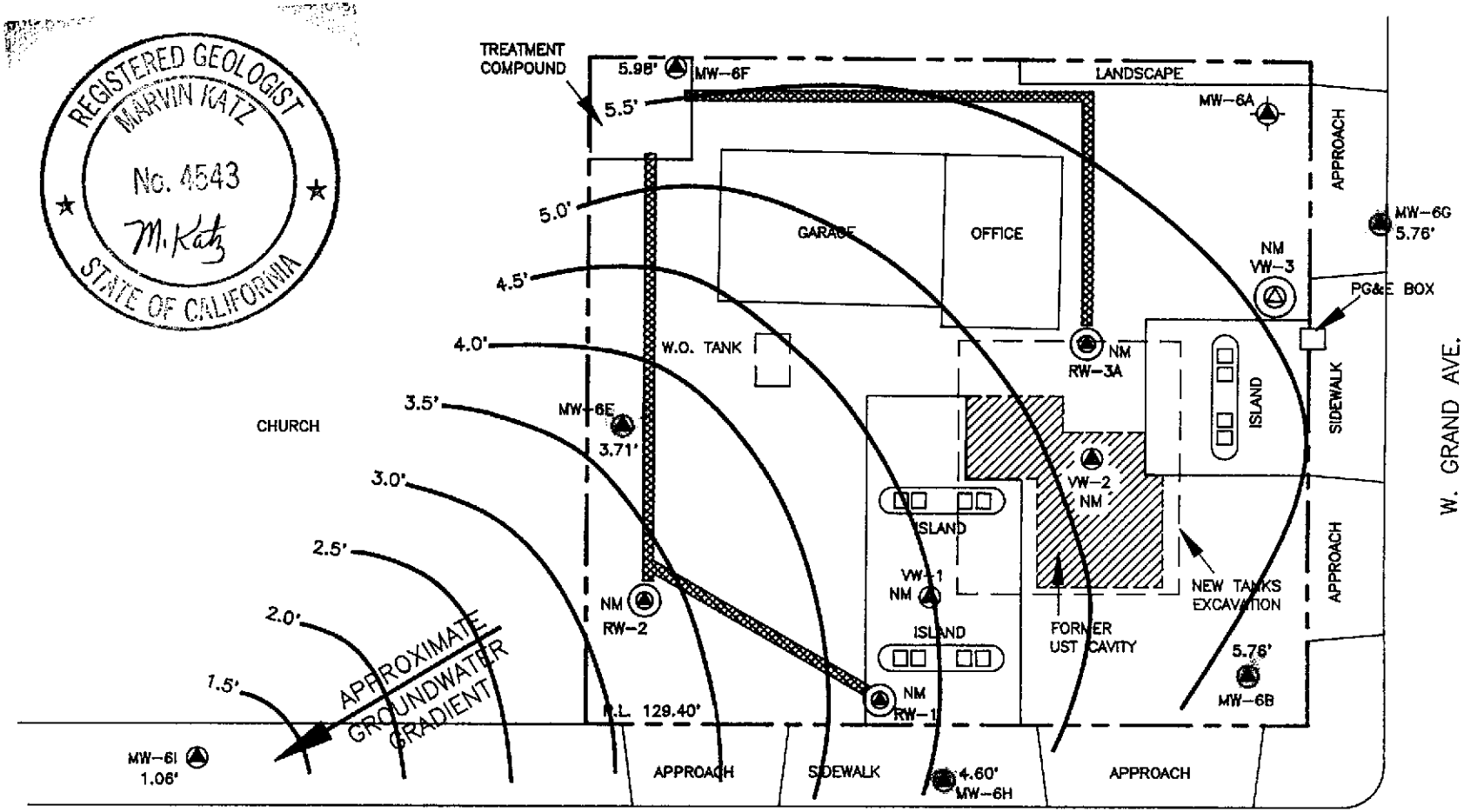
PLATE 1

SITE VICINITY MAP

FORMER TEXACO SERVICE STATION

2225 TELEGRAPH AVE. / GRAND AVE.,

OAKLAND, CALIFORNIA



REGISTERED GEOLOGIST
MARVIN KATZ
No. 4543
STATE OF CALIFORNIA

LEGEND :

VW-3	VAPOR EXTRACTION WELL LOCATION AND WELL NUMBER
MW-6A	PROPERLY ABANDONED WELL LOCATION AND WELL NUMBER
MW-1	GROUNDWATER MONITORING WELL LOCATION AND WELL NUMBER
RW-1	GROUNDWATER RECOVERY/VAPOR EXTRACTION WELL LOCATION AND WELL NUMBER
	TEXACO REMEDIATION SYSTEM TRENCH WITH 2" PVC VAPOR EXTRACTION LINE
	GROUNDWATER CONTOUR LINE
4.60'	GROUNDWATER ELEVATION (ABOVE MSL)
NM	WELL NOT MONITORED

TELEGRAPH AVE.

N

0 30

FEET

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

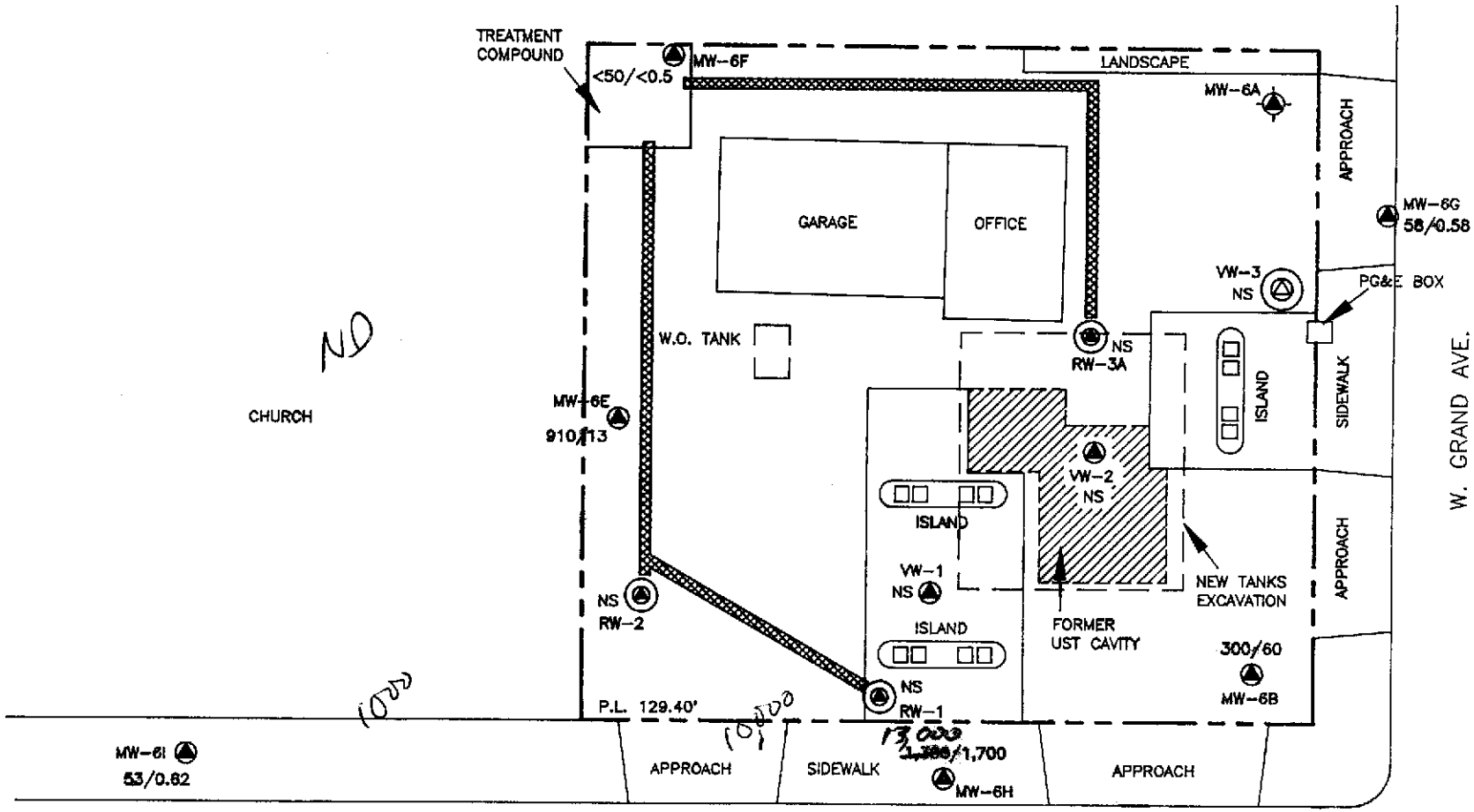
TEXACO
REFINING AND MARKETING INC.
TEXACO ENVIRONMENTAL SERVICES

PLATE 2 : GROUNDWATER GRADIENT MAP
(11/11/1994)

FORMER TEXACO SERVICE STATION

2225 TELEGRAPH AVE. / GRAND AVE.,
OAKLAND, CALIFORNIA

SCALE	1"=30'-0"	LOCATION #	62-488-0195
DRAWN BY	AMA	DATE	12/30/1994
CHECKED BY	RD	DATE	1/5/95
DRAWING NO.	(OAKLAND) TE-GR-OK.DWG		



LEGEND :

- VW-3 — VAPOR EXTRACTION WELL LOCATION AND WELL NUMBER
- MW-6A — PROPERLY ABANDONED WELL LOCATION AND WELL NUMBER
- MW-1 — GROUNDWATER MONITORING WELL LOCATION AND WELL NUMBER
- RW-1 — GROUNDWATER RECOVERY/VAPOR EXTRACTION WELL LOCATION AND WELL NUMBER
- TEXACO REMEDIATION SYSTEM TRENCH WITH 2" PVC VAPOR EXTRACTION LINE
- <50/<0.5 — TPHg/BENZENE CONCENTRATION IN GROUNDWATER (ppb)
- NS — WELL NOT SAMPLED

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

N

0 30

FEET

TEXACO

REFINING AND MARKETING INC.
TEXACO ENVIRONMENTAL SERVICES

PLATE 3 : TPHg/BENZENE CONCENTRATION IN GROUNDWATER
(11/11/1994)

FORMER TEXACO SERVICE STATION

2225 TELEGRAPH AVE. / GRAND AVE.,
OAKLAND, CALIFORNIA

SCALE	1"=30'-0"	LOCATION #	62-488-0195
DRAWN BY	AMA	DATE	12/30/1994
CHECKED BY	RD	DATE	1/5/95
DRAWING NO.	(OAKLAND) TE-GR-OK.DWG		

Table 1
Groundwater Elevation Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet)		Depth to Water (feet, TOC)	Elevation of Groundwater (feet)
MW-6A	12/30/91				Well Destroyed
MW-6B	12/15/88	98.81	*		
	2/25/92			11.81	87.00
	3/25/92			11.58	87.23
	6/16/92	15.34	**	12.54	2.80
	9/8/92			12.87	2.47
	11/5/92			12.70	2.64
	12/14/92			12.19	3.15
	1/28/93			11.39	3.95
	2/11/93			11.70	3.64
	3/9/93			11.70	3.64
	4/14/93			11.87	3.47
	5/11/93			12.22	3.12
	6/17/93			12.46	2.88
	7/26/93			12.72	2.58
	8/10/93			12.82	2.52
	9/21/93			13.08	2.26
	10/27/93			13.18	2.16
	11/23/93			13.07	2.27
	12/17/93			NA	NA
	2/16/94			12.07	3.27
	5/31/94			12.42	2.92
	8/30/94	17.48	***	13.02	4.46
	11/11/94			11.72	5.76

Table 1
Groundwater Elevation Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet)		Depth to Water (feet, TOC)	Elevation of Groundwater (feet)
MW-6E	12/15/88	98.99	*		
	2/25/92			13.16	85.83
	3/25/92			12.15	86.84
	6/16/92	15.23	**	13.54	1.69
	9/8/92			14.78	0.45
	11/5/92				Not Monitored
	12/14/92				Not Monitored
	1/28/93			11.62	3.61
	2/11/93			12.85	2.38
	3/9/93			12.83	2.40
	4/14/93				Not Monitored
	5/11/93			13.59	1.64
	6/17/93			13.74	1.49
	7/26/93			14.01	1.22
	8/10/93			14.13	1.10
	9/21/93			14.20	1.03
	10/27/93			14.34	0.89
	11/23/93			13.97	1.26
	12/17/93			13.08	2.15
	2/16/94			13.34	1.89
	5/31/94			13.82	1.41
	8/30/94	17.63	***	14.32	3.31
	11/11/94			13.92	3.71

Table 1
Groundwater Elevation Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet)		Depth to Water (feet, TOC)	Elevation of Groundwater (feet)
MW-6F	12/15/88	99.91	*		
	2/25/92			12.68	87.23
	3/25/92			11.93	87.98
	6/16/92	16.46	**	14.34	2.12
	9/8/92			14.75	1.71
	11/5/92			14.35	2.11
	12/14/92			12.90	3.56
	1/28/93			11.60	4.86
	2/11/93			12.25	4.21
	3/9/93			12.50	3.96
	4/14/93			12.71	3.75
	5/11/93			13.63	2.83
	6/17/93			14.02	2.44
	7/26/93				Not Monitored
	8/10/93				Not Monitored
	9/21/93			14.80	1.66
	10/27/93			14.85	1.61
	11/23/93			Not Monitored - Inaccessible	
	12/17/93			13.86	2.60
	2/16/94			13.08	3.38
	5/31/94			14.06	2.40
	8/30/94	18.58	***	14.84	3.74
	11/11/94			12.60	5.98

Table 1
Groundwater Elevation Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet)		Depth to Water (feet, TOC)	Elevation of Groundwater (feet)
MW-6G	12/15/88	99.16	*		
	2/25/92			10.32	88.84
	3/25/92			9.93	89.23
	6/16/92	14.71	**	11.88	2.83
	9/8/92			12.20	2.51
	11/5/92			12.02	2.69
	12/14/92			10.95	3.76
	1/28/93			9.56	5.15
	2/11/93			10.04	4.67
	3/9/93			10.10	4.61
	4/14/93			10.43	4.28
	5/11/93			11.05	3.66
	6/17/93			11.49	3.22
	7/26/93			11.98	2.73
	8/10/93			12.17	2.54
	9/21/93			12.42	2.29
	10/27/93			13.47	1.24
	11/23/93			12.48	2.23
	12/17/93			11.19	3.52
	2/16/94			10.62	4.09
	5/31/94			11.40	3.31
	8/30/94	16.82	***	12.32	4.50
	11/11/94			11.06	5.76
MW-6H	12/15/88	97.93	*		
	2/25/92			12.17	85.76
	3/25/92			11.65	86.28
	6/16/92	14.47	**	12.12	2.35
	9/8/92			12.30	2.17
	11/5/92			12.05	2.42
	12/14/92			11.65	2.82
	1/28/93			11.57	2.90
	2/11/93			12.22	2.25
	3/9/93			12.02	2.45
	4/14/93			12.02	2.45
	5/11/93			12.35	2.12
	6/17/93			12.22	2.25
	7/26/93			12.32	2.15
	8/10/93			12.30	2.17
	9/21/93			12.79	1.68
	10/27/93			13.93	0.54
	11/23/93			12.46	2.01
	12/17/93			12.08	2.39
	5/31/94			12.46	2.01
	8/30/94	16.58	***	12.72	3.86
	11/11/94			11.98	4.60

Table 1
Groundwater Elevation Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet)		Depth to Water (feet, TOC)	Elevation of Groundwater (feet)
MW-6I	12/15/88	97.60	*		
	2/25/92			12.45	85.15
	3/25/92			12.12	85.48
	6/16/92	14.14	**	12.75	1.39
	9/8/92			12.84	1.30
	11/5/92			12.75	1.39
	12/14/92			12.40	1.74
	1/28/93			12.20	1.94
	2/11/93			12.40	1.74
	3/9/93			12.45	1.69
	4/14/93			12.43	1.71
	5/11/93			12.73	1.41
	6/17/93			12.78	1.36
	7/26/93			12.92	1.22
	8/10/93			12.97	1.17
	9/21/93			13.02	1.12
	10/27/93			13.10	1.04
	11/23/93			13.02	1.12
	12/17/93			12.65	1.49
	2/16/94			12.66	1.48
	5/31/94			12.90	1.24
	8/30/94	16.26	***	13.06	3.20
	11/11/94			15.20	1.06

Table 1
Groundwater Elevation Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet)		Depth to Water (feet, TOC)	Elevation of Groundwater (feet)
RW-1	10/16/90	97.89	*		
	2/25/92			14.40	83.49
	3/25/92			NA	NA
	6/16/92	14.42	**	12.37	2.05
	9/8/92				Not Monitored
	11/5/92				Not Monitored
	12/14/92				Not Monitored
	1/18/93				Not Monitored
	2/11/93				Not Monitored
	3/9/93				Not Monitored
	4/14/93				Not Monitored
	5/11/93				Not Monitored
	6/17/93				Not Monitored
	7/26/93				Not Monitored
	8/10/93				Not Monitored
	9/21/93				Not Monitored
	10/27/93				Not Monitored
	11/23/93				Not Monitored
	12/17/93				Not Monitored
	2/16/94				Not Monitored
	5/31/94				Not Monitored
	8/30/94	16.79	***		Not Monitored
	11/11/94				Not Monitored

Table 1
Groundwater Elevation Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Gauged	Top of Casing Elevation (feet)		Depth to Water (feet, TOC)	Elevation of Groundwater (feet)
RW-2 (formerly MW-6D)	10/16/90	98.11	*		
	2/25/92			16.27	81.84
	3/25/92				Not Monitored
	6/16/92	14.61	**	12.86	1.75
	9/8/92				Not Monitored
	11/5/92				Not Monitored
	12/14/92				Not Monitored
	1/28/93				Not Monitored
	2/11/93				Not Monitored
	3/9/93				Not Monitored
	4/14/93				Not Monitored
	5/11/93				Not Monitored
	6/17/93				Not Monitored
	8/10/93				Not Monitored
	9/21/93				Not Monitored
	10/27/93				Not Monitored
	11/23/93				Not Monitored
	12/17/93				Not Monitored
	2/16/94				Not Monitored
	5/31/94				Not Monitored
	8/30/94	17.02	***		Not Monitored
	11/11/94				Not Monitored
RW-3 (formerly MW-6C)	8/30/94	18.04	***		Not Monitored
	11/11/94				Not Monitored
* = Based on assigned benchmark with elevation arbitrarily set at 100 feet.					
** = Elevation relative to mean sea level (MSL).					
*** = Wells resurveyed 8/4/94, Benchmark is City of Oakland #37J;					
Elevation 17.68 @ intersection of Telegraph & 23rd St. jobsite.					
NA = Not Available					

Table 2
Groundwater Analytical Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Sampled	TPH as gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-6A	5/2/92		Well Destroyed			
MW-6B	3/25/92	190	31	8.6	84	8.6
	6/16/92	1,700	44	1.7	7.2	230
	9/8/92	2,900	35	8.3	110	330
	11/5/92	1,400	29	<0.5	75	190
	2/11/93	210	1.2	<0.5	2.8	4.3
	5/11/93	570	54	2.4	37	36
	8/10/93	1,300	48	2.4	28	44
	10/27/93	1,300	23	1.7	25	250
	2/16/94	300	16	<0.5	3.5	2.4
	5/31/94	690	21	3.9	11	36
	8/30/94	260	4	0.62	0.82	4
	11/11/94	300	60	2	1.2	2.4
MW-6E	3/25/92	830	41	1	3.8	16
	6/16/92	3,400	300	23	68	510
	9/8/92	480	27	<0.5	3.6	21
	11/5/92		Not Sampled			
	2/11/93	270	15	<0.5	<0.5	8.7
	5/11/93	<50	2.3	<0.5	1.4	3.2
	8/10/93	1,700	130	2.7	23	140
	10/27/93	100	6	<0.5	<0.5	<0.5
	2/16/94	640	45	<0.5	12	15
	5/31/94	52	1.5	0.97	<0.5	<0.5
	8/30/94	920	22	0.98	5.2	33
	11/11/94	910	13	2.4	13	2.5
MW-6F	3/25/92	ND	ND	<0.5	<0.5	<0.5
	6/16/92	ND	ND	<0.5	<0.5	<0.5
	9/8/92	<50	<0.5	<0.5	<0.5	<0.5
	11/5/92	<50	<0.5	<0.5	<0.5	<0.5
	2/11/93	<50	<0.5	<0.5	<0.5	<0.5
	5/11/93	<50	<0.5	<0.5	<0.5	<0.5
	8/10/93		Not Sampled			
	10/27/93	<50	<0.5	<0.5	<0.5	<0.5
	2/16/94	<50	<0.5	<0.5	<0.5	<0.5
	5/31/94	<50	<0.5	<0.5	<0.5	<0.5
	8/30/94	<50	<0.5	<0.5	<0.5	<0.5
	11/11/94	<50	<0.5	0.54	<0.5	<0.5

Table 2
Groundwater Analytical Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Sampled	TPH as gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
MW-6G	3/25/92	ND	ND	<0.5	<0.5	<0.5
	6/16/92	ND	ND	<0.5	<0.5	<0.5
	9/8/92	<50	<0.5	<0.5	<0.5	<0.5
	11/5/92	<50	<0.5	<0.5	<0.5	<0.5
	2/11/93	<50	<0.5	<0.5	<0.5	<0.5
	5/11/93	<50	<0.5	<0.5	<0.5	<0.5
	8/10/93	<50	<0.5	<0.5	<0.5	<0.5
	10/27/93	<50	<0.5	<0.5	<0.5	<0.5
	2/16/94	<50	<0.5	<0.5	<0.5	<0.5
	5/31/94	<50	<0.5	<0.5	<0.5	<0.5
	8/30/94	<50	<0.5	<0.5	<0.5	<0.5
	11/11/94	58	0.58	1.6	<0.5	1.6
MW-6H	3/25/92	920	170	52	25	54
	6/16/92	460	31	11	6.8	16
	9/8/92	780	69	23	17	18
	11/5/92	3,400	500	260	85	160
	2/11/93	2,500	410	170	28	130
	5/11/93	4,200	490	270	80	210
	8/10/93	650	83	22	14	29
	10/27/93	1,600	130	90	29	130
	2/16/94	<50	<0.5	<0.5	<0.5	2.9
	5/31/94	1,800	370	220	65	210
	8/30/94	1,900	130	90	19	86
	11/11/94	13,000	1,700	1,400	260	1,800
MW-6I	3/25/92	ND	ND	<0.5	<0.5	<0.5
	6/16/92	ND	ND	<0.5	<0.5	<0.5
	9/8/92	<50	<0.5	<0.5	<0.5	<0.5
	11/5/92	<50	<0.5	<0.5	<0.5	<0.5
	2/11/93	<50	<0.5	<0.5	<0.5	<0.5
	5/11/93	<50	<0.5	<0.5	<0.5	<0.5
	8/10/93	<50	<0.5	<0.5	<0.5	<0.5
	10/27/93	<50	<0.5	<0.5	<0.5	1.1
	2/16/94	<50	<0.5	<0.5	<0.5	<0.5
	5/31/94	<50	<0.5	<0.5	<0.5	<0.5
	8/30/94	<50	<0.5	<0.5	<0.5	<0.5
	11/11/94	53	0.62	1.8	<0.5	2.0
RW-1	6/16/92	6,200	620	1,400	240	1,400
	9/8/92		Not Sampled			
	11/5/92		Not Sampled			
	2/11/93		Not Sampled			
	2/16/94		Not Sampled			
	5/31/94		Not Sampled			
	8/30/94		Not Sampled			
	11/11/94		Not Sampled			

Table 2
Groundwater Analytical Data
2225 Telegraph Avenue, Oakland, CA

Well Number	Date Sampled	TPH as gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)
RW-2 (formerly MW-6D)	3/25/92	NA	NA	NA	NA	NA
	6/16/92	28,000	2,900	1,000	120	2,700
	9/8/92		Not Sampled			
	11/5/92		Not Sampled			
	5/11/93		Not Sampled			
	8/10/93		Not Sampled			
	10/27/93		Not Sampled			
	2/16/94		Not Sampled			
	5/31/94		Not Sampled			
	8/30/94		Not Sampled			
	11/11/94		Not Sampled			
RW-3 (formerly MW-6C)	8/30/94		Not Sampled			
	11/11/94		Not Sampled			
ppb = parts per billion						
TPHg = Total Petroleum Hydrocarbons as gasoline.						
< = Less than the detection limit for the specified method of analysis.						
NA = Not Analyzed						
ND = Not detectable at or above method detection limit.						

APPENDIX

B C Analytical

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

ANALYTICAL REPORT

LOG NO: G94-11-291

Received: 14 NOV 94

Mailed: DEC 1 1994

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

Purchase Order: 94-1446346+4370

Requisition: 624880195
Project: FKEP1015L

REPORT OF ANALYTICAL RESULTS

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
RDL			1		0.5	0.5	0.5	0.5
1*MW-6B	11/11/94	11/18/94	1	300	60	2	1.2	2.4
2*MW-6E	11/11/94	11/18/94	1	910	13.0	2.4	13	2.5
3*MW-6F	11/11/94	11/21/94	1	<50	<0.5	0.54	<0.5	<0.5
4*MW-6G	11/11/94	11/18/94	1	58	0.58	1.6	<0.5	1.6
5*MW-6H	11/11/94	11/21/94	10	13000	1700	1400	260	1800
6*MW-6I	11/11/94	11/18/94	1	53	0.62	1.8	<0.5	2.0
7*EB	11/11/94	11/19/94	1	<50	<0.5	<0.5	<0.5	<0.5
8*TB	11/11/94	11/19/94	1	<50	<0.5	<0.5	<0.5	<0.5

Karen Petryna
2225 Telegraph Ave., Oakland
Alameda County

Mark A. Valentini, PhD, Laboratory Director

: ORDER PLACED FOR CLIENT: Texaco Environmental Services 9411291 :
: BC ANALYTICAL : GLEN LAB : 08:33:25 01 DEC 1994 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE..... ANALYZED	METHOD.....	EQUIP.	BATCH..	ID.NO
9411291*1	MW-6B	GAS.BTX.TESNC	11.18.94	8015M.TX	516-20	948038	8523
9411291*2	MW-6E	GAS.BTX.TESNC	11.18.94	8015M.TX	516-20	948038	8523
9411291*3	MW-6F	GAS.BTX.TESNC	11.21.94	8015M.TX	516-24	947106	8523
9411291*4	MW-6G	GAS.BTX.TESNC	11.18.94	8015M.TX	516-20	948038	8523
9411291*5	MW-6H	GAS.BTX.TESNC	11.21.94	8015M.TX	516-24	947106	8523
9411291*6	MW-6I	GAS.BTX.TESNC	11.18.94	8015M.TX	516-20	948038	8523
9411291*7	EB	GAS.BTX.TESNC	11.19.94	8015M.TX	516-20	948038	8523
9411291*8	TB	GAS.BTX.TESNC	11.19.94	8015M.TX	516-20	948038	8523

***

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 G9411291

DATE REPORTED : 12/01/94

LABORATORY CONTROL STANDARDS
FOR BATCHES WHICH INCLUDE THIS ORDER

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
1. TPH-gas/BTEX (CADHS/80 C4112732*1						
Date Analyzed	11.18.94	948038	11/18/94	11/18/94	Date	N/A
Benzene	11.18.94	948038	22.1	19.6	ug/L	113
Toluene	11.18.94	948038	58.7	57.0	ug/L	103
Ethylbenzene	11.18.94	948038	15.7	13.9	ug/L	113
Total Xylene Isomers	11.18.94	948038	76.7	67.3	ug/L	114
TPH (as Gasoline)	11.18.94	948038	1100	1000	ug/L	110
2. TPH-gas/BTEX (CADHS/80 C4112734*1						
Date Analyzed	11.21.94	947106	11/21/94	11/21/94	Date	N/A
Benzene	11.21.94	947106	21.1	19.6	ug/L	108
Toluene	11.21.94	947106	51.1	57.0	ug/L	90
Ethylbenzene	11.21.94	947106	17.9	13.9	ug/L	129 Q
Total Xylene Isomers	11.21.94	947106	67.0	67.3	ug/L	100
TPH (as Gasoline)	11.21.94	947106	1190	1000	ug/L	119

BC ANALYTICAL

ORDER QC REPORT FOR G9411291

DATE REPORTED : 12/01/94

MATRIX QC PRECISION (DUPLICATE SPIKES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS RESULT	MSD RESULT	UNIT	RELATIVE % DIFF
1. TPH-gas/BTEX (CADHS/80 9411213*9							
Date Analyzed		11.18.94	948038	11/18/94	11/18/94	Date	N/A
Benzene		11.18.94	948038	22.9	21.1	ug/L	8
Toluene		11.18.94	948038	58.9	54.8	ug/L	7
Ethylbenzene		11.18.94	948038	16.2	15.4	ug/L	5
Total Xylene Isomers		11.18.94	948038	80.5	70.8	ug/L	13
TPH (as Gasoline)		11.18.94	948038	990	970	ug/L	2
2. TPH-gas/BTEX (CADHS/80 9411291*3							
Date Analyzed		11.21.94	947106	11/21/94	11/21/94	Date	N/A
Benzene		11.21.94	947106	21.9	18.4	ug/L	17
Toluene		11.21.94	947106	55.0	56.2	ug/L	2
Ethylbenzene		11.21.94	947106	16.6	17.5	ug/L	5
Total Xylene Isomers		11.21.94	947106	69.0	68.1	ug/L	1
TPH (as Gasoline)		11.21.94	947106	1190	1130	ug/L	5

BC ANALYTICAL

ORDER QC REPORT FOR G9411291

DATE REPORTED : 12/01/94

MATRIX QC ACCURACY (SPIKES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS %	MSD %	TRUE RESULT	UNIT
1. TPH-gas/BTEX (CADHS/80	9411213*9						
Benzene		11.18.94	948038	117	108	19.6	ug/L
Toluene		11.18.94	948038	103	96	57.3	ug/L
Ethylbenzene		11.18.94	948038	117	111	13.9	ug/L
Total Xylene Isomers		11.18.94	948038	120	105	67.3	ug/L
TPH (as Gasoline)		11.18.94	948038	99	97	1000	ug/L
2. TPH-gas/BTEX (CADHS/80	9411291*3						
Benzene		11.21.94	947106	112	94	19.6	ug/L
Toluene		11.21.94	947106	96	98	57.5	ug/L
Ethylbenzene		11.21.94	947106	119	126	13.9	ug/L
Total Xylene Isomers		11.21.94	947106	102	101	67.6	ug/L
TPH (as Gasoline)		11.21.94	947106	119	113	1000	ug/L

BC ANALYTICAL

ORDER QC REPORT FOR G9411291

DATE REPORTED : 12/01/94

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-gas/BTEX (CADHS/80 B4111887*1						
Date Analyzed	11.18.94	948038	11/18/94	NA	Date	8015M.TX
Benzene	11.18.94	948038	0	0.5	ug/L	8015M.TX
Toluene	11.18.94	948038	0.2	0.5	ug/L	8015M.TX
Ethylbenzene	11.18.94	948038	0	0.5	ug/L	8015M.TX
Total Xylene Isomers	11.18.94	948038	0.43	0.5	ug/L	8015M.TX
TPH (as Gasoline)	11.18.94	948038	11	50	ug/L	8015M.TX
2. TPH-gas/BTEX (CADHS/80 B4111889*1						
Date Analyzed	11.22.94	947106	11/22/94	NA	Date	8015M.TX
Benzene	11.22.94	947106	0.072	0.5	ug/L	8015M.TX
Toluene	11.22.94	947106	0.039	0.5	ug/L	8015M.TX
Ethylbenzene	11.22.94	947106	0	0.5	ug/L	8015M.TX
Total Xylene Isomers	11.22.94	947106	0.63	0.5	ug/L	8015M.TX
TPH (as Gasoline)	11.22.94	947106	12.8	50	ug/L	8015M.TX

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 08:34:15 01 DEC 1994 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9411291*1							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	60.4	50.0	121	
9411291*2							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	63.1	50.0	126	
9411291*3							
8015M.TX	a,a,a-Trifluorotoluene	947106	11/21/94	61.2	50.0	122	
9411291*4							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	58.1	50.0	116	
9411291*5							
8015M.TX	a,a,a-Trifluorotoluene	947106	11/21/94	60.4	50.0	121	
9411291*6							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	57.9	50.0	116	
9411291*7							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/19/94	55.9	50.0	112	
9411291*8							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/19/94	55.7	50.0	111	

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 08:34:19 01 DEC 1994 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9411213*9*R1							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	56.5	50.0	113	
9411213*9*S1							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	58.3	50.0	117	
9411213*9*S2							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	58.2	50.0	116	
9411213*9*T							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	50.0	50.0	100	
9411291*3*R1							
8015M.TX	a,a,a-Trifluorotoluene	947106	11/21/94	61.2	50.0	122	
9411291*3*S1							
8015M.TX	a,a,a-Trifluorotoluene	947106	11/21/94	61.0	50.0	122	
9411291*3*S2							
8015M.TX	a,a,a-Trifluorotoluene	947106	11/21/94	62.9	50.0	126	
9411291*3*T							
8015M.TX	a,a,a-Trifluorotoluene	947106	11/21/94	50.0	50.0	100	
B4111887*1*MB							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	55.7	50.0	111	
B4111889*1*MB							
8015M.TX	a,a,a-Trifluorotoluene	947106	11/22/94	66.5	50.0	133	
C4112732*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	58.3	50.0	117	
C4112732*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	948038	11/18/94	50.0	50.0	100	
C4112734*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	947106	11/21/94	52.1	50.0	104	
C4112734*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	947106	11/21/94	50.0	50.0	100	

G94-11-291

Chain-of-Custody

Page 1 of 1

Texaco Environmental Services
108 Cutting Boulevard
Richmond, California 94804
Phone: (510) 236-3541
FAX: (510) 237-7821

Forward Results to the Attention of Rebecca Digerness
Texaco Project Coordinator: Karen Petryna

Site Name: Texaco Loc# 624880195
Site Address: 2225 Telegraph Ave. Oakland, CA
Contractor Project Number: 941111-51
Contractor Name: Blaine Tech Services, Inc.
Address: 985 Timothy Dr., San Jose, CA 95133
Project Contact: Don Weltz
Phone/FAX: (408) 995-5535 / (408) 293-8773

Laboratory: B C Analytical
Turn Around Time: normal (10 day)
Samplers (PRINT NAME): SHAWN R. HALL
Sampler Signature:
Date Samples Collected: 11/11/94

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 8240/824	P. Halocarbons 8010/60	P. Aromatics 8020/602	Organic Lead			Comments
MW-6B		11/11/94 1235	3	VOA		HCL	X										
MW-6E		11/11/94 1200	3	"		"	X										
MW-6F		11/11/94 1115	3	"		"	X										
MW-6G		11/11/94 1140	3	"		"	X										
MW-6H		11/11/94 1320	3	"		"	X										
MW-6I		11/11/94 1045	3	"		"	X										
EB		11/11/94 1100	3	"		"	X										
TB		11/11/94 LAB	2	"		"	X										

ANALYSIS

	Signature	Date	Time
Relinquished by: (Signature)		11/14/94	1215
Relinquished by: (Signature)		11-14-94	2 20
Relinquished by: (Signature)			
Method of Shipment:			
Received by: (Signature)		11-14-94	1215
Received by: (Signature)		11-14-94	230
Received by: (Signature)			
Lab Comments:			

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

Well Gauging Data

Project Name: 941111-51 Telegraph
Project Number: 624-880195

Date: 11/11/94
Recorded By: SHAWN

Well ID	TOC Elev.	DTB (ft. TOC)	Well Dia. (in.)	DTP (ft.)	DTW (ft.)	PT (ft.)	Comments
MW-6B		18.20			11.72		
MW-6E		19.72			13.02		
MW-6F		19.76			12.60		
MW-6G		19.82			11.06		
MW-6H		19.74			11.98		
MW-6I		19.78			15.20		

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 941111-5J Well No. MW-6B

Project Number 624580145 Well Type [X] Monitor [ ] Extraction [ ] Other

Recorded By SHAWN Sampled by SHAWN Date 11/11/94

WELL PURGING

PURGE VOLUME

Well casing diameter

[X] 2-inch [ ] 4-inch [ ] Other

Well Total Depth (TD, ft. below TOC) 18.20

Depth to Water (WL, ft. below TOC) 11.72

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

Number of well volumes to be purged

[ ] 3 [ ] 10 [ ] Other

PURGE METHOD

[X] Bailer - Type BTS DEDICATED

[ ] Pump - Type

[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)

[ ] Near Bottom Depth (ft)

[ ] Other

Pumping Rate gpm

PURGE VOLUME CALCULATION

6.48 (Water Column Length) x .17 (Multiplier) x 3 (No. Vols) = 3.30 gals CALCULATED PURGE VOLUME

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

4.0 gals ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT

Meter Type MYRON L

Time/Gallons	pH	Cond. (uomhos/cm)	Temp [ ] deg C [X] deg F	Turbidity (NTU)	Color/Odor
1225 / 1.5	7.8	1200	67.6	>200	BROWN
1229 / 3.0	7.6	1200	64.8	>200	ODOR
1233 / 4.0	7.8	1200	64.4	>200	
/					
/					
/					
/					
/					

Comments during well purge STRONG ODOR

Well Pumped dry: YES NO

Purge water storage/disposal [ ] Drummed onsite [X] Other BTS

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled 11/11/94, 1235

Bailer - Type [X] BTS DEDICATED 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
MW-6B	3 x 40ml	TPH, BTEX	HCL	BCA	

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 141111-51 Well No. MW-6E

Project Number 624580195 Well Type ☐ Monitor ☐ Extraction ☐ Other

Recorded By SIMUN Sampled by SIMUN Date 11/11/94

WELL PURGING

PURGE VOLUME

Well casing diameter

☐ 2-inch ☒ 4-inch ☐ Other

Well Total Depth (TD, ft. below TOC) 19.72

Depth to Water (WL, ft. below TOC) 13.02

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

Number of well volumes to be purged

☐ 3 ☐ 10 ☐ Other

PURGE METHOD

☐ Bailer - Type

☒ Pump - Type ELECTRIC SUBMERSIBLE

☐ Other

PUMP INTAKE

☐ Near top Depth (ft)

☒ Near Bottom Depth (ft) 19.0

☐ Other

Pumping Rate ____ gpm

PURGE VOLUME CALCULATION

6.7 (Water Column Length) x .66 (Multiplier) x 3 (No. Vols) = 13.26 gals CALCULATED PURGE VOLUME

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

13.5 gals ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT

Meter Type HYDAC

Time/Gallons	pH	Cond. (uomhos/cm)	Temp (deg C / deg F)	Turbidity (NTU)	Color/Odor
1150 / 4.5	7.1	1100	60.2	9.3	CLEAR
1152 / 9.0	7.4	1100	60.0	9.1	ODOR
1154 / 13.5	7.6	1100	59.6	9.0	
/					
/					
/					
/					
/					

Comments during well purge

Well Pumped dry: YES NO

Purge water storage/disposal ☐ Drummed onsite ☒ Other BTS

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled 11/11/94 , 1200

Bailer - Type ☒ BTS DEDICATED

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
MW-6E	3X40mL VOA	TPH6,BTEX	HCL	BCA	

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 94111-SI Well No. MW-6F

Project Number 624550195 Well Type [X] Monitor [ ] Extraction [ ] Other

Recorded By SHAWN Sampled by SHAWN Date 11/11/94

WELL PURGING

PURGE VOLUME

Well casing diameter

[ ] 2-inch [X] 4-inch [ ] Other

Well Total Depth (TD, ft. below TOC) 19.76

Depth to Water (WL, ft. below TOC) 12.60

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

Number of well volumes to be purged

[X] 3 [ ] 10 [ ] Other

PURGE METHOD

[ ] Bailer - Type

[X] Pump - Type ELECTROMIL SUBMERSIBLE

[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)

[X] Near Bottom Depth (ft) 17.0

[ ] Other

Pumping Rate 5 gpm

PURGE VOLUME CALCULATION

7.16 (Water Column Length) x .66 (Multiplier) x 3 (No. Vols) = 14. gals CALCULATED PURGE VOLUME

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

15. gals ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT

Meter Type Hydac

Time/Gallons	pH	Cond. (uomhos/cm)	Temp [ ] deg C [X] deg F	Turbidity (NTU)	Color/Odor
1110 / 5	7.4	1000	62.7	8.13	CLEAR
1113 / 10	7.3	900	62.4	9.4	
1114 / 15	7.3	1000	62.3	9.3	
/					
/					
/					
/					
/					

Comments during well purge

Well Pumped dry: YES (NO) Purge water storage/disposal [ ] Drummed onsite [X] Other BTS

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled 11/11/94 11:15

Bailer - Type [X] BTS DEDICATED 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
MW-6F	40 mg X 3	TPH, BTEX	HCL	BCA	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.
Trip	
Rinsate	EB 1100
Transfer	
Other:	

Groundwater Sampling Form

Project Name 941111-SY Well No. MW-66

Project Number 624880145 Well Type [X] Monitor [ ] Extraction [ ] Other

Recorded By SHAWN Sampled by SHAWN Date 11/11/94

WELL PURGING

PURGE VOLUME

Well casing diameter

[ ] 2-inch [X] 4-inch [ ] Other

Well Total Depth (TD, ft. below TOC) 19.80

Depth to Water (WL, ft. below TOC) 11.06

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

Number of well volumes to be purged

[ ] 3 [ ] 10 [ ] Other

PURGE METHOD

~~[X] Bailer - Type~~ ~~BTS DEDICATED~~

[X] Pump - Type PORTAL SUBMERSIBLE

[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)

[X] Near Bottom Depth (ft) 19.0

[ ] Other

Pumping Rate 5 gpm

PURGE VOLUME CALCULATION

8.76 (Water Column Length) x .66 (Multiplier) x 3 (No. Vols) = 17.34 gals CALCULATED PURGE VOLUME

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

18.0 gals ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT Meter Type HYDROLAB

Time/Gallons	pH	Cond. (uomhos/cm)	Temp [ ] deg C [ ] deg F	Turbidity (NTU)	Color/Odor
1125 / 6	7.2	1100	64.0	6.0	CLEAR
1130 / 12	7.6	1100	63.2	9.0	
1132 / 18	7.6	1200	63.9	9.3	
/					
/					
/					
/					
/					

Comments during well purge

Well Pumped dry: YES (NO) Purge water storage/disposal [ ] Drummed onsite [X] Other BTS

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled 11/11/94, 1140

Bailer - Type [X] BTS DEDICATED 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
MW-66	3 40mL VOAs	TPH6, BTEX	HCl	BCA	

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: 94 1111-57
Well No.: MW-6H
Project Number: 62498095
Well Type: [X] Monitor [ ] Extraction [ ] Other
Recorded By: SHAWN
Sampled by: SHAWN
Date: 11/11/94

WELL PURGING

PURGE VOLUME

Well casing diameter
[ ] 2-inch [ ] 4-inch [ ] Other

Well Total Depth (TD, ft. below TOC): 19.74
Depth to Water (WL, ft. below TOC): 11.98
Depth to free phase hydrocarbons (FP, ft. below TOC)
Number of well volumes to be purged
[ ] 3 [ ] 10 [ ] Other

PURGE METHOD

[ ] Bailer - Type
[X] Pump - Type: ELECTRIC SUBMERSIBLE
[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)
[X] Near Bottom Depth (ft): 19.0
[ ] Other

Pumping Rate ______ gpm

PURGE VOLUME CALCULATION

7.76 x .66 x 3 = 15.36 gals

Water Column Length x Multiplier x No. Vols = CALCULATED PURGE VOLUME

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

ACTUAL PURGE VOLUME: 16 gals

GROUNDWATER PARAMETER MEASUREMENT Meter Type: Myron L

Time/Gallons	pH	Cond. (uomhos/cm)	Temp [ ] deg C [X] deg F	Turbidity (NTU)	Color/Odor
1210 / 5.5	7.4	1200	62.9	8.3	ODOR
1212 / 11.0	7.6	1100	62.6	8.0	"
1214 / 16.5	7.4	1200	62.8	9.1	"
/					
/					
/					
/					
/					
/					

Comments during well purge

Well Pumped dry: YES NO

Purge water storage/disposal [ ] Drummed onsite [X] Other: BTS

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled: 11/11/94, 1220

Bailer - Type [X] BTS DUPLICATOR 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
MW-6H	3x40ml VOA	TPHG,BTEX	HCL	PLA	

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: CHEVRON-51 | Well No.: MW-61
Project Number: 624850145 | Well Type: [X] Monitor [ ] Extraction [ ] Other
Recorded By: SHAWN | Sampled by: SHAWN | Date:

WELL PURGING

PURGE VOLUME

Well casing diameter
[ ] 2-inch [X] 4-inch [ ] Other
Well Total Depth (TD, ft. below TOC): 14.78
Depth to Water (WL, ft. below TOC): 15.20
Depth to free phase hydrocarbons (FP, ft. below TOC):
Number of well volumes to be purged
[ ] 3 [ ] 10 [ ] Other

PURGE METHOD

[ ] Bailer - Type
[X] Pump - Type: GRUNDFOS SUBMERSIBLE
[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)
[X] Near Bottom Depth (ft): 14.0
[ ] Other
Pumping Rate: ____ gpm

PURGE VOLUME CALCULATION

3.02 (Water Column Length) x ~~3~~ 3.66 (Multiplier) x 3 (No. Vols) = 9.06 gals — CALCULATED PURGE VOLUME

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

10.0 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
1035 / 3.5	7.6	1000	62.6	9.2	CLEAR
1037 / 7.0	7.4	980	63.9	8.0	
1039 / 10.0	7.3	1000	62.3	13.3	
/					
/					
/					
/					
/					

Comments during well purge:
Well Pumped dry: YES NO
Purge water storage/disposal: [ ] Drummed onsite [X] Other: BTS

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled: 11/11/94, 1045
Bailer - Type [X]: BTS DEDICATED
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
MW-61	40 mL VOA X3	TPH6,BTEX	HCL	BCA	

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 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 #: 624880195
Address: 2225 TELEGRAPH
City, State, ZIP: OAKLAND, CA.

Well I.D.	Gals.	Well I.D.	Gals.
MW-6B	4.0		
MW-6E	13.5		
MW-6F	15.0		
MW-6G	18.0		
MW-6H	16.0		
MW 6I	10.0		

Total gals. 66.5

added rinse water 10

Total Gals. Recovered 76.5

Job #: 941111-S1
Date 11/11/94
Time 0915
Signature:

REC'D AT: BTS
Date: 11/11/94
Time: 1700
Signature:

QUARTERLY SUMMARY REPORT
Former Texaco/Current Exxon Service Station
2225 Telegraph Avenue, Oakland, California
Alameda County
Third Quarter, 1994

HISTORY OF INVESTIGATIVE AND REMEDIAL ACTIONS

A preliminary subsurface investigation and a sensitive receptor survey were conducted in May, 1988. Nine shallow monitoring wells (MW-6A through MW-6I) were installed on site and seven soil borings were drilled near the pump islands and tanks. Two vapor wells were installed in the tank pit backfill, and an additional vapor extraction well (VE-3) was installed on site. Recovery well RW-1 was installed into soil boring B-3. Two of the on-site monitoring wells (MW-6 and MW-6D) were converted to groundwater recovery wells (RW-3 and RW-2, respectively) when the groundwater treatment system was installed at the site in 1990. The underground storage tanks, lines, and dispensers were replaced in late 1991. RW-3 was destroyed in 1991 and replaced by RW-3A in 1992. MW-6A was destroyed in 1992 due to damage.

WORK PERFORMED DURING THIS QUARTER

Quarterly groundwater monitoring and sampling was performed. Operation and maintenance of the groundwater treatment system was conducted.

CHARACTERIZATION STATUS

The extent of petroleum hydrocarbons in soil and groundwater has not been delineated.

REMEDIATION STATUS

A groundwater treatment system is in operation at the site which extracts groundwater from two recovery wells using air displacement pumps and three liquid phase carbon canisters to treat the groundwater prior to discharge.

WORK TO BE PERFORMED NEXT QUARTER

Continue quarterly monitoring and sampling to record fluctuations in groundwater elevation and hydrocarbon concentrations and continue operation and maintenance of the groundwater treatment system.

COMPANY CONTACT: Karen Petryna (510) 236-9139

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W:\QSR_RAO\2225T.QSR

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. Without moving the probe, read the numbers on the tape to determine the distance from the predetermined 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 unless specifically requested by the Project Coordinator. 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 acrylic 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 predetermined 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.

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 of 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. 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 within 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 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 beings. 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 labelled 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 analysis 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 field personnel view after being in 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 hand bailers and will be decontamination with an Alconox wash with deionized (DI) water rinse.