Texaco Refining
and Marketing Inc

108 Cutting Boulevard
Richmond CA 94804

May 16, 1995

ENV - STUDIES, SURVEYS, & REPORTS
1127 Lincoln Avenue
Alameda, California

Ms. Juliet Shin
Alameda County Environmental
Health Department
80 Swan Way, Room 200
Oakland, CA 94621

Dear Ms. Shin:

This letter presents the results of groundwater monitoring and sampling conducted by Blaine Tech Services, Inc. on February 14, 1995, at the site referenced above (see Plate 1, Site Vicinity Map). The gradient map has been reviewed by a registered professional (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.

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

Best Regards,

Rebecca Digerness
Environmental Assistant

Karen E Petryna
Engineer
Texaco Environmental Services

RBD hs

C:\QMR\1127L\QMR LET

Enclosures

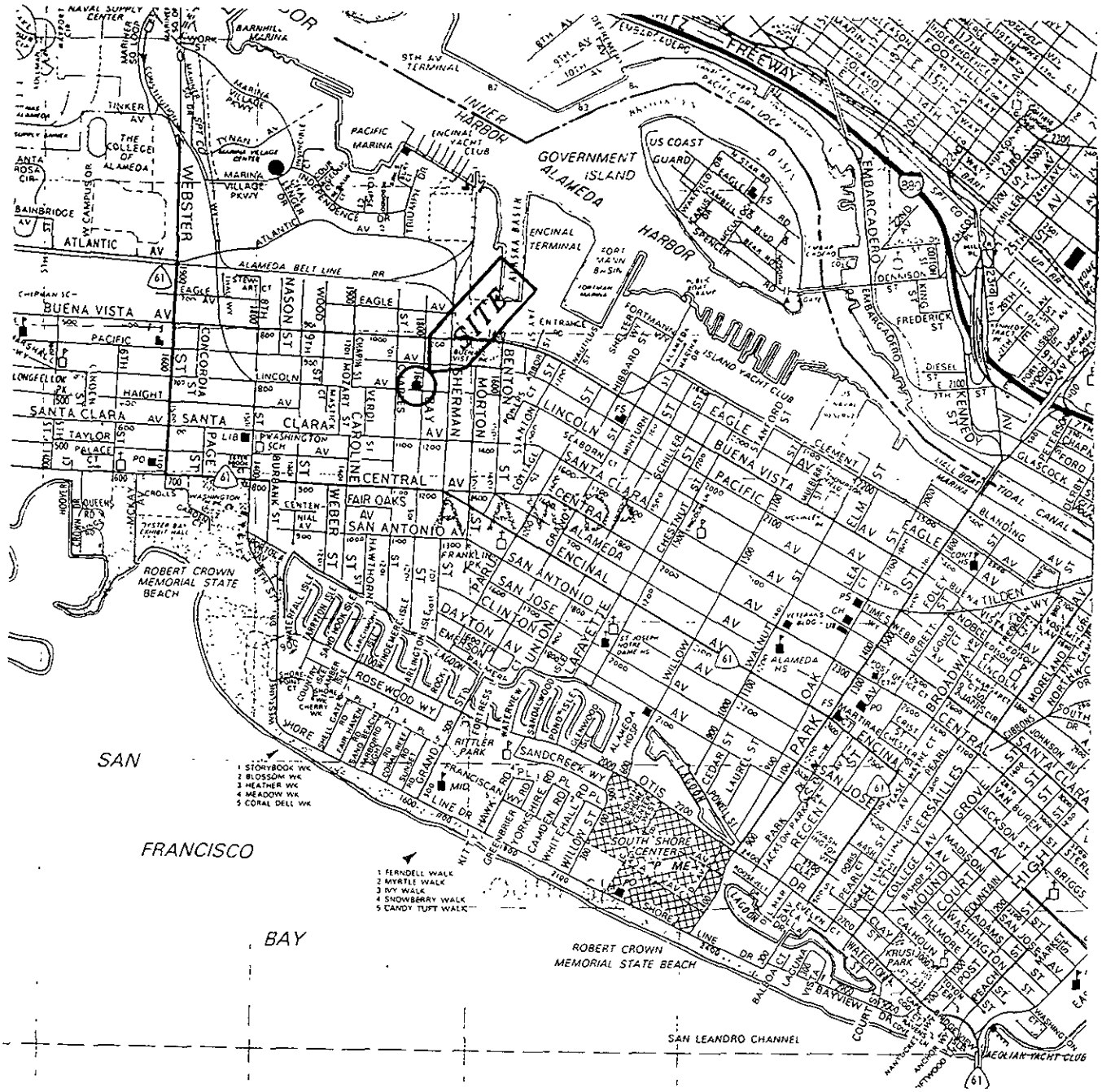
cc: Mr. Richard Hiett
CRWQCB - San Francisco Bay Region
2101 Webster St., Suite 500
Oakland, CA 94621

Mr. Leo Pagano
1127 Lincoln Avenue
Alameda, CA

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

PR: KEP

GROUNDWATER MONITORING AND SAMPLING
First Quarter, 1995
at the
Former Texaco Station
1127 Lincoln Avenue
Alameda, California



SOURCE:

1993 THE THOMAS GUIDE

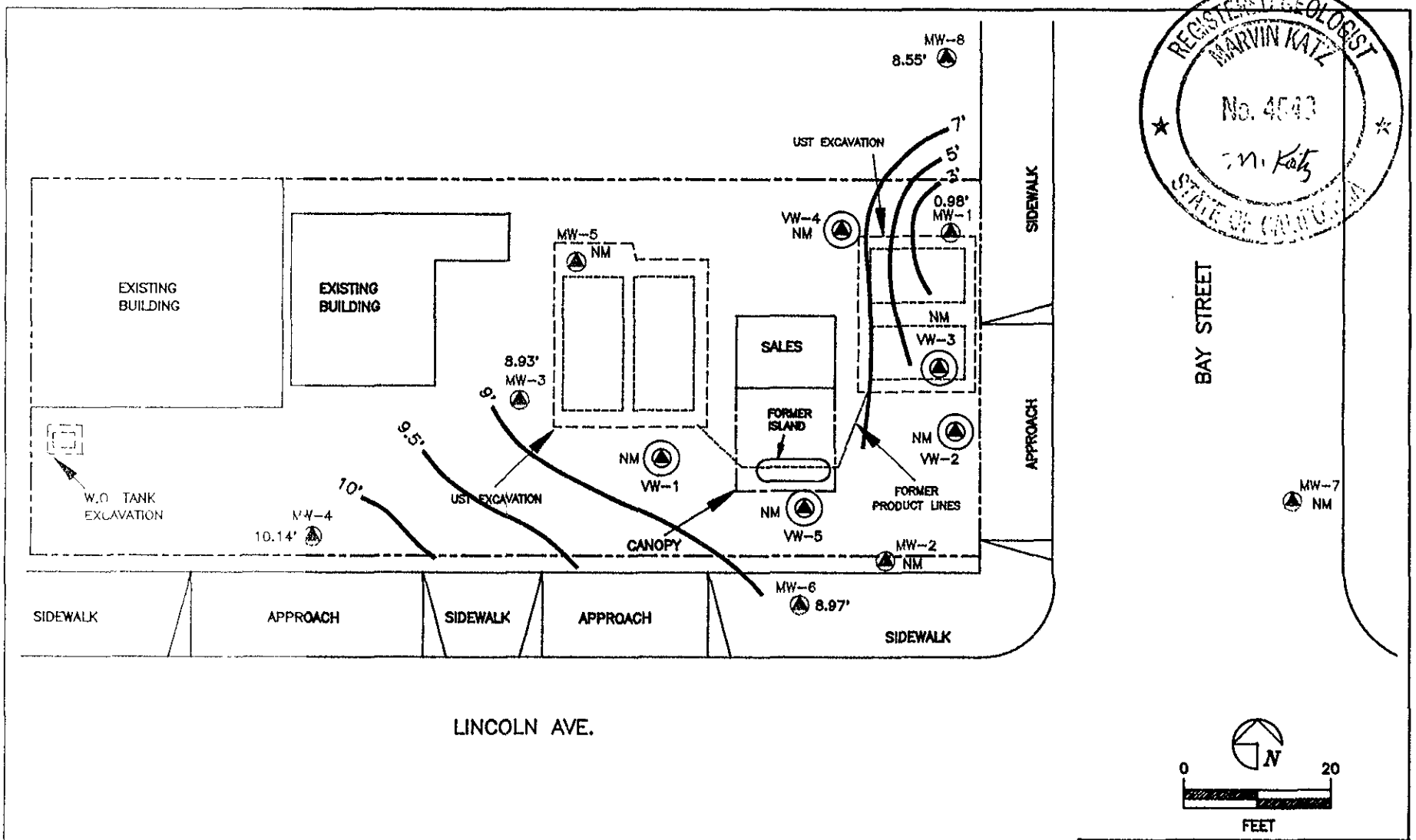
ALAMEDA COUNTY PAGE

TEXACO

PLATE

SITE ADDRESS AND

FORMER TEXACO SERVICE STATION



REGISTERED GEOLOGIST
MARVIN KATZ
No. 4543
STATE OF CALIFORNIA

LEGEND :

	MONITORING WELL LOCATION
VW-1	AND WELL NUMBER
	VAPOR EXTRACTION MONITORING WELL LOCATION
VW-1	AND WELL NUMBER
	GROUNDWATER CONTOUR LINE
8.97'	GROUNDWATER ELEVATION (ABOVE MSL)
NM	WELL NOT MONITORED

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

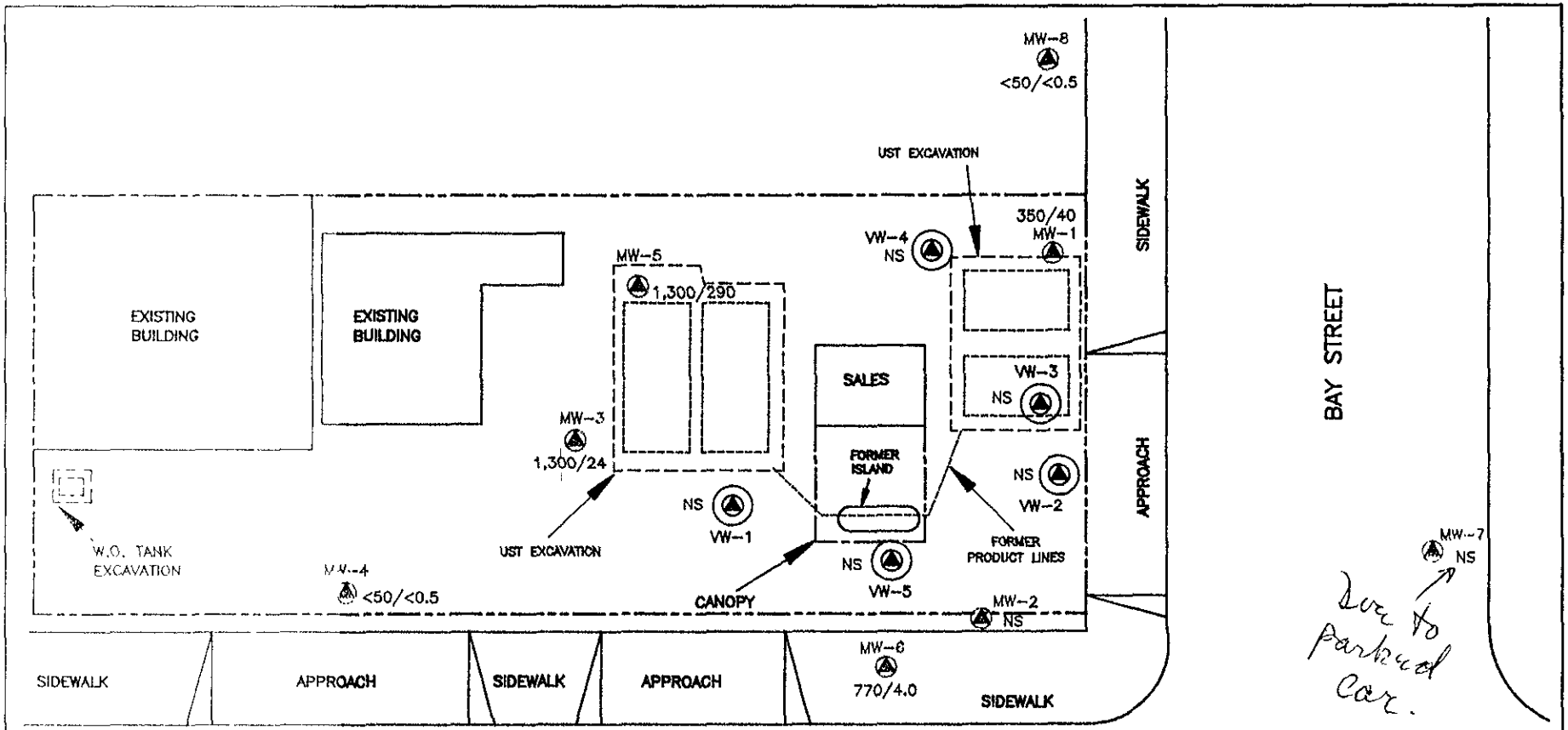
TEXACO
REFINING AND MARKETING INC.
TEXACO ENVIRONMENTAL SERVICES

PLATE 2 : GROUNDWATER GRADIENT MAP
(02/14/1995)

FORMER TEXACO SERVICE STATION

1127 LINCOLN AVE. / BAY ST.,
ALAMEDA, CALIFORNIA

SCALE	1"=20'-0"	LOCATION #	82-488-1450
DRAWN BY	AMA	DATE	05/05/1995
CHECKED BY		DATE	
DRAWING NO.	(ALAMEDA) LI-BY-AL.DWG		



LEGEND :

▲	MONITORING WELL LOCATION
MW-1	AND WELL NUMBER
◉	VAPOR EXTRACTION MONITORING WELL LOCATION
VW-1	AND WELL NUMBER
<50 <0.5	TPHg /BENZENE CONCENTRATION IN GROUNDWATER (ppb)
NS	WELL NOT SAMPLED

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

TEXACO
REFINING AND MARKETING INC.
TEXACO ENVIRONMENTAL SERVICES

PLATE 3 : TPHg/BENZENE CONCENTRATION IN GROUNDWATER
(02/14/1995)

FORMER TEXACO SERVICE STATION

1127 LINCOLN AVE. / BAY ST.,
ALAMEDA, CALIFORNIA

SCALE	1"=20'-0"	LOCATION #	82-488-1450
DRAWN BY	AMA	DATE	05/05/1995
CHECKED BY		DATE	
DRAWING NO.	(ALAMEDA) LI-BY-AL.DWG		

Table 1
Groundwater Elevation Data
1127 Lincoln Avenue, Alameda, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)		Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-1	2/19/92	16.49		6.34	10.15
	6/25/92			7.60	8.89
	9/16/92			8.95	7.54
	11/17/92			9.10	7.39
	1/26/93			5.63	10.86
	2/4/93			6.02	10.47
	3/9/93			5.92	10.57
	5/6/93			6.76	9.73
	6/15/93			6.81	9.68
	7/26/93			Inaccessible - VES	
	8/31/93			Inaccessible - VES	
	9/27/93			Inaccessible - VES	
	10/19/93			Inaccessible - VES	
	11/15/93			Inaccessible - VES	
	12/17/93			Inaccessible - VES	
	2/7/94			Inaccessible - VES	
	5/20/94			Inaccessible - VES	
	8/22/94	16.14	*	7.78	8.36
	11/2/94			Inaccessible - VES	
	2/14/95			15.16	0.98
MW-2	2/19/92	17.14		6.96	10.18
	6/25/92			7.95	9.19
	9/16/92			9.16	7.98
	11/17/92			9.40	7.74
	1/26/93			6.29	10.85
	2/4/93			6.60	10.54
	3/9/93			6.36	10.78
	5/6/93			6.37	10.77
	6/15/93			7.04	10.10
	7/26/93			Inaccessible - VES	
	8/31/93			Inaccessible - VES	
	9/27/93			Inaccessible - VES	
	10/19/93			Inaccessible - VES	
	11/15/93			Inaccessible - VES	
	12/17/93			Inaccessible - VES	
	2/7/94			Inaccessible - VES	
	5/20/94			Inaccessible - VES	
	8/22/94	16.84	*	8.08	8.76
	11/2/94			Inaccessible - VES	
	2/14/95			Inaccessible - VES	

Table 1
Groundwater Elevation Data
1127 Lincoln Avenue, Alameda, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)		Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-3	2/19/92	16.91		6.69	10.22
	6/25/92			7.78	9.13
	9/16/92			9.24	7.67
	11/17/92			9.50	7.41
	1/26/93			5.82	11.09
	2/4/93			6.01	10.90
	3/9/93			5.88	11.03
	5/6/93			6.38	10.53
	6/15/93			Inaccessible - VES	
	7/26/93			7.22	9.69
	8/31/93			7.87	9.04
	9/27/93			8.58	8.33
	10/19/93			9.13	7.78
	11/15/93			8.84	8.07
	12/17/93			7.80	9.11
	2/7/94			8.43	8.48
	5/20/94			6.79	10.12
	8/22/94	16.86	*	8.32	8.54
	11/2/94			10.98	5.88
	2/14/95			7.93	8.93
MW-4	6/25/92	17.18		7.92	9.26
	9/16/92			9.40	7.78
	11/17/92			9.63	7.55
	1/26/93			5.91	11.27
	2/4/93			6.14	11.04
	3/9/93			5.81	11.37
	5/6/93			6.49	10.69
	6/15/93			6.34	10.84
	7/26/93			7.29	9.89
	8/31/93			8.02	9.16
	9/27/93			Inaccessible - Car On Well	
	10/19/93			9.14	8.04
	11/15/93			9.01	8.17
	12/17/93			7.91	9.27
	2/7/94			8.02	9.16
	5/20/94			6.85	10.33
	8/22/94	17.13	*	8.48	8.65
	11/2/94			10.52	6.61
	2/14/95			6 99	10.14

Table 1
Groundwater Elevation Data
1127 Lincoln Avenue, Alameda, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)		Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-5	6/25/92	16.37		7.35	9.02
	9/16/92			8.85	7.52
	11/17/92			9.03	7.34
	1/26/93			Not Monitored	
	2/4/93			Inaccessible	
	3/9/93			5.45	10.92
	5/6/93			6.00	10.37
	6/15/93			7.81	8.56
	7/26/93			Inaccessible - VES	
	8/31/93			Inaccessible - VES	
	9/27/93			Inaccessible - VES	
	10/19/93			Inaccessible - VES	
	11/15/93			Inaccessible - VES	
	12/17/93			Inaccessible - VES	
	2/7/94			Inaccessible - VES	
	5/20/94			Inaccessible - VES	
	8/22/94	15.59	*	7.27	8.32
	11/2/94			Inaccessible - VES	
	2/14/95			Inaccessible - VES	
MW-6	6/25/92	17.12		7.86	9.26
	9/16/92			9.12	8.00
	11/17/92			9.40	7.72
	1/26/93			6.63	10.49
	2/4/93			6.48	10.64
	3/9/93			6.68	10.44
	5/6/93			6.93	10.19
	6/15/93			7.00	10.12
	7/26/93			7.25	9.87
	8/31/93			7.83	9.29
	9/27/93			8.38	8.74
	10/19/93			8.76	8.36
	11/15/93			8.65	8.47
	12/17/93			7.78	9.34
	2/7/94			7.90	9.22
	5/20/94			6.95	10.17
	8/22/94	17.05	*	8.17	8.88
	11/2/94			10.56	6.49
	2/14/95			8.08	8.97

Table 1
Groundwater Elevation Data
1127 Lincoln Avenue, Alameda, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)		Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-7	6/25/92	16.71		7.61	9.10
	9/16/92			8.78	7.93
	11/17/92			Inaccessible	
	1/26/93			6.53	10.18
	2/4/93			6.40	10.31
	3/9/93			6.52	10.19
	5/6/93			Inaccessible	
	6/15/93			6.69	10.02
	7/26/93			Inaccessible	
	8/31/93			Inaccessible	
	9/27/93			7.97	8.74
	10/19/93			8.24	8.47
	11/15/93			8.22	8.49
	12/17/94			Inaccessible	
	2/7/94			Inaccessible	
	5/20/94			Inaccessible	
	8/22/94	16.65	*	7.78	8.87
	11/2/94			9.70	6.95
	2/14/95			Inaccessible	
MW-8	6/25/92	15.91		7.20	8.71
	9/16/92			8.60	7.31
	11/17/92			8.85	7.06
	1/26/93			5.30	10.61
	2/4/93			5.62	10.29
	3/9/93			5.56	10.35
	5/6/93			5.99	9.92
	6/15/93			6.32	9.59
	7/26/93			6.75	9.16
	8/31/93			7.35	8.56
	9/27/93			7.86	8.05
	10/19/93			8.27	7.64
	11/15/93			8.17	7.74
	12/17/93			7.14	8.77
	2/7/94			7.26	8.65
	5/20/94			6.17	9.74
	8/22/94	15.87	*	7.63	8.24
	11/2/94			10.16	5.71
	2/14/95			7.32	8.55

→ Due to car

Table 1
Groundwater Elevation Data
1127 Lincoln Avenue, Alameda, CA

Well Number	Date Gauged	Top of Casing Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
VW-1	2/19/92	16.83	Dry	Dry
	6/25/92		7.36	9.47
	9/16/92 - 2/14/95		Not Monitored	
VW-2	2/19/92	17.00	6.94	10.06
	6/25/92		8.10	8.90
	9/16/92 - 2/14/95		Not Monitored	
VW-3	2/19/92	16.94	7.40	9.54
	6/25/92		7.16	9.78
	9/16/92 - 2/14/95		Not Monitored	
VW-4	2/19/92	16.81	5.76	11.05
	6/25/92		7.23	9.58
	9/16/92 - 2/14/95		Not Monitored	
VW-5	2/19/92	17.20	7.04	10.16
	6/25/92		8.09	9.11
	9/16/92 - 2/14/95		Not Monitored	
MSL = Mean Sea Level				
TOC = Top of Casing				
VES = Vapor Extraction System				
* = Wells resurveyed 8/4/94.				

Table 2
Groundwater Analytical Data
1127 Lincoln Avenue, Alameda, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Xylenes (ppb)
MW-1	2/19/92	440	14	14	2.1	9.9
	6/25/92	4,000	680	110	73	140
	9/16/92	3,400	880	28	41	53
	11/17/92	730	250	22	12	27
	2/4/93	120	22	3.1	3.3	10
	5/6/93	710	320	3.1	4.2	20
	9/28/93	Not Accessible - Connected to Vapor Extraction System				
	11/15/93	Not Accessible - Connected to Vapor Extraction System				
	2/7/94	Not Accessible - Connected to Vapor Extraction System				
	5/20/94	Not Accessible - Connected to Vapor Extraction System				
	8/22/94	Not Accessible - Connected to Vapor Extraction System				
	11/3/94	<50	<0.5	<0.5	<0.5	<0.5
	2/14/95	350	40	1.6	15	31
MW-2	2/19/92	2,100	57	5.6	9.1	75
	6/25/92	4,700	590	24	290	160
	9/16/92	5,700	740	8	370	77
	11/17/92	840	94	<0.5	93	14
	2/4/93	430	45	0.5	20	30
	5/6/93	2,000	460	2.4	160	66
	9/28/93	Not Accessible - Connected to Vapor Extraction System				
	11/15/93	Not Accessible - Connected to Vapor Extraction System				
	2/7/94	Not Accessible - Connected to Vapor Extraction System				
	5/20/94	Not Accessible - Connected to Vapor Extraction System				
	8/22/94	Not Accessible - Connected to Vapor Extraction System				
	11/2/94	Not Sampled				
	2/14/95	Not Sampled				
MW-3	2/19/92	990	<0.5	<0.5	2	72
	6/25/92	4,900	350	11	330	570
	9/17/92	7,300	690	10	450	780
	11/17/92	1,200	160	2.1	83	160
	2/4/93	2,900	180	13	210	350
	5/6/93	2,700	270	6.2	300	720
	9/28/93	1,800	92	1.7	99	240
	11/15/93	1,900	100	2.4	85	280
	2/7/94	1,400	69	3.3	100	320
	5/20/94	1,100	64	19	120	180
	8/22/94	77	4 3	<0 5	2 0	5 6
	11/2/94	<50	0 75	<0 5	<0 5	<0 5
	2/14/95	1,300	24	5 2	85	360

Table 2
Groundwater Analytical Data
1127 Lincoln Avenue, Alameda, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Xylenes (ppb)
MW-4	6/25/92	<50	<0.5	<0.5	<0.5	<0.5
	9/17/92	98	0.6	<0.5	1.2	7.7
	11/17/92	<50	<0.5	<0.5	<0.5	<0.5
	2/4/93	<50	<0.5	<0.5	<0.5	<0.5
	5/6/93	<50	1.6	<0.5	1	2.1
	9/28/93	Not Accessible - Auto on Well				
	11/15/93	<50	<0.5	<0.5	<0.5	<0.5
	2/7/94	<50	<0.5	<0.5	<0.5	2.6
	5/20/94	82	6.2	7.6	3.3	17
	8/22/94	<50	<0.5	<0.5	<0.5	<0.5
	11/2/94	<50	<0.5	0.56	<0.5	<0.5
	2/14/95	<50	<0.5	<0.5	<0.5	<0.5
MW-5	6/25/92	18,000	310	1,200	750	2,400
	9/17/92	24,000	700	2,200	900	2,400
	11/17/92	14,000	1,000	1,500	730	1,900
	2/4/93	Not Sampled				
	5/6/93	6,200	460	980	300	1,200
	9/28/93	Not Accessible - Connected to Vapor Extraction System				
	11/15/93	Not Accessible - Connected to Vapor Extraction System				
	2/7/94	Not Accessible - Connected to Vapor Extraction System				
	5/20/94	Not Accessible - Connected to Vapor Extraction System				
	8/22/94	Not Accessible - Connected to Vapor Extraction System				
	11/3/94	5,700	800	400	4.7	600
	2/14/95	1,300	290	76	21	140
MW-6	6/25/92	990	10	240	55	310
	9/17/92	1,200	26	4.7	6.5	140
	11/17/92	670	10	3.5	28	94
	2/4/93	2,300	19	5.4	27	220
	5/6/93	540	44	0.9	7	6.7
	9/28/93	180	2.7	0.73	6.3	13
	11/15/93	180	2.2	0.91	5.4	16
	2/7/94	240	2.9	1.2	3.9	7.1
	5/20/94	600	4.5	2.2	24	66
	8/22/94	400	3.2	1	7.9	40
	11/2/94	150	1.6	1.3	6.5	27
	2/14/95	770	4.0	2.9	42	130

Table 2
Groundwater Analytical Data
1127 Lincoln Avenue, Alameda, CA

Well Number	Date Sampled	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-Benzene (ppb)	Xylenes (ppb)
MW-7	6/25/92	<50	<0.5	<0.5	<0.5	<0.5
	9/16/92	<50	1.3	<0.5	<0.5	0.9
	11/17/92	Not Sampled				
	2/4/93	<50	<0.5	<0.5	<0.5	<0.5
	5/6/93	Not Sampled				
	9/28/93	<50	<0.5	<0.5	<0.5	<0.5
	11/15/93	<50	<0.5	<0.5	<0.5	<0.5
	2/7/94	Not Sampled				
	5/20/94	Not Sampled				
	8/22/94	130	<0.5	<0.5	<0.5	<0.5
	11/2/94	73	<0.5	<0.5	<0.5	<0.5
	2/14/95	Not Sampled				
MW-8	6/25/92	11,000	1,100	29	150	190
	9/16/92	14,000	3,500	47	25	85
	11/17/92	4,700	1,700	12	8	22
	2/4/93	540	150	3.7	5.2	10
	5/6/93	22,000	9,400	46	390	520
	9/28/93	8,000	1,700	22	30	75
	11/15/93	2,000	840	8.8	15	42
	2/7/94	1,700	460	0.6	13	5
	5/20/94	110	98	1.4	1.3	3.4
	8/22/94	51	16	<0.5	<0.5	<0.5
	11/2/94	<50	<0.5	<0.5	<0.5	<0.5
	2/14/95	<50	<0.5	<0.5	<0.5	<0.5
< = Less than the detection limit for the specified method of analysis.						
ppb = parts per billion						
TPHg = Total Petroleum Hydrocarbons as gasoline (analyzed by EPA Method 5030/602).						
BTEX measured by EPA Method 5030/602.						

APPENDIX

B C Analytical

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

ANALYTICAL REPORT

LOG NO: G95-02-287

Received: 16 FEB 95

Mailed: MAR 1 1995

Ms. Rebecca Digerness
Texaco Environmental Services
708 Cottonwood Boulevard
Richmond, CA 94804

Purchase Order: 94-1446346+4370

Requisition: 624881450
Project: FKEP1001L

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	
PQL			1		0.5	0.5	0.5	0.5	
1-MW1	02/11/95	02/24/95	1	350	40	1.6	15	31	
2-MW3	02/11/95	02/24/95	1	1300	24	5.2	85	360	
3-MW4	02/11/95	02/24/95	1	<50	<0.5	<0.5	<0.5	<0.5	
4-MW5	02/11/95	02/24/95	1	1300	290	76	21	140	
5-MW6	02/11/95	02/24/95	1	770	4.0	2.9	42	130	
6-MW8	02/11/95	02/24/95	1	<50	<0.5	<0.5	<0.5	<0.5	
7-TB	02/11/95	02/24/95	1	<50	<0.5	<0.5	<0.5	<0.5	
8-TB	02/11/95	02/24/95	1	<50	<0.5	<0.5	0.5	<0.5	

Karen Petryna
110 Lincoln Avenue, Alameda
Alameda County

Mark A. Valentini, PhD, Laboratory Director

: ORDER PLACED FOR CLIENT: Texaco Environmental Services 9502287 :
: BC ANALYTICAL : GLEN LAB : 12:51:29 28 FEB 1995 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM.....	DATE..... ANALYZED	METHOD.....	EQUIP.	BATCH..	ID.NO
950228,*1	MW1	GAS.BTX.TESNC	02.24.95	8015M.TX	516-20	958102	8658
9502287*2	MW3	GAS.BTX.TESNC	02.24.95	8015M.TX	516-20	958102	8658
9502287*3	MW4	GAS.BTX.TESNC	02.24.95	8015M.TX	516-20	958102	8658
9502287*4	MW5	GAS.BTX.TESNC	02.24.95	8015M.TX	516-20	958102	8658
9502287*5	MW6	GAS.BTX.TESNC	02.24.95	8015M.TX	516-20	958102	8658
9502287*6	MW8	GAS.BTX.TESNC	02.24.95	8015M.TX	516-20	958102	8658
9502287*7	EB	GAS.BTX.TESNC	02.24.95	8015M.TX	516-20	958102	8658
9502287*8	TB	GAS.BTX.TESNC	02.24.95	8015M.TX	516-20	958102	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 G9502287

DATE REPORTED : 02/28/95

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 C5022317*1						
Date Analyzed	02.24.95	958102	02/24/95	02/24/95	Date	N/A
Benzene	02.24.95	958102	14.4	12.5	ug/L	115
Toluene	02.24.95	958102	52.0	55.5	ug/L	94
Ethylbenzene	02.24.95	958102	11.7	12.5	ug/L	94
Total Xylene Isomers	02.24.95	958102	60.0	66.5	ug/L	90
TPH (as Gasoline)	02.24.95	958102	1010	1000	ug/L	101

BC ANALYTICAL

ORDER QC REPORT FOR G9502287

DATE REPORTED : 02/28/95

MATRIX QC PRECISION (DUPLICATE SPIKES)
BATCH QC REPORT

PARAMETER	SAMPLE NUMBER	DATE ANALYZED	BATCH NUMBER	MS RESULT	MSD RESULT	UNIT	RELATIVE % DIFF
1. TPH-gas/BTEX (CADHS/80 9502287*3							
Date Analyzed		02.26.95	958102	02/26/95	02/26/95	Date	N/A
Benzene		02.26.95	958102	15.5	13.7	ug/L	12
Toluene		02.26.95	958102	56.0	50.2	ug/L	11
Ethylbenzene		02.26.95	958102	13.0	11.5	ug/L	12
Total Xylene Isomers		02.26.95	958102	62.8	57.1	ug/L	10
TPH (as Gasoline)		02.26.95	958102	1010	964	ug/L	5

BC ANALYTICAL

ORDER QC REPORT FOR G9502287

DATE REPORTED : 02/28/95

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	9502287*3						
Benzene		02.24.95	958102	124	110	12.5	ug/L
Toluene		02.24.95	958102	101	90	55.5	ug/L
Ethylbenzene		02.24.95	958102	104	92	12.5	ug/L
Total Xylene Isomers		02.24.95	958102	94	86	66.5	ug/L
TPH (as Gasoline)		02.24.95	958102	101	96	1000	ug/L

BC ANALYTICAL

ORDER QC REPORT FOR G9502287

DATE REPORTED : 02/28/95

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-gas/BTEX (CADHS/80 B5021259*1						
Date Analyzed	02.24.95	958102	02/24/95	NA	Date	8015M.TX
Benzene	02.24.95	958102	0	0.5	ug/L	8015M.TX
Toluene	02.24.95	958102	0.28	0.5	ug/L	8015M.TX
Ethylbenzene	02.24.95	958102	0.31	0.5	ug/L	8015M.TX
Total Xylene Isomers	02.24.95	958102	0.33	0.5	ug/L	8015M.TX
TPH (as Gasoline)	02.24.95	958102	31	50	ug/L	8015M.TX

: SURROGATE RECOVERIES :
: BC ANALYTICAL : GLEN LAB : 12:52:08 28 FEB 1995 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9502287*1							
8015M.	TXa,a,a-Trifluorotoluene	958102	02/24/95	50.4	50.0	101	
9502287*2							
8015M.	TXa,a,a-Trifluorotoluene	958102	02/24/95	51.7	50.0	103	
9502287*3							
8015M.	TXa,a,a-Trifluorotoluene	958102	02/24/95	49.8	50.0	100	
9502287*4							
8015M.	TXa,a,a-Trifluorotoluene	958102	02/24/95	53.3	50.0	107	
9502287*5							
8015M.	TXa,a,a-Trifluorotoluene	958102	02/24/95	50.3	50.0	101	
9502287*6							
8015M.	TXa,a,a-Trifluorotoluene	958102	02/24/95	50.9	50.0	102	
9502287*7							
8015M.	TXa,a,a-Trifluorotoluene	958102	02/24/95	50.5	50.0	101	
9502287*8							
8015M.	TXa,a,a-Trifluorotoluene	958102	02/24/95	49.9	50.0	100	

: SURROGATE RECOVERIES :
:·BC ANALYTICAL : GLEN LAB : 12:52:10 28 FEB 1995 - P. 1 :

METHOD	ANALYTE	BATCH	ANALYZED	REPORTED	TRUE	%REC	FLAG
9502287*3*R1							
8015M.TX	a,a,a-Trifluorotoluene	958102	02/24/95	49.8	50.0	100	
9502287*3*S1							
8015M.TX	a,a,a-Trifluorotoluene	958102	02/26/95	52.5	50.0	105	
9502287*3*S2							
8015M.TX	a,a,a-Trifluorotoluene	958102	02/26/95	51.5	50.0	103	
9502287*3*T							
8015M.TX	a,a,a-Trifluorotoluene	958102	02/26/95	50.0	50.0	100	
B5021259*1*MB							
8015M.TX	a,a,a-Trifluorotoluene	958102	02/24/95	49.5	50.0	99	
C5022317*1*LC							
8015M.TX	a,a,a-Trifluorotoluene	958102	02/24/95	51.6	50.0	103	
C5022317*1*LT							
8015M.TX	a,a,a-Trifluorotoluene	958102	02/24/95	50.0	50.0	100	

G95-02-287

Chain-of-Custody

Page 1 of 1

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

Forward Results to the Attention of Rebecca Digerness

Texaco Project Coordinator: Karen Petryna

Site Name: Texaco Loc.# 624881450
Site Address: 1127 Lincoln Ave, Alameda, CA
Contractor Project Number: 950214-K1
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): Keith Brown
Sampler Signature:
Date Samples Collected:

624881450
Alameda Co
KEP
FICEP1001L

Sample Number	Lab Sample Number	Date/Time Collected	No. of Containers	Type of Containers	Sample Matrix	Preservative	TPH gas/BTEX	TPH Diesel	O&G/TRPH (418.1)	TPH Ex. (C8-C36+)	VOCs 8240/624	P. Halocarbons 8010/60	P. Aromatics 8020/602	Organic Lead			Comments
MW1		2/14 1405	3	VOAs	W	HCl	X										-1
MW3		1330					X										-2
MW-1		1305					X										-3
MW5		1410					X										-4
MW6		1350					X										-5 vials labelled MW
MW8		1235					X										-6
FB		—					X										-7
TB		—					X										-8

Relinquished by (Signature): Keith C Brown — Date: 2/16/95 — Time: 1655
Relinquished by (Signature): [illegible] Trask — Date: 2-16-95 — Time: 747
Relinquished by (Signature): — Date: — Time:
Method of Shipment:

Received by (Signature): [illegible] — Date: 2-16-95 — Time: 1655
Received by (Signature): — Date: — Time:
Received by (Signature): — Date: — Time:
Lab Comments:

Well Gauging Data

Project Name: Lincoln Ave.
Project Number: 950214-K1

Date: 2/14/95
Recorded By: KCB

Well ID	TOC Elev.	DTB (ft. TOC)	Well Dia. (in.)	DTP (ft.)	DTW (ft.)	PT (ft.)	Comments
* MW1		—	4		1516 **		
* MW2			4	Unable	to get	slope sounder	past rubber in well cap
MW3		1934	4		793		
MW4		1991	4		699		
MW5	Unable to Removed Metal Box Lid (Time Spent 40min)						
MW6		1927	2		808 **		
MW7	← Car Parked Over Well →						
MW8		1942	4		732		
	* Very Powerful Suction in Wells - Extraction (Vapor) running.						

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: Linda
Project Number: 950214-101
Recorded By: ICH
Well No.: MW1
Well Type: ☐ Monitor ☒ Extraction ☐ Other
Sampled by: Ken
Date: 2/14

WELL PURGING

PURGE VOLUME

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

PURGE VOLUME CALCULATION

/ (Water Column Length) X / (Multiplier) X / (No. Vols) = 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

/ gals ACTUAL PURGE VOLUME

PURGE METHOD

☐ Bailer - Type /
☐ Pump - Type /
☐ Other /

PUMP INTAKE

☐ Near top Depth (ft) /
☐ Near Bottom Depth (ft) /
☐ Other /

Pumping Rate / gpm

GROUNDWATER PARAMETER MEASUREMENT Meter Type MyRon

Time/Gallons	pH	Cond. (uomhos/cm)	Temp ☐ deg C ☐ deg F	Turbidity (NTU)	Color/Odor
1403 / 1/2 gl	6.6	390	71.2	4.8	
/					
/					
/					
/					
/					
/					
/					

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

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled 2/14 / 1405
Bailer - Type ☐ / 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
MW1	VOAs 40ml	TPHd	HCl	BCM	
		BTEX			

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: Lincoln
Project Number: 950214-161
Recorded By: KCVS
Well No.: MW2
Well Type: ☐ Monitor ☒ Extraction ☐ Other
Sampled by: KCVS
Date: 2/14/95

WELL PURGING

PURGE VOLUME

Well casing diameter
☐ 2-inch ☒ 4-inch ☐ Other
Well Total Depth (TD, ft. below TOC)
Depth to Water (WL, ft. below TOC)
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
☐ Other

PUMP INTAKE

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

Pumping Rate ___ gpm

PURGE VOLUME CALCULATION

Water Column Length × Multiplier × No. Vols = ___ 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

___ gals ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT Meter Type

Time/Gallons	pH	Cond. (uomhos/cm)	Temp ☐ deg C ☐ deg F	Turbidity (NTU)	Color/Odor
/					
/					
/	Unable to gauge due to well Cap				
/					
/	Extraction System Not hooked Up for				
/	MW2 only Vapor.				

Comments during well purge

Well Pumped dry: YES NO

Purge water storage/disposal ☐ Drummed onsite ☐ Other

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled /

Bailer - Type ☐ 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
	Not Sampled				

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: Lincoln
Project Number: 950[illegible]-1C1
Recorded By: KCB
Well No.: MW3
Well Type: [X] Monitor [ ] Extraction [ ] Other
Sampled by: KCB
Date: 2/14

WELL PURGING

PURGE VOLUME

Well casing diameter
[ ] 2-inch [X] 4-inch [ ] Other
Well Total Depth (TD, ft. below TOC): 19.34
Depth to Water (WL, ft. below TOC): 7.93
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: ESS
[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)
[X] Near Bottom Depth (ft): 19
[ ] Other
Pumping Rate: ____ gpm

PURGE VOLUME CALCULATION

11.41 (Water Column Length) x 0.66 (Multiplier) x 3 (No. Vols) = 24.222 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

23 gals
ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT Meter Type: Myron

Time/Gallons	pH	Cond. (uomhos/cm)	Temp [ ] deg C [ ] deg F	Turbidity (NTU)	Color/Odor
1313 / 8	6.8	690	66.0	17.9	gas odor
1316 / 16	6.8	640	67.0	4.9	clear
1319 / 23	6.8	640	67.4	3.4	
/					
/					
/					
/					
/					

Comments during well purge: Fast Recharge ~2 min
Well Pumped dry: YES (NO)
Purge water storage/disposal: [ ] Drummed onsite [X] Other: BTS

WELL SAMPLING

SAMPLING METHOD

Bailer - Type [X]: SS
Date/Time Sampled: 2/14 / 1330
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
MW3	4 Oz / VOA	TPHG	HCl	BCA	
		BTEX			

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: Linder | Well No.: MW4
Project Number: 950214-KI | Well Type: [x] Monitor [ ] Extraction [ ] Other
Recorded By: KCP | Sampled by: KCP | Date: 2/14/05

WELL PURGING

PURGE VOLUME

Well casing diameter
[ ] 2-inch [x] 4-inch [ ] Other
Well Total Depth (TD, ft. below TOC): 19.91
Depth to Water (WL, ft. below TOC): 6.99
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: E.S.
[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)
[ ] Near Bottom Depth (ft): 19
[x] Other
Pumping Rate: gpm

PURGE VOLUME CALCULATION

12.92 (Water Column Length) x 0.66 (Multiplier) x 3 (No. Vols) = 8.4 / 25.2 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

27 gals (ACTUAL PURGE VOLUME)

GROUNDWATER PARAMETER MEASUREMENT

Meter Type: Myron

Time/Gallons	pH	Cond. (uomhos/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
1248 / 9	7.2	520	65.2		16.8	
1251 / 18	6.9	620	66.0		12.1	
1254 / 27	6.8	600	66.0		15.3	
/						
/						
/						
/						
/						

Comments during well purge: Fast Recovery <2
Well Pumped dry: YES (NO)
Purge water storage/disposal: [ ] Drummed onsite [x] Other: BFS

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled: 2/14 / 1305
Bailer - Type [x]: 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
MW4	40ml Vocs	TPHd, BTEX	HCl	BCA	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No	Duplicate Sample No

Blank Samples

Type	Sample No
Trip	
Rinsate	EB - 1245
Transfer	
Other:	

Groundwater Sampling Form

Project Name: Lincoln
Project Number: 950214-161
Recorded By: KCB
Well No.: MW5
Well Type: ☐ Monitor ☒ Extraction ☐ Other
Sampled by: KCB
Date: 2/14

WELL PURGING

PURGE VOLUME

Well casing diameter
☐ 2-inch ☒ 4-inch ☐ Other
Well Total Depth (TD, ft. below TOC)
Depth to Water (WL, ft. below TOC): Not Recorded due to lid (Box)
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
☐ Other

PUMP INTAKE

☐ Near top Depth (ft)
☐ Near Bottom Depth (ft)
☐ Other
Pumping Rate ____ gpm

PURGE VOLUME CALCULATION

Water Column Length		Multiplier		No. Vols	=	
	X		X			gals CALCULATED PURGE VOLUME
						gals ACTUAL 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

GROUNDWATER PARAMETER MEASUREMENT Meter Type: Myron

Time/Gallons	pH	Cond. (uomhos/cm)	Temp ☐ deg C ☐ deg F	Turbidity (NTU)	Color/Odor
1335 / 1 1/2 g	6.8	460	67.4	2.4	
/					
/					
/					
/					
/					
/					
/					

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

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled: 2/14 / 1400
Bailer - Type ☐
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
MW5	40ml VOAs	TPHG	HCl	BCA	
		BTEX			

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: Lincoln — Well No.: MW-6
Project Number: 950214-141 — Well Type: [x] Monitor [ ] Extraction [ ] Other
Recorded By: ICM — Sampled by: KCS — Date: 2/14

WELL PURGING

PURGE VOLUME

Well casing diameter: [x] 2-inch [ ] 4-inch [ ] Other
Well Total Depth (TD, ft. below TOC): 19.07
Depth to Water (WL, ft. below TOC): 8.08
Depth to free phase hydrocarbons (FP, ft. below TOC):
Number of well volumes to be purged: [x] 3 [ ] 10 [ ] Other

PURGE METHOD

[x] Bailer - Type: Teflon
[ ] Pump - Type:
[ ] Other:

PUMP INTAKE

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

PURGE VOLUME CALCULATION

10.99 (Water Column Length) x 0.17 (Multiplier) x 3 (No. Vols) = 5.61 CALCULATED PURGE VOLUME gals

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

5.5 ACTUAL PURGE VOLUME gals

GROUNDWATER PARAMETER MEASUREMENT Meter Type: Myron

Time/Gallons	pH	Cond. (uomhos/cm)	Temp deg C / deg F	Turbidity (NTU)	Color/Odor
1336 / 2	7.2	420	64.2	7200	light brown
1339 / 4	7.0	410	63.8	7200	
1342 / 5.5	7.0	410	64.4	7200	
/					
/					
/					
/					
/					

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

WELL SAMPLING

SAMPLING METHOD

Bailer - Type: [x] Teflon — Date/Time Sampled: 2/14 / 1350
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 6	1 VOAs 40	TPHG	HCl	BEA	
		BTEX			

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: Lincoln
Project Number: 950214-K1
Recorded By: KCB
Well No.: MW-7
Well Type: [x] Monitor [ ] Extraction [ ] Other
Sampled by:
Date:

WELL PURGING

PURGE VOLUME

Well casing diameter
[ ] 2-inch [ ] 4-inch [ ] Other
Well Total Depth (TD, ft. below TOC)
Depth to Water (WL, ft. below TOC)
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
[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)
[ ] Near Bottom Depth (ft)
[ ] Other
Pumping Rate gpm

PURGE VOLUME CALCULATION

Water Column Length X Multiplier X No. Vols =

gals CALCULATED PURGE VOLUME

gals ACTUAL 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

GROUNDWATER PARAMETER MEASUREMENT Meter Type

Time/Gallons	pH	Cond. (uomhos/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
Car on Well Entire Period						

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

WELL SAMPLING

SAMPLING METHOD Date/Time Sampled /
Bailer - Type [ ]
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
	Not Sampled				

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: Lincoln Ave | Well No.: MW 8
Project Number: 450214-101 | Well Type: [x] Monitor [ ] Extraction [ ] Other
Recorded By: JCH | Sampled by: JCH | Date: 2/14

WELL PURGING

PURGE VOLUME

Well casing diameter
[ ] 2-inch [x] 4-inch [ ] Other
Well Total Depth (TD, ft. below TOC): 1942
Depth to Water (WL, ft. below TOC): 732
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: ES
[ ] Other

PUMP INTAKE

[ ] Near top Depth (ft)
[x] Near Bottom Depth (ft): 19
[ ] Other
Pumping Rate: gpm

PURGE VOLUME CALCULATION

12.10 (Water Column Length) x .66 (Multiplier) x 3 (No. Vols) = 7.8 / 23.5 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

24 gals ACTUAL PURGE VOLUME

GROUNDWATER PARAMETER MEASUREMENT

Meter Type: Myron

Time/Gallons	pH	Cond. (uomhos/cm)	Temp	deg C / deg F	Turbidity (NTU)	Color/Odor
12:14 / 8	7.4	740	62.8		7200	Med Brn
12:19 / 16	7.2	400	63.2		7200	
12:26 / 24	7.2	380	63.4			
/						
/						
/						
/						
/						

Comments during well purge: 4 min Recharge
Well Pumped dry: YES (NO)
Purge water storage/disposal: [ ] Drummed onsite [x] Other: BFS

WELL SAMPLING

SAMPLING METHOD

Date/Time Sampled: 2/14 / 1235
Bailer - Type [ ]: SS
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 8	40-1 Voas	TPHE	HCl	DCA	
		BTEX			

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 #: 62-488-1450
Address: 1127 Lincoln Ave.
City, State, ZIP: Alameda

Well I.D.	Gals.	Well I.D.	Gals.
	/		/
MW1	/		/
	/		/
	/		/
	/		/
MW8	/		/
	/		/
	/ 80		/
	/		/
	/		/

Total gals. 85

added rinse water 5

Total Gals. Recovered 85

Job #: 450274-K1
Date 2/14/95
Time 1415
Signature:

REC'D AT: BTS
Date: 2/14/95
Time: 1600
Signature:

QUARTERLY SUMMARY REPORT
Former Texaco Service Station
1127 Lincoln Avenue, Alameda, California
Alameda County
Fourth Quarter, 1994

HISTORY OF INVESTIGATIVE AND REMEDIAL ACTIONS

Four gasoline and one waste-oil underground storage tanks were removed in September, 1989. Eleven soil borings were drilled with three groundwater monitoring wells (MW-1 through MW-3) and five vapor wells (VW-1 through VW-5) being installed into eight of the borings in March, 1981. Five groundwater monitoring wells, MW-4 through MW-8 were installed in June, 1992. A soil vapor extraction and groundwater remediation system was installed June, 1993 and began full operation in September, 1993. Monitoring well MW-5 was connected to the vapor extraction system in September, 1993 and MW-1 and MW-2 were connected to the extraction system in November, 1993. MW-1, MW-2, and MW-5 act as combined extraction/recovery wells.

WORK PERFORMED DURING THIS QUARTER

Quarterly groundwater monitoring and sampling was performed as was operation and maintanence of the goundwater/soil vapor extraction system. Texaco continued efforts to secure property owner permission for downgradient plume deliniation.

CHARACTERIZATION STATUS

The extent of petroleum hydrocarbons in soil and groundwater has not been delineated. Texaco will proceed with Alameda County-approved assessment work as soon as permission is obtained from downgradient property owner to install a monitoring well there.

REMEDIATION STATUS

A vapor extraction and groundwater treatment system is in operation at the site. Vapors are extracted from five vapor extraction wells and three combination wells and groundwater is extracted from the three combination wells. Two vapor-phase carbon canisters treat the vapors prior to discharge.

WORK TO BE PERFORMED NEXT QUARTER

Continue quarterly monitoring and sampling to record fluctuations in hydrocarbons concentrations as well as operation and maintenance of the groundwater and soil vapor treatment systems. Also perform additional assessment to further define the petroleum hydrocarbon plume.

COMPANY CONTACT: Karen Petryna (510) 236-9139

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Texaco Environmental Services
Standard Operating Procedures
for Groundwater Monitoring and Sampling

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

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

Water Level Measurements

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

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

Petroleum Product Thickness Measurements.

If free phase petroleum hydrocarbons (product) are observed floating on the groundwater surface during the water level measurement, the thickness of the product will be measured in each appropriate well. Groundwater samples will not be collected for chemical analysis from wells containing product (even a sheen) unless specifically requested by the Project Coordinator. If the Project Coordinator requests that wells containing product be sampled, only those wells with product thickness of less than 0 01 foot will be sampled Arrangements to bail, store, and dispose of product must be made separately. When product is stored, according to Texaco policy, it will be double-contained and disposed of within 90 days of generation

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

- The level of the top of the product will be measured with an interface probe. When product is suspected but not measurable with the interface probe, a visual evaluation can be made using clear bailers. A bailer will be lowered into the water/product surface so that the top of the bailer is NOT submerged; the bailer is then removed from the well and the thickness of the product visually measured and documented on the Well Gauging Form.

- When the interface probe contacts liquid, the visual/audible alarm on the reel will be activated. An oscillating alarm indicates water, a continuous alarm indicates hydrocarbon*. To determine the exact thickness of a hydrocarbon layer, the probe should be slowly lowered to the air/hydrocarbon interface until the alarm is activated. With the probe at the exact point where the alarm comes on, read the numbers on the tape to determine the distance from the top of casing elevation mark. Next, lower the probe through the hydrocarbon layer and well into the water. An oscillating alarm will be obtained. The probe should then be raised slowly to the hydrocarbon/water interface until the point where the alarm changes from oscillating to continuous. The thickness of the hydrocarbon layer is determined by subtracting the first reading from the second reading. Record the calculated value on the Well Gauging Form and Groundwater Sampling Form.

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

Groundwater Sampling

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

- All measuring and sampling equipment will be decontaminated prior to sample collection from each well and documented on the Groundwater Sampling Form.

- Prior to sampling activity, the water level in the well will be measured and the minimum purge volume of each well will be calculated using the purge volume calculation portion of the Groundwater Sampling Form. A minimum of three casing volumes will be purged prior to sample collection. The actual total volume purged will be recorded on Groundwater Sampling Form.

- Prior to sampling, a submersible pump, centrifugal pump, peristaltic pump, or a Teflon or stainless steel bailer will be used to purge a minimum of three casing volumes from each well. Purge volumes will be estimated using a flow meter or a stopwatch and a bucket to estimate flow rate, from which a time to purge the required volume will be calculated. The pump will be lowered to a depth of two to three feet from bottom of the well When bailers are used for purging the bailer should be gently lowered into the water and allowed to fill, then removed Purged water may be placed into 5-gallon buckets to determine the volume of groundwater removed Care should be taken to not agitate the water which could release volatile organics

- Whenever possible, groundwater parameters pH, temperature (in degrees Celsius [C]), specific conductance (in micromhos per centimeters squared [umhos]), and turbidity (in National Turbidity Units [NTU]) will be monitored and recorded on the Groundwater Sampling Form.

- If a well is purged dry before three casing volumes have been removed, the sample will be taken after the well has recovered to at least 80 percent of the static water level prior to purging or after 4 hours when sufficient water volume is available to meet analytical requirements, whichever comes first. Reasonable efforts will be made to avoid dewatering wells by using low-yield pumps as necessary.

- Water samples will be collected with a stainless steel or Teflon bailer. To reduce potential cross contamination, sampling should take place in order from least to most contaminated wells. Bailer strings should be replaced between each well to avoid cross contamination from a bailer string which has absorbed contamination.

- Sample containers will be filled directly from the bailer.

- Use only sample containers prepared and provided by an analytical laboratory. Preservatives are required for some types of samples. Sample containers containing preservatives should be supplied by an analytical laboratory.

- For volatile organics analysis, each sample vial will be filled with sample water so that water stands above the lip of the vial. The cap should then be quickly placed on the vial and tightened securely. The vial should then be checked to ensure that no air bubbles are present prior to labeling the sample.

- Take site blank samples (trip and rinsate) using distilled water or laboratory supplied water from a known uncontaminated source. One trip blank and one rinsate blank sample for each site will be analyzed for each site sampling event.

- Once collected and labeled, all samples will be stored in a cooler maintained at 4 degrees Celsius using frozen water ice.

Sample Custody Procedures

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

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

- Sample Identification Label
- Chain-of Custody

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Equipment Decontamination

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