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November 2, 1994

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 August 22, 1994, 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

Groundwater Monitoring Coordinator

Karen E. Petryna

Engineer

Texaco Environmental Services

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Enclosures

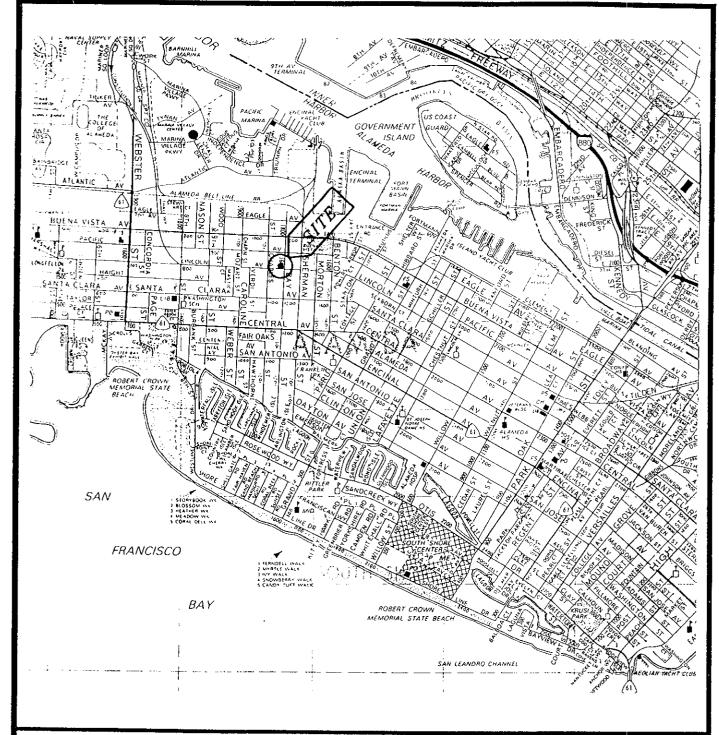
CC: Mr. Richard Hiett
CRWQCB - San Francisco Bay Region
2101 Webster St., Suite 500
Oakland, CA 94621

Mr. Leo Pagano 1127 Lincoln Avenue Alameda, CA

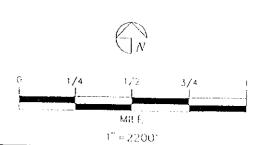
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PR: KEP

GROUNDWATER MONITORING AND SAMPLING
Third Quarter, 1994
at the
Former Texaco Station
1127 Lincoln Avenue
Alameda, California



SOURCE 1993 THE THOMAS GUIDE ALAMEDA COUNTY, PAGE 11 (B3)





TEXACO

REFINING AND MARKETING, INC. TEXACO ENVIRONMENTAL SERVICES

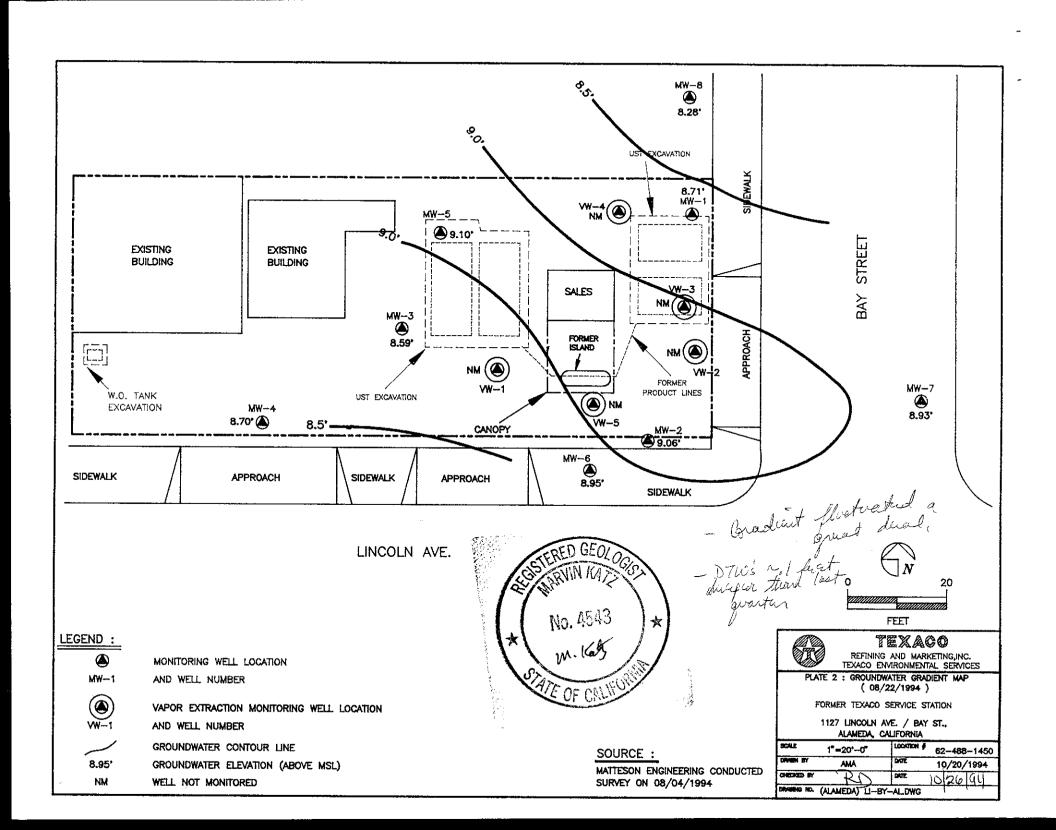
PLATE = 1

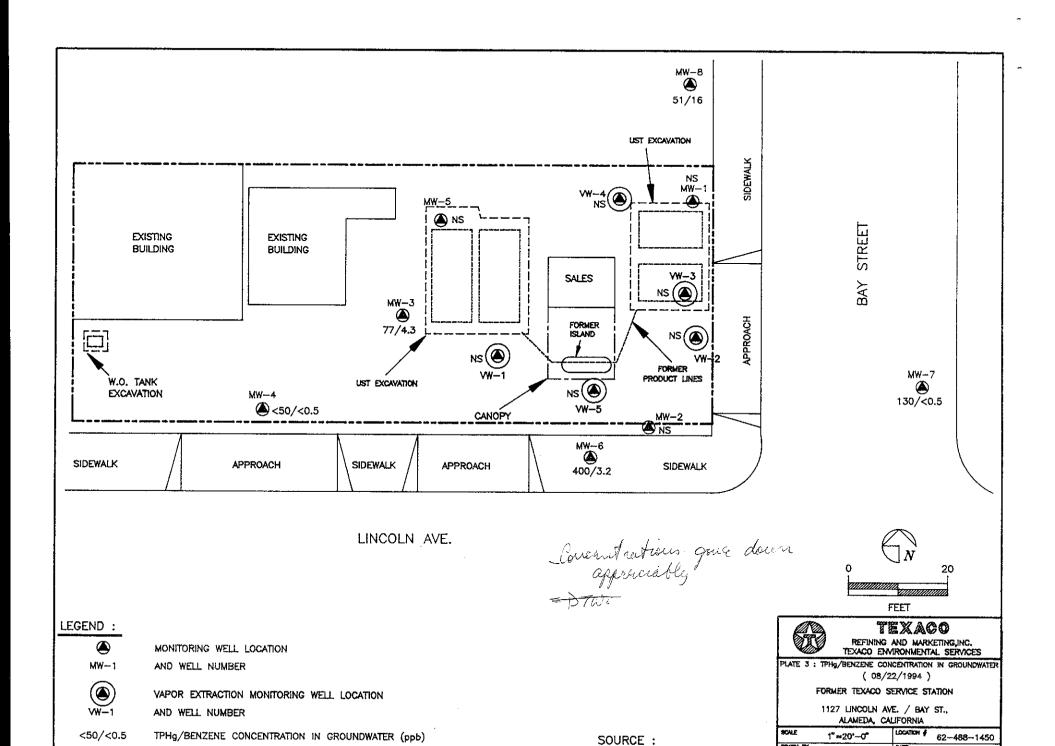
SITE VICINITY MAP

FORMER TEXACO SERVICE STATION

1127 LINCOLN AVE. / BAY ST.,

ALAMEDA, CALIFORNIA





MATTESON ENGINEERING CONDUCTED

SURVEY ON 08/04/1994

NS

WELL NOT SAMPLED

10/20/1994

10/25/91

DRAMME NO. (ALAMEDA) LI-BY-ALDWG

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

		Elevation of	Depth to	Groundwater
Well	Date	Wellhead	Water	Elevation
Number	Gauged	(feet, MSL)	(feet, TOC)	(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
		Inaccessible - \		
		Inaccessible - \		
		Inaccessible - \		
		Inaccessible - \		
		Inaccessible - \		
	12/17/93	Inaccessible - \	/ES	
	2/7/94	Inaccessible - V	/ES	
	5/20/94	Inaccessible - \	/ES	
	8/22/94		7.78	8.71
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
		Inaccessible - V		
	8/31/93	Inaccessible - V	'ES	···
	9/27/93	Inaccessible - V	'ES	
	10/19/93	Inaccessible - V	'ES	
	11/15/93	Inaccessible - V	'ES	
		Inaccessible - V		
		Inaccessible - V		
	5/20/94	Inaccessible - V	'ES	
	8/22/94		8.08	9.06

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

		Elevation of	Depth to	Groundwater
Well	Date	Wellhead	Water	Elevation
Number	Gauged	(feet, MSL)	(feet, TOC)	(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		
	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		8.32	8.59
MW-4	6/25/92	47.40	7.00	
IV!VV-4	9/16/92	17.18	7.92	9.26
	11/17/92		9.40	7.78
	1/26/93		9.63	7.55
	2/4/93		5.91	11.27
	3/9/93		6.14	11.04
	5/6/93		5.81	11.37
	6/15/93		6.49	10.69
	7/26/93		6.34 7.29	10.84
	8/31/93			9.89
		Inaccessible - C	8.02	9.16
	10/19/93	maccessible - C		0.04
	11/15/93		9.14	8.04
	12/17/93		9.01	8.17
			7.91	9.27
	2/7/94		8.02	9.16
	5/20/94		6.85	10.33
	8/22/94		8.48	8.70
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Table 1 Groundwater Elevation Data 1127 Lincoln Avenue, Alameda, CA

9/16/92 8.85 11/17/92 9.03 1/26/93 Not Monitored 2/4/93 Inaccessible 3/9/93 5.45 10 5/6/93 6.00 10 6/15/93 7.81 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 11/15/93 Inaccessible - VES 12/17/94 Inaccessible - VES 5/20/94 Inaccessible - VES 8/22/94 7.27 MW-6 6/25/92 17.12 7.86 9/16/92 9.12 11/17/92 9.40 1/26/93 6.63 16	
MW-5 6/25/92 16.37 7.35 9/16/92 8.85 11/17/92 9.03 1/26/93 Not Monitored 2/4/93 Inaccessible 3/9/93 5.45 10 5/6/93 6.00 10 6/15/93 7.81 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 11/15/93 Inaccessible - VES 11/15/93 Inaccessible - VES 12/17/94 Inaccessible - VES 5/20/94 Inaccessible - VES 8/22/94 7.27 MW-6 6/25/92 17.12 7.86 9/16/92 9.12 11/17/92 9.40 1/26/93 6.63 16	9.02 7.52 7.34 0.92 0.37
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11/17/92 9.03 1/26/93 Not Monitored 2/4/93 Inaccessible 3/9/93 5.45 10 5/6/93 6.00 10 6/15/93 7.81 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 11/15/93 Inaccessible - VES 12/17/93 Inaccessible - VES 12/17/94 Inaccessible - VES 5/20/94 Inaccessible - VES 8/22/94 7.27 MW-6 6/25/92 17.12 7.86 9/16/92 9.12 11/17/92 9.40 1/26/93 6.63 16	7.34 0.92 0.37
1/26/93 Not Monitored 2/4/93 Inaccessible 3/9/93 5.45 10 5/6/93 6.00 10 6/15/93 7.81 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 11/15/93 Inaccessible - VES 12/17/94 Inaccessible - VES 2/7/94 Inaccessible - VES 5/20/94 Inaccessible - VES 8/22/94 7.27 MW-6 6/25/92 17.12 7.86 9/16/92 9.12 11/17/92 9.40 1/26/93 6.63 10	0.92 0.37
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3/9/93 5.45 10 5/6/93 6.00 10 6/15/93 7.81 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 12/17/94 Inaccessible - VES 2/7/94 Inaccessible - VES 5/20/94 Inaccessible - VES 8/22/94 7.27 MW-6 6/25/92 17.12 7.86 9/16/92 9.12 11/17/92 9.40 1/26/93 6.63 10	0.37
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	7.72
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3/9/93 6.68 10	0.44
5/6/93 6.93 10	0.19
6/15/93 7.00 10	0.12
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
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Table 1 Groundwater Elevation Data 1127 Lincoln Avenue, Alameda, CA

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MW-8 6/25/92 15.91 7.20 8 9/16/92 8.60 7 11/17/92 8.85 7 1/26/93 5.30 10 2/4/93 5.62 10 3/9/93 5.56 10 5/6/93 5.99 9 6/15/93 6.32 9 7/26/93 6.75	
9/16/92 8.60 11/17/92 8.85 1/26/93 5.30 2/4/93 5.62 3/9/93 5.56 5/6/93 5.99 6/15/93 6.32 7/26/93 6.75	3.93
9/16/92 8.60 11/17/92 8.85 1/26/93 5.30 2/4/93 5.62 3/9/93 5.56 5/6/93 5.99 6/15/93 6.32 7/26/93 6.75	
11/17/92 8.85 7 1/26/93 5.30 10 2/4/93 5.62 10 3/9/93 5.56 10 5/6/93 5.99 9 6/15/93 6.32 9 7/26/93 6.75 9	.71
1/26/93 5.30 2/4/93 5.62 3/9/93 5.56 5/6/93 5.99 6/15/93 6.32 7/26/93 6.75	.31
2/4/93 5.62 10 3/9/93 5.56 10 5/6/93 5.99 9 6/15/93 6.32 9 7/26/93 6.75 9	.06
3/9/93 5.56 10 5/6/93 5.99 9 6/15/93 6.32 9 7/26/93 6.75	.61
5/6/93 5.99 9 6/15/93 6.32 9 7/26/93 6.75 9	.29
6/15/93 6.32 9 7/26/93 6.75	.35
7/26/93 6.75	.92
	.59
	.16
8/31/93 7.35 8	.56
9/27/93 7.86 8	.05
	.64
	.74
	.77
	.65
	.74
	.28

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

		Elevation of	Depth to	Groundwater
Well	Date	Wellhead	Water	Elevation
Number	Gauged	(feet, MSL)	(feet, TOC)	(feet, MSL)
VW-1	2/19/92	16.83	Dry	Dry
	6/25/92		7.36	9.47
		Not Monitored		
l		Not Monitored		
	9/27/93	Not Monitored	-	
		Not Monitored		
	11/15/93	Not Monitored		
	12/17/94	Not Monitored		
	2/7/94	Not Monitored		
		Not Monitored		
	8/22/94	Not Monitored		
VW-2	2/19/92	17.00	6.94	10.06
	6/25/92		8.10	8.90
	9/16/92	Not Monitored		
		Not Monitored		
	1/26/93	Not Monitored		
	2/4/93	Not Monitored		
	3/9/93	Not Monitored		
	5/6/93	Not Monitored		
	6/15/93	Not Monitored		
	7/26/93	Not Monitored		
	8/31/93	Not Monitored		
	9/27/93	Not Monitored		
		Not Monitored		
	11/15/93	Not Monitored		
	12/17/94	Not Monitored		
				

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

		Elevation of	Depth to	Groundwater
Well	Date	Wellhead	Water	Elevation
Number	Gauged	(feet, MSL)	(feet, TOC)	(feet, MSL)
VW-3	2/19/92	16.94	7.40	9.54
	6/25/92		7.16	9.78
	9/16/92	Not Monitored		
	11/17/92	Not Monitored		
		Not Monitored		
	7/26/93	Not Monitored		
	8/31/93	Not Monitored		
	9/27/93	Not Monitored		
	10/19/93	Not Monitored		
	11/15/93	Not Monitored		
	12/17/94	Not Monitored		
	2/7/94	Not Monitored		
	5/20/94	Not Monitored		
	8/22/94	Not Monitored		
VW-4	2/19/92	16.81	5.76	11.05
	6/25/92		7.23	9.58
		Not Monitored		
	2/7/94	Not Monitored	-	
	5/20/94	Not Monitored		
	8/22/94	Not Monitored		
				-

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

	T	Elevation of	Depth to	Groundwater
Moll	Data			
Well	Date	Wellhead	Water	Elevation
Number	Gauged	(feet, MSL)	(feet, TOC)	(feet, MSL)
VW-5	2/19/92	17.20	7.04	10.16
	6/25/92		8.09	9.11
· · · · · · · · · · · · · · · · · · ·		Not Monitored		
	11/17/92	Not Monitored		
	1/26/93	Not Monitored		
	2/4/93	Not Monitored		
	3/9/93	Not Monitored		
	5/6/93	Not Monitored		
		Not Monitored		
	7/26/93	Not Monitored		
	8/31/93	Not Monitored		
	9/27/93	Not Monitored		
	10/19/93	Not Monitored		
	11/15/93	Not Monitored		
	12/17/94	Not Monitored		
	2/7/94	Not Monitored		
	5/20/94	Not Monitored		
	8/22/94	Not Monitored		
-				
MSL = Mea	an Sea Leve	el		
TOC = Top	of Casing			
	or Extraction	n System		

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

10/01/	5.4				Ethyl-					
Well	Date	TPHg	Benzene	Toluene	Benzene	Xylenes				
Number	Sampled	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)				
MW-1	2/19/92	 	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 2/4/93 120 22 3.1	12	27								
					3.3	10				
	5/6/93	710	320	3.1	4.2	20				
	9/28/93	Not Accessible	e - Connected	to Vapor Extra	ction System					
	11/15/93	Not Accessible	e - Connected	to Vapor Extra	ction System	· · · · · · · · · · · · · · · · · · ·				
	2///94	Not Accessible	e - Connected	to Vapor Extra	ction System					
	5/20/94	Not Accessible	e - Connected	to Vapor Extra	ction System					
	8/22/94	Not Accessible	e - Connected	to Vapor Extra	ction System					
MW-2	2/19/92	2,100								
74144-2	6/25/92	4,700	57 590	5.6	9.1	75				
	9/16/92	5,700	740	24	290	160				
	11/17/92	840	94	8	370	77				
	2/4/93	430	45	<0.5	93	14				
	5/6/93	2,000	460	0.5	20	30				
				2.4	160	66				
	11/15/93	Not Accessible	lot Accessible - Connected to Vapor Extraction System lot Accessible - Connected to Vapor Extraction System							
	2/7/9/	Not Accessible	- Connected	to Vapor Extra	ction System					
	5/20/04	Not Accessible	Connected	to Vapor Extra	ction System					
	8/22/94	Not Accessible								
	0/22/94	NOT ACCESSIBLE	s - Connecteu	to vapor Extra	ction System					
MW-3	2/19/92	990	<0.5	<0.5		70				
	6/25/92	4,900	350	11	330	72				
	9/17/92	7,300	690	10	450	570				
	11/17/92	1,200	160	2.1	83	780				
	2/4/93	2,900	180	13	210	160				
	5/6/93	2,700	270	6.2	300	350				
	9/28/93	1,800	92	1.7	99	720				
	11/15/93	1,900	100	2.4	85	240				
	2/7/94	1,400	69	3.3	100	280				
	5/20/94	1,100	64	19		320				
	8/22/94	77	4.3	<0.5	120	180				
	U.Z.Z.O		4.0	\(\tau_{0.5}\)	2.0	5.6				
MW-4	6/25/92	<50	<0.5	<0.5	<0.5	<0.5				
	9/17/92	98	0.6	<0.5						
	11/17/92	<50	<0.5	<0.5	1.2 <0.5	7.7				
	2/4/93	<50	<0.5	<0.5	<0.5	<0.5				
	5/6/93	<50	1.6	<0.5	1	<0.5				
		Not Accessible				2.1				
	11/15/93	<50	<0.5	<0.5	-O E					
	2/7/94	<50	<0.5	<0.5	<0.5	<0.5				
		82	6.2	7.6	<0.5 3.3	2.6 17				
	3//0/941			101	5.51	7 / 1				
	5/20/94 8/22/94	<50	<0.5	<0.5	<0.5	<0.5				

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

					Ethyl-	
Well	Date	TPHg	Benzene	Toluene	Benzene	Xylenes
Number	Sampled	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
MW-5	6/25/92	18,000	310	1,200	750	2,400
	9/17/92	24,000	700		900	2,400
	11/17/92		1,000	1,500	730	1,900
	2/4/93	Not Sampled				
	5/6/93		460		300	1,200
	9/28/93	Not Accessibl	e - Connected	to Vapor Extra	ction System	
	11/15/93	Not Accessibl	e - Connected	l to Vapor Extra	ction System	
	2/7/94	Not Accessibl	e - Connected	to Vapor Extra	ction System	
	5/20/94	Not Accessibl	e - Connected	to Vapor Extra	ction System	
	8/22/94	Not Accessibl	e - Connected	to Vapor Extra	ction System	
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
	3,22,31		0.2		1.9	40
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
		Not Sampled	1.0	10.0		0.5
	2/4/93	<50	<0.5	<0.5	<0.5	<0.5
		Not Sampled	-0.0	70.3		<u> </u>
	9/28/93	<50	<0.5	<0.5	<0.5	<0.5
	11/15/93	<50	<0.5	<0.5	<0.5	<0.5
		Not Sampled		70.5		<u> </u>
		Not Sampled			·	
	8/22/94	130	<0.5	<0.5	<0.5	
	0/22/04	130	70.5	<u> </u>	VU.5	<0.5
MW-8	6/25/92	11,000	1,100	29	150	400
	9/16/92	14,000	3,500	47	150	190
	11/17/92	4,700	1,700	12	25	85
	2/4/93	540	1,700		8	22
	5/6/93	22,000		3.7	5.2	10
	9/28/93	8,000	9,400	46	390	520
	11/15/93		1,700	22	30	75
		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
· · · ·			l et			
		on limit for the	specified me	thod of analysis		
opb = parts						
PHg = Tota	ai Petroleum	Hydrocarbons	as gasoline (a	analyzed by EP	A Method 5030	/602).
31EX meas	ured by EPA	Method 5030/	602	i		

Appendix

ANALYTICAL REPORT

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

LOG .:0: G94-08-262

Received: 23 AUG 94

Mailu:

AUG 3 0 1994

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

Purchase Order: 94-1446346+4370

Requisition: 624881450 Project: FKEP1001L

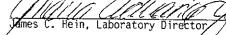
REPORT OF ANALYTICAL RESULTS

Page 1

AQUEOUS

SAMPLE DESCRIPTION	DATE SAMPLED	TPH/BTEX (CADHS/8020)		•				·	
		Date Analyzed Date	Dilution Factor Times 1	TPH-g ug/L	Benzene ug/L	To luene ug/L	Ethyl- Benzene ug/L	Total Xylenes Isomers ug/L	
RDL			1	50	0.5	0.5	0.5	0.5	
1*MW3 2*MW4 3*MW6 4*MW7 5*MW8 6*TB 7*EB	08/22/94 08/22/94 08/22/94 08/22/94 08/22/94 08/22/94 08/22/94	08/24/94 08/24/94 08/24/94 08/24/94 08/24/94 08/24/94 08/24/94	1 1 1 1 1 1 1	77 <50 400 130 51 <50	4.3 <0.5 3.2 <0.5 16 <0.5 <0.5	<0.5 <0.5 1.0 <0.5 <0.5 <0.5	2.0 <0.5 7.9 <0.5 <0.5 <0.5	5.6 <0.5 40 <0.5 <0.5 <0.5	

Karen Petryna 1127 Lincoln Avenue, Alameda Alameda County





: ORDER PLACED FOR CLIENT: Texaco Environmental Services 9408262 : BC ANALYTICAL : GLEN LAB : 11:23:55 29 AUG 1994 - P. 1 :

SAMPLES	SAMPLE DESCRIPTION	DETERM	DATE ANALYZED	METHOD	EQUIP.	BATCH	ID.NO
			,,,,,,				
9408262*1	MW3	GAS.BTX.TESNC	08.24.94	8015M.TX	536-21	94114	8095
9408262*2	MW4	GAS.BTX.TESNC	08.24.94	8015M.TX	536-21	94114	8095
9408262*3	MW6	GAS.BTX.TESNC	08.24.94	8015M.TX	536-21	94114	8095
9408262*4	MW7	GAS.BTX.TESNC	08.24.94	8015M.TX	536-21	94114	8095
9408262*5	MW8	GAS.BTX.TESNC	08.24.94	8015M.TX	536-21	94114	8095
9408262*6	TB	GAS.BTX.TESNC	08.24.94	8015M.TX	536-21	94114	8095
9408262*7	EB	GAS.BTX.TESNC	08.24.94	8015M.TX	536-21	94114	8095

destrate

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

ORDER QC REPORT: Definitions and Terms

Accuracy The ability of a procedure to determine the "true" concentration of an analyte. Precision The reproducibility of a procedure demonstrated by the agreement between analyses performed on either duplicates of the same sample or a pair of duplicate spikes. Batch A group of twenty samples or less, of similar matrix type, prepped together or analyzed together if no sample preparation is required, under the same conditions and with the same reagents. The batch must include a method blank, LCS and matrix QC. A blank that is spiked with a known amount of analyte and subjected to the same Laboratory Control Standard procedures as the samples. The LCS indicates the accuracy of the analytical method. (LCS) It also serves to double-check the calibration because it is prepared from a different source than the standard used to calibrate the instrument. Matrix OC Quality control performed on actual client samples. The matrix spike is a client's sample spiked with a known amount of analyte. For most analyses, the laboratory performs matrix spikes in duplicate (duplicate spikes). A sample that contains no analyte. For water analysis, organic-free or deionized water is Method Blank used. For solids analysis, analyte-free solvent is used. The method blank serves to measure contamination associated with laboratory storage, preparation or instrumentation. Batch Number Numeric designation for a batch of samples and the associated QC. The batch number sequence is unique for each determination. LC Result Laboratory result of an LCS analysis. LT Result Expected result, or true value, of the LCS analysis. Percent Recovery The percentage of analyte recovered. For LCS, the percent recovery calculation is: LC/LT x 100 LC1, LC2 Result Result of analyzing two separately prepared LCSs; used to determine precision. R1, R2 Result Result of analyzing replicate aliquots of a sample, with R1 indicating the first analysis of the sample and R2 its corresponding duplicate; used to determine precision. S1, S2 Result Result of the analysis of replicate spiked aliquots, with \$1 indicating one spike of the sample and S2 the second spike; used to determine precision and accuracy. Relative Percent Calculated using one of the following: Difference (RPD) $\frac{|LC1 - LC2| \times 100}{(LC_1 + LC2) \div 2}$ $\frac{|R1 - R2| \times 100}{(R1 + R2) \div 2}$ S1, S2 Recovery The percentage of analyte recovered. The percent recovery calculation is: S1 Recovery: $(S1 - R1) \times 100$ S2 Recovery: $(S2 - R1) \times 100$ (True - R1)(True - R1)True Value The theoretical, or expected, result of a spike sample analysis. NC Flag Indicates that the spike recovery was not calculated due to high sample concentration relative to the amount of spike added. Q Flag Indicates that the quality control measurement is outside the specified control limits. Blank Result Laboratory result of analysis of the method blank. Reporting BCA-assigned limit based on; but not the same as, method detection limits

(MDLs) determined using EPA guidelines. Sample RDLs may differ from the

blank RDL if the samples were diluted.

Detection Limit

(RDL)

B C Analytical

BC ANALITICAL

ORDER QC REPORT FOR G9408262

DATE REPORTED: 08/29/94

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LABORATORY CONTROL STANDARDS FOR BATCHES WHICH INCLUDE THIS ORDER

	DATE	BATCH	LC	LT	F	PERCENT
PARAMETER	ANALYZED	NUMBER	RESULT	RESULT	UNIT F	RECOVERY
1. TPH-gas/BTEX (CADHS/80 C4081944	* 1					
Date Analyzed	08.24.94	94114	08/24/94	08/24/94	Date	N/A
Benzene	08.24.94	94114	10.2	15.9	ug/L	64 Q
Toluene	08.24.94	94114	50.1	70.5	ug/L	71 Q
Ethylbenzene	08.24.94	94114	10.3	15.9	ug/L	65 Q
Total Xylene Isomers	08.24.94	94114	57.8	54.0	ug/L	107
TPH (as Gasoline)	08.24.94	94114	878	1000	ug/L	88
a,a,a-Trifluorotoluene Reported	08.24.94	94114	46.3	50.0	ug/L	93
a,a,a-Trifluorotoluene Theoretic		94114	50.0	50.0	ug/L	100
TPH-gas/BTEX (CADHS/80 C4081945)	*1				-	
Date Ånalyzed	08.25.94	94114	08/25/94	08/25/94	Date	N/A
Benzene	08.25.94	94114	11.2	15.9	ug/L	70
Toluene	08.25.94	94114	50.8	70.5	ug/L	72 Q
Ethylbenzene	08.25.94	94114	10.5	15.9	ug/L	66 Q
Total Xylene Isomers	08.25.94	94114	60.1	54.0	ug/L	111
TPH (as Gasoline)	08.25.94	94114	960	1000	ug/L	96
a,a,a-Trifluorotoluene Reported	08.25.94	94114	70.3	50.0	ug/L	141 Q
a,a,a-Trifluorotoluene Theoretic	08.25.94	94114	50.0	50.0	ug/L	100

BC ANALITICAL

ORDER QC REPORT FOR G9408262

DATE REPORTED: 08/29/94

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ADDITIONAL LCS PRECISION (DUPLICATES) BATCH QC REPORT

		SAMPLE	DATE	BATCH	LC1	LC2		RELATIVE
P	ARAMETER	NUMBER	ANALYZED	NUMBER	RESULT	RESULT	UNIT	% DIFF
1	. TPH-gas/BTEX (CADHS/80						
	Date Analyzed		08.24.94	94114	08/24/94	08/25/94	Date	N/A
	Benzene		08.24.94	94114	10.2	11.2	ug/L	9
	Toluene		08.24.94	94114	50.1	50.8	ug/L	1
	Ethylbenzene		08.24.94	94114	10.3	10.5	ug/L	2
	Total Xylene Is		08.24.94	94114	57.8	60.1	ug/L	4
	TPH (as Gasolir		08.24.94		878	960	ug/L	9
	a,a,a-Trifluord	toluene Reported	08.24.94	94114	46.3	70.3	ug/L	41
	a,a,a-Trifluoro	toluene Theoretic	08.24.94	94114	50.0	50.0	ug/L	0

BC ANALYTICAL

ORDER QC REPORT FOR G9408262

DATE REPORTED : 08/29/94

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MATRIX QC PRECISION (DUPLICATE SPIKES) BATCH QC REPORT

DATE	BATCH	MS	MSD		RELATIVE
ANALYZED	NUMBER	RESULT	RESULT	UNIT	% DIFF
52*1					
08.24.94	94114	08/24/94	08/24/94	Date	N/A
08.24.94	94114	13.9	15.7	ug/L	12
08.24.94	94114	45.1	53.0	ug/L	16
08.24.94	94114	11.1	12.6	ug/L	13
08.24.94	94114	58.8	66.6	ug/L	12
08.24.94	94114	753	896	ug/L	17
ed 08.24.94	94114	55.8	49.5	ug/L	12
tic 08.24.94	94114	50.0	50.0	ug/L	0
	ANALYZED 52*1 08.24.94 08.24.94 08.24.94 08.24.94 08.24.94 08.24.94 ed 08.24.94	ANALYZED NUMBER	ANALYZED NUMBER RESULT 52*1 08.24.94 94114 08/24/94 08.24.94 94114 13.9 08.24.94 94114 45.1 08.24.94 94114 11.1 08.24.94 94114 58.8 08.24.94 94114 753 ed 08.24.94 94114 55.8	ANALYZED NUMBER RESULT RESULT 52*1 08.24.94 94114 08/24/94 08/24/94 08.24.94 94114 13.9 15.7 08.24.94 94114 45.1 53.0 08.24.94 94114 11.1 12.6 08.24.94 94114 58.8 66.6 08.24.94 94114 753 896 ed 08.24.94 94114 55.8 49.5	ANALYZED NUMBER RESULT RESULT UNIT 52*1 08.24.94 94114 08/24/94 08/24/94 Date 08.24.94 94114 13.9 15.7 ug/L 08.24.94 94114 45.1 53.0 ug/L 08.24.94 94114 11.1 12.6 ug/L 08.24.94 94114 58.8 66.6 ug/L 08.24.94 94114 753 896 ug/L ed 08.24.94 94114 55.8 49.5 ug/L

BC ANAL:TICAL

ORDER QC REPORT FOR G9408262

DATE REPORTED: 08/29/94

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MATRIX QC ACCURACY (SPIKES) BATCH QC REPORT

	SAMPLE	DATE	BATCH	MS	MSD	TRUE		
PARAMETER	NUMBER	ANALYZED	NUMBER	%	%	RESULT	UNIT	
1. TPH-gas/BTEX (CADHS,	/80 9408262*	1						
Benzene		08.24.94	94114	83	98	15.9	ug/L	
Toluene		08.24.94	94114	64	75	70.5	ug/L	
Ethylbenzene		08.24.94	94114	65	76	15.9	ug/L	
Total Xylene Isomers		08.24.94	94114	110	126	54.0	ug/L	
TPH (as Gasoline)		08.24.94	94114	73	89	1000	ug/L	
a,a,a-Trifluorotolue	ne Reported	08.24.94	94114	NC	NC	50.0	ug/L	NC
a,a,a-Trifluorotolue	ne Theoretic	08.24.94	94114	NC	NC	50.0	ug/L	NC

BC ANALITICAL

ORDER QC REPORT FOR G9408262

DATE REPORTED: 08/29/94

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

0.5	DATE	BATCH	BLANK			
PARAMETER	ANALYZED	NUMBER	RESULT	RDL	UNIT	METHOD
1. TPH-gas/BTEX (CADHS/80 B4081608	*1	.,		NOL.	OHII	FIL THOU
Date Analyzed	08.24.94	94114	08/24/94	NA	Date	8015M.TX
Benzene	08.24.94		0	0.5		
Toluene			•		ug/L	8015M.TX
	08.24.94		0	0.5	ug/L	8015M.TX
Ethylbenzene	08.24.94	94114	0	0.5	ug/L	8015M.TX
Total Xylene Isomers	08.24.94	94114	0	0.5	-	8015M.TX
TPH (as Gasoline)	08.24.94	94114	0	50	•	8015M.TX
a,a,a-Trifluorotoluene Reported	08,24,94	94114	43.6	NA		8015M.TX
a,a,a-Trifluorotoluene Theoretic	00 24 04	0/11/			•	
alala il li moroco mene illentette	00.24.94	94114	50.0	NA	ug/L	8015M.TX

: SURROGATE RECOVERIES :

: BC ANALYTICAL : GLEN LAB : 11:24:48 29 AUG 1994 - P. 1 :

METHOD ANALYTE	ВАТСН	ANALYZED REP	ORTED	TRUE	%REC FLAG
9408262*1					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	45.3	50.0	91
9408262*2					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	52.0	50.0	104
9408262*3					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	39.5	50.0	79
9408262*4					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	43.5	50.0	87
9408262*5					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	51.4	50.0	103
9408262*6					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	45.5	50.0	91
9408262*7					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	50.8	50.0	102

: SURROGATE RECOVERIES :

: BC ANALYTICAL : GLEN LAB : 11:24:48 29 AUG 1994 - P. 1 :

METHOD ANALYTE	ВАТСН	ANALYZED RI	EPORTED	TRUE	%REC FLAG
9408262*1*R1					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	45.3	50.0	91
9408262*1*\$1					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	55.8	50.0	112 NC
9408262*1*S2					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	49.5	50.0	99 NC
9408262*1*T					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	50.0	50.0	100
B4081608*1*MB					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	43.6	50.0	87
C4081944*1*LC				•	,
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	46.3	50.0	93
C4081944*1*LT					
8015M.TXa,a,a-Trifluorotoluene	94114	08/24/94	50.0	50.0	100
C4081945*1*LC					
8015M.TXa,a,a~Trifluorotoluene	94114	08/25/94	70.3	50.0	141 Q
C4081945*1*LT					
8015M.TXa,a,a-Trifluorotoluene	94114	08/25/94	50.0	50.0	100

									BC A	MALICIA	AL (1	74-613-26.
BLAINE	985 TIMOTHY DRIVE SAN JOSE, CA 95133		CC	ONDUCT	ANALYS	IS TO DE	rect		ILAB Mohile Chi	em Laborato	fry	DHS #
FECH SERVICES INC	(408) 995-5535 FAX (408) 293-8773								ALL ANALYSES MUST SET BY CALIFORNIA	MEET SPECIFIC DHS AND	CATIONS AND	DETECTION LIMITS
		- 1							☐ EPA		RWQC	B REGION
CHAIN OF CUSTODY		1				i		-	LIA			
Chent		SF						}	OTHER			
CLIENT Texaco Environmental	l Services	AINE	γ.				}	!	SPECIAL INSTRUCTI			
Location #62488	51450	NO	の取り							•	& Invoid	ce to: mental Service
1127 LINCOLI	U AVE	₹1	4	į		ļ		·			tting Blv nd, CA 94	
ALAMEDA		COMPOSITE									-	Digerness
MAT	RIX CONTAINERS	AP O	J							(510) 2	36-3541	
SOIL		8	I			1				ı	1 1	
SAMPLE '.D. 03	1 1 L	0	<u>}-</u>				1		ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-1		-	•									
J-W-Z-												
MW3 3/22 1540 W) 3	<u>'</u>	X						-1			
14W4) 1340 C	N 3		×						- 2-			
Hos6 1510 4	13		\times			·			-3			
HW7 1650 V	3		X						(/			
	N 3		X						- 23			
	N 2		X						-6			
	23		X						- 7			
SAMPLING DATE TIME SA	MPLING REFORMED BY				11			<u>,</u>	RESULTS NEEDED NO LATER THAN	+>		
SAMPLING DATE TIME SA	<u> </u>		TU		<u>Mo1</u>	tr		7/1	JNO CATERTITION	ROUT	DATE	TIME
RELEASED BY	DAT & 23	E 5 · 9 -	4	TIME		P	VED BY		Laons		8-23	5-94 120
RELEASED BY	DAT			TIME		PEGE	(ED P)	1920	LONGUEX !	by	DATE	5 49 5 35 .
RELEASED BY	DAT	E		TIME		RECÉ!	VED BY		Ida and		DATE	TIME
						7 7/	W		Mark		123-9	''\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
SHIPPED-VIALSELLING LEG	DAT	E SEN	VT	TIME S	ENT	COOLER	₹#					
Minus Citicana	′ ð-	234	- 2/	3								

Well Gauging Data

m	~		on oauging bata		
Project Name:	IEXACO	624881450		Date:	えーファータリ
Denis of Marrie				Date.	0 00 1)
Project Number:	940952-2-	H1		Recorded Ry	1245

Well ID	TOC Elev.	DTB (ft. TOC)	Well Dia. (in.)	DTP (ft.)	DTW	PΤ	Comments
Mw-1		15,91	4	(11.)	<u>(肌)</u> ペイ. ア	(ft.)	
Mw-2			J		7.78 8.08		- DIDN'T DO DTB PER
Mw-3		19.56	Ч		8.32		FRAM. HE DIPN'T WANT
Mw-4		20.15	4		8.48		THE SOUNDER TO SNAG
Mw-5		15.15	4		7.27		
Mw-6 Mw-7		19.54	2		8.17		
MW-8		19.83	2 4	·	7.78		
7900		19.70	7		(1.6)		
		·				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
							
-							
TOC = Top of consi							

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

Project Name (EXX	n 621	Ground BARIL	dwater Sa	ampling I	Form Mu	υ~I			
	322-M			Well Type		Extraction	Other		
	NT		- Sampled by	GRAN	י וטיייוטויין דע	Date		22-94	
		: /*://	WELL PUR						
PURGE VOLUME	155 5 M. (\$25)		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u> </u>	DUDGEA				<u></u>
Well casing diameter					PURGE N				-
2-inch X 4-inch	Other				=	: e			<u> </u>
Well Total Depth (TD, fl. below		15.91	-		Other	<u> </u>			
Depth to Water (WL, ft. below	TOC)	7.78	3		PUMP	INTAKE			
Depth to free phase hydrocart	ons (FP, ft, be	low TOC)		<u> </u>	Near top	Depth (ft)			
Number of well volumes to be 3 10	purged Other			-	Near Bottom	Depth (ft)			
<u> </u>			-		∐Other				
PURGE VOLUME CALC					Pumping Rate		gpm	<u> </u>	
Water Colum	X n Length	Multiplier	_ X	No. Vols	- =	CALCULAT	ED PURC	SE VOLUME	gals
MÜLTIPÜER	(Casing Dia [i	nches] = Gal		Markey (Strangerschauser) Lander (Strangerschauser)] [gals
			= 1.02 6 = 1.5	8 = 2.6	<u> </u>	ACTUAL F	URGE V	OLUME	$\exists \mid$
GROUNDWATER PARAI	METER MEAS		·					•	
Time/Gallons		pН	Cond.	Temp	deg C	Turbidity		Color/Odor	
/			(uomhos/cm)	1	l ldeg F	(NTU)			= ·
1			<u> </u>	1					
1									
1									
							ļ		
		-					- -		
\		· · · · · · · · · · · · · · · · · · ·			1		- -		
Comments during well purge	EXTR	Actio	N SYST	EM DIE	WY ALI	ous A		TO BE	Put INT
Well Pumped dry: YES No			Purge water sto		Drummed on		Other	WE	
	1.3037	er manger egge	WELL SAM	- •	_		No	SAMPLE	= ·
SAMPLING METHOD				1			<u> </u>	SHAPUL.	10K12
Bailer - Type	Deterring	Campica		, Sample port		Other	٦		
GROUNDWATER SAM	PLEPARAME	TER MEAS	HDEMENTS	Meter Type		Other	.J		
Date/Time/% Recharge		pH	Cond.	Temp	deg C	T 1.25a		0.1.70	
Data Timo & Necheige		pri	(uomhos/cm)	remp	deg C	Turbidity (NTU)		Color/Odor	
1	1								
SAMPLING PROGRAM	·.								_
Sample No.	Container	#/Volume	Analysis	Preservatives	Labo	ratory	<u> </u>	Comments	
									$\exists 1$
							+		
				<u> </u>			 		\dashv
							+		$\dashv \parallel$
	·								7
QUALITY CONTROL SA	MPLES								
Duplicat	e Samples			,			Samples		_
Original Sample No.	D	uplicate Sam	ple No.			ype		Sample No.	⊒
						Trip	 		
<u> </u>			· · · · · · · · · · · · · · · · · · ·			nsale Insfer	 		
				,	Other:	nisiei	 		
				!	J., 7.,				→ 🛚

ojecl Name DOCACO	6248814	<u>5</u> 0	Well No.		HW-2		
oject Number <u>9408</u>	1M-556		Well Type	Monitor	Extraction	Other	
		Sampled by	<u>GRA</u>		Date	8-22-9	4
		WELL PUI		opación de aproperation de la company de	Satisfier (1900) per antice e i i segui Administrativo e i i i i i i i i i i i i i i i i i i	90 - 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
PURGE VOLUME					METHOD		0000000.2
ell casing diameter							-
2-inch X 4-inch	Other				уре		
ell Total Depth (TD, ft. below	<u> </u>			Other	, pe		
pth to Water (WL, it. below?		<u>ව</u>			PINTAKE		
pth to free phase hydrocarbo			7	Near top	Depth (ft)		
imber of well volumes to be p	urged		2)		om Depth (ft)		
3 [] 10	Other	-		Other			
PURGE VOLUME CALCU	LATION			Pumping Ra	ate	gpm	
	x	×		Ħ			gals
Water Column	Length Multiplier		No. Vols	-	CALCULATE	D PURGE VOLUME	90.0
MÜLTIPLIER ((Casing Dia [inches] = G	allons/linear ft)	Propries in the Control of the Contr				gals
	38 4 = 0.66 4.5 = 0.83		18 = 2.6]	ACTUAL P	URGE VOLUME	<u> </u>
GROUNDWATER PARAM	ETER MEASUREMEN	T Meter Type			_		
Time/Gallons	pH	Cond.	Temp	deg C	Turbidity	Color/Odor	
		(uomhos/cm)	<u> </u>	deg F	(NTU)		
		<u> </u>	1				
						<u> </u>	
					 		
1		<u> </u>				· · · · · · · · · · · · · · · · · · ·	
			İ		· · · · · · · · · · · · · · · · · · ·	 	
/ / /							
/ / Comments during well purge	EXTRACTION	system	DESUT.	suw	journ To	BE POUT 1	אנוע
/ / Comments during well purge Vell Pumped dry: YES NO		SYSTEM Purge water sto		ALLW Drummed			
Vell Pumped dry: YES NO		Purge water sto	rage/disposal	Drummed		SBE OUT 1	
Vell Pumped dry: YES NO	t Desire de la companya de la compa Proposition de la companya de la co	Purge water sto	rage/disposal	Drummed			
Vell Pumped dry: YES NO	Control of the second of the s	Purge water sto	rage/disposal MPLING	Drummed	onsite [
Vell Pumped dry: YES NO SAMPLING METHOD	Date/Time Sampled	Purge water sto	rage/disposal NPLING / Sample port	Drummed			
Vell Pumped dry: YES NO SAMPLING METHOD ailer - Type GROUNDWATER SAMP	Date/Time Sampled	Purge water sto WELL SAN	rage/disposal PLING / Sample port Meter Type	Drummed	onsite [Other WO SAM	
Vell Pumped dry: YES NO SAMPLING METHOD	Date/Time Sampled	Purge water sto WELL SAN SUREMENTS Cond.	rage/disposal NPLING / Sample port	Drummed	Other Turbidity		
Vell Pumped dry: YES NO SAMPLING METHOD ailer - Type GROUNDWATER SAMP	Date/Time Sampled	Purge water sto WELL SAN	rage/disposal PLING / Sample port Meter Type	Drummed	onsite [Other WO SAM	
SAMPLING METHOD: ailer - Type GROUNDWATER SAMP Date/Time/% Recharge	Date/Time Sampled LE PARAMETER MEA	Purge water sto WELL SAN SUREMENTS Cond.	rage/disposal PLING / Sample port Meter Type	Drummed	Other Turbidity	Other WO SAM	
SAMPLING METHOD ailer - Type GROUNDWATER SAMP Date/Time/% Recharge	Date/Time Sampled LE PARAMETER MEA	Purge water sto WELL SAN SUREMENTS Cond.	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU)	Other WO SAW	
Vell Pumped dry: YES NO SAMPLING METHOD: ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM	Date/Time Sampled LE PARAMETER MEA	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm)	rage/disposal PLING / Sample port Meter Type	Drummed	Other Turbidity	Other WO SAM	
Vell Pumped dry: YES NO SAMPLING METHOD: ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM	Date/Time Sampled LE PARAMETER MEA	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm)	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU)	Other WO SAW	
Vell Pumped dry: YES NO SAMPLING METHOD: ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM	Date/Time Sampled LE PARAMETER MEA	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm)	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU)	Other WO SAW	
Vell Pumped dry: YES NO SAMPLING METHOD: ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM	Date/Time Sampled LE PARAMETER MEA	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm)	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU)	Other WO SAW	
Vell Pumped dry: YES NO SAMPLING METHOD: ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM	Date/Time Sampled LE PARAMETER MEA	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm)	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU)	Other WO SAW	
Vell Pumped dry: YES NO SAMPLING METHOD: ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM	Date/Time Sampled LE PARAMETER MEA	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm)	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU)	Other WO SAW	
SAMPLING METHOD ailer · Type GRÖUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM Sample No.	Date/Time Sampled LE PARAMETER MEA PH / Container #/Volume	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm)	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU)	Other WO SAW	
Vell Pumped dry: YES NO SAMPLING METHOD: ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM	Date/Time Sampled LE PARAMETER MEA PH / Container #/Volume	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm)	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU)	Other WO SAW	
SAMPLING METHOD ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM Sample No. QUALITY CONTROL SAM Duplicate	Date/Time Sampled LE PARAMETER MEA PH Container #/Volume PLES Samples	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm) Analysis	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other [Turbidity (NTU)	Other WO SAW	
SAMPLING METHOD ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM Sample No.	Date/Time Sampled LE PARAMETER MEA PH Container #/Volume PLES	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm) Analysis	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU) Doratory Blank Type	Color/Odor Comments	
SAMPLING METHOD ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM Sample No. QUALITY CONTROL SAM Duplicate	Date/Time Sampled LE PARAMETER MEA PH Container #/Volume PLES Samples	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm) Analysis	rage/disposal PLING / Sample port Meter Type Temp	Drummed	Other Turbidity (NTU) Doratory Blank Type Trip	Color/Odor Comments Samples	
SAMPLING METHOD ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM Sample No. QUALITY CONTROL SAM Duplicate	Date/Time Sampled LE PARAMETER MEA PH Container #/Volume PLES Samples	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm) Analysis	rage/disposal PLING / Sample port Meter Type Temp	Drummed deg C deg F Lat	Other Turbidity (NTU) Dorafory Blank Type Trip Rinsate	Color/Odor Comments Samples	
SAMPLING METHOD ailer - Type GROUNDWATER SAMP Date/Time/% Recharge / SAMPLING PROGRAM Sample No. QUALITY CONTROL SAM Duplicate	Date/Time Sampled LE PARAMETER MEA PH Container #/Volume PLES Samples	Purge water sto WELL SAN SUREMENTS Cond. (uomhes/cm) Analysis	rage/disposal PLING / Sample port Meter Type Temp	Drummed deg C deg F Lat	Other Turbidity (NTU) Doratory Blank Type Trip	Color/Odor Comments Samples	

Project Name TEXACO 62	Groun ५७८६५८	dwater S	ampling Well No.	Form	W-3	
Project Number 940822-1			Well Type	-	Extraction	Other
Recorded By GRANT		Sampled by	GRAN) I ()	Date	B-2Z-94
	Spyrika West					
PURGE VOLUME	<u> </u>	··· VALLE A O	YOUV			
Well casing diameter					METHOD	
2-inch 4-inch Othe	•			Bailer - Ty		
Well Total Depth (TD, ft. below TOC)	14.51	-		Other	pe ELEC	<u> 506</u>
Depth to Water (WL, ft. below TOC)	18.3	2			P.INTAKE*	
Depth to free phase hydrocarbons (FP, f	. below TOC)		7	Near top	Depth (ft)	
Number of well volumes to be purged			크	Near Botto	om Depth (ft)	
3		- 19		Other		
PURGE VOLUME CALCULATION	iy. 1 [(- (2	Pumping Ra	te	gpm
11.24 x	<u> </u>	_ x		_ =		oa oa
Water Column Length	Multiplier		Nø. Vols	_	CALCULATE	D PURGE VOLUME
MULTIPLIER (Casing D	ia.[inches] = Ga	llons/linear ft)	Probably representation	:R -⊈	24	
2 = 0.17 3 = 0.38 4 = 0.			18 = 2.6		ACTUAL PI	URGE VOLUME
GROUNDWATER PARAMETER MI						
Time/Gallons	pН	Cond. (uomhos/cm)	Temp	deg C ⊠deg F	Turbidity	Color/Odor
1522 18.0	7.1	1560	74.0	12 loed i	1 (NTU)	
1520 1 16.0	7.0	600	74.2		1/1.0	
1535 124.0	7.1	1 580	74.6	>	40.60	
/		<u> </u>				
						
			 			
,		 	! !		 	· · · · · · · · · · · · · · · · · · ·
Comments during well purge	<u></u> .	<u> </u>	<u></u>		!	1
Well Pumped dry: YES NO		Purge water sto	rane/disposal	Drummed o	neile II	Other BTS
	The second section of the second				Susife O	Tottlet DID
SAMPLING METHOD Date/T		1540	, 0/w	THE STATE OF THE STATE OF		
Bailer - Type	inte Sampled	1)10	•	_	. –	,
GROUNDWATER SAMPLE PARA	METER MEAG	-	Sample port	- 16:15	Other [<u> </u>
Date/Time/% Recharge			Meter Type			•
Date fille & Recharge	рĤ	Cond. (uomhos/cm)	Temp	deg C deg F	Turbidity (NTU)	Color/Odor
1				I_lucy i	(((())	
SAMPLING PROGRAM				·	-1	
Sample No. Contai	ner#/Volume	Analysis	Preservatives	Lab	oratory	Comments
						Comments
	· · · · · · · · · · · · · · · · · · ·					
QUALITY CONTROL SAMPLES	·· · · · · · · · · · · · · · · · · · ·			·		
Duplicate Samples					fact. 4 d	
Original Sample No.	Duplicate Sam	ple No.			Blank S Type	Samples Sample No.
					Trip	Cerriple NO.
	<u></u>			R	insale	
					ransfer	
				Other;		

Project Number 440872 - M 1 Recorded By GRANT Sampled by GRANT Date WELL PURGING PURGE VOLUME Well casing diameter 2-inch 4-inch Other Well Total Depth (TD, ft. below TOC) 20.15 Depth to Water (WL, ft. below TOC) 9.46 Depth to free phase hydrocarbons (FP, ft. below TOC) Number of well volumes to be purged 3	Project Name TEXA Co 624	1001456	dwater Sa	ampling	Form HL	U-4		
Recorded By GPANT Sampled by GPANT Date WELL PURGING WELL PURGING WELL PURGING WELL PURGING PURGE METHOD Date Type Well Total Depth (10, ft. below TOC) Depth is Water Civit. ft. below ToC)	Project Number 440872 - 1	41					Torbon	—
PURGEVOLUME WELL PURGING WELL PURGING WELL PURGING Well rolat Day Entholot Color Color	Recorded By GRANT		Sampled by					
PURGE VOLUME Well cashing diagneter 2-inch 4-inch Other 2-inch 4-inch 0-inch 4-inch Other 2-inch 4-inch 0-inch 4-inch 0-inch 2-inch 4-inch 0-inch 0-inch 3-inch 0-inch 0-inch								100100000
Well cashing diameter 2-inch			<u> </u>	The state of the s				
Well Total Depth (Tro. In below TOC) 20-15 Other	Well casing diameter							•
Well fold Depth (TO, B. below TOC) Seph to Water (XV, 1, below TOC) Seph to Syster (XV, 1, below TOC) Purple Syster (XV, 1, below TOC) Purple Syster (XV, 1, below TOC) Water Column Length Multiplier (XV, 1, below TOC) Water Column Length Water Type Multiplier (XV, 1, below TOC) Water Column Length Water Column Length Water Type Water Column Length	[L]		_				: 3/16	
Depth to fire phase bytiocathoos (FP. It below TOC)	-							
Near Bottom Deph (n) Dotter Deph (n) Dotter Deph (n)			<u> </u>	ন	PUMP	INTAKE		
Other	Number of well volumes to be purged	below TOC))]			·····	
Pumping Rate gpm gal gpm g	[N] 3 ☐ 10 ☐ Other		- 1.4			1 Deput (ii) _		
Water Column Length Water Column Length MULTIPLIER (Creining Dis [inchest] = Calions/filinear rt) 2 = 0.173 = 0.38 4 = 0.66 4.5 = 0.83 5 = 1.02 6 = 1.5 8 = 2.6 GROUNDWATER PARAMETER MEASUREMENT Metter Type Time/Gallions PH Cond. (Normhos/cm) 1320 / 7.0 1.14 7.50 74.4 18.2.6 1320 / 7.0 1.0 1.0 1.5 170.1	PURGE VOLUME CALCULATION	1.10	(2) -	~	Pumping Rate	· g	pm	
Water Column Length Multiplier No. Vols Multiplier No. Vols Multiplier Casing Dis Inches Eablosatinear ft) 2 = 0.17j3 = 0.38 4 = 0.66 4.5 = 0.83 5 = 1.02 6 = 1.5 6 = 2.6 Months M		$-\varphi \varphi$	_ x	_ろ	= [· · · · · · · · · · · · · · · · · · ·	nale
Comments during well purge Well Pumped dry: YES NO				-	_ [, ve. 5
GROUNDWATER PARAMETER MEASUREMENT Time/Gallons pH	MULTIPLIER (Casing Di	a [inches] = Ga	llons/linear ft)] [21.	0	gals
Time/Gallons				8 = 2.6	. [ACTUAL PU	RGE VOLUME	
Control Cont				*				
1325		hu		Temp	deg C		Color/Odor	
1225			T					\dashv
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Well Pumped dry: YES (NO) Purge water storage/disposal Drummed onsite WELL SAMPLING SAMPLING METHOD Date/Time Sampled Bailer - Type (1) 5/19 Sample port Date/Time Sampled GROUNDWATER SAMPLE PARAMETER MEASUREMENTS Date/Time/% Recharge pH Cond. Temp deg C Turbidity (NTU) SAMPLING PROGRAM Sample No. Container #/Volume Analysis Preservatives Laboratory Comments Sample No. Container #/Volume Analysis Preservatives Laboratory Comments QUALITY CONTROL SAMPLES Duplicate Samples Original Sample No. Duplicate Sample No. Duplicate Sample No. Duplicate Sample No. Type Sample No. Trip Rinsate Transfer	1330 1 61 0	17.5	1 450	76.2		10.1		
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SAMPLING METHOD Date/Time Sampled Sample port Sample port GROUNDWATER SAMPLE PARAMETER MEASUREMENTS Meter Type WDAC Date/Time/% Recharge pH					_	site 🗴	Other 1513	
Bailer - Type GROUNDWATER SAMPLE PARAMETER MEASUREMENTS Meter Type HYDAL Date/Time/% Recharge pH Cond. Temp deg C Turbidity Color/Odor (NTU) SAMPLING PROGRAM. Sample No. Container #/Volume Analysis Preservatives Laboratory Comments Sample No. Container #/Volume Analysis Preservatives Laboratory Comments OUALITY CONTROL SAMPLES Duplicate Samples Original Sample No. Duplicate Sample No. Type Sample No. Trip Rinsate Transfer	A SA E STANDARD AND A PROGRAMMEN CONTRACTOR						1	
GRÖUNDWATER SAMPLE PARAMETER MEASUREMENTS Date/Time/% Recharge pH	A	ne Sampled	- 9/12 1	1340				_
Date/Time/% Recharge pH Cond. (uomhos/cm) Temp deg C Turbidity (NTU) / /			(Other [
(uomhos/cm) deq F (NTU)				Meter Type	HYDAL			
Sample No. Container #/Volume Analysis Preservatives Laboratory Comments	Date/Time/% Recharge	РН	1	Temp			Color/Odor	_
Sample No. Container #/Volume Analysis Preservatives Laboratory Comments		<u> </u>	(bomnos/cm) 1	<u></u>	Jdeg F	(UTV)		_
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QUALITY CONTROL SAMPLES Duplicate Samples Original Sample No. Duplicate Sample No. Trip Rinsate Transfer	Sample No. Contain	er#/Volume	Analysis	Preservatives T	Labor	atoni	Commente	
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Duplicate Samples Original Sample No. Duplicate Sample No. Type Sample No. Trip Rinsate Transfer								
Original Sample No. Duplicate Sample No. Type Sample No. Trip Rinsate Transfer	QUALITY CONTROL SAMPLES				<u> </u>	<u></u>		ا لــ
Trip Rinsate Transfer						Rlank S:	amalaa	
Trip Rinsate Transfer	Original Sample No.	Duplicale Samp	ole No.		Ту			-]
Transfer				-]
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Project Name DIACO 6	ケー ししししい コ	\cup			IW-5	
Project Number 94 0827	Groun 2488145 L- 14 1		Well Type		Extraction	Other
Recorded By GRANT		Sampled by		ī	Date	8-22-94
PURGE VOLUME	-2°	<u> </u>	<u> </u>	DUDGE		
Well casing diameter					METHOD	
] 2-inch [4-inch C	Other			Pump - Ty	pe	
Vell Total Depth (TD, ft. below TOC				Other		
Depth to Water (WL, ft. below TOC)		-			INTAKE	
Pepth to free phase hydrocarbons (F	P. ft. below TOC))	Near top	Depth (ft)	
lumber of well volumes to be purged			٠	Near Botto	m Depth (ft)	
·	Other	_		Other		
PURGE VOLUME CALCULATION	ON #1			Pumping Rat	le	gpm
Water Column Leng	X th Multiplier	_ x	No. Vols	_ =	CALCULATE	gals ED PURGE VOLUME
MULTIPLIER (Casin	ng Dia.[inches] = Ga	llons/linear fl)	in kepinggang melalinggan. Terlih di anggan]		gals
2 = 0.17 3 = 0.38 4	= 0.66 4.5 = 0.83 5	5 = 1.02 6 = 1.5	8 = 2.6]	ACTUAL F	URGE VOLUME
GROUNDWATER PARAMETER	R MEASUREMENT	Meter Type				
Time/Gallons	рН	Cond.	Temp	deg C	Turbidity	Color/Odor
,		(uomhos/cm)	· · · · · · · · · · · · · · · · · · ·	deg F	(NTU)	
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	24-11) 6					
/ / / / Comments during well purge	NEATION SY		ZUT NU		wp 70	BE BUT WID C
Well Pumped dry: YES NO		Purge water stor	age/disposal	Drummed o		BE BUT INTO CO JOTHER NO SAMALE
Well Pumped dry: YES NO			age/disposal	Drummed o		
Well Pumped dry: YES NO	en jaron da	Purge water stor	age/disposal	Drummed o		
Well Pumped dry: YES NO SAMPLING METHOD Da	en jaron da	Purge water stor	age/disposal PLING	Drummed o		
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type	1e/Time Sampled	Purge water stor	age/disposal PLING / Sample port	Drummed c	onsite [
Well Pumped dry: YES NO SAMPLING METHOD: Da	1e/Time Sampled	Purge water stor	age/disposal PLING / Sample port Meter Type	Drummed c	onsite [Other NO SAURUS
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P.	de/Time Sampled	Purge water stor WELL SAM	age/disposal PLING / Sample port	Drummed c	onsite [
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge	de/Time Sampled	Purge water stor WELL SAM BUREMENTS Cond.	age/disposal PLING / Sample port Meter Type	Drummed c	Other [Other NO SAURUS
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GRÖUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM:	de/Time Sampled	Purge water stor WELL SAM BUREMENTS Cond.	age/disposal PLING / Sample port Meter Type	Drummed c	Other [Other NO SAURUS
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / / SAMPLING PROGRAM	de/Time Sampled	Purge water stor WELL SAM BUREMENTS Cond.	age/disposal PLING / Sample port Meter Type	Drummed c	Other [Other NO SAURUS
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / / SAMPLING PROGRAM	ARAMETER MEAS	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm)	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU)	Other NO SMURL
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM	ARAMETER MEAS	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm)	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU)	Other NO SMURL
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM	ARAMETER MEAS	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm)	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU)	Other NO SMURL
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM	ARAMETER MEAS	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm)	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU)	Other NO SMURL
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / / SAMPLING PROGRAM	ARAMETER MEAS	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm)	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU)	Other NO SMURL
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM	ARAMETER MEAS	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm)	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU)	Other NO SMURL
Well Pumped dry: YES NO SAMPLING METHOD: Da Bailer - Type GRÖUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM	ARAMETER MEAS PH Ontainer #/Volume	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm)	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU)	Other NO SMURL
SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM Sample No. Co	ARAMETER MEAS PH ontainer #/Volume	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm)	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU) oratory	Other NO SMALE Color/Odor Comments
SAMPLING METHOD Da Bailer - Type GRÖUNDWATER SAMPLE P Date/Time/% Recharge / / SAMPLING PROGRAM Sample No. Co	ARAMETER MEAS PH ontainer #/Volume	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm) Analysis	age/disposal PLING / Sample port Meter Type Temp	Drummed o	Other [Turbidity (NTU) oratory	Other NO SMALE Color/Odor Comments Samples
SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM Sample No. Co	ARAMETER MEAS PH ontainer #/Volume Soles	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm) Analysis	age/disposal PLING / Sample port Meter Type Temp	Drummed o	Other [Turbidity (NTU) oratory	Other NO SMALE Color/Odor Comments
SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM Sample No. Co	ARAMETER MEAS PH ontainer #/Volume Soles	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm) Analysis	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU) oratory Blank	Other NO SMALE Color/Odor Comments Samples
SAMPLING METHOD: Da Bailer - Type GROUNDWATER SAMPLE P. Date/Time/% Recharge / / SAMPLING PROGRAM Sample No. Co	ARAMETER MEAS PH ontainer #/Volume Soles	Purge water stor WELL SAM BUREMENTS Cond. (uomhos/cm) Analysis	age/disposal PLING / Sample port Meter Type Temp	Drummed c	Other [Turbidity (NTU) oratory Blank Type Trip	Other NO SMALE Color/Odor Comments Samples

Project Name TEXAC	0 624	188149	dwater S	Well No.	И	w-6	
Project Number 9409	322-1	u _i	F.O.	Well Type		Extraction	Other
Recorded By	ant		_ Sampled by	GRAN	57	Date	8-22-94
						egeser nere gustreren iv. 1888 1886 - Francis Laudens	
PURGE VOLUME	-	· · · · · · · · · · · · · · · · · · ·	<u> </u>	·		METHOD	
Well casing diameter						se 551	
-	Other		_			pe	
Well Total Depth (TD, ft. belo	w TOC)	19.54	- ··		Other		
Depth to Water (WL, ft. below		217	·	_	PUMF	INTAKE	
Depth to free phase hydrocart	ons (FP, ft.	below TOC)]		Depth (ft) m Depth (ft)	
Number of well volumes to be	Other		4		Near Botton	m Depth (ft)	
PURGE VOLUME CALC			- 2.2		<u> </u>		
		17		2	Pumping Rat	e	gpm
11.0 1	<u>X</u>	* (!	_ X		_ =	6.	6
Water Colum		Multiplier		No. Vols	-	CALCULAT	ED PURGE VOLUME
MULTIPLIER	(Casing Dia	[inches] = Gal	lons/linear ft)	Proprincipal service de la company de la La company de la company d			U
			= 1.02 6 = 1.5	8 = 2.6	j	ACTUAL	PURGE VOLUME
GROUNDWATER PARAI	METER MEA	ASUREMENT	Meter Type			-	
Time/Gallons		pН	Cond.	Temp	deg C	Turbidity	Color/Odor
1452 / 3	<u> </u>		(uomhos/cm)		l deg F	(NTU)	
1454 15	.0	1.0	الع الع	120		7750	
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/ / / / Comments during well purge	\sim $-$						
	\sim $-$		Purge water sto	rage/disposal	Drummed o	nsite	Kother BTS
/ / / / Comments during well purge	\sim $-$					nsite	Nother BT3
/ / / Comments during well purge Well Pumped dry: YES	9		WELL SAM			nsite	Other BTS
Comments during well purge Well Pumped dry: YES	Date/Tin	ne Sampled		PLING	ween in the		Other BTS
Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type	Date/Tin	ne Sampled	WELL SAN	PLING / 15 10 Sample port		Other	Nother BT3
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM	Date/Tin 55B IPLE PARAM	ne Sampled	WELL SAN	IPLING® 1 15 10 Sample port Meter Type	HADVC	Other [
Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type	Date/Tin 55B IPLE PARAM	ne Sampled	WELL SAN	PLING / 15 10 Sample port	HYDA C	Other	Other & TS
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GRÖUNDWATER SAM	Date/Tin 55B IPLE PARAM	ne Sampled	WELL SAN	IPLING® 1 15 10 Sample port Meter Type	HADVC	Other [
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GRÖUNDWATER SAM	Date/Tin 55B IPLE PARAL	ne Sampled	WELL SAN	PLING 1510 Sample port Meter Type	HYDA C	Other	
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM	Date/Tin 55 B IPLE PARAM	ne Sampled METER MEAS pH	WELL SAN	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU)	Color/Odor
Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge	Date/Tin 55 B IPLE PARAM	ne Sampled	WELL SAN	PLING 1510 Sample port Meter Type	HYDA (deg C deg F	Other	
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM	Date/Tin 55 B IPLE PARAM	ne Sampled METER MEAS pH	WELL SAN	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU)	Color/Odor
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM	Date/Tin 55 B IPLE PARAM	ne Sampled METER MEAS pH	WELL SAN	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU)	Color/Odor
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM	Date/Tin 55 B IPLE PARAM	ne Sampled METER MEAS pH	WELL SAN	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU)	Color/Odor
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM	Date/Tin 55 B IPLE PARAM	ne Sampled METER MEAS pH	WELL SAN	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU)	Color/Odor
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GRÖUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM	Date/Tin 55 B IPLE PARAM	ne Sampled METER MEAS pH	WELL SAN	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU)	Color/Odor
Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM Sample No.	Date/Tin 25 B PLE PARAL	ne Sampled METER MEAS pH	WELL SAN	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU)	Color/Odor
/ // // Comments during well purge Well Pumped dry: YES SAMPLING METHOD Bailer - Type GRÖUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM	Date/Tin 25 B PLE PARAL	ne Sampled METER MEAS pH	WELL SAN	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU)	Color/Odor
Comments during well purge Well Pumped dry: YES Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM Sample No. QUALITY CONTROL SA Duplicat	Date/Tim 55 B IPLE PARAM Contains MPLES e Samples	METER MEAS pH er #/Volume	WELL SAM G 126 UREMENTS Cond. (uomhos/cm) Analysis	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU)	Color/Odor
Comments during well purge Well Pumped dry: YES Well Pumped dry: YES SAMPLING METHOD Bailer - Type GRÖUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM Sample No.	Date/Tim 55 B IPLE PARAM Contains MPLES e Samples	ne Sampled METER MEAS pH	WELL SAM G 126 UREMENTS Cond. (uomhos/cm) Analysis	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU) Dratory Blank	Color/Odor Comments
Comments during well purge Well Pumped dry: YES Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM Sample No. QUALITY CONTROL SA Duplicat	Date/Tim 55 B IPLE PARAM Contains MPLES e Samples	METER MEAS pH er #/Volume	WELL SAM G 126 UREMENTS Cond. (uomhos/cm) Analysis	PLING / 1510 Sample port Meter Type Temp	HYDA (deg C deg F	Other Turbidity (NTU) pratory Blank Type Trip	Color/Odor Comments Samples
Comments during well purge Well Pumped dry: YES Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM Sample No. QUALITY CONTROL SA Duplicat	Date/Tim 55 B IPLE PARAM Contains MPLES e Samples	METER MEAS pH er #/Volume	WELL SAM G 126 UREMENTS Cond. (uomhos/cm) Analysis	PLING / 1510 Sample port Meter Type Temp	HYDA C deg C deg F	Other Turbidity (NTU) pratory Blank Type Trip nsate	Color/Odor Comments Samples
Comments during well purge Well Pumped dry: YES Well Pumped dry: YES SAMPLING METHOD Bailer - Type GROUNDWATER SAM Date/Time/% Recharge / SAMPLING PROGRAM Sample No. QUALITY CONTROL SA Duplicat	Date/Tim 55 B IPLE PARAM Contains MPLES e Samples	METER MEAS pH er #/Volume	WELL SAM G 126 UREMENTS Cond. (uomhos/cm) Analysis	PLING / 1510 Sample port Meter Type Temp	HYDA C deg C deg F	Other Turbidity (NTU) pratory Blank Type Trip	Color/Odor Comments Samples

Groundwater Sampling Form
TEXALO 624861450 Well No. P HW-7 940822-MI Project Number Well Type Monitor Extraction Other GRANT GRANT Recorded By Sampled by 8-22-94 WELL PURGING PURGE VOLUME PURGE METHOD Well casing diameter Bailer - Type SSS 2-inch 4-inch Other Pump - Type Well Total Depth (TD, ft. below TOC) Other Depth to Water (WL, ft. below TOC) PUMP INTAKE Number of well volumes to be purged

3 10 Depth to free phase hydrocarbons (FP, ft. below TOC) Near top Depth (ft) Near Bottom Depth (ft) Other Other PURGE VOLUME CALCULATION Pumping Rate gals CALCULATED PURGE VOLUME MULTIPLIER (Casing Dia [inches] = Gallons/linear ft) gals 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 GROUNDWATER PARAMETER MEASUREMENT Meter Type Time/Gallons Cond Temp deg C Turbidity Color/Odor (uomhos/cm) deg F (NTU) 1775 HARKED S WELL 1230 320 100 1530 7200 1500 7 2000 Comments during well purge Well Pumped dry: YES NO Purge water storage/disposal Drummed onsite Other WELL SAMPLING SAMPLING METHOD 8.221 Date/Time Sampled Bailer - Type 🞵 (65) Sample port Other GROUNDWATER SAMPLE PARAMETER MEASUREMENTS Meter Type Dale/Time/% Recharge Cond. Temp deg C Turbidity Color/Odor uomhos/cm) deg F (NTU) SAMPLING PROGRAM Sample No. Container #/Volume Analysis Preservatives Laboratory Comments QUALITY CONTROL SAMPLES Duplicate Samples Blank Samples Original Sample No. Duplicate Sample No. Түре Sample No. Trip Rinsate Transfer Other:

Project Name TEXACO 62	Groun 4 88144	idwater S 50	ampling	Form	MW-8	
Project Number 940822 -	MI		Well Type			Other
Recorded By GRANT		— Sampled by	• •	7	Date	8-22-94
		WELL PU			-	
PURGE VOLUME			<u></u>	DUDGE	METHOD	
Well casing diameter				Bailer - Ty		
2-inch 4-inch Other					pe ELEC	: 5UB
Well Total Depth (TD, ft. below TOC)	19.70	→		Other		· ; _ J(412 ,
Depth to Water (WL, ft. below TOC)	<u>: ما ۱۰</u>	<u> </u>	_	PUM	PINTAKE	
Depth to free phase hydrocarbons (FP, ft, Number of well volumes to be purged	below TOC)			Near top	Depth (ft)	
3 ☐ 10 ☐ Other		2. J		Near Botto	om Depth (ft)	
PURGE VOLUME CALCULATION	· · · ·	- 64	_	Pumping Ra	te .	
12 07 x	كاكا .	x	3	-		gpm nak
Water Column Length	Multiplier	_ ^	No. Vols	- -		D PURGE VOLUME
MULTIPLIER (Casing Di	a.[inches] = Ga	illons/linear fl)			27	
2 = 0.17 3 = 0.38 4 = 0.6	6 4.5 = 0.83	5 = 1.02 6 = 1.5	8 = 2.6	j	ACTUAL P	, O gals URGE VOLUME
GROUNDWATER PARAMETER ME	ASUREMENT	Meter Type				
Time/Gatlons	рН	Cond.	Temp	deg C	Turbidity	Color/Odor
11-06 1 9.0	9.4	(uomhos/cm)	। नम्	deg F	(NTU)	
1404 118,0	6.8	100	71.7		915	<u> </u>
1412 127.0	6.8	640	695		142.5	
1						
/	ļ		 -			
/	<u> </u>	1			<u> </u>	
'						
Comments during well purge		1			1	l
Well Pumped dry: YES (NO)		Purge water stor	ane/disposal	Drummed o	noite I	May AT
	en i Never generalijaan				nisite 18	Other BTS
	ne Sampled	4.11.	11/1/1/	51564 T		
Bailer - Type	oumpies	000	Sample and		F	
GROUNDWATER SAMPLE PARA	METER MEAS	- CUREMENTS	Sample port Meter Type	\Box	Other _	
Date/Time/% Recharge	рН	Cond.	Temp	HYDA		
		(uomhos/cm)	Temp	deg C	Turbidity (NTU)	Color/Odor
1 1	<u> </u>					
SAMPLING PROGRAM						
Sample No. Contain	er #∕Volume	Analysis	Preservatives	Labo	oratory	Comments
						
				 		
						
QUALITY CONTROL SAMPLES						
Duplicate Samples Original Sample No.	Duplicale Sam	nle No	-		Blank S	Samples
	Dupliquie Gail	pie IYU,	ŀ		Trip T	Sample No.
			ŀ		nsate	24
			ŀ		ansier .	
				Other:		

SOURCE RECORD BILL OF LADING

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

Contractor: Blaine Tech Sences

Address: 985 Timoth, on

City, State, ZIP: San Total CA 95733

Phone: 408 985-5535

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

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

AVE

TEXACO #: 624881450
Address: 77 1127 LINCOLN

City, State, ZIP: ALAMEDA

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MW-11		_		
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MW-8,	87	_		
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Total gals.	87	• •	added rinse water	15
Total Gals. Recovered	102	-	water _	
Job #:	94082	2-1	<u> </u>	
Date	95-22	-9L	1	
Time	1700			
Signature: _	4+	D		
REC'D AT:	Brs			
Date:	8-7-2-	- 역내		
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Mell I D

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Mell I D

Gals

QUARTERLY SUMMARY REPORT Former Texaco Service Station 1127 Lincoln Avenue, Alameda, California Alameda County Second 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. The vapor extraction system was modified from internal combustion engine to carbon abatement. The groundwater treatment system was cleaned and serviced.

CHARACTERIZATION STATUS

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

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. Resume operation and maintenance of the groundwater and soil vapor treatment systems.

COMPANY CONTACT: Karen Petryna (510) 236-9134

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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. 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.

<u>The Date Taken.</u> 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.

<u>Designated Area.</u> 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.