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ALCO
HAZMAT

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Texaco Refining
and Marketing Inc.

105 Oakland Blvd
Richmond CA 94801

March 3, 1994

ENV - STUDIES, SURVEYS, & REPORTS
930 Springtown Blvd., Livermore, California

Ms. Eva Chu
Alameda County Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94612

Dear Ms. Chu:

This letter presents the results of groundwater monitoring and sampling conducted by Blaine Tech Services, Inc. on January 24, 1994, at the site referenced above (See Plate 1, Site Vicinity Map). Based on groundwater elevation measurements, the hydraulic gradient was determined to be approximately 0.004 and the general flow direction to be north (See Plate 2, Groundwater Gradient Map). The gradient map has been reviewed by a registered professional. TPHg and benzene concentrations are shown on Plate 3. Tables 1 and 2 list historical groundwater monitoring data and analytical results, respectively.

The certified analytical report, chain-of-custody, field data sheets, and bill of lading are in the Appendix along with Blaine Tech Services' Field Procedures and Protocols Summary.

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.

If you have any questions or comments regarding this report, please call Rebecca Digerness at (510) 236-0479.

Best Regards,

Rebecca Digerness
Environmental Technician

Karen E. Petryna
Engineer
Texaco Environmental Services

RBD:hs
C:\QMR\930S\1Q94QMR.LET

Enclosures

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

PR:

4/6/94 left msg for K. Petryna to call to see when RAP will be implemented - Past due.

4/7/94 - K.P. says having problem getting permits, but hope to have everything ready for installation of remediation system by 4/15/94

5/24/94 still trying to get electrical permit from City of Livermore,
Roy Anderson, Bldg. 373-5180
Ken Craig

7/12/94 - Got building permit. Installing system now. Should be up + running in 2 weeks

GROUNDWATER MONITORING AND SAMPLING

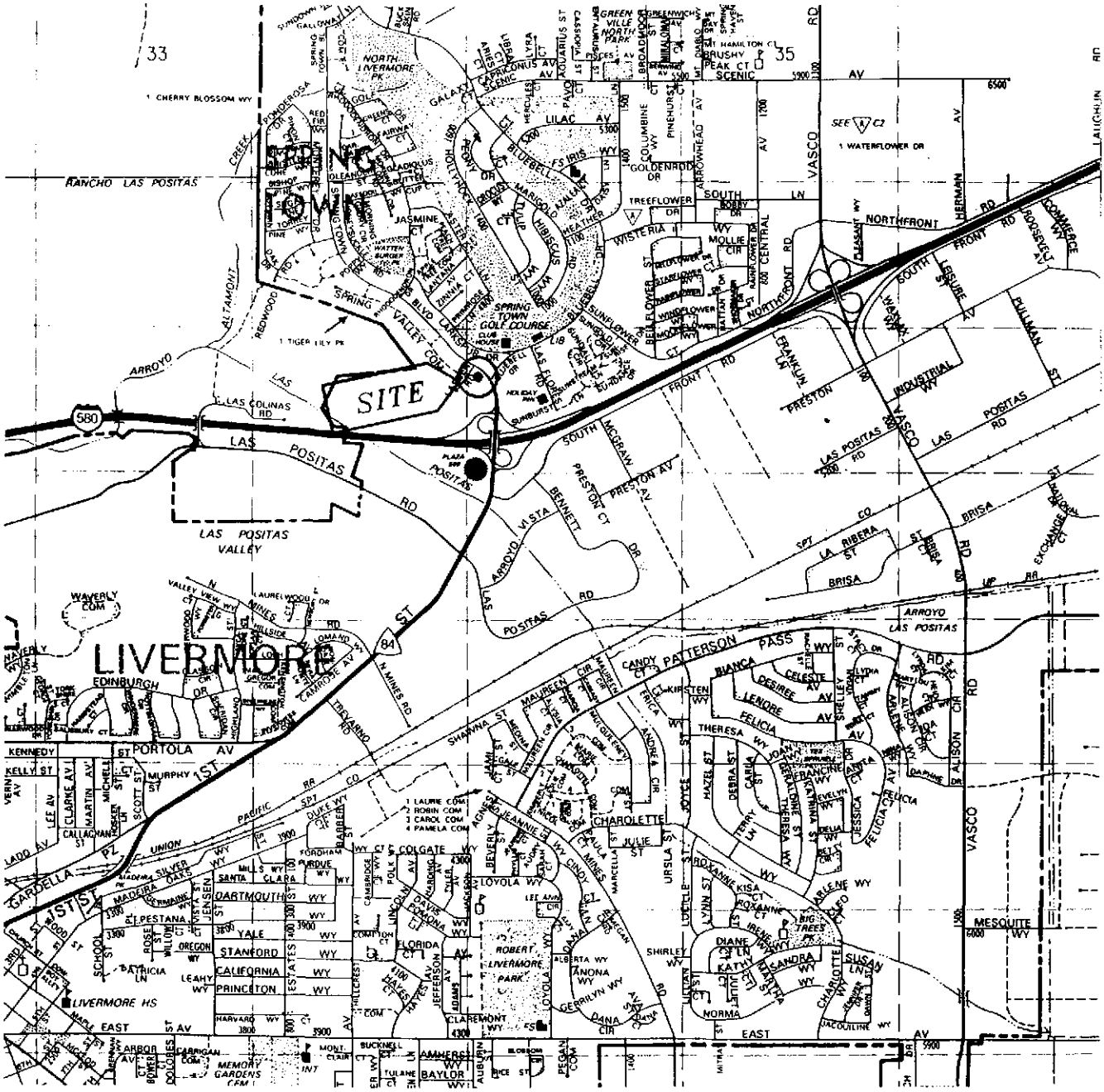
First Quarter, 1994

at

Former Texaco Station

930 Springtown Boulevard

Livermore, California



SOURCE:

1993 THE THOMAS GUIDE
ALAMEDA COUNTY, PAGE 51 (C3)

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MILE

1" = 2200'

TEXACO

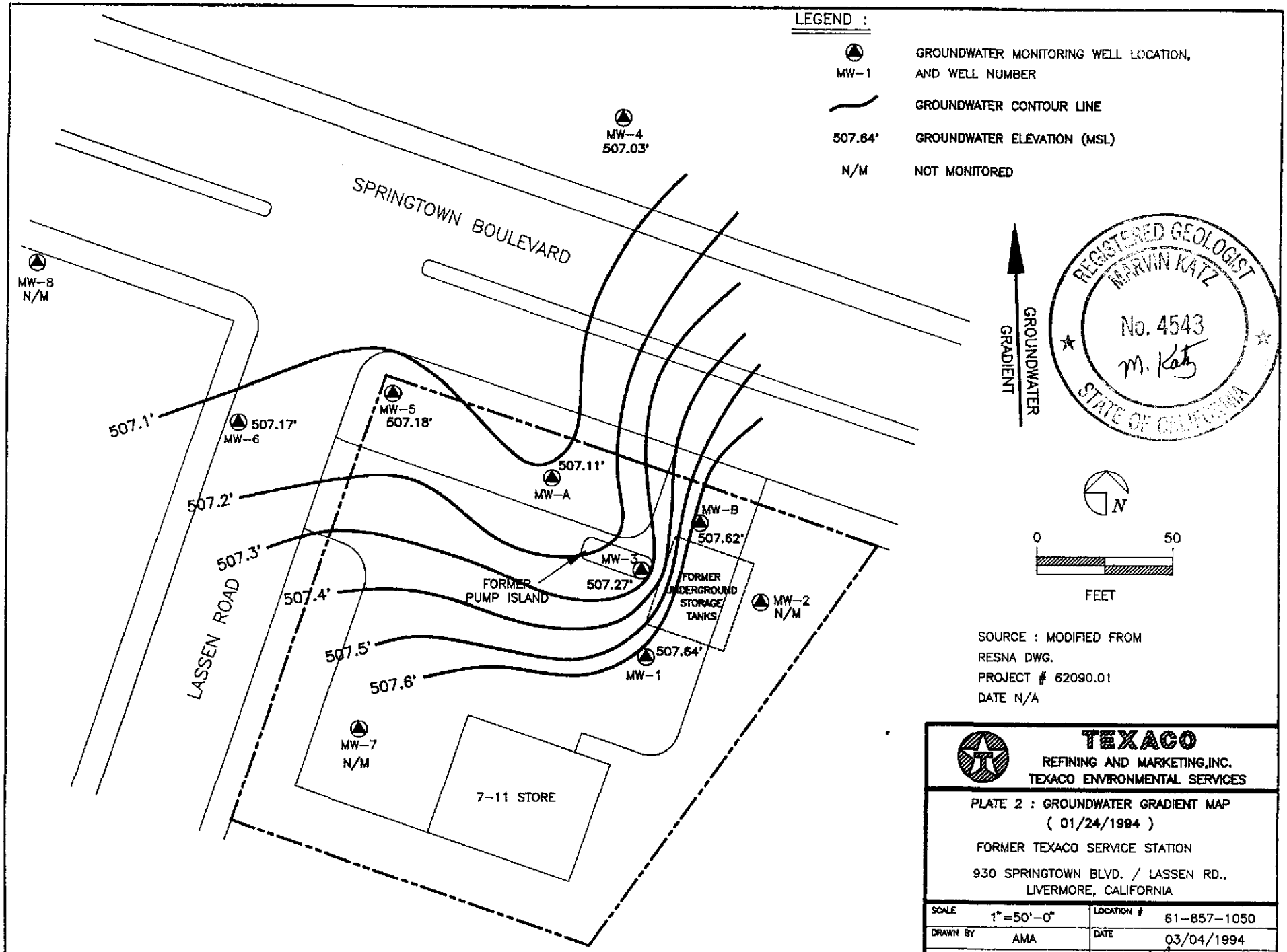
REFINING AND MARKETING, INC.
TEXACO ENVIRONMENTAL SERVICES

PLATE 1

SITE VICINITY MAP

FORMER TEXACO SERVICE STATION

930 SPRINGTOWN BLVD. / LASSEN RD.,
LIVERMORE, CALIFORNIA



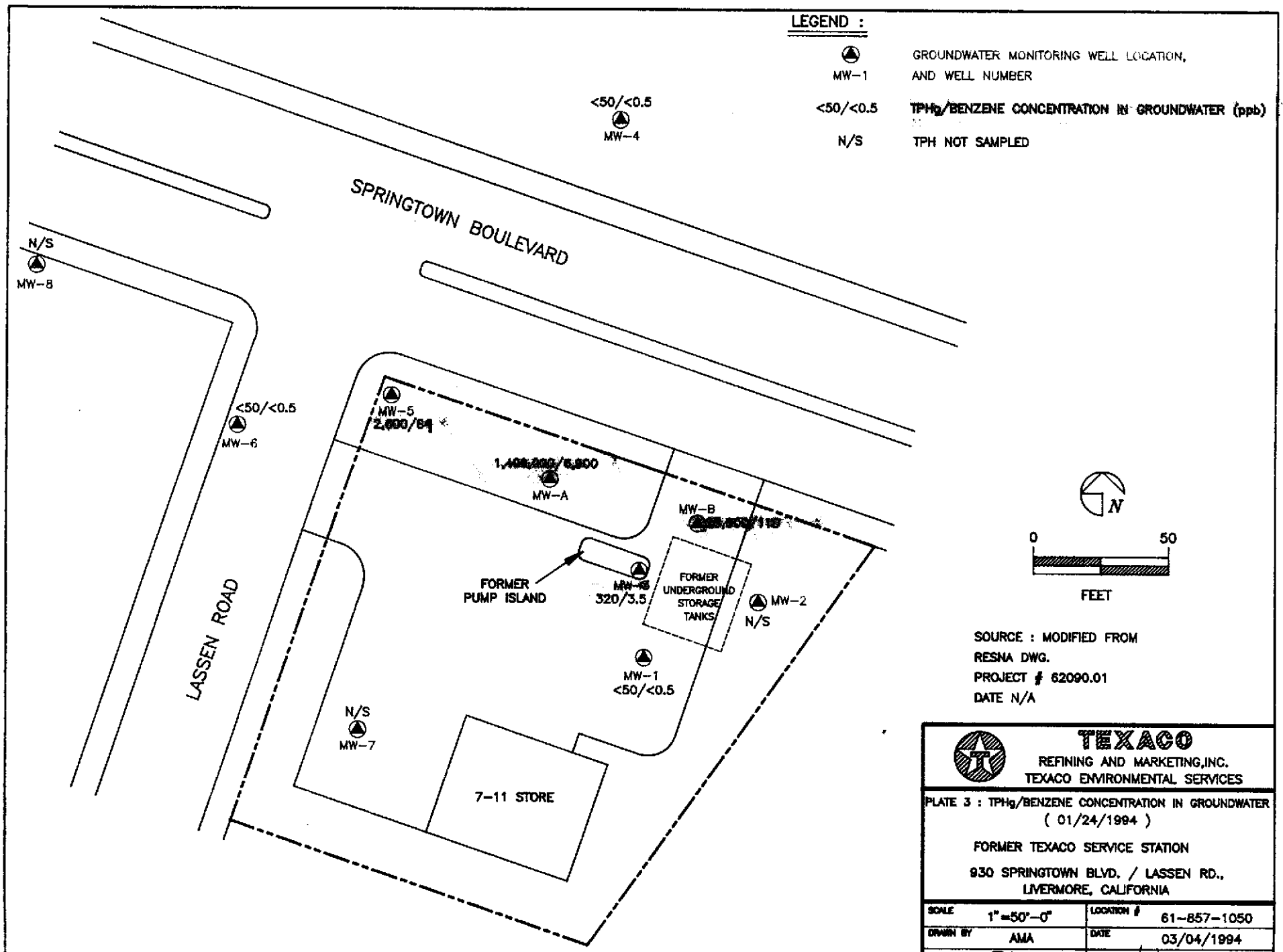
SOURCE : MODIFIED FROM RESNA DWG.
PROJECT # 62090.01
DATE N/A

TEXACO
REFINING AND MARKETING,INC.
TEXACO ENVIRONMENTAL SERVICES

PLATE 2 : GROUNDWATER GRADIENT MAP
(01/24/1994)

FORMER TEXACO SERVICE STATION
930 SPRINGTOWN BLVD. / LASSEN RD.,
LIVERMORE, CALIFORNIA

SCALE	1"=50'-0"	LOCATION #	61-857-1050
DRAWN BY	AMA	DATE	03/04/1994
CHECKED BY	KD	DATE	3/16/94
DRAWING NO.	(LIVERMORE) ST-LA-LI.DWG		



TEXACO
REFINING AND MARKETING,INC.
TEXACO ENVIRONMENTAL SERVICES

PLATE 3 : TPHg/BENZENE CONCENTRATION IN GROUNDWATER
(01/24/1994)

FORMER TEXACO SERVICE STATION

930 SPRINGTOWN BLVD. / LASSEN RD.,
LIVERMORE, CALIFORNIA

SCALE	1"=50'-0"	LOCATION #	61-857-1050
DRAWN BY	AMA	DATE	03/04/1994
CHECKED BY	RD	DATE	3/10/94
DRAWING NO.	(LIVERMORE) ST-LA-LI.DWG		

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 1)

Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product	Product Removed
MW-A						
GTI	01/10/91	519.85	13.28	506.57	---	
	04/04/91		12.12	507.73	---	
	07/12/91		12.95	506.90	---	
	10/04/91		13.98	505.87	trace	
	01/02/92		13.61	506.24	---	
	04/02/92		12.44	507.41	---	
RESNA	07/21/92		13.35	506.50	---	
	10/09/92		12.92	506.93	SD	
	01/11/93		11.78	508.07	SD	
	05/05/93		11.39	508.46	SD	
	08/09/93		12.80	507.05	SD	
	10/14/93		13.48	506.37	SD	
BLAINE	01/24/94		12.74	507.11	SD	
MW-B						
GTI	01/10/91	518.16	11.06	507.10	---	
	04/04/91		10.04	508.12	---	
	07/12/91		10.91	507.25	---	
	10/04/91		11.82	506.34	trace	
	01/02/92		11.27	506.89	trace	
	04/02/92		10.18	507.98	---	
RESNA	07/21/92		11.27	506.89	---	
	10/09/92		11.64	506.52	SD	
	01/11/93		9.65	508.51	SD	
	05/05/93		9.28	508.88	SD	
	08/09/93		11.02	507.14	SD	
	10/14/93		11.34	506.82	SD	
BLAINE	01/24/94		10.54	507.62	SD	
MW-1						
GTI	01/10/91	520.76	13.80	506.96	---	
	04/04/91		12.70	508.06	---	
	07/12/91		13.55	507.21	---	
	10/04/91		14.52	506.24	---	
	01/02/92		14.11	506.65	---	
	04/02/92		12.98	507.78	---	
RESNA	07/21/92		13.92	506.84	---	
	10/09/92		14.25	506.51	---	
	01/11/93		12.30	508.46	---	
	05/05/93		11.88	508.88	---	
	08/09/93		13.63	507.13	---	
	10/14/93		13.91	506.85	---	
BLAINE	01/24/93		13.12	507.64	---	
MW-2						
GTI	01/10/91	518.46	11.66	506.80	---	
	04/04/91		10.61	507.85	---	
	07/12/91		11.48	506.98	---	
	10/04/91		12.35	506.11	---	
	01/02/92		11.96	506.50	---	
	04/02/92		10.89	507.57	---	
RESNA	07/21/92		11.55	506.91	---	
	10/09/92		Not Monitored			
	01/11/93		Not Monitored			
	05/05/93		Not Monitored			
	08/09/93		Not Monitored			
	10/14/93		Not Monitored			
BLAINE	01/24/94		Not Monitored			

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 2)

Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product	Product Removed
MW-3						
GTI	01/10/91	519.30	12.84	506.46	—	
	04/04/91		11.71	507.59	—	
	07/12/91		12.54	506.76	—	
	10/04/91		13.47	505.83	—	
	01/02/92		12.87	506.43	—	
	04/02/92		11.97	507.33	—	
RESNA	07/21/92		12.60	506.70	—	
	10/09/92		12.93	506.37	—	
	01/11/93		11.16	508.14	—	
	05/05/93		10.72	508.58	—	
	08/09/93		12.34	506.96	—	
	10/14/93		12.71	506.59	—	
BLAINE	01/24/94		12.03	507.27	—	
MW-4						
GTI	01/10/91	518.75	12.02	506.73	—	
	04/04/91		10.72	508.03	—	
	07/12/91		11.78	506.97	—	
	10/04/91		12.30	506.45	—	
	01/02/92		12.22	506.53	—	
	04/02/92		11.03	507.72	—	
RESNA	07/21/92		12.36	506.39	—	
	10/09/92		12.40	506.35	—	
	01/11/93		10.72	508.03	—	
	05/05/93		10.21	508.54	—	
	08/09/93		12.25	506.50	—	
	10/14/93		12.58	506.17	—	
BLAINE	01/24/94		11.72	507.03	—	
MW-5						
GTI	01/10/91	520.50	14.33	506.17	—	
	04/04/91		13.26	507.24	—	
	07/12/91		14.14	506.36	—	
	10/04/91		14.96	505.54	—	
	01/02/92		14.56	505.94	—	
	04/02/92		13.58	506.92	—	
RESNA	07/21/92		13.77	506.73	—	
	10/09/92		14.09	506.41	—	
	01/11/93		12.24	508.26	—	
	05/05/93		11.90	508.60	—	
	08/09/93		13.35	507.15	—	
	10/14/93		13.89	506.61	—	
BLAINE	01/24/94		13.32	507.18	—	
MW-6						
GTI	01/10/91	522.26	16.31	505.95	—	
	04/04/91		15.19	507.07	—	
	07/12/91		NR	NR	NR	
	10/04/91		16.90	505.36	—	
	01/02/92		16.64	505.62	—	
	04/02/91		15.61	506.65	—	
RESNA	07/21/92		15.53	506.73	—	
	10/09/92		15.69	506.57	—	
	01/11/93		Not Monitored			
	05/05/93		Not Monitored			
	08/09/93		14.50	507.76	—	
	10/14/93		Not Monitored			
BLAINE	01/24/94		15.09	507.17	—	

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 3)

Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product	Product Removed
MW-7						
GTI	01/10/91	522.17	9.07	513.10	---	
	04/04/91		7.59	514.58	---	
	07/12/91		9.26	512.91	---	
	10/04/91		10.53	511.64	---	
	01/02/92		11.17	511.00	---	
	04/02/92		10.34	511.83	---	
	07/21/92		9.02	513.15	---	
RESNA	10/09/92		Not Monitored			
	01/11/93		Not Monitored			
	05/05/93		Not Monitored			
	08/09/93		Not Monitored			
	10/14/93		Not Monitored			
BLAINE	01/24/94		Not Monitored			
MW-8						
GTI	01/10/91	524.04	18.03	506.01	---	
	04/04/91		17.01	507.03	---	
	07/12/91		17.82	506.22	---	
	10/04/91		18.70	505.34	---	
	01/02/92		18.42	505.62	---	
	04/02/92		17.39	506.65	---	
RESNA	07/21/92		14.02	510.02	---	
	10/09/92		Not Monitored			
	01/11/93		Not Monitored			
	05/05/93		Not Monitored			
	08/09/93		Not Monitored			
	10/14/93		Not Monitored			
BLAINE	01/24/94		Not Monitored			

Datum Mean Sea Level (MSL)
Measurements in feet.
Depth to water measured in feet below top of casing.

---	:	None Present.
GTI	:	Monitored by Groundwater Technology, Inc.
RESNA	:	RESNA Industries Inc. began monitoring.
BLAINE	:	Blaine Tech Services, Inc. began monitoring.
NR	:	No Record.
SD	:	Sheen detected in purge water.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 2)

Well	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-2						
GTI	01/10/91	ND	ND	ND	ND	ND
	04/04/92	ND	ND	ND	ND	ND
	07/12/91	ND	ND	ND	ND	ND
	10/04/91	ND	0.3	ND	ND	ND
	01/02/92	ND	ND	ND	ND	ND
	04/02/91	ND	ND	ND	ND	ND
RESNA	07/21/92	NS	NS	NS	NS	NS
	10/09/92	NS	NS	NS	NS	NS
	01/11/93	NS	NS	NS	NS	NS
	05/05/93	NS	NS	NS	NS	NS
	08/09/93	NS	NS	NS	NS	NS
	10/14/93	NS	NS	NS	NS	NS
BLAINE	01/24/94	NS	NS	NS	NS	NS
MW-3						
GTI	01/10/91	110	ND	ND	ND	ND
	04/04/91	630	4	ND	0.6	0.9
	07/12/91	230	2	ND	ND	1
	10/04/91	360	0.5	2	ND	0.5
	01/02/92	340	0.4	ND	ND	ND
	04/02/92	160	5	ND	0.3	0.5
RESNA	07/21/92	260	1.7	<0.5	<0.5	<0.5
	10/09/92	88	<0.5	<0.5	<0.5	<0.5
	01/11/93	130	<0.5	<0.5	<0.5	<0.5
	05/05/93	340	1.8	<0.5	1.3	<0.5
	08/09/93	610	18	<0.5	2.4	0.9
	10/14/93	<50	<0.5	<0.5	<0.5	<0.5
BLAINE	01/24/94	320	3.5	<0.5	<0.5	<0.5
MW-4						
GTI	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
	07/12/91	ND	ND	ND	ND	ND
	10/04/91	ND	0.6	ND	ND	ND
	01/02/92	ND	ND	ND	ND	ND
	04/02/92	ND	ND	ND	ND	ND
RESNA	07/21/92	<50	<0.5	<0.5	<0.5	<0.5
	10/09/92	<50	<0.5	<0.5	<0.5	<0.5
	01/11/93	<50	<0.5	<0.5	<0.5	<0.5
	05/05/93	<50	<0.5	<0.5	<0.5	<0.5
	08/09/93	<50	<0.5	<0.5	<0.5	<0.5
	10/14/93	<50	<0.5	<0.5	<0.5	<0.5
BLAINE	01/24/94	<50	<0.5	<0.5	<0.5	<0.5

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 3)

Well	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-5						
GTI	01/10/91	1,900	48	2	87	9
	04/04/91	ND	ND	ND	ND	ND
	07/12/91	850	13	ND	18	1
	10/04/91	2,000	240	13	34	14
	01/02/92	1,800	74	41	84	94
	04/02/92	ND	ND	ND	ND	ND
RESNA	07/21/92	1,000	69	16	40	31
	10/09/92	3,400	890	51	110	110
	01/11/93	15,000	460	110	900	370
	05/05/93	4,500	160	19	280	110
	08/09/93	2,300	180	19	130	80
	10/14/93	2,200	160	27	90	64
BLAINE	01/24/94	2,600	69	11	65	25
MW-6						
GTI	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
	07/12/91	NS	NS	NS	NS	NS
	10/04/91	ND	0.3	ND	ND	ND
	01/02/92	23	ND	0.3	0.6	3
	04/02/92	ND	ND	ND	ND	ND
RESNA	07/21/92	<50	<0.5	<0.5	<0.5	<0.5
	10/09/92	<50	<0.5	<0.5	<0.5	<0.5
	01/11/93	NS	NS	NS	NS	NS
	05/05/93	NS	NS	NS	NS	NS
	08/09/93	<50	<0.5	<0.5	<0.5	<0.5
	10/14/93	NS	NS	NS	NS	NS
BLAINE	01/24/94	<50	<0.5	<0.5	<0.5	<0.5
MW-7						
GTI	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
	07/12/91	NS	NS	NS	NS	NS
	10/04/91	NS	NS	NS	NS	NS
	01/02/92	NS	NS	NS	NS	NS
	04/02/92	ND	ND	ND	ND	ND
RESNA	07/21/92	NS	NS	NS	NS	NS
	10/09/92	NS	NS	NS	NS	NS
	01/11/93	NS	NS	NS	NS	NS
	05/05/93	NS	NS	NS	NS	NS
	08/09/93	NS	NS	NS	NS	NS
	10/14/93	NS	NS	NS	NS	NS
BLAINE	01/24/94	NS	NS	NS	NS	NS

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 4)

Well	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-8						
GTI	01/10/91	ND	ND	ND	ND	ND
	04/04/91	NS	NS	NS	NS	NS
	07/12/91	NS	NS	NS	NS	NS
	10/04/91	NS	NS	NS	NS	NS
	01/02/92	12,000	32	980	200	760
	04/02/92	ND	ND	ND	ND	ND
RESNA	07/21/92	NS	NS	NS	NS	NS
	10/09/93	NS	NS	NS	NS	NS
	01/11/93	NS	NS	NS	NS	NS
	05/05/93	NS	NS	NS	NS	NS
	08/09/93	NS	NS	NS	NS	NS
	10/14/93	NS	NS	NS	NS	NS
BLAINE	01/24/94	NS	NS	NS	NS	NS
	MCLs:	-	1.0	-	680	1,750
	DWAL:	-	-	100	-	-

Results in parts per billion (ppb).

NS : Not Sampled
NR : No Records
ND : None Detected
SP : Separate-phase petroleum hydrocarbons
TPHg : Total petroleum hydrocarbons as gasoline analyzed by EPA method 5030/602.
BTEX : Analyzed by EPA method 5030/602.
< : Less than the detection limit for the specified method of analysis.
MCLs : Adopted Maximum Contaminant Levels in Drinking Water, DHS (October 1990)
DWAL : Recommended Drinking Water Action Level, DHS (October 1990)
— : Not applicable
GTI : Groundwater Technology, Inc.
RESNA : RESNA Industries Inc. began sampling.
BLAINE : Blaine Tech Services, Inc. began sampling.

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

618571050\1342\013268

Texaco Environmental Services
108 Cutting Blvd.
Richmond, CA 94804
Attn: Rebecca Digerness
Project Manager

Date Sampled: 01-24-94
Date Received: 01-24-94
Date Analyzed: 02-02-94

Sample Number	Sample Description
014194	Texaco - Livermore 930 Springtown Blvd. MW-A WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	1,400,000
Benzene	0.5	6,900
Toluene	0.5	2,100
Xylenes	0.5	38,000
Ethylbenzene	0.5	15,000

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

618571050\1342\013268

Texaco Environmental Services
108 Cutting Blvd.
Richmond, CA 94804
Attn: Rebecca Digerness
Project Manager

Date Sampled: 01-24-94
Date Received: 01-24-94
Date Analyzed: 02-02-94

Sample Number	Sample Description
014195	Texaco - Livermore 930 Springtown Blvd. MW-B WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	23,000
Benzene	0.5	110
Toluene	0.5	1,700
Xylenes	0.5	1,900
Ethylbenzene	0.5	600

QA/QC: Duplicate Deviation is 2.3%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

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618571050\1342\013268

Texaco Environmental Services
108 Cutting Blvd.
Richmond, CA 94804
Attn: Rebecca Digerness
Project Manager

Date Sampled: 01-24-94
Date Received: 01-24-94
Date Analyzed: 02-02-94

Sample Number	Sample Description
014196	Texaco - Livermore 930 Springtown Blvd. MW-1 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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618571050\1342\013268

Texaco Environmental Services
108 Cutting Blvd.
Richmond, CA 94804
Attn: Rebecca Digerness
Project Manager

Date Sampled: 01-24-94
Date Received: 01-24-94
Date Analyzed: 02-02-94

Sample Number	Sample Description
014197	Texaco - Livermore 930 Springtown Blvd. MW-3 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	320
Benzene	0.5	3.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

618571050\1342\013268

Texaco Environmental Services
108 Cutting Blvd.
Richmond, CA 94804
Attn: Rebecca Digerness
Project Manager

Date Sampled: 01-24-94
Date Received: 01-24-94
Date Analyzed: 02-02-94

Sample Number	Sample Description
014198	Texaco - Livermore 930 Springtown Blvd. MW-4 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

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108 Cutting Blvd.
Richmond, CA 94804
Attn: Rebecca Digerness
Project Manager

Date Sampled: 01-24-94
Date Received: 01-24-94
Date Analyzed: 02-02-94

Sample Number	Sample Description
014199	Texaco - Livermore 930 Springtown Blvd. MW-5 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	2,600
Benzene	0.5	69
Toluene	0.5	11
Xylenes	0.5	25
Ethylbenzene	0.5	65

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS
Fred Chosha
for
Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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Texaco Environmental Services
108 Cutting Blvd.
Richmond, CA 94804
Attn: Rebecca Digerness
Project Manager

Date Sampled: 01-24-94
Date Received: 01-24-94
Date Analyzed: 02-02-94

Sample Number	Sample Description
014200	Texaco - Livermore 930 Springtown Blvd. MW-6 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

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Ronald G. Evans
Lab Director

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618571050\1342\013268

Texaco Environmental Services
108 Cutting Blvd.
Richmond, CA 94804
Attn: Rebecca Digerness
Project Manager

Date Sampled: 01-24-94
Date Received: 01-24-94
Date Analyzed: 02-02-94

Sample Number	Sample Description
014201	Texaco - Livermore 930 Springtown Blvd. TB WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

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Lab Director

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Phone (510) 372-3700 • Fax (510) 372-6955

618571050\1342\013268

Texaco Environmental Services
108 Cutting Blvd.
Richmond, CA 94804
Attn: Rebecca Digerness
Project Manager

Date Sampled: 01-24-94
Date Received: 01-24-94
Date Analyzed: 02-02-94

Sample Number	Sample Description
014202	Texaco - Livermore 930 Springtown Blvd. EB WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

BLAINE TECH SERVICES INC.

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

CHAIN OF CUSTODY 940124-L2

CLIENT Texaco Environmental Services

SITE Location # 61857/050

930 SPRINGTOWN BLVD.

LIVERMORE, CA

C = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT: TPH G, BTEX

LAB Mobile Chem Laboratory DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ RWQCB REGION ____

☐ LIA

☐ OTHER

SPECIAL INSTRUCTIONS

Report & Invoice to:
Texaco Environmental Services
108 Cutting Blvd.
Richmond, CA 94804
Attn: Karen Patryna
(510) 236-3541

SAMPLE I.D.	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL	CONTAINERS 40 ml HCl VOAs	C = COMPOSITE ALL CONTAINERS	TPH G, BTEX	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-A	W	2			X		AS CONTRACTED		
MW-B					X				
MW-1					X				
MW-3					X				
MW-4					X				
MW-5					X				
MW-6					X				
TB					X				
EB					X				

SAMPLING COMPLETED DATE 1/24/94 TIME 1610

SAMPLING PERFORMED BY LAD / PETER

RESULTS NEEDED NO LATER THAN

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Peter Crommelin	1/24/94		Dave Hewey	1-26-94	10:15

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #	
				ON ICE No Head Space

WELL GAUGING DATA

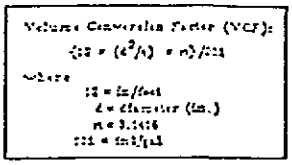
Project # 940124-LZ Date 1/24/94 Client TEXACO

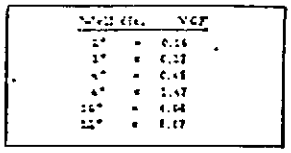
Site 930 SPRINGTOWN BLVD, LIVERMORE, CA Sampler LAD B OLVER

Well I.D.	Well Diameter (inches)	Sheen/Odor	Depth to Immisible Liquid (feet)	Thickness of Immisible Liquid (ft.)	Depth to Water (feet)	Depth to Well Bottom (feet)	Measured to: Top of Pipe or Grade
MW-A	2	ODOR			12.74	16.68	TOC
MW-B	2	ODOR			10.54	21.20	
MW-1	4				13.12	25.47	
MW-3	4				12.03	24.30	
MW4	3				11.72	25.08	
MW-5	2				13.32	27.90	
* MW-6	2				15.09	24.58	↓

WELL MONITORING DATA SHEET

Project #: 940124-LZ	Client: TEXACO ENVIRONMENTAL SERVICES
Sampler: LAD	Date Sampled: 1/24/94
Well I.D.: MW-A	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth: Before 16.68 After	Depth to Water: Before 12.74 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade	Other --





1 Case Volume	x	Specified Volumes	=	gallons
0.6	x	3	=	1.8

Purging: Bailer ☑ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Type of Installed Pump ___

Sampling: Bailer ☑ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
15:45	61.2	7.0	900	7200	0.6	SHEEN (heavy)
15:47	61.8	7.0	1000	7200	1.5	ODOR of gas
15:49	61.6	7.0	1000	7200	2.0	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 2.0

Sampling Time: 15:50

Sample I.D.: MW-A Laboratory: CHEM MOBILE

Analyzed for: TPHG BTEX

Duplicate I.D.: Cleaning Blank I.D.:

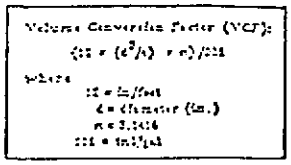
Analyzed for:

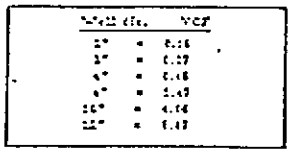
Wellhead maintenance performed:

Additional Notations:

WELL MONITORING DATA SHEET

Project #: 940124-L2	Client: TEXACO ENVIRONMENTAL SERVICES
Sampler: LAD	Date Sampled: 1/24/94
Well I.D.: MW-B	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth: Before 21.20 After	Depth to Water: Before 10.54 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade	Other --





1 Case Volume	x	Specified Volumes	=	gallons
1.7	x	3	=	5.1

Purging: Bailer ☒
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump _____

Sampling: Bailer ☑
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
15:25	59.2	7.0	900	91	1.7	ODOR
15:29	59.6	7.2	800	124	3.4	Lt. SHEEN
15:33	59.2	7.0	600	129	5.1	

Did Well Dewater? N/O If yes, gals. Gallons Actually Evacuated: 5.1

Sampling Time: 1540

Sample I.D.: MW-B Laboratory: MOBILE CHEM

Analyzed for: TPHG, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

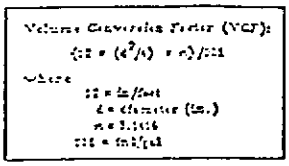
Analyzed for:

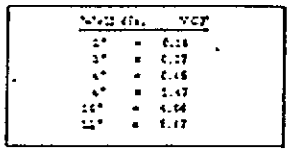
Wellhead maintenance performed:

Additional Notations:

WELL MONITORING DATA SHEET

Project #: 930124-LZ	Client: TEXACO ENVIRONMENTAL SERVICES
Sampler: LAD	Date Sampled: 1/24/94
Well I.D.: MW-1	Well Diameter: (circle one) 2 3 (4) 6 ___
Total Well Depth: Before 25.47 After	Depth to Water: Before 13.12 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade Other --	





1 Case Volume	x	Specified Volumes	=	gallons
8.0	x	3	=	24.0

Purging: Bailer ☐ Middleburg ☐ Electric Submersible ☒ Suction Pump ☐ Type of Installed Pump ___

Sampling: Bailer ☒ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1450	61.4	6.8	1600.	80.	8.0	
1455	61.6	6.8	1600.	>200	16.0	
1503	62.6	6.8	1600.	55.	24.0	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 24.

Sampling Time: 1510

Sample I.D.: MW-1 Laboratory: MOBILE CHEM

Analyzed for: TPH6, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

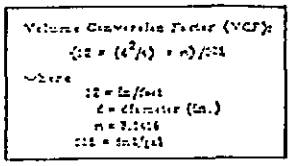
Analyzed for:

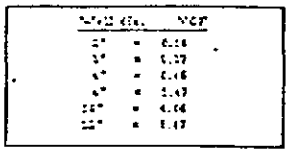
Wellhead maintenance performed:

Additional Notations: SLOW RECHARGE

WELL MONITORING DATA SHEET

Project #: 940124-L2	Client: TEXACO ENVIRONMENTAL SERVICES
Sampler: LAD	Date Sampled: 1/24/94
Well I.D.: MW-3	Well Diameter: (circle one) 2 3 (4) 6 ___
Total Well Depth: Before 24.30 After	Depth to Water: Before 12.03 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade Other --	





8.0	x	3	=	24.0
1 Case Volume		Specified Volumes		gallons

Purging: Bailer ☐ Middleburg ☐ Electric Submersible ☑ Suction Pump ☐ Type of Installed Pump _____

Sampling: Bailer ☑ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1440	62.4	6.8	1400.	>200.	8.0	
	DEWATERED AT			9.0 GAL.		
	RETURNED TO SAMPLE DT.W. AT 16.16'					
1610	61.6	7.0	1900	160.4	—	

Did Well Dewater? YES If yes, gals. 9.0 Gallons Actually Evacuated: 9.0

Sampling Time: 1615

Sample I.D.: MW-3 Laboratory: MOBILE CHEM

Analyzed for: TPHG BTEX

Duplicate I.D.: Cleaning Blank I.D.:

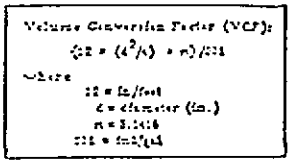
Analyzed for:

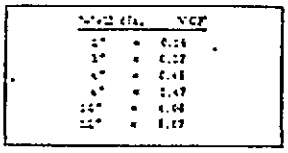
Wellhead maintenance performed:

Additional Notations:

WELL MONITORING DATA SHEET

Project #: 940124-LZ	Client: TEXACO ENVIRONMENTAL SERVICES
Sampler: LAD	Date Sampled: 1/24/94
Well I.D.: MW-4	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 25.08 After	Depth to Water: Before 11.72 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade	Other --





4.9	x	3	=	14.7
1 Case Volume		Specified Volumes		gallons

Purging: Bailer ☐
Middleburg ☐
Electric Submersible ☒
Suction Pump ☐
Type of Installed Pump _____

Sampling: Bailer ☒
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1350	63.0	6.8	1000.	>200	5.	
1352	63.2	7.0	950.	>200.	10.	
1354	63.2	7.0	980.	>200.	15.	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 15.

Sampling Time: 1400

Sample I.D.: MW-4 Laboratory: MOBILE CHEM

Analyzed for: TPHG, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

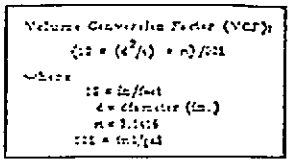
Analyzed for:

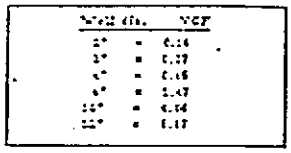
Wellhead maintenance performed:

Additional Notations: REMOVED 2" SLEEVE TO PURGE WITH 3" PUMP

WELL MONITORING DATA SHEET

Project #: 930124-L2	Client: TEXACO ENVIRONMENTAL SERVICES
Sampler: LAD	Date Sampled: 1/24/94
Well I.D.: MW-5	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth: Before 27.90 After	Depth to Water: Before 13.32 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade	Other --





2.3	x	3	=	6.9
1 Case Volume		Specified Volumes		gallons

Purging: Bailer X
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump _____

Sampling: Bailer ☑
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1520	61.8	7.0	950.	>200.	3.	
1526	62.0	7.0	900.	>200.	5.	
1532	62.2	7.1	900.	>200.	7.	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 7.0

Sampling Time: 1540

Sample I.D.: MW-5 Laboratory: MOBILE CHEM

Analyzed for: TPHG, BTEX

Duplicate I.D.: Cleaning Blank I.D.:

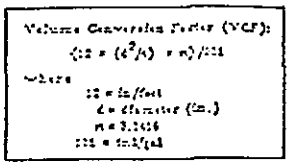
Analyzed for:

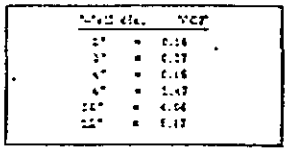
Wellhead maintenance performed:

Additional Notations:

WELL MONITORING DATA SHEET

Project #: 940124-L2	Client: TEXACO ENVIRONMENTAL SERVICES
Sampler: LAD	Date Sampled: 1/24/94
Well I.D.: MW-6	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth: Before 24.58 After	Depth to Water: Before 15.09 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade	Other --





1.5	x	3	=	4.5
1 Case Volume		Specified Volumes		gallons

Purging: Bailer [X]
Middleburg [ ]
Electric Submersible [ ]
Suction Pump [ ]
Type of Installed Pump _____

Sampling: Bailer [X]
Middleburg [ ]
Electric Submersible [ ]
Suction Pump [ ]
Installed Pump [ ]

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1410	61.2	6.9	620.	>200.	2.	
1415	61.0	7.0	620.	>200.	4.	
1422	61.6	6.9	600.		5.	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 5.

Sampling Time: 1430

Sample I.D.: MW-6 Laboratory: MOBILE CHEM

Analyzed for: TPHG, BTEX

Duplicate I.D.: Cleaning Blank I.D.: EB @ 1425

Analyzed for: TPHG, BTEX

Wellhead maintenance performed: REMOVED WATER + MUD FROM WELL BOX

Additional Notations: REPLACED 2" CAP, THE OLD CAP DIDNT SEAL PROPERLY AND NEW LOCK

* SLOW RECHARGE

TEXACO TYPE **A** BILL OF LADING

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).

The contractor performing this work is BLAINE TECH SERVICES, INC., 985 Timothy Drive, San Jose, CA 95133 (phone [408] 995-5535). Blaine Tech Services, Inc. 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 indicated 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 direct 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 to the designated destination point 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 # 6185 71050
930 SPRINGTOWN BLVD, LIVERMORE, CA
street number street name city state

WELL I.D.	GALS.	WELL I.D.	GALS.
MW-A	2.0		
MW-B	5.1		
MW-1	24.0		
MW-3	9.0		
MW-4	15.0		
MW-5	7.0		
MW-6	5.0		
	67.1		

added equip. rinse water 10.0

any other adjustments

TOTAL GALS. RECOVERED 77.1

loaded onto BTS vehicle # 14

BTS event # 940124-LZ

time 1430 date 1/24/94

signature Peter Cronnelin

* *

REC'D AT BTS

time 1700 date 1/24/94

unloaded by signature

BLAINE TECH SERVICES, INC.
A SUMMARY OF
FIELD PROCEDURES AND PROTOCOLS

WELL GAUGING (MONITORING)

All field notations are made on preprinted field data collection forms which are supplied to our personnel in a field notebook specific to each assignment at each site. All notations are contemporaneous and completed field notebooks (which we call Sampling Event Folders) are turned in daily and reviewed by our office personnel.

Water-level information is obtained from groundwater monitoring wells either as a preliminary step before evacuation or as a separate activity which is performed on wells that will not be sampled. In cases where none of the wells at the site are scheduled to be evacuated and sampled, the gauging of the wells for the purpose of collecting water-level information is conducted during a designated gauging event.

Wells should be gauged in Clean-to-Dirty Order.
Well gauging instruments and devices are cleaned after each use and before use in the next well.
Well gauging is performed prior to well evacuation and sampling.
Well gauging is to be completed in as short a time period as possible.

Normal gauging activities include the following Wellhead Maintenance checks:

1. Is there a lid on the grade level utility box that encloses the wellhead? Yes/No
2. Is the lid whole or damaged? Okay/Cracked/Chipped/Broken
3. Is the lid secured in the intended manner? Yes/No/Loose/Missing bolts
4. Is the lid equipped with a seal? Yes/No/Damaged
5. Is there water standing in the utility box? Yes/No
6. Water stood in what relationship to the top of the well? Above/Below/Even with the top
7. Is there a cap or plug in the well, itself? Yes/No (Cap/Plug)
8. Is there a lock to secure the cap or plug? Yes/No
9. Is the lock closed so as to secure the well? Yes/No
10. Is the lock functional? Yes/No
11. Is the cap or lid on the wellhead capable of sealing out water? Yes/No seal is possible
12. Is the cap or plug sealing tightly? Yes/No/Can be pulled loose

The foregoing 12 checks are drawn from our more extensive Wellhead Survey Forms. They will be included in the next revision of the Sampling Event Field Folder forms.

Well gauging includes the following measurements:

1. Depth to Water (DTW)
2. Total Depth (TD)
3. Odor and Sheen (O&S),
4. Separate Phase Hydrocarbon (SPH) thickness (to the nearest 0.01').

Depth to Water measurements are referenced to the surveyed elevation of the wellhead to calculate the elevation of the groundwater in each well (for groundwater gradient mapping). Depth to Water and Total Depth measurements are used in calculating the volume of the water column standing in the wellcase (for evacuation calculation). Odor, sheen and Separate Phase Hydrocarbon thickness are used in evaluating whether or not the well meets standards set by the client that determine when a well should be evacuated and sampled and when that well should not be evacuated and sampled.

EVACUATING GROUNDWATER WELLS

Wells are selected for evacuation and sampling in Clean-to-Dirty order.

Blaine Tech Services, Inc. field personnel select well **evacuation devices** based on efficiency. They can select from the following:

1. **Bailers**. Teflon and stainless steel are the only materials used in Blaine Tech Services bailers. Our shop fabricates stainless steel bailers in any size we need. Typical bailers are hand operated, but we have hydraulic booms and high speed winches to handle the larger versions.
2. **Pneumatic purge pumps**. These evolved from the USGS/Middleburg bladder type sampling pumps which we began using in 1982. We retain the Teflon air pressure and water discharge hoses, but have modified the pump to increase efficiency and allow more certain cleaning than was possible with the original design. These pumps are ideal for certain types of wells and turbidity control situations.
3. **Variable speed electric** submersible pump. This 2" Grundfos pump has become an accepted tool of the environmental industry in recent years. Despite claims to the contrary, we do not see it as a suitable sampling pump (except in dedicated applications) and use it only as a well evacuation device.
4. **Fixed speed electric** submersible pumps. These 3" and 4" pumps (made by Grundfos and others) are also useful evacuation tools where the well depth or volume of water needing to be removed warrants their use.
5. **Suction pumps**. Grade level pneumatic diaphragm pumps (and similar devices) can be used to evacuate shallow wells when the proper type of hose and footvalves are assembled.

Normal field instrument readings are taken during the evacuation process. These include pH, temperature and electrical conductivity (EC) readings taken within each case volume of groundwater removed and at least one final set of readings taken just prior to sampling. The volume of water evacuated from the well is typically three case volumes and whatever additional volume is needed to achieve stable parameters.

We routinely remove four case volumes of water in those jurisdictions where the regulatory agency requests this level of purging. Our personnel are also equipped to take turbidity readings

and adjust our evacuation protocol to conform to regulatory standards for achieving specific NTU levels prior to collecting samples.

Wells that dewater are handled according to the protocol specified by each client. In most cases this is based on 80% recovery of the original water column or an evaluation of the volume of water that recharges into the well within a period not greater than 24 hours. In view of the volatile constituents being sought, most clients and their consultants are willing to have samples collected from whatever volume of water has recharged into a dewatered well by the end of the day or the end of the work being performed by our personnel at that particular site.

Instruments are calibrated daily and calibration logs are maintained at our office. In addition, each vehicle has calibration fluids on board so that pH and EC meters can be recalibrated in the field. Parameter readings are recorded (along with case volume calculations and other important information) on the preprinted Well Data sheet. Effluent water from the evacuation process is contained and transported in tanks on the sampling vehicle or in tanks on one of our water hauling trailers.

SAMPLE COLLECTION

Blaine Tech Services, Inc. several years ago standardized its sample collection procedures. With few exceptions, all groundwater samples are taken with a **bailer**. We have a large number of stainless steel and/or Teflon bailers. Specialized bailers are used to perform field filtration of water that will receive metals analyses and other bailers can be rigged as flow-through devices which are attached to the evacuation pump so that the entire volume of evacuated water moves through the bailer which then collects the final volume when the evacuation pump is turned off. Normal sampling is simple and straightforward. It involves removing the evacuation device from the well and promptly collecting water in a stainless steel sampling bailer which is lowered into the well and retracted with a disposable cotton line.

Typically, sample bottles appropriate to the intended analyses are supplied by the laboratory along with prepared trip blanks and a volume of organic free water sufficient to take any equipment rinsate blanks and/or field blanks that have been requested. These sample bottles are filled in accordance with EPA requirements as specified in the SW-846 and the T.E.G.D. Our personnel verify the correct composition of the sample set by referring to the Scope of Work statement provided by our office, and authorized by the client or client's consultant. In addition to notations required by the client, our personnel complete the preprinted Well Data Sheet, the multi-part Chain of Custody form and the blank portions of our computer generated sample bottle labels (time, date and sampler's initials). The samples are placed in an ice chest for storage and transport to the laboratory. We comply with regulatory agency specifications for both temperature and the material by which temperature is achieved and maintained. (e.g. Southern Alameda County Water District requires the use of ice rather than frozen blocks of ice substitutes such as Blue Ice and Super Ice.) Strict adherence to Chain of Custody requirements is maintained.

DECONTAMINATION

Blaine Tech Services, Inc. field personnel are trained and equipped to decontaminate all the devices which have been used to inspect, measure, evacuate and sample each well before moving on to the next well. All apparatus is brought to the site in clean and serviceable condition. It is then thoroughly cleaned after each every use.

Our QA program includes spot audits of our field personnel while they are working at a client's site and the collection of various blanks which are in-addition-to and outside of the normal project QA measures and therefore analyzed at our expense.

All vehicles used for petroleum sites are equipped with steam cleaners which we have had the supplier detune to function as **hot pressure washers**. After modification these units produce a high pressure jet of very hot water which retains its heat better than jets of steam which start off hotter but cool very quickly. (Steam cools so rapidly that it falls to the same temperature as hot water only 8" out from the nozzel and is far cooler than hot water thereafter.) These hot pressure washer units are supplied with deionized water from an onboard tank. (Deionized water is very hard on the steel components of our steam cleaners, but using it increases our cleaning efficiency.) Hot deionized water from the steam cleaner is supplemented with scrub brushes, soak tanks, and the application of aqueous cleaners which we test and evaluate. We do not use solvents or petroleum products as cleaning agents.

All effluent liquids are captured and retained. The effluent from all on site decontamination procedures is classified the same as the evacuated water from the well in which that equipment was used.

In most cases this means that the effluent from the cleaning of pumps and bailers will be classified as a non-hazardous effluent material which we will be able to transport away from the site as a non-hazardous material. (See Water Hauling below.) In those few cases where the concentration of fuel hydrocarbons in the groundwater causes the well's effluent water to be classified as a hazardous material, we will treat the effluent from our on site cleaning the same way and contain that effluent material along with the well effluent for proper on site storage, transport and disposal. (See Free Product Bailing & Transportation below).

NON-HAZARDOUS PURGEWATER HAULING

Blaine Tech Services, Inc. has evolved a paperwork tracking system for hauling non-hazardous purge water that uses two Bill of Ladings.

The effluent from wells which can be classified as non-hazardous is collected in onboard storage tanks and recorded on a **Source Record Bill of Lading** by our personnel as they collect effluent in the course of doing their work in the field. The small additional volume of water that is used to clean the evacuation and sampling equipment is added to the onboard non-hazardous effluent tank and recorded on the Source Record Bill of Lading. Each vehicle creates a Source Record Bill of Lading to cover all the non-hazardous purgewater hauled away from any Texaco site. If three

vehicles work on the same site each will have a Source Record Bill of Lading to cover the water being hauled away from that site by that vehicle. If a vehicle collects water from more than one Texaco site, it will have a Source Record Bill of Lading to cover the water obtained at each Texaco site. The Source Record Bill of Ladings covers the legal transport of non-hazardous purgewater and related effluent from one Texaco site to the Blaine Tech Services, Inc. facility in San Jose, California. There the water is offloaded from the individual sampling vehicles into a storage tank dedicated exclusively to non-hazardous purgewater from Texaco sites.

When a sufficient volume of Texaco purgewater has been collected in the Texaco storage tank to make up an efficient load to the destination designated by Texaco Environmental Services, we will create such a load. Purgewater is pumped out of the Texaco storage tank into an appropriate water hauling vehicle (we have both truck mounted tanks and trailers). The person loading the vehicle makes up a **Bulk Load Disposition Bill of Lading.** This documentation covers the load of purgewater during its movement from our facility to the destination designated by Texaco Environmental Services (whether to the Gibson Pilot facility in Redwood City or to the TES offloading point in Richmond).

We maintain a file for both Source Record Bill of Ladings and for Bulk Load Disposition Bill of Ladings. Periodic audits can be easily performed by reviewing this file.

FREE PRODUCT BAILING AND TRANSPORT

Blaine Tech Services, Inc. is not in the hazardous waste hauling business. The insurance overhead is so great that it is not economical to haul hazardous waste on an occasional or casual basis. Since we are in the sampling and objective data collection business, it makes sense to leave hazardous waste hauling to firms that are in the hazardous waste hauling business.

There is a fair amount of attention being put on clarifying EPA regulations which may offer exemptions to hazardous waste classification rules that apply to fuel facility waste material and debris that is being moved from a retail fuel dispensing facility to a refinery. It is thought that this or some similar loophole will be found that will eliminate some or all of the restrictions which are now being applied to fuel facility materials. As these openings develop, we will perform all the actions which are appropriate for us to perform. However, we are cautious because we certainly do not want to bring discredit to ourselves or to our client by presuming too much, too quickly.

Pending the clarification of exemptions that might allow us to transport such materials, we continue to remove place all the highly contaminated effluent materials we pump or bail from wells in properly labeled drums which remain on the site. Drums or the waste materials in the drums is removed and transported off the site by a properly licensed hazardous waste hauler.

There are several different arrangements that can be made, but most involve some liaison between ourselves and the licensed hazardous waste hauler who will need to offhaul any hazardous materials we place in the barrels within 90 days. Our personnel are involved in tracking the actual performance of the hazardous waste hauler by noting when new barrels are delivered to the

site and when resident barrels are emptied and labeled as empty. Our personnel fill out labels when adding material to a barrel and are careful to follow all the **barrel preparation and closure protocols** specified by our client and the hazardous waste hauler. The management of barrels and hauling requires tracking systems we have already developed for other clients.

ABILITY TO PERFORM

In the first quarter of 1993 one of our clients awarded us an additional territory and new sites that added more than 600 new gas station wells to our workload. These were not the only increases we took on and completed at the start of 1993, but they illustrate the fact that we can flex our organization to handle sudden increases.

Blaine Tech Services, Inc. performed all its 1993 commitments with never more than 10 field technicians working out of four (4) General Purpose Sampling Vehicles and six (6) Big Rigs. We managed all our commitments without relying on our #11 truck which was out of service during 1993, receiving a new body and serving as the test bed for the development of the new electric pump hose handling and cleaning package which you saw a week or so before it was completed. That #11 truck is now back in service and we are preparing to add field personnel.

We have also placed in service a new water hauling vehicle (#18) and have taken delivery of another new Ford Super Duty (#19) which is now in the shop to receive the same equipment package that was prototyped on #11. We hope to have #19 out of the shop by the time #20 arrives later in the first quarter of 1994. These added vehicles represent our commitment to a reasonable rate of growth which we achieve by backing up our field personnel with efficient equipment.

However, we do not require *any* additional vehicles to handle Texaco work in the amounts you are likely to limit us to. **The #11 truck which is now in service can handle all the wells in any two Texaco territories with a 30% safety margin**. That translates into a little more than one (1) site per day or one territory per month with the third month of each quarter free to pursue other work. The safety margin is actually even wider because our field personnel work only four days a week. If we found ourselves running behind we could add either more personnel or require overtime.

In practice we always assign **several trucks** to perform work of this type so that we can quickly build a broad base of experienced personnel. However, the single truck yardstick is useful for calculating the overall level of stress which a new assignment adds to the organization.

We have every reason to believe that we can handle whatever work you would like to award us. If we are fortunate enough to be successful in our bidding, we will commence work at Texaco sites during the first week of 1994.

Richard Blaine
President