



Texaco Refining
and Marketing Inc.

ST 10 1039

January 27, 1993

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

Dear Tom:

Enclosed is a copy of our quarterly technical letter report dated January 8, 1993, for the currently operating Exxon service station located at 2225 Telegraph Avenue in Oakland, California. As we discussed, the water treatment pumps should be reactivated this month.

Please call me at (818) 505-2476 if you have any questions or wish to discuss the report further.

Very truly yours,

Bob Robles
Bob Robles
Texaco Refining and Marketing Inc.

RR:rr

Enclosure

cc: Mr. Rich Hiett
California Regional Water
Quality Control Board
San Francisco Bay Region
2101 Webster Street, Ste. 500
Oakland, Ca 94612

RRZielinski-Richmond

pr



Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
Fax: (408) 264-2345

LETTER REPORT
QUARTERLY GROUNDWATER MONITORING
Third Quarter 1992
at
Former Texaco Station
2225 Telegraph Avenue
Oakland, California

62073.01

Jan 8, 93

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
Fax: (408) 264-2345

January 8, 1993
1228RROB
62073.01

Mr. Robert Robles
Texaco Environmental Services
10 Universal City Plaza, 7th Floor
Universal City, California 91608

Subject: Quarterly Status Report for the Third Quarter 1992 at the Texaco Service Station located at 2225 Telegraph Avenue in Oakland, California.

Mr. Robles:

At the request of Texaco Environmental Services (TES), RESNA Industries Inc. (RESNA) has prepared this letter which summarizes the results of quarterly groundwater monitoring at the former Texaco Service Station located at 2225 Telegraph Avenue in Oakland, California (Plate 1, Site Vicinity Map) for the third quarter 1992 (July through September 1992). On September 8, 1992, quarterly groundwater monitoring and sampling was conducted to evaluate groundwater elevations, gradient and flow direction, the presence and thickness of any petroleum hydrocarbon sheen or floating product, and the distribution of dissolved hydrocarbons in the six monitoring wells (MW-6B, MW-6E, MW-6F, MW-6G, MW-6H, and MW-6I) sampled at this site. RESNA's groundwater sampling protocol and groundwater monitoring data are included in Appendix A. Results of laboratory analyses with Chain of Custody documentation are included in Appendix B.

WORK PERFORMED

GROUNDWATER MONITORING

Groundwater elevations at the site have decreased an average of about 0.5 feet from the elevations reported the previous quarter. The groundwater gradient map shows the groundwater beneath the site to be flowing toward the south-southwest with a hydraulic gradient of approximately 0.01 (Plate 2, Groundwater Gradient Map). Historical and recent monitoring data are summarized in Table 1, Cumulative Groundwater Monitoring Data.

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GROUNDWATER SAMPLING

Groundwater samples were submitted to Mobile Chem Laboratories (California Hazardous Materials Testing Laboratory Certification No. 1223) in Martinez, California under Chain of Custody protocol. The samples were analyzed for the gasoline constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total petroleum hydrocarbons as gasoline (TPHg) using modified Environmental Protection Agency (EPA) Methods 5030/602. The Chain of Custody Record and Laboratory Analysis reports are included in Appendix B. *when?*

GROUNDWATER ANALYTICAL RESULTS

Concentrations of TPHg in groundwater samples ranged from less than 50 parts per billion (ppb) to 2,900 ppb (MW-6B). Dissolved benzene concentrations ranged from less than 0.5 ppb to 69 ppb (MW-6H). TPHg and benzene concentrations are shown on Plate 3, TPHg/Benzene Concentrations in Groundwater. Neither floating product nor hydrocarbon sheen was observed in the wells. Historical and recent analytical data are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples. Copies of the laboratory analyses reports and the Chain of Custody manifest for the groundwater samples are included in Appendix B.

PURGE WATER DISPOSAL

On November 16, 1992, approximately 80 gallons of purge water generated during purging and sampling of the monitoring wells was transported to Gibson Environmental in Redwood City, California for disposal.

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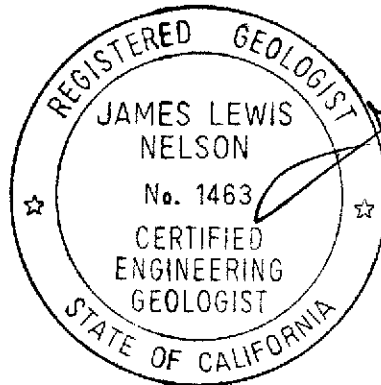
January 8, 1993
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If you have any questions or comments regarding this report, please call (408) 264-7723.

Sincerely,
RESNA Industries Inc.



Jeanne Buckthal
Geologic Technician



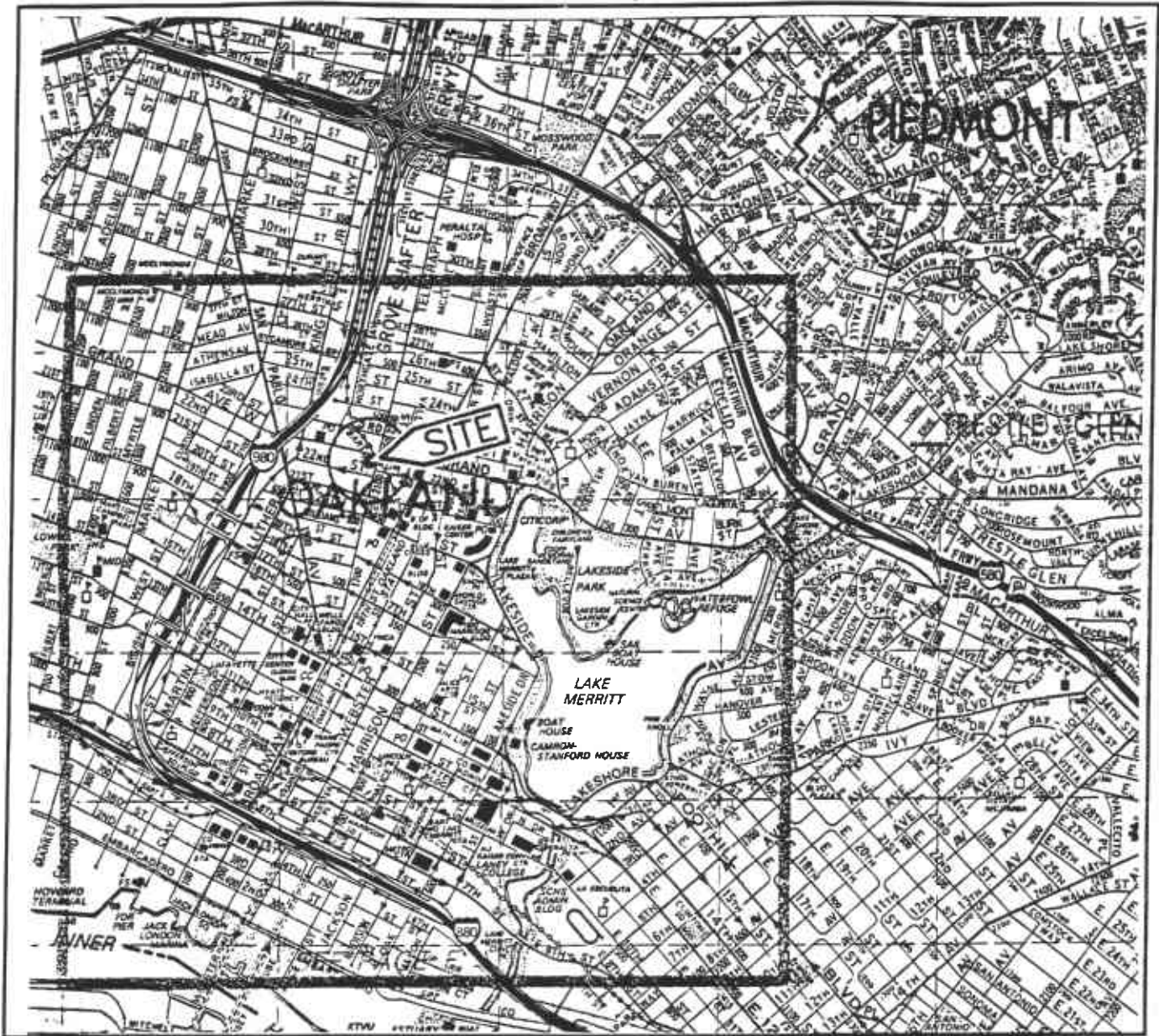
James L. Nelson
Certified Engineering
Geologist 1463

*Philip Mayberry
Project mgr.*

Enclosures: Plate 1: Site Vicinity Map
Plate 2: Groundwater Gradient Map
Plate 3: TPHg/Benzene Concentrations in Groundwater

Table 1: Cumulative Groundwater Monitoring Data
Table 2: Cumulative Results of Laboratory Analyses of Groundwater Samples

Appendix A, Groundwater Sampling Protocol and Well Purge Data Sheets
Appendix B, Laboratory Analysis Reports and Chain of Custody Documentation



Base: The Thomas Guide
 Alameda County
 Oakland, California.
 1991

LEGEND

● = Site Location



Approximate Scale

2200 1100 0 2200 4400



feet

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SITE VICINITY MAP
 Former Texaco Station
 2225 Telegraph Avenue
 Oakland, California

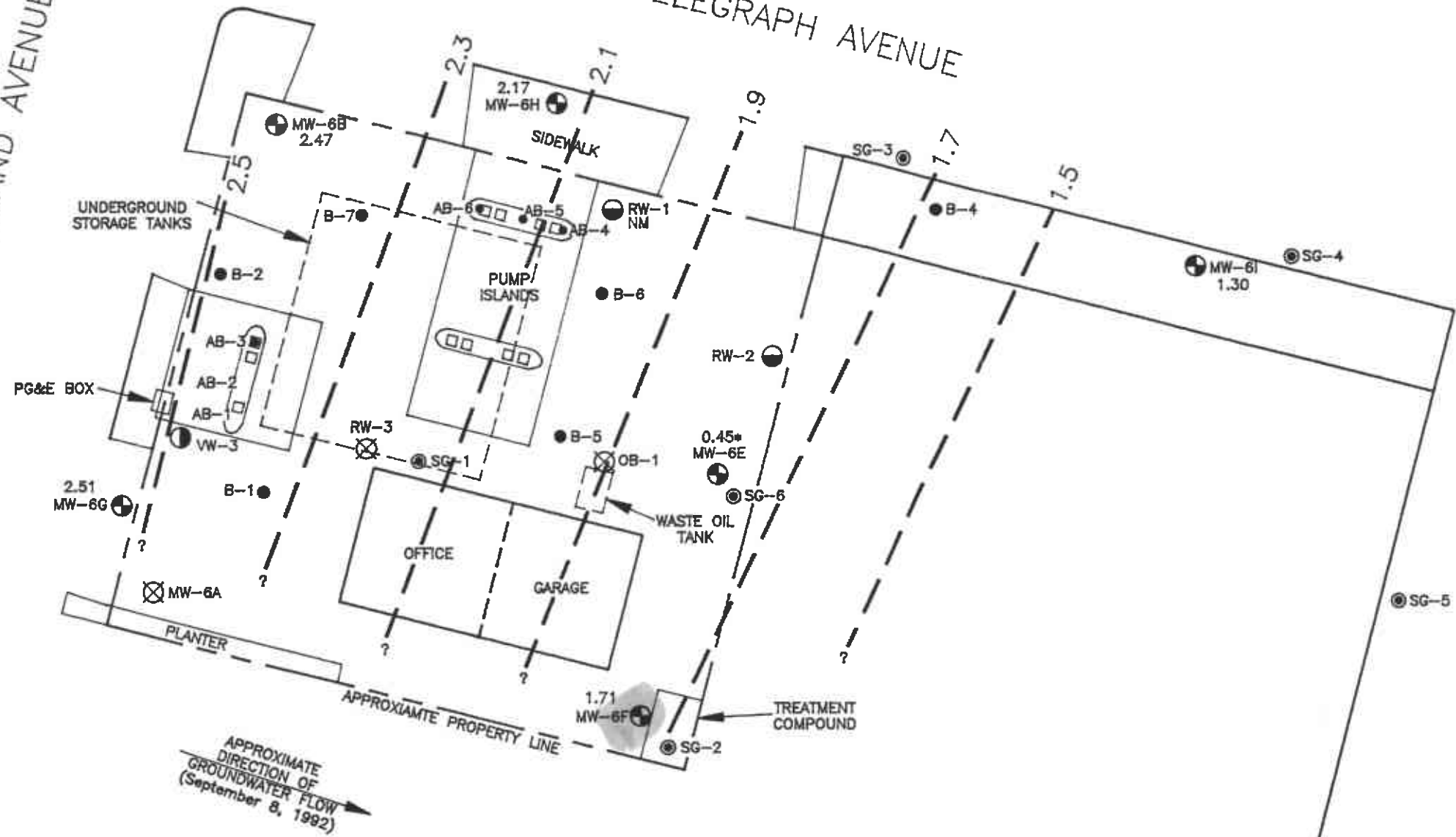
PLATE

1

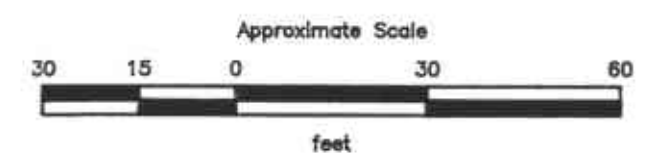
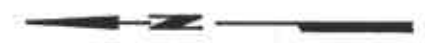
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WEST GRAND AVENUE

TELEGRAPH AVENUE



- EXPLANATION**
- MW-6I ● = Groundwater monitoring well (Harding Lawson, 1988)
 - RW-2 ● = Groundwater recovery/vapor extraction well (Harding Lawson, 1988 and 1990)
 - B-7 ● = Soil boring (Harding Lawson, 1988)
 - SG-6 ● = Soil-gas probe (Harding Lawson, 1988)
 - AB-6 ● = Soil sample (Harding Lawson, 1988)
 - VW-3 ● = Vapor extraction well (Harding Lawson, 1988)
 - RW-3 ⊗ = Abandoned well
 - 2.5 - - - = Line of equal elevation of groundwater in feet above mean sea level (MSL)
 - 2.51 = Elevation of groundwater in feet above MSL (September 8, 1992)
 - * = Not used in groundwater gradient interpretation
 - NM = Not Monitored



Note:
 RW-1 was previously B-3
 RW-2 was previously MW-6D
 RW-3 was previously MW-8C

Source: Modified from site plan provided by Harding Lawson Associates, dated July 29, 1992.



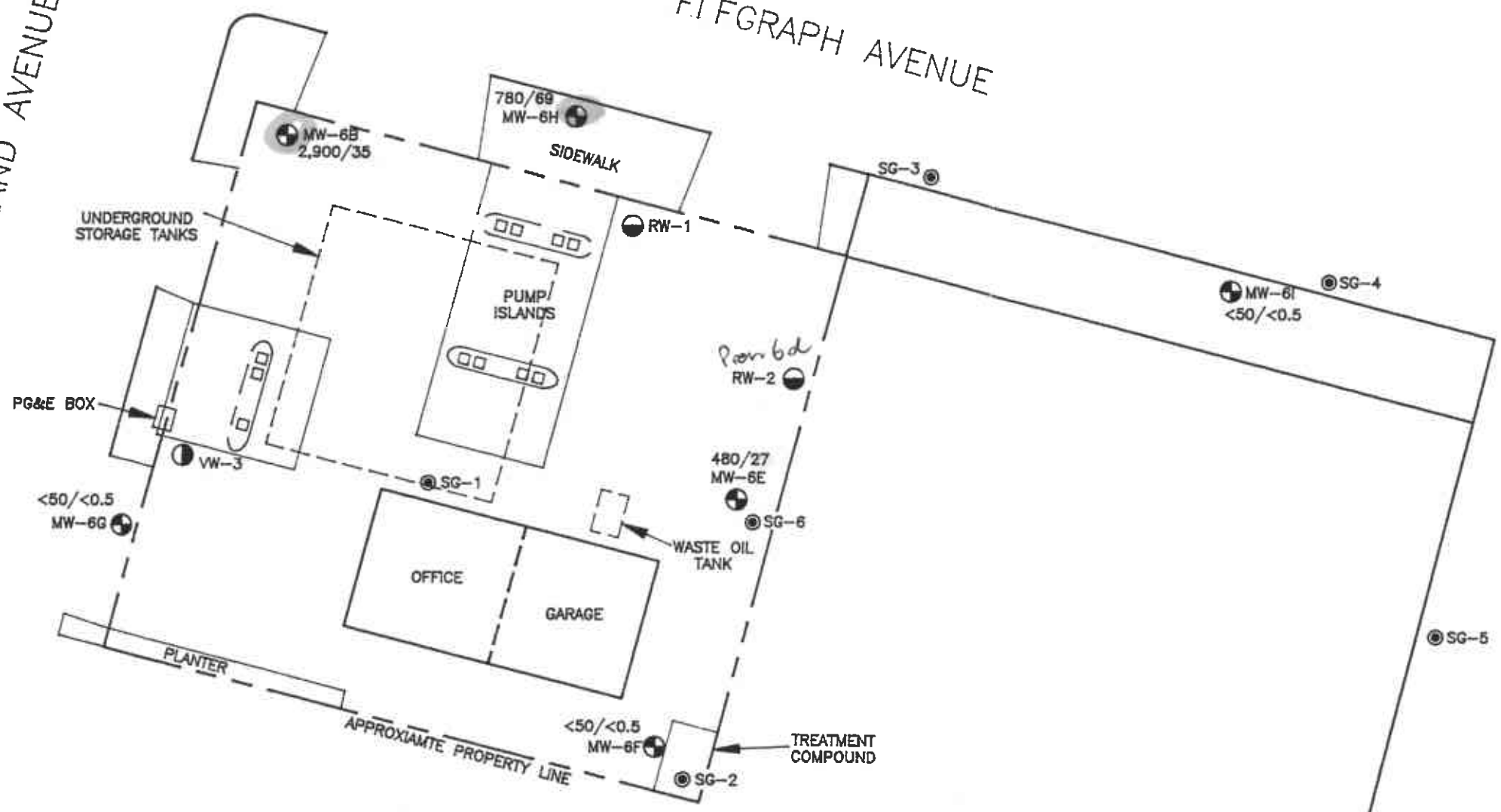
PROJECT 62073.01

GROUNDWATER GRADIENT MAP
 Former Texaco Station
 2225 Telegraph Avenue
 Oakland, California

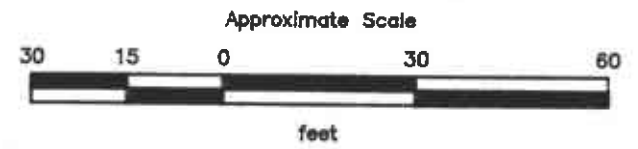
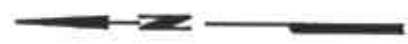
PLATE
 2

WEST GRAND AVENUE

TELEGRAPH AVENUE



- EXPLANATION**
- MW-6I ⊕ = Groundwater monitoring well (Harding Lawson, 1988)
 - RW-2 ⊕ = Groundwater recovery/vapor extraction well (Harding Lawson, 1988 and 1990)
 - SG-6 ⊕ = Soil-gas probe (Harding Lawson, 1988)
 - VW-3 ⊕ = Vapor extraction well (Harding Lawson, 1988)
 - 2,900/35 = Concentration of TPHg/Benzene in groundwater in parts per billion, September 8, 1992



Note:
 RW-1 was previously B-3
 RW-2 was previously MW-6D
 RW-3 was previously MW-6C

Source: Modified from site plan provided by Harding Lawson Associates, dated July 29, 1992.



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TPHg/BENZENE CONCENTRATIONS IN GROUNDWATER
 Former Texaco Station
 2225 Telegraph Avenue
 Oakland, California

PLATE
 3

Quarterly Status Report
2225 Telegraph Avenue, Oakland, California

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Texaco Service Station
2225 Telegraph Avenue
Oakland, California
(Page 1 of 5)

Well	Date	Wellhead Elevation	Depth to Water	Groundwater Elevation*	Floating Product
<u>MW-6A</u>					
HLA	12/15/88	98.99*	13.77	85.22	NA
	10/03/89		13.40	85.59	NA
	05/11/90		12.87	86.12	NA
	10/16/90		13.27	85.72	NA
	12/06/90		13.28	85.71	NA
	01/14/91		Not Monitored		
	02/08/91		12.49	86.50	NA
	04/02/91		Not Monitored		
	05/07/91		11.94	87.05	NA
	05/31/91		Not Accessible		
	06/26/91		12.87	86.12	NA
	08/05/91		13.44	85.55	NA
	08/14/91		13.47	85.52	NA
	09/11/91		13.48	85.51	NA
	10/16/91		13.64	85.35	NA
	12/30/91		Well Abandoned		
<u>MW-6B</u>					
HLA	12/15/88	98.81*	13.01	85.80	NA
	10/03/89		12.94	85.87	NA
	04/30/90		12.53	86.28	NA
	10/16/90		12.73	86.08	NA
	12/06/90		12.74	86.07	NA
	01/14/91		12.57	86.24	NA
	02/08/91		12.16	86.65	NA
	04/02/91		11.50	87.31	NA
	05/07/91		12.02	86.79	NA
	05/31/91		12.40	86.41	NA
	06/26/91		12.69	86.12	NA
	08/05/91		12.95	85.86	NA
	08/14/91		12.93	85.88	NA
	09/11/91		13.01	85.80	NA
	10/16/91		13.09	85.72	NA
	12/30/91		12.62	86.19	NA
	02/25/92		11.81	87.00	NA
	03/25/92		11.58	87.23	NA
	06/16/92	15.34**	12.54	2.80	NA
RESNA	09/08/92		12.87	2.47	None
<u>RW-3 (MW-6C)</u>					
HLA	12/15/88	99.89*	14.41	85.48	NA
	10/03/89		14.10	85.79	NA

See note on page 5 of 5.

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Texaco Service Station
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Well	Date	Wellhead Elevation	Depth to Water	Groundwater Elevation*	Floating Product
<u>RW-3 (Cont'd)</u>	04/30/90		13.81	86.68	NA
	10/16/90	98.97*	13.29	85.68	NA
	01/14/91		14.50	84.47	NA
	02/08/91		12.54	86.43	NA
	04/02/91		11.39	87.58	NA
	05/07/91		12.47	86.50	NA
	05/31/91		16.31	82.66	NA
	06/26/91		15.50	83.47	NA
	08/05/91		13.69	85.28	NA
	08/13/91		13.67	85.30	NA
	09/11/91		13.77	85.20	NA
	10/16/91		16.66	82.31	NA
	11/05/91		Well Abandoned		
<u>RW-2 (MW-6D)</u>	HLA	98.78*	13.53	85.25	NA
			13.44	85.34	NA
	04/30/90		13.19	85.59	NA
	10/16/90	98.11*	12.77	85.34	NA
	01/14/91		Not Monitored		
	02/08/91		13.11	85.00	NA
	04/02/91		11.70	86.41	NA
	05/07/91		14.09	84.02	NA
	05/31/91		16.01	82.10	NA
	06/26/91		14.60	83.51	NA
	08/05/91		14.00	84.11	NA
	08/13/91		21.30	76.81	NA
	09/11/91		19.97	78.14	NA
	10/16/91		15.19	82.92	NA
	12/30/91		13.19	84.92	NA
	02/25/92		16.27	81.84	NA
	03/25/92		Not Monitored		
	06/16/92	14.61**	12.86	1.75	NA
	RESNA	09/08/92		Not Monitored	
<u>MW-6E</u>	HLA	98.99*	13.84	85.15	NA
			13.70	85.29	NA
	04/30/90		13.43	85.56	NA
	10/16/90		13.77	85.22	NA
	12/06/90		13.95	85.04	NA
	01/14/91		13.95	85.04	NA

See note on page 5 of 5.

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Texaco Service Station
2225 Telegraph Avenue
Oakland, California
(Page 3 of 5)

<u>Well</u>	<u>Date</u>	<u>Wellhead Elevation</u>	<u>Depth to Water</u>	<u>Groundwater Elevation*</u>	<u>Floating Product</u>
<u>MW-6E (Cont'd)</u>					
	02/08/91		13.20	85.79	NA
	04/02/91		12.28	86.71	NA
	05/07/91		13.48	85.51	NA
	05/31/91		14.09	84.90	NA
	06/26/91		12.54	86.45	NA
	08/05/91		14.39	84.60	NA
	08/14/91		14.18	84.81	NA
	09/11/91		14.73	84.26	NA
	10/16/91		14.40	84.59	NA
	12/30/91		13.39	85.60	NA
	02/25/92		13.16	85.83	NA
	03/25/92		12.15	86.84	NA
	06/16/92	15.23**	13.54	1.69	NA
RESNA	09/08/92		14.78	0.45	None
<u>MW-6F</u>					
HLA	12/15/88	99.91*	14.73	85.18	NA
	10/03/89		14.48	85.43	NA
	04/30/90		14.14	85.77	NA
	10/16/90		14.77	85.14	NA
	12/06/90		14.81	85.10	NA
	01/14/91		14.73	85.18	NA
	02/08/91		13.73	86.18	NA
	04/02/91		12.38	87.53	NA
	05/07/91		13.67	86.24	NA
	05/31/91		14.43	85.48	NA
	06/26/91		14.81	85.10	NA
	08/05/91		14.96	84.95	NA
	08/14/91		14.87	85.04	NA
	09/11/91		15.11	84.80	NA
	10/16/91		15.16	84.75	NA
	12/30/91		13.78	86.13	NA
	02/25/92		12.68	87.23	NA
	03/25/92		11.93	87.98	NA
	06/16/92	16.46**	14.34	2.12	NA
RESNA	09/08/92		14.75	1.71	None
<u>MW-6G</u>					
HLA	12/15/88	99.16*	12.39	86.77	NA
	10/03/89		12.22	86.94	NA
	04/30/90		11.73	87.43	NA

See note on page 5 of 5.

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Texaco Service Station
2225 Telegraph Avenue
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Well	Date	Wellhead Elevation	Depth to Water	Groundwater Elevation*	Floating Product
<u>MW-6G</u> (Cont'd)					
	10/16/90		12.28	86.88	NA
	12/06/90		12.27	86.89	NA
	01/14/91		12.14	87.02	NA
	02/08/91		11.44	87.72	NA
	04/02/91		10.03	89.13	NA
	05/07/91		11.00	88.16	NA
	05/31/91		11.75	87.41	NA
	06/26/91		12.91	86.25	NA
	08/05/91		12.43	86.73	NA
	08/14/91		12.43	86.73	NA
	09/11/91		12.48	86.68	NA
	10/16/91		12.64	86.52	NA
	12/30/91		11.80	87.36	NA
	02/25/92		10.32	88.84	NA
	03/25/92		9.93	89.23	NA
	06/16/92	14.71**	11.88	2.83	NA
RESNA	09/08/92		12.20	2.51	None
<u>MW-6H</u>					
HLA	12/15/88	97.93*	12.39	85.54	NA
	10/03/89		12.36	85.57	NA
	04/30/90		12.10	85.83	NA
	10/16/90		12.18	85.75	NA
	12/06/90		12.29	85.64	NA
	01/14/91		12.22	85.71	NA
	02/08/91		11.93	86.00	NA
	04/02/91		11.59	86.34	NA
	05/07/91		12.24	85.69	NA
	05/31/91		12.22	85.71	NA
	06/26/91		14.34	83.59	NA
	08/05/91		12.62	85.31	NA
	08/14/91		12.43	85.50	NA
	09/11/91		12.83	85.10	NA
	10/16/91		12.71	85.22	NA
	12/30/91		12.16	85.77	NA
	02/25/92		12.17	85.76	NA
	03/25/92		11.65	86.28	NA
	06/16/92	14.47**	12.12	2.35	NA
RESNA	09/08/92		12.30	2.17	None
<u>MW-6I</u>					
HLA	12/15/88	97.60*	12.82	84.78	NA

See note on page 5 of 5.

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Texaco Service Station
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Well	Date	Wellhead Elevation	Depth to Water	Groundwater Elevation*	Floating Product	
<u>MW-6I</u> (Cont'd)	10/03/89		12.83	84.77	NA	
	04/30/90		12.66	84.94	NA	
	10/16/90		12.71	84.89	NA	
	12/06/90		12.75	84.85	NA	
	01/14/91		12.55	85.05	NA	
	02/08/91		12.32	85.28	NA	
	04/02/91		12.22	85.38	NA	
	05/07/91		12.61	84.99	NA	
	05/31/91		12.82	84.78	NA	
	06/26/91		12.93	84.67	NA	
	08/05/91		13.01	84.59	NA	
	08/14/91		12.98	84.62	NA	
	09/11/91		13.11	84.49	NA	
	10/16/91		13.04	84.56	NA	
	12/30/91		12.72	84.88	NA	
	02/25/92		12.45	85.15	NA	
	03/25/92		12.12	85.48	NA	
	06/16/92	14.14**	12.75	1.39	NA	
	RESNA	09/08/92		12.84	1.30	None
	<u>RW-1</u> HLA	10/16/90	97.89*	12.24	85.65	NA
01/14/91			12.80	85.09	NA	
02/08/91			12.53	85.36	NA	
04/02/91			NA	NA	NA	
05/07/91			NA	NA	NA	
05/31/91			12.86	85.03	NA	
08/05/91			13.19	84.70	NA	
08/13/91			14.05	83.84	NA	
09/11/91			15.96	81.93	NA	
10/16/91			16.00	81.89	NA	
12/30/91			12.65	85.24	NA	
02/25/92			14.40	83.49	NA	
03/25/92			NA	NA	NA	
06/16/92		14.42**	12.37	2.05	NA	
RESNA		09/08/92		Not Monitored		

Measurement in feet.

- * : Based on assigned benchmark with elevation arbitrarily set at 100 feet.
- ** : Elevation relative to mean sea level (MSL).
- NA : Not Available

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TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Texaco Service Station
2225 Telegraph Avenue
Oakland, California
(Page 1 of 3)

Well	Date	TPHg	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total Oil and Grease
MW-6A							
HLA	06/24/88	NA	ND	ND	ND	ND	NA
	10/20/88	NA	1.0	ND	ND	ND	NA
	09/07/89	ND	2.0	ND	ND	ND	NA
	05/11/90	<500	150	6.2	<0.25	13	NA
	05/07/91	2,700	700	64	67	74	NA
	08/14/91	ND	3.6	<0.5	<0.5	<0.5	NA
	12/31/91			Well Damaged			
	03/25/92			Well Damaged			
	05/02/92			Well Abandoned			
MW-6B							
HLA	06/24/88	NA	ND	ND	ND	5.0	NA
	10/20/88	NA	4.0	ND	ND	ND	NA
	09/07/89	2,700	70	3.0	ND	160	NA
	04/30/90	168	45	8.0	60	22	NA
	05/07/91	3,300	240	6.0	20	660	NA
	08/14/91	980	9.1	42	310	150	NA
	12/31/91	1,200	46	<5.0	85	220	ND
	03/25/92	190	31	8.6	84	8.6	NA
	06/16/92	1,700	44	1.7	7.2	230	NA
RESNA	09/08/92	2,900	35	8.3	110	330	NA
MW-6C							
HLA	06/24/88	NA	7,400	7.0	170	2,300	NA
	10/20/88	NA	9,500	65	170	850	NA
	09/07/89	18,000	7,900	430	350	1,100	NA
	04/30/90	30,000	6,100	1,500	1,000	2,700	NA
(RW-3)	05/07/91	5,800	4,200	640	220	670	NA
	08/14/91	3,800	2,300	300	49	360	NA
	11/05/91			Well Abandoned			
MW-6D							
HLA	07/11/88	NA	220	27	<20	<10	NA
	10/20/88	NA	710	74	22	110	NA
	09/07/89	2,200	600	26	58	31	NA
	04/30/90	3,600	800	150	310	280	NA
(RW-2)	05/07/91	11,000	3,200	480	150	780	NA
	08/14/91	NA	NA	NA	NA	NA	NA

? why?

See notes on page 3 of 3.

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2225 Telegraph Avenue, Oakland, California

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TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Texaco Service Station
2225 Telegraph Avenue
Oakland, California
(Page 2 of 3)

Well	Date	TPHg	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total Oil and Grease
<u>MW-6D cont.</u>							
	12/31/91	NA	NA	NA	NA	NA	NA
	03/25/92	NA	NA	NA	NA	NA	NA
	06/16/92	28,000	2,900	1,000	120	2,700	NA
RESNA	09/08/92			Not Sampled			
<u>MW-6E</u>							
HLA	10/20/88	NA	1.0	ND	ND	3.0	NA
	09/07/89	220	3.0	ND	ND	ND	NA
	04/30/90	250	57	<5.0	<5.0	53	NA
	05/07/91	160	32	1.0	2.2	1.4	NA
	08/14/91	ND	0.9	<0.5	<0.5	<0.5	NA
	12/31/91	90	3.1	<0.5	<0.5	<0.5	ND
	03/25/92	830	41	1.0	3.8	16	NA
	06/16/92	3,400	300	23	68	510	NA
RESNA	09/08/92	480	27	<0.5	3.6	21	NA
<u>MW-6F</u>							
HLA	10/25/88	ND	ND	ND	2.0	NA	NA
	09/07/89	ND	ND	ND	ND	ND	NA
	04/30/90	ND	ND	ND	ND	ND	NA
	05/07/91	ND	ND	<0.5	<0.5	<0.5	NA
	08/14/91	ND	ND	<0.5	<0.5	<0.5	NA
	12/31/91	ND	ND	<0.5	<0.5	<0.5	ND
	03/25/92	ND	ND	<0.5	<0.5	<0.5	NA
	06/16/92	ND	ND	<0.5	<0.5	<0.5	NA
RESNA	09/08/92	<50	<0.5	<0.5	<0.5	<0.5	NA
<u>MW-6G</u>							
HLA	12/07/88	ND	ND	ND	ND	NA	NA
	09/07/89	ND	ND	ND	ND	ND	NA
	04/30/90	ND	ND	ND	ND	ND	NA
	05/07/91	ND	ND	<0.5	<0.5	<0.5	NA
	08/14/91	ND	ND	<0.5	<0.5	<0.5	NA
	12/31/91	ND	ND	<0.5	<0.5	<0.5	ND
	03/25/92	ND	ND	<0.5	<0.5	<0.5	NA
	06/16/92	ND	ND	<0.5	<0.5	<0.5	NA
RESNA	09/08/92	<50	<0.5	<0.5	<0.5	<0.5	NA

? why?

See notes on page 3 of 3.

Quarterly Status Report
2225 Telegraph Avenue, Oakland, California

January 8, 1993
62073.01

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Texaco Service Station
2225 Telegraph Avenue
Oakland, California
(Page 3 of 3)

Well	Date	TPHg	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total Oil and Grease
<u>MW-6H</u>							
HLA	12/07/88	NA	1,200	320	110	220	NA
	09/07/89	660	480	< 10	16	< 15	NA
	04/30/90	630	700	39	31	50	NA
	05/07/91	570	95	14	15	21	NA
	08/14/91	540	52	9.9	11	18	NA
	12/31/91	790	52	28	22	42	ND
	03/25/92	920	170	52	25	54	NA
	06/16/92	460	31	11	6.8	16	NA
RESNA	09/08/92	780	69	23	17	18	NA
<u>MW-6I</u>							
HLA	12/07/88	ND	ND	ND	ND	NA	NA
	09/07/89	ND	ND	ND	ND	ND	NA
	04/30/90	ND	ND	ND	ND	ND	NA
	05/07/91	ND	ND	< 0.5	< 0.5	< 0.5	NA
	08/14/91	ND	ND	< 0.5	< 0.5	< 0.5	NA
	12/31/91	ND	ND	< 0.5	< 0.5	< 0.5	ND
	03/25/92	ND	ND	< 0.5	< 0.5	< 0.5	NA
	06/16/92	ND	ND	< 0.5	< 0.5	< 0.5	NA
RESNA	09/08/92	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA
MCLs		—	1.0	—	680	1,750	—
DWAL		—	—	100	—	—	—

Results in parts per billion (ppb).

- TPHg : Total petroleum hydrocarbons analyzed as gasoline.
- < : 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 Levels, DHS (October 1990)
- NA : Not Analyzed
- ND : Not detectable at or above method detection limit.
- : Not Applicable
- HLA : Harding Lawson Associates

APPENDIX A

**GROUNDWATER SAMPLING PROTOCOL
WELL PURGE DATA SHEETS**

Quarterly Status Report
2225 Telegraph Avenue, Oakland, California

January 8, 1993
62073.01

GROUNDWATER SAMPLING PROTOCOL

The static water level and floating product level, if present, in each well that contained water was measured with an ORS Interphase Probe Model No. 1068018; this instrument is accurate to the nearest 0.01 foot. These groundwater depths were subtracted from wellhead elevations, including corrections for product thickness, when necessary, for gradient evaluation by multiplying product thickness (PT) by a correction factor 0.8 and subtracting from the DTW (Adjusted DTW = DTW - [PT x 0.8]).

Water samples collected for subjective evaluation were collected by gently lowering approximately half the length of a new disposable bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples were checked for measurable floating hydrocarbon product.

Before water samples were collected from the groundwater monitoring wells, the wells were purged until stabilization of the temperature, pH, and conductivity was obtained. Approximately four well casing volumes were purged before those characteristics stabilized. The quantity of water purged from each well was calculated as follows:

1 well casing volume = $\pi r^2 h (7.48)$ where:

- r = radius of the well casing in feet.
- h = column of water in the well in feet
(depth to bottom - depth to water).
- 7.48 = conversion constant from cubic feet to
gallons

Gallons of water purged/gallons in 1 well casing volume = well casing volumes removed.

After purging, each well was allowed to recharge to at least 80% of the initial water level. Water samples were collected with a new disposable bailer, and carefully poured into 40-milliliter (ml) glass vials, which were filled so as to produce a positive meniscus. Each vial was preserved with hydrochloric acid, sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace which would allow volatilization to occur. The samples were transported in iced storage in a thermally insulated ice chest, accompanied by a Chain of Custody form, to a California-certified laboratory.

WELL PURGE DATA SHEET

Project Name: Texaco - Oakland

Job No. 62073.01

Date: September 8, 1992

Page 1 of 1

Well No. MW-6B

Time Started 1:15

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
1:15	Start purging MW-6B			
1:15	0	75.0	7.29	660
1:17	1	72.9	7.20	660
1:20	2	73.2	7.14	640
1:25	3	73.5	7.13	660
1:28	4	72.6	7.11	650
1:28	Stop purging MW-6B			
Notes:				
Well Diameter (inches) : 2"				
Depth to Bottom (feet) : 18.00				
Depth to Water - initial (feet) : 12.87				
Depth to Water - final (feet) : 12.87				
% recovery : 100.0%				
Time Sampled : 3:15				
Gallons per Well Casing Volume : 0.84				
Gallons Purged : 4				
Well Casing Volume Purged : 4.8				
Approximate Pumping Rate (gpm) : 0.3				

WELL PURGE DATA SHEET

Project Name: Texaco - Oakland

Job No. 62073.01

Date: September 8, 1992

Page 1 of 1

Well No. MW-6E

Time Started 3:30

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
3:30	Start purging MW-6E			
3:30	0	73.8	7.41	630
3:36	3.1	69.7	7.30	600
3:42	6.2	68.8	7.21	590
3:56	9.3	68.4	7.19	580
4:02	12.4	68.2	7.18	580
4:02	Stop purging MW-6E			
Notes:				
Well Diameter (inches) : 4"				
Depth to Bottom (feet) : 19.50				
Depth to Water - initial (feet) : 14.78				
Depth to Water - final (feet) : 14.78				
% recovery : 100.0%				
Time Sampled : 5:00				
Gallons per Well Casing Volume : 3.08				
Gallons Purged : 12.4				
Well Casing Volume Purged : 4.0				
Approximate Pumping Rate (gpm) : 0.4				

WELL PURGE DATA SHEET

Project Name: Texaco - Oakland

Job No. 62073.01

Date: September 8, 1992

Page 1 of 1

Well No. MW-6F

Time Started 10:00

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
10:00	Start purging MW-6F			
10:00	0	68.8	7.62	460
10:06	3.2	66.8	7.66	440
10:12	6.4	65.7	7.63	440
10:24	9.6	65.4	7.62	440
10:30	12.8	65.3	7.62	440
10:30	Stop purging MW-6F			
Notes:				
Well Diameter (inches) : 4"				
Depth to Bottom (feet) : 19.60				
Depth to Water - initial (feet) : 14.75				
Depth to Water - final (feet) : 14.75				
% recovery : 100.0%				
Time Sampled : 11:30				
Gallons per Well Casing Volume : 3.16				
Gallons Purged : 12.8				
Well Casing Volume Purged : 4.0				
Approximate Pumping Rate (gpm) : 0.4				

WELL PURGE DATA SHEET

Project Name: Texaco - Oakland

Job No. 62073.01

Date: September 8, 1992

Page 1 of 1

Well No. MW-6G

Time Started 10:45

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
10:45	Start purging MW-6G			
10:45	0	72.2	7.34	670
10:54	4.8	70.4	7.25	660
11:03	9.6	70.4	7.23	650
11:17	13.4	72.4	7.21	680
11:26	18.2	71.0	7.17	670
11:26	Stop purging MW-6G			
Notes:				
Well Diameter (inches) : 4"				
Depth to Bottom (feet) : 19.47				
Depth to Water - initial (feet) : 12.20				
Depth to Water - final (feet) : 12.18				
% recovery : 100.3%				
Time Sampled : 3:30				
Gallons per Well Casing Volume : 4.74				
Gallons Purged : 18.2				
Well Casing Volume Purged : 3.8				
Approximate Pumping Rate (gpm) : 0.4				

WELL PURGE DATA SHEET

Project Name: Texaco - Oakland

Job No. 62073.01

Date: September 8, 1992

Page 1 of 1

Well No. MW-6H

Time Started 2:30

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
2:30	Start purging MW-6H			
2:30	0	76.5	7.37	550
2:40	5	74.3	7.35	520
2:50	10	72.9	7.31	510
2:59	15	73.4	7.30	520
3:10	20	71.7	7.26	510
3:10	Stop purging MW-6H			
Notes:				
Well Diameter (inches) : 4"				
Depth to Bottom (feet) : 19.75				
Depth to Water - initial (feet) : 12.30				
Depth to Water - final (feet) : 12.30				
% recovery : 100.0%				
Time Sampled : 4:30				
Gallons per Well Casing Volume : 4.86				
Gallons Purged : 20				
Well Casing Volume Purged : 4.1				
Approximate Pumping Rate (gpm) : 0.5				

WELL PURGE DATA SHEET

Project Name: Texaco - Oakland

Job No. 62073.01

Date: September 8, 1992

Page 1 of 1

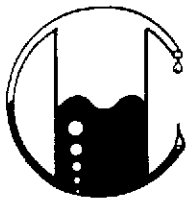
Well No. MW-6I

Time Started 12:00

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
12:00	Start purging MW-6I			
12:00	0	72.8	7.37	560
12:08	4.2	70.8	7.23	530
12:16	8.4	69.6	7.22	520
12:28	12.6	72.0	7.26	540
12:36	16.8	70.0	7.22	530
12:36	Stop purging MW-6I			
Notes:				
Well Diameter (inches) : 4"				
Depth to Bottom (feet) : 19.15				
Depth to Water - initial (feet) : 12.84				
Depth to Water - final (feet) : 12.84				
% recovery : 100.0%				
Time Sampled : 1:45				
Gallons per Well Casing Volume : 4.12				
Gallons Purged : 16.8				
Well Casing Volume Purged : 4.1				
Approximate Pumping Rate (gpm) : 0.5				

APPENDIX B

**LABORATORY ANALYSIS REPORTS AND
CHAIN OF CUSTODY DOCUMENTATION**



MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

62073.01\1718\012082

RESNA Industries
3315 Alamen Expressway, #34
San Jose, CA 95118
Attn: Phillip Mayberry
Project Manager

Date Sampled: 09-08-92
Date Received: 09-09-92
Date Analyzed: 09-17-92

Sample Number

092172

Sample Description

Project # 62073.01
Texaco - Oakland
2225 Telegraph
BB1 WATER

ANALYSIS

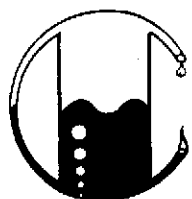
	<u>Detection Limit</u>	<u>Sample Results</u>
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

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.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

62073.01\1718\012082

RESNA Industries
3315 Alamen Expressway, #34
San Jose, CA 95118
Attn: Phillip Mayberry
Project Manager

Date Sampled: 09-08-92
Date Received: 09-09-92
Date Analyzed: 09-17-92

Sample Number

092173

Sample Description

Project # 62073.01
Texaco - Oakland
2225 Telegraph
MW 6F WATER

ANALYSIS

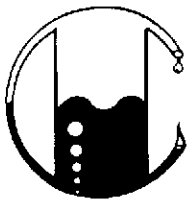
	Detection Limit ----- ppb	Sample Results ----- ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH
LUFT with method 602 used for BTX distinction.
(ppb) = ($\mu\text{g/L}$)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director



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5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

62073.01\1718\012082

RESNA Industries
3315 Alamen Expressway, #34
San Jose, CA 95118
Attn: Phillip Mayberry
Project Manager

Date Sampled: 09-08-92
Date Received: 09-09-92
Date Analyzed: 09-17-92

Sample Number

092174

Sample Description

Project # 62073.01
Texaco - Oakland
2225 Telegraph
MW 6G WATER

ANALYSIS

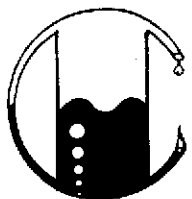
	<u>Detection Limit</u>	<u>Sample Results</u>
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

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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5021 Blum Road, Suite 3 • Martinez, CA 94553
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RESNA Industries
3315 Alamden Expressway, #34
San Jose, CA 95118
Attn: Phillip Mayberry
Project Manager

Date Sampled: 09-08-92
Date Received: 09-09-92
Date Analyzed: 09-17-92

Sample Number

092175

Sample Description

Project # 62073.01
Texaco - Oakland
2225 Telegraph
MW 6I WATER

ANALYSIS

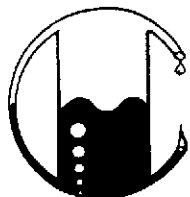
	<u>Detection Limit</u>	<u>Sample Results</u>
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

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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Phone (415) 372-3700 • Fax (415) 372-6955

62073.01\1718\012082

RESNA Industries
3315 Alamden Expressway, #34
San Jose, CA 95118
Attn: Phillip Mayberry
Project Manager

Date Sampled: 09-08-92
Date Received: 09-09-92
Date Analyzed: 09-17-92

Sample Number

092176

Sample Description

Project # 62073.01
Texaco - Oakland
2225 Telegraph
MW 6B WATER

ANALYSIS

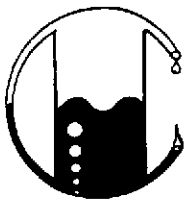
	<u>Detection Limit</u>	<u>Sample Results</u>
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	2,900
Benzene	0.5	35
Toluene	0.5	8.3
Xylenes	0.5	330
Ethylbenzene	0.5	110

QA/QC: Sample blank is none detected

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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Phone (415) 372-3700 • Fax (415) 372-6955

62073.01\1718\012082

RESNA Industries
3315 Alamen Expressway, #34
San Jose, CA 95118
Attn: Phillip Mayberry
Project Manager

Date Sampled: 09-08-92
Date Received: 09-09-92
Date Analyzed: 09-17-92

Sample Number

092177

Sample Description

Project # 62073.01
Texaco - Oakland
2225 Telegraph
MW 6E WATER

ANALYSIS

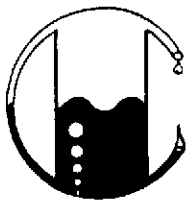
	<u>Detection Limit</u>	<u>Sample Results</u>
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	480
Benzene	0.5	27
Toluene	0.5	<0.5
Xylenes	0.5	21
Ethylbenzene	0.5	3.6

QA/QC: Sample blank is none detected

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.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

62073.01\1718\012082

RESNA Industries
3315 Alamen Expressway, #34
San Jose, CA 95118
Attn: Phillip Mayberry
Project Manager

Date Sampled: 09-08-92
Date Received: 09-09-92
Date Analyzed: 09-17-92

Sample Number

092178

Sample Description

Project # 62073.01
Texaco - Oakland
2225 Telegraph
MW 6H WATER

ANALYSIS

	<u>Detection Limit</u>	<u>Sample Results</u>
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	780
Benzene	0.5	69
Toluene	0.5	23
Xylenes	0.5	18
Ethylbenzene	0.5	17

QA/QC: Sample blank is none detected

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



CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO. 62073.01		PROJECT NAME/SITE TEXACO 2225 Telegraph, Oakland, CA					ANALYSIS REQUESTED										P.O. #:																							
SAMPLERS (SIGN) Robin A. Adair		(PRINT) Robin A. Adair					NO. CONTAINERS	SAMPLE TYPE	<table border="1"> <tr> <td>BTEX (602/8020)</td> <td>TPHg (8015)</td> <td>TPHg (8015)</td> <td>TOG 418 1/5520</td> <td>601/8010</td> <td>624/8240</td> <td>625/8270</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										BTEX (602/8020)	TPHg (8015)	TPHg (8015)	TOG 418 1/5520	601/8010	624/8240	625/8270															REMARKS
BTEX (602/8020)	TPHg (8015)	TPHg (8015)	TOG 418 1/5520	601/8010	624/8240	625/8270																																		
SAMPLE IDENTIFICATION		DATE	TIME	COMP	GRAB	PRES. USLD	ICED	NO. CONTAINERS	SAMPLE TYPE																															
BBI		9-8-92	11:15			HCl	Y	3		XX																														
MW 6F			11:30			HCl	Y	3		XX	XX																													
MW 6G			12:45			HCl	Y	3		XX	XX																													
MW 6I			1:45			HCl	Y	3		XX	XX																													
MW 6B			3:15			HCl	Y	3	3	XX	XX																													
MW 6E			5:00			HCl	Y	3	3	XX	XX																													
MW 6H			4:30			HCl	Y	3	3	XX	XX																													
RELINQUISHED BY: Robin A. Adair		DATE 9-9-92	TIME 9:00 AM	RECEIVED BY: [Signature]		LABORATORY: Mobile Chem Labs					PLEASE SEND RESULTS TO: Robin Adair Resna, Fremont.																													
RELINQUISHED BY: [Signature]		DATE 9/9/92	TIME 11:25	RECEIVED BY: Dave Levine mch							Phil Mayberry Resna, San Jose.																													
RELINQUISHED BY:		DATE:	TIME:	RECEIVED BY:		REQUESTED TURNAROUND TIME: NORMAL																																		
RELINQUISHED BY:		DATE:	TIME:	RECEIVED BY LABORATORY:		RECEIPT CONDITION:					PROJECT MANAGER:																													