

Texaco Refining and Marketing Inc

108 Cutting Boulevard Richmond CA 94804 The Stray

May 12, 1993

ENV - STUDIES, SURVEYS, & REPORTS Exxon Service Station/Former Texaco Service Station 2200 E. 12th St., Oakland CA

Mr. Richard Hiett California Regional Water Quality Control Board San Francisco Bay Region 2101 Webster Street, Suite 500 Oakland, CA 94612

Dear Mr. Hiett:

Enclosed please find the <u>Quarterly Groundwater Monitoring Report</u> dated May 6, 1993 for the subject site.

If you have any questions I can be contacted at (510) 236-1770.

Best Regards,

R. R. Zielinski Area Supervisor

Texaco Environmental Services

RRZ:kep

2200\QTRCVR.RH

Enclosure

cc: Mr. Thomas Peacock - Alameda County Environmental Health

Department

Ms. Deborah Harris - Exxon

PR: KIRP



3315 Almaden Expressway, Suite 34 San Jose, CA 95118 Phone: (408) 264-7723 FAX: (408) 264-2435

LETTER REPORT QUARTERLY GROUNDWATER MONITORING First Quarter 1993

at Former Texaco Station 2200 East 12th Street Oakland, California

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3315 Almaden Expressway, Suite 34 San Jose, CA 95118 Phone: (408) 264-7723 FAX: (408) 264-2435

> May 6, 1993 0419RZIE 62079.01

Mr. Ron R. Zielinski Texaco Environmental Services 108 Cutting Boulevard Richmond, California 94804

Subject:

Results of Groundwater Monitoring and Sampling for the First Quarter 1993, at the Former Texaco Station located at 2200 East 12th Street in Oakland,

California.

Mr. Zielinski:

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 2200 East 12th Street in Oakland, California (Plate 1, Site Vicinity Map) for the first quarter 1993 (January through March 1993). On February 3, 1993, 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 8 of the monitoring wells (MW-9A, MW-9B, MW-9C, MW-9D, MW-9F, MW-9G, MW-9H, and MW-9I) at this site. RESNA's groundwater sampling protocol and well purge data sheets are included in Appendix A.

WORK PERFORMED

GROUNDWATER MONITORING

In general, groundwater elevations at the site have increased a minimum of 0.2 foot to a maximum of 1.03 feet from the elevations reported the previous quarter. However, in wells, MW-9A and MW-9B groundwater elevation decreased 0.5 foot and 0.2 foot, respectively. The Groundwater Gradient Map (Plate 2) shows the groundwater beneath the site to be flowing towards the west-northwest with a hydraulic gradient of approximately 0.023



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Neither floating product nor hydrocarbon sheen was observed in the wells. Historical and recent monitoring data are summarized in Table 1, Cumulative Groundwater Monitoring Data.

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, and total petroleum hydrocarbons as gasoline (TPHg) using modified Environmental Protection Agency Methods 5030/602. The Chain of Custody Record and Laboratory Analysis reports are included in Appendix B.

GROUNDWATER ANALYTICAL RESULTS

Concentrations of TPHg in groundwater samples ranged from less than 50 parts per billion (ppb) (below the method detection limit [MDL]) to 12,000 ppb (MW-9B). Dissolved benzene concentrations ranged from less than 0.5 ppb (below the MDL) to 320 ppb (MW-9B). Historical and recent analytical data are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples.

PURGE WATER RECYCLING

On February 12, 1993, approximately 160 gallons of purge water generated during purging and sampling of the 8 monitoring wells were transported to Gibson Environmental in Redwood City, California for recycling.



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

Sincerely, RESNA Industries Inc.

Zbigniew L. Ignatowicz

Staff Geologist

GEOLOG) JAMES LEWIS NELSON

No. 1463

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CERTIFIED ENGINEERING James L. Nelson Certified Engineering

GEOLOGIST RECOLOGIST No. 1463

Enclosures:

Plate 1:

Site Vicinity Map

Plate 2:

Groundwater Gradient Map

Plate 3:

TPHg/Benzene Concentration in Groundwater

Table 1:

Cumulative Groundwater Monitoring Data

Table 2:

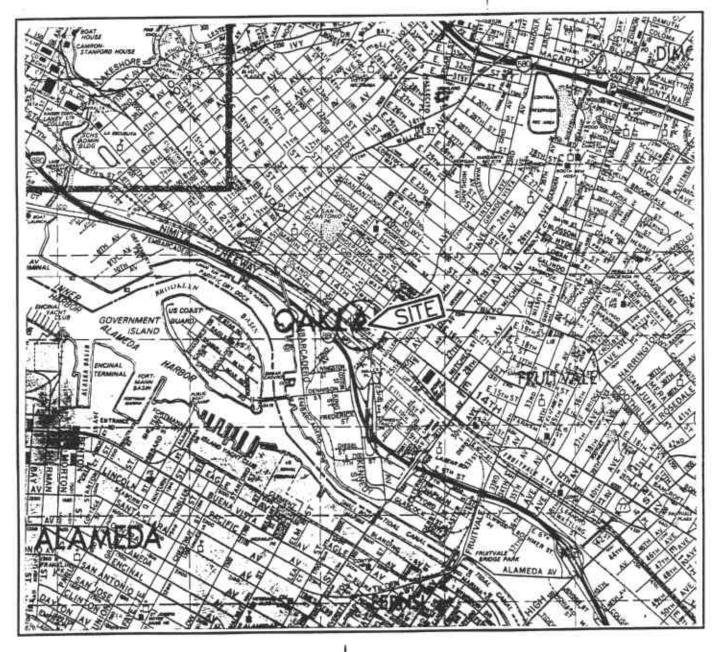
Cumulative Results of Laboratory Analyses of Groundwater

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

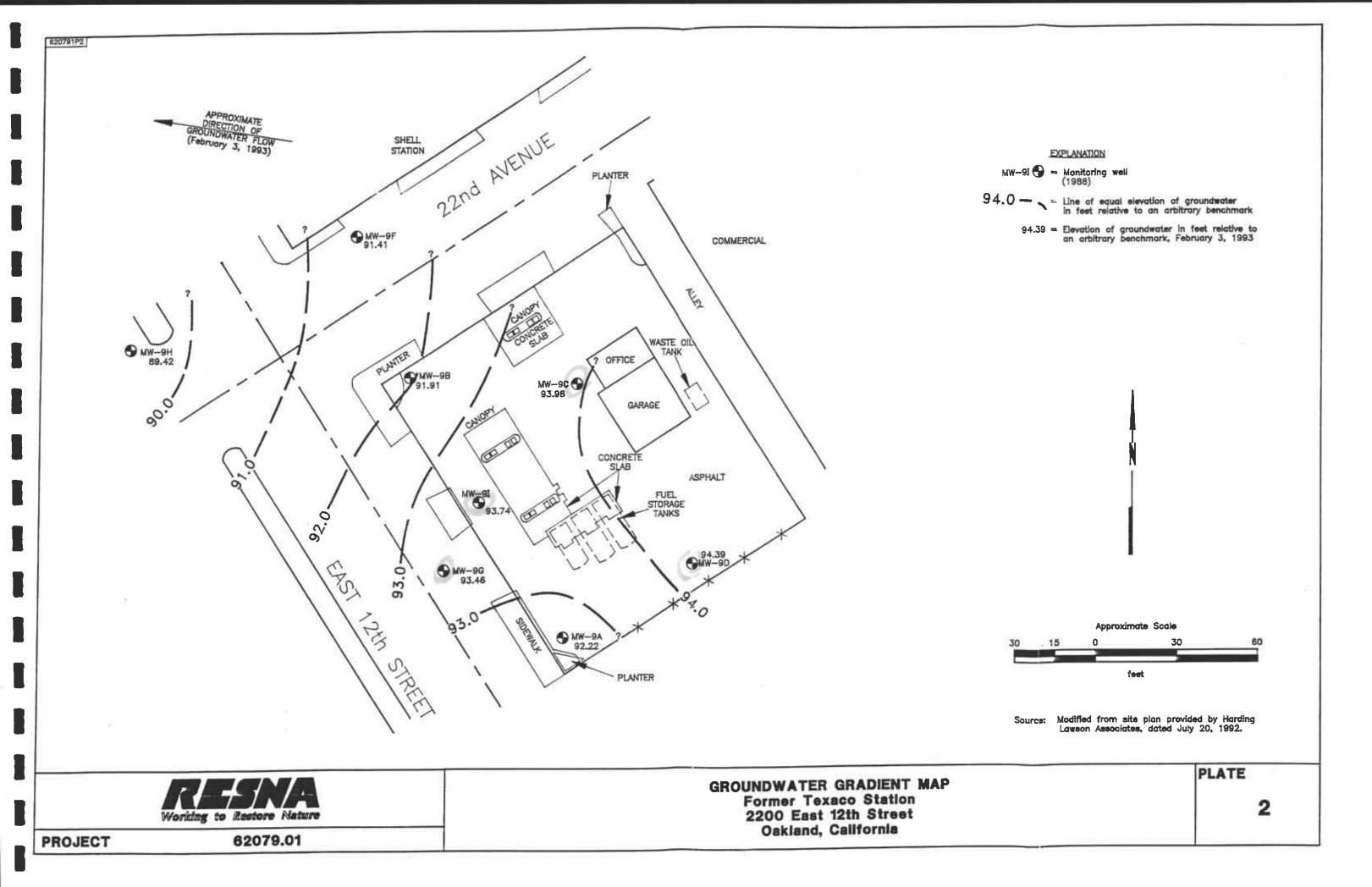
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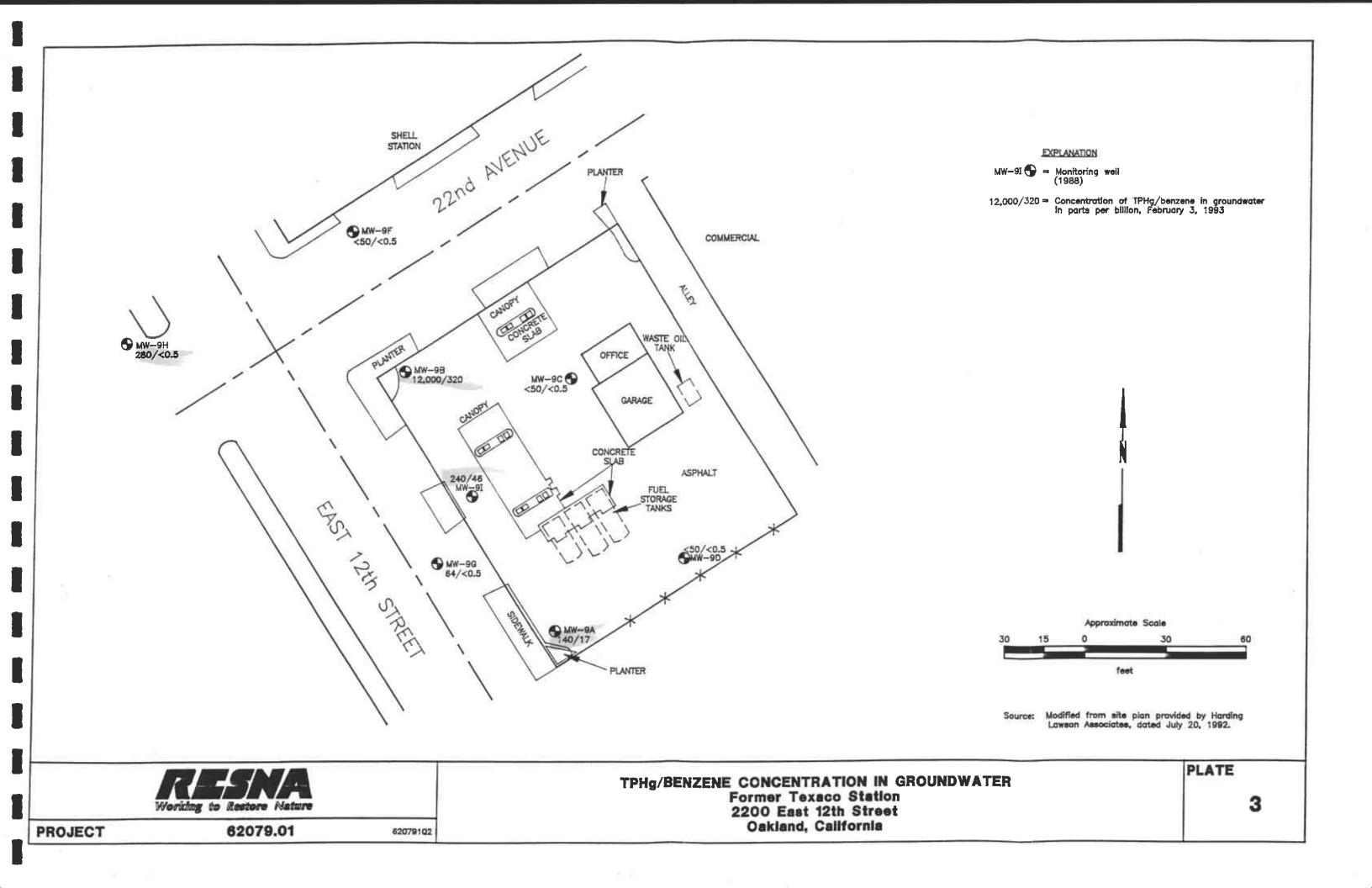
PROJECT

62079.01

SITE VICINITY MAP Former Texaco Station 2200 East 12th Street Oakland, California PLATE

1







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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Former Texaco Station 2200 East 12th Street Oakland, California (Page 1 of 3)

Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*	
MW-9A			•		
HLA	10/12/89	100.07	7.25	92.82	
	09/20/90		NA	NA	
	10/19/90		7.23	92.84	
	01/11/91		6.96	93.11	
	04/30/91		6.74	93.33	
	07/29/91		7.22	92.85	
	10/25/91		7.49	92.58	
	02/05/92		6.93	93.14	
	05/05/92		6.95	93.12	
RESNA	09/14/92		7.65	92.42	
	11/16/92		7.35	92.72	
	02/03/93		7.85	92.22	
<u>MW-9B</u>					
HLA	10/12/89	98.41	6.14	92.27	
	09/20/90		6.28	92.13	
	10/19/90		6.21	92.20	
	01/11/91		6.21	92.20	
	04/30/91		5.74	92.67	
	07/29/91		6.23	92.18	
	10/25/91		6.42	91.99	
	02/05/92		5.95	92.46	
	05/05/92		5.92	92.49	
RESNA	09/14/92		6.60	91.81	
RESIM	11/16/92		6.35	92.06	
	02/03/93		6.50	91.91	
MAN OC					
<u>MW-9C</u> HLA	10/12/89	99.73	6.99	92.74	
HLA	09/20/90	77.73	NA	NA	
	10/19/90		6.96	92.77	
•			6.60	93.13	
	01/11/91		6.32	93.41	
	04/30/91		6.92	92.81	
	07/29/91		7.13	92.60	
	10/25/91		6.44	93.29	
	02/05/92		6.50	93.23	
DEGN!	05/05/92		7.00	92.73	
RESNA	09/14/92		6.72	93.01	
	11/16/92 02/03/93	•	5.75	93.98	ZIV

See notes on page 3 of 3.



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

Former Texaco Station 2200 East 12th Street Oakland, California (Page 2 of 3)

Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*
MW-9D				
HLA	10/12/89	101.46	8.40	93.06
nizi	09/20/90		8.47	92.99
	10/19/90		8.43	93.03
	01/11/91		7.97	93.49
	04/30/91			Well Inaccessible
	07/29/91		8.35	93.11
	10/25/91		8.54	92.92
	02/05/92		7. 7 8	93.68
	05/05/92		7.90	93.56
DECNIA	09/14/92		8.45	93.01
RESNA	11/16/92		8.10	93.36
	02/03/93		7.07	94.39
<u>MW-9E</u>			- - -	02.71
HLA	10/12/89	98.41	5.70	92.71
	09/20/90		5.84	92.57
	10/19/90		5.78	92.63
	11/02/90			Well Abandoned
<u>MW-9F</u>			4.07	90.89
HLA	10/12/89	96.9 6	6.07	90.99
	09/20/90		5.97	90.99
	10/19/90		5.94	91.02 91.24
	01/11/91		5.72	
	04/30/91		5.74	91.22
	07/29/91		6.02	90.94
	10/25/91		6.11	90.85
	02/05/92		5.81	91.15
	05/05/92		5.86	91.10
RESNA	09/14/92			Not Measured
NEO: WE	11/16/92		5.82	91.14
	02/03/93		5.55	91.41
MW-9G			. O4	92.50
HLA	10/12/89	98.51	6.01	
	09/20/90		6.03	92.48
	10/19/90		5.92	92.59

See notes on page 3 of 3.



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TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA

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Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*	
fW-9G Cont'd					
TH-7G COILG	01/11/91		5.72	92. 79	
	04/30/91		5.74	93.04	
	07/29/91		5.97	92.54	
	10/25/91		6.16	92.35	
	02/05/92		5. 5 9	92.92	
	05/05/92		5.60	92.91	
RESNA	09/14/92			Not Measured	1
ILLAN VII	11/16/92		5.78	92.73	
	02/03/93		5.05	93.46	ł
MW-9H				00.50	
HLA	10/12/89	97.14	8.35	88.79	
	09/20/90		8.25	88.89	
	10/19/90		8.17	88.97	
	01/11/91		7.55	89.59	
	04/30/91		8.02	89.12	
	07/29/91		8.22	88.92	
,	10/25/91		8.25	88.89	
	02/05/92		7.70	89.44	
	05/05/92		8.12	89.02	
RESNA	09/14/92			Not Measured	
	11/16/92			Not Measured	
	02/03/93		7.72	89.42	
MW-9I			ć 01	92.65	
HLA	11/15/90	98.66	6.01	92.86	
	01/11/91		5.80	93.21	
	04/30/91		5.45	93.21 92.59	
	07/29/91		6.07	92.39 92.43	
	10/25/91		6.23		
	02/05/92		5.56	93.10	
	05/05/92		5.60	93.06	
RESNA	09/14/92		6.12	92.54 93.84	M
	11/16/92		5.82	92.84	
	02/03/93		4.92	93.74	Į.

Measurements in feet.

Elevation relative to temporary benchmark with an arbitrary elevation of 100.0 feet.

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RESNA assumes all wells are screened in the same hydrostratigraphic unit.



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TABLE 2 CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES

Former Texaco Station 2200 East 12th Street Oakland, California (Page 1 of 4)

<u>Well</u>	ъ.	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPHg	
	Date	Benzene	Toldene	CHECK			
<u>∕IW-9A</u> 1						NT A	
HLA	06/13/88	< 0.5	< 1.0	< 2.0	<1.0	NA NA	
	10/24/88	< 0.5	< 1.0	<2.0	< 1.0		
	10/13/89	< 0.5	< 0.5	< 0.5	<3.0	NA cso	
	10/19/90	< 0.5	< 0.5	< 0.5	<0.5	<50	
	01/11/91	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	04/30/91	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	07/29/91	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	10/25/91	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	02/05/92	1.1	1.8	0.6	1.3	<50	
	05/05/92	< 0.5	< 0.5	< 0.5	< 0.5	<50	
RESNA	09/14/92	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	11/16/92	1.1	< 0.5	< 0.5	< 0.5	<50	
	02/03/93	17	19	1.6	20	140	
MW-9B					1/0	NA	
HLA	06/13/88	350	7.8	66	160		
	10/24/88	84	< 1.0	3.1	3.2	NA NA	
	10/13/89	4.1	< 0.5	< 0.5	<3.0	NA	
	10/19/90	27	< 0.5	2.3	< 0.5	62	
	01/11/91	4.3	< 0.5	1.1	1.0	100	
	04/30/91	68	1.0	3.9	< 0.5	170	
	07/29/91	1.6	< 0.5	< 0.5	< 0.5	100	
	10/25/91	1.2	< 0.5	< 0.5	<0.5	<50	
	02/05/92	14	< 0.5	2.9	2.5	60	
	05/05/92	180	2.4	8.4	2.2	620	
RESNA	09/14/92	9.6	< 0.5	< 0.5	< 0.5	110	
	11/16/92	33	< 0.5	4.2	1.4	200	
	02/03/93	320	13	35	110	12000	
<u>MW-9C</u>						N/ A	
HLA	06/13/88	< 0.5	<1.0	<2.0	<1.0	NA	
	10/28/88	< 0.5	< 1.0	<2.0	<1.0	NA NA	
	10/13/89	< 0.5	< 0.5	< 0.5	<3.0	NA cco	
	10/19/90	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	01/11/91	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	04/30/91	100	1.6	< 0.5	< 0.5	240	
	07/29/91	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	10/25/91	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	02/05/92	< 0.5	< 0.5	< 0.5	< 0.5	<50	
	05/05/92	< 0.5	< 0.5	< 0.5	<0.5	<50	
RESNA	09/14/92	< 0.5	< 0.5	< 0.5	< 0.5	<50	

See notes on page 4 of 4.



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See notes on page 4 of 4.

TABLE 2 CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES

Former Texaco Station 2200 East 12th Street Oakland, California (Page 2 of 4)

Well	Date	Benzene	Toluene	Ethyl- benzene	Total Xylenes	ТРНд
	ont'd)			· · · · · · · · · · · · · · · · · · ·	-	
<u></u>	11/16/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
	02/03/93	< 0.5	< 0.5	< 0.5	< 0.5	<50
MW-9D					_	
HLA	10/24/88	< 0.5	<1.0	< 2.0	<1.0	NA
	10/13/89	< 0.5	< 0.5	< 0.5	<3.0	NA 110
	10/19/90	< 0.5	< 0.5	< 0.5	< 0.5	<50
	01/11/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	04/30/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	07/29/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	10/25/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	02/05/92	< 0.5	< 0.5	< 0.5	< 0.5	< 50
	05/05/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
RESNA	09/14/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
RESIL	11/16/92	< 0.5	< 0.5	< 0.5	< 0.5	< 50
	02/03/93	< 0.5	< 0.5	< 0.5	< 0.5	<50
MW-9E	02,02.72					
HLA	10/24/88	1.3	<1.0	< 2.0	<1.0	NA
IILA	10/13/89	15	< 0.5	2.1	<3.0	NA
	10/19/90	4.0	< 0.5	0.9	< 0.5	<50
	11/02/90	•••		Abandoned		
<u>MW-9F</u>						
HLA	12/06/88	< 0.5	< 1.0	< 2.0	<1.0	NA
nla	10/13/89	< 0.5	< 0.5	< 0.5	<3.0	NA
	10/19/90	< 0.5	< 0.5	< 0.5	< 0.5	<50
	01/11/91	< 0.5	<0.5	< 0.5	< 0.5	< 50
	04/30/91	< 0.5	<0.5	< 0.5	< 0.5	<50
	07/29/91	< 0.5	<0.5	< 0.5	< 0.5	<50
	10/25/91	1.1	< 0.5	< 0.5	< 0.5	<50
		< 0.5	< 0.5	< 0.5	< 0.5	<50
	02/05/92	<0.5	< 0.5	<0.5	< 0.5	< 50
DECMA	05/05/92	~ V.J		Sampled		
RESNA	09/14/92	< 0.5	< 0.5	< 0.5	< 0.5	< 50
	11/16/92	< 0.5	<0.5	< 0.5	< 0.5	<50
160.00	02/03/93	₹0.5	70.3	× 912		
<u>MW-9G</u>	13 (04 (00	0.8	<1.0	< 2.0	<1.0	NA
HLA	12/06/88	< 0.5	< 0.5	<0.5	<3.0	NA
	10/13/89		< 0.5	< 0.5	< 0.5	<50
	10/19/90	< 0.5		< 0.5	< 0.5	<50
	01/11/91 04/30/91	<0.5 <0.5	<0.5 <0.5	< 0.5	< 0.5	<50



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TABLE 2 CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES

Former Texaco Station 2200 East 12th Street Oakland, California (Page 3 of 4)

<u>Well</u>	. .	D	Toluene	Ethyl- benzene	Total Xylenes	ТРНд
	Date	Benzene	Toluene			
MW-9G Co	nt'd					
	07/29/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	10/25/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	02/05/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
	05/05/92	1.5	3.8	1.0	4.7	<50
RESNA	09/14/92			ampled		.50
	11/16/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
	02/03/93	< 0.5	< 0.5	< 0.5	< 0.5	64
ww-9H						ST.
HLA	12/06/88	< 0.5	<1.0	< 2.0	<1.0	NA
	10/13/89	< 0.5	< 0.5	< 0.5	<3.0	NA 160
	10/19/90	< 0.5	< 0.5	< 0.5	< 0.5	<50
	01/11/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	04/30/91	< 0.5	< 0.5	< 0.5	0.5	<50
	07/29/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	10/25/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	02/05/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
	05/05/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
RESNA	09/14/92		Not S	ampled		
ICDOI	11/16/92		Not S	ampled		
	02/03/93	< 0.5	< 0.5	< 0.5	< 0.5	280
MW-9I						
HLA	11/15/90	4.0	1.2	1.1	2.2	55
	01/11/91	6.1	< 0.5	< 0.5	< 0.5	<50
	04/30/91	100	3.5	4.2	4.4	460
	07/29/91	< 0.5	< 0.5	< 0.5	< 0.5	150
	10/25/91	< 0.5	< 0.5	< 0.5	< 0.5	<50
	02/05/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
	05/05/92	0.9	< 0.5	< 0.5	0.7	<50
RESNA	09/14/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
	11/16/92	< 0.5	< 0.5	< 0.5	< 0.5	<50
	02/02/93	46	1.1	2.3	2.1	240
MCLs		1.0		680	1,750	
DWAL			100	_		-

See notes on page 4 of 4.



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TABLE 2 CUMULATIVE RESULTS OF LABORATORY ANALYSES

OF GROUNDWATER SAMPLES Former Texaco Station

> 2200 East 12th Street Oakland, California (Page 4 of 4)

Results in parts per billion (ppb).

TPHg : Total petroleum hydrocarbons analyzed as gasoline.

Not Analyzed NA

This symbol means "less than"

< Adopted Maximum Contaminant Levels in Drinking Water, DHS (October 1990) MCLs

Recommended Drinking Water Action Levels, DHS (October 1990) DWAL

Harding Lawson Associates HLA RESNA Industries Inc. RESNA

APPENDIX A

GROUNDWATER SAMPLING PROTOCOL AND WELL PURGE DATA SHEETS



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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, or Solonist Water Level Indicator; these instruments are 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 depth to water (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 or Teflon® 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. All Teflon® bailers are triple washed with Alconox® and triple rinsed with distilled water prior to use.

Before water samples were collected from the groundwater monitoring wells, the wells were purged until stabilization of the temperature, pH, and conductivity were obtained. Approximately three to 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

7.48 = (depth to bottom - depth to water).
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 or Teflon® 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 promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain of Custody Record, to a California-certified laboratory.



Project Name: Texaco - 12th Street

Job No. 62079.01

Date: February 3, 1993

Page <u>1</u> of <u>1</u>

Well No. MW-9A

Time Started 11:45

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	рн	CONDUCT. (micromho)
11:45	Start purg	ing MW-9A		
11:45	0	61.7	6.79	600
11:49	2	62.3	6.78	620
11:53	4	62.9	6.78	640
12:02	6	62.7	6.78	650
12:04	8	63.5	6.77	640
12:05	stop purg	ging MW-9A		
Notes:	Depth Gallo	Depth to F to Water - in to Water - fi	inal (feet % recovery Time Sample Casing Volum allons Purge Volume Purge) : 17.52) : 7.85) : 7.85 y : 100% d : 12:45 e : 1.64 d : 8.0 d : 4



Project Name: Texaco - 12th Street

Job No. 62079.01

Date: February 3, 1993

Page $\underline{1}$ of $\underline{1}$

Well No. MW-9B

Time Started 1:00

TIME (hr)	GALLONS (CUM.)	TEMP.	рН	CONDUCT. (micromho)
1:00	Start purg	ing MW-9B		
1:00	0	60.5	6.87	850
1:04	2	61.4	6.83	880
1:08	4	62.6	6.82	900
1:16	6	61.9	6.80	880
1:20	8	63.0	6.77	830
1:21	Stop pur	ging MW-9B		
Notes:	Depth Gallo	Depth to to Water - i to Water - for the water	eter (inches) Bottom (feet) nitial (feet) inal (feet) % recovery Time Sampled Casing Volume allons Purged Volume Purged ng Rate (gpm)	: 17.55 : 6.50 : 6.50 : 100% : 2:30 : 1.88 : 8.0 : 4



Project Name: Texaco - 12th Street

Job No. 62079.01

Date: February 3, 1993

Page <u>1</u> of <u>1</u>

Well No. MW-9C

Time Started 10:00

TIME (hr)	GALLONS (cum.)	TEMP.	рн	CONDUCT. (micromho)
10:00	Start purg	ing MW-9C		
10:00	0	61.2	7.05	720
10:04	2	62.2	7.03	710
10:08	4	63.2	7.04	720
10:16	6	62.1	7.00	710
10:20	8	63.0	7.00	710
10:21	Stop pur	ging MW-9C	1	
Notes:	Depth Gall	Depth to to Water - to Water ons per Well Well Casing	meter (inches Bottom (feet initial (feet final (feet % recover Time Sample Casing Volum Gallons Purge Volume Purge) : 16.15) : 5.75) : 5.75 y : 100% d : 11:30 e : 1.77 d : 8.0 d : 4



Project Name: Texaco - 12th Street

Job No. 62079.01

Date: February 3, 1993

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Well No. MW-9D

Time Started 9:00

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	рн	CONDUCT. (micromho)
9:00	Start purg	ing MW-9D		
9:00	0	58.5	7.75	480
9:05	5.04	59.1	7.83	500
9:10	10.08	59.8	7.80	490
9:20	15.12	59.8	7.60	490
9:25	20.20	60.5	7.62	500
9:26	Stop purg	ing MW-9D		
Notes:	Depth Gallo	Depth to I to Water - in to Water - f: ns per Well G Well Casing	eter (inches) Bottom (feet) nitial (feet) inal (feet) % recovery Time Sampled Casing Volume allons Purged volume Purged ng Rate (gpm)	: 14.70 : 7.07 : 7.07 : 100% : 10:35 : 5.04 : 20.20



Project Name: Texaco - 12th Street

Job No. 62079.01

Date: February 3, 1993

Page $\underline{1}$ of $\underline{1}$

Well No. MW-9F

Time Started 2:50

TIME (hr)	GALLONS (cum.)	TEMP.	рН	CONDUCT. (micromho)
2:50	Start purg	ing MW-9F		
2:50	0	62.1	6.75	690
2:56	5.5	62.9	6.74	690
3:02	11.0	63.8	6.73	690
3:12	16.5	63.1	6.70	690
3:18	22.0	63.9	6.68	690
3:19	Stop pur	ging MW-9F		
Notes:	Depth Gallo	Depth to to Water - i to Water - for sper Well G	eter (inches) Bottom (feet) nitial (feet) inal (feet) % recovery Time Sampled Casing Volume allons Purged ng Rate (gpm)	: 13.75 : 5.55 : 5.55 : 100% !: 4:15 :: 5.41 !: 22.0



Project Name: Texaco - 12th Street

Job No. 62079.01

Date: February 3, 1993

Page <u>1</u> of <u>1</u>

Well No. MW-9G

Time Started 1:45

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	ÞН	CONDUCT. (micromho)
1:45	Start purg	ing MW-9G		
1:45	0	61.2	6.80	530
1:51	6	61.2	6.79	520
1:57	12	61.8	6.78	530
2:03	18	61.6	6.78	530
2:09	24	62.1	6.76	530
2:10	Stop purg	ing MW-9G		
Notes:	Depth Gallo	Depth to I to Water - in to Water - f: ns per Well (G) Well Casing (eter (inches) Bottom (feet) hitial (feet) inal (feet) % recovery Time Sampled Casing Volume allons Purged Volume Purged ng Rate (gpm)	: 13.95 : 5.05 : 5.05 : 100% : 3:30 : 5.87 : 24.0 : 4



Project Name: Texaco - 12th Street

Job No. 62079.01

Date: February 3, 1993

Page $\underline{1}$ of $\underline{1}$

Well No. MW-9H

Time Started 3:45

TIME (hr)	GALLONS (cum.)	TEMP.	рн	CONDUCT. (micromho)
3:45	start purg	ing MW-9I		
3:45	0	61.2	6.79	510
3:49	4.2	62.4	6.75	520
3:53	8.4	63.3	6.69	560
4:27	12.6			
4:31	17.0			
4:32	Stop pur	ging MW-9H		
Notes:	Depth Gallo	Depth to to Water - i to Water - f ons per Well G Well Casing	eter (inches) Bottom (feet) nitial (feet) inal (feet) % recovery Time Sampled Casing Volume allons Purged Volume Purged	: 14.00 : 7.72 : 7.72 : 100% : 5:30 : 4.14 : 17.0



Project Name: <u>Texaco - 12th Street</u>

Job No. 62079.01

Date: February 3, 1993

Page $\underline{1}$ of $\underline{1}$

Well No. MW-9I

Time Started 10:45

TIME (hr)	GALLONS (cum.)	TEMP.	CONDUCT. (micromho)	
10:45	Start pur	jing MW-9I		
10:45	0	61.1	7.03	1160
10:51	6	61.8	1200	
10:57	12	62.9	7.01	1220
11:10	18	62.0	6.95	1180
11:16	24	63.3	6.91	1180
11:17	Stop pur	ging MW-9I		
Notes:	Depth Gallo	Depth to to Water - i to Water - f ons per Well Well Casing	eter (inches) Bottom (feet) nitial (feet) inal (feet) % recovery Time Sampled Casing Volume allons Purged Volume Purged ng Rate (gpm)	: 13.90 : 4.92 : 4.92 : 100% : 12:15 : 5.93 : 24.0 : 4

APPENDIX B

LABORATORY ANALYSIS REPORTS AND CHAIN OF CUSTODY DOCUMENTATION



HECEIVED

5011 Blum Road, Suite 1 • Martinez, CA 94553 Phone (510 372-3700 • Fax (510) 372-6955 FEB 2 5 1993

RESMA SANJOCT

62079.01\1223\012444

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

Date Sampled: 02-03-93 Date Received: 02-09-93 Date Analyzed: 02-10-93

Sample Number -----023105 Sample Description
----Project # 62079.01
Texaco - Oakland
2200 E. 12th St.
BB1 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

QA/QC: Sample blank is none detected

Spike Recovery is 97%

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 602 used for BTX distinction.

 $(ppb) = (\mu g/L)$

MOBILE CHEM LABS

Ronald G. Evans Lab Director

Murans



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62079.01\1223\012444

RESNA Industries

3315 Alamden Expressway, #34

San Jose, CA 95118 Attn: Phillip Mayberry

Project Manager

Date Sampled: 02-03-93

Date Received: 02-09-93

Date Analyzed: 02-10-93

Sample Number

023106

Sample Description

Project # 62079.01 Texaco - Oakland

2200 E. 12th St.

MW-9D 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

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.

 $(ppb) = (\mu g/L)$

MOBILE CHEM LABS

Ronald G. Evans

Lab Director



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RESNA Industries

3315 Alamden Expressway, #34

San Jose, CA 95118 Attn: Phillip Mayberry

Project Manager

Date Sampled: 02-03-93

Date Received: 02-09-93 Date Analyzed: 02-10-93

Sample Number

023107

Sample Description

Project # 62079.01 Texaco - Oakland 2200 E. 12th St.

MW-9C

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

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.

 $(ppb) = (\mu g/L)$

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RESNA Industries

3315 Alamden Expressway, #34

San Jose, CA 95118 Attn: Phillip Mayberry

Project Manager

Date Sampled: 02-03-93 Date Received: 02-09-93

Date Analyzed: 02-10-93

Sample Number

023108

Sample Description

Project # 62079.01 Texaco - Oakland 2200 E. 12th St.

MW-9I

WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	240
Benzene	0.5	46

0.5 1.1 Toluene 2.1 0.5 Xylenes 0.5 2.3 Ethylbenzene

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.

 $(ppb) = (\mu g/L)$

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RESNA Industries

3315 Alamden Expressway, #34

San Jose, CA 95118
Attn: Phillip Mayberry

Project Manager

Date Sampled: 02-03-93

Date Received: 02-09-93

Date Analyzed: 02-10-93

Sample Number

023109

Sample Description

Project # 62079.01 Texaco - Oakland 2200 E. 12th St.

MW-9A WATER

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Petroleum Hydrocarbons as Gasoline	50	140
Benzene	0.5	17
Toluene	0.5	19
Xylenes	0.5	20
Ethylbenzene	0.5	1.6

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.

 $(ppb) = (\mu g/L)$

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

Date Sampled: 02-03-93 Date Received: 02-09-93 Date Analyzed: 02-10-93

Sample Number 023110

Sample Description Project # 62079.01 Texaco - Oakland 2200 E. 12th St. WATER MW-9B

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Petroleum Hydrocarbons as Gasoline	50	12,000
Benzene	0.5	320
Toluene	0.5	13
Xylenes	0.5	110
Ethylbenzene	0.5	35

Sample blank is none detected QA/QC: Duplicate Deviation is 12.3%

Note:

Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.

 $(ppb) = (\mu g/L)$

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Al Alvons



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RESNA Industries

3315 Alamden Expressway, #34

San Jose, CA 95118 Attn: Phillip Mayberry

Project Manager

Date Sampled: 02-03-93

Date Received: 02-09-93

Date Analyzed: 02-10-93

Sample Number

023111

Sample Description

Project # 62079.01 Texaco - Oakland 2200 E. 12th St.

MW-9G

WATER

ANALYSIS

Detection Limit	Sample Results
ppb	ppb
50	64
0.5	<0.5
0.5	<0.5
0.5	<0.5
0.5	<0.5
	Dimit ppb 50 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.

 $(ppb) = (\mu g/L)$

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RESNA Industries

3315 Alamden Expressway, #34

San Jose, CA 95118 Attn: Phillip Mayberry

Project Manager

Date Sampled: 02-03-93

Date Received: 02-09-93

Date Analyzed: 02-10-93

Sample Number

023112

Sample Description

Project # 62079.01 Texaco - Oakland 2200 E. 12th St.

MW-9F

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

QA/QC: Sample blank is none detected

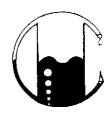
Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 602 used for BTX distinction.

 $(ppb) = (\mu g/L)$

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RESNA Industries

3315 Alamden Expressway, #34

San Jose, CA 95118
Attn: Phillip Mayberry
Project Manager

Date Sampled: 02-03-93 Date Received: 02-09-93 Date Analyzed: 02-10-93

Sample Number

023113

Sample Description

Project # 62079.01 Texaco - Oakland 2200 E. 12th St. MW-9H WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	280
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.

 $(ppb) = (\mu g/L)$

MOBILE CHEM LABS



CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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