Texaco Refining and Marketing Inc
[illegible] Cutting Boulevard
Richmond, CA 94804

July 29, 1993

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

Ms. Eva Chu
Alameda County Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Dear Ms. Chu:

Enclosed is the Quarterly Groundwater Monitoring Letter Report, covering the second quarter 1993, for the former Texaco Service Station located at the above referenced site.

If you have any questions, I may be reached at (510) 236-3611.

Sincerely,
Texaco Environmental Services

Karel Detterman

Karel Detterman, R.G.
Project Coordinator

KLD:kld

C:\KLD\COVER2.WKB
A:\COVER\COVER2.WKB
C:\KLD\CC

Attachment

cc: HRPearson-RRZielinski

Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

Mr. Bob Vasquez
The Southland Corporation
5820 Stoneridge Mall Road, Suite 310
Pleasanton, CA 94588-3201

pc:

93 AUG -9 PM 1:29

RESNA
Working To Restore Nature

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

LETTER REPORT
QUARTERLY GROUNDWATER MONITORING
Second Quarter 1993
at
Former Texaco Station
930 Springtown Boulevard
Livermore, California

62090.01

JULY 1993

RESNA
Working To Restore Nature

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

July 16, 1993
0422KDET
62090.01

Ms. Karel Detterman
Texaco Environmental Services
108 Cutting Boulevard
Richmond, California 94804

Subject: Results of Groundwater Monitoring and Sampling, Second Quarter 1993, Former Texaco Station located at 930 Springtown Boulevard, Livermore, California.

Ms. Detterman:

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 930 Springtown Boulevard in Livermore, California (Plate 1, Site Vicinity Map) for the second quarter 1993 (April through June 1993). On May 5, 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 six groundwater monitoring wells (MW-1, MW-3, MW-4, MW-5, MW-A, and MW-B,) associated with this site. On **May 5, 1993, hydrocarbon sheen was detected** in purgewater from wells **MW-A and MW-B,** therefore these wells were not sampled for laboratory analysis. As a result, these wells were not sampled. An automobile was parked over well MW-6 on May 5, 1993, which prevented groundwater monitoring and sampling of this well. Wells MW-2, MW-7, and MW-8 were not monitored or sampled for laboratory analysis as requested by TES. RESNA's groundwater sampling protocol and well purge data sheets are included in Appendix A.

WORK PERFORMED

GROUNDWATER MONITORING

Groundwater elevations at the site have increased an average of about 0.4 feet from the

elevations reported the previous quarter. The groundwater gradient map shows the groundwater beneath the site to be flowing towards the northwest with a hydraulic gradient of approximately 0.008 (Plate 2, Groundwater Gradient Map). 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 (BTEX) and total petroleum hydrocarbons as gasoline (TPHg) using modified Environmental Protection Agency (EPA) Methods 5030/602.

GROUNDWATER ANALYTICAL RESULTS

Concentrations of TPHg in groundwater samples ranged from less than 50 parts per billion (ppb) to 4,500 ppb (MW-5). Dissolved benzene concentrations ranged from less than 0.5 ppb to 160 ppb (MW-5). TPHg and benzene concentrations are shown on Plate 3, TPHg/Benzene Concentrations in Groundwater. 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

Approximately 125 gallons of water generated during purging and sampling of the 4 monitoring wells was removed after sampling, and transported on May 11, 1993 to Gibson Environmental in Redwood City, California for disposal.

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

Sincerely,
RESNA Industries Inc.

Robin A. Adair
Geologic Technician

REGISTERED GEOLOGIST
JAMES LEWIS NELSON
No. 1463
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

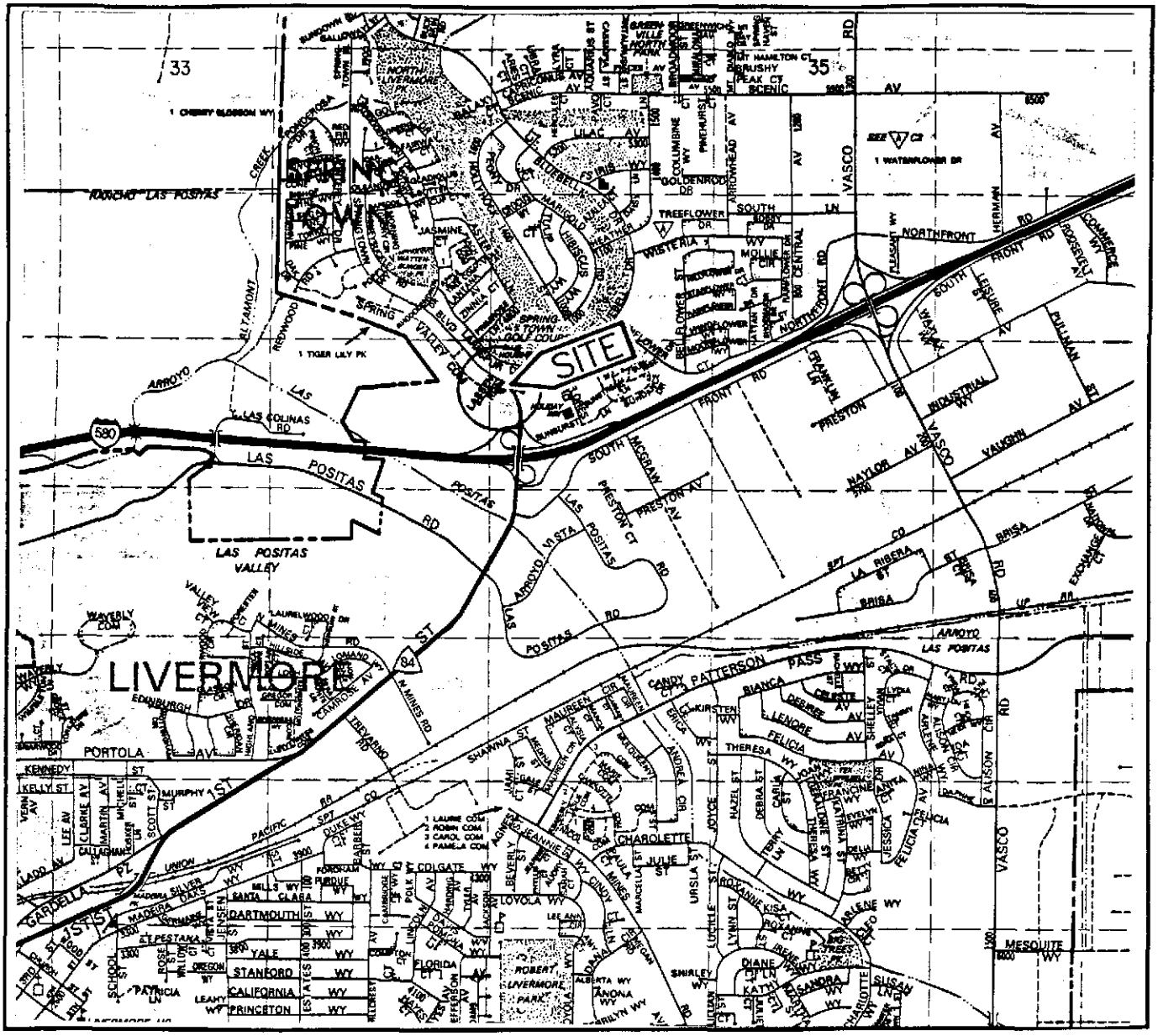
James L. Nelson
Certified Engineering Geologist No. 1463

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
Livermore, California.
1991

LEGEND

⊙ = Site Location

Approximate Scale

2200 1100 0 2200 4400

feet

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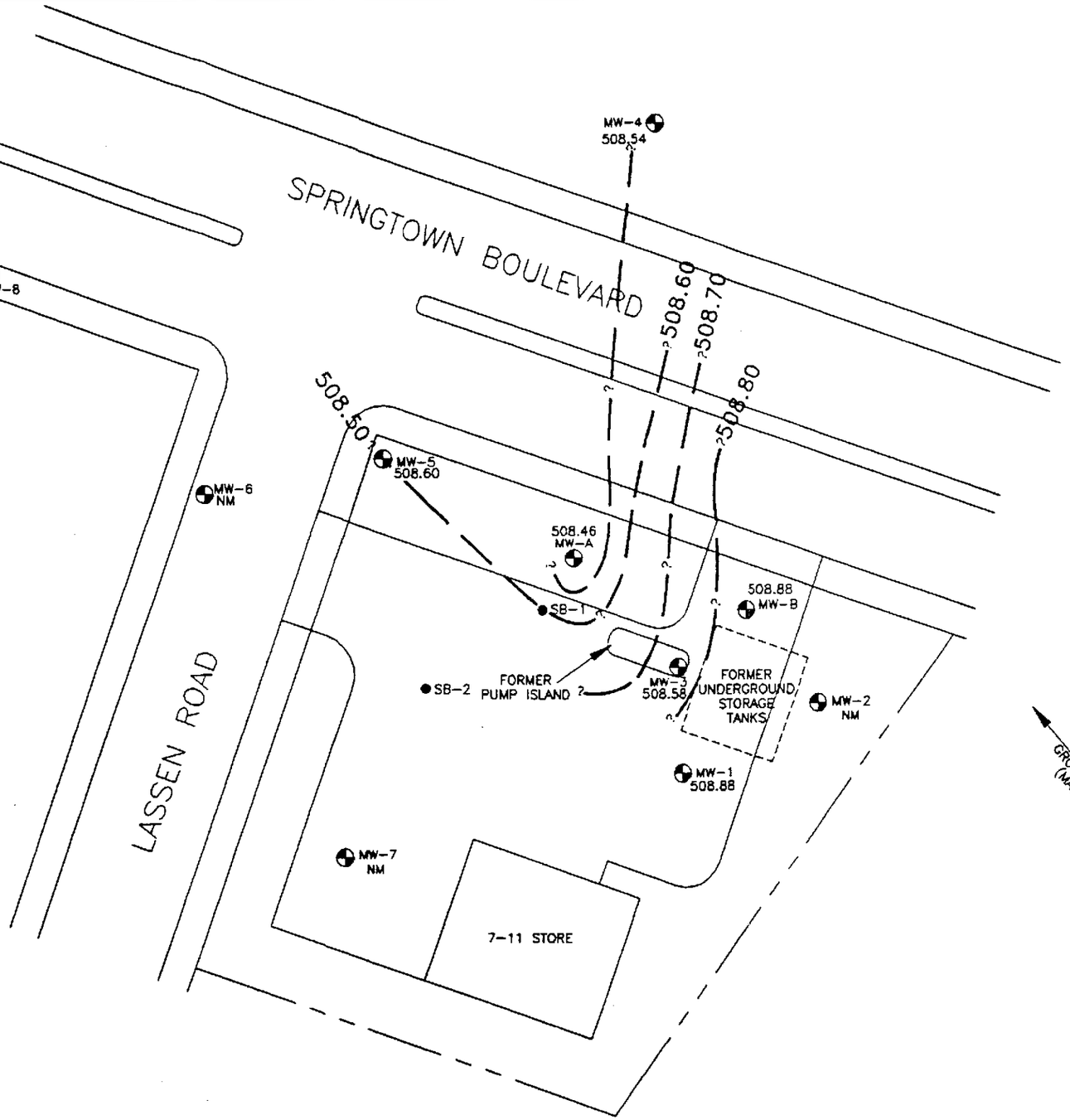
SITE VICINITY MAP
Former Texaco Station
930 Springtown Boulevard
Livermore, California

PLATE
1



EXPLANATION

MW-8 ⊕ = Groundwater monitoring well (GTI)

SB-2 ● = Soil boring (GTI)

508.80 — = Line of equal elevation of groundwater in feet above mean sea level (MSL)

508.88 = Elevation of groundwater in feet above MSL May 5, 1993

NM = Not monitored

N

Approximate Scale

40 20 0 40 80

feet

Source: Modified from site plan provided by Groundwater Technology, Inc., dated April 22, 1992.

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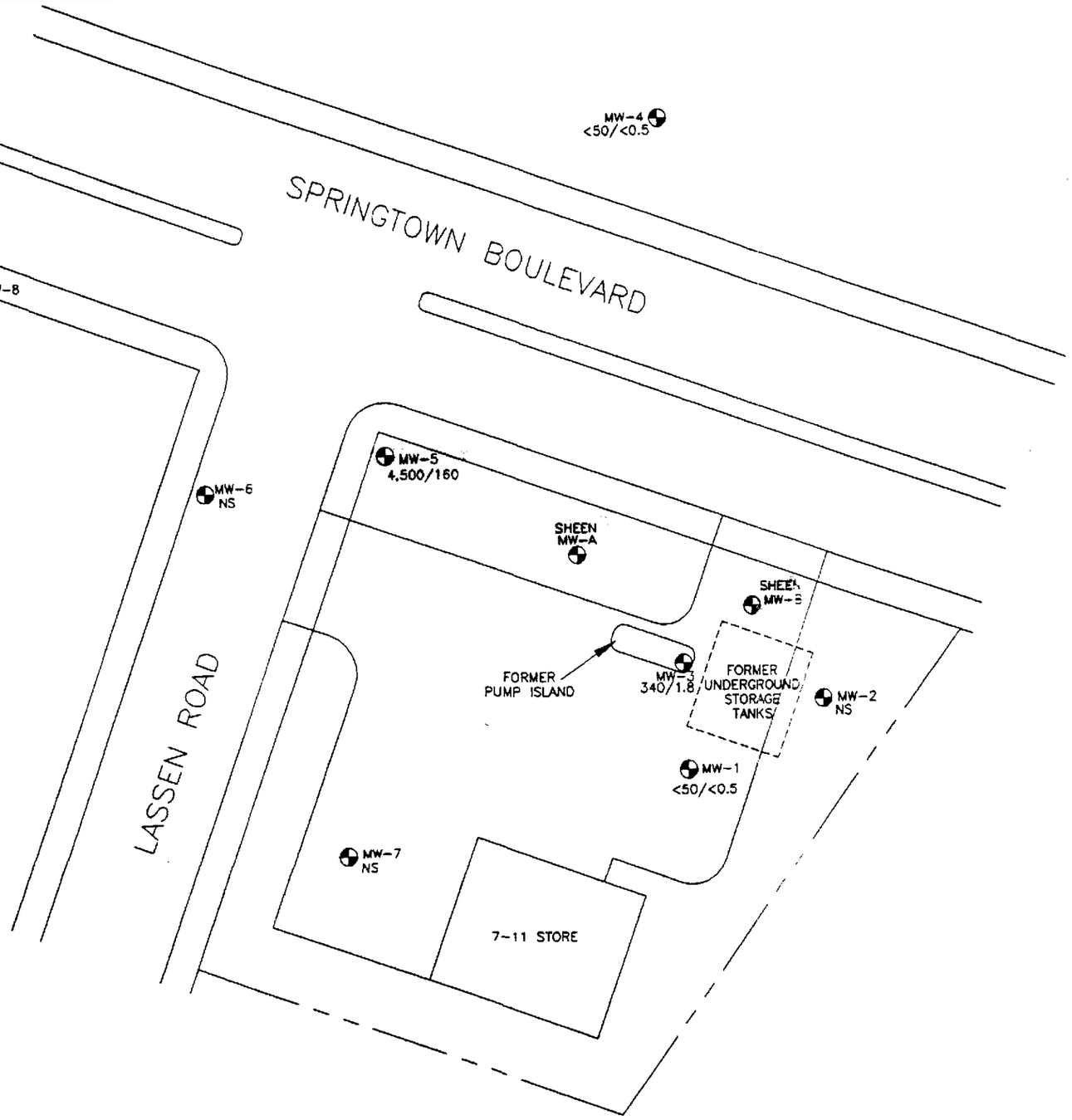
GROUNDWATER GRADIENT MAP
Former Texaco Station
930 Springtown Boulevard
Livermore, California

PLATE
2



EXPLANATION

MW-8 = Groundwater monitoring well (GTI)

4,500/160 = Concentration of TPHg/Benzene in groundwater, in parts per billion, May 5, 1993

NS = Not sampled

N

Approximate Scale

40 20 0 40 80

feet

Source: Modified from site plan provided by Groundwater Technology, Inc., dated April 22, 1992.

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PROJECT 62090.01

TPHg/BENZENE CONCENTRATIONS IN GROUNDWATER
Former Texaco Station
930 Springtown Boulevard
Livermore, California

PLATE 3

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 1 of 4)

Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product
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
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
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	—

See notes at page 4 of 4.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 2 of 4)

Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product
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		
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	—
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	—

See notes at page 4 of 4.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 3 of 4)

Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product
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	—
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		
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	—
RESNA	07/21/92		9.02	513.15	—
	10/09/92		Not Monitored		
	01/11/93		Not Monitored		
	05/05/93		Not Monitored		
MW-8					
GTI	01/10/91	524.04	18.03	506.01	—
	04/04/91		17.01	507.03	—

See notes at page 4 of 4.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 4 of 4)

Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product
MW-8 cont.	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		

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

—	:	None Present.
GTI	:	Groundwater Technology, Inc.
RESNA	:	RESNA Industries Inc. began monitoring.
NR	:	No Record.
SD	:	Sheen detected in purge water.

RESNA assumes all wells are screened within the same hydrostratigraphic unit. As identified by the previous consultant.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 1 of 4)

Well	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-A						
GTI	01/10/91	50,000	1,900	3,700	2,600	8,300
	04/04/91	31,000	950	1,100	1,300	2,900
	07/12/91	100,000	2,000	4,200	4,600	13,000
	10/04/91	SP	SP	SP	SP	SP
	01/02/92	SP	SP	SP	SP	SP
	04/02/92	27,000	1,200	570	1,700	2,300
RESNA	07/21/92	57,000	1,500	1,800	2,700	7,100
	10/09/92	56,000	2,900	2,600	4,600	12,000
	01/11/93		Sheen – Not Sampled			
	05/05/93		Sheen – Not Sampled			
MW-B						
GTI	01/10/91	35,000	47	1,300	770	3,100
	04/04/91	2,300	4	10	22	19
	07/12/91	18,000	88	1,800	390	1,300
	10/04/91	SP	SP	SP	SP	SP
	01/02/92	SP	SP	SP	SP	SP
	04/02/92	1,900	ND	39	24	35
RESNA	07/21/92	16,000	180	1,600	270	1,100
	10/09/92	38,000	490	8,300	1,400	5,100
	01/11/93		Sheen – Not Sampled			
	05/05/93		Sheen – Not Sampled			
MW-1						
GTI	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
	07/12/91	390	ND	ND	3	16
	10/04/91	ND	1	ND	ND	ND
	01/02/92	16	6	ND	ND	ND
	04/02/92	ND	ND	ND	ND	ND
RESNA	07/21/92	<50	3.2	<0.5	<0.5	<0.5
	10/09/92	<50	8.5	<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
MW-2						
GTI	01/10/91	ND	ND	ND	ND	ND
	04/04/92	ND	ND	ND	ND	ND

See notes on page 4 of 4.

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

Well	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-2 cont.						
	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
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
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
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

See notes on page 4 of 4.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Service Station
930 Springtown Boulevard
Livermore, California
(Page 3 of 4)

Well	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-5 cont.						
	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
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
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
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

See notes on page 4 of 4.

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

Well	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
RESNA	07/21/92	NS	NS	NS	NS	NS
MW-8 con't	10/09/93	NS	NS	NS	NS	NS
	01/11/93	NS	NS	NS	NS	NS
	05/05/93	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.

APPENDIX A

GROUNDWATER SAMPLING PROTOCOL AND WELL PURGE DATA SHEETS

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 bailer 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 rinsed with distilled water prior to each 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 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 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.

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco-- Springtown Job No. 62090.01

Date: 05/05/93 Page 1 of 1

Well No. MW-1 Time Started 2:10

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
2:10	Start purging MW-1			
2:10	0	68.9	7.63	1820
2:16	9.0	68.5	7.64	1810
2:22	18.0	68.8	7.63	1830
2:28	27.0	68.6	7.64	1810
2:34	36.0	68.5	7.64	1810
2:35	Stop purging MW-1			

Notes:

Well Diameter (inches)	:	4
Depth to Bottom (feet)	:	25.48
Depth to Water - initial (feet)	:	11.88
Depth to Water - final (feet)	:	11.88
% recovery	:	100%
Time Sampled	:	3:25
Gallons per Well Casing Volume	:	8.98
Gallons Purged	:	36.0
Well Casing Volume Purged	:	4
Approximate Pumping Rate (gpm)	:	1.5

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco-- Springtown Job No. 62090.01

Date: 05/05/93 Page 1 of 1

Well No. MW-3 Time Started 2:50

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
2:50	Start purging MW-3			
2:50	0	69.5	7.75	1560
2:56	9.0	68.4	7.80	1520
3:02	18.0	68.2	7.78	1510
4:08	27.0	69.3	7.75	1570
4:08	36.0	68.9	7.77	1530
4:14	Stop purging MW-3			

Notes:

Well Diameter (inches) :	4
Depth to Bottom (feet) :	24.25
Depth to Water - initial (feet) :	10.72
Depth to Water - final (feet) :	10.72
% recovery :	100%
Time Sampled :	5:30
Gallons per Well Casing Volume :	8.93
Gallons Purged :	36.0
Well Casing Volume Purged :	4
Approximate Pumping Rate (gpm):	1.5

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco-- Springtown Job No. 62090.01

Date: 05/05/93 Page 1 of 1

Well No. MW-4 Time Started 1:30

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
1:30	Start purging MW-4			
1:30	0	69.5	7.59	1120
1:34	5.7	69.1	7.64	1130
1:38	11.4	68.0	7.68	1110
1:42	17.1	67.6	7.71	1110
1:46	22.8	67.4	7.72	1100
1:47	Stop purging MW-4			

Notes:

Well Diameter (inches)	:	3
Depth to Bottom (feet)	:	25.05
Depth to Water - initial (feet)	:	10.21
Depth to Water - final (feet)	:	10.21
% recovery	:	100%
Time Sampled	:	2:45
Gallons per Well Casing Volume	:	5.64
Gallons Purged	:	22.8
Well Casing Volume Purged	:	4
Approximate Pumping Rate (gpm)	:	1.5

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco-- Springtown Job No. 62090.01

Date: 05/05/93 Page 1 of 1

Well No. MW-5 Time Started 3:30

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
3:30	Start purging MW-5			
3:30	0	65.9	7.90	1280
3:36	2.75	65.3	7.91	1240
3:48	5.50	65.7	7.87	1270
4:04	8.25	65.9	7.85	1250
4:05	11.0	65.8	7.86	1260
4:06	Stop purging MW-5			

Notes:

Well Diameter (inches) :	2
Depth to Bottom (feet) :	27.90
Depth to Water - initial (feet) :	11.90
Depth to Water - final (feet) :	11.90
% recovery :	100%
Time Sampled :	6:00
Gallons per Well Casing Volume :	2.72
Gallons Purged :	11.0
Well Casing Volume Purged :	4
Approximate Pumping Rate (gpm) :	0.5

APPENDIX B

LABORATORY ANALYSIS REPORTS AND CHAIN OF CUSTODY DOCUMENTATION

MOBILE CHEM LABS INC.

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

MAY

62090\1342\012666

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

Date Sampled: 05-05-93
Date Received: 05-06-93
Date Analyzed: 05-12-93

Sample Number	Sample Description
053051	Project # 62090 Texaco - Livermore 930 Springtown 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

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

Date Sampled: 05-05-93
Date Received: 05-06-93
Date Analyzed: 05-12-93

Sample Number	Sample Description
053052	Project # 62090 Texaco - Livermore 930 Springtown Site Blank 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: Spike Recovery is 89%

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

Date Sampled: 05-05-93
Date Received: 05-06-93
Date Analyzed: 05-12-93

Sample Number	Sample Description
053053	Project # 62090 Texaco - Livermore 930 Springtown 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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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: 05-05-93
Date Received: 05-06-93
Date Analyzed: 05-12-93

Sample Number	Sample Description
053054	Project # 62090 Texaco - Livermore 930 Springtown 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

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

Date Sampled: 05-05-93
Date Received: 05-06-93
Date Analyzed: 05-12-93

Sample Number	Sample Description
053055	Project # 62090 Texaco - Livermore 930 Springtown MW-3 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	340
Benzene	0.5	1.8
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	1.3

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

Date Sampled: 05-05-93
Date Received: 05-06-93
Date Analyzed: 05-12-93

Sample Number	Sample Description
053056	Project # 62090 Texaco - Livermore 930 Springtown MW-5 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	4,500
Benzene	0.5	160
Toluene	0.5	19
Xylenes	0.5	110
Ethylbenzene	0.5	280

QA/QC: Duplicate Deviation is 6.9%

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

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE
62090	Texaco 930 Springtown, Livermore

SAMPLERS (SIGN) Robin A Adair (PRINT) Robin A. Adair

SAMPLE IDENTIFICATION	DATE	TIME	COMP	GRAB	PRES. USED	ICED	NO. CONTAINERS	SAMPLE TYPE	BTEX (602/8020)	TPHg (8015)	TPHd (8015)	TOG 418.1/5520	601/8010	624/8240	625/8270	REMARKS
BB1	5-5-93	2:40			HCL	Y	2	1	X	X						
Site Blank		2:40					2	1	X	X						
							2	1	X	X						
MW-4		2:45					2	W	X	X						
MW-1		3:25					2	W	X	X						
MW-3		5:30					2	W	X	X						
MW-5		6:00					2	1	X	X						

ANALYSIS REQUESTED

P.O. #:

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Robin A Adair	5-5-93	7:00 pm	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:

LABORATORY: Mobile Chem Labs

REQUESTED TURNAROUND TIME: NORMAL

RECEIPT CONDITION:

PLEASE SEND RESULTS TO: Phil Mayberry Resna, San Jose

PROJECT MANAGER: