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Working To Restore Nature

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

62090.01

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January 4, 1994
62090.01

Ms. Karen Petryna
Texaco Environmental Services
108 Cutting Boulevard
Richmond, California 94804

Subject: Letter Report, Quarterly Groundwater Monitoring and Sampling, Fourth Quarter 1993, at the Former Texaco Station, 930 Springtown Boulevard, Livermore, California.

Ms. Petryna:

At the request of Texaco Environmental Services (TES), RESNA Industries Inc. (RESNA) has prepared this letter report 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 fourth quarter 1993 (October through December 1993). On October 14, 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 October 14, 1993, hydrocarbon sheen was detected in purgewater from wells MW-A and MW-B, therefore these wells were not sampled for laboratory analysis. Well MW-6 was not monitored or sampled because a auto was parked over it, (Note: street 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 in Appendix A.

WORK PERFORMED

GROUNDWATER MONITORING

Groundwater elevations at the site have decreased an average of 0.42 feet in wells MW-A, MW-B, MW-1, MW-3, MW-4, and MW-5 from the elevations reported last quarter (August 9, 1993). The groundwater gradient map shows the groundwater beneath the site to be

flowing towards the north with a hydraulic gradient of approximately 0.003 (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 and TPH LUFT with Method 602.

GROUNDWATER ANALYTICAL RESULTS

Concentrations of TPHg in groundwater samples collected ranged from less than the method detection limit of 50 parts per billion (ppb) to 2,200 ppb (MW-5). Dissolved benzene concentrations in groundwater samples collected ranged from less than the MDL of 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 collected are in Appendix B.

PURGE WATER DISPOSAL

On October 18, 1993 approximately 90 gallons of water generated during purging and sampling of the 6 monitoring wells were transported, to Gibson Environmental in Redwood City, California for recycling.

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Fourth Quarter 1993 Quarterly Report — January 4, 1994
930 Springtown Boulevard, Livermore, California — 62090.01

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

Sincerely,
RESNA Industries Inc.

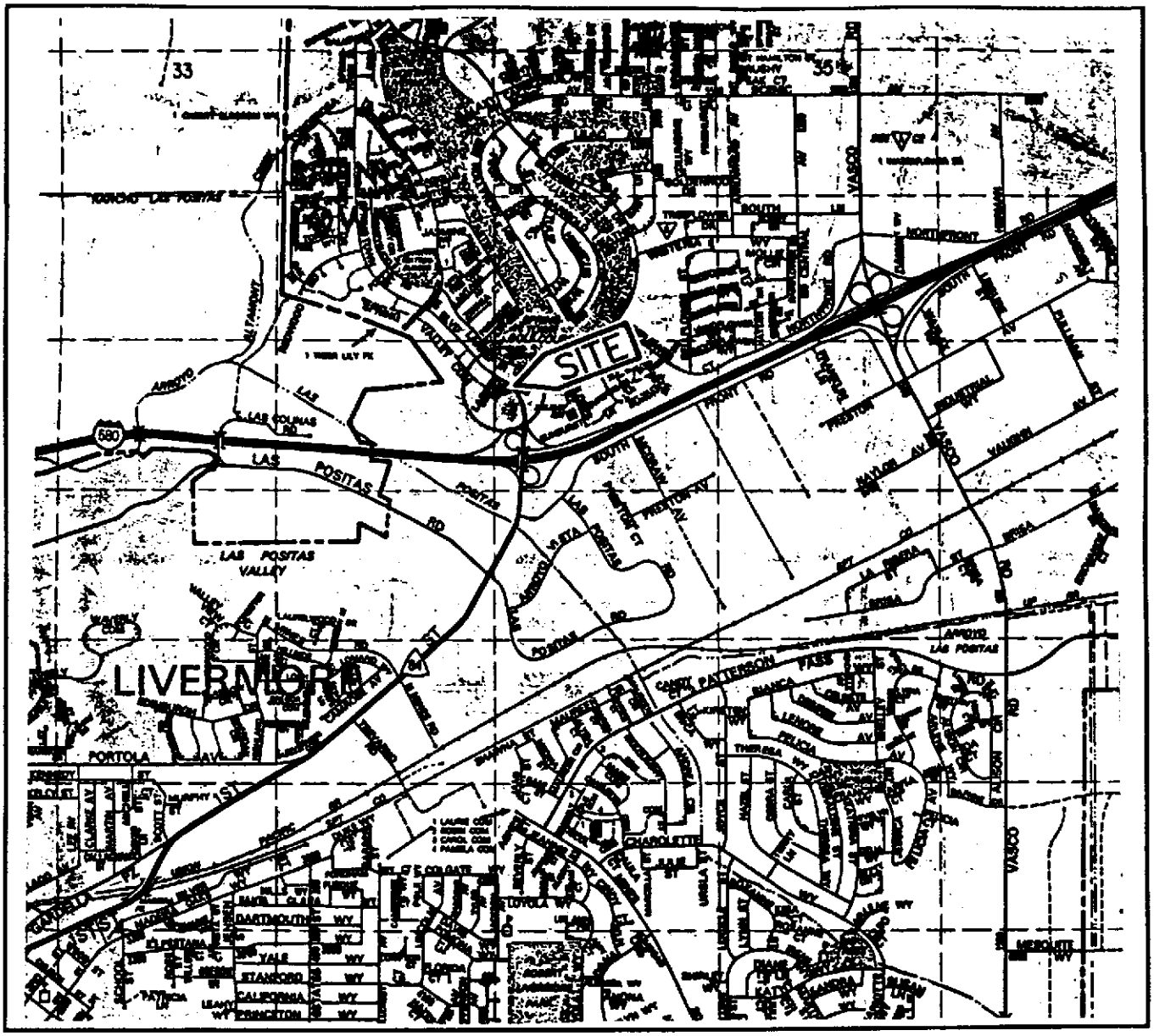
Robin A. Adair
Geologic Technician

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.
Photorevised 1991

LEGEND

⊙ = Site Location

N

Approximate Scale

2200 1100 0 2200 4400

feet

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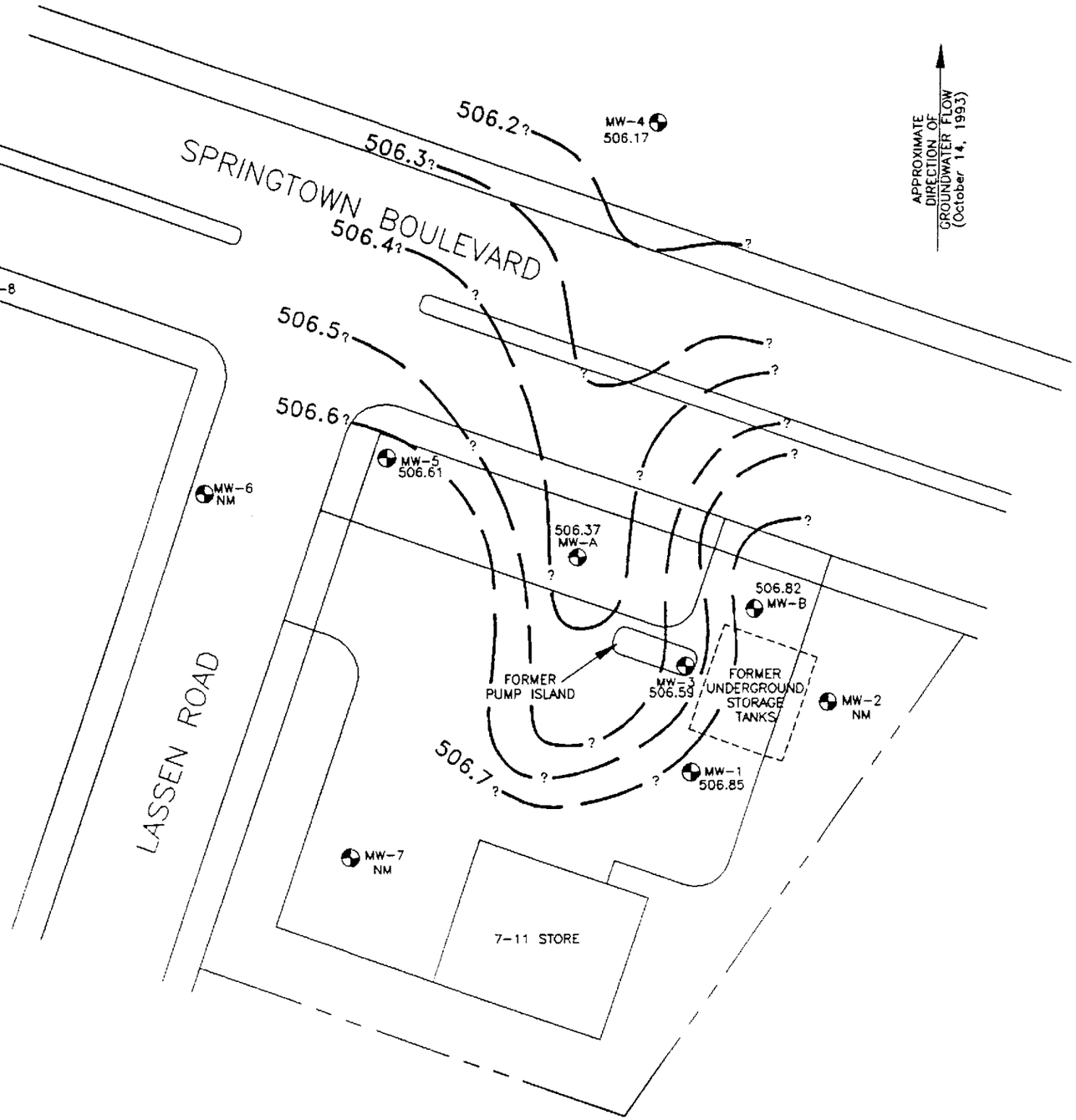
SITE VICINITY MAP
Former Texaco Station
930 Springtown Boulevard
Livermore, California

PLATE
1



EXPLANATION

MW-8 = Groundwater monitoring well (GTI)

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

506.85 = Elevation of groundwater in feet above MSL October 14, 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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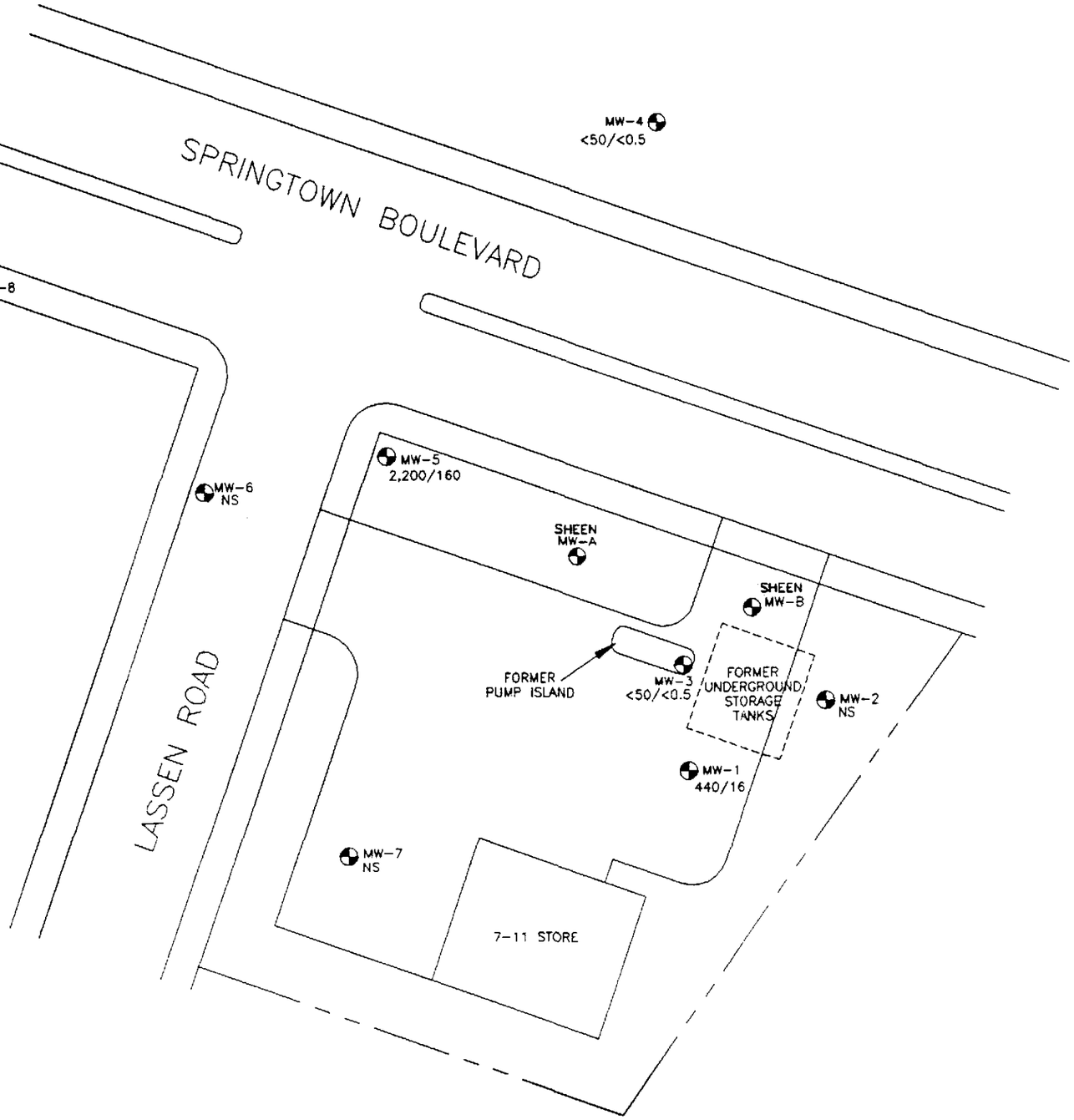
GROUNDWATER GRADIENT MAP
Former Texaco Station
930 Springtown Boulevard
Livermore, California

PLATE 2



EXPLANATION

MW-8 = Groundwater monitoring well (GTI)

2,200/160 = Concentration of TPHg/Benzene in groundwater, in parts per billion, October 14, 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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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
	08/09/93		12.80	507.05	SD
	10/14/93		13.48	506.37	SD
MW-B					
GTI	01/10/91	518.16	11.06	507.10	—
	04/04/91		10.04	508.12	—
	07/12/91		10.91	507.25	—
	10/04/91		11.82	506.34	trace
	01/02/92		11.27	506.89	trace
	04/02/92		10.18	507.98	—
RESNA	07/21/92		11.27	506.89	—
	10/09/92		11.64	506.52	SD
	01/11/93		9.65	508.51	SD
	05/05/93		9.28	508.88	SD
	08/09/93		11.02	507.14	SD
	10/14/93		11.34	506.82	SD
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-1 cont	08/09/93		13.63	507.13	---
	10/14/93		13.91	506.85	—
MW-2					
GTI	01/10/91	518.46	11.66	506.80	---
	04/04/91		10.61	507.85	---
	07/12/91		11.48	506.98	---
	10/04/91		12.35	506.11	—
	01/02/92		11.96	506.50	---
	04/02/92		10.89	507.57	—
RESNA	07/21/92		11.55	506.91	—
	10/09/92		Not Monitored		
	01/11/93		Not Monitored		
	05/05/93		Not Monitored		
	08/09/93		Not Monitored		
	10/14/93		Not Monitored		
MW-3					
GTI	01/10/91	519.30	12.84	506.46	—
	04/04/91		11.71	507.59	---
	07/12/91		12.54	506.76	---
	10/04/91		13.47	505.83	—
	01/02/92		12.87	506.43	—
	04/02/92		11.97	507.33	---
RESNA	07/21/92		12.60	506.70	---
	10/09/92		12.93	506.37	---
	01/11/93		11.16	508.14	---
	05/05/93		10.72	508.58	---
	08/09/93		12.34	506.96	—
	10/14/93		12.71	506.59	—
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	---

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-4 cont.	01/11/93		10.72	508.03	---
	05/05/93		10.21	508.54	---
	08/09/93		12.25	506.50	---
	10/14/93		12.58	506.17	---
MW-5					
GTI	01/10/91	520.50	14.33	506.17	---
	04/04/91		13.26	507.24	---
	07/12/91		14.14	506.36	---
	10/04/91		14.96	505.54	---
	01/02/92		14.56	505.94	---
	04/02/92		13.58	506.92	---
RESNA	07/21/92		13.77	506.73	---
	10/09/92		14.09	506.41	---
	01/11/93		12.24	508.26	---
	05/05/93		11.90	508.60	---
	08/09/93		13.35	507.15	---
	10/14/93		13.89	506.61	---
MW-6					
GTI	01/10/91	522.26	16.31	505.95	---
	04/04/91		15.19	507.07	---
	07/12/91		NR	NR	NR
	10/04/91		16.90	505.36	---
	01/02/92		16.64	505.62	---
	04/02/91		15.61	506.65	---
RESNA	07/21/92		15.53	506.73	---
	10/09/92		15.69	506.57	---
	01/11/93		Not Monitored		
	05/05/93		Not Monitored		
	08/09/93		14.50	507.76	---
	10/14/93		Not Monitored		
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	---

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-7 cont	07/21/92		9.02	513.15	—
RESNA	10/09/92		Not Monitored		
	01/11/93		Not Monitored		
	05/05/93		Not Monitored		
	08/09/93		Not Monitored		
	10/14/93		Not Monitored		
MW-8					
GTI	01/10/91	524.04	18.03	506.01	---
	04/04/91		17.01	507.03	---
	07/12/91		17.82	506.22	---
	10/04/91		18.70	505.34	---
	01/02/92		18.42	505.62	---
	04/02/92		17.39	506.65	---
RESNA	07/21/92		14.02	510.02	—
	10/09/92		Not Monitored		
	01/11/93		Not Monitored		
	05/05/93		Not Monitored		
	08/09/93		Not Monitored		
	10/14/93		Not Monitored		

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

---	:	None Present.
GTI	:	Monitored by Groundwater Technology, Inc.
RESNA	:	RESNA Industries Inc. began monitoring.
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			
	08/09/93		Sheen -- Not sampled			
	10/14/93		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			
	08/09/93		Sheen -- Not Sampled			
	10/14/93		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

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-1 cont.	08/09/93	<50	<0.5	<0.5	<0.5	<0.5
	10/14/93	440	16	2.9	2.9	11
MW-2						
GTI	01/10/91	ND	ND	ND	ND	ND
	04/04/92	ND	ND	ND	ND	ND
	07/12/91	ND	ND	ND	ND	ND
	10/04/91	ND	0.3	ND	ND	ND
	01/02/92	ND	ND	ND	ND	ND
	04/02/91	ND	ND	ND	ND	ND
RESNA	07/21/92	NS	NS	NS	NS	NS
	10/09/92	NS	NS	NS	NS	NS
	01/11/93	NS	NS	NS	NS	NS
	05/05/93	NS	NS	NS	NS	NS
	08/09/93	NS	NS	NS	NS	NS
	10/14/93	NS	NS	NS	NS	NS
MW-3						
GTI	01/10/91	110	ND	ND	ND	ND
	04/04/91	630	4	ND	0.6	0.9
	07/12/91	230	2	ND	ND	1
	10/04/91	360	0.5	2	ND	0.5
	01/02/92	340	0.4	ND	ND	ND
	04/02/92	160	5	ND	0.3	0.5
RESNA	07/21/92	260	1.7	<0.5	<0.5	<0.5
	10/09/92	88	<0.5	<0.5	<0.5	<0.5
	01/11/93	130	<0.5	<0.5	<0.5	<0.5
	05/05/93	340	1.8	<0.5	1.3	<0.5
	08/09/93	610	18	<0.5	2.4	0.9
	10/14/93	<50	<0.5	<0.5	<0.5	<0.5
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

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

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-7 cont.	10/09/92	NS	NS	NS	NS	NS
	01/11/93	NS	NS	NS	NS	NS
	05/05/93	NS	NS	NS	NS	NS
	08/09/93	NS	NS	NS	NS	NS
	10/14/93	NS	NS	NS	NS	NS
MW-8						
GTI	01/10/91	ND	ND	ND	ND	ND
	04/04/91	NS	NS	NS	NS	NS
	07/12/91	NS	NS	NS	NS	NS
	10/04/91	NS	NS	NS	NS	NS
	01/02/92	12,000	32	980	200	760
	04/02/92	ND	ND	ND	ND	ND
RESNA	07/21/92	NS	NS	NS	NS	NS
	10/09/93	NS	NS	NS	NS	NS
	01/11/93	NS	NS	NS	NS	NS
	05/05/93	NS	NS	NS	NS	NS
	08/09/93	NS	NS	NS	NS	NS
	10/14/93	NS	NS	NS	NS	NS
	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.

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WELL PURGE DATA SHEET

Project Name: Texaco-- Springtown Job No. 62090.01

Date: 10/14/93 Page 1 of 1

Well No. MW-1 Time Started 2:30pm

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
2:30	Start purging MW-1			
2:30	0	69.1	7.59	1840
2:35	7.55	68.5	7.55	1820
2:40	15.10	68.9	7.53	1830
2:50	22.65	68.8	7.53	1820
2:55	30.20	68.8	7.55	1830
2:56	Stop purging MW-1			

Notes:

Well Diameter (inches) :	4
Depth to Bottom (feet) :	25.48
Depth to Water - initial (feet) :	13.91
Depth to Water - final (feet) :	13.91
% recovery :	100%
Time Sampled :	4:15
Gallons per Well Casing Volume :	7.54
Gallons Purged :	30.20
Well Casing Volume Purged :	4.00
Approximate Pumping Rate (gpm) :	1.5

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WELL PURGE DATA SHEET

Project Name: Texaco-- Springtown Job No. 62090.01

Date: 10/14/93 Page 1 of 1

Well No. MW-3 Time Started 3:15pm

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
3:15	Start purging MW-3			
3:15	0	71.1	7.26	1620
3:20	7.55	69.8	7.23	1580
3:25	15.10	68.9	7.24	1570
3:55	22.65	69.6	7.26	1610
4:00	30.20	69.0	7.25	1580
4:01	Stop purging MW-3			

Notes:

Well Diameter (inches) :	4
Depth to Bottom (feet) :	24.25
Depth to Water - initial (feet) :	12.71
Depth to Water - final (feet) :	12.71
% recovery :	100%
Time Sampled :	4:45
Gallons per Well Casing Volume :	7.53
Gallons Purged :	30.02
Well Casing Volume Purged :	4.00
Approximate Pumping Rate (gpm):	1.5

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WELL PURGE DATA SHEET

Project Name: Texaco-- Springtown Job No. 62090.01

Date: 10/14/93 Page 1 of 1

Well No. MW-4 Time Started 11:30am

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
11:30	Start purging MW-4			
11:30	0	67.9	7.45	1170
11:35	4.75	67.6	7.53	1120
11:40	9.50	67.7	7.61	1180
11:50	14.25	67.5	7.62	1160
11:55	19.00	67.5	7.59	1170
11:56	Stop purging MW-4			

Notes:

Well Diameter (inches)	:	3
Depth to Bottom (feet)	:	25.05
Depth to Water - initial (feet)	:	12.58
Depth to Water - final (feet)	:	12.58
% recovery	:	100%
Time Sampled	:	1:25
Gallons per Well Casing Volume	:	4.57
Gallons Purged	:	19.00
Well Casing Volume Purged	:	4.15
Approximate Pumping Rate (gpm)	:	1.0

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WELL PURGE DATA SHEET

Project Name: Texaco-- Springtown Job No. 62090.01

Date: 10/14/93 Page 1 of 1

Well No. MW-5 Time Started 1:00pm

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
1:00	Start purging MW-5			
1:00	0	69.3	7.36	1380
1:04	2.40	68.0	7.31	1370
1:08	4.80	69.0	7.27	1330
1:18	7.20	69.7	7.28	1340
1:22	9.60	69.2	7.26	1330
1:23	Stop purging MW-5			

Notes:

Well Diameter (inches)	:	2
Depth to Bottom (feet)	:	27.90
Depth to Water - initial (feet)	:	13.89
Depth to Water - final (feet)	:	13.89
% recovery	:	100%
Time Sampled	:	2:00
Gallons per Well Casing Volume	:	2.28
Gallons Purged	:	9.00
Well Casing Volume Purged	:	4.21
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

62090.01\1428\013079

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

Date Sampled: 10-14-93
Date Received: 10-18-93
Date Analyzed: 10-25-93

Sample Number	Sample Description
103377	Project # 62090.01 Texaco - Livermore 930 Springtown MW-1 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	440
Benzene	0.5	16
Toluene	0.5	2.9
Xylenes	0.5	11
Ethylbenzene	0.5	11

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
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San Jose, CA 95118
Attn: Phillip Mayberry
Project Manager

Date Sampled: 10-14-93
Date Received: 10-18-93
Date Analyzed: 10-25-93

Sample Number	Sample Description
103378	Project # 62090.01 Texaco - Livermore 930 Springtown MW-3 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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Attn: Phillip Mayberry
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Date Sampled: 10-14-93
Date Received: 10-18-93
Date Analyzed: 10-25-93

Sample Number	Sample Description
103375	Project # 62090.01 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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Lab Director

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Attn: Phillip Mayberry
Project Manager

Date Sampled: 10-14-93
Date Received: 10-18-93
Date Analyzed: 10-25-93

Sample Number	Sample Description
103374	Project # 62090.01 Texaco - Livermore 930 Springtown Rinsate Blk-MW4 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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RESNA Industries
3315 Alamden Expressway, #34
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Attn: Phillip Mayberry
Project Manager

Date Sampled: 10-14-93
Date Received: 10-18-93
Date Analyzed: 10-25-93

Sample Number	Sample Description
103376	Project # 62090.01 Texaco - Livermore 930 Springtown MW-5 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	2,200
Benzene	0.5	160
Toluene	0.5	27
Xylenes	0.5	64
Ethylbenzene	0.5	90

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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RESNA Industries
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Attn: Phillip Mayberry
Project Manager

Date Sampled: 10-14-93
Date Received: 10-18-93
Date Analyzed: 10-25-93

Sample Number	Sample Description
103373	Project # 62090.01 Texaco - Livermore 930 Springtown Trip 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

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

RESNA

PROJECT NO.	PROJECT NAME/SITE	P.O. #
Texaco 62090.01	Texaco 930 Springtown Blvd, Livermore CA	

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
Trip Blank	10-14-93	1:25			HCL	Y	2	H2O	X	X						
Rinsate Blk - MW4		1:25					2		X	X						
MW-4		1:30					2		X	X						
MW-5		2:00					2		X	X						
MW-1		4:15					2		X	X						
MW-3	↓	4:45			↓	↓	2		X	X						

RELINQUISHED BY	DATE	TIME	RECEIVED BY
Robin A. Adair	10/14/93	11:30	
RELINQUISHED BY	DATE	TIME	RECEIVED BY
RELINQUISHED BY	DATE	TIME	RECEIVED BY
RELINQUISHED BY Dexter	DATE 10-18-93	TIME 11:30	RECEIVED BY LABORATORY Dave Levine

LABORATORY: Mobile Chem Labs

REQUESTED TURNAROUND TIME: NORMAL

RECEIPT CONDITION: OJ ICE No headspace

PLEASE SEND RESULTS TO: Phil Mayberry Resna, San Jose

PROJECT MANAGER: