Texaco Refining
and Marketing Inc

108 Cutting Boulevard
Richmond CA 94804

June 20, 1991

Mr. Gil Wistar
Alameda County Environmental Health Dept.
Hazardous Materials Division
80 Swan Way - Room 200
Oakland, CA 94612

Dear Mr. Wistar:

Enclosed is a copy of our Quarterly Status Report (R-2 of 91) dated May 3, 1991 for our former Texaco Service Station located at 930 Springtown Boulevard in Livermore, California. This report covers the quarter ending March, 1990.

If you have any questions I can be contacted at (415) 236-3541.

Very truly yours,

Karel Detterman

K. Detterman
Environmental Geologist

KD:pap

Enclosure

cc: Mr. Rico Duazo
California Regional Water
Quality Control Board
San Francisco Bay Region
2101 Webster Street. Suite 500
Oakland, CA 94612

pr:6/25

KEG

930STB.GW

GROUNDWATER TECHNOLOGY, INC.

1401 Halyard Drive, Suite 140, West Sacramento, CA 95691, (916) 372-4700
FAX (916) 372-8781

May 3, 1991

Project No. 02320 0086

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

RE: QUARTERLY STATUS REPORT (R-2 OF 91)
FORMER TEXACO SERVICE STATION
930 SPRINGTOWN BOULEVARD
LIVERMORE, CALIFORNIA

Dear Mr. Zielinski:

This letter is presented as a quarterly report on groundwater conditions at the site referenced above for the quarter ending March 1990. Groundwater monitoring and sampling were conducted to determine water table elevation, the thickness of any separate-phase petroleum hydrocarbons (SP), and the distribution of dissolved hydrocarbons in the 10 monitoring wells (MWs) at this site. Groundwater monitoring data and results of laboratory analyses of groundwater samples collected on April 4, 1991 are included.

WORK PERFORMED

GROUNDWATER MONITORING

Water table elevations at the site have increased an average of 1.5 feet from levels reported the previous quarter. The estimated groundwater flow direction is to the north with a hydraulic gradient of approximately 0.06. Monitoring results are presented in Figure 1 and Table 1 (Attachment A).

GROUNDWATER SAMPLING

Prior to water-sample collection, the groundwater monitoring wells were purged 4 - 10 well volumes and allowed to recharge with representative formation water. A Teflon^{R} sampler, cleaned with an industrial detergent and distilled water, was used for the groundwater sampling. The water samples were transferred to 40-milliliter glass vials with Teflon^{R} septum caps, preserved on ice, and transported to GTEL Environmental Laboratories, Inc. (GTEL), in Concord, California, accompanied by a chain-of-custody manifest. Groundwater samples were analyzed using modified EPA methods 5030/8020/8015, which measure concentrations of total petroleum hydrocarbons-as-gasoline (TPH-G), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Copies of the laboratory analyses reports and chain-of-custody manifest are presented in Attachment B.

GROUNDWATER ANALYTICAL RESULTS

Concentrations of TPH-G in the groundwater samples ranged from below the method detection limit (<MDL) to 31,000 parts per billion (ppb). The benzene concentrations ranged from <MDL to 950 ppb. The distribution of dissolved TPH-G and benzene concentrations in groundwater for January 10, 1991 are shown in Figure 2 and Figure 3, respectively. Results of the laboratory analyses are presented in Table 2, Attachment A.

WASTE WATER DISPOSAL

Purge water from the 10 monitoring wells is stored in Department of Transportation (DOT)-approved 55-gallon drums. Purge water found to contain petroleum hydrocarbons will be transported by a licensed trucking company to the Texaco Refining facility in Bakersfield, California.

Please contact Groundwater Technology's West Sacramento Office if you have questions or comments regarding this quarterly report.

Sincerely,

GROUNDWATER TECHNOLOGY, INC.

JOHN E. BOWER
Environmental Geologist
Project Manager

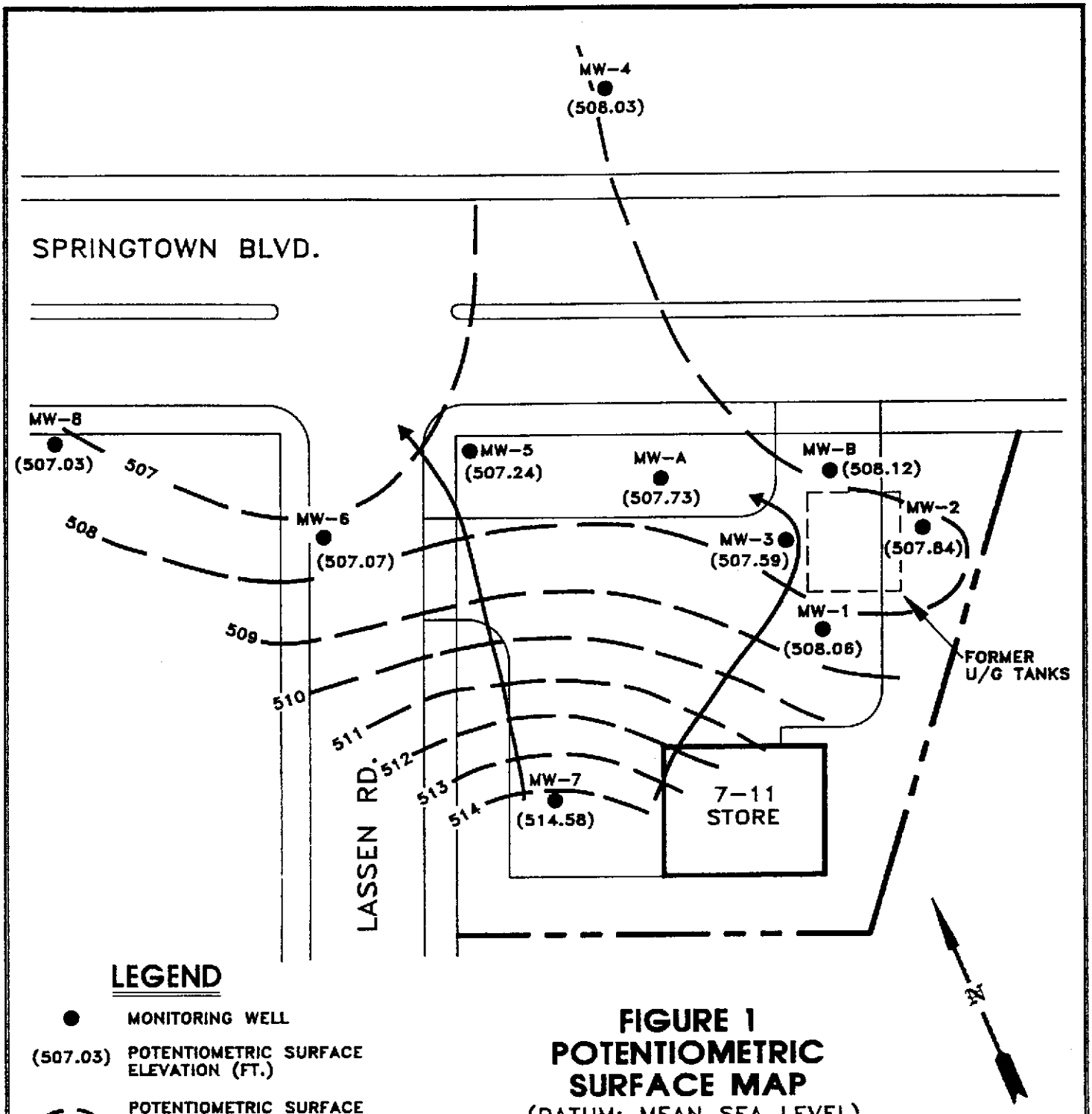
E.K. SIMONIS
California Registered
Geologist, No. 4422

REGISTERED GEOLOGIST
EDVARDAS (ED) K. SIMONIS
No. 4422
STATE OF CALIFORNIA

JEB/EKS:rc

Attachments

GROUNDWATER TECHNOLOGY



LEGEND

- ● MONITORING WELL
- (507.03) POTENTIOMETRIC SURFACE ELEVATION (FT.)
- POTENTIOMETRIC SURFACE CONTOUR; INTERVAL=1 FT.
- ESTIMATED GROUNDWATER FLOW DIRECTION

FIGURE 1
POTENTIOMETRIC SURFACE MAP

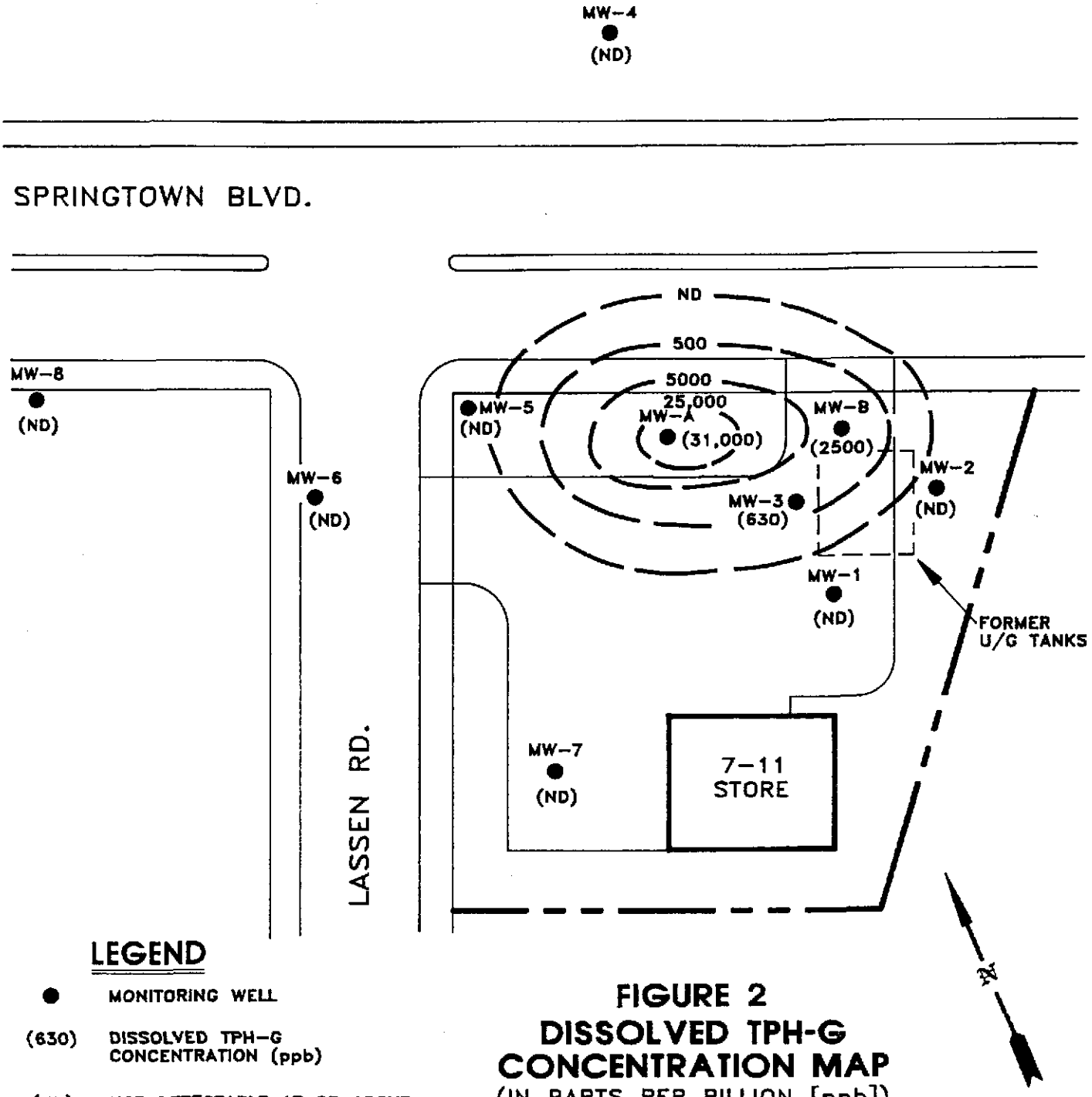
(DATUM: MEAN SEA LEVEL)
APRIL 4, 1991

TEXACO REFINING & MARKETING INC.
930 SPRINGTOWN BLVD.
LIVERMORE, CA.
02320-0086

REVISIONS:
DATE: 5/2/91
REVISION: FINAL DRAFT
BY: GWS

0 50'
APPROX. SCALE

GROUNDWATER TECHNOLOGY, INC.



LEGEND

- ● MONITORING WELL
- (630) DISSOLVED TPH-G CONCENTRATION (ppb)
- (ND) NOT DETECTABLE AT OR ABOVE METHOD DETECTION LIMIT
- LINE OF ESTIMATED EQUAL DISSOLVED TPH-G CONCENTRATION (ppb)

FIGURE 2
DISSOLVED TPH-G CONCENTRATION MAP

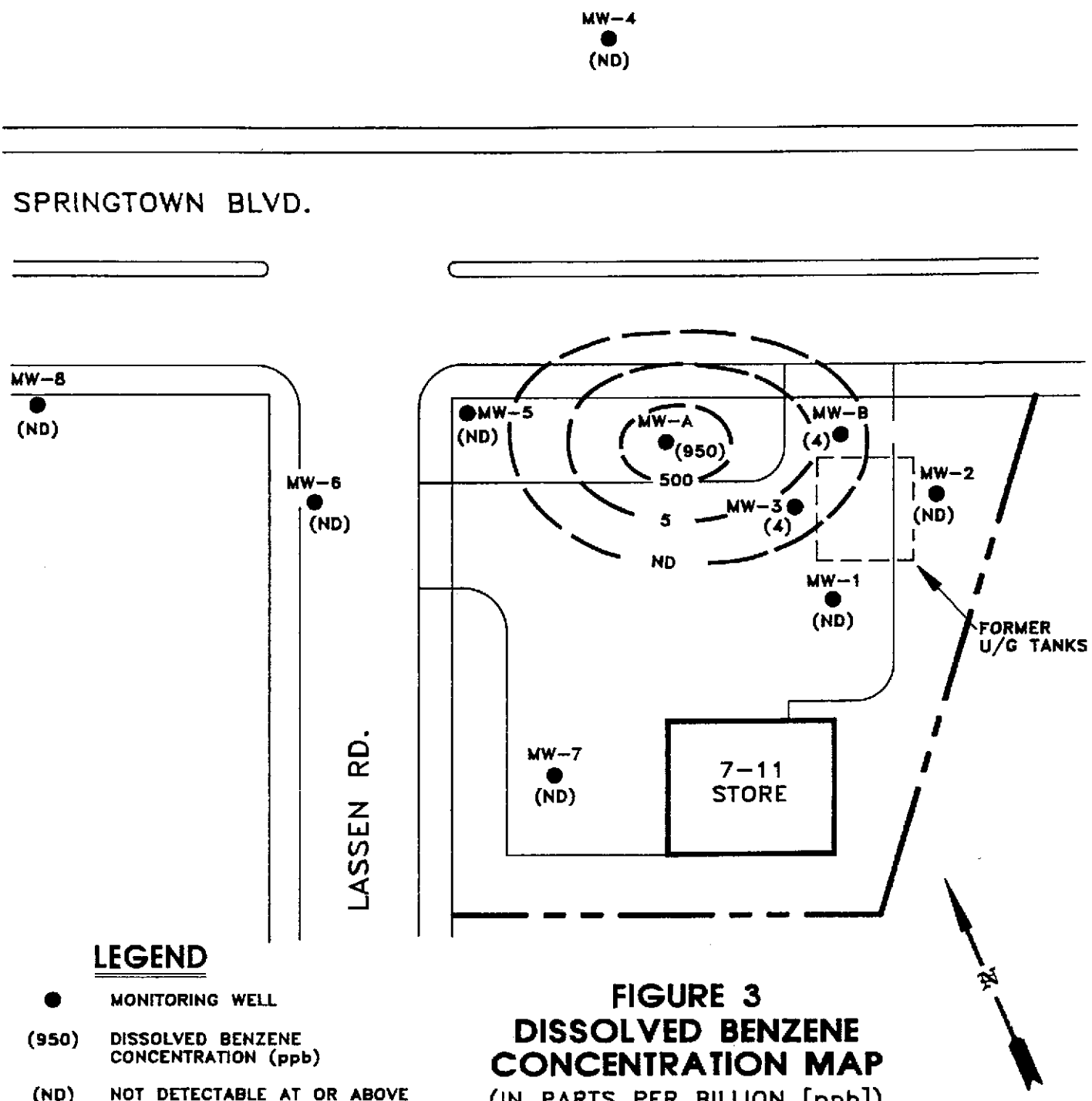
(IN PARTS PER BILLION [ppb])
APRIL 4, 1991

TEXACO REFINING & MARKETING INC.
930 SPRINGTOWN BLVD.
LIVERMORE, CA.
02320-0086

REVISIONS:
DATE: 5/2/91
REVISION: FINAL DRAFT
BY: GWS

0 50'
APPROX. SCALE

GROUNDWATER TECHNOLOGY, INC.



LEGEND

- ● MONITORING WELL
- (950) DISSOLVED BENZENE CONCENTRATION (ppb)
- (ND) NOT DETECTABLE AT OR ABOVE METHOD DETECTION LIMIT
- LINE OF ESTIMATED EQUAL DISSOLVED BENZENE CONCENTRATION (ppb)

FIGURE 3
DISSOLVED BENZENE CONCENTRATION MAP

(IN PARTS PER BILLION [ppb])
APRIL 4, 1991

TEXACO REFINING & MARKETING INC.
930 SPRINGTOWN BLVD.
LIVERMORE, CA.
02320-0086

REVISIONS:
DATE: 5/2/91
REVISION: FINAL DRAFT
BY: GWS

0 50'
APPROX. SCALE

GROUNDWATER TECHNOLOGY, INC.

TABLE 1
1990/91 GROUNDWATER MONITORING DATA
(measured in feet)

Former Texaco Service Station
930 Springtown Blvd.
Livermore, California

WELL ID ELEVATION	DATE	DEPTH TO WATER	DEPTH TO SP	SP THICK	WATER TABLE ELEVATION
MW-A	03/27/90	12.55	--	--	507.30
519.85	06/25/90	12.58	--	--	507.27
	09/21/90	12.75	--	--	507.10
	01/10/91	13.28	--	--	506.57
	04/04/91	12.12	--	--	507.73
MW-B	03/27/90	10.62	--	--	507.54
518.16	06/25/90	10.68	--	--	507.48
	09/21/90	10.76	--	--	507.40
	01/10/91	11.06	--	--	507.10
	04/04/91	10.04	--	--	508.12
MW-1	03/27/90	13.20	--	--	507.56
520.76	06/25/90	13.22	--	--	507.54
	09/21/90	13.39	--	--	507.37
	01/10/91	13.80	--	--	506.96
	04/04/91	12.70	--	--	508.06
MW-2	03/27/90	10.86	--	--	507.59
518.45	06/25/90	10.91	--	--	507.54
	09/21/90	11.34	--	--	507.11
	01/10/91	11.66	--	--	506.79
	04/04/91	10.61	--	--	507.84
MW-3	03/27/90	11.84	--	--	507.46
519.30	06/25/90	11.85	--	--	507.45
	09/21/90	12.37	--	--	506.93
	01/10/91	12.84	--	--	506.46
	04/04/91	11.71	--	--	507.59
MW-4	03/27/90	11.43	--	--	507.32
518.75	06/25/90	11.55	--	--	NA
	09/21/90	11.79	--	--	506.96
	01/10/91	12.02	--	--	506.73
	04/04/91	10.72	--	--	508.03
MW-5	03/27/90	13.17	--	--	507.33
520.50	06/25/90	13.18	--	--	507.32
	09/21/90	13.79	--	--	506.71
	01/10/91	14.33	--	--	506.17
	04/04/91	13.26	--	--	507.24

Table 1
(Cont.)

WELL ID ELEVATION	DATE	DEPTH TO WATER	DEPTH TO SP	SP THICK	WATER TABLE ELEVATION
MW-6 522.26	03/27/90	15.04	--	--	507.22
	06/25/90	15.03	--	--	507.23
	09/21/90	15.40	--	--	506.86
	01/10/91	16.31	--	--	505.95
	04/04/91	15.19	--	--	507.07
MW-7 522.17	03/27/90	9.41	--	--	512.76
	06/25/90	9.22	--	--	512.95
	09/21/90	8.38	--	--	513.79
	01/10/91	9.07	--	--	513.10
	04/04/91	7.59	--	--	514.58
MW-8 524.04	03/27/90	16.15	--	--	507.89
	06/25/90	16.90	--	--	507.14
	09/21/90	17.56	--	--	506.48
	01/10/91	18.03	--	--	506.01
	04/04/91	17.01	--	--	507.03

EXPLANATION
SP = Separate phase petroleum hydrocarbons
NA = Not Available

TABLE 2
CUMULATIVE LABORATORY ANALYSES OF GROUNDWATER
(in parts per billion [ppb])

Former Texaco Service Station
930 Springtown Blvd.
Livermore, California

WELL ID	SAMPLE DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENE	TPH-G
MW-A	03/27/90	SP	SP	SP	SP	SP
	06/25/90	2700	4000	2600	6500	39000
	09/21/90	1400	1900	1800	4200	30000
	01/10/91	1900	3700	2600	8300	50000
	04/04/91	950	1100	1300	2900	31000
MW-B	03/27/90	SP	SP	SP	SP	SP
	06/25/90	28	230	87	260	5400
	09/21/90	150	1700	1200	3700	45000
	01/10/91	47	1300	770	3100	35000
	04/04/91	4	10	22	19	2300
MW-1	03/27/90	ND	ND	ND	ND	ND
	06/25/90	ND	ND	ND	ND	ND
	09/21/90	ND	ND	ND	ND	ND
	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
MW-2	03/27/90	ND	ND	ND	ND	ND
	06/25/90	ND	ND	ND	ND	14
	09/21/90	ND	ND	ND	ND	ND
	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
MW-3	03/27/90	1	ND	ND	ND	1100
	06/25/90	0.3	ND	ND	ND	340
	09/21/90	ND	ND	ND	ND	96
	01/10/91	ND	ND	ND	ND	110
	04/04/91	4	ND	0.6	0.9	630
MW-4	03/27/90	ND	ND	ND	ND	ND
	06/25/90	ND	ND	ND	ND	ND
	09/21/90	ND	ND	ND	ND	ND
	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
MW-5	03/27/90	230	32	420	250	5100
	06/25/90	160	8	140	42	2000
	09/21/90	98	2	120	5	2100
	01/10/91	48	2	87	9	1900
	04/04/91	ND	ND	ND	ND	ND
MW-6	03/27/90	ND	ND	ND	ND	ND
	06/25/90	ND	ND	ND	ND	3
	09/21/90	ND	ND	ND	ND	ND
	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
MDL		0.3	0.3	0.3	0.6	10

Table 2
(Cont.)

WELL ID	SAMPLE DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENE	TPH-G
MW-7	03/27/90	ND	ND	ND	ND	ND
	06/25/90	ND	ND	ND	ND	ND
	09/21/90	ND	ND	ND	ND	ND
	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
MW-8	03/27/90	ND	ND	ND	ND	ND
	06/25/90	ND	ND	ND	ND	ND
	09/21/90	ND	ND	ND	ND	ND
	01/10/91	ND	ND	ND	ND	ND
	04/04/91	ND	ND	ND	ND	ND
MDL		0.3	0.3	0.3	0.6	10

EXPLANATION
MDL = Method Detection Limit
ND = Not detected at or above the MDL
TPH-G = Total Petroleum Hydrocarbons-as-Gasoline
SP = Separate-Phase Petroleum Hydrocarbons

ATTACHMENT B

LABORATORY ANALYSES REPORTS

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(415) 825-0720 (FAX)

Client Number: 202-199-4051.
Project ID: Livermore
Work Order Number: C1-04-219

April 16, 1991

John Bower
Groundwater Technology, Inc.
1401 Halyard Dr., Ste. 140
West Sacramento, CA 95691

Enclosed please find the analytical results report prepared by GTEL for samples received on 04/08/91, under chain of custody number 72-11199.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Emma P. Popek
Laboratory Director

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		01	02	03	04
Client Identification		MW 8	MW 7	MW 1	MW 2
Date Sampled		04/04/91	04/04/91	04/04/91	04/04/91
Date Analyzed		04/12/91	04/11/91	04/11/91	04/11/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	<0.3	<0.3
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	<0.3	<0.3	<0.3	<0.3
Xylene, total	0.6	<0.6	<0.6	<0.6	<0.6
BTEX, total	--	--	--	--	--
TPH as Gasoline	10	<10	<10	<10	<10
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		05	06	07	08
Client Identification		MW 4	MW 6	MW 3	MW 5
Date Sampled		04/04/91	04/04/91	04/04/91	04/04/91
Date Analyzed		04/11/91	04/11/91	04/11/91	04/11/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	4	<0.3
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	<0.3	<0.3	0.6	<0.3
Xylene, total	0.6	<0.6	<0.6	0.9	<0.6
BTEX, total	--	--	--	6	--
TPH as Gasoline	10	<10	<10	630	<10
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		09	10	11	12
Client Identification		MW A	MW B	FIELD BLANK	RINSATE MW 8
Date Sampled		04/04/91	04/04/91	04/04/91	04/04/91
Date Analyzed		04/12/91	04/12/91	04/11/91	04/11/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	950	4	<0.3	<0.3
Toluene	0.3	1100	10	<0.3	<0.3
Ethylbenzene	0.3	1300	22	<0.3	<0.3
Xylene, total	0.6	2900	19	<0.6	<0.6
BTEX, total	--	6300	55	--	--
TPH as Gasoline	10	31000	2300	<10	<10
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

214

GTEL ENVIRONMENTAL LABORATORIES, INC.
4080- Pike Lane
Concord, CA 94520
415-685-7852
800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 11199

Project Manager: John Bower
Phone #: 916-372-4700
FAX #: 916-372-8781
Address: 1401 Halyard Rd St 140 W/Sacto 95691
Site location: Livermore
Project Number: 202/199/4051
Project Name: Springtown Blvd
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Steven Thompson

ANALYSIS REQUEST

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☒ MTBE ☐	TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel	Product I.D. by GC (SIMDIS) ☐	Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	EPA 601 ☐ 8010 ☐ DCA only ☐	EPA 602 ☐ 8020 ☐	EPA 608 ☐ 8080 ☐ PCBs only ☐	EPA 610 ☐ 8310 ☐	EPA 624 ☐ 8240 ☐ NBS +15 ☐	EPA 625 ☐ 8270 ☐ NBS +25 ☐	EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐	EPA Priority Pollutant Metals ☐ HSL ☐	LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	CAM Metals ☐ STLC ☐ TTLC ☐	Corrosivity ☐ Flashpoint ☐ Reactivity ☐		
MW 8	Monitor Well	01	2	✓					✓			✓			4/4	2:00		2																		
7		02														2:10																				
1		03														2:20																				
2		04														2:30																				
4		[illegible]														2:40																				
6		[illegible]														2:50																				
3		[illegible]														3:00																				
5		[illegible]														3:10																				
A		[illegible]														3:20																				
B		[illegible]														3:30																				
Field Blank		[illegible]														1:50																				
Rinsate MW8		[illegible]														1:55																				

CUSTODY RECORD

	Date	Time
Received by: [signature]	4/5/91	5:00 pm
Received by: [signature]	4-8-91	1:10
Received by Laboratory: [signature]	4-8-91	3:45

Way bill #

Relinquished by Sampler: [signature]
Relinquished by: [signature]
Relinquished by:

SPECIAL HANDLING
24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ______(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)
MDL

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:
2 Week Turnaround

Lab Use Only
Lot #:
Storage Location
Work Order #: