GROUNDWATER TECHNOLOGY, INC.

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BIANNUAL STATUS REPORT

FORMER TEXACO SERVICE STATION

930 SPRINGSTOWN BOULEVARD

LIVERMORE, CALIFORNIA

August 4, 1988

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INTRODUCTION

This report presents the results of the most recent biannual monitoring and sampling for the former Texaco service station site located at 930 Springstown Boulevard, in Livermore, California. The report covers the period from January to June 1988.

WORK PERFORMED

Monitoring and sampling of the eight groundwater monitoring wells (Figure 1) were conducted on June 9, 1988. The previous monitoring and sampling round was performed on December 10, 1987.

GROUNDWATER MONITORING AND GROUNDWATER GRADIENT

The June 1988 well monitoring data indicated that the present water table is approximately 10.5- to 15.0-feet below grade (Appendix I). During monitoring, a sheen of product was noted in wells MW-A and MW-B. In general, the water-table elevations declined approximately 0.3 foot since the December 1987 measurements.

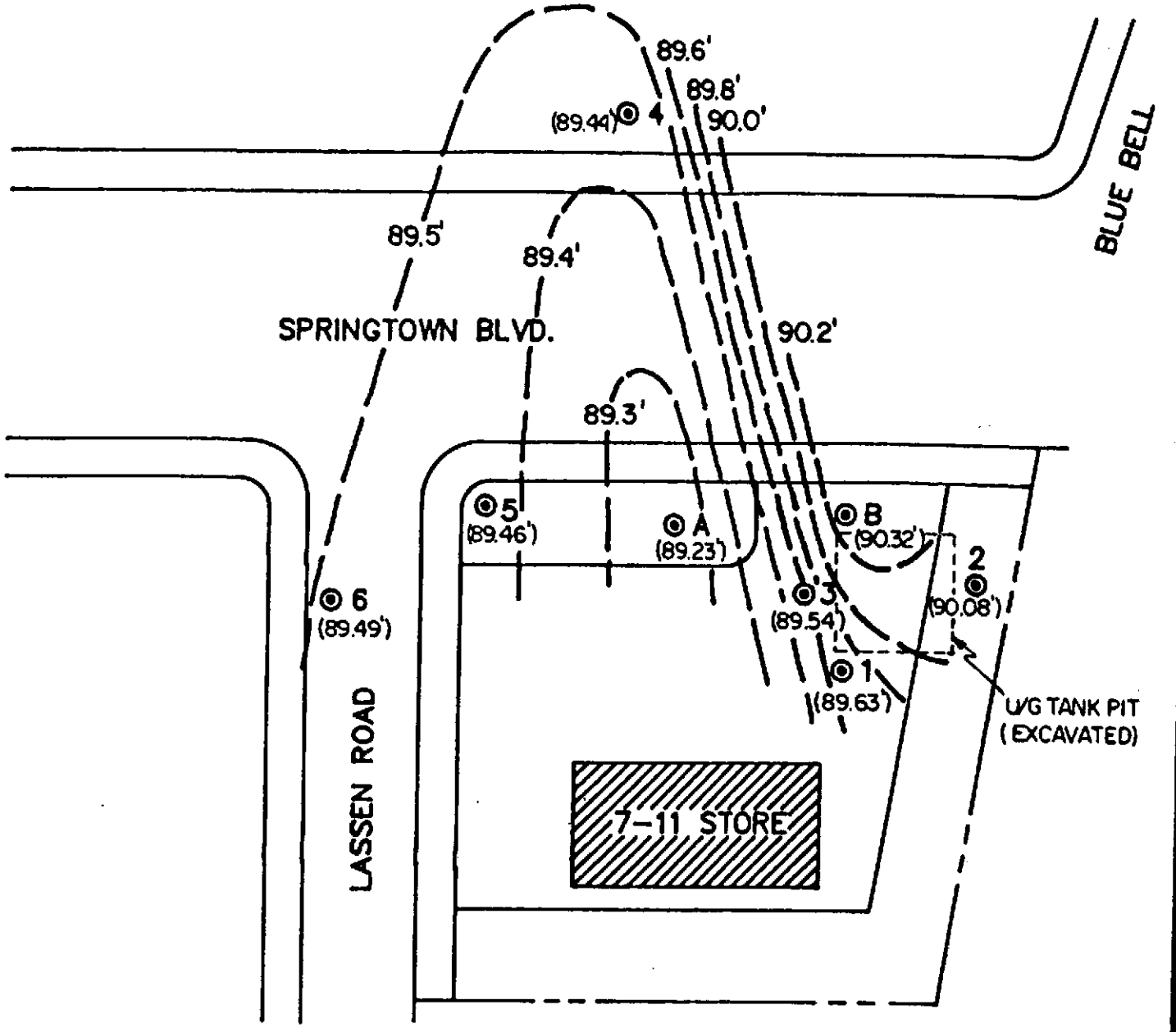

FIGURE 1

GROUNDWATER GRADIENT MAP

6/09/88

LEGEND

◉ MONITORING WELL

( ) RELATIVE GROUNDWATER ELEVATION (FT.)

— — — GROUNDWATER CONTOUR

0 10 20 50 80

FEET

N

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The regional groundwater gradient direction, as determined by an analysis of the surface topography, is most likely to the northwest. However, a site specific groundwater gradient map (Figure 1) prepared using the June 9, 1988 monitoring data did not indicate a clear direction for groundwater flow across the site.

GROUNDWATER SAMPLING AND ANALYSES

On June 9, 1988, groundwater samples were collected, subsequent to purging, from all monitoring wells on site, except MW-A and MW-B, where a sheen of product was noted. Rinsate-blanks, containing samples of the distilled rinsate water from the cleansed surface sampler, were collected prior to each sampling, as part of a Quality Assurance/Quality Control (QA/QC) Program. The groundwater and rinsate-blank samples were placed in 40-milliliter glass vials with Teflon^{R} septum caps, then labeled and transported on ice to a state-certified laboratory accompanied by a chain-of-custody manifest at all times. All well samples and a randomly chosen rinsate-blank (MW-6R) were analyzed using Modified U.S. Environmental Protection Agency (EPA) Methods 5030/8015/8020 for total petroleum hydrocarbons (TPH)-as-gasoline with benzene, toluene, ethylbenzene, and xylenes (BTEX) distinctions (Appendix II).

The highest level of dissolved TPH-as-gasoline detected was 6,900 parts per billion (ppb) in well MW-5. Sheens of product were observed at wells MW-A and MW-B, which also indicates high levels of dissolved hydrocarbons at those wells (Figure 2). Lower concentrations of TPH-as-gasoline were detected in wells

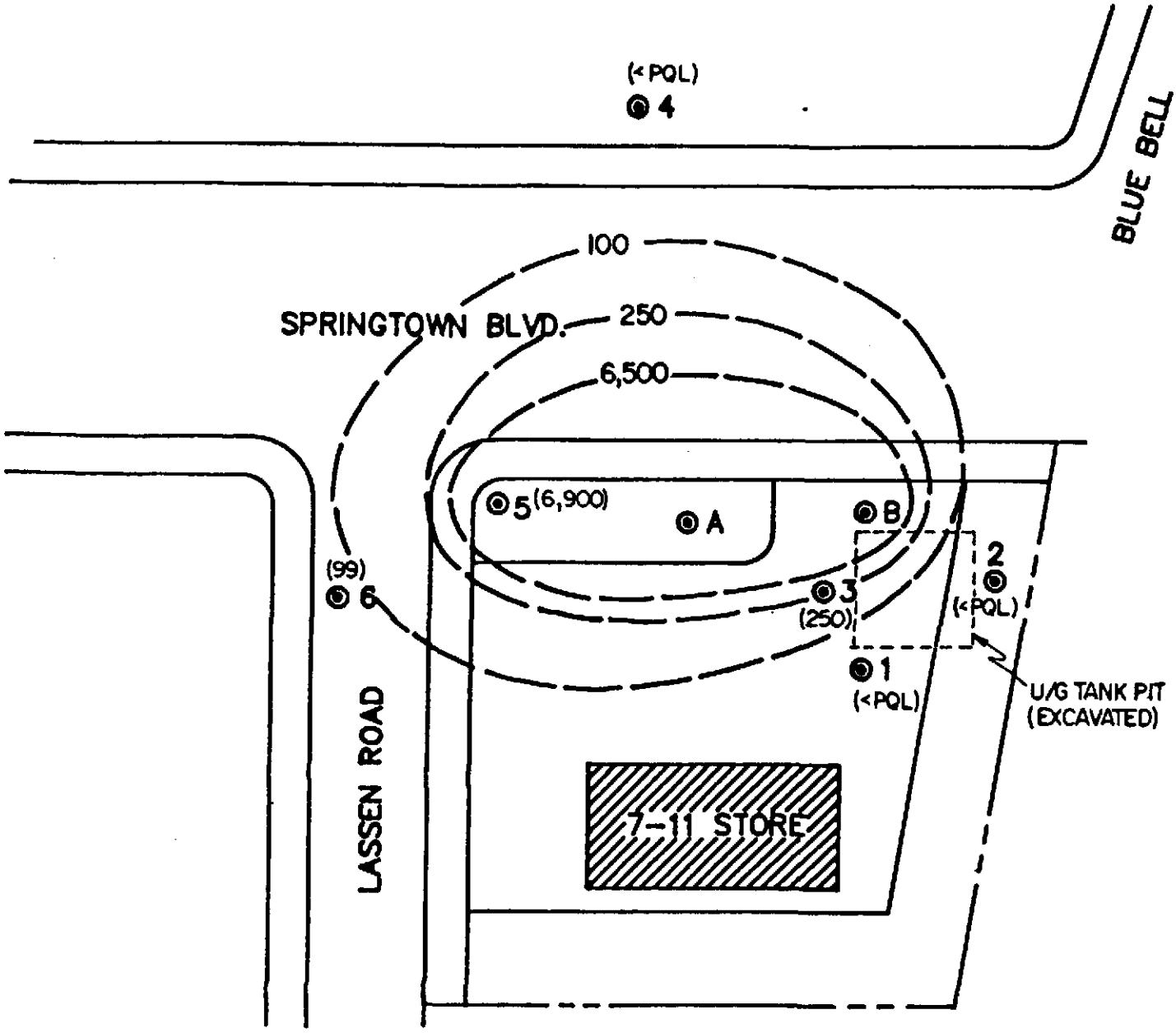

FIGURE 2
DISSOLVED TPH-AS-GASOLINE CONCENTRATION MAP (ppb)
6/09/88

LEGEND

- ◉ MONITORING WELL
- ( ) TPH CONCENTRATION (ppb)
- — — — CONCENTRATION CONTOUR
- < PQL BELOW PRACTICAL QUANTITATION LEVELS

0 10 20 50 80
FEET

N

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MW-3, of 250 ppb and in MW-6, of 99 ppb (Appendix II). A comparison of the previous December 1987 water sample analyses results with the June 1988 analyses results (Table 1), shows that concentrations of hydrocarbons have decreased in wells MW-3 and MW-5, and remain at the same relatively low level in well MW-6. Laboratory results of water samples collected from the remaining wells (MW-1, MW-2 and MW-4) remained below Practical Quantitation Levels (PQL) for TPH-as-gasoline.

TABLE 1

DISSOLVED TOTAL PETROLEUM

HYDROCARBONS-AS-GASOLINE CONCENTRATIONS

(ppb)

DECEMBER 1987 - JUNE 1988

Date	MW[a]-1	MW-2	MW-3	MW-4	MW-5	MW-6
12/10/87	<PQL[b]	<PQL	900	<PQL	13,000	99
06/09/88	<PQL	<PQL	250	<PQL	6,900	99

[a]MW = Monitoring Well

[b]<PQL = Less Than Practical Quantitation Levels

SUMMARY

The extent of subsurface hydrocarbons at the Livermore site appears to be limited. Over the past six months, groundwater samples from three monitoring wells have remained below PQL, the two wells with the highest hydrocarbons concentrations showed reduced levels and the well with the lowest hydrocarbons concentration well showed no change. Overall, concentrations of dissolved hydrocarbons at the site, have decreased since December 1987.

APPENDIX I

WELL MONITORING DATA

PROJECT: TEXACO/LIVERMORE
JOB NUMBER: 203-150-4051
DATE: July 1986 - December 1987

DATE		WELL A	WELL B	WELL 1	WELL 2	WELL 3	WELL 4	WELL 5	WELL 6
	ELEV.(ft)	101.71	100.86	102.70	100.82	101.25	100.36	102.60	104.36
7-24-86	DTW	10.88	9.04	11.56	9.26	10.22	10.31	-	-
	DTP	TRACE	-	-	-	-	-	-	-
	PT	0	0	0	0	0	0	0	0
12-19-86	DTW	12.12	10.19	12.75	10.38	11.38	10.65	-	-
	DTP	-	SHEEN	-	-	-	-	-	-
	PT	0	0	0	0	0	0	0	0
7-29-87	DTW	11.93	10.04	12.58	10.27	11.24	10.50	12.65	14.38
	DTP	-	SHEEN	-	-	-	-	-	-
	PT	0	0	0	0	0	0	0	0
12-10-87	DTW	12.13	10.20	12.75	10.41	11.41	10.80	12.94	14.64
	DTP	SHEEN	SHEEN	-	-	-	-	-	-
	PT	0	0	0	0	0	0	0	0
06-09-88	DTW	12.48	10.54	13.07	10.74	11.71	10.92	13.14	14.87
	DTP	SHEEN	SHEEN	-	-	-	-	-	-
	PT	0	0	0	0	0	0	0	0

MW = Monitoring Well
ELEV. = Relative Elevation of Well Head (FT)
DTW = Depth To Water (FT)
DTP = Depth To Product (FT)
PT = Product Thickness (FT)
MD4051A

APPENDIX II

LABORATORY REPORT

AND

CHAIN-OF-CUSTODY MANIFEST

GTEL Environmental Laboratories
A division of Groundwater Technology, Inc.

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

CLIENT: Jan Prasil
Groundwater Technology, Inc.
4080 Pike Ln.
Concord, CA 94520
PROJECT#: 203-199-4051-2
LOCATION: 930 Springsteen Blvd.
Livermore, CA
SAMPLED: 06/09/88 BY: R. Hughes
RECEIVED: 06/10/88 BY: J. Floro
ANALYZED: 06/17/88 BY: E. Popek
MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

COMPOUNDS	LAB # I.D.#	24994 MW-1	24995 MW-2	24996 MW-4	24997 MW-6	24998 MW-6R
Benzene		<PQL	<PQL	<PQL	89	<PQL
Toluene		<PQL	<PQL	<PQL	<PQL	<PQL
Ethylbenzene		<PQL	<PQL	<PQL	<PQL	<PQL
Xylenes		<PQL	<PQL	<PQL	<PQL	<PQL
Total BTEX		<PQL	<PQL	<PQL	89	<PQL
Total Petroleum Hydrocarbons as Gasoline		<PQL	<PQL	<PQL	99	<PQL

PQL = Less than Practical Quantitation Levels as per EPA Federal Register, November 13, 1985, p. 46906.
Results rounded to two significant figures.
METHOD:
Modified EPA 5030/8020/8015.

GTEL
Environmental
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Western Region
4080-C Pike Lane
Concord, CA 94520

(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

CLIENT: Jan Prasil
PROJECT#: 203-199-4051-2
LOCATION: 930 Springsteen Blvd.
Livermore, CA

MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

COMPOUNDS	LAB # / I.D.#	24999 / MW-3	25000 / MW-5
Benzene		<PQL	830
Toluene		<PQL	29
Ethylbenzene		<PQL	350
Xylenes		<PQL	510
Total BTEX		<PQL	1700
Total Petroleum Hydrocarbons as Gasoline		250	6900

PQL = Less than Practical Quantitation Levels as per EPA Federal Register, November 13, 1985, p. 46906.
Results rounded to two significant figures.
METHOD:
Modified EPA 5030/8020/8015.

Safy Khalifa/EM7

SAFY KHALIFA, Ph.D., Director

GTEL Environmental Laboratories

4080-C 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

Project Manager: JAN PRASIL
Phone #: 671-2387 270
Address: GTI CONCORD
FAX #:
Project Number: 203-199-4051-2
Project Name: GTI
Project Location: 930 STANLEY BLVD. LIVERMORE, CA
Sampler Signature: R. Hughes

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-1	24994	2	40 ml	X					X		X			6/9/88	1:30
MW 1R		1													"
MW 2	24995	2													1:40
MW 2R		1													"
MW 4	24996	2													2:05
MW 4R		1													"
MW 6	24997	2													2:20
MW 6R	24998	1													"
MW 3	24999	2													3:15
MW 3R		1													"

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	X Hold																
	X Hold																
	X Hold																
	X																
	X																
	X Hold																

OTHER

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS

Relinquished by:	Date	Time	Received by:
R. Hughes	6-10-88		
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	6/10/88	8:40	

Remarks: 4°C