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May 11, 1993

Chevron U.S.A. Products Company 2410 Camino Ramon San Ramon, CA 94583

Marketing Department Phone 510 842 9500

Ms. Jennifer Eberle Alameda County Health Care Services Department of Environmental Health 80 Swan Way, Room 200 Oakland, CA 94621

Re: Chevron Service Station #9-0121 3026 Lakeshore Avenue, Oakland, CA

Dear Ms. Eberle:

Enclosed is the Groundwater Monitoring and Sampling Report dated April 20, 1993, prepared by our consultant Groundwater Technology Inc. for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline, total petroleum hydrocarbons as diesel, and BTEX. Benzene was detected only in monitor wells MW-1, MW-3, and MW-4 at concentrations of 1100 ppb, 270 ppb, and 160 ppb, respectively. Depth to ground water was measured at approximately 2.5 feet to 9.7 feet below grade and the direction of flow is to the west.

As communicated in a telephone message to you on May 6, 1993, Chevron will pursue a remedial approach involving alternative points of compliance along the guidelines of the amended Basin. Plan of the Regional Water Quality Control Board—San Francisco Bay Region. Briefly, alternative points of compliance at this site is anticipated to involve continued sampling of ground water monitor wells to assure that dissolved hydrocarbons are not migrating in ground water. I understand this is a relativley new concept and I would like to set up a time to discuss a realistic time frame for submittal of a formal proposal. I will contact you by phone within the next week to discuss possible meeting times and locations. Currently, Chevron's consultant is reviewing the site history to begin formulation of an appropriate work plan.

Chevron will continue to monitor and sample all wells at this site and report findings on a quarterly basis.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Very truly yours,

CHEVRON U.S.A. PRODUCTS COMPANY

Muk p. Mile

Mark A. Miller

Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Rich Hiett, RWQCB - Bay Area

Mr. S.A. Willer File (9-0121 QM3)





4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387

FAX: (415) 685-9148

ED GE

DAVED R KLEESATTE

NO. 5138

OF CALL

April 20, 1993

Project No. 020302090

Mr. Mark Miller Chevron U.S.A. Products Company PO Box 5004 San Ramon, CA 94583-0804

SUBJECT:

Groundwater Monitoring and Sampling Report

Chevron Service Station No. 9-0121

3026 Lakeshore Avenue, Oakland, California

Dear Mr Miller:

Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on March 25, 1993. Seven of the eight monitoring wells at this site were gauged to measure depth to groundwater (DTW) and to check for separate-phase hydrocarbons. A separate-phase hydrocarbon sheen was detected in monitoring well MW-2. A potentiometric surface (Figure 1) and a summary of groundwater monitoring data (Table 1) are presented in Attachments 1 and 2, respectively. After the DTW was measured, each monitoring well was purged and sampled except well MW-8.

Monitoring well MW-8 was not sampled because a vehicle was parked over the well. The groundwater samples were analyzed for benzene, toluene, ethylbenzene, and xylenes; total petroleum hydrocarbons-as-gasoline (TPH-G), and total petroleum hydrocarbons-as-diesel fuel. Results of the chemical analyses are summarized in Table 1. The laboratory report and chain-of-custody record are included in Attachment 3. Figures 2 and 3 present TPH-G and benzene concentration maps of samples collected on March 25, 1993. Monitoring well purge water was removed by Groundwater Technology and transported to the Chevron terminal in Richmond, California for recycling.

Groundwater Technology is pleased to assist Chevron on this project. If you have any questions or comments, please call our Concord office at (510) 671-2387.

Sincerely,

Groundwater Technology, Inc.

Written/Submitted by

Tim Watchers

Project Geologist

Attachment 1

Figure

Attachment 2
Attachment 3

Table Laboratory Report **Groundwater Technology, Inc.** Reviewed/Approved by

David R. Kleesattel Registered Geologist

No. 5136

For:

John S. Gaines

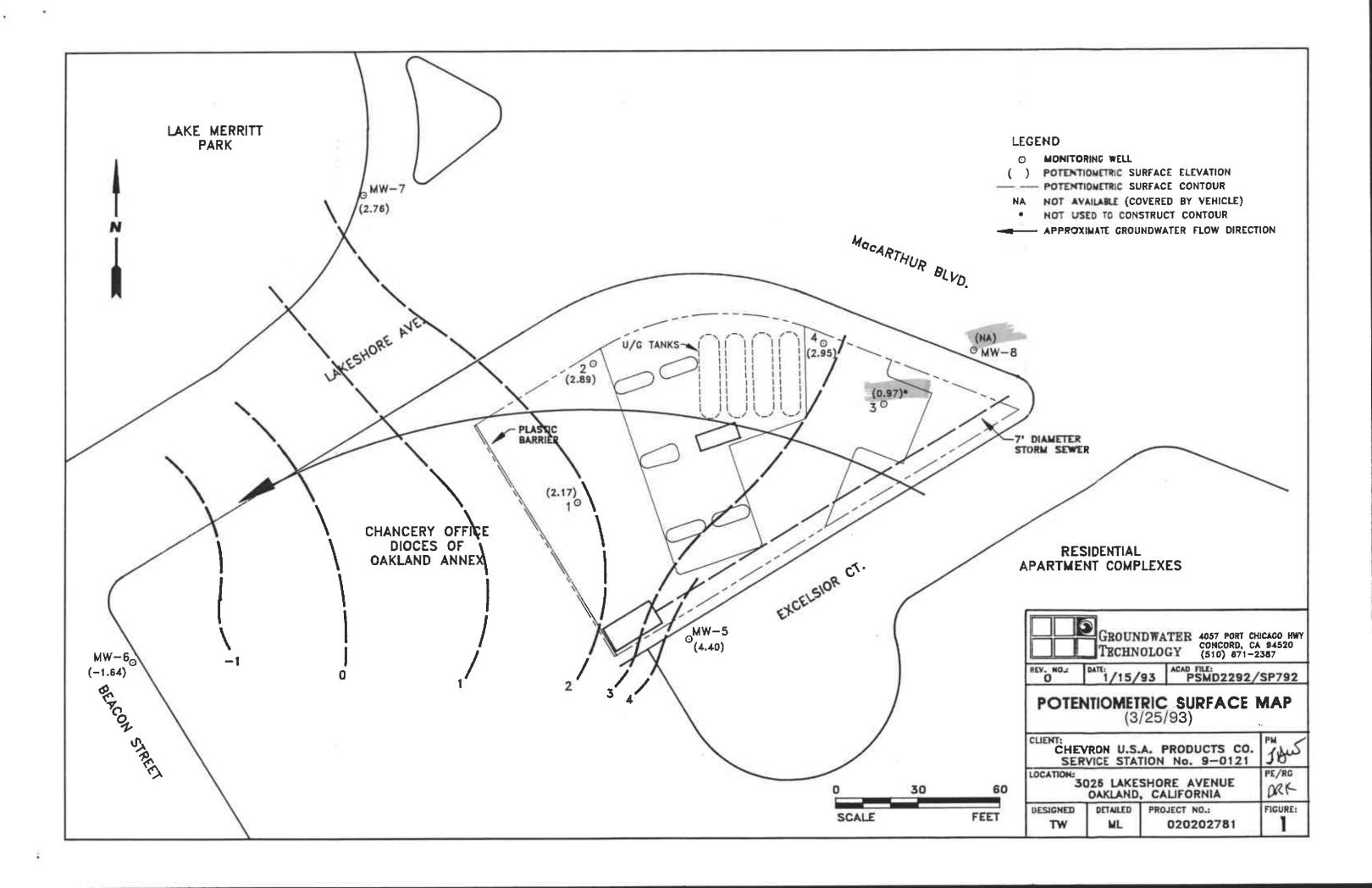
Vice President, General Man

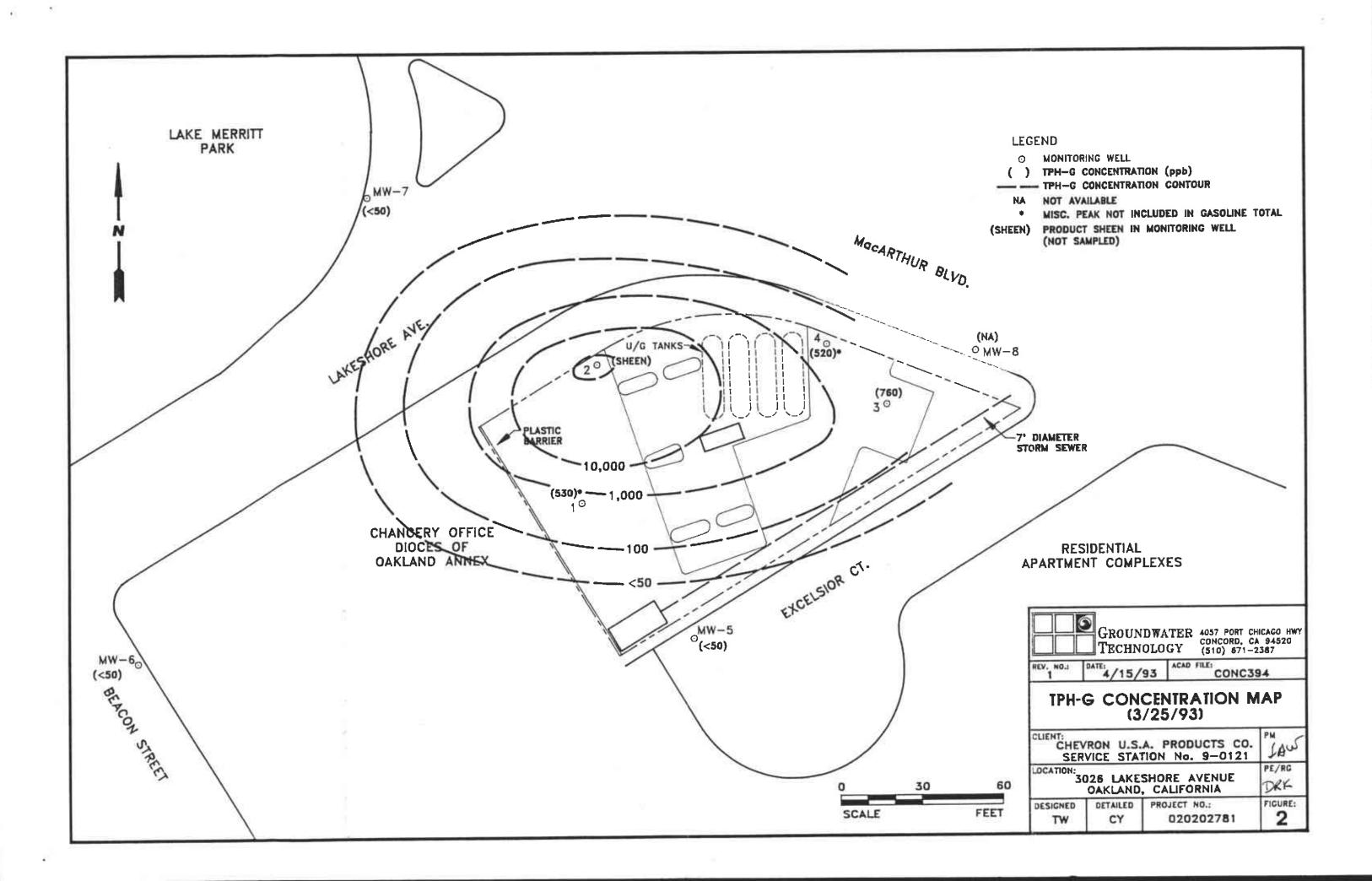
West Region

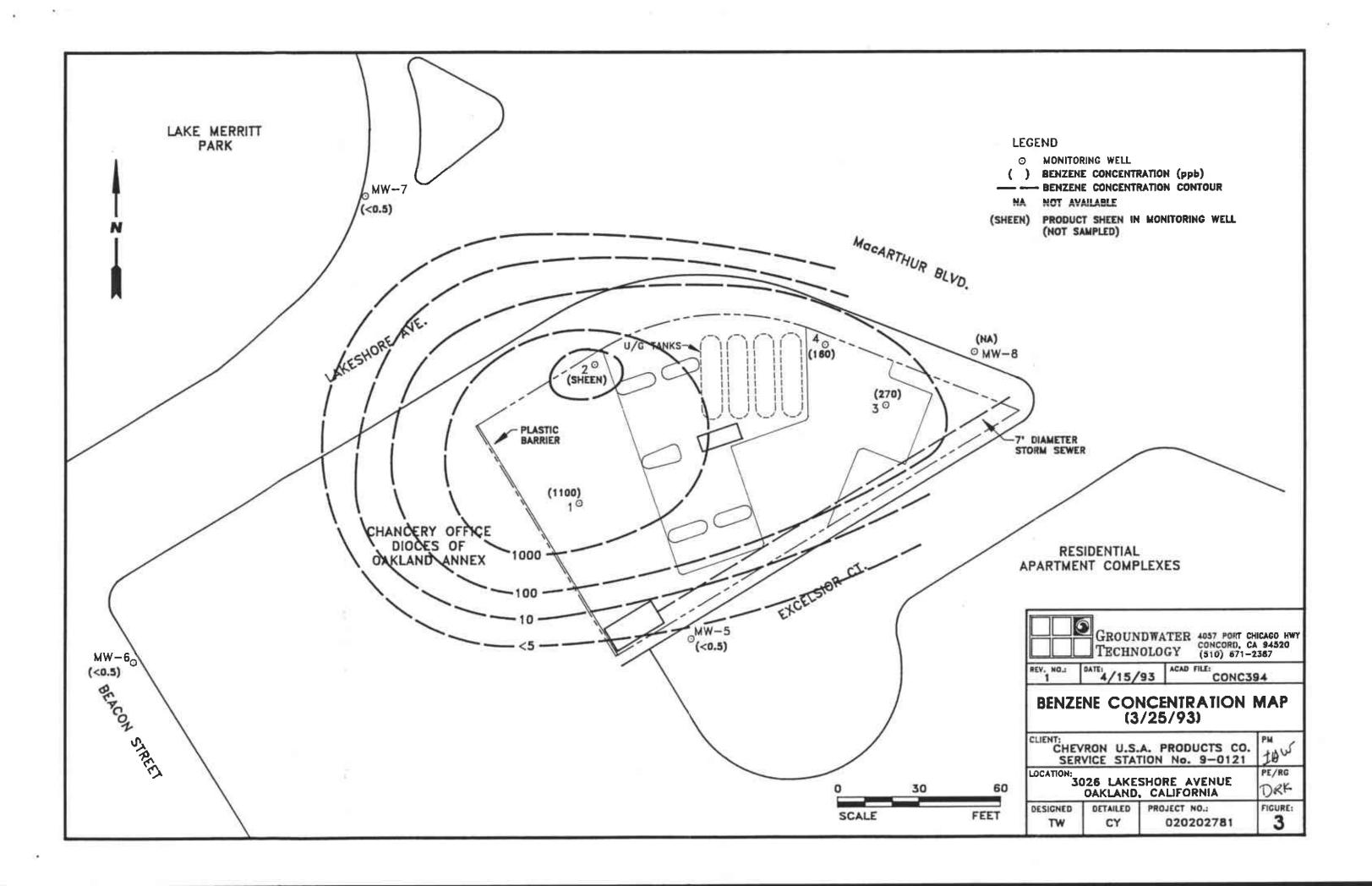
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ATTACHMENT 1

FIGURE







ATTACHMENT 2

TABLE

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
(Results in pasts per billion)

Well	Casing		TPH-as-			Ethyl-		TPH-as-	DTW	SPT	GWE
No.	⊟ev.	Date	Gasoline	Benzene	Toluene	benzene	Xylene	Diesel	(ft)	(ft)	(ft)
MW-1		08/20/91	5,100	1,700	21	220	34	260	5.20	0.00	1.62
	6.82	09/30/91 10/28/91		Separate	-phase hyd	rocarbons p	oresent		5.67 5.30	Sheen 0.03	1.15 1.50
		01/08/92	5,400	770	13	95	31	 *4,400	5.15 	Sheen	1.67
	6.89	01/13/92 06/23/92	7,700	1,500	- 40	230	100	*2,000	5.41	0.00	1.48
		08/24/92 09/21/92	3,500	1,700	28	190	 78	 <50	5.77 5.89	0.00	1.12
		10/26/92 12/23/92	60,000	7,100	 240	2,000	1,300	*5,500	5.94 4.71	0.00 0.00	.95 2.18
		01/08/93 03/25/93	***530	1,100	 41	 67	 79	 <10	 4.72	0.00	2.17
MW-2	"-"	08/20/91	9,300	3,700	55	530	75	600	4.35	0.00	1.92
	6.27	09/30/91 10/28/91	3,500 4,600	2,600 1,800	47 29	440 290	68 53		4.99 4.91	0.00	1.28 1.36
		01/08/92 01/13/92	14,000	4,300 	70 	<25 —	130 	 *38,000	4.64 	Sheen 	1.63
		06/23/92			***				4.64	0.02	1.63
		08/24/92 09/21/92		Separate-phase hydrocarbons present				4.94 5.08	0.02 0.01	1.34 1.20	
		10/26/92 12/23/92	21,000	 5,400	 59	 1,300	_ 160	 160,000	5.93 	0.00 	.34
		01/08/93							3.70 3.38	0.00 Sheen :	2.57 2.89
MW-3	8.71	08/20/91	3,100 1,000	200 150	13 8.3	15 13	12 6.7	200	8.45 8.74	0.00 0.00	0.26 -0.03
	0.71	09/30/91	1,200	120	6.7	11	7.5	-	8.76 8.77	0.00	-0.05 -0.06
		01/08/92	410	120	0.9	4.1	3.4	*220			
		06/23/92 08/24/92	630 	43 	0.8	8.2 	3.4	< 50 	8.68 8.85	0.00 0.00	0.03 -0.14
		09/21/92 10/26/92	1,800	730 	1.4	66 —	39 	<50 	8.94 9.07	0.00 0.00	-0.23 -0.36
		12/23/92 01/08/93	840 	270	3.4	15 	4.2	*850 —	7.69	0.00	1.02
		03/25/98	760	270	4	10	5	< 10	7.74	0.00	0.97
MW-4	7.37	08/20/91 09/30/91	1,800 670	870 830	4 5.5	3 2.7	9 12	160	5.05 5.67	0.00 0.00	1.32 1.70
	1.3,	10/28/91 01/08/92	2,800 2,900	990 1,200	5.8 10	4.8 7	19 18		5.81 5.34	0.00 0.00	1.56 2.03
		01/13/92	!			3	12	*1,000 <50	5.37	0.00	2.00
		06/23/92 08/24/92	1,600	380	6.5				5.75	0.00	1.62
		09/21/92 10/26/92	1,200	480 —	5.6 	3.7 	11	< 50 	5.95 5.96	0.00 0.00	1.42 1.41
		12/23/92 01/08/93	1,500	700 	3.6	3.2	11	*1,800	4.64	0.00	2.73
		03/25/99	***520	160	3	1	4	<10	4.42	0.00	2.95

Page 1 of 2

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
(Results in parts per billion)

Well No.	Casing Elev.	Date	TPH-as- Gasoline	Benzene	Toluene	Ethyl- benzene	Xylene	TPH-as- Diesel	DTW (ft)	SPT (ft)	GWE (ft)
MW-5	14.14	06/23/92	<50	<0.5	<0.5	<0.5	<0.5	< 50	12.24	0.00	1.90
14144-5	14.14	08/23/92	₹50	< 0.5	70.5	70.0		~~~	12.29	0.00	1.85
1		09/21/92	<50	< 0.5	< 0.5	<0.5	< 0.5	*60	12.46	0.00	1.68
		10/26/92	750			-			12.52	0.00	1.62
		12/23/92							11.12	0.00	3.02
		01/08/93		_							
		03/25/93	<50	<0.5	< 0.5	<0.5	0.9	<10	9.74	0.00	4.40
MW-6	4.46	06/23/92	<50	4.3	< 0.5	0.8	0.9	120	5.14	0.00	-0.68
"""	11.10	08/24/92			_				4.95	0.00	-0.49
		09/21/92	<250	<2.5	< 2.5	<2.5	<2.5	< 50	4.90	0.00	-0.44
		10/26/92							5.52	0.00	-1.06
		12/23/92	< 50	<0.5	< 0.5	< 0.5	< 0.5	81	5.40	0.00	-0.94
		01/08/93									
	-	03/25/98	< 50	<0.5	< 0.5	< 0.5	0.7	< 10	6.10	0.00	-1.64
MW-7	5.26	06/23/92	<50	4.7	< 0.5	<0.5	<0.5	< 50	4.38	0.00	0.88
		08/24/92						_	5.55	0.00	-0.29
		09/21/92	<50	< 0.5	<0.5	< 0.5	< 0.5	<50	5.65	0.00	-0.39
1		10/26/92	_				-		5.51	0.00	-0.25
		12/23/92	< 50	2.9	< 0.5	< 0.5	< 0.5	60	3.95	0.00	1.31
		01/08/93		***				-		**-	
		03/25/93	< 50	< 0.5	< 0.5	< 0.5	< 0.5	<10	2.50	0.00	2.76
MW-8	8.94	06/23/92	< 50	< 0.5	<0.5	< 0.5	<0.5	<50	24.14	0.00	-15.20
		08/24/92							8.60	0.00	0.34
		09/21/92	**94	< 0.5	< 0.5	< 0.5	< 0.5	< 50	8.39	0.00	0.55
ļ '		10/26/92			-	***			9.12	0.00	-0.18
1		12/23/92	< 50	0.7	5.0	0.7	2.9	79	8.11	0.00	0.83
		01/08/93		***				-			!
		03/25/93		***							
Trip		08/24/92	_	_			-		_		
Blank		09/21/92	<50	< 0.5	< 0.5	< 0.5	< 0.5		-		
		10/26/92				_	•••	-			-
		12/23/92	<50	< 0.5	< 0.5	< 0.5	< 0.5				
	!	01/08/93						_		l	
	<u> </u>	03/25/93	< 50	<0.5	< 0.5	< 0.5	<0.5			<u> </u>	

DTW = Depth to groundwater

GWE = Groundwater elevation in feet above mean sea level

SPT = Separate-phase hydrocarbon thickness

* = Diesel fuel range concentration reported. The laboratory reported that the majority of peaks were observed in the gasoline range of the chromatogram, or that the pattern observed in the chromatogram was not typical of diesel fuel.

** = Gasoline range concentration reported. A nonstandard gasoline pattern was observed in the chromatogram.

*** = Miscellaneous peak not included in gasoline total.

--- = Not applicable, not analyzed, not measured

GROUNDWATER
TECHNOLOGY, INC.

ATTACHMENT 3 LABORATORY ANALYTICAL REPORT



Northwest Region 4080-C Pike Lane Concord, CA 94520 (510) 685-7852 (800) 544-3422 from inside California (800) 423-7143 from outside California (510) 825-0720 (FAX)

April 8, 1993

Sandra Lindsey Groundwater Technology, Inc. 4057 Port Chicago Hwy. Concord, CA 94520

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 03/25/93.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certificate numbers 194 and 1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

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.

Eilen J. Bullen

Eileen F. Bullen

Laboratory Director

ANALYTICAL RESULTS

TPH as Diesel in Water

Method: Modified EPA 8015a

GTEL Sample Number	03	05	07	09	
Client Identification	MW5	MW7	MW6	MW3	
Date Sampled		03/25/93	03/25/93	03/25/93	03/25/93
Date Analyzed	04/01/93	04/01/93	04/01/93	04/01/93	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	10	<10	<10	<10	<10
Detection Limit Multiplier	···	1	1	1	1
OTP surrogate, % recovery		135	108	90	93

a. O-Terphenyl surrogate recovery acceptability limits of 50-150% are derived from the 99% confidence interval of all samples during the previous quarter. Expected surrogate value is 10 ug/L.



ANALYTICAL RESULTS

TPH as Diesel in Water

Method: Modified EPA 8015a

GTEL Sample Number	11	13	GC-1		
Client Identification	MW-4	MW-1	METHOD BLANK		
Date Sampled	03/25/93	03/25/93	-		
Date Analyzed	04/01/93	04/01/93	04/01/93		
Analyte	Detection Limit, ug/L				
TPH as diesel	10	<10	<10	<10	
Detection Limit Multiplier		1	1	1	
OTP surrogate, % recovery		108	92	103	

a. O-Terphenyl surrogate recovery acceptability limits of 50-150% are derived from the 99% confidence interval of all samples during the previous quarter. Expected surrogate value is 10 ug/L.



QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C3030422-04	20.0	ug/L	110	114	3.05	55 - 129
Toluene	C3030422-04	20.0	ug/L	96.0	98.5	2.15	72 - 149
Ethylbenzene	C3030422-04	20.0	ug/L	103	106	2.95	75 - 138
Xylene, total	C3030422-04	60.0	ug/L	113	116	1.43	74 - 147
GC-FID:							
Diesel	DI Water Spike	1081	ug/L	108	117	8.0	63 - <u>127</u>



Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number	01	02	03	05		
Client Identification	TB-LB	RBMW5	MW5	MW7		
Date Sampled				03/25/93	03/25/93	
Date Analyzed	04/01/93	04/01/93	04/02/93	04/01/93		
Analyte	Concentration, ug/L					
Benzene	0.5	<0.5	<0.5	<0.5	<0.5	
Toluene	0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5	
Xylene, total	0.5	<0.5	<0.5	0.9	<0.5	
BTEX, total		-				
TPH as Gasoline	50	<50	<50	<50	<50	
Detection Limit Multiplier	1	1	1	1		
BFB surrogate, % recovery				116	86.6	

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 8015a

GTEL Sample Number	07	09	11	13		
Client Identification	MW6	МW3	MW4	MW1		
Date Sampled	Date Sampled			03/25/93	03/25/93	
Date Analyzed	04/02/93	04/05/93	04/02/93	04/01/93		
Analyte	Concentration, ug/L					
Benzene	0.5	<0.5	270	160	1100	
Toluene	0.5	< 0.5	4	3	41	
Ethylbenzene	0.5	<0.5	10	1	67	
Xylene, total	0.5	0.7	5	4	79	
BTEX, total	-	0.7	290	170	1300	
TPH as Gasoline	50	<50	760	520*	530*	
Detection Limit Multiplier				1	1	
BFB surrogate, % recovery	110	113	120	105		

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. Miscellaneous peak not included in gasoline total.



Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number	040193 BTEX-1				
Client Identification	METHOD BLANK				
Date Sampled	Date Sampled				
Date Analyzed					
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5			
Toluene	0.5	<0.5			
Ethylbenzene	0.5	< 0.5			
Xylene, total	0.5	<0.5		_	
BTEX, total					
TPH as Gasoline	50	<50			
Detection Limit Multiplier	Detection Limit Multiplier				
BFB surrogate, % recovery	108				

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.



Chevron U.S.A. Inc. P.O. BOX 5004 Chab Report and COC to Chevron C. Chevron Facility Number 9-0121 3026 Lakeshore Avenue Facility Address Consultant Project Number 020302090.061004 Consultant Name Groundwater Technology, Inc.	CA	Chevron Contact (Name) — (Phone) — Buper Laboratory Name — Laboratory Release Number —	510-842-8134 riex Analytical (57)	69m		
Chevron U.S.A. Inc. Consultant Project Number 020302090.061004	UA.	Laboratory Release Number	140-2170 M C/c-	69m		
San Ramon, CA 94383	Consultant Project Number 5205025707007070707070707070707070707070					
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