

ALCO
HAZMAT



Chevron

93 NOV 30 PM 2: 23

November 26, 1993

Chevron U.S.A. Products Company

2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

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:

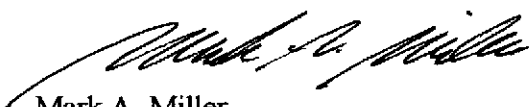
Enclosed is the ~~Groundwater Monitoring and Sampling Report dated~~ November 2, 1993, prepared by our consultant Groundwater Technology Inc. for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline, total petroleum hydrocarbons as diesel, and BTEX. Benzene was detected in monitor wells MW-1, MW-3, MW-4, and MW-7 at concentrations of 1600, 2800, 210, and 2 ppb, respectively. Depth to ground water was measured at approximately 5.2 feet to 11.9 feet below grade and the direction of flow is to the west-northwest.

~~A sheen was observed in monitor well MW-2. Subsequently, approximately 40 ml of separate-phase hydrocarbons were removed by bailing.~~

Chevron will continue to monitor and sample all wells at this site and report findings on a quarterly basis. ~~We are currently awaiting your review of the Remediation Feasibility Study dated October 4, 1993, prepared for this site by our consultant Pacific Environmental Group, Inc.~~

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

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

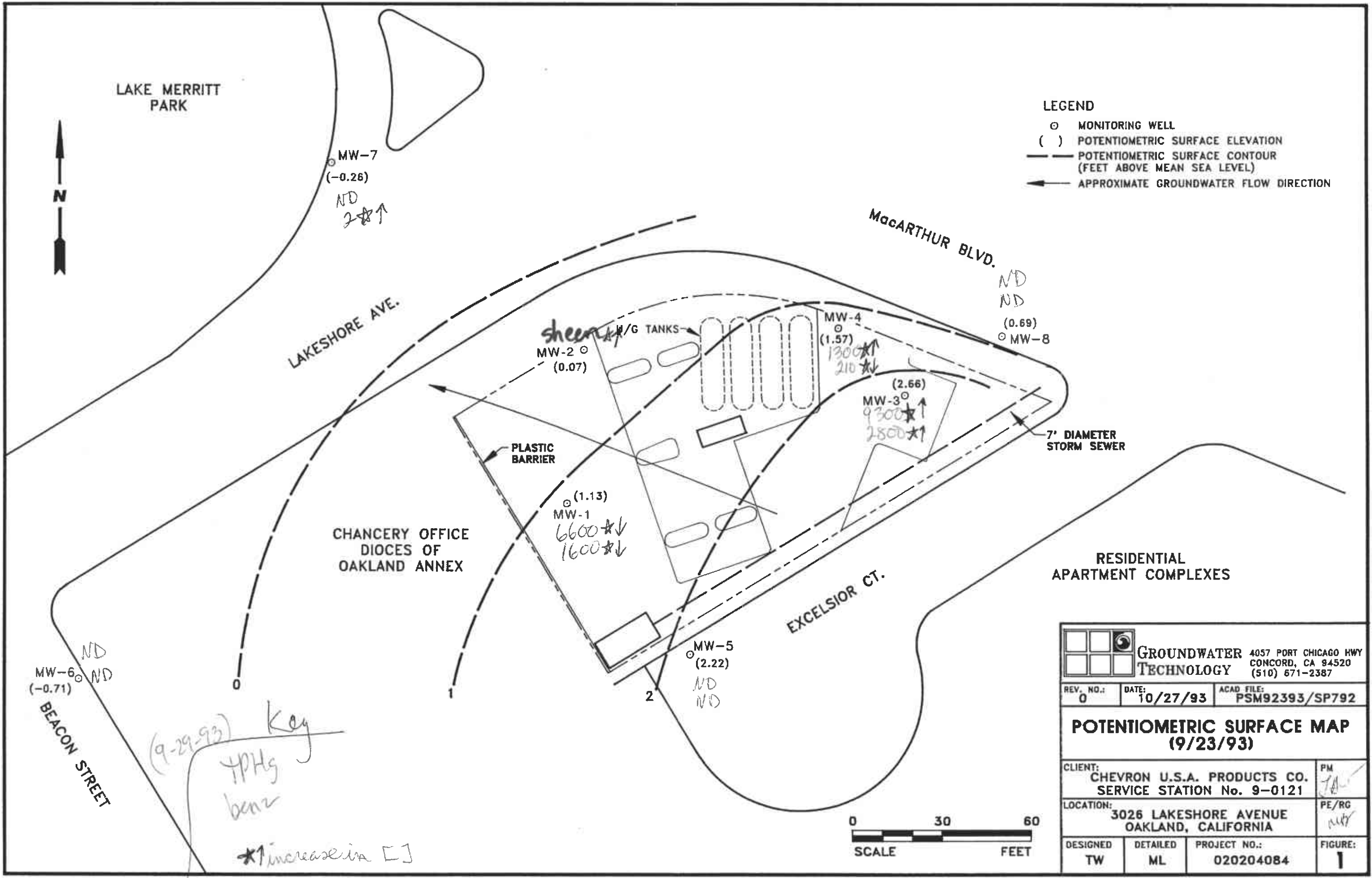

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Rich Hiatt, RWQCB - Bay Area
Mr. Steve Kreik, Pacific Environmental Group
Mr. S.A. Willer
File (9-0121 QM5)

ATTACHMENT 1

Figures



LEGEND

- MONITORING WELL
- () POTENTIOMETRIC SURFACE ELEVATION
- - - POTENTIOMETRIC SURFACE CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- ← APPROXIMATE GROUNDWATER FLOW DIRECTION

MW-7
(-0.26)
ND
28↑

sheena
MW-2 ○
(0.07)

MW-4
(1.57)
1300*↑
210*↓

MW-3 ○
(2.66)
9300*↑
2800*↑

ND
ND
MW-8
(0.69)

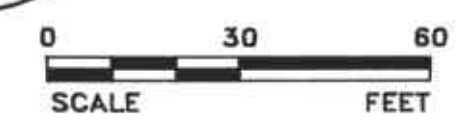
MW-1
(1.13)
6600*↓
1600*↓

MW-5
(2.22)
ND
ND

MW-6
(-0.71)
ND
ND

(9-29-93) Key
YPHg
benz
*↑ increase in []
*↓ decrease

		4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387	
REV. NO.:	DATE:	ACAD FILE:	
0	10/27/93	PSM92393/SP792	
POTENTIOMETRIC SURFACE MAP (9/23/93)			
CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0121			PM
LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA			PE/RG
DESIGNED	DETAILED	PROJECT NO.:	FIGURE:
TW	ML	020204084	1



ATTACHMENT 2

Table

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California

Well	Casing Elevation	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-D	TDS	DTW (ft)	SPT (ft)	WTE (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	Separate-phase hydrocarbons present						---	5.67	Sheen	1.15	
		10/28/91							---	5.30	0.03	1.50	
	6.89	01/08/92	5,400	770	13	95	31	---	---	5.15	Sheen	1.67	
		01/13/92	---	---	---	---	---	---	*4,400	---	---	---	
		06/23/92	7,700	1,500	40	230	100	*2,000	---	5.41	0.00	1.48	
		08/24/92	---	---	---	---	---	---	---	5.77	0.00	1.12	
		09/21/92	3,500	1,700	28	190	78	<50	---	5.89	0.00	1.00	
		10/26/92	---	---	---	---	---	---	---	5.94	0.00	.95	
		12/23/92	60,000	7,100	240	2,000	1,300	*5,500	---	4.71	0.00	2.18	
		01/08/93	---	---	---	---	---	---	---	---	---	---	
		03/25/93	***530	1,100	41	67	79	<10	---	4.72	0.00	2.17	
		06/11/93	****7,000	1,900	33	120	69	---	840	5.07	0.00	5.37	
08/24/93	6,000	1,900	28	43	74	<10	---	5.76	0.00	1.13			
MW-2	6.27	08/20/91	9,300	3,700	55	530	75	600	---	4.35	0.00	1.92	
		09/30/91	3,500	2,600	47	440	68	---	---	4.99	0.00	1.28	
		10/28/91	4,600	1,800	29	290	53	---	---	4.91	0.00	1.36	
		01/08/92	14,000	4,300	70	<25	130	---	---	4.64	Sheen	1.63	
		01/13/92	---	---	---	---	---	*38,000	---	---	---	---	
		06/23/92	---	---	---	---	---	---	---	4.64	0.02	1.63	
		08/24/92	Separate-phase hydrocarbons present						---	---	4.94	0.02	1.34
		09/21/92							---	---	5.08	0.01	1.20
		10/26/92	---	---	---	---	---	---	---	5.93	0.00	.34	
		12/23/92	21,000	5,400	59	1,300	160	160,000	---	---	---	---	
		01/08/93	---	---	---	---	---	---	---	3.70	0.00	2.57	
		03/25/93	---	---	---	---	---	---	---	3.38	Sheen	2.89	
		06/11/93	5,900	1,100	23	240	51	---	2,300	4.18	0.00	2.09	
08/24/93	---	---	---	---	---	---	---	6.20	0.00	0.07			

Sheen

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California

Well	Casing Elevation	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-D	TDS	DTW (ft)	SPT (ft)	WTE (ft)
MW-3	8.71	08/20/91	3,100	200	13	15	12	200	---	8.45	0.00	0.26
		09/30/91	1,000	150	8.3	13	6.7	---	---	8.74	0.00	-0.03
		10/28/91	1,200	120	6.7	11	7.5	---	---	8.76	0.00	-0.05
		01/08/92	410	120	0.9	4.1	3.4	---	---	8.77	0.00	-0.06
		01/13/92	---	---	---	---	---	*220	---	---	---	---
		06/23/92	630	43	0.8	8.2	3.4	<50	---	8.68	0.00	0.03
		08/24/92	---	---	---	---	---	---	---	8.85	0.00	-0.14
		09/21/92	1,800	730	1.4	66	39	<50	---	8.94	0.00	-0.23
		10/26/92	---	---	---	---	---	---	---	9.07	0.00	-0.36
		12/23/92	840	270	3.4	15	4.2	*850	---	---	---	---
		01/08/93	---	---	---	---	---	---	---	7.69	0.00	1.02
		03/25/93	760	270	4	10	5	<10	---	7.74	0.00	0.97
		06/11/93	200	32	1	5	2	---	5,600	8.52	0.00	0.19
		08/28/93	3,300	2,500	60	270	62	---	---	6.05	0.00	2.66
		MW-4	7.37	08/20/91	1,800	870	4	3	9	160	---	5.05
09/30/91	670			830	5.5	2.7	12	---	---	5.67	0.00	1.70
10/28/91	2,800			990	5.8	4.8	19	---	---	5.81	0.00	1.56
01/08/92	2,900			1,200	10	7	18	---	---	5.34	0.00	2.03
01/13/92	---			---	---	---	---	*1,000	---	---	---	---
06/23/92	1,600			380	6.5	3	12	<50	---	5.37	0.00	2.00
08/24/92	---			---	---	---	---	---	---	5.75	0.00	1.62
09/21/92	1,200			480	5.6	3.7	11	<50	---	5.95	0.00	1.42
10/26/92	---			---	---	---	---	---	---	5.96	0.00	1.41
12/23/92	1,500			700	3.6	3.2	11	*1,800	---	---	---	---
01/08/93	---			---	---	---	---	---	---	4.64	0.00	2.73
03/25/93	***520			160	3	1	4	<10	---	4.42	0.00	2.95
06/11/93	****1,200			430	5	6	11	---	2,600	5.12	0.00	2.25
08/28/93	1,500			210	8	2	14	---	---	5.80	0.00	1.57

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California

Well	Casing Elevation	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-D	TDS	DTW (ft)	SPT (ft)	WTE (ft)	
MW-5	14.14	06/23/92	<50	<0.5	<0.5	<0.5	<0.5	<50	---	12.24	0.00	1.90	
		08/24/92	---	---	---	---	---	---	---	12.29	0.00	1.85	
		09/21/92	<50	<0.5	<0.5	<0.5	<0.5	*60	---	12.46	0.00	1.68	
		10/26/92	---	---	---	---	---	---	---	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	
		06/11/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	770	10.44	0.00	3.70
		08/23/93	<50	<0.5	0.6	<0.5	0.6	<10	---	---	11.92	0.00	2.22
MW-6	4.46	06/23/92	<50	4.3	<0.5	0.8	0.9	120	---	5.14	0.00	-0.68	
		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	---	---	---	---	---	---	---	---	---	---	
		03/25/93	<50	<0.5	<0.5	<0.5	0.7	<10	---	6.10	0.00	-1.64	
		06/11/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	15,000	6.56	0.00	-2.10
		08/23/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<10	---	5.17	0.00	-0.71
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	
		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	
		06/11/93	<50	0.6	<0.5	<0.5	<0.5	<0.5	---	2,200	3.46	0.00	1.80
		08/23/93	<50	0.6	1	1	7	<10	---	---	5.52	0.00	-0.26

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California

Well	Casing Elevation	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-D	TDS	DTW (ft)	SPT (ft)	WTE (ft)	
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
		10/26/92	---	---	---	---	---	---	---	---	9.12	0.00	-0.18
		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	---	---	---	---	---	---	---	---	---	---	---
		06/11/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	3,500	8.39	0.00	0.55
		09/29/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<10	---	8.25	0.00	0.69
TB-LB		08/24/92	---	---	---	---	---	---	---	---	---	---	
		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	---	---	---	---	---	---	---	---	---	---	
		03/25/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
		06/11/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
		09/29/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---	

- TPH-G = Total petroleum hydrocarbons-as-gasolines
- TPH-D = Total petroleum hydrocarbons-as-diesel fuel
- TDS = Total dissolved solids
- DTW = Depth to groundwater
- SPT = Separate-phase hydrocarbon thickness
- WTE = Water-table elevation
- TB-LB = Trip blank/Lab blank
- * = 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.
- **** = Uncategorized compound is not included in gasoline hydrocarbon total.
-

ATTACHMENT 3
Laboratory Reports



Northwest Region
4080 Pike Lane
Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

Client Number: 020204097
Consultant Project Number: 020204097
Facility Number: 9-0121
Project ID: 3026 Lakeshore Blvd.
Work Order Number: C3-09-0658

October 21, 1993

Nicole Merchant
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 09/29/93.

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 certification number E1075, 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.

A handwritten signature in cursive script that reads 'Eileen F. Bullen'.

Eileen F. Bullen
Laboratory Director

Client Number: 020204097
 Consultant Project Number: 020204097
 Facility Number: 9-0121
 Project ID: 3026 Lakeshore Blvd.
 Work Order Number: C3-09-0658

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		TB LB	MW-8	MW-7	MW-6
Date Sampled		09/29/93	09/29/93	09/29/93	09/29/93
Date Analyzed		10/10/93	10/12/93	10/12/93	10/12/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	2	<0.5
Toluene	0.5	<0.5	<0.5	1	<0.5
Ethylbenzene	0.5	<0.5	<0.5	1	<0.5
Xylene, total	0.5	<0.5	<0.5	7	<0.5
BTEX, total	--	--	--	11	--
TPH as Gasoline	50	<50	<50	<50	<50
Detection Limit Multiplier		1	1	2	1
BFB surrogate, % recovery		84.2	84.6	80.0	91.2

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. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: 020204097
 Consultant Project Number: 020204097
 Facility Number: 9-0121
 Project ID: 3026 Lakeshore Blvd.
 Work Order Number: C3-09-0658

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-5	MW-4	MW-3	MW-1
Date Sampled		09/29/93	09/29/93	09/29/93	09/29/93
Date Analyzed		10/11/93	10/11/93	10/12/93	10/12/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	210	2800	1600
Toluene	0.5	0.6	8	60	28
Ethylbenzene	0.5	<0.5	2	270	43
Xylene, total	0.5	0.6	14	62	74
BTEX, total	--	1	230	3200	1700
TPH as Gasoline	50	<50	1300	9300	6600
Detection Limit Multiplier		1	2	25	50
BFB surrogate, % recovery		90.8	109	94.8	86.9

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. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: 020204097
 Consultant Project Number: 020204097
 Facility Number: 9-0121
 Project ID: 3026 Lakeshore Blvd.
 Work Order Number: C3-09-0658

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		Z101193			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		10/11/93			
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		1			
BFB surrogate, % recovery		89.9			

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. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: 020204097
 Consultant Project Number: 020204097
 Facility Number: 9-0121
 Project ID: 3026 Lakeshore Blvd.
 Work Order Number: C3-09-0658

Table 1
ANALYTICAL RESULTS

TPH as Diesel in Water

Method: Modified EPA 8015^a

GTEL Sample Number		02 ^b	03 ^b	04 ^b	05
Client Identification		MW-8	MW-7	MW-6	MW-5
Date Sampled		09/29/93	09/29/93	09/29/93	09/29/93
Date Extracted		10/07/93	10/07/93	10/07/93	10/07/93
Date Analyzed		10/13/93	10/13/93	10/13/93	10/13/93
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		75.7	91.0	93.9	106

GTEL Sample Number		08 ^b	101393GCJ		
Client Identification		MW-1	METHOD BLANK		
Date Sampled		09/29/93	--		
Date Extracted		10/07/93	10/07/93		
Date Analyzed		10/13/93	10/13/93		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	10	<10	<10		
Detection Limit Multiplier		1	1		
OTP surrogate, % recovery		107	76.0		

- a. O-Terphenyl surrogate recovery acceptability limits are 50-150%. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986.
 b. Hydrocarbon pattern not characteristic of diesel.

Client Number: 020204097
 Consultant Project Number: 020204097
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QC Check Sample Results

Analyte	Source	Date of Analysis	Expected Value	Units	Recovery ^a , %
Modified EPA 8020:					
Benzene	Supelco	10/02/93	50	ug/L	94.4
Toluene	Supelco	10/02/93	50	ug/L	101
Ethylbenzene	Supelco	10/02/93	50	ug/L	104
Xylene	Supelco	10/02/93	150	ug/L	99.0

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	C3090642-03	20	ug/L	87.0	98.5	12	55 - 129
Toluene	C3090642-03	20	ug/L	93.0	104	11	72 - 149
Ethylbenzene	C3090642-03	20	ug/L	98.5	110	11	75 - 138
Xylene, total	C3090642-03	60	ug/L	97.0	108	11	74 - 147
Modified EPA 8015:							
GC-FID:							
Diesel	REAGENT H ₂ O	1460	ug/L	112	113	8.9	63 - 127

