

**GROUNDWATER
TECHNOLOGY, INC.**

FILE COPY

4080-D Pike Lane, Concord, CA 94520

(415) 671-2387

April 25, 1990

Job No. 203 175 3295

Mr. John Randall
Chevron U.S.A. Inc.
2410 Camino Ramon
Bishop Ranch #6
San Ramon, CA 94583

RE: Well Sample Laboratory Analysis Results
Former Chevron Service Station No. 9-0121
MacArthur Freeway, Oakland California

Dear Mr. Randall:

Enclosed are the laboratory analysis results of well samples collected on April 10, 1990, at the above-referenced site. The results for Total Petroleum Hydrocarbons (TPH)-As-Gasoline has been posted on the well-location site map, which is also enclosed along with a copy of the laboratory analysis results. If you have any questions, please call me at (415) 685-9250.

Sincerely,
GROUNDWATER TECHNOLOGY, INC.

Fred Hayden
Project Geologist

FH:lf
L3295B

Enclosures



Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
In CA: (800) 544-3422
Outside CA: (800) 423-7143

Project Number: SFB-175-0204.72
Consultant Project Number: 203-175-3295
Contract Number: N46CWC0244-9-X
Facility Number: 9-0121
Work Order Number: D004222
Report Issue Date: April 17, 1990

Joe Ramage
Groundwater Technology, Inc.
4080-D Pike Lane
Concord, CA 94520

Dear Mr. Ramage:

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories on April 10, 1990.

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 met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to approved 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 "Emma P. Popek / 4/17/90".

Emma P. Popek
Laboratory Director

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Table 1

ANALYTICAL RESULTS

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015¹

GTEL Sample Number		01	02	03	04
Client Identification		TRAVEL BLANK	MWA-RB	MWA	MWC-RB
Date Sampled		04/10/90	04/10/90	04/10/90	04/10/90
Date Analyzed		04/11/90	04/11/90	04/11/90	04/11/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	890	<0.3
Toluene	0.3	<0.3	<0.3	39	<0.3
Ethylbenzene	0.3	<0.3	<0.3	65	<0.3
Xylene (total)	0.6	<0.6	<0.6	27	<0.6
TPH as Gasoline	50	<50	<50	4900	<50

GTEL Sample Number		05	06	07	08
Client Identification		MWC	MWD-RB	MWD	MWG-RB
Date Sampled		04/10/90	04/10/90	04/10/90	04/10/90
Date Analyzed		04/11/90	04/11/90	04/11/90	04/11/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	1200	<0.3	1600	<0.3
Toluene	0.3	23	0.3	70	<0.3
Ethylbenzene	0.3	590	<0.3	270	<0.3
Xylene (total)	0.6	230	<0.6	810	<0.6
TPH as Gasoline	50	7600	<50	40000	<50

1 = Extraction by EPA Method 5030

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Table 1 (continued)

ANALYTICAL RESULTS

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015¹

GTEL Sample Number		09	10	11	12
Client Identification		MWG	MWH-RB	MWH	MW1-RB
Date Sampled		04/10/90	04/10/90	04/10/90	04/10/90
Date Analyzed		04/11/90	04/11/90	04/11/90	04/11/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	410	<0.3
Toluene	0.3	<0.3	<0.3	10	<0.3
Ethylbenzene	0.3	<0.3	<0.3	30	<0.3
Xylene (total)	0.6	<0.6	<0.6	1	<0.6
TPH as Gasoline	50	<50	<50	2700	<50

GTEL Sample Number		13	14	15	
Client Identification		MW1	MWJ-RB	MWJ	
Date Sampled		04/10/90	04/10/90	04/10/90	
Date Analyzed		04/11/90	04/11/90	04/11/90	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	510	<0.3	280	
Toluene	0.3	15	<0.3	20	
Ethylbenzene	0.3	58	<0.3	15	
Xylene (total)	0.6	7	<0.6	12	
TPH as Gasoline	50	3800	<50	3700	

1 = Extraction by EPA Method 5030

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QA Conformance Summary

Purgeable Aromatics and Total Petroleum Hydrocarbons as Gasoline in Water EPA Method 8020/8015

1.0 Blanks

Five of 5 target compounds were below detection limits in the reagent blank as shown in Table 2.

2.0 Independent QC Check Sample

The control limits were met for 4 out of 4 QC check compounds as shown in Table 3.

3.0 Surrogate Compound Recoveries

Percent recovery limits were met for the surrogate compound (naphthalene) for all samples as shown in Table 4.

4.0 Matrix Spike (MS) Accuracy

Percent recovery limits were met for 4 of 4 compounds in the MS as shown in Table 5.

5.0 Reagent Water Spike (WS) and Reagent Water Spike (WSD) Duplicate Precision

Relative percent difference (RPD) criteria was met for 4 of 4 analytes in the WS and WSD as shown in Table 6.

6.0 Sample Handling

- 6.1 Sample handling and holding time criteria were met for all samples.
- 6.2 There were exceptional conditions requiring dilution of samples.

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Table 2

REAGENT BLANK DATA

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Date of Analysis: 04/11/90

Analyte	Concentration, ug/L
Benzene	<0.3
Toluene	<0.3
Ethylbenzene	<0.3
Xylene (total)	<0.6
Gasoline	<50

<# = Not detected at the indicated detection limit.

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Table 3

INDEPENDENT QC CHECK SAMPLE RESULTS

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Date of Analysis: 04/06/90

Analyte	Expected Result, ug/L	Observed Result, ug/L	Recovery, %	Acceptability Limits, %
Benzene	50	54	108	85 - 115
Toluene	50	54	108	85 - 115
Ethylbenzene	50	50	100	85 - 115
Xylene (total)	150	156	104	85 - 115

Table 3a

INDEPENDENT QC CHECK SAMPLE SOURCE

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Analyte	Lot Number	Source
Benzene	LA18042	Supelco
Toluene	LA18042	Supelco
Ethylbenzene	LA18042	Supelco
Xylene (total)	LA18042	Supelco

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Table 4

SURROGATE COMPOUND RECOVERY
Naphthalene
Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Acceptability Limits¹: 70 - 130 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	200	192	96
01	200	189	94
02	200	203	102
03	200	194	97
04	200	217	108
05	200	245	122
06	200	222	111
07	200	394	197*
08	200	208	104
09	200	195	98
10	200	210	105
11	200	209	104
12	200	209	104
13	200	282	141
14	200	212	106
15	200	256	128
MS	200	168	84
WS	200	198	99
WSD	200	152	76

MS = Matrix Spike
 WS = Reagent Water Spike
 WSD = Reagent Water Spike Duplicate
 1 = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.
 * Surrogate recovery high due to matrix interference.

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Table 5

MATRIX SPIKE (MS) RECOVERY REPORT

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Date of Analysis: 04/11/90
 Sample Spiked: D004219-03B

Client ID: GT-3
 Units: ug/L

Analyte	Sample Result	Concentration Added	Concentration Recovered	MS Result	MS, % Recovery	Acceptability Limits ¹ , %
Benzene	<0.5	25	23.1	23.1	92	71 - 123
Toluene	<0.5	25	23.1	23.1	92	69 - 120
Ethylbenzene	<0.5	25	22.7	22.7	91	72 - 121
Xylene (total)	<0.5	75	69	69	92	75 - 123

<# = Not detected at the indicated detection limit.

1 = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.

Project Number: SFB-175-0204.72
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Table 6

**REAGENT WATER SPIKE (WS) AND REAGENT WATER SPIKE DUPLICATE (WSD)
 RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD) REPORT**

**Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015**

Date of Analysis: 04/11/90

Units: ug/L

Analyte	Concentration Added	WS Result	WS, % Recovery	WSD Result	WSD, % Recovery
Benzene	25	23	92	21.9	88
Toluene	25	23	92	21.8	87
Ethylbenzene	25	22.7	91	21.6	86
Xylene (total)	75	70	93	66.1	88

Analyte	RPD, %	Maximum RPD, %	Acceptability Limits ¹ % Recovery
Benzene	4	30	84-128
Toluene	6	30	83-122
Ethylbenzene	6	30	82-120
Xylene (total)	6	30	86-123

1 = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.

EXCELSIOR COURT

7' diameter Storm Sewer

DRAFT

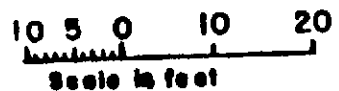
MacArthur Blvd

CHEVRON STATION

MacArthur Blvd. 6

Lakeshore Ave.

OAKLAND, CA.



Elevations - Oakland City datum

(which is about 3ft lower than USGS datum.)

TPH - as Gasoline ()
(parts per billion (PPB))

Non-detected ND
(MDL = 50 PPB)

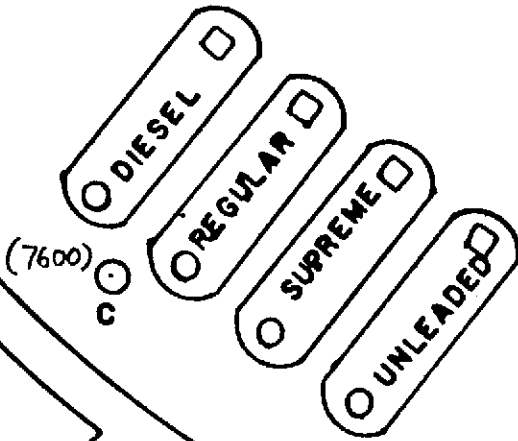
Can't locate C/L



ND G

F
C/L

E
C/L



SERVICE ISLAND

SERVICE ISLAND

Approximate
Groundwater
Flow Direction

B

(2700)

(3800)

H

J

(3700)

A

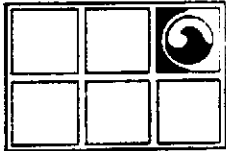
(4900)

D

(Lake Merritt ~600ft →)
LAKESHORE AVE.

FIGURE 1

MONITORING WELL
SAMPLES (APRIL 10, 1990)



GROUNDWATER TECHNOLOGY, INC.

91 APR 12 AM 9:49

Handwritten notes and stamps:
STID#3628
4080-D Pike Lane, Concord, CA 94520
(415) 671-2387

4080-D Pike Lane, Concord, CA 94520

(415) 671-2387

Alameda County Health Care Services

To: Department of Environmental Health Date: 4/9/91 Job No. 203-175 - 3245

Haz Mat Program

80 Sweeny Way, Room 200

Re: Sampling Data for

Oakland, CA 94621

Chevron Station #9-0121, Lakeshore Medical

Attn: Mr Paul Smith

From: Glen C. Mitchell

We are sending: Attached Via _____

The following:

- Report Originals Shop Drawings Samples
- Specifications Copy(s) Proposal Other _____

COPIES	DATE	DESCRIPTION
1	4/25/90	Water Sample Report

Transmitted as checked:

- Approved For Approval Approved as Noted For Correction
- For Your Use As Requested For Comments
- For Your Records For Distribution _____