



**Chevron**

93 AUG 30 PM 1:18

August 27, 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. Juliet Shin  
Alameda County Health Care Services  
Department of Environmental Health  
Hazardous Materials Program  
80 Swan Way, Room 200  
Oakland, CA 94621

Re: Chevron Service Station No. 9-6607  
2340 Otis Drive, Alameda, California

Dear Ms. Shin :

Enclosed is Sierra Environmental Services August 4, 1993 quarterly monitoring and sampling report.

All monitoring wells with the exception of MW-3 which had 2 ppb xylenes were below the detection limit for total petroleum hydrocarbon as gasoline, benzene, toluene, ethylbenzene, and xylenes.

Chevron will continue to monitor the site on a quarterly basis.

If you have any questions or comments, please feel free to contact me at (510) 842-8752.

Sincerely,

Chevron U.S.A. Products Co.

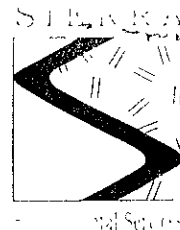
Kenneth Kan  
Engineer

LKAN/MacFile 9-6607R7

cc : Mr. Richard Hiatt  
RWQCB-San Francisco Bay Area  
2101 Webster Street, Suite 500  
Oakland, CA 94612

Mr. Steve Willer  
Chevron U.S.A. Products Co.

AUG 26 '93 J.M.M.



August 4, 1993

Ken Kan  
Chevron USA  
P.O. Box 5004  
San Ramon, CA 94583

Re: Chevron Service Station #9-6607  
2340 Otis Drive  
Alameda, California  
SES Project #1-292-04

Dear Mr. Kan:

This report presents the results of the quarterly ground water sampling at Chevron Service Station #9-6607, located at 2340 Otis Drive in Alameda, California. Four wells, MW-1 through MW-4, were sampled (Figure 1).

On July 14, 1993, SES personnel visited the site. Water levels were measured in all wells and all wells were checked for the presence of free-phase hydrocarbons. Free-phase hydrocarbons were not present in any of the site wells. Water level data are shown in Table 1 and ground water elevation contours are included on Figure 1.

The ground water samples were collected on July 14, 1993 in accordance with SES Standard Operating Procedure - Ground Water Sampling (attached). All analyses were performed by CTEL of Concord, California. Analytic results for ground water are presented in Table 2. The chain of custody document and laboratory analytic reports are attached. SES is not responsible for laboratory omissions or errors.

Thank you for allowing us to provide services to Chevron. Please call if you have any questions.



Sincerely,  
Sierra Environmental Services

A handwritten signature in black ink, appearing to read 'Richard E. Hilton'.

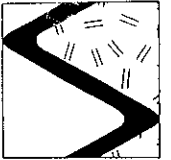
Richard E. Hilton  
Staff Environmental Scientist

A handwritten signature in black ink, appearing to read 'Chris J. Bramer'.

Chris J. Bramer  
Professional Engineer #C48846

REH/CJB/mc  
29204QM.AU3

Attachments: Figure  
Tables  
SES Standard Operating Procedure  
Chain of Custody Document and Laboratory Analytic Reports



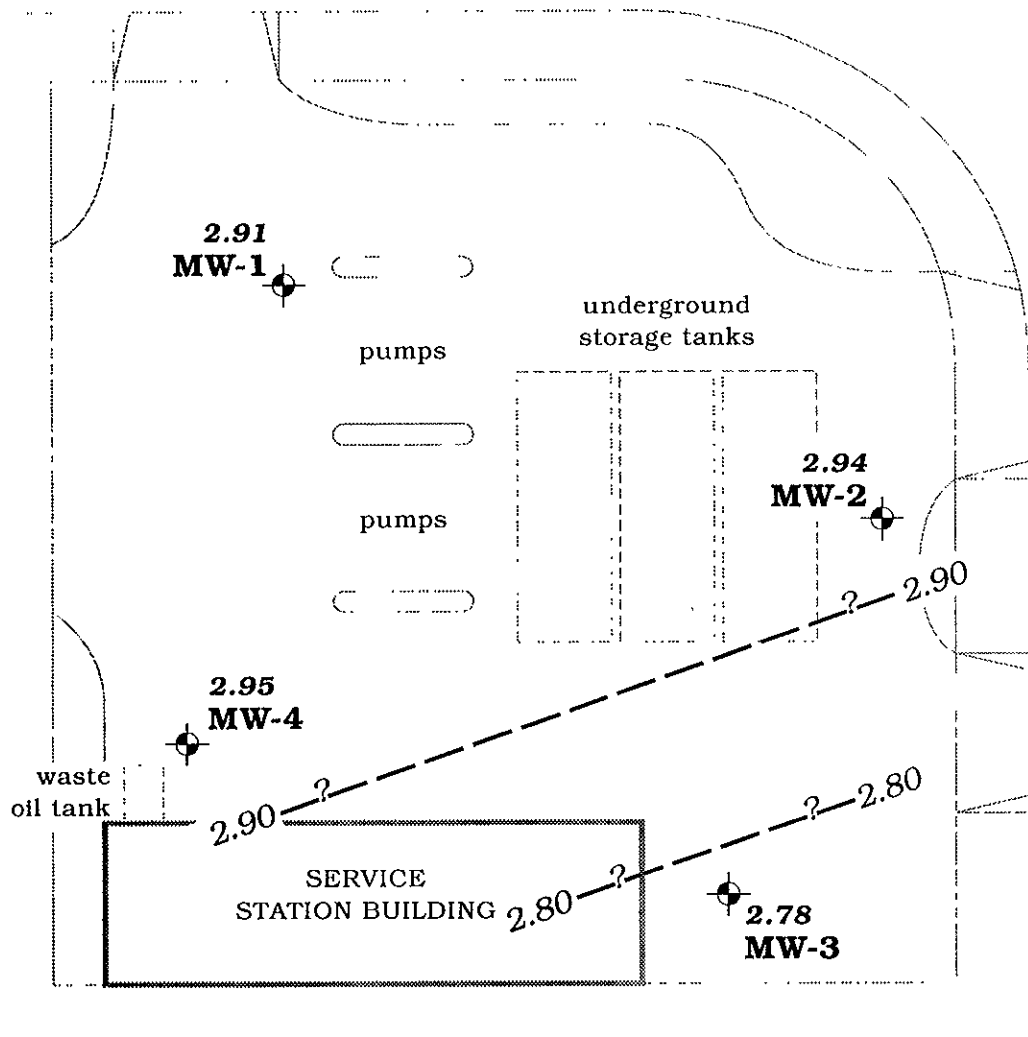
SIERRA

*Construction has  
been started  
in 180° across  
various  
pts.*

Approximate  
ground water  
flow direction

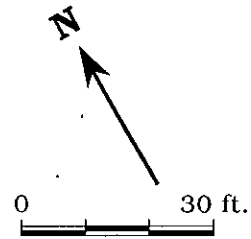
OTIS DRIVE

PARK STREET



**EXPLANATION**

- MW-4** Monitoring well
- 2.95** Ground water elevation, in feet
- 2.90** Ground water elevation contour, dashed where inferred, queried where uncertain



Base map after Geraghty & Miller, Inc.

Figure 1. Monitoring Well Location and Ground Water Elevation Contour Map - July 14, 1993 - Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California



Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval -----feet below grade----->	Sand Pack Interval	Bentonite/Grout Interval
MW-1	8/21/91	6.10	7.12	1.02	0	3 - 24.5	2 - 24.5	1 - 2
	1/9/92	3.96		3.16	0			
	4/20/92	3.90		3.22	0			
	7/25/92	4.18		2.94	0			
	11/24/92	4.72		2.40	0			
	1/21/93	3.18		3.94	0			
	4/13/93	3.70		3.42	0			
	<b>7/14/93</b>	<b>4.21</b>		<b>2.91</b>	<b>0</b>			
MW-2	8/21/91	6.40	7.43	1.03	0	3 - 24.5	2 - 24.5	1 - 2
	1/9/92	4.23		3.20	0			
	4/20/92	4.17		3.26	0			
	7/25/92	4.47		2.96	0			
	11/24/92	5.82		1.61	0			
	1/21/93	3.35		4.08	0			
	4/13/93	4.02		3.41	0			
	<b>7/14/93</b>	<b>4.49</b>		<b>2.94</b>	<b>0</b>			
MW-3	8/21/91	7.10	8.07	0.97	0	3 - 24.5	2 - 24.5	1 - 2
	1/9/92	5.03		3.04	0			
	4/20/92	4.91		3.16	0			
	7/25/92	5.34		2.73	0			
	11/24/92	5.00		3.07	0			
	1/21/93	4.34		3.73	0			
	4/13/93	4.84		3.23	0			
	<b>7/14/93</b>	<b>5.29</b>		<b>2.78</b>	<b>0</b>			
MW-4	8/21/91	6.85	7.85	1.00	0	1.5 - 21	2 - 21	1 - 1.5
	1/9/92	4.70		3.15	0			
	4/20/92	4.64		3.21	0			
	7/25/92	4.95		2.90	0			
	11/24/92	5.42		2.43	0			
	1/21/93	4.07		3.78	0			
	4/13/93	4.45		3.40	0			
	<b>7/14/93</b>	<b>4.90</b>		<b>2.95</b>	<b>0</b>			



Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California  
(continued)

EXPLANATION:

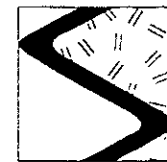
DTW = Depth to water  
TOC = Top of casing elevation  
GWE = Ground water elevation  
msl = Measurements referenced relative to mean sea level  
--- = Not available/not applicable

NOTES:

Top of casing elevations and well construction details were compiled from boring logs prepared for Chevron by Geraghty & Miller, Inc., August 6 & 7, 1991.

Top of casing elevations were compiled from the Quarterly Ground Water Monitoring Report prepared for Chevron by Geraghty & Miller, Inc., December 29, 1992.

\* Product thickness was measured with an MMC flexi-dip interface probe on and after January 21, 1993 .



SIERRA

Table 2. Analytic Results for Ground Water - Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	TPH(D)	O&G	B T E X			
							←-----ppb-----→			
MW-1	8/21/91	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	1/9/92	SPA	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	<0.5
	4/20/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	7/25/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	11/24/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	1/21/93	GTEL	8015/8020	<50	---	---	<0.5	0.7	<0.5	1.0
	4/13/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	1.0
	<b>7/14/93</b>	<b>GTEL</b>	<b>8015/8020</b>	<b>&lt;50<sup>2</sup></b>	---	---	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
MW-2	8/21/91	SPA	8015/8020	430	---	---	170.0	0.9	1.0	3.6
	1/9/92	SPA	8015/8020/503E	58 <sup>1</sup>	---	<5,000	16.0	<0.5	<0.5	<0.5
	4/20/92	SPA	8015/8020	180	---	---	9.6	<0.5	0.8	<0.5
	7/25/92	SPA	8015/8020	220	---	---	8.0	0.7	4.0	8.6
	11/24/92	SPA	8015/8020	72	---	---	3.2	<0.5	0.5	0.6
	1/21/93	GTEL	8015/8020	<50	---	---	0.8	<0.5	<0.5	<0.5
	4/13/93	GTEL	8015/8020	78	---	---	<0.5	<0.5	<0.5	0.6
	<b>7/14/93</b>	<b>GTEL</b>	<b>8015/8020</b>	<b>&lt;50<sup>2</sup></b>	---	---	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
MW-3	8/21/91	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	1/9/92	SPA	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	<0.5
	4/20/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	7/25/92	SPA	8015/8020	<50	---	---	1.0	1.0	1.0	3.4
	11/24/92	SPA	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	1/21/93	GTEL	8025/8020	<50	---	---	<0.5	0.5	<0.5	1.0
	4/13/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	0.6
	<b>7/14/93</b>	<b>GTEL</b>	<b>8015/8020</b>	<b>&lt;50</b>	---	---	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>2</b>
MW-4	8/21/91	SPA	8015/8020/503E	<50	---	<5,000	0.6	<0.5	<0.5	<0.5
	1/9/92	SPA	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	<0.5
	4/20/92	SPA	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	<0.5
	7/25/92	SPA	8015/8020	<50	78	---	0.5	1.1	<0.5	0.8
	11/24/92	SPA	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	1.0
	1/21/93	GTEL	8015/8020	<50	<10	---	<0.5	0.5	<0.5	0.7
	4/13/93	GTEL	8015/8020	<50	<10	---	<0.5	<0.5	<0.5	1.0
	<b>7/14/93</b>	<b>GTEL</b>	<b>8015/8020</b>	<b>&lt;50</b>	---	---	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
Trip/Lab Blank										
TB-LB	1/21/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	4/13/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	<b>7/14/93</b>	<b>GTEL</b>	<b>8015/8020</b>	<b>&lt;50</b>	---	---	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>



Table 2. Analytic Results for Ground Water - Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	TPH(D)	O&G	B	T	E	X
<-----ppb----->										
Bailer Blank										
BB	1/21/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	4/13/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	7/14/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5

EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline  
 TPH(D) = Total Petroleum Hydrocarbons as Diesel  
 B = Benzene  
 T = Toluene  
 E = Ethylbenzene  
 X = Xylenes  
 O&G = Oil and Grease  
 ppb = Parts per billion  
 --- = Not analyzed/Not applicable

ANALYTIC LABORATORIES:

SPA = Superior Precision Analytical, Inc. of Martinez, California  
 GTEL = Groundwater Technology Environmental Laboratory of Concord, California

ANALYTIC METHODS:

8015 = EPA Method 8015/5030 for TPPH(G)  
 8015 = Modified EPA Method 8015/3510 for TPH(D)  
 8020 = EPA Method 8020 for BTEX  
 503E = Standard Methods Method 503E for O&G

NOTES:

Analytic data prior to January 2, 1993 compiled from the Quarterly Ground Water Monitoring Report prepared for Chevron by Geraghty & Miller, Inc., December 29, 1992.

- <sup>1</sup> Chromatogram reported as having a single peak in the gasoline range.
- <sup>2</sup> Uncategorized compound is not included in gasoline hydrocarbon total.



## SES STANDARD OPERATING PROCEDURE GROUND WATER SAMPLING

The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination of the sample, and to preserve the sample for subsequent analysis. Wells will be sampled no less than 24 hours after well development. Collection methods specific to ground water sampling are presented below.

Prior to sampling, each well is checked for the presence of free-phase hydrocarbons using an MMC flexi-dip interface probe. Product thickness (measured to the nearest 0.01 foot) is noted on the sampling form. Water level measurements are also made using either a water level meter or the interface probe. The water level measurements are also noted on the sampling form.

Prior to sampling, each well is purged of a minimum of three well casing volumes of water using a steam-cleaned PVC bailer, or a pre-cleaned pump. Temperature, pH and electrical conductivity are measured at least three times during purging. Purging is continued until these parameters have stabilized (i.e., changes in temperature, pH or conductivity do not exceed  $\pm 0.5^{\circ}\text{F}$ , 0.1 or 5%, respectively).

The purge water is taken to Chevron's Richmond Refinery for disposal.

Ground water samples are collected from the wells with steam-cleaned Teflon bailers. The water samples are decanted into the appropriate container for the analysis to be performed. Pre-preserved sample containers may be used or the analytic laboratory may add preservative to the sample upon arrival. Duplicate samples are collected from each well as a back-up sample and/or to provide quality control. The samples are labeled to include the project number, sample ID, date, preservative, and the field person's initials. The samples are placed in polyethylene bags and in an ice chest (maintained at  $4^{\circ}\text{C}$ ) for transport under chain of custody to the laboratory.

The chain of custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with the field personnel and ending with the laboratory personnel.

A trip blank and bailer blank accompanies each sampling set, or 5% trip blanks and 5% bailer blanks are included for sets of greater than 20 samples. The bailer blank is prepared by pouring previously boiled water into a steam-cleaned Teflon bailer prior to sampling a well. The trip and bailer blanks are analyzed for some or all of the same compounds as the ground water samples.



Chevron U.S.A. Inc.  
 P.O. BOX 5004  
 San Ramon, CA 94583  
 FAX (415)842-9591

Chevron Facility Number 9-6607  
 Facility Address 2340 OTIS DR., ALAMEDA, CA  
 Consultant Project Number 1-292-04  
 Consultant Name SIERRA ENVIRONMENTAL SERVICES  
 Address PO BOX 2546, MARTINEZ, CA 94553  
 Project Contact (Name) ARGY MENA / RICK HILTON  
 (Phone) 510-370-1280 (Fax Number) 510-370-7959

Chevron Contact (Name) MR. KEN KAN  
 (Phone) 842-8752  
 Laboratory Name GTEL  
 Laboratory Release Number 8617811  
 Samples Collected by (Name) RICK HILTON  
 Collection Date 7/11/93  
 Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Lead (Yes or No)	Analytes To Be Performed														
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)							
TB-LB	01	3	W	G	1605	HCl	YES	X														
BB	02				1610			X														
MW-3	03				1632			X		0.6												
MW-4	04				1650			X														
MW-1	05				1717			X														
MW-2	06				1733			X		0.6												

Note:  
 Do Not Bill  
 TB-LB Sample  
 SEALS INTACT  
 ON ICE AS REC  
 7/16/93  
 Remarks

ANALYZE IN  
 ORDER LISTED

ATC  
 07/20/93

3546700

C3010228

G/03 01/HCH

Relinquished By (Signature) [Signature]  
 Relinquished By (Signature) Weber  
 Relinquished By (Signature) [Signature]

Organization SES Date/Time 2:24  
 Date/Time 7/15/93  
 Organization GTEL Date/Time 1500  
 Date/Time 7/15/93  
 Organization \_\_\_\_\_ Date/Time \_\_\_\_\_

Received By (Signature) John Weber  
 Received By (Signature) \_\_\_\_\_  
 Received For Laboratory By (Signature) Brian P. [Signature]

Organization GTEL Date/Time 2:24  
 Date/Time 7:15-93  
 Organization \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Date/Time 0830  
 Date/Time 7/16/93

Turn Around Time (Circle Choice)  
 24 Hrs.  
 48 Hrs.  
 5 Days  
 10 Days  
 As Contracted  
3 Day



4080 Pike Lane  
Concord, CA 94520  
(510) 685-7852  
(800) 544-3422 Inside CA  
(800) 423-7143 Outside CA  
(510) 825-0720 FAX

Client Number SIE01CHV08  
Consultant Project Number 1-292-04  
Facility Number 9-6607  
Project ID 2340 Otis Dr  
Alameda, CA  
Work Order Number C3-07-0228  
Date Reissued 07-30-93

July 30, 1993

Argy Mena  
Sierra Environmental Services  
P.O. Box 2546  
Martinez, CA 94553

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 07/16/93.

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.

Eileen F. Bullen  
Laboratory Director

Client Number: SIE01CHV08  
 Consultant Project Number: 1-292-04  
 Facility Number: 9-6607  
 Project ID: 2340 Otis Dr  
 Alameda, CA  
 Work Order Number: C3-07-0228  
 Date Reissued: 07-30-93

**Table 1**

**ANALYTICAL RESULTS**

**Aromatic Volatile Organics and  
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015<sup>a</sup>

GTEL Sample Number		01	02	03	04
Client Identification		TB-LB	BB	MW-3	MW-4
Date Sampled		07/14/93	07/14/93	07/14/93	07/14/93
Date Analyzed		07/17/93	07/17/93	07/17/93	07/18/93
Analyte	Detection Limit, ug/L	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	2	<0.5
BTEX, total	--	--	--	2	--
TPH as Gasoline	50	<50	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		92.1	92.7	91.4	98.1

- 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. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.  
 Note: Due to laboratory error samples were 12°C at sample receipt.

Client Number: SIE01CHV08  
 Consultant Project Number: 1-292-04  
 Facility Number: 9-6607  
 Project ID: 2340 Otis Dr.  
 Alameda, CA  
 Work Order Number: C3-07-0228  
 Date Reissued: 07-30-93

**Table 1 (Continued)**

**ANALYTICAL RESULTS**

**Aromatic Volatile Organics and  
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015<sup>a</sup>

GTEL Sample Number		05	06	S071793
Client Identification		MW-1	MW-2	METHOD BLANK
Date Sampled		07/14/93	07/14/93	--
Date Analyzed		07/18/93	07/18/93	07/17/93
Analyte	Detection Limit, ug/L	Concentration, ug/L		
Benzene	0.5	<0.5	<0.5	<0.5
Toluene	0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	<0.5	<0.5	<0.5
Xylene, total	0.5	<0.5	<0.5	<0.5
BTEX, total	--	--	--	--
TPH as Gasoline	50	<50*	<50*	<50
Detection Limit Multiplier		1	1	1
BFB surrogate, % recovery		98.5	99.8	104

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%.

\* Uncategorized compound is not included in gasoline hydrocarbon total.  
 Note: Due to laboratory error samples were 12°C at sample receipt.

Client Number: SIE01CHV08  
 Consultant Project Number: 1-292-04  
 Facility Number: 9-6607  
 Project ID: 2340 Otis Dr  
 Alameda, CA  
 Work Order Number: C3-07-0228  
 Date Reissued: 07-30-93

### QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
<b>Modified EPA 8020:</b>							
Benzene	C3070230-05	20.0	ug/L	87.0	94.0	7.7	55 - 129
Toluene	C3070230-05	20.0	ug/L	91.0	95.5	4.8	72 - 149
Ethylbenzene	C3070230-05	20.0	ug/L	82.5	86.0	4.2	75 - 138
Xylene, total	C3070230-05	60.0	ug/L	93.3	101	7.9	74 - 147