



Chevron

March 7, 1994

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. Susan Hugo
Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

Re: Chevron Service Station No. 9-0329
340 Highland Avenue, Piedmont, California

Dear Ms. Hugo :

During this sampling period, all wells had one or more hydrocarbon constituents. It appears in some cases that the levels in some of the wells maybe anomalous because the levels are so close to the detection limit and historically these wells have been below the detection limit for these constituents

Please refer to the enclosed report from Sierra Environmental Services dated February 18, 1994 for additional information. If you have any questions or comments, please feel free to call me at (510) 842-8752.

Sincerely,

Chevron U.S.A. Products Co.

Kenneth Kan
Engineer

LKAN/MacFile 9-0329R14

Enclosure

cc: w/o enclosure

Mr. Rich Hiett, RWQCB-San Francisco Bay Area
2101 Webster Street, Suite 500, Oakland, CA 94612

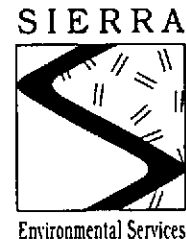
Attn. Frank Hoffman, Hoffman Investment Company
1760 Willow Road, Hillsborough, CA 94010

Mir Ghafari, Chevron Service Station
340 Highlands Ave., Piedmont, CA 94611

Ms. Bette Owen, Chevron U.S.A. Products Co.

54 MAR -9 PM 4: 14
HAZMAT
ALCO





February 18, 1994

Kenneth Kan
Chevron USA Products Company
P.O. Box 5004
San Ramon, CA 94583

Re: Chevron Service Station #9-0329
340 Highland Avenue
Piedmont, California
SES Project #1-294-04

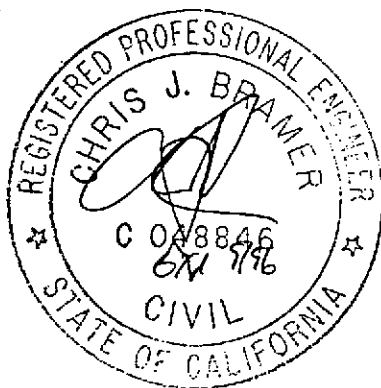
Dear Mr. Kan:

This report presents the results of the quarterly ground water sampling at Chevron Service Station #9-0329, located at 340 Highland Avenue in Piedmont, California. Three wells, C-2, C-3 and C-4 were sampled (Figure 1).


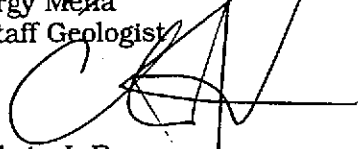
On January 10, 1994, SES personnel visited the site. Water levels were measured in all wells and all wells were checked for the presence of free-phase hydrocarbons. Free-phase hydrocarbons were not present in any of the site wells. Water level data are shown in Table 1 and ground water elevation contours are included on Figure 1.

The ground water samples were collected on January 10, 1994 in accordance with SES Standard Operating Procedure - Ground Water Sampling (attached). All analyses were performed by GTEL 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

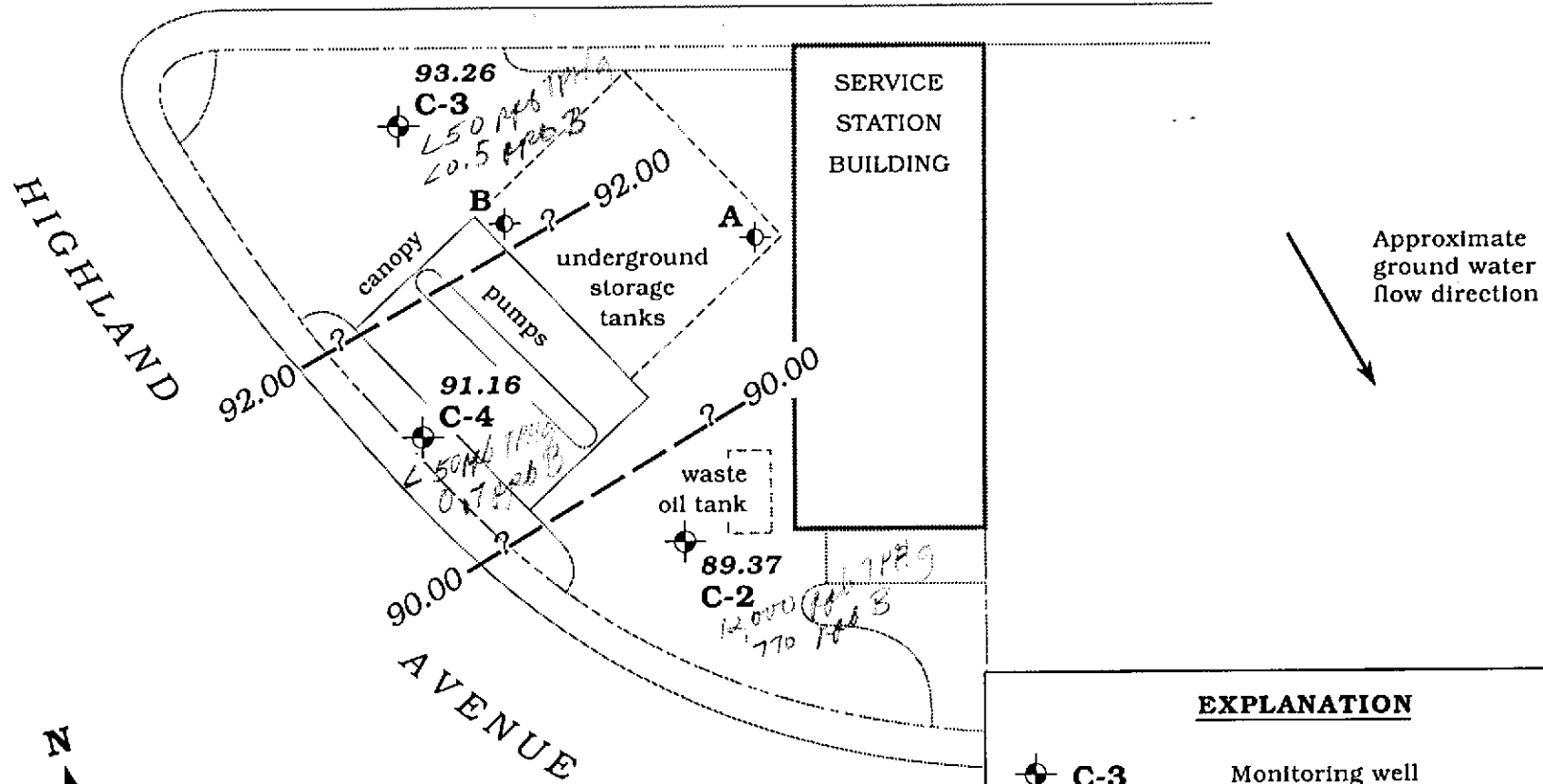

Argy Mera
Staff Geologist

Chris J. Bramer
Professional Engineer #C48846

AJM/CJB/wmc
29404QM.FE4

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

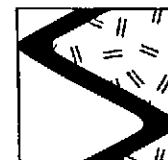


HIGHLAND WAY



EXPLANATION	
	C-3 Monitoring well
	B Tank backfill well
89.37	Ground water elevation, in feet
	90.00 Ground water elevation contour, dashed where inferred, queried where uncertain

Figure 1. Monitoring Well Locations and Ground Water Elevation Contour Map - January 10, 1994 - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California



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Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval	Sand-Pack Interval		Bentonite/Grout Interval
							feet below grade		
C-2	8/7/89	2.88	94.19	91.33	0.00	UNK	UNK	UNK	
	11/15/89	2.80		91.39	0.00				
	2/1/91	3.75		90.41	0.00				
	4/16/91	2.55		91.64	0.00				
	10/16/91	3.52		90.67	0.00				
	1/8/92	4.15		90.04	SHEEN				
	4/10/92	2.96		91.23	SHEEN				
	7/14/92	2.83		91.36	SHEEN				
	10/5/92	4.38		89.81	0.00				
	1/6/93	3.94		90.25	0				
	3/29/93	2.09		92.10	0				
	7/2/93	2.09		92.10	0				
	10/11/93	2.76		91.43	0				
	1/10/94	4.82		89.37	0				
C-3	8/7/89	4.29	97.65	93.36	0.00	UNK	UNK	UNK	
	11/15/89	5.17		92.48	0.00				
	2/1/91	6.38		91.27	0.00				
	4/16/91	3.72		93.93	0.00				
	10/16/91	8.20		89.45	0.00				
	1/8/92	6.68		90.97	0.00				
	4/10/92	4.50		93.15	0.00				
	7/14/92	6.21		91.44	0.00				
	10/5/92	9.31		88.34	0.00				
	1/6/93	3.41		94.24	0				
	3/29/93	0.50		97.15	0				
	7/2/93	2.59		95.06	0				
	10/11/93	4.90		92.75	0				
	1/10/94	4.39		93.26	0				
C-4	8/7/89	DRY	95.60	---	---	UNK	UNK	UNK	
	11/15/89	4.95		90.65	0.00				
	2/1/91	4.78		90.82	0.00				
	4/16/91	4.83		95.60	0.00				
	10/16/91	4.23		91.37	0.00				
	1/8/92	4.81		90.79	0.00				



Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval		
						-----feet below grade----->		
C-4 (cont)	4/10/92	4.26		91.34	0.00			
	7/14/92	4.28		91.32	0.00			
	10/5/92	4.29		91.31	0.00			
	1/6/93	4.29		91.31	0			
	3/29/93	4.30		91.30	0			
	7/2/93	4.22		91.38	0			
	10/11/93	4.30		91.30	0			
	1/10/94	4.44		91.16	0			
A ¹	8/7/89	2.10	---	---	0.0	UNK	UNK	UNK
	11/15/89	2.04		---	0.0			
	2/1/91	3.05		---	0.0			
	4/16/91	2.01		---	0.0			
	10/16/91	4.15		---	0.0			
B ¹	8/7/89	4.12	---	---	0.0	UNK	UNK	UNK
	11/15/89	---		---	---			
	2/1/91	5.03		---	0.0			
	4/16/91	4.00		---	0.0			
	10/16/91	6.24		---	0.0			

EXPLANATION:

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

NOTES:

All top of casing elevations were compiled from Quarterly Groundwater Monitoring Report prepared for Chevron by Groundwater Technology, Inc., December 2, 1992.

Well construction details unavailable for inclusion in this report.

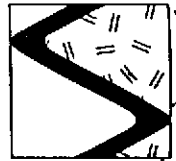
* Product thickness was measured on and after January 6, 1993 with an MMC flexi-dip interface probe.

¹ Tank backfill wells



Table 2. Analytic Results for Ground Water - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	TOG	B	T			
							-----ppb----->			
C-2	8/7/89	UNK	NS	34,000	12,000	580	60	170	270	
	11/15/89	UNK	NS	8,100	<5,000	500	36	420	180	
	2/1/91	UNK	NS	6,800	7,000	490	21	310	86	
	4/16/91	UNK	NS	9,600	<5,000	810	43	550	270	
	10/16/91	UNK	NS	7,100	<5,000	320	23	200	60	
	1/8/92	UNK	NS	2,400	---	190	9	83	22	
	4/10/92	UNK	NS	6,600	---	550	33	340	170	
	7/14/92	UNK	NS	9,000	---	680	330	580	690	
	10/5/92	UNK	NS	5,500	---	250	17	130	82	
	1/6/93	SPA	8015/8020	5,500	---	190	32	41	54	
	3/29/93	GTEL	8015/8020	19,000	---	670	40	180	370	
	7/2/93	GTEL	8015/8020	8,000 ²	---	1,100	41	420	500	
	10/11/93	GTEL	8015/8020	42,000	---	940	34	140	87	
	1/10/94	GTEL	8015/8020	12,000 ²	---	770	20	220	74	
C-3	8/7/89	UNK	NS	<50	---	<0.5	<1	<1	<3	
	11/15/89	UNK	NS	<500	<5,000	<0.5	2.8	<0.5	1.1	
	2/1/91	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	4/16/91	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	10/16/91	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	1/8/92	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	4/10/92	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	7/14/92	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	10/5/92	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	1/6/93	SPA	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	
	3/29/93	GTEL	8015/8020	<50	---	<0.5	<0.5	<0.5	0.8	
	7/2/93	GTEL	8015/8020	<50	---	4	3	<0.5	3	
	10/11/93	GTEL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	
	1/10/94	GTEL	8015/8020	<50	---	<0.5	1	<0.5	0.8	
C-4	8/7/89	UNK	NS	---	---	---	---	---	---	
	11/15/89	UNK	NS	1,300	<5,000	2.9	310	0.5	2.9	
	2/1/91	UNK	NS	72	---	9	<0.5	<0.5	<0.5	
	4/16/91	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	10/16/91	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	1/8/92	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	4/10/92	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5	
	7/14/92	UNK	NS	<50	---	<0.5	3.8	<0.5	<0.5	



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Table 2. Analytic Results for Ground Water - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	TOG	-----ppb-----			
						B	T	E	X
C-4 (cont)	10/5/92	UNK	NS	<50	---	<0.5	<0.5	<0.5	<0.5
	1/6/93	SPA	8015/8020	<50	---	0.7	<0.5	<0.5	<0.5
	3/29/93	GTEL	8015/8020	<50	---	0.5	1	<0.5	2
	7/2/93	GTEL	8015/8020	<50 ²	---	<0.5	<0.5	<0.5	<0.5
	10/11/93	GTEL	8015/8020	<50	---	0.6	<0.5	<0.5	<0.5
	1/10/94	GTEL	8015/8020	<50	---	0.7	3	<0.5	1
A ¹	8/7/89	UNK	NS	1,000	---	50	6	5	22
	11/15/89	UNK	NS	3,700	<5,000	98	2.1	4.3	55
	2/1/91	UNK	NS	36,000	---	1,100	750	130	6,100
	4/16/91	UNK	NS	8,000	---	370	6	86	750
	10/16/91	UNK	NS	---	---	---	---	---	---
	8/7/89	UNK	NS	---	---	---	---	---	---
B ¹	11/15/89	UNK	NS	---	---	---	---	---	---
	2/1/91	UNK	NS	---	---	---	---	---	---
	4/16/91	UNK	NS	---	---	---	---	---	---
	10/16/91	UNK	NS	---	---	---	---	---	---
	8/7/89	UNK	NS	---	---	---	---	---	---
Trip Blank TB-LB	1/6/93	SPA	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5
	3/29/93	GTEL	8015/8020	<50	---	<0.5	0.5	<0.5	1
	7/2/93	GTEL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5
	10/11/93	GTEL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5
	1/10/94	GTEL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5
	8/7/89	UNK	NS	---	---	---	---	---	---
Baller Blank (BB)	1/6/93	SPA	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5
	3/29/93	GTEL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5
	7/2/93	GTEL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5
	10/11/93	GTEL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5
	1/10/94	GTEL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5
	8/7/89	UNK	NS	---	---	---	---	---	---



Table 2. Analytic Results for Ground Water - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California
(continued)

EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
TOG = Total Oil & Grease
ppb = Parts per billion
--- = Not analyzed/Not applicable
NS = Not stated

ANALYTIC METHODS:

8015 = EPA Method 8015/5030 for TPPH(G)
8020 = EPA Method 8020 for BTEX

ANALYTIC LABORATORIES:

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

NOTES:

Analytic data prior to January 6, 1993 compiled from Quarterly Groundwater Monitoring Report prepared for Chevron by Groundwater Technology, Inc., December 2, 1992.

- ¹ Tank backfill wells.
- ² Laboratory reports that an uncategorized compound is not included in the 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°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.



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: 1-294-04
Facility Number: 9-0329
Project ID: 340 Highland Ave.
Piedmont
Work Order Number: C4-01-0134

January 21, 1994

Ed Morales
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 01/11/94.

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.

Edna Peralta
For,

Rashmi Shah
Laboratory Director

Client Number: SIE01CHV08
 Consultant Project Number: 1-294-04
 Facility Number: 9-0329
 Project ID: 340 Highland Ave.
 Piedmont
 Work Order Number: C4-01-0134

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	BB	C-2	C-4
Date Sampled		01/10/94	01/10/94	01/10/94	01/10/94
Date Analyzed		01/12/94	01/12/94	01/13/94	01/12/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	770	0.7
Toluene	0.5	<0.5	<0.5	20	3
Ethylbenzene	0.5	<0.5	<0.5	220	<0.5
Xylene, total	0.5	<0.5	<0.5	74	1
TPH as Gasoline	50	<50	<50	12000 ^b	<50
Detection Limit Multiplier		1	1	10	1
BFB surrogate, % recovery		89.0	87.8	84.8	86.1

- 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 Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.
- b. Uncategorized compound is not included in the gasoline hydrocarbon concentration.

Client Number: SIE01CHV08
 Consultant Project Number: 1-294-04
 Facility Number: 9-0329
 Project ID: 340 Highland Ave.
 Piedmont
 Work Order Number: C4-01-0134

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	M011294		
Client Identification		C-3	METHOD BLANK		
Date Sampled		01/10/94	--		
Date Analyzed		01/12/94	01/12/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5		
Toluene	0.5	1	<0.5		
Ethylbenzene	0.5	<0.5	<0.5		
Xylene, total	0.5	0.8	<0.5		
TPH as Gasoline	50	<50	<50		
Detection Limit Multiplier		1	1		
BFB surrogate, % recovery		85.7	84.6		

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 Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

Client Number: SIE01CHV08
 Consultant Project Number: 1-294-04
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 Project ID: 340 Highland Ave.
 Piedmont
 Work Order Number: C4-01-0134

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	C4010075-5	20.0	ug/L	90.5	85.5	5.6	57.3 - 138
Toluene	C4010075-5	20.0	ug/L	95.0	90.0	5.4	63.0 - 134
Ethylbenzene	C4010075-5	20.0	ug/L	94.0	88.5	6.0	59.3 - 137
Xylene, total	C4010075-5	60.0	ug/L	95.8	88.5	7.5	59.3 - 144

