



Chevron

March 7, 1994

Chevron U.S.A. Products Company

2410 Camino Ramon
San Ramon, CA 94583
PO 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 :

During this sampling period all wells were below the detection limit for dissolved hydrocarbons with the exception of wells MW-2 and MW-3 which only had 1 ppb toluene.

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

Sincerely,

Chevron U.S.A. Products Co.

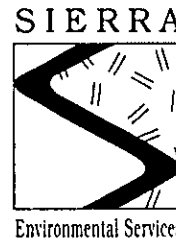
Kenneth Kan
Engineer

LKAN/MacFile 9-6607R9

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.

ALCO
HAZMAT
94 MAR -9 PM 4:13



February 18, 1994

Kenneth Kan
Chevron USA Products Company
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 January 11, 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 11, 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.



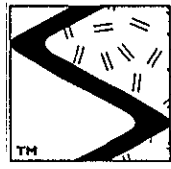
Sincerely,
Sierra Environmental Services

Argy Mera
Staff Geologist

Chris J. Bramer
Professional Engineer #C48846

AJM/CJB/wmc
29204@M.FE4

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

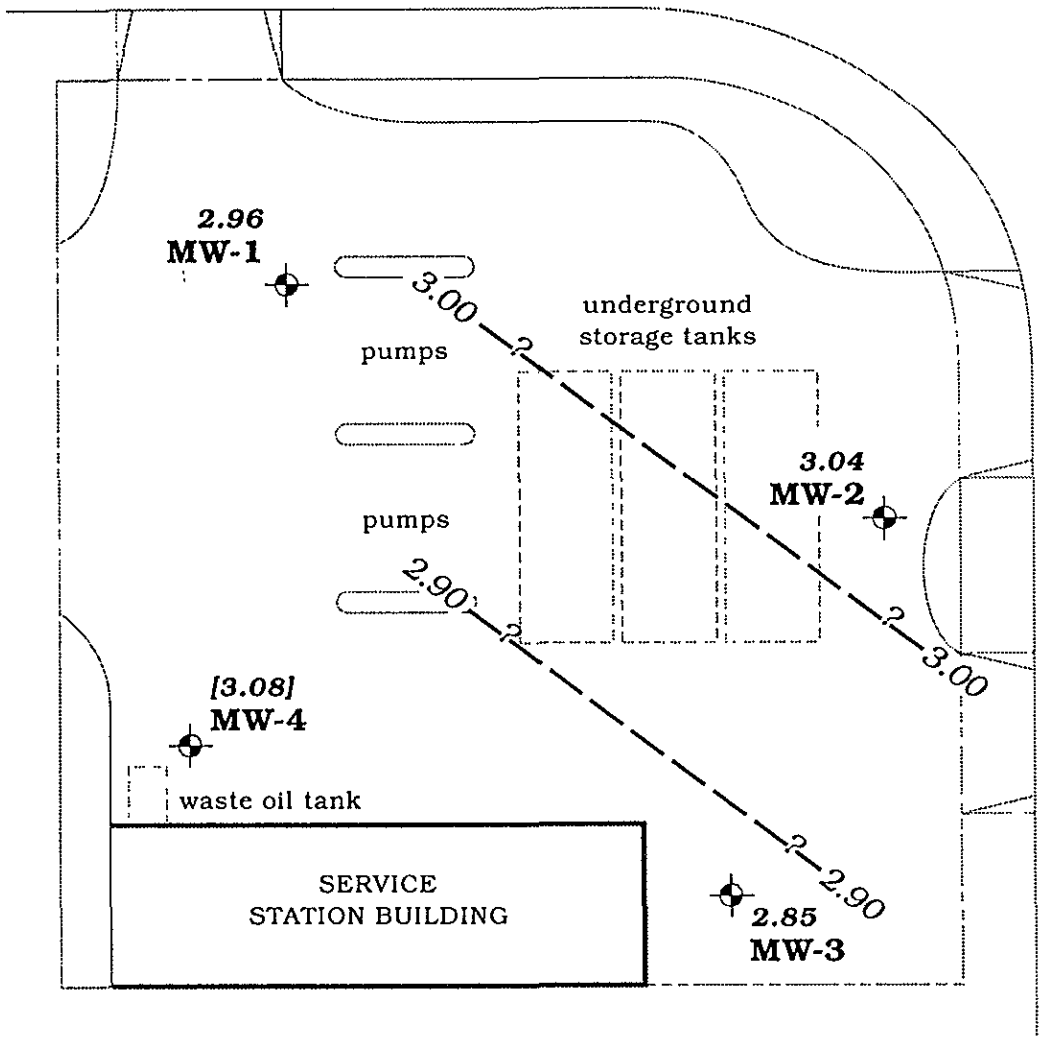


SIERRA



Approximate
ground water
flow direction

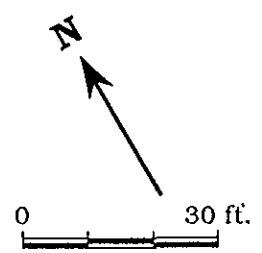
OTIS DRIVE

PARK STREET



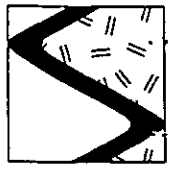
EXPLANATION

-  **MW-4** Monitoring well
- 2.85** Ground water elevation, in feet
- [3.08]** Ground water elevation not used in contouring
-  **3.00** Ground water elevation contour, dashed where inferred, queried where uncertain



Base map after Geraghty & Miller, Inc.

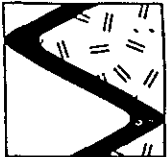
Figure 1. Monitoring Well Location and Ground Water Elevation Contour Map - January 11, 1994 - Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California



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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	Sand Pack Interval	Bentonite/Grout Interval
						-----feet below grade----->		
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			
	7/14/93	4.21		2.91	0			
	10/26/93	4.28		2.84	0			
	1/11/94	4.16		2.96	0			
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			
	7/14/93	4.49		2.94	0			
	10/26/93	4.56		2.87	0			
	1/11/94	4.39		3.04	0			
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			
	7/14/93	5.29		2.78	0			
	10/26/93	5.36		2.71	0			
	1/11/94	5.22		2.85	0			
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			



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

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<-----feet below grade----->		
MW-4	1/21/93	4.07		3.78	0			
(cont)	4/13/93	4.45		3.40	0			
	7/14/93	4.90		2.95	0			
	10/26/93	4.95		2.90	0			
	1/11/94	4.77		3.08	0			

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.

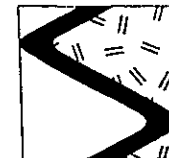
Top of casing elevations were compiled from the Quarterly Ground Water Monitoring Report prepared for Chevron by Geraghty & Miller, Inc., December 29, 1992.

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



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	-----ppb-----			
							B	T	E	X
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
	7/14/93	GTEL	8015/8020	<50 ²	---	---	<0.5	<0.5	<0.5	<0.5
	10/26/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	1/11/94	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
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 ¹	---	<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
	7/14/93	GTEL	8015/8020	<50 ²	---	---	<0.5	<0.5	<0.5	<0.5
	10/26/93	GTEL	8015/8020	<50 ²	---	---	<0.5	0.9	<0.5	0.6
	1/11/94	GTEL	8015/8020	<50 ²	---	---	<0.5	1	<0.5	<0.5
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
	7/14/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	2
	10/26/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	1/11/94	GTEL	8015/8020	<50	---	---	<0.5	1	<0.5	<0.5
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
	7/14/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	10/26/93	GTEL	8015/8020	<50 ²	---	---	2	3	2	3
	1/11/94	GTEL	8015/8020	<50	---	---	<0.5	0.5	<0.5	<0.5



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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----->			
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
	7/14/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	10/26/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	1/11/94	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
Baller 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
	10/26/93	GTEL	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	1/11/94	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

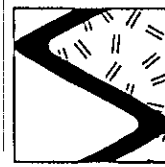
ANALYTIC METHODS:

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.

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



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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: 1-292-04
Facility Number: 9-6607
Project ID: 2340 Otis Dr.
Alameda
Work Order Number: C4-01-0152

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 01/12/94.

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.

Bill Snoboda

for
Rashmi Shah
Laboratory Director

Client Number: SIE01CHV08
 Consultant Project Number: 1-292-04
 Facility Number: 9-6607
 Project ID: 2340 Otis Dr.
 Alameda
 Work Order Number: C4-01-0152

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	MW-1	MW-2
Date Sampled		01/11/94	01/11/94	01/11/94	01/11/94
Date Analyzed		01/13/94	01/13/94	01/13/94	01/13/94
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	1
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5
Xylene, total	0.5	<0.5	<0.5	<0.5	<0.5
TPH as Gasoline	50	<50	<50	<50	<50 ^b
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		100	107	108	95.3

- 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: 1-292-04
 Facility Number: 9-6607
 Project ID: 2340 Otis Dr.
 Alameda
 Work Order Number: C4-01-0152

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	E011394-1	
Client Identification		MW-3	MW-4	METHOD BLANK	
Date Sampled		01/11/94	01/11/94	--	
Date Analyzed		01/13/94	01/13/94	01/13/94	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	<0.5	
Toluene	0.5	1	0.5	<0.5	
Ethylbenzene	0.5	<0.5	<0.5	<0.5	
Xylene, total	0.5	<0.5	<0.5	<0.5	
TPH as Gasoline	50	<50	<50	<50	
Detection Limit Multiplier		1	1	1	
BFB surrogate, % recovery		92.5	78.7	109	

- 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: 1-292-04
 Facility Number: 9-6607
 Project ID: 2340 Otis Dr.
 Alameda
 Work Order Number: C4-01-0152

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	C4010152-3	20.0	ug/L	76.5	99.5	26.1	57.3 - 138
Toluene	C4010152-3	20.0	ug/L	71.0	92.0	25.8	63.0 - 134
Ethylbenzene	C4010152-3	20.0	ug/L	68.0	94.5	32.6	59.3 - 137
Xylene, total	C4010152-3	60.0	ug/L	70.7	93.0	27.2	59.3 - 144

9.554	0.1634	0.0011X	1633	132	6.7 1	0.0000E-05
9.551	0.0764	0.2091X	853	132	6.7 1	0.0000E-05
10.036	0.7556	0.2914X	845	1435	6.2 0	0.0000E-05
10.306	0.0764	0.0091X	893	138	6.4 4	0.0000E-05
10.493	0.1405	0.0163X	1502	224	7.1 2	0.0000E-05
10.867	0.0581	0.0068X	654	69	9.4 2	0.0000E-05
11.068	0.2073	0.0241X	2335	386	6.0 2	0.0000E-05
11.268	0.0536	0.0062X	603	98	6.1 2	0.0000E-05
11.549	0.0434	0.0050X	489	96	5.1 2	0.0000E-05
11.696	0.0468	0.0054X	527	84	6.3 2	0.0000E-05
15.265	0.0463	0.0054X	522	80	6.6 1	0.0000E-05
16.048	0.0526	0.0061X	592	33	17.8 1	0.0000E-05
16.454	0.0512	0.0060X	577	117	5.0 1	0.0000E-05
17.029	0.0286	0.0033X	322	62	5.1 1	0.0000E-05

TOTAL AMOUNT = 860.0950

a File = D:\KAN14024.DTS Printed on 01-15-1994 at 01:50:56
 rt time: 0.00 min. Stop time: 17.50 min. Offset: 0 mV.
 1 Range: 50 millivolts

MW-2

