

ENVIRONMENTAL  
PROTECTION  
97 FEB -5 PM 2 67



**Chevron**

January 31, 1997

Ms. Susan Hugo  
Alameda County Health Care Services  
Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

**Chevron Products Company**  
6001 Bollinger Canyon Road  
Building L  
San Ramon, CA 94583  
P.O. Box 6004  
San Ramon, CA 94583-0904

**Marketing - Sales West**  
Phone 510 842-9500

Re: **Chevron Service Station #9-1740**  
*6-550* **9550 Moraga Avenue**  
**Oakland, California**

Dear Ms. Hugo:

Enclosed is the Third and Fourth Quarter Groundwater Monitoring reports for 1996, prepared by our consultant Blaine Tech Services Inc. for the above noted facility. Ground water samples were analyzed for TPH-g, BTEX, and MtBE constituents.

Monitoring wells C-2 and C-4 detected the presence of TPH-g, MtBE and BTEX constituents in both quarters, with C-2 showing an increase in the constituents in the third quarter and then a decrease in the fourth quarter. Monitoring well C-4 showed an increase of the constituents from the third to the fourth quarter. However, the constituents detected in monitoring well C-3 were below method detection limits for TPH-g and BTEX in the third quarter and were below method detection limits for all of the constituents in the fourth quarter.

The depth to the groundwater in the third quarter varied from 5.63 to 7.96 feet below grade, with a direction of flow to the south southeast. In the fourth quarter, the depth to the groundwater varied from 4.54 feet to 5.85 feet below grade, with a direction of flow to the south southeast.

Note that this site was reconstructed in the second quarter of 1996, and due to this construction the groundwater monitoring wells were inaccessible for sampling and therefore, no Second Quarter Monitoring report was prepared. The report documenting this reconstruction, which included the removal of the tanks and lines, will be submitted under separate cover.

Chevron will continue to monitor the site quarterly, however it is expected that the concentrations of the constituents will decrease in 1997, since over excavation of petroleum hydrocarbon impacted soil occurred with the reconstruction of the site. If you have any questions or comments call me at (510) 842-9136.

Sincerely,  
CHEVRON PRODUCTS COMPANY

  
Philip R. Briggs  
Site Assessment and Remediation Project Manager

January 31, 1997  
Ms. Susan Hugo  
Chevron Service Station # 9-1740  
Page 2

Enclosure

cc. Mr. Bill Scudder, Chevron

Mr. Eddie So  
RWQCB-San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, CA 94612



**BLAINE**  
TECH SERVICES INC.

1680 ROGERS AVENUE  
SAN JOSE, CALIFORNIA 95112  
(408) 573-7771 FAX  
(408) 573-0555 PHONE

January 15, 1997

Phil Briggs  
Chevron U.S.A. Products Company  
P.O. Box 5004  
San Ramon, CA 94583-0804

#### 4th Quarter 1996 Monitoring at 9-1740

Fourth Quarter 1996 Groundwater Monitoring at  
Chevron Service Station Number 9-1740  
6550 Moraga Avenue  
Oakland, CA

Monitoring Performed on December 17, 1996

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#### Groundwater Sampling Report 961217-C-3

This report covers the routine quarterly monitoring of groundwater wells at this Chevron facility. Blaine Tech Services, Inc.'s work at the site includes inspection, gauging, evacuation, purgewater containment, sample collection and sample handling in accordance with standard procedures that conform to Regional Water Quality Control Board requirements.

Routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated volume of a three-case volume purge, elapsed evacuation time, total volume of water removed, and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater is, likewise, collected and transported to McKittrick Waster Treatment Site for disposal.

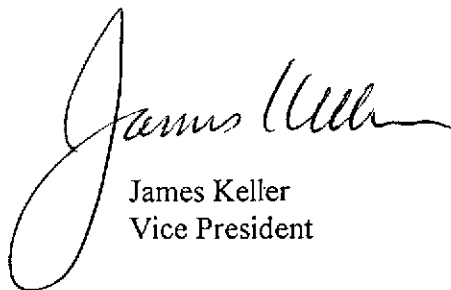
Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL DATA AND ANALYTICAL RESULTS**. The full analytical report for the most recent samples is located in the **Analytical Appendix**. The table also contains new groundwater elevation calculations taken from the computer plotted gradient map which is located in the **Professional Engineering Appendix**.

At a minimum, Blaine Tech Services, Inc. field personnel are certified upon completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. concentrates on objective data collection and does not participate in the interpretation of analytical results, the definition of geological or hydrological conditions, the formulation of recommendations, or the marketing of remedial systems.

Please call if you have any questions.

Yours truly,

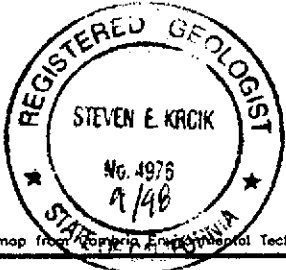
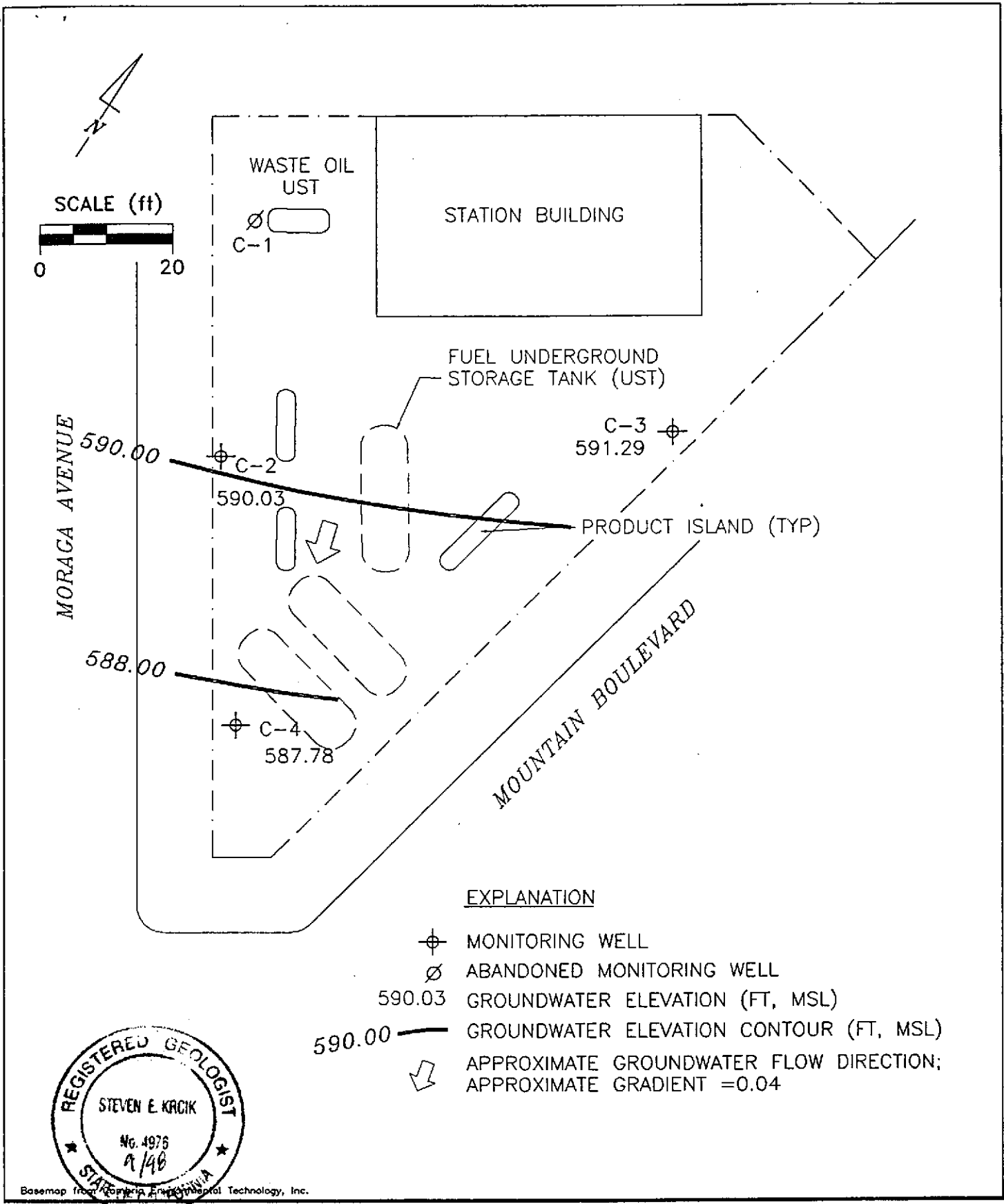
A handwritten signature in black ink, appearing to read "James Keller". The signature is fluid and cursive, with a large initial "J" and a long, sweeping underline.

James Keller  
Vice President

JPK/cg

attachments: Professional Engineering Appendix  
Cumulative Table of Well Data and Analytical Results  
Analytical Appendix  
Field Data Sheets

# **Professional Engineering Appendix**



Basemap from Environmental Technology, Inc.

PREPARED BY <b>RRM</b> INC.	<b>Chevron Station 9-1740</b> 6550 Moraga Avenue Oakland, California	<b>FIGURE:</b> <b>1</b> <b>PROJECT:</b> DAC04
	<b>GROUNDWATER ELEVATION CONTOUR MAP, DECEMBER 17, 1996</b>	

**Table of  
Well Data and  
Analytical Results**

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	MTBE
<b>C-1</b>										
03/25/91	595.82	592.54	3.28	--	54	0.7	<0.5	<0.5	2.0	--
07/01/91	595.82	592.39	3.43	--	730	250	3.0	16	4.8	--
09/25/91	595.82	591.67	4.15	--	160	68	1.3	6.1	1.3	--
12/23/91	595.82	592.11	3.71	--	170	70	1.6	3.5	2.4	--
03/24/92	595.82	592.80	3.02	--	60	39	4.4	3.9	9.1	--
06/23/92	595.82	592.06	3.76	--	60	19	1.1	1.1	1.0	--
09/30/92	595.82	--	--	--	--	--	--	--	--	--
<b>C-2</b>										
03/25/91	594.57	571.68	22.89	--	<50	1.0	<0.5	<0.5	2.0	--
07/01/91	594.57	587.20	7.37	--	660	190	2.5	28	22	--
09/25/91	594.57	587.59	6.98	--	110	200	1.9	21	1.7	--
12/23/91	594.57	589.56	5.01	--	<50	1.2	1.2	<0.5	1.8	--
03/24/92	594.57	577.30	17.27	--	100	5.9	7.9	4.0	14	--
06/23/92	594.57	590.75	3.82	--	190	45	4.5	9.5	10	--
09/30/92	594.57	580.56	14.01	--	240	99	2.3	11	6.1	--
12/16/92	594.57	580.05	14.52	--	280	160	6.2	7.4	5.0	--
03/30/93	594.57	583.49	11.08	--	110	21	<0.5	0.8	<1.5	--
06/10/93	594.57	583.08	11.49	--	180	53	2.6	8.0	5.8	--
09/02/93	594.57	580.49	14.08	--	51	18	0.8	4.4	<1.5	--
12/06/93	594.57	579.87	14.70	--	<50	20	1.3	2.7	<0.5	--
03/02/94	594.57	579.70	14.87	--	<50	9.9	1.6	<0.5	0.8	--
06/03/94	594.57	579.35	15.22	--	440	300	2.7	61	2.1	--
09/07/94	594.57	587.27	7.30	--	80	30	<0.5	1.6	<0.5	--
12/06/94	594.57	589.29	5.28	--	120	51	<0.5	4.7	<0.5	--
03/31/95	594.57	589.13	5.44	--	770	250	<5.0	74	<5.0	--
06/15/95	594.57	589.62	4.95	--	240	76	<1.0	26	<1.0	--
09/25/95	594.57	587.78	6.79	--	<50	1.2	<0.5	<0.5	<0.5	--
12/19/95	594.57	588.94	5.63	--	<250	23	<2.5	<2.5	<2.5	860
02/29/96	594.57	589.12	5.45	--	<200	32	<2.0	<2.0	<2.0	980
08/19/96	594.57	588.94	5.63	--	4900	1900	23	260	270	4500
12/17/96	594.57	590.03	4.54	--	800	140	<5.0	44	5.8	2600



## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	MTBE
<b>C-3</b>										
03/25/91	597.14	591.98	5.16	--	<50	<0.5	<0.5	<0.5	0.5	--
07/01/91	597.14	591.30	5.84	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/25/91	597.14	591.20	5.94	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/23/91	597.14	591.20	5.94	--	<50	1.0	<0.5	<0.5	1.5	--
03/24/92	597.14	592.37	4.77	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/23/92	597.14	591.47	5.67	--	<50	0.9	1.1	0.5	1.6	--
09/30/92	597.14	590.84	6.30	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/16/92	597.14	591.57	5.57	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/30/93	597.14	592.08	5.06	--	<50	<0.5	<0.5	<0.5	<1.5	--
06/10/93	597.14	591.85	5.29	--	<50	0.6	1.9	0.6	3.5	--
09/02/93	597.14	591.22	5.92	--	<50	<0.5	<0.5	<0.5	<1.5	--
12/06/93	597.14	591.38	5.76	--	<50	<0.5	0.6	<0.5	<0.5	--
03/02/94	597.14	591.97	5.17	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/03/94	597.14	591.74	5.40	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/07/94	597.14	591.14	6.00	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/06/94	597.14	591.95	5.19	--	<50	<0.5	0.8	<0.5	<0.5	--
03/31/95	597.14	592.04	5.10	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/15/95	597.14	591.78	5.36	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/25/95	597.14	591.04	6.10	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/19/95	597.14	591.46	5.68	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
02/29/96	597.14	592.24	4.90	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
08/19/96	597.14	589.18	7.96	--	<50	<0.5	<0.5	<0.5	<0.5	4.5
12/17/96	597.14	591.29	5.85	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	MTBE
<b>C-4</b>										
03/25/91	593.10	588.65	4.45	--	2700	240	16	<0.5	350	--
07/01/91	593.10	587.77	5.33	--	7900	1500	230	340	350	--
09/25/91	593.10	587.60	5.50	--	3200	850	160	150	220	--
12/23/91	593.10	588.18	4.92	--	4100	390	52	42	340	--
03/24/92	593.10	589.06	4.19	Free Product (0.19')	--	--	--	--	--	--
06/23/92	593.10	588.43	4.91	Free Product (0.30')	--	--	--	--	--	--
09/30/92	593.10	584.44	8.66	--	450	97	14	12	29	--
12/16/92	593.10	583.30	9.80	--	590	130	18	5.6	29	--
03/30/93	593.10	583.20	10.00	Free Product (0.12')	--	--	--	--	--	--
06/10/93	593.10	583.46	9.64	--	1300	290	36	17	73	--
09/02/93	593.10	583.02	10.08	--	630	97	12	6.6	21	--
12/06/93	593.10	582.85	10.25	--	1900	600	68	27	130	--
03/02/94	593.10	584.36	8.74	--	2600	1200	110	43	180	--
06/03/94	593.10	583.27	9.83	--	780	180	13	8.5	26	--
09/07/94	593.10	582.80	10.30	--	<50	14	<0.5	0.7	<0.5	--
12/06/94	593.10	583.90	9.20	--	980	270	21	12	38	--
03/31/95	593.10	582.86	10.24	--	1500	450	25	11	49	--
06/15/95	593.10	582.78	10.32	--	960	250	15	4.5	37	--
09/25/95	593.10	584.72	8.38	--	<500	18	<5.0	<5.0	<5.0	--
12/19/95	593.10	582.94	10.16	--	<500	32	<5.0	<5.0	<5.0	2400
02/29/96	593.10	582.94	10.16	--	<500	100	<5.0	<5.0	<5.0	1800
08/19/96	593.10	586.51	6.59	--	1000	170	<5.0	<5.0	8.2	1800
12/17/96	593.10	587.78	5.32	--	1100	400	16	12	27	1800

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	MTBE
<b>TRIP BLANK</b>										
03/25/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/01/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/25/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/23/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/24/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/23/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/30/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/16/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/30/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
06/10/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
09/02/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
12/06/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/02/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/03/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/07/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/06/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/31/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/15/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/25/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/19/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
02/29/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
08/19/96	--	--	--	--	--	--	--	--	--	--
12/17/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on March 31, 1995.  
Earlier field data and analytical results provided by Sierra Environmental.

**ABBREVIATIONS:**

TPH = Total Petroleum Hydrocarbons  
MTBE = Methyl t-Butyl Ether

# Analytical Appendix



Blaine Technical Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-1740/961217-C-3 Sample Descript: C-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612B19-01	Sampled: 12/17/96 Received: 12/18/96 Analyzed: 12/20/96 Reported: 12/31/96
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QC Batch Number: GC121996BTEX21A  
Instrument ID: GCHP21

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	800
Methyl t-Butyl Ether	25	2600
Benzene	5.0	140
Toluene	5.0	N.D.
Ethyl Benzene	5.0	44
Xylenes (Total)	5.0	5.8
Chromatogram Pattern:		Gas
Unidentified HC		< C8
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	97

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager





Blaine Technical Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-1740/961217-C-3 Sample Descript: C-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612B19-02	Sampled: 12/17/96 Received: 12/18/96  Analyzed: 12/20/96 Reported: 12/31/96
Attention: Jim Keller		

QC Batch Number: GC121996BTEX21A  
Instrument ID: GCHP21

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	100

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Peggy Penner  
Project Manager





Blaine Technical Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-1740/961217-C-3 Sample Descript: C-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612B19-03	Sampled: 12/17/96 Received: 12/18/96 Analyzed: 12/20/96 Reported: 12/31/96
Attention: Jim Keller		

QC Batch Number: GC121996BTEX21A  
Instrument ID: GCHP21

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	500	1100
Methyl t-Butyl Ether	25	1800
Benzene	5.0	400
Toluene	5.0	16
Ethyl Benzene	5.0	12
Xylenes (Total)	5.0	27
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	92

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

  
Peggy Penner  
Project Manager





Blaine Technical Services	Client Proj. ID: Chevron 9-1740/961217-C-3	Sampled: 12/17/96
1680 Rogers Avenue	Sample Descript: TB	Received: 12/18/96
San Jose, CA 95112	Matrix: LIQUID	
Attention: Jim Keller	Analysis Method: 8015Mod/8020	Analyzed: 12/20/96
	Lab Number: 9612B19-04	Reported: 12/31/96

QC Batch Number: GC121996BTEX21A  
Instrument ID: GCHP21

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	100

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager







Blaine Technical Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Jim Keller	Client Proj. ID: Chevron 9-1740/961217-C-3 Lab Proj. ID: 9612B19	Received: 12/18/96 Reported: 12/31/96
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### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 9 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

TPPH Note: Sample 9612B19-01 was diluted 10-fold.  
Sample 9612B19-03 was diluted 10-fold.

SEQUOIA ANALYTICAL

Peggy Penner  
Project Manager





Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112  
Attention: Jim Keller

Client Project ID: Chevron 9-1740 / 961217-C-3  
Matrix: Liquid

Work Order #: 9612B19 -01-04

Reported: Jan 3, 1997

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC121996BTEX21A	GC121996BTEX21A	GC121996BTEX21A	GC121996BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	961275003	961275003	961275003	961275003
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/19/96	12/19/96	12/19/96	12/19/96
Analyzed Date:	12/19/96	12/19/96	12/19/96	12/19/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	9.7	9.7	29
MS % Recovery:	100	97	97	97
Dup. Result:	10	9.7	9.6	29
MSD % Recov.:	100	97	96	97
RPD:	0.0	0.0	1.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK121996	BLK121996	BLK121996	BLK121996
Prepared Date:	12/19/96	12/19/96	12/19/96	12/19/96
Analyzed Date:	12/19/96	12/19/96	12/19/96	12/19/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	9.5	9.4	28
LCS % Recov.:	100	95	94	93

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

Reggy Penner  
Project Manager

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9612B19.BLA <1>



Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number <u>9-1740</u> Facility Address <u>6550 Moraga Ave., Oakland, CA</u> Consultant Project Number <u>961217-C-3</u> Consultant Name <u>Blaine Tech Services, Inc.</u> Address <u>985 Timothy Dr., San Jose, CA 95133</u> Project Contact (Name) <u>Jim Keller</u> (Phone) <u>408 995-5535</u> (Fax Number) <u>408 293-8773</u>	Chevron Contact (Name) <u>Tammy Hodge</u> (Phone) <u>(510) 842-9449</u> Laboratory Name <u>Sequoia</u> Laboratory Release Number <u>2768201</u> Samples Collected by (Name) <u>KEVIN CARLIN</u> Collection Date <u>12-17-96</u> Signature <u>[Signature]</u>
--	--	--

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Lead (Yes or No)	Analyses To Be Performed											DO NOT BILL FOR TB-LB	Remarks
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (8020)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)					
C-2	1 A-C	3	W		16:16	HCL	Y	✓									X	9612319		
C-3	2	3	W		15:16	HCL	Y	✓									X			
C-4	3	3	W		15:43	HCL	Y	✓									X			
TB	4	3	W		15:23	HCL	Y	✓									X			

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>BTS</u>	Date/Time <u>12/18/96 10:55 AM</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>SEQ</u>	Date/Time <u>12/18/96 10:55 AM</u>	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. 5 Days <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10 Days</span> As Contracted
Relinquished By (Signature) <u>[Signature]</u>	Organization <u>SEQ</u>	Date/Time <u>12/18/96</u>	Received By (Signature) <u>[Signature]</u>	Organization <u> </u>	Date/Time <u> </u>	
Relinquished By (Signature) <u>[Signature]</u>	Organization <u> </u>	Date/Time <u> </u>	Received For Laboratory By (Signature) <u>[Signature]</u>	Organization <u> </u>	Date/Time <u>12-18-96 11:04</u>	

REC-2

# Field Data Sheets



# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>961217-C-3</u>	Station #: <u>9-1740</u>
Sampler: <u>Kevin C</u>	Start Date: <u>12-17-96</u>
Well I.D.: <u>C3 C2</u>	Well Diameter: (circle one) <u>(2)</u> 3 4 6
Total Well Depth: Before <u>26.61</u> After	Depth to Water: Before <u>4.54</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u> Grade Other:	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

<u>3.5</u>	x	<u>3</u>	=	<u>10.5</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer Disposable Bailer <input checked="" type="checkbox"/> Middleburg Electric Submersible Extraction Pump Other _____	Sampling: Bailer Disposable Bailer <input checked="" type="checkbox"/> Extraction Port Other _____
--	---

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>15:59</u>	<u>66.4</u>	<u>6.8</u>	<u>1200.</u>		<u>3.5</u>	
<u>16:03</u>	<u>67.2</u>	<u>6.6</u>	<u>1200.</u>		<u>7.0</u>	
<u>16:07</u>	<u>66.8</u>	<u>6.4</u>	<u>1200.</u>		<u>10.5</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 10.5

Sampling Time: <u>16:16</u>	Sampling Date: <u>12-17-96</u>
Sample I.D.: <u>C2</u>	Laboratory: <u>SEQUOIA</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> TPH-D OTHER: <u>MTBE</u>	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for: TPH-G BTEX TPH-D OTHER:	

# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>961217-C-3</u>	Station #: <u>9-1740</u>
Sampler: <u>Kevin C.</u>	Start Date: <u>12-17-96</u>
Well I.D.: <u>C-3</u>	Well Diameter: (circle one) <u>2</u> 3 4 6
Total Well Depth: Before <u>18.22</u> After	Depth to Water: Before <u>5.85</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u>	Grade Other:

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

$$\frac{1.9}{1 \text{ Case Volume}} \times \frac{3}{\text{Specified Volumes}} = \frac{5.7}{\text{gallons}}$$

Purging: Bailer  
 Disposable Bailer   
 Middleburg  
 Electric Submersible  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling: Bailer  
 Disposable Bailer   
 Extraction Port  
 Other \_\_\_\_\_

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
15:00	67.6	7.2	1000.		2.0	
15:02	67.8	6.8	1000.		4.0	
15:04	67.8	6.6	1000.		6.0	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 6

Sampling Time: 15:16 Sampling Date: 12-17-96

Sample I.D.: C-3 Laboratory: Sequoia

Analyzed for: TPH-G BTEX TPH-D OTHER: MTBE  
 (Circle)

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: TPH-G BTEX TPH-D OTHER:  
 (Circle)

# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>961217-C-43</u>	Station #: <u>9-1740</u>
Sampler: <u>KEVIN C.</u>	Start Date: <u>12-17-96</u>
Well I.D.: <u>C-4</u>	Well Diameter: (circle one) <u>2</u> 3 4 6
Total Well Depth: Before <u>24.63</u> After	Depth to Water: Before <u>5.32</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>PVC</u> Grade Other:	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

$$\frac{3.0}{1 \text{ Case Volume}} \times \frac{3}{\text{Specified Volumes}} = \frac{9.0}{\text{gallons}}$$

Purging: Bailer  
 Disposable Bailer   
 Middleburg  
 Electric Submersible  
 Extraction Pump  
 Other \_\_\_\_\_

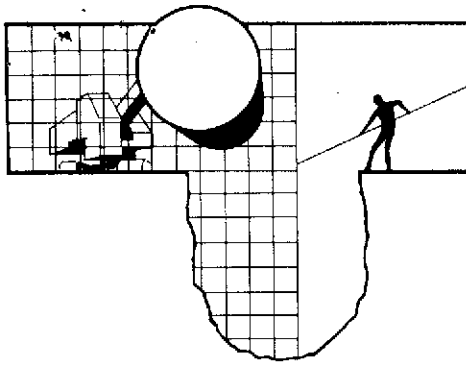
Sampling: Bailer  
 Disposable Bailer   
 Extraction Port  
 Other \_\_\_\_\_

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
<u>15:31</u>	<u>64.4</u>	<u>7.0</u>	<u>1000.</u>		<u>3.0</u>	
<u>15:34</u>	<u>65.0</u>	<u>6.8</u>	<u>1200.</u>		<u>6.0</u>	
<u>15:37</u>	<u>65.6</u>	<u>6.6</u>	<u>1200.</u>		<u>9.0</u>	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 9.0

Sampling Time: <u>15:43</u>	Sampling Date: <u>12-17-96</u>
Sample I.D.: <u>C-4</u>	Laboratory: <u>Sequoia</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> TPH-D OTHER: <u>MTBE</u>	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for: TPH-G BTEX TPH-D OTHER:	





# BLAINE TECH SERVICES, INC.

985 TIMOTHY DRIVE  
SAN JOSE, CA 95133  
(408) 995-5535  
FAX (408) 293-8773

ENVIRONMENTAL  
ACTION  
97 FEB -5 PM 3:47

September 24, 1996

Phil Briggs  
Chevron U.S.A. Products Company  
P.O. Box 5004  
San Ramon, CA 94583-0804

### 3rd Quarter 1996 Monitoring at 9-1740

Third Quarter 1996 Groundwater Monitoring at  
Chevron Service Station Number 9-1740  
6550 Moraga Avenue  
Oakland, CA

Monitoring Performed on August 19, 1996

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### Groundwater Sampling Report 960819-A-3

This report covers the routine quarterly monitoring of groundwater wells at this Chevron facility. Blaine Tech Services, Inc.'s work at the site includes inspection, gauging, evacuation, purgewater containment, sample collection and sample handling in accordance with standard procedures that conform to Regional Water Quality Control Board requirements.

Routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated volume of a three-case volume purge, elapsed evacuation time, total volume of water removed, and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater is, likewise, collected and transported to McKittrick Waster Treatment Site for disposal.

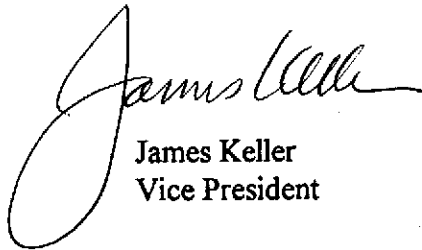
Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL DATA AND ANALYTICAL RESULTS**. The full analytical report for the most recent samples is located in the **Analytical Appendix**. The table also contains new groundwater elevation calculations taken from the computer plotted gradient map which is located in the **Professional Engineering Appendix**.

At a minimum, Blaine Tech Services, Inc. field personnel are certified upon completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. concentrates on objective data collection and does not participate in the interpretation of analytical results, the definition of geological or hydrological conditions, the formulation of recommendations, or the marketing of remedial systems.

Please call if you have any questions.

Yours truly,

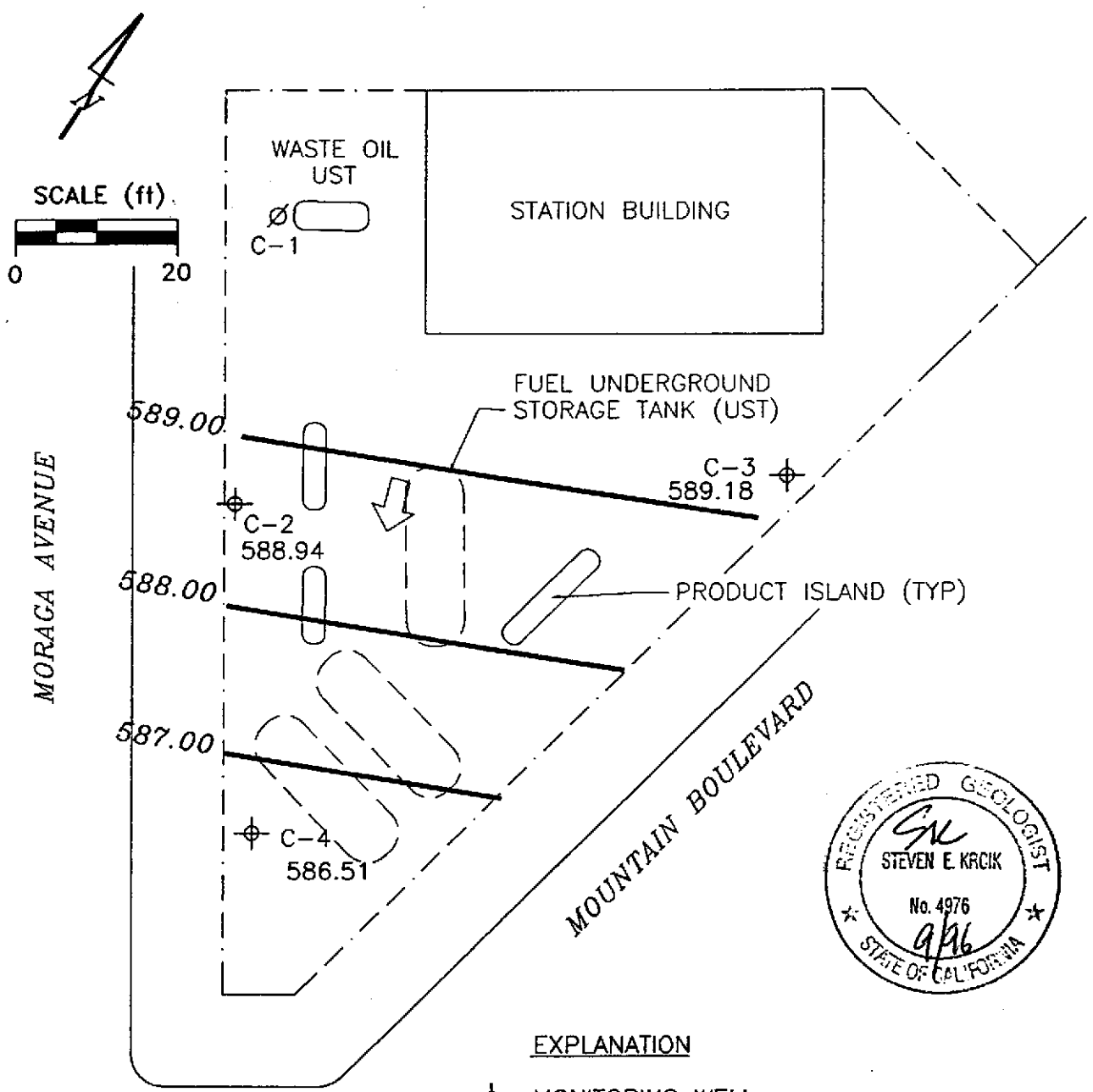


James Keller  
Vice President

JPK/dk

attachments: Professional Engineering Appendix  
Cumulative Table of Well Data and Analytical Results  
Analytical Appendix  
Field Data Sheets

# **Professional Engineering Appendix**



**EXPLANATION**

- ⊕ MONITORING WELL
- ⊘ ABANDONED MONITORING WELL
- 589.18 GROUNDWATER ELEVATION (FT, MSL)
- 589.00 — GROUNDWATER ELEVATION CONTOUR (FT, MSL)
- ↘ APPROXIMATE GROUNDWATER FLOW DIRECTION; APPROXIMATE GRADIENT =0.05

Basemap from Cambria Environmental Technology, Inc.

PREPARED BY  
**RRM** INC.

**Chevron Station 9-1740**  
 6550 Moraga Avenue  
 Oakland, California

---

**GROUNDWATER ELEVATION  
 CONTOUR MAP, AUGUST 19, 1996**

**FIGURE:**  
**1**

**PROJECT:**  
 DAC04

# **Table of Well Data and Analytical Results**

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	MTBE
<b>C-1</b>										
03/25/91	595.82	592.54	3.28	--	54	0.7	<0.5	<0.5	2.0	--
07/01/91	595.82	592.39	3.43	--	730	250	3.0	16	4.8	--
09/25/91	595.82	591.67	4.15	--	160	68	1.3	6.1	1.3	--
12/23/91	595.82	592.11	3.71	--	170	70	1.6	3.5	2.4	--
03/24/92	595.82	592.80	3.02	--	60	39	4.4	3.9	9.1	--
06/23/92	595.82	592.06	3.76	--	60	19	1.1	1.1	1.0	--
09/30/92	595.82	--	--	--	--	--	--	--	--	--
<b>C-2</b>										
03/25/91	594.57	571.68	22.89	--	<50	1.0	<0.5	<0.5	2.0	--
07/01/91	594.57	587.20	7.37	--	660	190	2.5	28	22	--
09/25/91	594.57	587.59	6.98	--	110	200	1.9	21	1.7	--
12/23/91	594.57	589.56	5.01	--	<50	1.2	1.2	<0.5	1.8	--
03/24/92	594.57	577.30	17.27	--	100	5.9	7.9	4.0	14	--
06/23/92	594.57	590.75	3.82	--	190	45	4.5	9.5	10	--
09/30/92	594.57	580.56	14.01	--	240	99	2.3	11	6.1	--
12/16/92	594.57	580.05	14.52	--	280	160	6.2	7.4	5.0	--
03/30/93	594.57	583.49	11.08	--	110	21	<0.5	0.8	<1.5	--
06/10/93	594.57	583.08	11.49	--	180	53	2.6	8.0	5.8	--
09/02/93	594.57	580.49	14.08	--	51	18	0.8	4.4	<1.5	--
12/06/93	594.57	579.87	14.70	--	<50	20	1.3	2.7	<0.5	--
03/02/94	594.57	579.70	14.87	--	<50	9.9	1.6	<0.5	0.8	--
06/03/94	594.57	579.35	15.22	--	440	300	2.7	61	2.1	--
09/07/94	594.57	587.27	7.30	--	80	30	<0.5	1.6	<0.5	--
12/06/94	594.57	589.29	5.28	--	120	51	<0.5	4.7	<0.5	--
03/31/95	594.57	589.13	5.44	--	770	250	<5.0	74	<5.0	--
06/15/95	594.57	589.62	4.95	--	240	76	<1.0	26	<1.0	--
09/25/95	594.57	587.78	6.79	--	<50	1.2	<0.5	<0.5	<0.5	--
12/19/95	594.57	588.94	5.63	--	<250	23	<2.5	<2.5	<2.5	860
02/29/96	594.57	589.12	5.45	--	<200	32	<2.0	<2.0	<2.0	980
08/19/96	594.57	588.94	5.63	--	4900	1900	23	260	270	4500

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	MTBE
<b>C-3</b>										
03/25/91	597.14	591.98	5.16	--	<50	<0.5	<0.5	<0.5	0.5	--
07/01/91	597.14	591.30	5.84	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/25/91	597.14	591.20	5.94	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/23/91	597.14	591.20	5.94	--	<50	1.0	<0.5	<0.5	1.5	--
03/24/92	597.14	592.37	4.77	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/23/92	597.14	591.47	5.67	--	<50	0.9	1.1	0.5	1.6	--
09/30/92	597.14	590.84	6.30	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/16/92	597.14	591.57	5.57	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/30/93	597.14	592.08	5.06	--	<50	<0.5	<0.5	<0.5	<1.5	--
06/10/93	597.14	591.85	5.29	--	<50	0.6	1.9	0.6	3.5	--
09/02/93	597.14	591.22	5.92	--	<50	<0.5	<0.5	<0.5	<1.5	--
12/06/93	597.14	591.38	5.76	--	<50	<0.5	0.6	<0.5	<0.5	--
03/02/94	597.14	591.97	5.17	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/03/94	597.14	591.74	5.40	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/07/94	597.14	591.14	6.00	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/06/94	597.14	591.95	5.19	--	<50	<0.5	0.8	<0.5	<0.5	--
03/31/95	597.14	592.04	5.10	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/15/95	597.14	591.78	5.36	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/25/95	597.14	591.04	6.10	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/19/95	597.14	591.46	5.68	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
02/29/96	597.14	592.24	4.90	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
08/19/96	597.14	589.18	7.96	--	<50	<0.5	<0.5	<0.5	<0.5	4.5

## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	MTBE
<b>C-4</b>										
03/25/91	593.10	588.65	4.45	--	2700	240	16	<0.5	350	--
07/01/91	593.10	587.77	5.33	--	7900	1500	230	340	350	--
09/25/91	593.10	587.60	5.50	--	3200	850	160	150	220	--
12/23/91	593.10	588.18	4.92	--	4100	390	52	42	340	--
03/24/92	593.10	589.06	4.19	Free Product (0.19')	--	--	--	--	--	--
06/23/92	593.10	588.43	4.91	Free Product (0.30')	--	--	--	--	--	--
09/30/92	593.10	584.44	8.66	--	450	97	14	12	29	--
12/16/92	593.10	583.30	9.80	--	590	130	18	5.6	29	--
03/30/93	593.10	583.20	10.00	Free Product (0.12')	--	--	--	--	--	--
06/10/93	593.10	583.46	9.64	--	1300	290	36	17	73	--
09/02/93	593.10	583.02	10.08	--	630	97	12	6.6	21	--
12/06/93	593.10	582.85	10.25	--	1900	600	68	27	130	--
03/02/94	593.10	584.36	8.74	--	2600	1200	110	43	180	--
06/03/94	593.10	583.27	9.83	--	780	180	13	8.5	26	--
09/07/94	593.10	582.80	10.30	--	<50	14	<0.5	0.7	<0.5	--
12/06/94	593.10	583.90	9.20	--	980	270	21	12	38	--
03/31/95	593.10	582.86	10.24	--	1500	450	25	11	49	--
06/15/95	593.10	582.78	10.32	--	960	250	15	4.5	37	--
09/25/95	593.10	584.72	8.38	--	<500	18	<5.0	<5.0	<5.0	--
12/19/95	593.10	582.94	10.16	--	<500	32	<5.0	<5.0	<5.0	2400
02/29/96	593.10	582.94	10.16	--	<500	100	<5.0	<5.0	<5.0	1800
08/19/96	593.10	586.51	6.59	--	1000	170	<5.0	<5.0	8	1800



## Cumulative Table of Well Data and Analytical Results

Vertical Measurements are in feet.

Analytical results are in parts per billion (ppb)

DATE	Well Head Elev.	Ground Water Elev.	Depth To Water	Notes	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylene	MTBE
<b>TRIP BLANK</b>										
03/25/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/01/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/25/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/23/91	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/24/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/23/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/30/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/16/92	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/30/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
06/10/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
09/02/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--
12/06/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/02/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/03/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/07/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/06/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/31/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
06/15/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
09/25/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
12/19/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
02/29/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
08/19/96	--	--	--	--	--	--	--	--	--	--

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on March 31, 1995.  
Earlier field data and analytical results provided by Sierra Environmental.

**ABBREVIATIONS:**

TPH = Total Petroleum Hydrocarbons

MTBE = Methyl t-Butyl Ether

# **Analytical Appendix**



Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Chevron 9-1740/960819-A3 Sample Descript: C-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9608B68-01	Sampled: 08/19/96 Received: 08/20/96  Analyzed: 08/27/96 Reported: 08/28/96
Attention: Jim Keller		

QC Batch Number: GC082796BTEX07A  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2000	4900
Methyl t-Butyl Ether	100	4500
Benzene	20	1900
Toluene	20	23
Ethyl Benzene	20	260
Xylenes (Total)	20	270
Chromatogram Pattern:		Gas
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	112

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Peggy Penner  
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Chevron 9-1740/960819-A3 Sample Descript: C-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9608B68-02	Sampled: 08/19/96 Received: 08/20/96  Analyzed: 08/27/96 Reported: 08/28/96
Attention: Jim Keller		

QC Batch Number: GC082796BTEX07A  
Instrument ID: GCHP07

**Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE**

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	4.5
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	103

Analytes reported as N.D. were not present above the stated limit of detection.

**SEQUOIA ANALYTICAL - ELAP #1210**

Peggy Fenner  
Project Manager





**Sequoia  
Analytical**

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Blaine Technical Services  
985 Timothy Drive  
San Jose, CA 95133  
Attention: Jim Keller

Client Proj. ID: Chevron 9-1740/960819-A3  
Lab Proj. ID: 9608B68

Received: 08/20/96  
Reported: 08/28/96

### LABORATORY NARRATIVE

TPPH Note: Sample 9608B68-01 was diluted 40-fold.  
Sample 9608B68-03 was diluted 10-fold.

**SEQUOIA ANALYTICAL**

  
Peggy Penner  
Project Manager





Blaine Tech Services, Inc.  
 985 Timothy Drive  
 San Jose, CA 95133  
 Attention: Jim Keller

Client Project ID: Chevron 9-1740 / 960819-A3  
 Matrix: Liquid

Work Order #: 9608B68 -01-02

Reported: Sep 3, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC082796BTEX07A	GC082796BTEX07A	GC082796BTEX07A	GC082796BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	H. Porter	H. Porter	H. Porter	H. Porter
MS/MSD #:	9608B3605	9608B3605	9608B3605	9608B3605
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/27/96	8/27/96	8/27/96	8/27/96
Analyzed Date:	8/27/96	8/27/96	8/27/96	8/27/96
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	13	13	13	40
MS % Recovery:	130	130	130	133
Dup. Result:	12	12	12	36
MSD % Recov.:	120	120	120	120
RPD:	8.0	8.0	8.0	11
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK082796	BLK082796	BLK082796	BLK082796
Prepared Date:	8/27/96	8/27/96	8/27/96	8/27/96
Analyzed Date:	8/27/96	8/27/96	8/27/96	8/27/96
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	12	12	12	37
LCS % Recov.:	120	120	120	123

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

Peggy Fenner  
 Project Manager

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9608B68.BLA <1>





Blaine Tech Services, Inc.  
985 Timothy Drive  
San Jose, CA 95133  
Attention: Jim Keller

Client Project ID: **Chevron 9-1740 / 960819-A3**  
Matrix: **Liquid**

Work Order #: **9608B68-03**

Reported: **Sep 3, 1996**

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC082696BTEX22A	GC082696BTEX22A	GC082696BTEX22A	GC082696BTEX22A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	H. Porter	H. Porter	H. Porter	H. Porter
MS/MSD #:	9608A2105	9608A2105	9608A2105	9608A2105
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/26/96	8/26/96	8/26/96	8/26/96
Analyzed Date:	8/26/96	8/26/96	8/26/96	8/26/96
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	11	10	31
MS % Recovery:	110	110	100	103
Dup. Result:	11	11	11	32
MSD % Recov.:	110	110	110	105
RPD:	0.0	0.0	9.5	2.2
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK082696	BLK082696	BLK082696	BLK082696
Prepared Date:	8/26/96	8/26/96	8/26/96	8/26/96
Analyzed Date:	8/26/96	8/26/96	8/26/96	8/26/96
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.9	9.7	9.7	29
LCS % Recov.:	99	97	97	97

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

**Please Note:**

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

**SEQUOIA ANALYTICAL**

Peggy Penner  
Project Manager

\*\* MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9608B68.BLA <2>



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

Chevron Facility Number 9-1740  
Facility Address 6550 Moraga Ave., Oakland, CA  
Consultant Project Number 960819-A3  
Consultant Name Blaine Tech Services, Inc.  
Address 985 Timothy Dr., San Jose, CA 95133  
Project Contact (Name) Jim Keller  
(Phone) 408 995-5535 (Fax Number) 408 293-8773

Chevron Contact (Name) Phil Briggs  
(Phone) (510) 842-9136  
Laboratory Name Sequoia  
Laboratory Release Number 2768201  
Samples Collected by (Name) Tim Graf  
Collection Date 8-19-96  
Signature Tim Graf

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Chareool	Type C = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analytes To Be Performed											DO NOT BILL FOR TB-LB	Remarks		
								BTX + 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 (CSP or AA)	MTSE						
C-2		3	W		1415	HCL	Y	X		1	A-C							X				9608B68
C-3		3	↓		1350	↓	↓	X		2	↓							X				
C-4		3	↓		1435	↓	↓	X		3	↓							X				

Relinquished By (Signature) <u>Tim Graf</u>	Organization <u>STS</u>	Date/Time <u>8-20-96</u>	Received By (Signature) <u>William Heis</u>	Organization <u>Sequoia</u>	Date/Time <u>8-20-96</u>	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days <u>10 Days</u> As Contracted
Relinquished By (Signature) <u>William Heis</u>	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Signature]</u>	Organization	Date/Time <u>8/20/96</u>	

LWVG/03 91/HCH



**Field  
Data  
Sheets**



# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>960719-A3</u>	Station #: <u>9-1740</u>
Sampler: <u>RN/EG</u>	Start Date: <u>8-19-96</u>
Well I.D.: <u>C-2</u>	Well Diameter: (circle one) <u>(2)</u> 3 4 6
Total Well Depth: Before <u>26.59</u> After	Depth to Water: Before <u>5.63</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>(PVC)</u> Grade Other:	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

<u>3.3</u>	x	<u>3</u>	=	<u>9.9</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer   
 Disposable Bailer   
 Middleburg  
 Electric Submersible  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling: Bailer   
 Disposable Bailer   
 Extraction Port  
 Other \_\_\_\_\_

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1400	70.2	6.2	1400	<del>7.00</del>	3.5	STEEN/OODR
1403	69.4	6.4	1400	<del>7.00</del>	7.0	
1406	68.8	6.8	1400	<del>7.00</del>	10.0	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 10.0

Sampling Time: 1415 Sampling Date: 8-19-96

Sample I.D.: C-2 Laboratory: SEQ

Analyzed for: (TPH-G) (BTEX) TPH-D OTHER: MTSE

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: TPH-G BTEX TPH-D OTHER:

# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>960819-A3</u>	Station #: <u>9-1740</u>
Sampler: <u>KV/TG</u>	Start Date: <u>8-19-96</u>
Well I.D.: <u>C-3</u>	Well Diameter: (circle one) <u>(2)</u> 3 4 6
Total Well Depth: Before <u>18.22</u> After	Depth to Water: Before <u>7.96</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>(PVC)</u> Grade Other:	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

<u>1.6</u>	x	<u>3</u>	=	<u>4.8</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer <input checked="" type="checkbox"/> Disposable Bailer <input checked="" type="checkbox"/> Middleburg Electric Submersible Extraction Pump Other _____	Sampling: Bailer <input checked="" type="checkbox"/> Disposable Bailer <input checked="" type="checkbox"/> Extraction Port Other _____
--	---

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1337	69.4	6.8	1000	<del>120</del>	1.75	LIGHT SHEEN
1340	68.2	6.2	1000	<del>96</del>	3.50	ODOR
1343	68.2	6.4	1000	<del>88</del>	5.0	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 5.0

Sampling Time: 1350 Sampling Date: 8-19-96

Sample I.D.: C-3 Laboratory: SEQ

Analyzed for: (TPH-G) (BTEX) TPH-D OTHER: MTSE  
(Circle)

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: TPH-G BTEX TPH-D OTHER:  
(Circle)

# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>960819-A3</u>	Station #: <u>9-1740</u>
Sampler: <u>RNITG</u>	Start Date: <u>8-19-96</u>
Well I.D.: <u>C-4</u>	Well Diameter: (circle one) <u>(2)</u> 3 4 6
Total Well Depth: Before <u>24.64</u> After	Depth to Water: Before <u>6.59</u> After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: <u>(PVC)</u> Grade Other:	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

<u>2.9</u>	x	<u>3</u>	=	<u>8.7</u>	gallons
1 Case Volume		Specified Volumes			

Purging: Bailer   
 Disposable Bailer   
 Middleburg  
 Electric Submersible  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling: Bailer   
 Disposable Bailer   
 Extraction Port  
 Other \_\_\_\_\_

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1424	70.0	7.0	1200	/	3.0	ODOR / STEEN
1427	69.2	6.8	1200	/	6.0	
1430	68.4	6.8	1300	/	8.75	

Did Well Dewater? no If yes, gals. Gallons Actually Evacuated: 8.75

Sampling Time: 1435 Sampling Date: 8-19-96

Sample I.D.: C-4 Laboratory: SEQ

Analyzed for: (TPH-G) (BTEX) TPH-D OTHER: MTBE

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: TPH-G BTEX TPH-D OTHER: