

STD 1143



October 24, 1996

C-1

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

**Chevron U.S.A. Products Company**  
6001 Bollinger Canyon Road  
Building L  
San Ramon, CA 94583  
P.O. Box 5004  
San Ramon, CA 94583-0804

**Marketing - Northwest Region**  
Phone 510 842 9500

Re: **Chevron Service Station #9-0329**  
**340 Highland Avenue**  
**Piedmont, California**

Dear Ms. Hugo:

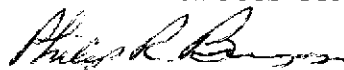
Enclosed is the Second and Third Quarter Groundwater Monitoring reports for 1996, prepared by our consultant Blaine Tech Services Inc. for the above noted facility. I apologize for the delay in submitting the reports and future reports will be submitted in a timely manner. Ground water samples were analyzed for TPH-g, BTEX, and MtBE.

The results from sampling monitoring wells C-3 and C-4 were below method detection levels for the TPH-g and BTEX constituents, while monitoring well C-2 had concentrations of all constituents. Monitoring well C-2 continues to show a high level of MtBE while well C-3 shows non-detect and C-4 is 21ppb. There appears to be no immediate explanation for these mixed results. As noted in previous correspondence, Chevron has not owned or operated this station since about 1990, and therefore, has no control over the operations at the station.

The depth to the groundwater in the second quarter varied from 0.82 to 4.39 feet below grade, with a direction of flow to the southwest. In the third quarter, the depth to the groundwater varied from 1.50 to 4.28 feet below grade and with a direction of flow to the southwest.

The results from the additional site investigation that was conducted recently at this site should be available within thirty days, and the report will be submitted when received. Chevron will continue to monitor the site quarterly. For your information, Mr. Kenneth has been reassigned to other projects within Chevron's site assessment group, and I have taken over the responsibility of this 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

Enclosure

Ms. Susan Hugo  
Chevron Service Station # 9-0329  
October 24, 1996  
Page 2

cc. Ms. Bette Owen, Chevron

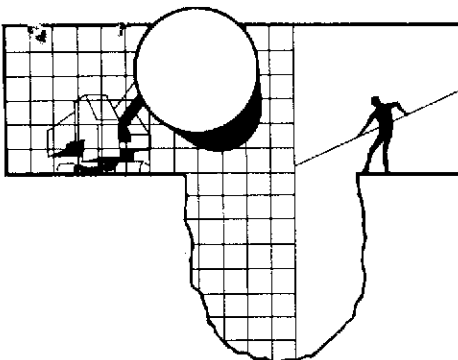
Mr. Kevin Graves  
RWQCB-San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, CA 94612

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

Mir Ghafari  
Chevron Service Station  
340 Highland Avenue  
Piedmont, CA 94611

ENVIRONMENTAL  
PROTECTION

96 OCT 30 PM 12:35



# BLAINE TECH SERVICES INC.

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

August 14, 1996

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

## 3rd Quarter 1996 Monitoring at 9-0329

Third Quarter 1996 Groundwater Monitoring at  
Chevron Service Station Number 9-0329  
340 Highland Avenue  
Piedmont, CA

Monitoring Performed on July 8, 1996

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### Groundwater Sampling Report 960708-V-1

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 Waste Treatment Site for disposal.

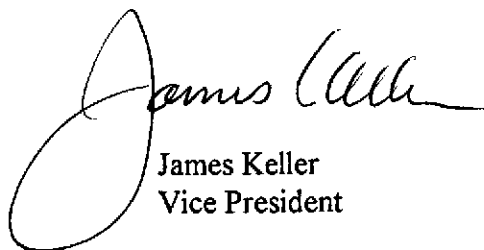
Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL DATA AND ANALYTICAL RESULTS**. The full analytical report for the most recent samples is located in the **Analytical Appendix**. The table also contains new groundwater 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,



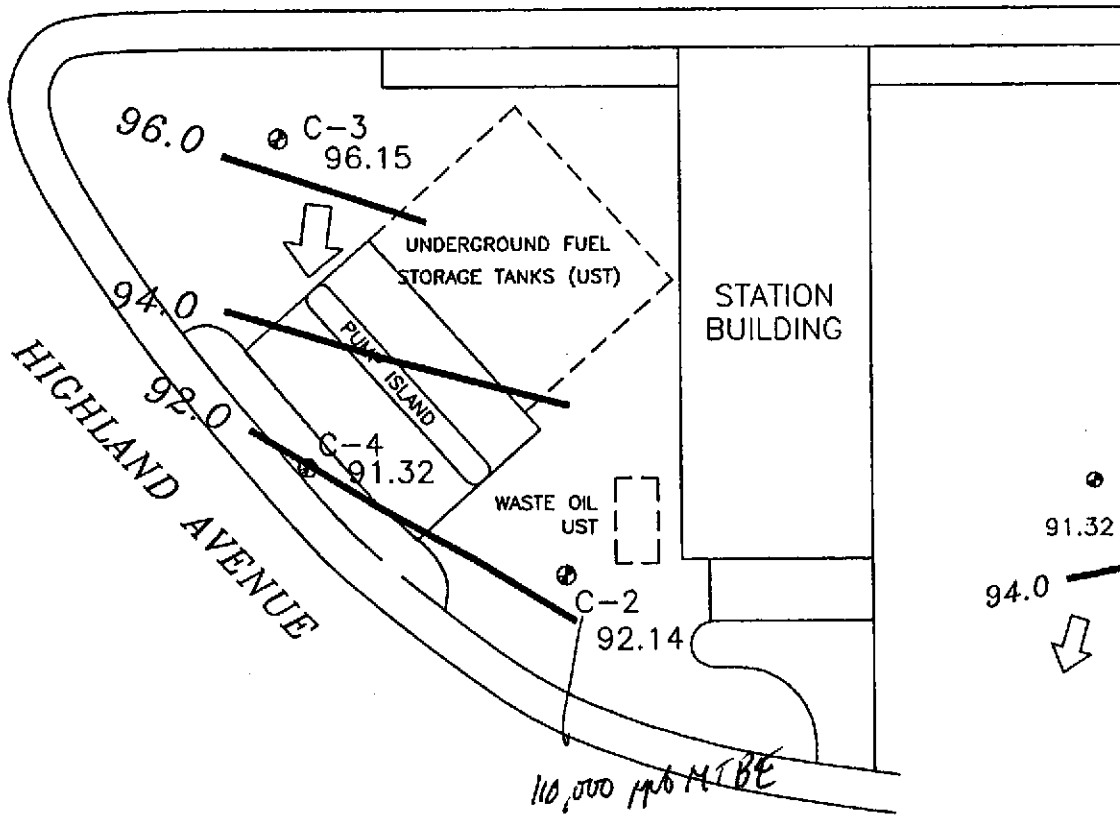
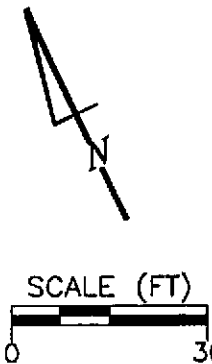
James Keller  
Vice President

JPK/cg

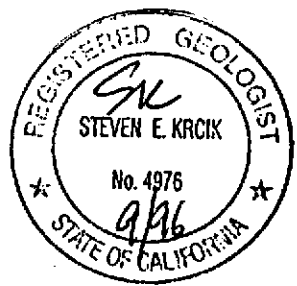
attachments: Professional Engineering Appendix  
Cumulative Table of Well Data and Analytical Results  
Analytical Appendix  
Field Data Sheets

# **Professional Engineering Appendix**

HIGHLAND WAY



- EXPLANATION**
- MONITORING WELL
  - 91.32 GROUNDWATER ELEVATION (FT, MSL)
  - 94.0 — GROUNDWATER ELEVATION CONTOUR (FT, MSL)
  - ↓ APPROXIMATE GROUNDWATER FLOW DIRECTION;  
APPROXIMATE GRADIENT = 0.03



Basemap from Cambria Environmental Technology, Inc.

PREPARED BY <b>RRM INC.</b>	Chevron Station 9-0329 340 Highland Avenue Piedmont, California	GROUNDWATER ELEVATION CONTOUR MAP, JULY 8, 1996	FIGURE: 1 PROJECT: DAC04
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# **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-2</b>										
08/07/89	94.19	91.33	2.88	--	34,000	580	60	170	270	--
11/15/89	94.19	91.39	2.80	--	8100	500	36	420	180	--
02/01/91	94.19	90.41	3.75	--	6800	490	21	310	86	--
04/16/91	94.19	91.64	2.55	--	9600	810	43	550	270	--
10/16/91	94.19	90.67	3.52	--	7100	320	23	200	60	--
01/08/92	94.19	90.04	4.15	--	2400	190	9.0	83	22	--
04/10/92	94.19	91.23	2.96	--	6600	550	33	340	170	--
07/14/92	94.19	91.36	2.83	--	9000	680	330	580	690	--
10/05/92	94.19	89.81	4.38	--	5500	250	17	130	82	--
01/06/93	94.19	90.25	3.94	--	5500	190	32	41	54	--
03/29/93	94.19	92.10	2.09	--	19,000	670	40	180	370	--
07/02/93	94.19	92.10	2.09	--	8000	1100	41	420	500	--
10/11/93	94.19	91.43	2.76	--	42,000	940	34	140	87	--
01/10/94	94.19	89.37	4.82	--	12,000	770	20	220	74	--
04/06/94	94.19	91.70	2.49	--	40,000	820	33	190	110	--
07/06/94	94.19	91.72	2.47	--	8800	870	28	140	95	--
11/11/94	94.19	91.32	2.87	--	8600	460	81	180	120	--
01/06/95	94.19	91.64	2.55	--	15,000	880	48	270	140	--
04/13/95	94.19	92.13	2.06	--	56,000	2500	130	730	360	--
07/25/95	94.19	92.05	2.14	--	11,000	1000	34	540	160	--
10/05/95	94.19	91.68	2.51	--	13,000	1000	<20	160	170	--
01/02/96	94.19	91.97	2.22	--	9500	1300	<50	380	87	64,000
04/11/96	94.19	92.27	1.92	--	<10,000	1300	<100	<100	<100	74,000
07/08/96	94.19	92.14	2.05	--	<20,000	1200	<200	<200	<200	110,000

10/3/96

140,000 ✓

## 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>										
08/07/89	97.65	93.36	4.29	--	<50	<0.5	<1.0	<1.0	<3.0	--
11/15/89	97.65	92.48	5.17	--	<500	<0.5	2.8	<0.5	1.1	--
02/01/91	97.65	91.27	6.38	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/16/91	97.65	93.93	3.72	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/16/91	97.65	89.45	8.20	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/08/92	97.65	90.97	6.68	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/10/92	97.65	93.15	4.50	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/14/92	97.65	91.44	6.21	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/05/92	97.65	88.34	9.31	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/06/93	97.65	94.24	3.41	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/29/93	97.65	97.15	0.50	--	<50	<0.5	<0.5	<0.5	0.8	--
07/02/93	97.65	95.06	2.59	--	<50	4.0	3.0	<0.5	3.0	--
10/11/93	97.65	92.75	4.90	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/10/94	97.65	93.26	4.39	--	<50	<0.5	1.0	<0.5	0.8	--
04/06/94	97.65	94.97	2.68	--	<50	<0.5	1.0	0.7	4.5	--
07/06/94	97.65	95.55	2.10	--	<50	2.2	4.1	<0.5	2.8	--
11/11/94	97.65	96.42	1.23	--	<50	<0.5	0.8	<0.5	<0.5	--
01/06/95	97.65	97.05	0.60	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/13/95	97.65	97.05	0.60	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/25/95	97.65	96.00	1.65	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/05/95	97.65	94.02	3.63	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/02/96	97.65	94.53	3.12	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
04/11/96	97.65	96.83	0.82	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
07/08/96	97.65	96.15	1.50	--	<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>										
08/07/89	95.60	--	--	Dry	--	--	--	--	--	Dry
11/15/89	95.60	90.65	4.95	--	1300	2.9	310	0.5	2.9	--
02/01/91	95.60	90.82	4.78	--	72	<0.5	9.0	<0.5	<0.5	--
04/16/91	95.60	95.60	4.83	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/16/91	95.60	91.37	4.23	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/08/92	95.60	90.79	4.81	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/10/92	95.60	91.34	4.26	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/14/92	95.60	91.32	4.28	--	<50	<0.5	3.8	<0.5	<0.5	--
10/05/92	95.60	91.31	4.29	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/06/93	95.60	91.31	4.29	--	<50	0.7	<0.5	<0.5	<0.5	--
03/29/93	95.60	91.30	4.30	--	<50	0.5	1.0	<0.5	2.0	--
07/02/93	95.60	91.38	4.22	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/11/93	95.60	91.30	4.30	--	<50	0.6	<0.5	<0.5	<0.5	--
01/10/94	95.60	91.16	4.44	--	<50	0.7	3.0	<0.5	1.0	--
04/06/94	95.60	91.36	4.24	--	130	2.2	5.4	3.3	24	--
07/06/94	95.60	91.36	4.24	--	99	5.9	7.5	2.0	12	--
11/11/94	95.60	91.39	4.21	--	<50	<0.5	9.5	<0.5	<0.5	--
01/06/95	95.60	91.18	4.42	--	<50	0.7	1.0	<0.5	1.1	--
04/13/95	95.60	91.36	4.24	--	67	0.54	7.2	<0.5	1.1	--
07/25/95	95.60	91.36	4.24	--	390	<2.0	150	<2.0	<2.0	--
10/05/95	95.60	91.22	4.38	--	130	<0.5	66	<0.5	<0.5	--
01/02/96	95.60	91.34	4.26	--	<50	<0.5	<0.5	<0.5	<0.5	34
04/11/96	95.60	91.21	4.39	--	<50	<0.5	0.93	<0.5	<0.5	56
07/08/96	95.60	91.32	4.28	--	<50	<0.5	<0.5	<0.5	<0.5	21

## 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>Backfill Well: A</b>										
08/07/89	--	--	2.10	--	1000	50	6.0	5.0	22	--
11/15/89	--	--	2.04	--	3700	98	2.1	4.3	55	--
02/01/91	--	--	3.05	--	36,000	1100	750	130	6100	--
04/16/91	--	--	2.01	--	8000	370	6.0	86	750	--
10/16/91	--	--	4.15	--	--	--	--	--	--	--
 <b>Backfill Well: B</b>										
08/07/89	--	--	4.12	--	--	--	--	--	--	--
11/15/89	--	--	--	--	--	--	--	--	--	--
02/01/91	--	--	5.03	--	--	--	--	--	--	--
04/16/91	--	--	4.00	--	--	--	--	--	--	--
10/16/91	--	--	6.24	--	--	--	--	--	--	--

## 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>										
01/06/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/29/93	--	--	--	--	<50	<0.5	<0.5	<0.5	1.0	--
07/02/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/11/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/10/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/06/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/06/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
11/11/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/06/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/13/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/25/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/05/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/02/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
04/11/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
07/08/96	--	--	--	--	<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 April 13, 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 Attention: Jim Keller	Client Proj. ID: Chevron 9-0329,960708-V-1 Sample Descript: C-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9607534-01	Sampled: 07/08/96 Received: 07/09/96 Analyzed: 07/17/96 Reported: 07/23/96
---	---	---

QC Batch Number: GC071796BTEX17A  
Instrument ID: GCHP17

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	20000	N.D.
Methyl t-Butyl Ether	1000	110000
Benzene	200	1200
Toluene	200	N.D.
Ethyl Benzene	200	N.D.
Xylenes (Total)	200	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 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Chevron 9-0329,960708-V-1 Sample Descript: C-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9607534-02	Sampled: 07/08/96 Received: 07/09/96 Analyzed: 07/16/96 Reported: 07/23/96
---	---	---

QC Batch Number: GC071696BTEX02A  
Instrument ID: GCHP02

**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	98

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 Attention: Jim Keller	Client Proj. ID: Chevron 9-0329,960708-V-1 Sample Descript: C-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9607534-03	Sampled: 07/08/96 Received: 07/09/96 Analyzed: 07/17/96 Reported: 07/23/96
---	---	---

QC Batch Number: GC071796BTEX17A  
Instrument ID: GCHP17

**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	21
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	91

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 Attention: Jim Keller	Client Proj. ID: Chevron 9-0329,960708-V-1 Sample Descript: Trip Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9607534-04	Sampled: 07/08/96 Received: 07/09/96 Analyzed: 07/16/96 Reported: 07/23/96
---	--	---


QC Batch Number: GC071696BTEX02A  
Instrument ID: GCHP02

**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	95

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager





Sequoia  
Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
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(510) 988-9600  
(916) 921-9600

FAX (415) 364-9233  
FAX (510) 988-9673  
FAX (916) 921-0100

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

Client Proj. ID: Chevron 9-0329,960708-V-1

Received: 07/09/96

Lab Proj. ID: 9607534

Reported: 07/23/96

## LABORATORY NARRATIVE

TPPH Note: Sample 9607534-01 was diluted 400-fold.

SEQUOIA ANALYTICAL

Peggy Renner  
Project Manager





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

Client Project ID: Chevron 9-0329 / 960708-V-1  
Matrix: Liquid

Work Order #: 9607534 -01, 03

Reported: Jul 24, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC071796BTEX17A	GC071796BTEX17A	GC071796BTEX17A	GC071796BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	R. Vincent	R. Vincent	R. Vincent	R. Vincent
MS/MSD #:	960732803	960732803	960732803	960732803
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/17/96	7/17/96	7/17/96	7/17/96
Analyzed Date:	7/17/96	7/17/96	7/17/96	7/17/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.7	8.7	9.0	27
MS % Recovery:	87	87	90	90
Dup. Result:	9.8	9.8	9.9	28
MSD % Recov.:	98	98	99	93
RPD:	12	12	9.5	3.6
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK071796	BLK071796	BLK071796	BLK071796
Prepared Date:	7/17/96	7/17/96	7/17/96	7/17/96
Analyzed Date:	7/17/96	7/17/96	7/17/96	7/17/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.6	9.3	9.4	29
LCS % Recov.:	96	93	94	97

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

**SEQUOIA ANALYTICAL**  
  
Peggy 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

9607534.BLA <1>





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

Client Project ID: Chevron 9-0329 / 960708-V-1  
Matrix: Liquid

Work Order #: 9607534-02, 04

Reported: Jul 24, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC071696BTEX02A	GC071696BTEX02A	GC071696BTEX02A	GC071696BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	R. Vincent	R. Vincent	R. Vincent	R. Vincent
MS/MSD #:	960730603	960730603	960730603	960730603
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/16/96	7/16/96	7/16/96	7/16/96
Analyzed Date:	7/16/96	7/16/96	7/16/96	7/16/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.8	9.8	9.6	28
MS % Recovery:	98	98	96	93
Dup. Result:	9.3	9.2	9.1	27
MSD % Recov.:	93	92	91	90
RPD:	5.2	6.3	5.3	3.6
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK071696	BLK071696	BLK071696	BLK071696
Prepared Date:	7/16/96	7/16/96	7/16/96	7/16/96
Analyzed Date:	7/16/96	7/16/96	7/16/96	7/16/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.3	9.1	9.3	27
LCS % Recov.:	93	91	93	90

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

SEQUOIA ANALYTICAL

Peggy 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

9607534.BLA <2>





# **Field Data Sheets**





## CHEVRON WELL MONITORING DATA SHEET

Project #: 960708-V-1	Station #: 9.0329
Sampler: Fred	Date: 7-8-96
Well I.D.: C-2	Well Diameter: (2) 3 4 6 8
Total Well Depth: 15.75	Depth to Water: 2.05
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius <sup>2</sup> * 0.163

Purge Method: <u>Bailer</u> Disposable Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Other: _____
---	--

219	x	3	=	6.57	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
0920	75.0	6.4	1000	2.5	}   }
0926	70.2	6.4	800	5.0	
0930	70.2	6.4	800	7.0	

Did well dewater? How to Recharge Yes  No  Gallons actually evacuated: 6 7.0

Sampling Time: 0940 Sampling Date: 7-8-96

Sample I.D.: C-2 Laboratory: (Sequoia) GTEL

Analyzed for: (TPH-G BTEX MIBE) TPH-D Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

# CHEVRON WELL MONITORING DATA SHEET

Project #: 960708-V-1	Station #: 9-0329
Sampler: Fred	Date: 7-8-96
Well I.D.: C-3	Well Diameter: (2) 3 4 6 8
Total Well Depth: 14.86	Depth to Water: 1.50
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius <sup>2</sup> * 0.163

Purge Method: Bailer      Sampling Method: Bailer

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

Other: \_\_\_\_\_

2.13	X	3	=	6.41	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
0826	80.2	8.0	400	2.0	
0829	75.4	7.2	400	4.0	
0833	75.4	7.2	400	6.5	

Did well dewater? Yes  No  Gallons actually evacuated: 6.5

Sampling Time: 0843      Sampling Date: 7-8-96

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

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: 960708-U-1	Station #: 9-0329
Sampler: Rad	Date: 7-8-96
Well I.D.: C-4	Well Diameter: (2) 3 4 6 8
Total Well Depth: 10.16	Depth to Water: 4.28
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius <sup>2</sup> * 0.163

Purge Method: Bailer      Sampling Method: Bailer  
Disposable Bailer      Disposable Bailer  
 Middleburg      Extraction Port  
 Electric Submersible      Other: \_\_\_\_\_  
 Extraction Pump  
 Other: \_\_\_\_\_

94	x	3	=	2.82	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
0853	68.8	6.8	400	1.0	Slow to Recharge
0857	68.8	6.6	400	2.0	SPOT steady -
0905	68.8	6.6	400	3.0	

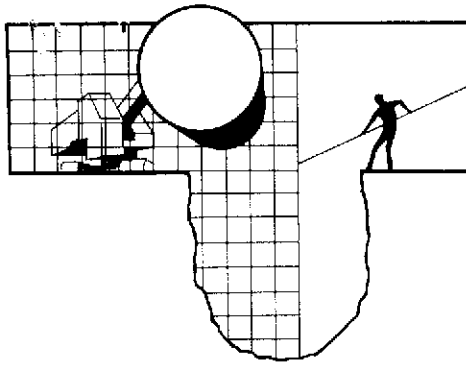
Did well dewater? <sup>Very Slow to Recharge</sup> Yes No      Gallons actually evacuated: 3.0

Sampling Time: 0915      Sampling Date: 7-8-96

Sample I.D.: C-4      Laboratory: Sequoia GTEL

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV



# BLAINE TECH SERVICES INC.

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

May 22, 1996

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

## 2nd Quarter 1996 Monitoring at 9-0329

Second Quarter 1996 Groundwater Monitoring at  
Chevron Service Station Number 9-0329  
340 Highland Avenue  
Piedmont, CA

Monitoring Performed on April 11, 1996

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### Groundwater Sampling Report 960411-V-1

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 Chevron's Richmond Refinery for disposal.

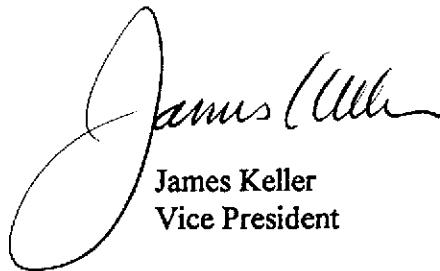
Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL DATA AND ANALYTICAL RESULTS**. The full analytical report for the most recent samples is located in the **Analytical Appendix**. The table also contains new groundwater 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,



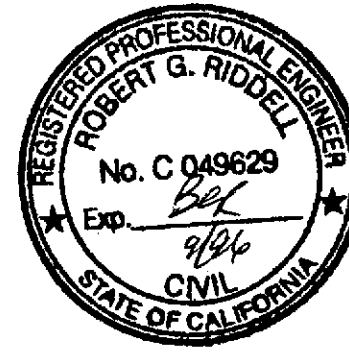
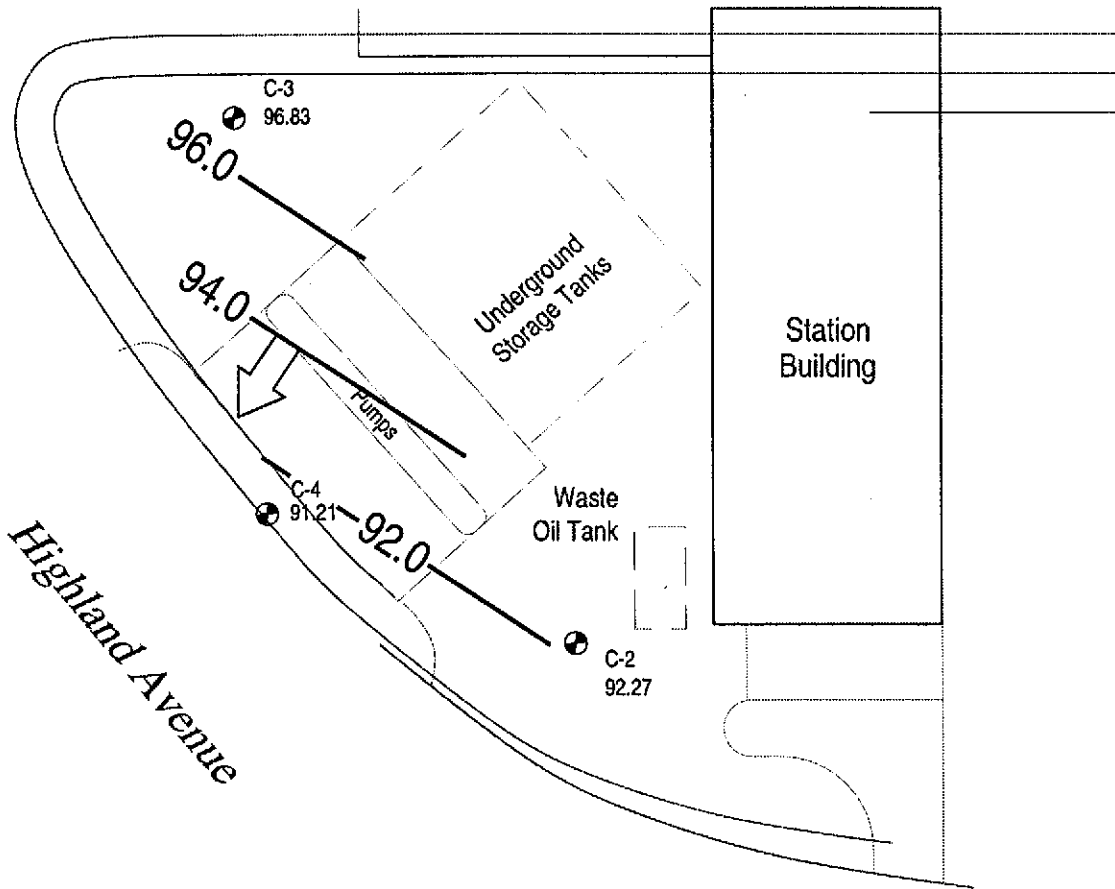
James Keller  
Vice President

JPK/cg

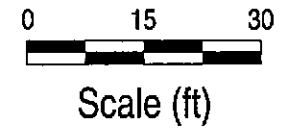
attachments: Professional Engineering Appendix  
Cumulative Table of Well Data and Analytical Results  
Analytical Appendix  
Field Data Sheets

# **Professional Engineering Appendix**

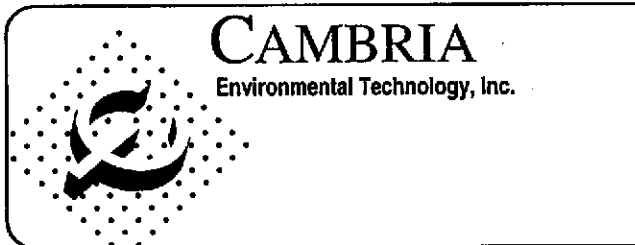
Highland Way



- LEGEND
- ⊙ Ground Water Monitoring Well
  - X.XX Ground Water Elevation (ft-msl)
  - Ground Water Elevation Contour
  - ← Ground Water Flow Direction



Base Map by Sierra Environmental



Chevron Station 9-0329  
340 Highland Avenue  
Piedmont, California

F:\PROJECT\CHEVROM9-0329\0329-QM.DWG

Ground Water Elevation  
April 11, 1996

FIGURE  
**1**

# **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-2</b>										
08/07/89	94.19	91.33	2.88	--	34,000	580	60	170	270	--
11/15/89	94.19	91.39	2.80	--	8100	500	36	420	180	--
02/01/91	94.19	90.41	3.75	--	6800	490	21	310	86	--
04/16/91	94.19	91.64	2.55	--	9600	810	43	550	270	--
10/16/91	94.19	90.67	3.52	--	7100	320	23	200	60	--
01/08/92	94.19	90.04	4.15	--	2400	190	9.0	83	22	--
04/10/92	94.19	91.23	2.96	--	6600	550	33	340	170	--
07/14/92	94.19	91.36	2.83	--	9000	680	330	580	690	--
10/05/92	94.19	89.81	4.38	--	5500	250	17	130	82	--
01/06/93	94.19	90.25	3.94	--	5500	190	32	41	54	--
03/29/93	94.19	92.10	2.09	--	19,000	670	40	180	370	--
07/02/93	94.19	92.10	2.09	--	8000	1100	41	420	500	--
10/11/93	94.19	91.43	2.76	--	42,000	940	34	140	87	--
01/10/94	94.19	89.37	4.82	--	12,000	770	20	220	74	--
04/06/94	94.19	91.70	2.49	--	40,000	820	33	190	110	--
07/06/94	94.19	91.72	2.47	--	8800	870	28	140	95	--
11/11/94	94.19	91.32	2.87	--	8600	460	81	180	120	--
01/06/95	94.19	91.64	2.55	--	15,000	880	48	270	140	--
04/13/95	94.19	92.13	2.06	--	56,000	2500	130	730	360	--
07/25/95	94.19	92.05	2.14	--	11,000	1000	34	540	160	--
10/05/95	94.19	91.68	2.51	--	13,000	1000	<20	160	170	--
01/02/96	94.19	91.97	2.22	--	9500	1300	<50	380	87	64,000
04/11/96	94.19	92.27	1.92	--	<10,000	1300	<100	<100	<100	74,000

## 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>										
08/07/89	97.65	93.36	4.29	--	<50	<0.5	<1.0	<1.0	<3.0	--
11/15/89	97.65	92.48	5.17	--	<500	<0.5	2.8	<0.5	1.1	--
02/01/91	97.65	91.27	6.38	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/16/91	97.65	93.93	3.72	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/16/91	97.65	89.45	8.20	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/08/92	97.65	90.97	6.68	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/10/92	97.65	93.15	4.50	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/14/92	97.65	91.44	6.21	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/05/92	97.65	88.34	9.31	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/06/93	97.65	94.24	3.41	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/29/93	97.65	97.15	0.50	--	<50	<0.5	<0.5	<0.5	0.8	--
07/02/93	97.65	95.06	2.59	--	<50	4.0	3.0	<0.5	3.0	--
10/11/93	97.65	92.75	4.90	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/10/94	97.65	93.26	4.39	--	<50	<0.5	1.0	<0.5	0.8	--
04/06/94	97.65	94.97	2.68	--	<50	<0.5	1.0	0.7	4.5	--
07/06/94	97.65	95.55	2.10	--	<50	2.2	4.1	<0.5	2.8	--
11/11/94	97.65	96.42	1.23	--	<50	<0.5	0.8	<0.5	<0.5	--
01/06/95	97.65	97.05	0.60	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/13/95	97.65	97.05	0.60	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/25/95	97.65	96.00	1.65	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/05/95	97.65	94.02	3.63	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/02/96	97.65	94.53	3.12	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
04/11/96	97.65	96.83	0.82	--	<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>										
08/07/89	95.60	--	--	Dry	--	--	--	--	--	Dry
11/15/89	95.60	90.65	4.95	--	1300	2.9	310	0.5	2.9	--
02/01/91	95.60	90.82	4.78	--	72	<0.5	9.0	<0.5	<0.5	--
04/16/91	95.60	95.60	4.83	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/16/91	95.60	91.37	4.23	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/08/92	95.60	90.79	4.81	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/10/92	95.60	91.34	4.26	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/14/92	95.60	91.32	4.28	--	<50	<0.5	3.8	<0.5	<0.5	--
10/05/92	95.60	91.31	4.29	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/06/93	95.60	91.31	4.29	--	<50	0.7	<0.5	<0.5	<0.5	--
03/29/93	95.60	91.30	4.30	--	<50	0.5	1.0	<0.5	2.0	--
07/02/93	95.60	91.38	4.22	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/11/93	95.60	91.30	4.30	--	<50	0.6	<0.5	<0.5	<0.5	--
01/10/94	95.60	91.16	4.44	--	<50	0.7	3.0	<0.5	1.0	--
04/06/94	95.60	91.36	4.24	--	130	2.2	5.4	3.3	24	--
07/06/94	95.60	91.36	4.24	--	99	5.9	7.5	2.0	12	--
11/11/94	95.60	91.39	4.21	--	<50	<0.5	9.5	<0.5	<0.5	--
01/06/95	95.60	91.18	4.42	--	<50	0.7	1.0	<0.5	1.1	--
04/13/95	95.60	91.36	4.24	--	67	0.54	7.2	<0.5	1.1	--
07/25/95	95.60	91.36	4.24	--	390	<2.0	150	<2.0	<2.0	--
10/05/95	95.60	91.22	4.38	--	130	<0.5	66	<0.5	<0.5	--
01/02/96	95.60	91.34	4.26	--	<50	<0.5	<0.5	<0.5	<0.5	34
04/11/96	95.60	91.21	4.39	--	<50	<0.5	0.93	<0.5	<0.5	56

## 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>Backfill Well: A</b>										
08/07/89	--	--	2.10	--	1000	50	6.0	5.0	22	--
11/15/89	--	--	2.04	--	3700	98	2.1	4.3	55	--
02/01/91	--	--	3.05	--	36,000	1100	750	130	6100	--
04/16/91	--	--	2.01	--	8000	370	6.0	86	750	--
10/16/91	--	--	4.15	--	--	--	--	--	--	--
 <b>Backfill Well: B</b>										
08/07/89	--	--	4.12	--	--	--	--	--	--	--
11/15/89	--	--	--	--	--	--	--	--	--	--
02/01/91	--	--	5.03	--	--	--	--	--	--	--
04/16/91	--	--	4.00	--	--	--	--	--	--	--
10/16/91	--	--	6.24	--	--	--	--	--	--	--

## 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>										
01/06/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
03/29/93	--	--	--	--	<50	<0.5	<0.5	<0.5	1.0	--
07/02/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/11/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/10/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/06/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/06/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
11/11/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/06/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
04/13/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
07/25/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
10/05/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--
01/02/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
04/11/96	--	--	--	--	<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 April 13, 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 9-0329/960411-V-1 Sample Descript: C-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9604922-01	Sampled: 04/11/96 Received: 04/12/96 Analyzed: 04/19/96 Reported: 04/24/96
--	---	---


QC Batch Number: GC041996BTEX03A  
Instrument ID: GCHP03

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

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	10000	N.D.
Methyl t-Butyl Ether	500	74000
Benzene	100	1300
Toluene	100	N.D.
Ethyl Benzene	100	N.D.
Xylenes (Total)	100	N.D.
Chromatogram Pattern:		
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	106

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

**SEQUOIA ANALYTICAL - ELAP #1210**

  
Peggy Fenner  
Project Manager





Blaine Technical Services 985 Timothy Drive San Jose, CA 95133	Client Proj. ID: Chevron 9-0329/960411-V-1 Sample Descript: C-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9604922-02	Sampled: 04/11/96 Received: 04/12/96 Analyzed: 04/19/96 Reported: 04/24/96
--	---	---

QC Batch Number: GC041996BTEX02A  
Instrument ID: GCHP02

**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	81

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 Attention: Jim Keller	Client Proj. ID: Chevron 9-0329/960411-V-1 Sample Descript: C-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9604922-03	Sampled: 04/11/96 Received: 04/12/96 Analyzed: 04/18/96 Reported: 04/24/96
---	---	---

QC Batch Number: GC041896BTEX17A  
Instrument ID: GCHP17

**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	56
Benzene	0.50	N.D.
Toluene	0.50	0.93
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	81

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 9-0329/960411-V-1 Sample Descript: Trip Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9604922-04	Sampled: 04/11/96 Received: 04/12/96 Analyzed: 04/19/96 Reported: 04/24/96
--	--	---

QC Batch Number: GC041996BTEX02A  
Instrument ID: GCHP02

**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	79

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Peggy Penner  
Project Manager





**Sequoia  
Analytical**

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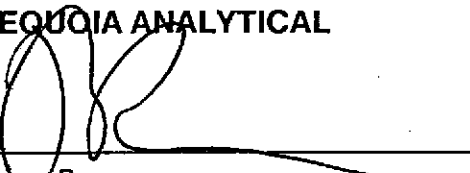
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FAX (510) 988-9673  
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Blaine Technical Services 985 Timothy Drive San Jose, CA 95133 Attention: Jim Keller	Client Proj. ID: Chevron 9-0329/960411-V-1 Lab Proj. ID: 9604922	Received: 04/12/96 Reported: 04/24/96
---	---	--

### LABORATORY NARRATIVE

TPPH Note: Sample 9604922-01 was diluted 200-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 9-0329/ 960411-V-1  
Matrix: Liquid

Work Order #: 9604922 -01

Reported: Apr 24, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC041996BTEX03A	GC041996BTEX03A	GC041996BTEX03A	GC041996BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	960485703	960485703	960485703	960485703
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/19/96	4/19/96	4/19/96	4/19/96
Analyzed Date:	4/19/96	4/19/96	4/19/96	4/19/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	10	30
MS % Recovery:	100	100	100	100
Dup. Result:	10	10	10	30
MSD % Recov.:	100	100	100	100
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	BLK041996	BLK041996	BLK041996	BLK041996
Prepared Date:	4/19/96	4/19/96	4/19/96	4/19/96
Analyzed Date:	4/19/96	4/19/96	4/19/96	4/19/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	10	10	31
LCS % Recov.:	100	100	100	103

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130
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**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

9604922.BLA <1>





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

Client Project ID: Chevron 9-0329/ 960411-V-1  
 Matrix: Liquid

Work Order #: 9604922-02, 04

Reported: Apr 24, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC041996BTEX02A	GC041996BTEX02A	GC041996BTEX02A	GC041996BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	960485703	960485703	960485703	960485703
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/19/96	4/19/96	4/19/96	4/19/96
Analyzed Date:	4/19/96	4/19/96	4/19/96	4/19/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.1	8.8	8.8	25
MS % Recovery:	91	88	88	83
Dup. Result:	10	8.6	8.1	29
MSD % Recov.:	100	86	81	97
RPD:	9.4	2.3	8.3	15
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	BLK041996	BLK041996	BLK041996	BLK041996
Prepared Date:	4/19/96	4/19/96	4/19/96	4/19/96
Analyzed Date:	4/19/96	4/19/96	4/19/96	4/19/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	9.7	9.5	30
LCS % Recov.:	100	97	95	100

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130
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**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

9604922.BLA <2>





Blaine Tech Services, Inc. Client Project ID: Chevron 9-0329/ 960411-V-1  
 985 Timothy Drive Matrix: Liquid  
 San Jose, CA 95133  
 Attention: Jim Keller Work Order #: 9604922-03 Reported: Apr 24, 1996

**QUALITY CONTROL DATA REPORT**

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC041896BTEX17A	GC041896BTEX17A	GC041896BTEX17A	GC041896BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	960485702	960485702	960485702	960485702
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/18/96	4/18/96	4/18/96	4/18/96
Analyzed Date:	4/18/96	4/18/96	4/18/96	4/18/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.8	9.7	9.8	29
MS % Recovery:	98	97	98	97
Dup. Result:	9.1	9.1	9.1	27
MSD % Recov.:	91	91	91	90
RPD:	7.4	6.4	7.4	7.1
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	BLK041896	BLK041896	BLK041896	BLK041896
Prepared Date:	4/18/96	4/18/96	4/18/96	4/18/96
Analyzed Date:	4/18/96	4/18/96	4/18/96	4/18/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.2	9.3	9.3	28
LCS % Recov.:	92	93	93	93

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130
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**SEQUOIA ANALYTICAL**  
  
 Peggy 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

9604922.BLA <3>





# **Field Data Sheets**





# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>Q60411-V-1</u>	Station #: <u>9-0329</u>
Sampler: <u>Fred</u>	Start Date: <u>4-11-96</u>
Well I.D.: <u>C-2</u>	Well Diameter: (circle one) <u>(2)</u> 3 4 6
Total Well Depth: Before <u>15.76</u> After	Depth to Water: Before <u>1.92</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>2.21</u>	x	<u>3</u>	=	<u>6.64</u>
1 Case Volume		Specified Volumes		gallons

Purging: <u>Bailer</u> <u>Disposable Bailer</u> Middleburg Electric Submersible Extraction Pump Other _____	Sampling: <u>Bailer</u> <u>Disposable Bailer</u> Extraction Port Other _____
--	---

TIME	TEMP. (F)	PH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1048	65.8	6.2	800	>200	2.5	Sheen odor /
1050	65.4	6.2	600	>200	5.0	
1053	65.4	6.2	600	>200	7.0	

Slow to Reblog

Did Well Dewater? <u>no</u> If yes, gals.	Gallons Actually Evacuated: <u>7.0</u>
Sampling Time: <u>1103</u>	Sampling Date: <u>4-11-96</u>
Sample I.D.: <u>C-2</u>	Laboratory: <u>SEQ</u>
Analyzed for: <u>(Circle) TPH-G BTEX</u> TPH-D OTHER: <u>MTBE</u>	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for: <u>(Circle) TPH-G BTEX</u> TPH-D OTHER:	

# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>960411-V-1</u>	Station #: <u>9-0329</u>
Sampler: <u>Fred</u>	Start Date: <u>4-11-96</u>
Well I.D.: <u>C-4</u>	Well Diameter: (circle one) <u>2</u> 3 4 6
Total Well Depth: Before <u>10.16</u> After	Depth to Water: Before <u>4.39</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>.92</u>	x	<u>3</u>	=	<u>2.76</u>
1 Case Volume		Specified Volumes		gallons

Purging: <u>Bailer</u> <u>Disposable Bailer</u> Middleburg Electric Submersible Extraction Pump Other _____	Sampling: <u>Bailer</u> <u>Disposable Bailer</u> Extraction Port Other _____
--	---

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1022	64.4	6.6	400	>200	1.0	<u>don't / sheer</u>
1024	64.2	6.2	400	>200	2.0	
1028	64.2	6.2	400	>200	3.0	

slow to Recharge

Did Well Dewater? <u>No</u> If yes, gals.	Gallons Actually Evacuated: <u>3.0</u>
Sampling Time: <u>1030</u>	Sampling Date: <u>4-11-96</u>
Sample I.D.: <u>C-4</u>	Laboratory: <u>SEQ</u>
Analyzed for: (Circle) <u>TPH-G BTEX</u> TPH-D OTHER: <u>MTRE</u>	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for: (Circle) TPH-G BTEX TPH-D OTHER:	

# CHEVRON WELL MONITORING DATA SHEET

Project #: <u>960411-V-1</u>	Station #: <u>9-0329</u>
Sampler: <u>Fred</u>	Start Date: <u>4-11-96</u>
Well I.D.: <u>C-3</u>	Well Diameter: (circle one) <u>(2)</u> 3 4 6
Total Well Depth: Before <u>14.87</u> After	Depth to Water: Before <u>.82</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>2.24</u>	x	<u>3</u>	=	<u>6.74</u>
1 Case Volume		Specified Volumes		gallons

Purging: Bailer <u>Disposable Bailer</u> Middleburg Electric Submersible Extraction Pump Other _____	Sampling: Bailer <u>Disposable Bailer</u> Extraction Port Other _____
---	--

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
0955	68.8	8.0	400	>200	2.5	
0958	67.0	7.0	400	>200	5.0	
1000	67.0	7.0	400	>200	7.0	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 7.0

Sampling Time: <u>1010</u>	Sampling Date: <u>4-11-96</u>
Sample I.D.: <u>C-3</u>	Laboratory: <u>SEP</u>
Analyzed for: <u>TPH-G BTEX</u> (Circle) TPH-D OTHER: <u>MPBE</u>	
Duplicate I.D.:	Cleaning Blank I.D.:
Analyzed for: TPH-G BTEX TPH-D OTHER: (Circle)	

(1993) Business Records  
340 Highland Ave (Chevron Station)  
Hoffman Indemnity Co.

1760 Willow Rd Hillsborough CA 94010

340 Highland Ave also owned by