

ENVIRONMENTAL  
PROTECTION

98 OCT 20 PM 4:05



**Chevron**

October 19, 1998

**Chevron Products Company**  
6001 Bollinger Canyon Road  
Building L, Room 1110  
PO Box 6004  
San Ramon, CA 94583-0904

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

**Philip R. Briggs**  
Project Manager  
Site Assessment & Remediation  
Phone 925 842-9136  
Fax 925 842-8370

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

Dear Ms. Hugo:

Enclosed is the Third Quarter Groundwater Monitoring report for 1998 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 showed a decrease in the benzene constituent from the previous sampling event while well C-3 was below method detection limits for all the constituents. Note that the BTEX constituents were below method detection limits in well C-2.

The depth to groundwater varied from 4.90 feet to 6.80 feet below grade with a direction of flow southeasterly.

**Chevron again requests (3<sup>rd</sup> time) that the monitoring frequency for well C-3 be changed to annual and wells C-2 and C-4 to semi-annual and Oxygen Releasing Compounds (ORC's) be added to wells C-2 and C-4 to assist in the natural attenuation process.**

Well C-3 is upgradient of the tanks and pump islands and continued quarterly sampling will not add any additional information to the sampling events. No TPH-g and BTEX constituents have been detected in the last eleven sampling events. MtBE has only been detected in one of eight sampling events at less than 5.0 ppb. Chevron would continue to measure this well for water depth to establish ground water gradient for the site.

October 19, 1998  
Ms. Susan Hugo  
Chevron Service Station #9-1740  
Page 2

Reducing the sampling frequency for wells C-2 and C-4 will not compromise the sampling program and adding ORC to these wells could assist in the natural attenuation process.

If you have any questions or comments call me at (925) 842-9136.

Sincerely,  
**CHEVRON PRODUCTS COMPANY**



Philip R. Briggs  
Site Assessment and Remediation Project Manager

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, CA 95112-1105  
(408) 573-7771 FAX  
(408) 573-0555 PHONE

October 15, 1998

Phil Briggs  
Chevron U.S.A. Products Company  
P.O. Box 6004  
San Ramon, CA 94583-0904

### **3rd Quarter 1998 Monitoring at 9-1740**

Third Quarter 1998 Groundwater Monitoring at  
Chevron Service Station Number 9-1740  
6550 Moraga Avenue  
Oakland, CA

Monitoring Performed on August 25, 1998

---

### **Groundwater Sampling Report 980825-R-2**

This report covers the routine 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**.

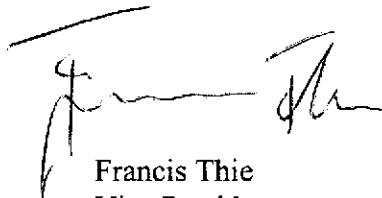
map which is located in the **Professional Engineering Appendix**.

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,

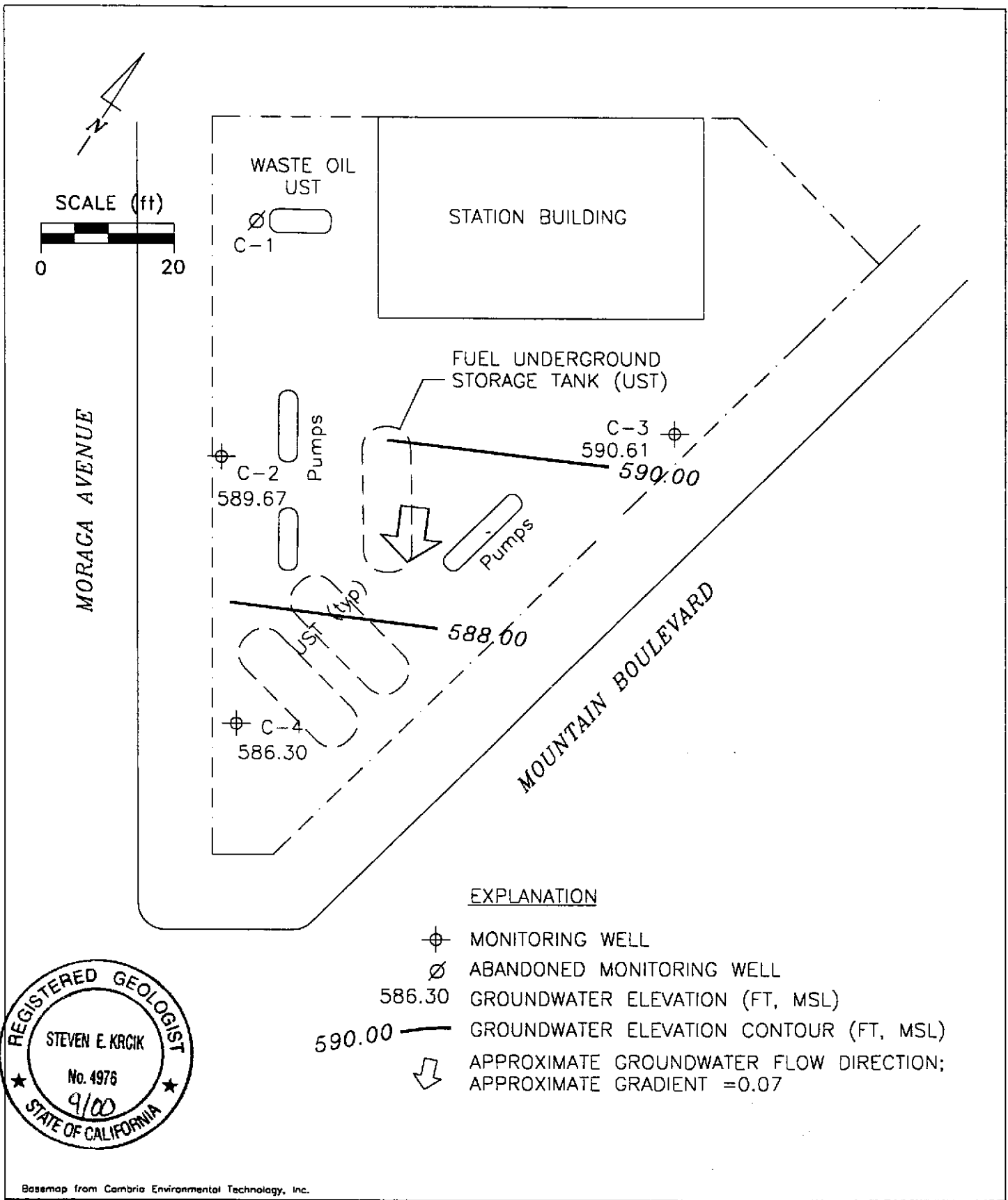
A handwritten signature in black ink, appearing to read 'Francis Thie', is written over a horizontal line. The signature is fluid and cursive.

Francis Thie  
Vice President

FPT/dg

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

# **Professional Engineering Appendix**



PREPARED BY

**RRM**  
engineering contracting firm

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

**GROUNDWATER ELEVATION CONTOUR MAP,**  
**AUGUST 25, 1998**

**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	--
NO LONGER MONITORED OR SAMPLED										
<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
03/31/97	594.57	589.74	4.83	--	<500	48	<5.0	<5.0	<5.0	2900
06/23/97	594.57	589.98	4.59	--	1200	240	<10	<10	<10	4900
09/02/97	594.57	590.02	4.55	--	1400	340	<5.0	54	6.9	2500
12/15/97	594.57	590.26	4.31	--	540	100	<2.5	8.7	<2.5	2400
03/10/98	594.57	590.00	4.57	--	<500	<5.0	<5.0	<5.0	<5.0	3000
06/16/98	594.57	589.99	4.58	--	120	6.6	<1.0	<1.0	<1.0	2500
08/25/98	594.57	589.67	4.90	--	140	<0.5	<0.5	<0.5	<0.5	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
03/31/97	597.14	590.65	6.49	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
06/23/97	597.14	590.63	6.51	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
09/02/97	597.14	591.07	6.07	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
12/15/97	597.14	590.86	6.28	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
03/10/98	597.14	590.89	6.25	--	<50	<0.5	<0.5	<0.5	<0.5	3.5
06/16/98	597.14	590.80	6.34	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
08/25/98	597.14	590.61	6.53	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0

## 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
03/31/97	593.10	588.42	4.68	--	3400	960	51	64	140	2100
06/23/97	593.10	588.36	4.74	--	1600	580	19	8.2	27	2300
09/02/97	593.10	588.33	4.77	--	6900	1400	59	130	410	3100
12/15/97	593.10	588.60	4.50	--	3300	1200	37	74	130	3700
03/10/98	593.10	588.92	4.18	--	1100	250	19	13	62	4000
06/16/98	593.10	586.53	6.57	--	1200	350	<10	12	39	4500
08/25/98	593.10	586.30	6.80	--	290	24	0.72	0.87	1.9	3600

## 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	--
03/31/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
06/23/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
09/02/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
12/15/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
03/10/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
06/16/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
08/25/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0

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**



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North. Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600 FAX (650) 364-9233  
(925) 988-9600 FAX (925) 988-9673  
(916) 921-9600 FAX (916) 921-0100  
(707) 792-1865 FAX (707) 792-0342

Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112

Client Proj. ID: Chevron 9-1740/980825-R2  
Sample Descript: C-2  
Matrix: LIQUID  
Analysis Method: 8015Mod/8020  
Lab Number: 9808F95-01

Sampled: 08/25/98  
Received: 08/26/98  
Analyzed: 09/04/98  
Reported: 09/15/98

Attention: Fran Thie

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	140
Methyl t-Butyl Ether	250	2600
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern: Unidentified HC		C6-C12
<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 #1624

  
Mike Gregory  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd, North, Ste. D

Redwood City, CA 94063  
Wainut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
(925) 988-9600  
(916) 921-9600  
(707) 792-1865

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-1740/980825-R2 Sample Descript: C-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9808F95-02	Sampled: 08/25/98 Received: 08/26/98 Analyzed: 09/08/98 Reported: 09/15/98
Attention: Fran Thie		

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	5.0	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	88

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

**SEQUOIA ANALYTICAL** - ELAP #1624




---

Mike Gregory  
Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
 404 N. Wiget Lane  
 819 Striker Avenue, Suite 8  
 1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
 Walnut Creek, CA 94598  
 Sacramento, CA 95834  
 Petaluma, CA 94954

(650) 364-9600  
 (925) 988-9600  
 (916) 921-9600  
 (707) 792-1865

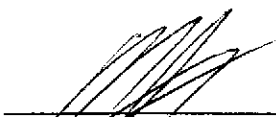
FAX (650) 364-9233  
 FAX (925) 988-9673  
 FAX (916) 921-0100  
 FAX (707) 792-0342

Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-1740/980825-R2 Sample Descript: C-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9808F95-03	Sampled: 08/25/98 Received: 08/26/98 Analyzed: 09/08/98 Reported: 09/15/98
Attention: Fran Thie		

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	290
Methyl t-Butyl Ether	125	3600
Benzene	0.50	24
Toluene	0.50	0.72
Ethyl Benzene	0.50	0.87
Xylenes (Total)	0.50	1.9
Chromatogram Pattern: Unidentified HC		C6-C12+
Weathered Gas		C6-C12
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70 130	102

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

**SEQUOIA ANALYTICAL** - ELAP #1624

  
 \_\_\_\_\_  
 Mike Gregory  
 Project Manager



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
Wainut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
(925) 988-9600  
(916) 921-9600  
(707) 792-1865

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Fran Thie	Client Proj. ID: Chevron 9-1740/980825-R2 Sample Descript: TB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9808F95-04	Sampled: 08/25/98 Received: 08/26/98 Analyzed: 09/08/98 Reported: 09/15/98
--	---	---

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	5.0	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	93

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

**SEQUOIA ANALYTICAL** - ELAP #1624




---

Mike Gregory  
Project Manager





**Sequoia  
Analytical**

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North. Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
(925) 988-9600  
(916) 921-9600  
(707) 792-1865

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112  
Attention: Fran Thie

Client Proj. ID: Chevron 9-1740/980825-R2

Received: 08/26/98

Lab Proj. ID: 9808F95

Reported: 09/15/98

### 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.).

**SEQUOIA ANALYTICAL**

  
Mike Gregory  
Project Manager



Fax copy of Lab Report and COC to Chevron Contact:  No 89

Chain-of-Custody

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

Project Number 9-1740  
 Address 6550 Moraga Ave., Oakland, CA  
 Sample Project Number 980825-R2  
 Consultant Name Blaine Tech Services, Inc.  
 Address 1680 Rogers Ave., San Jose, CA 95112  
 Project Contact (Name) Fran Thie  
 (Phone) (408) 573-0555 (Fax Number) (408) 573-7771

Chevron Contact (Name) Phil Briggs  
 (Phone) (510) 842-9136  
 Laboratory Name Sequoia  
 Laboratory Release Number 9034861  
 Samples Collected by (Name) CHRIS CAPLANTE  
 Collection Date 8-25-98  
 Signature Chris Caplante

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil, A = Air W = Water, C = Other	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analytes To Be Performed <u>9808 FQS</u>											DO NOT BILL FOR TB-LB			
								BTEX + TPH GAS (8020 + 8015) M, J, K, L	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 (CAP or AA)							Remarks
C-2	1	3	W	D	13:50	HCL	YES	X														
C-3	2	↓	↓	↓	12:35	↓	↓	X														
C-4	3	↓	↓	↓	14:20	↓	↓	X														
TB	4	2	↓	↓	—	↓	↓	X														

Relinquished By (Signature) <u>Chris Caplante</u>	Organization <u>BTS</u>	Date/Time <u>8/26/98 11:00</u>	Received By (Signature) <u>Steve Ten</u>	Organization <u>SEL</u>	Date/Time <u>8/26/98 11:00</u>
Relinquished By (Signature) <u>Steve Ten</u>	Organization	Date/Time <u>8/26/98</u>	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>Jim Downs</u>		Date/Time <u>8/26 12 16</u>

Turn Around Time (Circle Choice)

24 Hrs.  
 48 Hrs.  
 5 Days  
 10 Days  
 As Contracted

AU 26 12 16



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiget Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
(925) 988-9600  
(916) 921-9600  
(707) 792-1865

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Blaine Tech Services, Inc.  
1680 Rogers Ave.  
San Jose, CA 95112  
Attention: Fran Thie

Client Project ID: Chevron 9-1740 / 980825-R2  
Matrix: Liquid

Work Order #: 9808F95 -01

Reported: Sep 16, 1998

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	8090047	8090047	8090047	8090047
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030B	EPA 5030B	EPA 5030B	EPA 5030B

Analyst:	R. Bobel	R. Bobel	R. Bobel	R. Bobel
MS/MSD #:	S808287-01	S808287-01	S808287-01	S808287-01
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/4/98	9/4/98	9/4/98	9/4/98
Analyzed Date:	9/4/98	9/4/98	9/4/98	9/4/98
Instrument I.D.#:	-	-	-	-
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10.8	9.95	10.2	29.9
MS % Recovery:	108	99.5	102	99.7
Dup. Result:	9.78	9.07	9.17	27.1
MSD % Recov.:	97.8	90.7	91.7	90.3
RPD:	9.91	9.25	10.6	9.82
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	LCS090498	LCS090498	LCS090498	LCS090498
Prepared Date:	9/4/98	9/4/98	9/4/98	9/4/98
Analyzed Date:	9/4/98	9/4/98	9/4/98	9/4/98
Instrument I.D.#:	-	-	-	-
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.45	9.0	8.92	26.7
LCS % Recov.:	94.5	90	89.2	89

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

SEQUOIA ANALYTICAL  
Elap #1624

Mike Gregory  
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

9808F95.BLA <1>



# Sequoia Analytical

680 Chesapeake Drive  
404 N. Wiger Lane  
819 Striker Avenue, Suite 8  
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063  
Walnut Creek, CA 94598  
Sacramento, CA 95834  
Petaluma, CA 94954

(650) 364-9600  
(925) 988-9600  
(916) 921-9600  
(707) 792-1865

FAX (650) 364-9233  
FAX (925) 988-9673  
FAX (916) 921-0100  
FAX (707) 792-0342

Blaine Tech Services, Inc.  
1680 Rogers Ave.  
San Jose, CA 95112  
Attention: Fran Thie

Client Project ID: Chevron 9-1740 / 980825-R2  
Matrix: Liquid

Work Order #: 9808F95-02-04

Reported: Sep 16, 1998

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	8090053	8090053	8090053	8090053
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030B	EPA 5030B	EPA 5030B	EPA 5030B

Analyst:	R. Bobel	R. Bobel	R. Bobel	R. Bobel
MS/MSD #:	S808288-02	S808288-02	S808288-02	S808288-02
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/8/98	9/8/98	9/8/98	9/8/98
Analyzed Date:	9/8/98	9/8/98	9/8/98	9/8/98
Instrument I.D.#:	-	-	-	-
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.21	8.7	8.57	25.7
MS % Recovery:	92.1	87	85.7	85.7
Dup. Result:	9.25	8.77	8.56	25.7
MSD % Recov.:	92.5	87.7	85.6	85.7
RPD:	0.433	0.801	0.117	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	LCS090898	LCS090898	LCS090898	LCS090898
Prepared Date:	9/8/98	9/8/98	9/8/98	9/8/98
Analyzed Date:	9/8/98	9/8/98	9/8/98	9/8/98
Instrument I.D.#:	-	-	-	-
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.42	8.96	8.74	26.2
LCS % Recov.:	94.2	89.6	87.4	87.3

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

SEQUOIA ANALYTICAL  
Elap #1624

Mike Gregory  
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

9808F95.BLA <2>

# **Field Data Sheets**



## CHEVRON WELL MONITORING DATA SHEET

Project #: 980825-RZ	Station #: 91740
Sampler: Chris	Date: 8-25-98
Well I.D.: C-2	Well Diameter: (2) 3 4 6 8
Total Well Depth: 26.90	Depth to Water: 4.90
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVE</u> 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 Disposable Bailer Middleburg <input checked="" type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer Disposable Bailer <input checked="" type="checkbox"/> Extraction Port Other: _____
--	---

3.52	x	3	=	10.56	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
13:36	63.6	7.1	850	4	Clear
13:40	62.0	7.1	1000	8	
13:44	62.0	7.3	1000	12	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 12
Sampling Time: 13:50	Sampling Date: 8-25-98
Sample I.D.: C-2	Laboratory: <u>Sequoia</u> GTEL N. Creek Assoc. Labs
Analyzed for: <u>TPH-G BTEX MTBE</u> TPH-D Other:	
Duplicate I.D.:	Analyzed for: TPH-G BTEX MTBE TPH-D Other:
D.O. (if req'd):	Pre-purge: <input type="text"/> mg/L Post-purge: <input type="text"/> mg/L
O.R.P. (if req'd):	Pre-purge: <input type="text"/> mV Post-purge: <input type="text"/> mV

# CHEVRON WELL MONITORING DATA SHEET

Project #: 980825-RZ	Station #: 9-1740
Sampler: Chris	Date: 8-25-98
Well I.D.: C-3	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 18.85	Depth to Water: 6.53
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 Disposable Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer Disposable Bailer <input checked="" type="checkbox"/> Extraction Port Other: _____
--	---

<u>1.97</u>	x	<u>3</u>	=	<u>5.91</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
12:27		7.5	700	2	clear
12:29		7.5	700	4	
12:31		7.3	700	6	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>6</u>
Sampling Time: <u>12:35</u>	Sampling Date: <u>8-25-98</u>
Sample I.D.: <u>C-3</u>	Laboratory: <u>Sequoia</u> GTEL N. Creek Assoc. Labs
Analyzed for: <u>TPH-G BTEX MTBE</u> TPH-D Other:	
Duplicate I.D.:	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 #: 980925-RZ	Station #: 9-1740
Sampler: Chris	Date: 8-25-98
Well I.D.: C-4	Well Diameter: (2) 3 4 6 8
Total Well Depth: 24.85	Depth to Water: 6.80
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 Disposable Bailer Middleburg 4 Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer Disposable Bailer <input checked="" type="checkbox"/> Extraction Port Other: _____
--	---

2.88	x	3	=	8.64	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
14:05	64.0	7.5	900	3	clear odor screen
14:11	64.0	7.7	900	6	
14:18	64.0	7.6	850	9	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 9
Sampling Time: 14:20	Sampling Date: 8-25-98
Sample I.D.: C-4	Laboratory: (Sequon), GTEL N. Creek Assoc. Labs
Analyzed for: (TPH-G BTEX MTBE) TPH-D Other:	
Duplicate I.D.:	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