

BLAINE  
TECH SERVICES INC.



1680 ROGERS AVENUE  
SAN JOSE, CALIFORNIA 95112-1105  
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ENVIRONMENTAL  
PROTECTION

99 APR 20 AM 9:24

April 8, 1999

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

Need to run TPH in wells w/o  
ORC before closure is considered.  
Specifically in down gradient wells  
MWAB11

#### 4th Quarter 1998 Monitoring at 206142

Fourth Quarter 1998 Groundwater Monitoring at  
Chevron Service Station Number 206142  
333 23rd Ave.  
Oakland, CA

Monitoring Performed on December 30, 1998

#### Groundwater Sampling Report 981230-P-1

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**.

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,



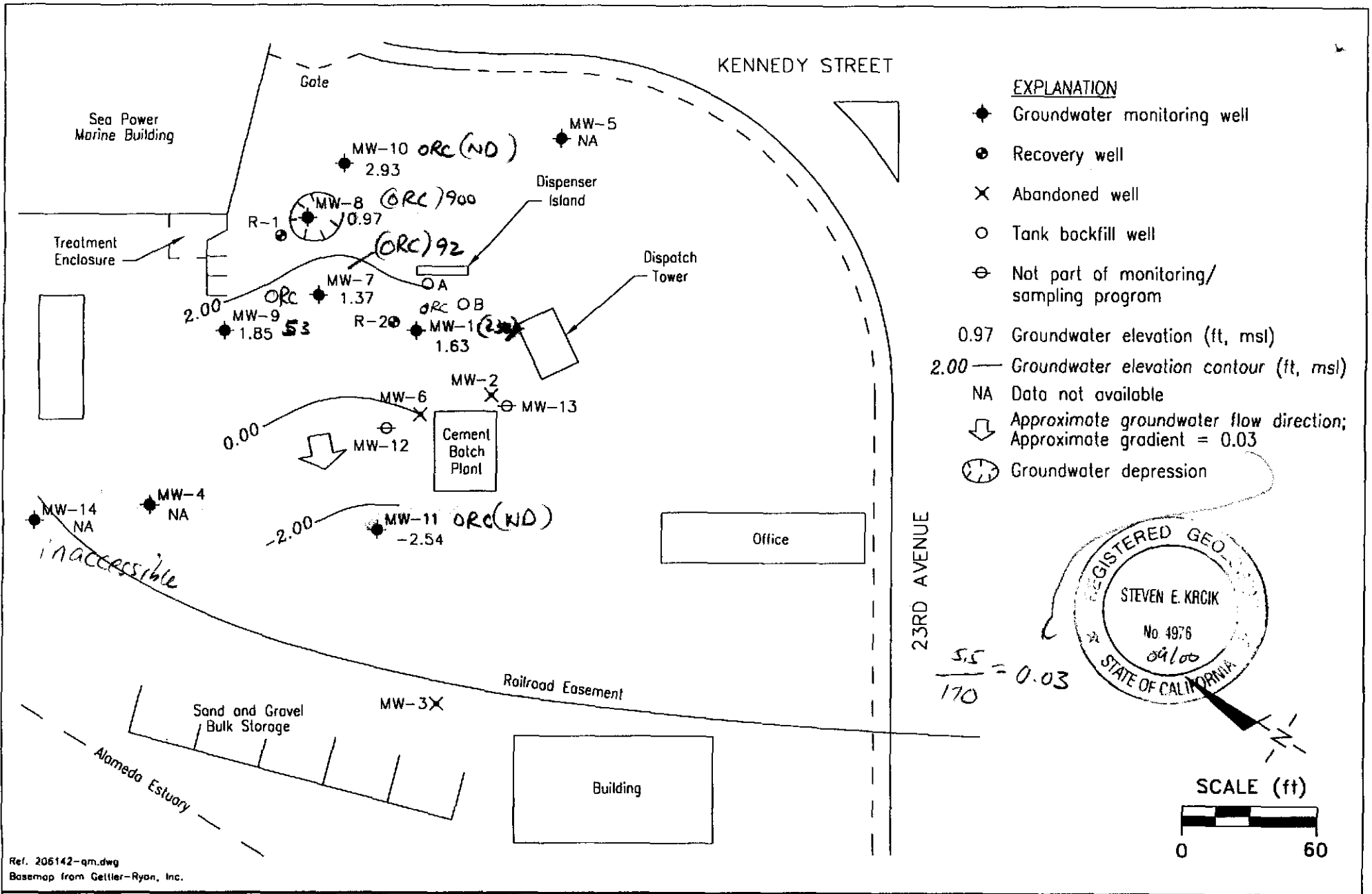
Christine Lillie  
Project Coordinator

CAL/sb

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

cc: **Barney Chan, Alameda County Health Care Services Agency**  
Aaron O'Brien, Geraghty & Miller

# **Professional Engineering Appendix**



Ref. 206142-qm.dwg  
 Basemap from Gettler-Ryan, Inc.

PREPARED BY

**RRM**  
 engineering contracting firm

Chevron/RMC Lonestar Facility CPS #206142  
 333 23rd Avenue  
 Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP,  
 DECEMBER 30, 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	TPH-Diesel
<b>MW-1</b>											
12/21/90	4.70	-3.41	9.77	Free Product (2.07')	--	--	--	--	--	--	--
12/18/93	4.70	-3.73	8.45	Free Product (0.03')	--	--	--	--	--	--	--
03/29/94	4.70	-3.94	9.00	Free Product (0.45')	--	--	--	--	--	--	--
06/09/94	4.70	--	--	--	--	--	--	--	--	--	--
10/04/94	4.70	-3.98	8.71	Free Product (0.04')	--	--	--	--	--	--	--
12/20/94	4.70	-3.14	8.38	Free Product (0.67')	--	--	--	--	--	--	--
03/28/95	4.70	-2.69	7.79	Free Product (0.5')	--	--	--	--	--	--	--
06/30/95	4.70	--	--	--	--	--	--	--	--	--	--
09/24/95	4.70	-2.69	7.79	Free Product (0.5')	--	--	--	--	--	--	--
12/29/95	4.70	--	--	Inaccessible	--	--	--	--	--	--	--
03/24/96	4.70	-2.97	7.68	Free Product (0.01')/ORCs installed	1400*	<0.5	<0.5	<0.5	<0.5	--	59,000
06/16/96	4.70	-3.16	7.86	--	<500	<5.0	<5.0	<5.0	<5.0	--	99,000
12/08/96	4.70	-3.68	8.38	--	280*	<0.5	<0.5	<0.5	<0.5	<5.0	6700
12/08/96	4.70	-3.68	8.38	Silica gel cleanup	--	--	--	--	--	--	5100
06/30/97	10.16	1.51	8.65	--	200*	<0.5	<0.5	<0.5	<0.5	<2.5	950**
06/30/97	10.16	1.51	8.65	1st Silica gel/2nd Silica gel cleanup	--	--	--	--	--	--	600**/600**
10/16/97	10.16	3.80	6.36	ORCs reinstalled	--	--	--	--	--	--	--
12/28/97	10.16	2.66	7.50	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	4700**
06/21/98	10.16	2.28	7.88	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1300**
12/30/98	10.16	1.63	8.53	Silica gel cleanup	<50	<0.5	0.51	<0.5	<0.5	<2.5	230*
<b>MW-2</b>											
06/15/89	--	--	--	--	<200	<0.5	<0.5	<0.5	<0.5	--	--
12/01/92	--	--	--	Abandoned	--	--	--	--	--	--	--

\* Chromatogram pattern indicates an unidentified hydrocarbon.

\*\* Chromatogram pattern indicates an weathered diesel.

## 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	TPH-Diesel
<b>MW-4</b>											
05/28/87	--	--	--	--	--	<0.5	<0.5	<0.5	<0.2	--	<5.0
06/15/89	--	--	--	--	<100	<0.2	<2.0	<2.0	<2.0	--	<0.2
12/21/90	--	--	7.31	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/19/93	--	--	6.64	--	<50	<0.5	<0.5	<0.5	<1.5	--	<50
06/16/93	--	--	8.01	--	210	32	27	2.8	19	--	<50
12/18/93	--	--	7.35	--	79	0.5	1.2	0.5	1.1	--	100
03/29/94	--	--	8.05	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
06/09/94	--	--	8.14	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
10/04/94	--	--	7.31	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
12/20/94	--	--	7.03	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/28/95	--	--	6.83	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
06/30/95	--	--	7.84	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
09/24/95	--	--	7.67	--	<50	<0.5	<0.5	<0.5	<0.5	--	110
12/29/95	--	--	--	Unable to locate	--	--	--	--	--	--	--
03/24/96	--	--	7.41	--	<50	<0.5	<0.5	<0.5	<0.5	--	95
06/16/96	--	--	--	Unable to locate	--	--	--	--	--	--	--
12/08/96	--	--	--	Unable to locate	--	--	--	--	--	--	--
12/30/98	--	--	--	inaccessible	--	--	--	--	--	--	--

*what does this mean? able to locate but not sple?*

## 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	TPH-Diesel
<b>MW-5</b>											
05/28/87	--	--	--	--	--	<0.5	<0.5	<0.5	<2.0	--	<5.0
06/15/89	--	--	--	--	<100	<0.2	<2.0	<2.0	<2.0	--	--
12/21/90	5.43	-3.68	9.11	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
06/16/93	5.43	-3.69	9.12	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
12/18/93	5.43	-3.29	8.72	--	<50	<0.5	<0.5	<0.5	<0.5	--	690
03/29/94	5.43	-3.57	9.00	--	--	--	--	--	--	--	--
06/09/94	5.43	-3.93	9.36	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
10/04/94	5.43	--	--	--	--	--	--	--	--	--	--
12/20/94	5.43	-2.67	8.10	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/28/95	5.43	-2.78	8.21	--	--	--	--	--	--	--	--
06/30/95	5.43	-3.35	8.78	--	<50	<0.5	<0.5	<0.5	<0.5	--	900
09/24/95	5.43	-2.97	8.40	--	--	--	--	--	--	--	--
12/29/95	5.43	-2.96	8.39	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/24/96	5.43	--	--	--	--	--	--	--	--	--	--
06/16/96	5.43	-3.15	8.58	--	<50	<0.5	<0.5	<0.5	<50	--	--
12/08/96	11.11	--	--	No longer sampled	--	--	--	--	--	--	--
12/28/97	11.11	2.74	8.37	--	--	--	--	--	--	--	--
06/21/98	11.11	2.48	8.63	--	--	--	--	--	--	--	--
12/30/98	11.11	--	--	Inaccessible	--	--	--	--	--	--	--

• May want to test due to release from 421 23rd Ave. Site  
 Bay Area Drilling Petroleum.



## 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	TPH-Diesel
<b>MW-7</b>											
06/15/89	--	--	--	--	<100	<0.2	<2.0	<2.0	<2.0	--	--
12/21/90	4.51	-3.38	7.90	Free Product (0.01')	--	--	--	--	--	--	--
06/16/93	4.51	-3.94	8.45	--	<50	<0.5	0.9	<0.5	<0.5	--	<50
12/18/93	4.51	-3.50	8.01	--	<50	<0.5	<0.5	<0.5	<0.5	--	240
03/29/94	4.51	-4.09	8.60	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
06/09/94	4.51	-4.10	8.61	--	<50	<0.5	<0.5	<0.5	<0.5	--	130*
10/04/94	4.51	-3.31	7.82	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
12/20/94	4.51	-3.19	7.70	--	<50	<0.5	<0.5	<0.5	<0.5	--	140
03/28/95	4.51	-3.16	7.67	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
06/30/95	4.51	-3.82	8.33	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
09/24/95	4.51	-3.65	8.16	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
12/29/95	4.51	-3.00	7.51	--	<50	<0.5	<0.5	<0.5	<0.5	--	230*
03/24/96	4.51	-3.17	7.69	Free Product (0.01')/ORCs installed	<50	<0.5	<0.5	<0.5	<0.5	--	81
06/16/96	4.51	-5.86	10.37	--	<50	<0.5	<0.5	<0.5	<0.5	--	190
12/08/96	10.15	--	--	No longer sampled	--	--	--	--	--	--	--
10/16/97	10.15	2.16	7.99	ORCs reinstalled	--	--	--	--	--	--	--
12/28/97	10.15	2.38	7.77	--	--	--	--	--	--	--	--
06/21/98	10.15	2.18	7.97	--	--	--	--	--	--	--	--
12/30/98	10.15	1.37	8.78	Silica gel cleanup	<50	<0.5	<0.5	<0.5	<0.5	<2.5	92*

\* Chromatogram pattern indicates an unidentified hydrocarbon.

## 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	TPH-Diesel
<b>MW-8</b>											
12/21/90	4.93	-3.59	8.53	Free Product (0.02')	--	--	--	--	--	--	--
12/18/93	4.93	--	--	--	--	--	--	--	--	--	--
03/29/94	4.93	-3.46	8.38	--	--	--	--	--	--	--	--
06/09/94	4.93	--	--	--	--	--	--	--	--	--	--
12/20/94	4.93	-2.66	7.58	--	<2500	120	100	<25	100	--	50,000
03/28/95	4.93	-2.16	7.08	--	--	--	--	--	--	--	--
06/30/95	4.93	-3.17	8.09	--	<50	<0.5	<0.5	<0.5	<0.5	--	14,000
09/24/95	4.93	-3.53	8.45	--	--	--	--	--	--	--	--
12/29/95	4.93	-2.55	7.47	--	520	<2.0	<2.0	<2.0	<2.0	--	25,000
03/24/96	4.93	--	--	--	--	--	--	--	--	--	--
06/16/96	4.93	-3.07	7.99	--	59*	<0.5	<0.5	<0.5	<0.5	--	9400
12/08/96	4.93	-2.74	7.67	--	580*	<0.5	<0.5	<0.5	<0.5	<5.0	16,000
12/08/96	4.93	-2.74	7.67	Silica gel cleanup	--	--	--	--	--	--	9300
06/30/97	10.09	-1.56	11.65	--	1700*	<5.0	<5.0	<5.0	<5.0	<25	5300**
06/30/97	10.09	-1.56	11.65	1st Silica gel/2nd Silica gel cleanup	--	--	--	--	--	--	3100**/3000**
10/16/97	10.09	2.29	7.80	ORCs installed	--	--	--	--	--	--	--
12/28/97	10.09	2.56	7.53	No Purge Sample	<50	<0.5	<0.5	<0.5	<0.5	<2.5	2700*
06/21/98	10.09	2.03	8.06	--	57*	<0.5	0.52	<0.5	0.55	<2.5	3500**
12/30/98	10.09	0.97	9.12	Silica gel cleanup	<50	<0.5	<0.5	<0.5	<0.5	<2.5	900**

\* Chromatogram pattern indicates an unidentified hydrocarbon.

\*\* Chromatogram pattern indicates an weathered diesel.

## 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	TPH-Diesel
<b>MW-9</b>											
05/28/87	--	--	--	--	--	<0.5	<0.5	<0.5	<2.0	--	<50
06/15/89	--	--	--	--	<100	<0.2	<2.0	<2.0	<2.0	--	--
12/21/90	--	--	7.86	Sheen	<50	<0.5	<0.5	<0.5	1.0	--	230
06/16/93	4.42	-3.92	8.34	--	<50	<0.5	<0.5	<0.5	<1.5	--	<50
12/18/93	4.42	-3.49	7.91	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/29/94	4.42	-3.43	7.85	--	--	--	--	--	--	--	--
06/09/94	4.42	-4.27	8.69	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
10/04/94	4.42	--	--	--	--	--	--	--	--	--	--
12/20/94	4.42	-3.18	7.60	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/28/95	4.42	-3.16	7.58	--	--	--	--	--	--	--	--
06/30/95	4.42	-3.92	8.34	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
09/24/95	4.42	-3.79	8.21	--	--	--	--	--	--	--	--
12/29/95	4.42	-3.06	7.48	--	<50	<0.5	<0.5	<0.5	<0.5	--	600
03/24/96	4.42	--	--	ORCs installed	--	--	--	--	--	--	--
06/16/96	4.42	-3.83	8.25	--	<50	<0.5	<0.5	<0.5	<0.5	--	810
12/08/96	10.13	--	--	No longer sampled	--	--	--	--	--	--	--
10/16/97	10.13	1.61	8.52	ORCs reinstalled	--	--	--	--	--	--	--
12/28/97	10.13	2.55	7.58	--	--	--	--	--	--	--	--
06/21/98	10.13	2.06	8.07	--	--	--	--	--	--	--	--
12/30/98	10.13	1.85	8.28	Silica gel cleanup	<50	<0.5	<0.5	<0.5	<0.5	<2.5	53*

\* Chromatogram pattern indicates an unidentified hydrocarbon.

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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	TPH-Diesel
<b>MW-10</b>											
06/15/89	--	--	--	--	<100	<0.2	<2.0	<2.0	<2.0	--	--
12/21/90	5.24	-3.68	8.92	--	<50	<0.5	<0.5	<0.5	<0.5	--	80
06/16/93	5.24	-3.73	8.97	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
12/18/93	5.24	-2.63	7.87	--	51*	<0.5	<0.5	<0.5	<0.5	--	12,000
03/29/94	5.24	-3.96	9.20	--	--	--	--	--	--	--	--
06/09/94	5.24	-4.07	9.31	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
10/04/94	5.24	--	--	--	--	--	--	--	--	--	--
12/20/94	5.24	-3.06	8.30	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/28/95	5.24	-3.02	8.26	--	--	--	--	--	--	--	--
06/30/95	5.24	-3.71	8.95	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
09/24/95	5.24	-3.63	8.87	--	--	--	--	--	--	--	--
12/29/95	5.24	-2.79	8.03	--	<50	<0.5	<0.5	<0.5	<0.5	--	1800*
03/24/96	5.24	--	--	ORCs installed	--	--	--	--	--	--	--
06/16/96	5.24	-3.53	8.77	--	<50	<0.5	<0.5	<0.5	<0.5	--	300
12/08/96	10.91	--	--	No longer sampled	--	--	--	--	--	--	--
10/16/97	10.91	2.31	8.60	ORCs reinstalled	--	--	--	--	--	--	--
12/28/97	10.91	2.59	8.32	--	--	--	--	--	--	--	--
06/21/98	10.91	2.18	8.73	--	--	--	--	--	--	--	--
12/30/98	10.91	2.93	7.98	Silica gel cleanup	<50	<0.5	<0.5	<0.5	<0.5	<2.5	<50

\* Chromatogram pattern indicates an unidentified hydrocarbon.

## 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	TPH-Diesel
<b>MW-11</b>											
08/21/87	--	--	--	--	--	<0.5	<0.5	<0.5	<2.0	--	<0.1
06/21/89	--	--	--	--	<100	<0.2	<2.0	<2.0	<2.0	--	--
12/21/90	--	--	8.59	Sheen	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/19/93	4.37	-3.20	7.57	--	<50	<0.5	<0.5	<0.5	<1.5	--	<50
06/16/93	4.37	-4.47	8.84	--	<50	<0.5	<0.5	<0.5	<1.5	--	<50
12/18/93	4.37	-3.89	8.26	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/29/94	4.37	-4.70	9.07	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
06/09/94	4.37	-4.77	9.14	--	<50	<0.5	<0.5	<0.5	<0.5	--	150*
10/04/94	4.37	-3.57	7.94	--	<50	<0.5	1.0	<0.5	<0.5	--	<50
12/20/94	4.37	-3.31	7.68	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/28/95	4.37	-2.53	6.90	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
06/30/95	4.37	-4.44	8.81	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
09/24/95	4.37	-4.43	8.80	--	<50	<0.5	<0.5	<0.5	<0.5	--	110
12/29/95	4.37	-3.85	8.22	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/24/96	4.37	-4.09	8.46	--	<50	<0.5	<0.5	<0.5	<0.5	--	80
06/16/96	4.37	-4.37	8.74	--	<50	<0.5	<0.5	<0.5	<0.5	--	868
12/08/96	4.37	-3.38	7.75	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<50
06/30/97	6.71	-1.92	8.63	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	71**
06/30/97	6.71	-1.92	8.63	Silica gel cleanup	--	--	--	--	--	--	<50
10/16/97	6.71	--	--	Inaccessible	--	--	--	--	--	--	--
12/28/97	6.71	-0.94	7.65	ORCs installed	<50	<0.5	<0.5	<0.5	<0.5	<2.5	82**
06/21/98	6.71	-1.41	8.12	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	89*
12/30/98	6.71	-1.41	9.25	Silica gel cleanup	<50	<0.5	<0.5	<0.5	<0.5	<2.5	<50

\* Chromatogram pattern indicates an unidentified hydrocarbon.

\*\* Chromatogram pattern indicates weathered diesel.

## 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	TPH-Diesel
<b>MW-12</b>											
08/21/87	--	--	--	--	--	<0.5	<0.5	<0.5	<2.0	--	<0.1
12/18/93	--	--	--	--	--	--	--	--	--	--	--
03/29/94	--	--	--	--	--	--	--	--	--	--	--
06/09/94	--	--	--	Inaccessible	--	--	--	--	--	--	--
<b>MW-13</b>											
08/21/87	--	--	--	--	--	<0.5	<0.5	<0.5	<2.0	--	<0.1
06/15/89	--	--	--	--	<100	<0.2	<2.0	<2.0	<2.0	--	--
03/19/93	4.73	-2.89	7.62	--	<50	<0.5	<0.5	<0.5	<1.5	--	<50
06/16/93	4.73	-3.83	8.56	--	<50	<0.5	<0.5	<0.5	<1.5	--	<50
12/18/93	4.73	-3.38	8.11	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/29/94	4.73	-3.92	8.65	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
06/09/94	4.73	-3.87	8.60	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
10/04/94	4.73	-3.58	8.31	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
12/20/94	4.73	-3.19	7.92	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/28/95	4.73	-3.05	7.78	--	<50	<0.5	<0.5	<0.5	<0.5	--	<50
06/30/95	4.73	--	--	--	--	--	--	--	--	--	--
09/24/95	4.73	-3.61	8.34	--	<50	<0.5	<0.5	<0.5	<0.5	--	180
12/29/95	4.73	--	--	Unable to locate	--	--	--	--	--	--	--
03/24/96	4.73	-3.01	7.74	**	<50	<0.5	<0.5	<0.5	<0.5	--	<50
03/24/96	4.73	-3.34	8.07	--	<50	<0.5	<0.5	<0.5	<0.5	--	57*

NO LONGER MONITORED OR SAMPLED

\* Chromatogram pattern indicates an unidentified hydrocarbon.

\*\* Total Dissolved Solids by EPA 160.1 detected at 1600 ppb.

## 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	TPH-Diesel
<b>MW-14</b>											
06/30/97	5.56	-1.92	7.48	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	86**
06/30/97	5.56	-1.92	7.48	--	--	--	--	--	--	--	<50
10/16/97	5.56	-1.86	7.42	--	--	--	--	--	--	--	--
12/28/97	5.56	-1.46	7.02	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	97**
06/21/98	5.56	-1.47	7.03	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	65**
12/30/98	5.56	--	--	Inaccessible	--	--	--	--	--	--	--

*What's this mean*

\* Chromatogram pattern indicates weathered diesel.

\*\* Chromatogram pattern indicates an unidentified hydrocarbon.

## 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	TPH-Diesel
<b>TRIP BLANK</b>											
03/19/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
06/16/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--
12/18/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/29/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/09/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/20/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/28/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/30/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/24/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/29/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/24/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/16/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/08/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
06/30/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/28/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/21/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/30/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--



## Cumulative Table of Well Data and Analytical Results

### TABLE OF ADDITIONAL ANALYSES

Analytical results are in parts per billion (ppm)

DATE	ORP (mV)	DO	Nitrate	Notes	Sulfate	Ferrous Iron	Phosphate	Ammonia	Alkalinity
<b>MW-1</b>									
11/09/95	--	0.90	--	--	--	--	--	--	--
06/16/96	--	1.34	>5.0	ORCs Installed	--	--	2.0	>10	--
12/08/96	--	1.39	13.00	--	14	2.6	--	--	--
06/30/97	-16.50	1.00	<1.0	--	10	5.6	--	--	--
10/16/97	--	0.51	--	ORCs Reinstalled	--	--	--	--	--
12/28/97	22.90	2.30	7.60	No Purge Sampling	7.3	1.7	--	--	--
06/21/98	102	1.60	<1.0	--	7.1	0.35	--	--	570
<b>MW-4</b>									
11/09/95	--	0.37	0.20	--	--	--	0	0.01	--
06/16/96	--	--	--	Unable to locate	--	--	--	--	--
12/08/96	--	--	--	Unable to locate	--	--	--	--	--
12/30/98	--	--	--	Inaccessible	--	--	--	--	--
<b>MW-5</b>									
11/09/95	--	0.85	0.10	--	--	--	1.5	0.1	--
06/16/96	--	0.78	--	--	--	--	--	--	--
12/28/97	--	5.24	--	--	--	--	--	--	--
06/21/98	--	2.30	--	--	--	--	--	--	--
12/30/98	--	--	--	Inaccessible	--	--	--	--	--

## Cumulative Table of Well Data and Analytical Results

Analytical results are in parts per billion (ppm)

DATE	ORP (mV)	DO	Nitrate	Notes	Sulfate	Ferrous Iron	Phosphate	Ammonia	Alkalinity
<b>MW-7</b>									
11/09/95	--	0.42	--	--	--	--	--	--	--
06/16/96	--	OR	>5.0	ORCs Installed	--	--	4.0	>10	--
10/16/97	--	0.73	--	ORCs Reinstalled	--	--	--	--	--
12/28/97	--	1.10	--	--	--	--	--	--	--
06/21/98	--	0.58	--	--	--	--	--	--	--
12/30/98	96.00	2.10	71	--	56	0.36	--	--	590
<b>MW-8</b>									
11/09/95	--	0.95	--	--	--	--	--	--	--
06/16/96	--	0.29	0.00	--	--	--	0.6	0.6	--
12/08/96	-35.00	0.51	<0.10	--	3.0	6.1	--	--	--
06/30/97	-50.20	9.50	<1.0	--	17	0.22	--	--	--
10/16/97	--	1.84	--	ORCs Installed	--	--	--	--	--
12/28/97	41.60	3.08	<5.0	No Purge Sampling	5.3	0.25	--	--	--
06/21/98	--	2.80	<1.0	--	11	0.66	--	--	--
12/30/98	87.00	2.00	<1.0	--	7.7	0.27	--	--	980
<b>MW-9</b>									
11/09/95	--	0.58	--	--	--	--	--	--	--
06/16/96	--	14.66	>5.0	ORCs Installed	--	--	>10	1.0	--
10/16/97	--	3.49	--	ORCs Reinstalled	--	--	--	--	--
12/28/97	--	6.95	--	--	--	--	--	--	--
06/21/98	--	1.67	--	--	--	--	--	--	--
12/30/98	121.00	1.40	8.40	--	16	0.14	--	--	560

## Cumulative Table of Well Data and Analytical Results

Analytical results are in parts per billion (ppm)

DATE	ORP (mV)	DO	Nitrate	Notes	Sulfate	Ferrous Iron	Phosphate	Ammonia	Alkalinity
<b>MW-10</b>									
11/09/95	--	1.49	--	--	--	--	--	--	--
06/16/96	--	3.30	1.00	ORCs Installed	--	--	6.0	>10	--
10/16/97	--	8.06	--	ORCs Reinstalled	--	--	--	--	--
12/28/97	--	>19.99	--		--	--	--	--	--
06/21/98	--	18.57	--		--	--	--	--	--
12/30/98	131	1.0	8.8		110	0.13	--	--	320
<b>MW-11</b>									
11/09/95	--	0.52	0.20	--	--	--	5.0	0.1	--
06/16/96	--	0.25	--		--	--	--	--	--
12/08/96	165.00	0.31	340		99	<0.010	--	--	--
06/30/97	-25.00	2.99	350		140	0.015	--	--	--
10/16/97	--	--	--	Inaccessible	--	--	--	--	--
12/28/97	21.50	2.00	240	ORCs Installed	130	0.93	--	--	--
06/21/98	--	0.50	190		190	0.022	--	--	--
12/30/98	136	1.20	220		140	0.041	--	--	290
<b>MW-13</b>									
11/09/95	--	--	--	Unable to locate	--	--	--	--	--
06/16/96	--	0.52	0.10		--	--	0.4	0.2	--

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

Analytical results are in parts per billion (ppm)

DATE	ORP (mV)	DO	Nitrate	Notes	Sulfate	Ferrous Iron	Phosphate	Ammonia	Alkalinity
<b>MW-14</b>									
06/30/97	-31.20	4.56	<1.0	--	41	0.29	--	--	--
10/16/97	--	0.85	--		--	--	--	--	--
12/28/97	133.00	2.75	10.00		35	0.028	--	--	--
06/21/98	--	1.00	28.00		44	0.15	--	--	--
<b>R-2</b>									
11/09/95	--	0.44	0.60	--	--	--	0	0	--
<b>A</b>									
11/09/95	--	0.42	1.00	--	--	--	0	4.0	--

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on December 30, 1998.

Earlier field data and analytical results were provided by Gettler-Ryan.

Elevations surveyed on 09/26/93 by Field Designs relative to City of Oakland Benchmark #3457 and corrected to Mean Sea Level (msl).

(Benchmark datum is 2.998 feet off of msl.)

Site surveyed by Virgil Chavez Land Surveying on 07/03/97. Top of casing elevation measured using the top of curb on the northerly side of 23rd Avenue, using the northeasterly top of rail (of railroad tracks running through site) as reference line. (Benchmark Elevation = 17.91 feet, msl).

**ABBREVIATIONS:**

TPH = Total Petroleum Hydrocarbons

MTBE = Methyl t-Butyl Ether

ORP = Oxidation Reduction Potential

DO = Dissolved Oxygen

mV = Millivolts

OR = Over-range of instrument

# 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

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(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 206142/981231-P1	Sampled: 12/31/98 Received: 12/31/98 Analyzed: see below
Attention: Christine Lillie	Sample Descript: LIQUID,MW-11 Lab Proj. ID: 9812114-01	Reported: 01/18/99

## LABORATORY ANALYSIS

Analyte	Units	Detection Limit	Method	Analyst	Date Analyzed	Sample Results
Alkalinity: Total	mg CaCO <sub>3</sub> /L	40	SM 2320	KC	01/04/99	290
Ferrous Iron	mg/L	0.010	3500A Mod	RD	01/06/99	0.041
Nitrate as Nitrate	mg/L	1.0	EPA 300.0	GF	01/05/99	220
Sulfate	mg/L	1.0	EPA 300.0	GF	01/05/99	140

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

**SEQUOIA ANALYTICAL** - ELAP #1210

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

Please Note:  
This sample was preserved in accordance with EPA approved preservation methods.





# Sequoia Analytical

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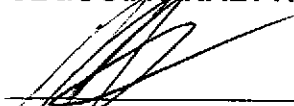
Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1	Sampled: 12/31/98 Received: 12/31/98 Analyzed: see below
Attention: Christine Lillie	Sample Descript: LIQUID,MW-10 Lab Proj. ID: 981214-02	Reported: 01/18/99

## LABORATORY ANALYSIS

Analyte	Units	Detection Limit	Method	Analyst	Date Analyzed	Sample Results
Alkalinity: Total	mg CaCO <sub>3</sub> /L	40	SM 2320	KC	01/04/99	320
Ferrous Iron	mg/L	0.010	3500A Mod	RD	01/06/99	0.13
Nitrate as Nitrate	mg/L	1.0	EPA 300.0	GF	01/05/99	8.8
Sulfate	mg/L	1.0	EPA 300.0	GF	01/05/99	110

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

**SEQUOIA ANALYTICAL** - ELAP #1210

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

Please Note:  
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**Sequoia  
Analytical**

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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1	Sampled: 12/31/98 Received: 12/31/98 Analyzed: see below
Attention: Christine Lillie	Sample Descript: LIQUID, MW-9 Lab Proj. ID: 9812114-03	Reported: 01/18/99

**LABORATORY ANALYSIS**

Analyte	Units	Detection Limit	Method	Analyst	Date Analyzed	Sample Results
Alkalinity: Total	mg CaCO3/L	40	SM 2320	KC	01/04/99	560
Ferrous Iron	mg/L	0.010	3500A Mod	RD	01/06/99	0.14
Nitrate as Nitrate	mg/L	1.0	EPA 300.0	GF	01/05/99	8.4
Sulfate	mg/L	1.0	EPA 300.0	GF	01/05/99	16

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Mike Gregory  
Project Manager

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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1	Sampled: 12/31/98 Received: 12/31/98 Analyzed: see below
Attention: Christine Lillie	Sample Descript: LIQUID,MW-7 Lab Proj. ID: 981214-04	Reported: 01/18/99

## LABORATORY ANALYSIS

Analyte	Units	Detection Limit	Method	Analyst	Date Analyzed	Sample Results
Alkalinity: Total	mg CaCO3/L	40	SM 2320	KC	01/04/99	590
Ferrous Iron	mg/L	0.010	3500A Mod	RD	01/06/99	0.36
Nitrate as Nitrate	mg/L	1.0	EPA 300.0	GF	01/05/99	71
Sulfate	mg/L	1.0	EPA 300.0	GF	01/05/99	56

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

**SEQUOIA ANALYTICAL** - ELAP #1210

Mike Gregory  
Project Manager

Please Note:  
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# Sequoia Analytical

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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1	Sampled: 12/31/98 Received: 12/31/98 Analyzed: see below
Attention: Christine Lillie	Sample Descript: LIQUID, MW-1 Lab Proj. ID: 9812114-05	Reported: 01/18/99

## LABORATORY ANALYSIS

Analyte	Units	Detection Limit	Method	Analyst	Date Analyzed	Sample Results
Alkalinity: Total	mg CaCO <sub>3</sub> /L	40	SM 2320	KC	01/04/99	570
Ferrous Iron	mg/L	0.010	3500A Mod	RD	01/06/99	0.35
Nitrate as Nitrate	mg/L	1.0	EPA 300.0	GF	01/05/99	N.D.
Sulfate	mg/L	1.0	EPA 300.0	GF	01/05/99	7.1

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

**SEQUOIA ANALYTICAL** - ELAP #1210

Mike Gregory  
Project Manager

Please Note:  
This sample was preserved in accordance with EPA approved preservation methods.





# Sequoia Analytical

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(707) 792-1865 FAX (707) 792-0342

Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1	Sampled: 12/31/98 Received: 12/31/98 Analyzed: see below
Attention: Christine Lillie	Sample Descript: LIQUID,MW-8 Lab Proj. ID: 9812114-06	Reported: 01/18/99

## LABORATORY ANALYSIS

Analyte	Units	Detection Limit	Method	Analyst	Date Analyzed	Sample Results
Alkalinity: Total	mg CaCO3/L	80	SM 2320	KC	01/04/99	980
Ferrous Iron	mg/L	0.010	3500A Mod	RD	01/06/99	0.27
Nitrate as Nitrate	mg/L	1.0	EPA 300.0	GF	01/05/99	N.D.
Sulfate	mg/L	1.0	EPA 300.0	GF	01/05/99	7.7

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

**SEQUOIA ANALYTICAL** - ELAP #1210

Mike Gregory  
Project Manager

Please Note:  
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FAX (707) 792-0342

Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-11 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9812114-01	Sampled: 12/31/98 Received: 12/31/98 Analyzed: 01/13/99 Reported: 01/18/99
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QC Batch Number: GC011399802009A  
Instrument ID: HP9

## Total Purgeable 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	96

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

**SEQUOIA ANALYTICAL** - ELAP #1271

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





**Sequoia  
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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-11 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9812114-01	Sampled: 12/31/98 Received: 12/31/98 Extracted: 01/06/99 Analyzed: 01/07/99 Reported: 01/18/99
Attention: Christine Lillie		

QC Batch Number: GC0106990HBPEXA  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH) with Silica Gel Cleanup**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50 150	76

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

**SEQUOIA ANALYTICAL** - ELAP #1210

Mike Gregory  
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Christine Lillie	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-10 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9812114-02	Sampled: 12/31/98 Received: 12/31/98 Analyzed: 01/13/99 Reported: 01/18/99
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QC Batch Number: GC011399802009A  
Instrument ID: HP9

**Total Purgeable 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	94

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

**SEQUOIA ANALYTICAL** - ELAP #1271

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





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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Christine Lillie	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-10 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9812114-02	Sampled: 12/31/98 Received: 12/31/98 Extracted: 01/06/99 Analyzed: 01/07/99 Reported: 01/18/99
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QC Batch Number: GC0106990HBPEXA  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH) with Silica Gel Cleanup**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	70

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

**SEQUOIA ANALYTICAL** - ELAP #1210

  
Mike Gregory  
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-9 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9812114-03	Sampled: 12/31/98 Received: 12/31/98 Analyzed: 01/13/99 Reported: 01/18/99
Attention: Christine Lillie		

QC Batch Number: GC011399802009A  
Instrument ID: HP9

**Total Purgeable 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:		N.D.
<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 #1271

  
Mike Gregory  
Project Manager







# Sequoia Analytical

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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-9 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9812114-03	Sampled: 12/31/98 Received: 12/31/98 Extracted: 01/06/99 Analyzed: 01/08/99 Reported: 01/18/99
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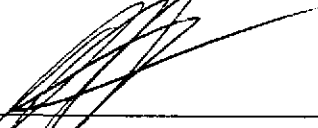
QC Batch Number: GC0106990HBPEXA  
Instrument ID: GCHP5A

## Total Extractable Petroleum Hydrocarbons (TEPH) with Silica Gel Cleanup

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50 C9-C24	53 Unid.-HC
<b>Surrogates</b> n-Pentacosane (C25)	<b>Control Limits %</b> 50                      150	<b>% Recovery</b> 85

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

**SEQUOIA ANALYTICAL** - ELAP #1210

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





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Christine Lillie	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-7 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9812114-04	Sampled: 12/31/98 Received: 12/31/98 Analyzed: 01/13/99 Reported: 01/18/99
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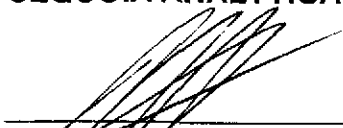
QC Batch Number: GC011399802009A  
Instrument ID: HP9

**Total Purgeable 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:		N.D.
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
Trifluorotoluene	70                      130	96

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

**SEQUOIA ANALYTICAL** - ELAP #1271

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





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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Christine Lillie	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-7 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 981214-04	Sampled: 12/31/98 Received: 12/31/98 Extracted: 01/06/99 Analyzed: 01/08/99 Reported: 01/18/99
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QC Batch Number: GC0106990HBPEXA  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH) with Silica Gel Cleanup**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50 C9-C24	92 Unid.-HC
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	80

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

**SEQUOIA ANALYTICAL** - ELAP #1210

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





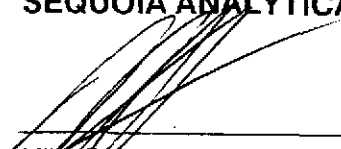
Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9812114-05	Sampled: 12/31/98 Received: 12/31/98 Analyzed: 01/13/99 Reported: 01/18/99
Attention: Christine Lillie		
QC Batch Number: GC011399802009A Instrument ID: HP9		

**Total Purgeable 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.
<b>Toluene</b>	<b>0.50</b>	<b>0.51</b>
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		N.D.
<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 #1271

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





**Sequoia  
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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-1 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9812114-05	Sampled: 12/31/98 Received: 12/31/98 Extracted: 01/06/99 Analyzed: 01/08/99 Reported: 01/18/99
Attention: Christine Lillie		

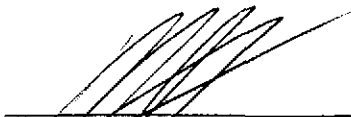
QC Batch Number: GC0106990HBPEXA  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH) with Silica Gel Cleanup**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50 C9-C24	230 Unid.-HC
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	71

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

**SEQUOIA ANALYTICAL** - ELAP #1210

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





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-8 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9812114-06	Sampled: 12/31/98 Received: 12/31/98 Analyzed: 01/14/99 Reported: 01/18/99
Attention: Christine Lillie		

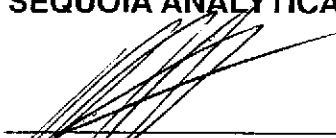
QC Batch Number: GC011499802009A  
Instrument ID: HP9

**Total Purgeable 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:		N.D.
<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 #1271

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





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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: MW-8 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9812114-06	Sampled: 12/31/98 Received: 12/31/98 Extracted: 01/06/99 Analyzed: 01/08/99 Reported: 01/18/99
Attention: Christine Lillie		

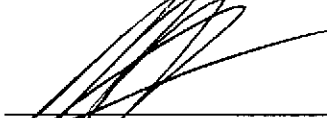
QC Batch Number: GC0106990HBPEXA  
Instrument ID: GCHP5A

**Total Extractable Petroleum Hydrocarbons (TEPH) with Silica Gel Cleanup**

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50 C9-C24	900 W-diesel
<b>Surrogates</b>	<b>Control Limits %</b>	<b>% Recovery</b>
n-Pentacosane (C25)	50                      150	78

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

**SEQUOIA ANALYTICAL - ELAP #1210**

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





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 206142/981231-P1 Sample Descript: TB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9812114-07	Sampled: 12/31/98 Received: 12/31/98 Analyzed: 01/13/99 Reported: 01/18/99
Attention: Christine Lillie		

QC Batch Number: GC011399802005A  
Instrument ID: HP5

**Total Purgeable 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	94

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

**SEQUOIA ANALYTICAL** - ELAP #1271

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







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Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112  
Attention: Christine Lillie

Client Proj. ID: Chevron 206142/981231-P1

Received: 12/31/98

Lab Proj. ID: 9812114

Reported: 01/18/99

### LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 28 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





**Sequoia  
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Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112  
Attention: Christine Lillie

Client Project ID: Chevron 206142/981231-P1

QC Sample Group: 9812/14-01-06

Reported: Jan 18, 1999

**QUALITY CONTROL DATA REPORT**

Matrix: Liquid  
Method: EPA 8015A  
Analyst: A. PORTER

**ANALYTE** Diesel

QC Batch #: GC0106990HBPEXA

LCS ID: BLK010699AS/ASD

Date Prepared: 1/6/99

Date Analyzed: 1/7/99

Instrument I.D.#: GCHP5A

Conc. Spiked, ug/L: 1000

Blank Spike, ug/L: 790  
% Recovery: 79

Blank  
Spike Duplicate, ug/L: 700  
% Recovery: 70

Relative % Difference: 12

% Recovery

Control Limits: 50-150

RPD Control Limits: 0-50

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

**SEQUOIA ANALYTICAL**

*Miles 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.





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Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112  
Attention: Christine Lillie

Client Project ID: Chevron 206142/981231-P1

QC Sample Group: 9812114-01-06

Reported: Jan 18, 1999

## QUALITY CONTROL DATA REPORT

Matrix: Liquid  
Method: EPA 310.2  
Analyst: K. Cesar

ANALYTE Alkalinity

QC Batch #: IN0104983102FIB

Sample No.: 9812H80-1  
Date Prepared: 1/4/99  
Date Analyzed: 1/4/99  
Instrument I.D.#: FIA

Sample Conc., mg/L: 510  
Conc. Spiked, mg/L: 100

Matrix Spike, mg/L: 610  
% Recovery: 100

Matrix  
Spike Duplicate, mg/L: 600  
% Recovery: 90

Relative % Difference: 11

RPD Control Limits: 0-20

LCS Batch#: LCS010499A

Date Prepared: 1/4/99  
Date Analyzed: 1/4/99  
Instrument I.D.#: FIA

Conc. Spiked, mg/L: 200

LCS Recovery, mg/L: 210  
LCS % Recovery: 105

Percent Recovery Control Limits:

MS/MSD 75-125  
LCS 80-120

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

**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

Mike Gregory  
Project Manager





# Sequoia Analytical

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Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112  
Attention: Christine Lillie

Client Project ID: Chevron 206142/981231-P1

QC Sample Group: 9812114-01-06

Reported: Jan 18, 1999

## QUALITY CONTROL DATA REPORT

<b>Matrix:</b>	Liquid						
<b>Method:</b>	EPA 300.0						
<b>Analyst:</b>	G. Fish						
<b>ANALYTE</b>	Fluoride	Chloride	Nitrite	Bromide	Nitrate	Phosphate	Sulfate

QC Batch #: 0105993000ACD

<b>Sample No.:</b>	9812114-6						
<b>Date Prepared:</b>	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99
<b>Date Analyzed:</b>	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99
<b>Instrument I.D.#:</b>	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1
<b>Sample Conc., mg/L:</b>	N.D.	480	N.D.	8.8	N.D.	N.D.	7.7
<b>Conc. Spiked, mg/L:</b>	100	100	100	100	100	100	100
<b>Matrix Spike, mg/L:</b>	110	580	98	94	93	84	96
<b>% Recovery:</b>	110	100	98	85	93	84	88
<b>Matrix Spike Duplicate, mg/L:</b>	110	580	98	94	93	86	96
<b>% Recovery:</b>	110	100	98	85	93	86	88
<b>Relative % Difference:</b>	0.0	0.0	0.0	0.0	0.0	2.4	0.0
<b>RPD Control Limits:</b>							

LCS Batch#: LCS0105993000ACC

<b>Date Prepared:</b>	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99
<b>Date Analyzed:</b>	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99	1/5/99
<b>Instrument I.D.#:</b>	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1
<b>Conc. Spiked, mg/L:</b>	10	10	10	10	10	10	10
<b>LCS Recovery, mg/L:</b>	11	10	10	9.4	9.6	9.8	9.4
<b>LCS % Recovery:</b>	109	102	100	94	96	98	94

Percent Recovery Control Limits:

MS/MSD	75-125	75-125	75-125	75-125	75-125	75-125	75-125
LCS	90-110	90-110	90-110	90-110	90-110	90-110	90-110

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

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SEQUOIA ANALYTICAL

Mike Gregory  
Project Manager





# Sequoia Analytical

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FAX (707) 792-0342

Blaine Tech Services, Inc.  
1680 Rogers Ave.  
San Jose, CA 95112  
Attention: Christine Lillie

Client Project ID: Chevron 206142/ 981231-P1  
Matrix: Liquid

Work Order #: 9812114 -01-05

Reported: Jan 18, 1999

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BTEX as TPH
QC Batch#:	GC011399802009A	GC011399802009A	GC011399802009A	GC011399802009A	GC011399802009A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	8122464	8122464	8122464	8122464	8122464
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99
Analyzed Date:	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	360 µg/L
Result:	17	20	21	66	310
MS % Recovery:	85	100	105	110	86
Dup. Result:	18	21	22	69	330
MSD % Recov.:	90	105	110	115	92
RPD:	5.7	4.9	4.7	4.4	6.3
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS011399	LCS011399	LCS011399	LCS011399	LCS011399
Prepared Date:	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99
Analyzed Date:	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	360 µg/L
LCS Result:	22	22	23	71	330
LCS % Recov.:	110	110	115	118	92

MS/MSD	60-140	60-140	60-140	60-140	
LCS	70-130	70-130	70-130	70-130	50-150
Control Limits					

SEQUOIA ANALYTICAL  
Elap #1271

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

9812114.BLA <1>





# Sequoia Analytical

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Blaine Tech Services, Inc.  
1680 Rogers Ave.  
San Jose, CA 95112  
Attention: Christine Lillie

Client Project ID: Chevron 206142/ 981231-P1  
Matrix: Liquid

Work Order #: 9812114-06

Reported: Jan 18, 1999

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BTEX as TPH
QC Batch#:	GC011499802009A	GC011499802009A	GC011499802009A	GC011499802009A	GC011499802009A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyt:	C. Westwater	C. Westwater	C. Westwater	C. Westwater	C. Westwater
MS/MSD #:	9010125	9010125	9010125	9010125	9010125
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/14/99	1/14/99	1/14/99	1/14/99	1/14/99
Analyzed Date:	1/14/99	1/14/99	1/14/99	1/14/99	1/14/99
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	360 µg/L
Result:	21	21	22	67	320
MS % Recovery:	105	105	110	112	97
Dup. Result:	22	22	22	68	330
MSD % Recov.:	110	110	110	113	100
RPD:	4.7	4.7	0.0	1.5	3.1
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS011499	LCS011499	LCS011499	LCS011499	LCS011499
Prepared Date:	1/14/99	1/14/99	1/14/99	1/14/99	1/14/99
Analyzed Date:	1/14/99	1/14/99	1/14/99	1/14/99	1/14/99
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	360 µg/L
LCS Result:	22	22	22	69	340
LCS % Recov.:	110	110	110	115	103

MS/MSD	60-140	60-140	60-140	60-140	
LCS	70-130	70-130	70-130	70-130	50-150
Control Limits					

SEQUOIA ANALYTICAL  
Elap #1271

Mike Gregory  
Project Manager

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9812114.BLA <2>





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Blaine Tech Services, Inc.  
1680 Rogers Ave.  
San Jose, CA 95112  
Attention: Christine Lillie

Client Project ID: Chevron 206142/ 981231-P1  
Matrix: Liquid

Work Order #: 9812114-07

Reported: Jan 18, 1999

## QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BTEX as TPH
QC Batch#:	GC011399802005A	GC011399802005A	GC011399802005A	GC011399802005A	GC011399802005A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyt:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	9010070	9010070	9010070	9010070	9010070
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99
Analyzed Date:	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99
Instrument I.D.#:	HP5	HP5	HP5	HP5	HP5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	280 µg/L
Result:	15	17	18	56	280
MS % Recovery:	75	85	90	93	100
Dup. Result:	15	18	19	59	270
MSD % Recov.:	75	90	95	98	96
RPD:	0.0	5.7	5.4	5.2	3.6
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS011399	LCS011399	LCS011399	LCS011399	LCS011399
Prepared Date:	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99
Analyzed Date:	1/13/99	1/13/99	1/13/99	1/13/99	1/13/99
Instrument I.D.#:	HP5	HP5	HP5	HP5	HP5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	280 µg/L
LCS Result:	21	21	21	66	280
LCS % Recov.:	105	105	105	110	100

MS/MSD	60-140	60-140	60-140	60-140	
LCS	70-130	70-130	70-130	70-130	50-150
Control Limits					

SEQUOIA ANALYTICAL  
Elap #1271

Mike Gregory  
Project Manager

**Please Note:**

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9812114.BLA <3>





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Blaine Tech Services, Inc.  
1680 Rogers Ave.  
San Jose, CA 95112  
Attention: Christine Lillie

Client Project ID: Chevron 206142/ 981231-P1  
Matrix: Liquid

Work Order #: 9812114-01-06

Reported: Jan 18, 1999

## QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0105996010MDA	ME0105996010MDA	ME0105996010MDA	ME0105996010MDA
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010

Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	990106901	990106901	990106901	990106901
Sample Conc.:	N.D.	N.D.	0.038	N.D.
Prepared Date:	1/5/99	1/5/99	1/5/99	1/5/99
Analyzed Date:	1/6/99	1/6/99	1/6/99	1/6/99
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Result:	0.88	0.87	1.0	0.94
MS % Recovery:	88	87	96	94
Dup. Result:	0.89	0.87	0.94	0.92
MSD % Recov.:	89	87	90	92
RPD:	1.1	0.0	6.2	2.2
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	LCS010599	LCS010599	LCS010599	LCS010599
Prepared Date:	1/5/99	1/5/99	1/5/99	1/5/99
Analyzed Date:	1/6/99	1/6/99	1/6/99	1/6/99
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
LCS Result:	1.0	1.0	1.0	1.0
LCS % Recov.:	100	100	100	100

MS/MSD	80-120	80-120	80-120	80-120
LCS	80-120	80-120	80-120	80-120
Control Limits				

**Please Note:**

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SEQUOIA ANALYTICAL

Mike Gregory  
Project Manager

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

9812114.BLA <4>







# **Field Data Sheets**



## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>981231-P1</u>	Station #: <u>206142</u>
Sampler: <u>Tail</u>	Date: <u>12-31-98</u>
Well I.D.: <u>MW-1</u>	Well Diameter: 2 3 <u>(4)</u> 6 8
Total Well Depth: <u>19.36</u>	Depth to Water: <u>8.53</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</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
<u>(4)</u> "	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

7.0 x 3 = 21 Gals.  
 1 Case Volume (Gals.)      Specified Volumes      Calculated Volume

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
<u>10:53</u>	<u>66.2</u>	<u>7.0</u>	<u>1300</u>	<u>7</u>	
<u>10:54</u>	<u>65.8</u>	<u>6.9</u>	<u>1600</u>	<u>14</u>	
<u>10:55</u>	<u>65.4</u>	<u>6.9</u>	<u>1900</u>	<u>21</u>	

Did well dewater?    Yes    (No)    Gallons actually evacuated: 21

Sampling Time: 11:05    Sampling Date: 12-31-98

Sample I.D.: MW-1    Laboratory: Sequoia CORE N. Creek Assoc. Labs

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

Duplicate I.D.: \_\_\_\_\_ Analyzed for: TPH-G BTEX MTBE TPH-D Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge: <u>1.6</u> mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge: <u>102</u> mV	Post-purge:	mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: 981231-P1	Station #: 206142
Sampler: PA-1	Date: 12-31-98
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8
Total Well Depth:	Depth to Water:
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 * 0.165

Purge Method: Bailer Disposable Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer Disposable Bailer Extraction Port Other: _____
--	---

_____	X	_____	=	_____ Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
9:15					Inaccessible Well
					Well Covered

Did well dewater? Yes No	Gallons actually evacuated:
Sampling Time:	Sampling Date:
Sample I.D.:	Laboratory: Sequoia CORE 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

## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>981231-P1</u>	Station #: <u>206142</u>
Sampler: <u>Paul</u>	Date: <u>12-31-98</u>
Well I.D.: <u>MW-5</u>	Well Diameter: 2 3 <u>(4)</u> 6 8
Total Well Depth:	Depth to Water:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> <u>Grade</u>	D.O. Meter (if req'd): <u>YSI</u> <u>HACH</u>

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: _____
---	--

_____	X	_____	=	_____	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
<u>9:25</u>					<u>Inaccessible Well</u>
					<u>Well Covered</u>

Did well dewater?	Yes	No	Gallons actually evacuated:
Sampling Time:	Sampling Date:		
Sample I.D.:	Laboratory: <u>Sequoia CORE N. Creek Assoc. Labs</u>		
Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u> Other:			
Duplicate I.D.:	Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u> Other:		
D.O. (if req'd):	Pre-purge:	mg/L	Post-purge: <span style="float: right;">mg/L</span>
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge: <span style="float: right;">mV</span>

## CHEVRON WELL MONITORING DATA SHEET

Project #: 981231-P1	Station #: 206142
Sampler: PAUL	Date: 12-31-98
Well I.D.: MW-7	Well Diameter: 2 3 ④ 6 8
Total Well Depth: 16.85	Depth to Water: 8.78
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 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: \_\_\_\_\_

<u>6.5</u>	X	<u>3</u>	=	<u>19.6</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
10:23	65.4	6.7	1240	7	
10:24	64.8	6.6	1400	14	
10:25	64.6	6.6	1500	21	

Did well dewater?    Yes    No    Gallons actually evacuated: 21

Sampling Time: 10:35    Sampling Date: 12-31-98

Sample I.D.: MW-7    Laboratory: Sequoia CORE N. Creek Assoc. Labs

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

Duplicate I.D.:    Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge: <u>2.1</u> mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge: <u>96</u> mV	Post-purge:	mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>981231-P1</u>	Station #: <u>206147</u>
Sampler: <u>Paul</u>	Date: <u>12-31-98</u>
Well I.D.: <u>MW-8</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>15.65</u>	Depth to Water: <u>9.12</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</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
<u>4"</u>	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

<u>4.2</u>	$\times$	<u>3</u>	$=$	<u>12.7</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
<u>11:25</u>	<u>66.2</u>	<u>7.0</u>	<u>2600</u>	<u>5</u>	
<u>11:26</u>	<u>65.8</u>	<u>7.1</u>	<u>2800</u>	<u>10</u>	
<u>11:27</u>	<u>65.6</u>	<u>7.1</u>	<u>3000</u>	<u>15</u>	

Did well dewater?    Yes    No      Gallons actually evacuated: 15

Sampling Time: 11:35      Sampling Date: 12-31-98

Sample I.D.: MW-8      Laboratory: Sequoia CORE N. Creek Assoc. Labs

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

Duplicate I.D.:      Analyzed for: TPH-G BTEX MTBE TPH-D    Other:

D.O. (if req'd):	<u>Pre-purge:</u> <u>2.0</u> mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd):	<u>Pre-purge:</u> <u>87</u> mV	Post-purge: _____ mV



## CHEVRON WELL MONITORING DATA SHEET

Project #: 981231-P1	Station #: 200147
Sampler: PAC1	Date: 12-31-98
Well I.D.: MW-9	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 19.75	Depth to Water: 8.29
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</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
<u>4"</u>	0.65	Other	radius <sup>2</sup> * 0.163

Purge Method: Bailer Disposable Bailer Middleburg <u>Electric Submersible</u> Extraction Pump Other: _____	Sampling Method: Bailer <u>Disposable Bailer</u> Extraction Port Other: _____
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<u>7.4</u>	x	<u>3</u>	=	<u>223</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
9:56	65.8	6.9	2100	8	
9:57	65.4	7.0	1900	16	
9:58	65.0	7.0	1800	24	

Did well dewater? Yes <u>No</u>	Gallons actually evacuated: <u>24</u>
Sampling Time: <u>10:05</u>	Sampling Date: <u>12-31-98</u>
Sample I.D.: <u>MW-9</u>	Laboratory: <u>Sequoia</u> CORE N. Creek Assoc. Labs
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u> Other: <u>Bio-suite</u>	
Duplicate I.D.:	Analyzed for: TPH-G BTEX MTBE TPH-D Other:
D.O. (if req'd):	Pre-purge: <u>1.4</u> mg/L Post-purge: _____ mg/L
O.R.P. (if req'd):	Pre-purge: <u>121</u> mV Post-purge: _____ mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: <b>981231-P1</b>	Station #: <b>206142</b>
Sampler: <b>PAV1</b>	Date: <b>12-31-98</b>
Well I.D.: <b>MW-10</b>	Well Diameter: 2 3 <b>4</b> 6 8
Total Well Depth: <b>18.60</b>	Depth to Water: <b>7.98</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> 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
<b>4"</b>	0.65	Other	radius <sup>2</sup> * 0.165

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

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

<u>6.9</u>	X	<u>3</u>	=	<u>20.7</u> Gals.
i Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
9:35	66.2	6.8	2600	7	
9:36	65.4	6.7	2700	14	
9:37	65.0	6.7	2900	21	

Did well dewater?    Yes    **No**      Gallons actually evacuated: **21**

Sampling Time: **9:45**      Sampling Date: **12-31-98**

Sample I.D.: **MW-10**      Laboratory: **Sequoia** CORE N. Creek Assoc. Labs

Analyzed for: **TPH-G BTEX MTBE TPH-D**    Other: **bio-suite**

Duplicate I.D.:      Analyzed for: TPH-G BTEX MTBE TPH-D    Other:

D.O. (if req'd):	Pre-purge: <b>1.0</b> mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd):	Pre-purge: <b>131</b> mV	Post-purge: _____ mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: <u>981231-P1</u>	Station #: <u>206142</u>
Sampler: <u>PAUL</u>	Date: <u>12-31-98</u>
Well I.D.: <u>MW-11</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <u>20.55</u>	Depth to Water: <u>9.25</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
<u>2"</u>	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

<u>1.8</u>	x	<u>3</u>	=	<u>5.4</u>	Gals.
i Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
<u>8:45</u>	<u>65.8</u>	<u>6.9</u>	<u>2400</u>	<u>2</u>	
<u>8:49</u>	<u>65.4</u>	<u>6.9</u>	<u>2500</u>	<u>4</u>	
<u>8:53</u>	<u>65.0</u>	<u>6.8</u>	<u>2600</u>	<u>6</u>	

Did well dewater?    Yes    No    Gallons actually evacuated: 6

Sampling Time: 8:59    Sampling Date: 12-31-98

Sample I.D.: MW-11    Laboratory: Sequoia CORE N. Creek Assoc. Labs

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

Duplicate I.D.:    Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	<u>Pre-purge:</u> <u>1.2</u> mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	<u>Pre-purge:</u> <u>136</u> mV	Post-purge:	mV

## CHEVRON WELL MONITORING DATA SHEET

Project #: <b>981231-P1</b>	Station #: <b>206142</b>
Sampler: <b>PAV1</b>	Date: <b>12-31-98</b>
Well I.D.: <b>MW-14</b>	Well Diameter: <b>(2)</b> 3 4 6 8
Total Well Depth:	Depth to Water:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> <input checked="" type="checkbox"/> <b>Grade</b> <input type="checkbox"/>	D.O. Meter (if req'd): <b>YSI</b> <input type="checkbox"/> <b>HACH</b> <input type="checkbox"/>

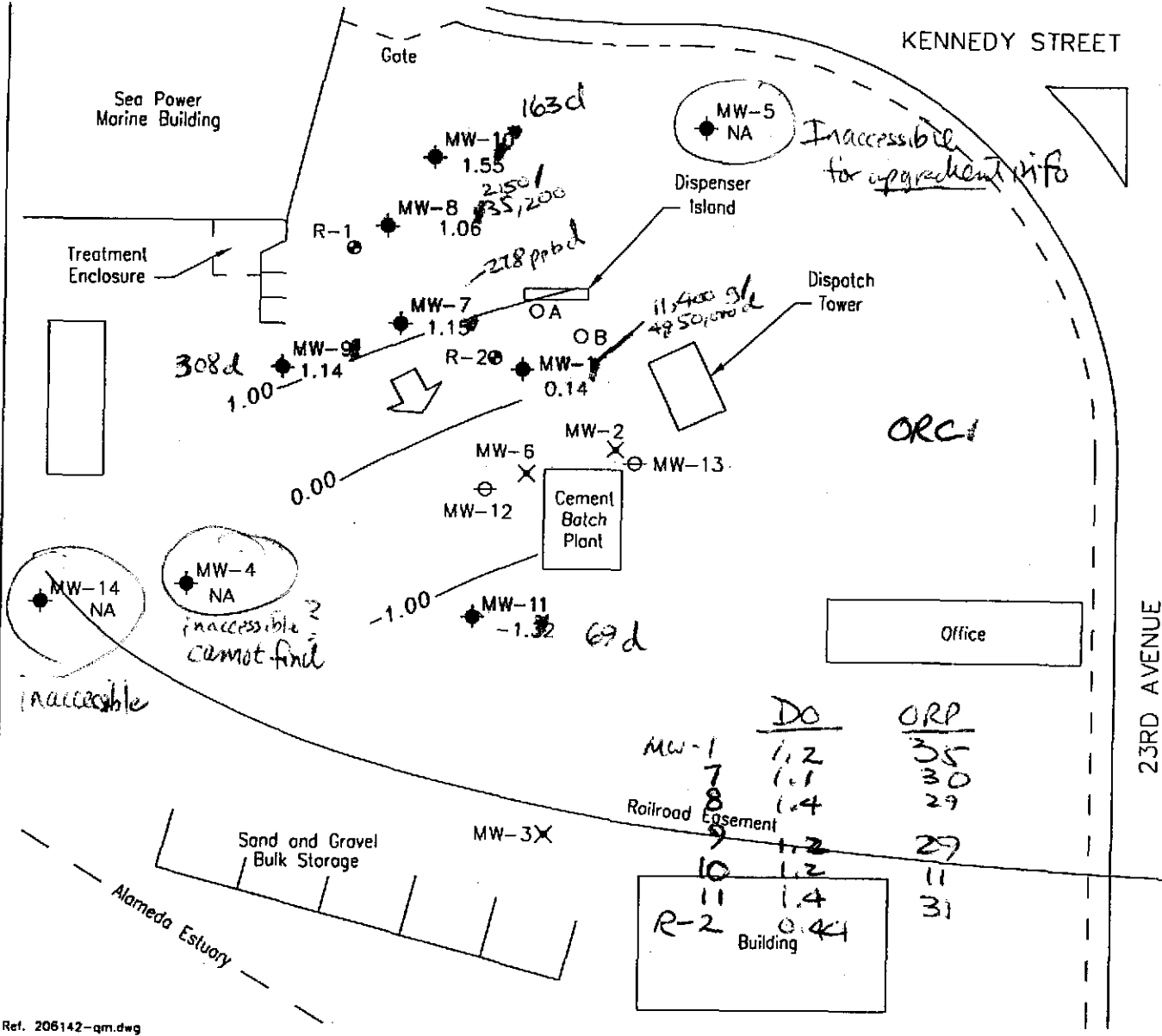
Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius <sup>2</sup> * 0.163

Purge Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Middleburg <input type="checkbox"/> Electric Submersible <input type="checkbox"/> Extraction Pump Other: _____	Sampling Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____
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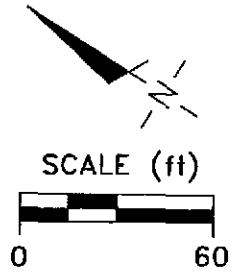
_____ X _____ = _____ Gals.
1 Case Volume (Gals.)      Specified Volumes      Calculated Volume

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
<b>8:32</b>					<b>Inaccessible Well</b>
					<b>Well Covered</b>

Did well dewater? <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>	Gallons actually evacuated:
Sampling Time: _____	Sampling Date: _____
Sample I.D.: _____	Laboratory: <b>Sesuoia CORE N. Creek Assoc. Labs</b>
Analyzed for: <b>TPH-G</b> <b>BTEX</b> <b>MTBE</b> <b>TPH-D</b> Other: _____	
Duplicate I.D.: _____	Analyzed for: <b>TPH-G</b> <b>BTEX</b> <b>MTBE</b> <b>TPH-D</b> Other: _____
D.O. (if req'd): _____	Pre-purge: _____ <b>mg/L</b> Post-purge: _____ <b>mg/L</b>
O.R.P. (if req'd): _____	Pre-purge: _____ <b>mV</b> Post-purge: _____ <b>mV</b>



- EXPLANATION**
- ◆ Groundwater monitoring well
  - Recovery well
  - ✕ Abandoned well
  - Tank backfill well
  - ⊖ Not part of monitoring/sampling program
- 1.14 Groundwater elevation (ft, msl)  
 1.00 — Groundwater elevation contour (ft, msl)  
 NA Data not available  
 ↘ Approximate groundwater flow direction  
 Approximate gradient = 0.02



Ref. 206142-qm.dwg  
 Basemap from Gettler-Ryan, Inc.

PREPARED BY



Chevron/RMC Lonestar Facility CPS #206142  
 333 23rd Avenue  
 Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP,  
 JUNE 24, 1999

FIGURE:  
**1**  
 PROJECT:  
 DAC04

MW1 - Gw elevation - DTW 10.02 lowest ever (contaminated in sand zone)