

4249



Chevron

September 9, 1998

SEP 15 '98 PM 3:27

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

Mr. Barney Chan
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: Former Chevron Service Station # 9-4612
3616 San Leandro Street
Oakland, California**

Dear Mr. Chan:

Enclosed is the Third Quarter Groundwater Monitoring report for 1998 that was prepared by Blaine Tech Services, Inc. for the above noted site. The groundwater samples were analyzed for TPH-g, BTEX and MtBE constituents, with monitoring well MW-3 also analyzed for the TPH-d constituent.

In accordance with your letter of May 4, 1998, ORC was added to wells VH-1, MW-2 and MW-3 on July 25 with sampling of the wells on July 29. The addition of the ORC is expected to increase the availability of oxygen in the soil and groundwater thereby providing an agent for biological reaction and the breakdown of hydrocarbon compounds to natural by products. A period of at least six months will be required to see the effect of adding ORC.

The benzene constituent declined in monitoring wells VH-1 and MW-2 while increasing in wells MW-3 and MW-4 from the previous sampling event. The concentration of benzene in well MW-4 was only 0.90 ppb with the other constituents below method detection levels. The MtBE constituent was again confirmed and detected in three on-site wells by using EPA Method 8260. There is no explanation for the detection of MtBE at the site, as Chevron did not use this oxygenate in gasoline until 1991, while the tanks were removed in 1983.

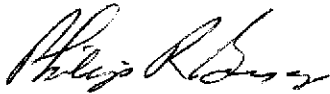
The analysis for the TPH-d constituent in well MW-3 detected the presence of an unidentified hydrocarbon by its chromatogram pattern.

September 9, 1998
Mr. Barney Chan
Former Chevron Service Station #9-4612
Page 2

Depth to ground water varied from 8.95 feet to 10.45 feet below grade with the direction of flow southwesterly.

Chevron will continue to monitor the site quarterly. 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. Jack Ratto
PO Box 6032
Oakland, CA. 94603

Mr. Terry McIlraith
407 Castello Road
Lafayette, CA 94549

Ms. Bette Owen, Chevron

BLAINE
TECH SERVICES INC.



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

SEP 15 1998 PM 3:27

September 2, 1998

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

3rd Quarter 1998 Monitoring at 9-4612

Third Quarter 1998 Groundwater Monitoring at
Former Chevron Service Station Number 9-4612
3616 San Leandro Street
Oakland, CA

Monitoring Performed on July 29, 1998

Groundwater Sampling Report 980729-R-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.

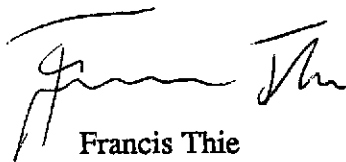
Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL DATA AND ANALYTICAL RESULTS**. The full analytical report for the most recent samples is located in the **Analytical Appendix**. The table also contains new groundwater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

A handwritten signature in black ink, appearing to read "Francis Thie". The signature is fluid and cursive, with a prominent initial "F" and a distinct "Thie" at the end.

Francis Thie
Vice President

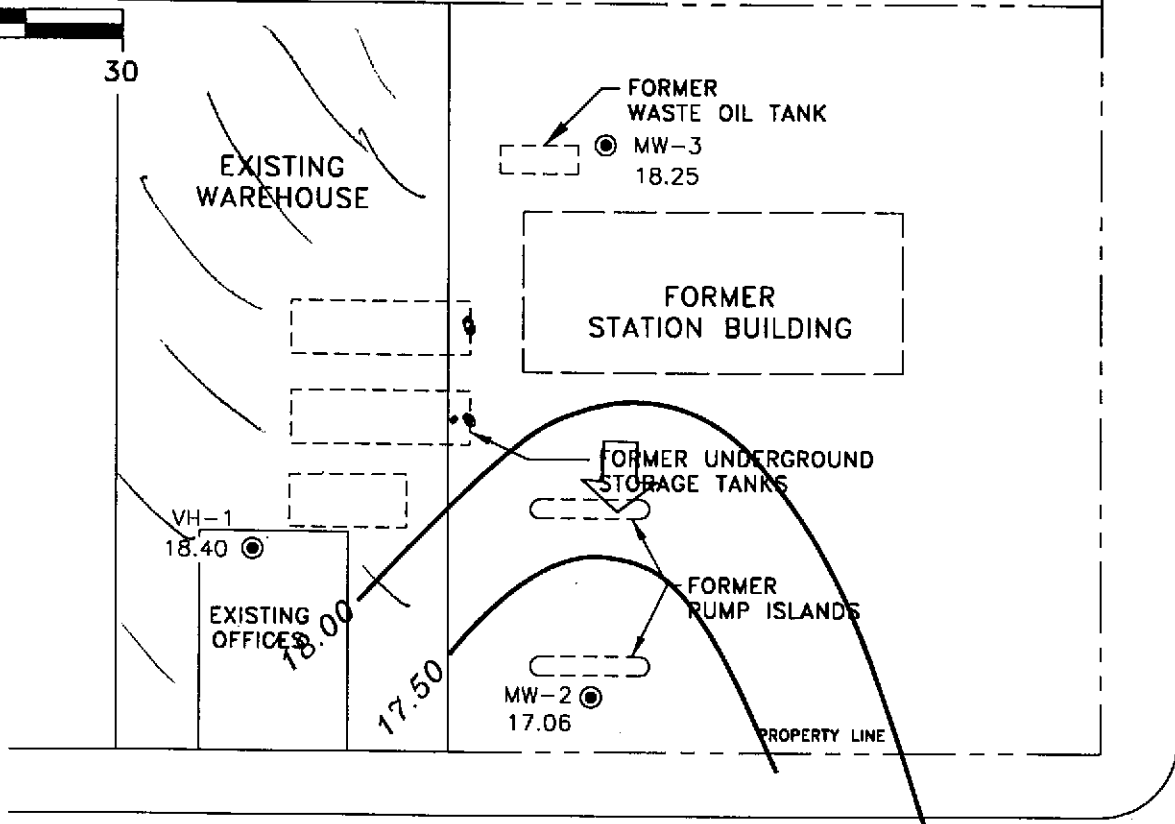
FPT/ap

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

Professional Engineering Appendix

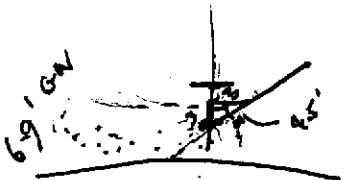


SCALE (ft)



37th AVENUE

SAN LEANDRO STREET



EXPLANATION

- MONITORING WELL
- 17.06 GROUNDWATER ELEVATION (FT, MSL)
- 18.00 — GROUNDWATER ELEVATION CONTOUR (FT, MSL)
- ↓ APPROXIMATE GROUNDWATER FLOW DIRECTION;
APPROXIMATE GRADIENT = 0.02

Basemap from Cambria Environmental Technology, Inc.

PREPARED BY



Chevron Station 9-4612
3616 San Leandro Street
Oakland, California

**GROUNDWATER ELEVATION CONTOUR MAP,
JULY 29, 1998**

FIGURE:

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	TPH-Diesel	TOG	HVOC	MTBE	MTBE by 8260
VH-1														
08/10/88	--	--	13.00	--	11,000	3300	200	520	540	--	--	--	--	--
06/01/89	--	--	10.32	--	15,000	2200	120	540	310	--	--	--	--	--
09/15/89	--	--	15.69	--	5600	1900	90	350	160	--	--	--	--	--
12/08/89	--	--	14.77	--	11,000	1900	69	270	99	--	--	--	--	--
03/07/91	--	--	11.26	--	4500	820	39	120	77	--	--	--	--	--
09/24/91	--	--	12.98	--	3300	520	19	39	27	--	--	--	--	--
01/08/92	--	--	13.77	--	5000	600	34	81	76	--	--	--	--	--
04/20/92	--	--	8.18	--	7400	670	60	110	140	--	--	--	--	--
03/26/93	27.85 ¹	21.14	6.71	--	4900	600	40	72	94	--	--	--	--	--
05/27/93	27.85	19.27	8.58	--	13,000	1600	120	230	220	--	--	--	--	--
08/18/93	27.85	17.39	10.46	--	2700	210	10	8.1	18	--	--	--	--	--
11/03/93	27.85	15.28	12.57	--	4600	680	42	35	68	--	--	--	--	--
02/10/94	27.85	18.77	9.08	--	1900	260	19	22	29	--	--	--	--	--
05/12/94	27.85	19.76	8.09	--	2000	390	28	3.9	29	--	--	--	--	--
08/26/94	27.85	17.10	10.75	--	4900	500	<5.0	23	31	--	--	--	--	--
11/14/94	27.85	18.40	9.45	--	760	69	<2.0	<2.0	2.2	300	--	--	--	--
02/01/95	27.85	21.88	5.97	--	1300	120	5.9	<0.5	13	--	--	--	--	--
05/12/95	27.85	20.14	7.71	--	4400	460	31	45	49	--	--	--	--	--
08/22/95	27.85	18.59	9.26	--	2900	310	15	28	32	--	--	--	--	--
12/19/95	27.85	19.05	8.80	--	930	53	<2.5	<2.5	<2.5	--	--	--	39	--
01/31/96	27.85	22.35	5.50	--	3700	320	<10	41	40	--	--	--	180	--
04/30/96	27.85	19.81	8.04	--	3900	270	<20	<20	<20	--	--	--	120	--
08/01/96	27.85	18.67	9.18	--	2700	140	11	18	28	--	--	--	200	--
10/30/96	27.85	18.67	10.76	--	2700	140	<12	<12	<12	--	--	--	280	--
02/07/97	27.85	19.75	8.10	--	220	13	0.6	<0.5	1.6	--	--	--	15	--
05/07/97	27.85	18.33	9.52	--	5200	33	12	21	26	--	--	--	330	--
07/22/97	27.85	17.43	10.42	--	4200	80	<10	16	24	--	--	--	400	--
11/03/97	27.85	16.85	11.00	--	2400	150	6.8	6.5	9.5	--	--	--	510	--
01/28/98	27.85	20.75	7.10	--	850	69	4.8	5.0	11	--	--	--	38	48
05/08/98	27.85	20.14	7.71	--	4200	200	30	40	42	--	--	--	310	200
07/29/98	27.85	18.40	9.45	--	3800	54	10	27	30	--	--	--	35	290

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	TPH-Diesel	TOG	HVOC	MTBE	MTBE by 8260
MW-2														
02/16/93	27.51	--	--	--	9200	720	110	250	170	--	--	--	--	--
03/26/93	27.51	19.89	7.62	--	--	--	--	--	--	--	--	--	--	--
05/27/93	27.51	18.04	9.47	--	360	5.3	2.1	1.8	2.5	--	--	--	--	--
08/18/93	27.51	16.46	11.05	--	9400	1100	76	110	100	--	--	--	--	--
11/03/93	27.51	14.56	12.95	--	8600	390	20	2.7	120	--	--	--	--	--
02/10/94	27.51	17.72	9.79	--	2700	370	38	44	41	--	--	--	--	--
05/12/94	27.51	18.59	8.92	--	3800	650	76	15	62	--	--	--	--	--
08/26/94	27.51	16.14	11.37	--	16,000	1300	270	28	120	--	--	--	--	--
11/14/94	27.51	17.48	10.03	--	5100	390	10	43	27	--	--	--	--	--
02/01/95	27.51	20.47	7.04	--	6900	520	82	170	110	--	--	--	--	--
05/12/95	27.51	18.76	8.75	--	7700	510	83	110	100	--	--	--	--	--
08/22/95	27.51	17.35	10.16	--	4500	220	16	61	47	--	--	--	--	--
12/19/95	27.51	18.05	9.46	--	2900	240	<10	19	18	--	--	--	220	--
01/31/96	27.51	21.91	5.60	--	3900	320	18	72	39	--	--	--	<25	--
04/30/96	27.51	18.68	8.83	--	5600	200	36	55	47	--	--	--	170	--
08/01/96	27.51	17.25	10.26	--	6200	190	15	62	59	--	--	--	220	--
10/30/96	27.51	17.25	11.48	--	5700	190	<25	67	36	--	--	--	260	--
02/07/97	27.51	18.11	9.40	--	8300	210	34	70	59	--	--	--	330	--
05/07/97	27.51	17.57	9.94	--	6900	190	12	38	37	--	--	--	530	--
07/22/97	27.51	16.36	11.15	--	10,000	18	25	62	41	--	--	--	630	--
11/03/97	27.51	15.93	11.58	--	6500	260	8.5	26	14	--	--	--	590	--
11/03/97	27.51	15.93	11.58	Confirmation run	--	--	--	--	--	--	--	--	--	96
01/28/98	27.51	19.38	8.13	--	6700	65	13	67	54	--	--	--	280	94
05/08/98	27.51	18.89	8.62	--	5500	91	38	43	61	--	--	--	220	62
07/29/98	27.51	17.06	10.45	--	3600	41	8.9	3.6	14	--	--	--	16	94

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	TPH-Diesel	TOG	HVOC	MTBE	MTBE by 8260
MW-3														
02/16/93	28.50	--	--	--	3500	<0.5	8.1	4.6	7.7	--	--	--	--	--
03/26/93	28.50	21.32	7.18	--	--	--	--	--	--	--	--	--	--	--
05/27/93	28.50	19.17	9.33	--	4200	580	84	150	100	--	--	--	--	--
08/18/93	28.50	16.50	12.00	--	910	12	3.7	6.2	3.8	1400	<5000	ND	--	--
11/03/93	28.50	15.21	13.29	--	5300	29	1.9	0.6	27	--	--	--	--	--
02/10/94	28.50	18.87	9.63	--	63	<0.5	0.7	<0.5	<0.5	<50	--	--	--	--
05/12/94	28.50	19.73	8.77	--	<50	<0.5	0.5	<0.5	<0.5	84	--	--	--	--
08/26/94	28.50	17.08	11.42	--	2100	12	<0.5	5.0	0.5	--	--	--	--	--
11/14/94	28.50	18.43	10.07	--	140	0.78	<0.5	<0.5	<0.5	--	--	--	--	--
02/01/95	28.50	22.21	6.29	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	--	--	--
05/12/95	28.50	20.43	8.07	--	330	13	1.1	1.9	0.69	540*	--	--	--	--
08/22/95	28.50	18.55	9.95	--	980	32	<1.0	<1.0	<1.0	550*	--	--	--	--
12/19/95	28.50	19.10	9.40	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	--	<2.5	--
01/31/96	28.50	23.45	5.05	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	--	<2.5	--
04/30/96	28.50	20.10	8.40	--	320	2.4	<0.5	0.75	<0.5	240*	--	--	7.8	--
08/01/96	28.50	18.70	9.80	--	980	9.6	<0.5	0.98	2.2	470*	--	--	54	--
10/30/96	28.50	18.70	11.48	--	2000	14	<10	<10	<10	760*	--	--	140	--
02/07/97	28.50	19.90	8.60	--	200*	<0.5	<0.5	<0.5	<0.5	61*	--	--	8.9	--
05/07/97	28.50	19.49	9.01	--	3500	14	3.9	3.6	8.0	550*	--	--	160	--
07/22/97	28.50	17.38	11.12	--	3500	55	<10	<10	<10	800*	--	--	150	--
11/03/97	28.50	16.99	11.51	--	4100	140	<5.0	<5.0	<5.0	910*	--	--	380	--
01/28/98	28.50	21.16	7.34	--	1100	24	<1.2	<1.2	2.8	--	--	--	33	6.1
05/08/98	28.50	20.44	8.06	--	990	3.6	7.7	0.70	2.2	250*	--	--	37	7.5
07/29/98	28.50	18.25	10.25	--	1200	13	<0.5	<0.5	1.4	290*	--	--	11	28

* 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	TPH-Diesel	TOG	HVOC	MTBE	MTBE by 8260
MW-4														
08/22/95	27.27	18.16	9.11	--	9600	100	<10	<10	<10	--	--	--	--	--
12/19/95	27.27	18.97	8.30	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
01/31/96	27.27	21.67	5.60	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
04/30/96	27.27	20.27	7.00	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
08/01/96	27.27	18.12	9.15	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
10/30/96	27.27	18.12	10.74	--	110	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
02/07/97	27.27	19.47	7.80	--	80	<0.5	<0.5	<0.5	<0.5	--	--	--	4.1	--
05/07/97	27.27	21.42	5.85	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
07/22/97	27.27	17.22	10.05	--	150	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
11/03/97	27.27	16.55	10.72	--	52	0.90	<0.5	<0.5	<0.5	--	--	--	*	--
01/28/98	27.27	20.76	6.51	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	<2.0
05/08/98	27.27	20.25	7.02	--	56	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	<2.0
07/29/98	27.27	18.32	8.95	--	<50	0.90	<0.5	<0.5	<0.5	--	--	--	<2.5	<2.0

* No value for MTBE could be determined; see lab report for analyses.

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	TPH-Diesel	TOG	HVOC	MTBE	MTBE by 8260
TRIP BLANK														
05/27/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--
08/18/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	1400	<5000	ND	--	--
11/03/93	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
02/10/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<50	--	--	--	--
05/12/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	84	--	--	--	--
08/26/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
11/14/94	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
02/01/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
05/12/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
08/22/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
12/19/95	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
01/31/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
04/30/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
08/01/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
10/30/96	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
02/07/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
05/07/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
07/22/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	<2.5	--
01/28/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	<2.0
05/08/98	--	--	--	--	--	--	--	--	--	--	--	--	--	<2.0
07/29/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	<2.0

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on November 1, 1994.
 Earlier field data and analytical results are drawn from the September 27, 1994 Groundwater Technology, Inc. report.

ABBREVIATIONS:

TPH = Total Petroleum Hydrocarbons
 TOG = Total Oil & Grease
 HVOC = Halogenated Volatile Organic Compounds
 MTBE = Methyl t-Butyl Ether

Analytical Appendix



Sequoia Analytical

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

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

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FAX (916) 921-0100
FAX (707) 792-0342

Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-4612/980729-R1 Sample Descript: VH1 Matrix: LIQUID Analysis Method: EPA 8260 Lab Number: 9807H70-01	Sampled: 07/29/98 Received: 07/30/98 Analyzed: 07/31/98 Reported: 08/05/98
--	--	---

QC Batch Number: MS072898MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	50	290
Surrogates	Control Limits %	% Recovery
1,2-Dichloroethane-d4	76	114
		99

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 9-4612/980729-R1 Sample Descript: VH1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9807H70-01	Sampled: 07/29/98 Received: 07/30/98 Analyzed: 08/03/98 Reported: 08/05/98
Attention: Fran Thie		

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	3800
Methyl t-Butyl Ether	2.5	35
Benzene	0.50	54
Toluene	0.50	10
Ethyl Benzene	0.50	27
Xylenes (Total)	0.50	30
Chromatogram Pattern:		GAS

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	120

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

SEQUOIA ANALYTICAL - ELAP #1849


Mike Gregory
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-4612/980729-R1 Sample Descript: MW2 Matrix: LIQUID Analysis Method: EPA 8260 Lab Number: 9807H70-02	Sampled: 07/29/98 Received: 07/30/98 Analyzed: 07/31/98 Reported: 08/05/98
--	--	---


QC Batch Number: MS072898MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	67	94
Surrogates	Control Limits %	% Recovery
1,2-Dichloroethane-d4	76 114	108

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

SEQUOIA ANALYTICAL - ELAP #1210



 Mike Gregory
 Project Manager





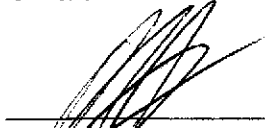
Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-4612/980729-R1 Sample Descript: MW2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9807H70-02	Sampled: 07/29/98 Received: 07/30/98 Analyzed: 08/03/98 Reported: 08/05/98
Attention: Fran Thie		

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	3600
Methyl t-Butyl Ether	2.5	16
Benzene	0.50	41
Toluene	0.50	8.9
Ethyl Benzene	0.50	3.6
Xylenes (Total)	0.50	14
Chromatogram Pattern:		GAS
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	110

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

SEQUOIA ANALYTICAL - ELAP #1849


Mike Gregory
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-4612/980729-R1 Sample Descript: MW3 Matrix: LIQUID Analysis Method: EPA 8260 Lab Number: 9807H70-03	Sampled: 07/29/98 Received: 07/30/98 Analyzed: 07/31/98 Reported: 08/05/98
Attention: Fran Thie		

QC Batch Number: MS072898MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	28
Surrogates	Control Limits %	% Recovery
1,2-Dichloroethane-d4	76 114	96

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

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





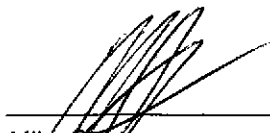
Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Fran Thie	Client Proj. ID: Chevron 9-4612/980729-R1 Sample Descript: MW3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9807H70-03	Sampled: 07/29/98 Received: 07/30/98 Analyzed: 08/03/98 Reported: 08/05/98
--	--	---

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	1200
Methyl t-Butyl Ether	2.5	11
Benzene	0.50	13
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	1.4
Chromatogram Pattern:		GAS
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	97

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

SEQUOIA ANALYTICAL - ELAP #1849



Mike Gregory
Project Manager





Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Chevron 9-4612/980729-R1 Sample Descript: MW3 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9807H70-03	Sampled: 07/29/98 Received: 07/30/98 Extracted: 07/30/98 Analyzed: 07/31/98 Reported: 08/05/98
Attention: Fran Thie		


QC Batch Number: GC0730980HBPEXA
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50 C9-C24	290 Unid.-HC
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	97

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 9-4612/980729-R1 Sample Descript: MW4 Matrix: LIQUID Analysis Method: EPA 8260 Lab Number: 9807H70-04	Sampled: 07/29/98 Received: 07/30/98 Analyzed: 07/31/98 Reported: 08/05/98
Attention: Fran Thie		

QC Batch Number: MS072898MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	N.D.
Surrogates	Control Limits %	% Recovery
1,2-Dichloroethane-d4	76 114	99

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 9-4612/980729-R1 Sample Descript: MW4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9807H70-04	Sampled: 07/29/98 Received: 07/30/98 Analyzed: 08/03/98 Reported: 08/05/98
Attention: Fran Thie		

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	0.90
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	93

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

SEQUOIA ANALYTICAL - ELAP #1849


Mike Gregory
Project Manager





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

Client Proj. ID: Chevron 9-4612/980729-R1
Sample Descript: TB
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9807H70-05

Sampled: 07/29/98
Received: 07/30/98
Analyzed: 07/31/98
Reported: 08/05/98

QC Batch Number: MS072898MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	2.0	N.D.
Surrogates	Control Limits %	% Recovery
1,2-Dichloroethane-d4	76 114	101

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: Fran Thie

Client Proj. ID: Chevron 9-4612/980729-R1
Sample Descript: TB
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9807H70-05

Sampled: 07/29/98
Received: 07/30/98

Analyzed: 08/03/98
Reported: 08/05/98

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	97

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

SEQUOIA ANALYTICAL - ELAP #1849


Mike Gregory
Project Manager





**Sequoia
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(707) 792-1865

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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 9-4612/980729-R1

Received: 07/30/98

Lab Proj. ID: 9807H70

Reported: 08/05/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 16 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

MTBE6W Note:

Sample 9807H70-01 was diluted 25-fold.

Sample 9807H70-02 was diluted 33.3-fold.

SEQUOIA ANALYTICAL


Mike Gregory
Project Manager





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

Client Project ID: Chevron 9-4612/980729-R1

QC Sample Group: 9807H70-03

Reported: Aug 5, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8015A
Analyst: G. Wardle

ANALYTE Diesel

QC Batch #: GC0730980HBPEXA

LCS ID: BLK073098AS

Date Prepared: 7/30/98

Date Analyzed: 7/30/98

Instrument I.D.#: GCHP5B

Conc. Spiked, ug/L: 1000

Blank Spike, ug/L: 900

% Recovery: 90

Blank

Spike Duplicate, ug/L: 830

% Recovery: 83

Relative % Difference: 8.1

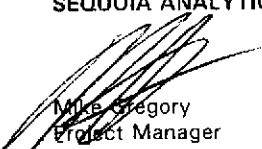
% Recovery

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


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.





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

Client Project ID: **Chevron 9-4612/ 980729-R1**
Matrix: **Liquid**

Work Order #: **9807H70 -01-05**

Reported: **Aug 5, 1998**

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	08V8001	08V8001	08V8001	08V8001
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 8015M	EPA 8015M	EPA 8015M	EPA 8015M

Analyst:	L. Hall	L. Hall	L. Hall	L. Hall
LCS/LCSD #:	LCS080298	LCS080298	LCS080298	LCS080298
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/2/98	8/2/98	8/2/98	8/2/98
Analyzed Date:	8/3/98	8/3/98	8/3/98	8/3/98
Instrument I.D.#:	-	-	-	-
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	20 µg/L
Result:	19	19	19	20
LCS % Recovery:	95	95	95	100
Dup. Result:	18	18	18	19
LCSD % Recov.:	90	90	90	95
RPD:	5.4	5.4	5.4	5.1
RPD Limit:	0-30	0-30	0-30	0-30

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

SEQUOIA ANALYTICAL
Elap #1849

[Signature]
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

9807H70.BLA <1>





Sequoia Analytical

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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 9-4612/ 980729-R1
Matrix: Liquid

Work Order #: 9807H70-01-05

Reported: Aug 5, 1998

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	MS072898MTBEH6A
Analy. Method:	EPA 8260
Prep. Method:	N.A.

Analyst: L. Zhu
MS/MSD #: 9807G2103
Sample Conc.: N.D.
Prepared Date: -
Analyzed Date: 7/28/98
Instrument I.D.#: H6
Conc. Spiked: 50 µg/L

Result: 56
MS % Recovery: 112

Dup. Result: 53
MSD % Recov.: 106

RPD: 5.5
RPD Limit: 0-25

LCS #: LCS073198
Prepared Date: 7/31/98
Analyzed Date: 7/31/98
Instrument I.D.#: H6
Conc. Spiked: 50 µg/L
LCS Result: 51
LCS % Recov.: 102

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

SEQUOIA ANALYTICAL

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

9807H70.BLA <2>



Field Data Sheets

CHEVRON WELL MONITORING DATA SHEET

Project #: 980729-R1	Station #: 9-4612
Sampler: Chris	Date: 7-29-98
Well I.D.: VH-1	Well Diameter: 2 3 (4) 6 8
Total Well Depth: 28.45	Depth to Water: 9.45
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 ² * 0.163

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

12.4	x	3	=	37.2	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
10:25	63.8	7.0	1000	12.4	Clear
10:27	63.6	7.2	1000	24.8	Slight odor
10:29	63.8	7.2	1000	37.2	

Did well dewater? Yes No Gallons actually evacuated: 38

Sampling Time: 10:35 Sampling Date: 7-29-98

Sample I.D.: VH1 Laboratory: (Sequoia) GTEL N. Creek Assoc. Labs

Analyzed for: (TPH-G BTEX MTBE) TPH-D Other: B48260

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 #: 980729-R1	Station #: 9-4612
Sampler: PA Chris	Date: 7-29-98
Well I.D.: mw2	Well Diameter: ② 3 4 6 8 ____
Total Well Depth: 19.75	Depth to Water: 10.45
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 ² * 0.163

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

1.5	x	3	=	4.5	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
9:55	64.4	7.0	1000	1.5	Slight odor, seen Greenish Brown
9:57	62.8	7.0	1000	3	
9:59	63.2	7.0	1000	4.5	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 4.5
Sampling Time: 10:07	Sampling Date: 7-29-98
Sample I.D.: mw2	Laboratory: Sequoia GTEL N. Creek Assoc. Labs

Analyzed for: TPH-G BTEX MTBE TPH-D Other: By 8260

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 #: 980729-R1	Station #: 9-4612
Sampler: Chris	Date: 7-29-98
Well I.D.: mw3	Well Diameter: (2) 3 4 6 8
Total Well Depth: 19.28	Depth to Water: 10.25
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 ² * 0.163

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

1.4	x	3	=	4.2	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
10:53	63.0	7.1	1000	1.4	cloudy brown
10:55	63.2	7.2	1000	2.8	
10:57	63.6	7.1	1000	4.2	slight odor, clearer

Did well dewater? Yes <u>No</u>	Gallons actually evacuated: 4.2
Sampling Time: 11:07	Sampling Date: 7-29-98
Sample I.D.: mw3	Laboratory: (Sequoia) GTEL N. Creek Assoc. Labs
Analyzed for: (TPH-G BTEX MTBE TPH-D)	Other: MTBE by 8260

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 #: 980729-R1	Station #: 9-4612
Sampler: Chris	Date: 7-29-98
Well I.D.: MW 4	Well Diameter: (2) 3 4 6 8
Total Well Depth: 19.00	Depth to Water: 8.95
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 ² * 0.163

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

1.6	x	3	=	4.8	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
9:25	64.8	7.5	800	1.6	cloudy brown
9:27	65.2	7.5	600	3.2	
9:29	64.8	7.2	600	4.8	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 5
Sampling Time: 9:35	Sampling Date: 7-29-98
Sample I.D.: MW 4	Laboratory: (Sequoia) GTEL N. Creek Assoc. Labs
Analyzed for: (TPH-G BTEX MTBE) TPH-D Other: B4 8260	
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