

ENVIRONMENTAL
PROTECTION
99 SEP 17 PM 3:42



Chevron

Chevron U.S.A. Products Company
6001 Bollinger Canyon Rd. Bldg. L
P. O. Box 6004
San Ramon, CA 94583-0804

Site Assessment and
Remediation Group
Phone (510) 842-9500
Fax (510) 842-8370

Date: September 1, 1999
To: Distribution
Re: Groundwater Monitoring Report

The enclosed groundwater monitoring report has been properly reviewed by a Chevron authorized representative. Agency guidelines have been followed. Blaine Tech Services is authorized to distribute the report directly to interested parties.

If you have any questions, please call me at (510) 842-8695

Sincerely,

Brett Hunter
Site Assessment and Remediation
Project Manager

- Do utility / subsurface conduit study
- Need MW down gradient of MW-4 to delineate M&BE plume.
- Continue QMR of MW-2 and MW-4 semi ann. for remaining wells.

BLAINE
TECH SERVICES INC.



1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE

August 31, 1999

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

2nd Quarter 1999 Monitoring at 9-4800

Second Quarter 1999 Groundwater Monitoring at
Chevron Service Station Number 9-4800
1700 Castro St.
Oakland, CA

Monitoring Performed on June 17, 1999

Groundwater Sampling Report 990617-S-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

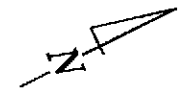
CAL/sb

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

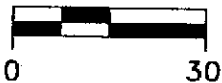
cc: Eva Chu, Alameda County Health Care Services
Greg Gurs, Gettler-Ryan, Inc.

Professional Engineering Appendix

CASTRO STREET

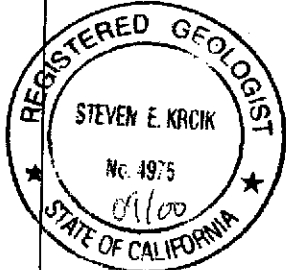
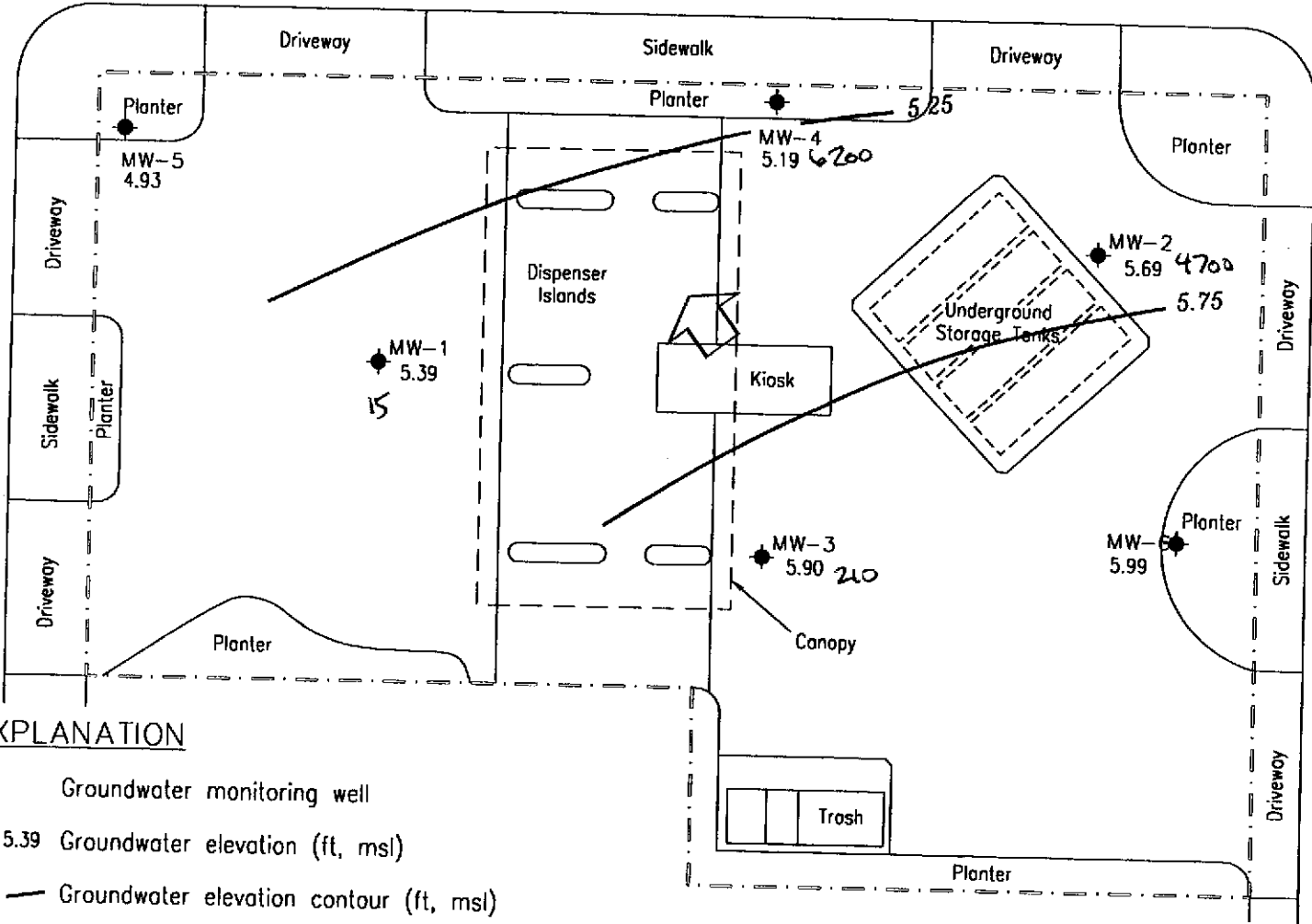


SCALE (ft)



17TH STREET

18TH STREET



EXPLANATION

- ◆ Groundwater monitoring well
- 5.39 Groundwater elevation (ft, msl)
- 5.75 — Groundwater elevation contour (ft, msl)
- ↖ Approximate groundwater flow direction;
Approximate gradient = 0.006

ppb mTBE

Ref. 4800-gm.dwg
Base map from Gattler-Ryan, Inc.

PREPARED BY

RRM
engineering contracting firm

Chevron Station 9-4800
1700 Castro Street
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP,
JUNE 17, 1999

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
MW-1											
06/04/97	30.75	4.39	25.82	--	890	100	110	29	150	<10	71*
09/16/97	30.75	4.85	25.90	--	1600	210	210	60	250	<10	75*
12/17/97	30.75	4.88	25.87	--	940	120	100	41	160	<25	65*
03/18/98	30.75	5.90	24.85	--	530	91	39	22	65	6.8	77*
06/28/98	30.75	5.92	24.83	--	1100	220	140	37	120	14	140*
09/07/98	30.75	5.56	25.19	--	1700	530	86	84	240	49	280*
12/09/98	30.75	5.10	25.65	--	1700	240	130	100	270	32	240*
03/11/99	30.75	5.30	25.45	--	353	53.9	28.6	20.5	56.1	14.1	98*
06/17/99	30.75	5.39	25.36	--	810	270	150	95	340	15	217*
MW-2											
06/04/97	30.00	5.13	24.87	--	13,000	790	30	420	1700	4000	4000*
09/16/97	30.00	5.06	24.94	--	4000	360	9.7	210	460	1500	2200*
12/17/97	30.00	5.18	24.82	--	4100	380	<10	200	460	2100	2100*
03/18/98	30.00	6.43	23.57	--	8400	1800	<50	350	630	13,000	3700*
06/28/98	30.00	6.21	23.79	EPA 8260	9300	740	340	710	2300	3800	4400*
09/07/98	30.00	5.78	24.22	--	9900	1000	150	640	1800	4500	3100*
09/07/98	30.00	5.78	24.22	Confirmation run	--	--	--	--	--	4100	--
12/09/98	30.00	5.31	24.69	--	8500	860	74	610	960	2600	1900*
12/09/98	30.00	5.31	24.69	Confirmation run	--	--	--	--	--	2600	--
03/11/99	30.00	5.79	24.21	--	12,500	1520	42.2	645	2250	3400	2700*
03/11/99	30.00	5.79	24.21	Confirmation run	--	--	--	--	--	5050	--
06/17/99	30.00	5.69	24.31	--	27,000	2200	260	1500	5900	4700	7150*

* 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
MW-3											
06/04/97	31.32	5.27	26.05	--	190	26	20	1.5	16	8.2	<50
09/16/97	31.32	5.17	26.15	--	270	58	53	6.1	30	21	<50
12/17/97	31.32	5.22	26.10	--	290	50	54	8.1	37	21	<50
03/18/98	31.32	6.42	24.90	--	390	140	33	4.6	30	94	<50
06/28/98	31.32	6.39	24.93	--	290	90	11	1.6	13	150	<50
09/07/98	31.32	5.97	25.35	--	170	46	20	4.3	19	120	<50
12/09/98	31.32	5.41	25.91	--	660	120	93	22	72	150	55*
03/11/99	31.32	5.85	25.47	--	653	136	69.5	13.7	63.8	144	<50
06/17/99	31.32	5.90	25.42	--	530	190	110	24	88	210	103*
MW-4											
04/08/99	30.13	--	--	**	130	3.1	<0.5	<0.5	7.7	4700	--
06/17/99	30.13	5.19	24.94	--	590	58	<5.0	<5.0	160	6200	3780*
MW-5											
04/08/99	30.93	--	--	**	<50	<0.5	<0.5	<0.5	<0.5	<2.5	<50
06/17/99	30.93	4.93	26.00	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	53.8*
MW-6											
04/08/99	30.58	--	--	**	<50	<0.5	<0.5	<0.5	<0.5	4.5	--
06/17/99	30.58	5.99	24.59	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	<50

* Chromatogram pattern indicates an unidentified hydrocarbon.

** See Table of Additional 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	MTBE	TPH-Diesel
TRIP BLANK											
06/04/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
09/16/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/17/97	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/18/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/28/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
09/07/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/09/98	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/11/99	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
06/17/99	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--

Cumulative Table of Well Data and Analytical Results

ADDITIONAL ANALYSES

Analytical values are in parts per billion (ppb)

DATE	Notes	Ethanol	t- Butanol	MTBE	DIPE	ETBE	TAME
MW-4							
04/08/99	--	<25,000	<5000	5400	<100	<100	<100
MW-5							
04/08/99	--	<500	<100	<2.0	<2.0	<2.0	<2.0
MW-6							
04/08/99	--	<500	<100	5.6	<2.0	<2.0	<2.0

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on December 9, 1998. Earlier field data and analytical results are drawn from the September 7, 1998, Gettler-Ryan, Inc. report. Earlier analytical results for MW-4, MW-5, MW-6 are drawn from the Gettler-Ryan sampling on April 8, 1999. Site resurveyed by Virgil Chavez Land Surveying on June 18, 1999.

ABBREVIATIONS:

DIPE = Di-Isopropyl Ether

ETBE = Ethyl t-Butyl Ether

TAME = t-Amyl Methyl Ether

TPH = Total Petroleum Hydrocarbons

ND = Not detected at or above the minimum quantitation limit. See laboratory reports for minimum quantitation limits.

MTBE = Methyl-tert-butyl ether

Analytical Appendix



July 13, 1999

Christine Lillie
Blaine Tech Services (Chev)
1680 Rogers Avenue
San Jose, CA 95112

RE: Chevron 9-4800 990617-S1 1700 Castro St. Oakland/M906497

Dear Christine Lillie

Enclosed are the results of analyses for sample(s) received by the laboratory on June 18, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kayvan Kimyai
Project Manager

CA ELAP Certificate Number 1210





Blaine Tech Services (Chev)
1680 Rogers Avenue
San Jose, CA 95112

Project: Chevron 9-4800
Project Number: 990617-S1 1700 Castro St. Oakland
Project Manager: Christine Lillie

Sampled: 6/17/99
Received: 6/18/99
Reported: 7/13/99

ANALYTICAL REPORT FOR M906497

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	M906497-01	Water	6/17/99
MW-2	M906497-02	Water	6/17/99
MW-3	M906497-03	Water	6/17/99
MW-4	M906497-04	Water	6/17/99
MW-5	M906497-05	Water	6/17/99
MW-6	M906497-06	Water	6/17/99
TB	M906497-07	Water	6/17/99





Blaine Tech Services (Chev) 1680 Rogers Avenue San Jose, CA 95112	Project: Chevron 9-4800 Project Number: 990617-S1 1700 Castro St. Oakland Project Manager: Christine Lillie	Sampled: 6/17/99 Received: 6/18/99 Reported: 7/13/99
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**Diesel Hydrocarbons (C9-C24) by DHS LUFT
Sequoia Analytical - Morgan Hill**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>MW-1</u> Diesel Range Hydrocarbons	9060430	6/28/99	7/6/99	<u>M906497-01</u>	0.0500	0.217	<u>Water</u> mg/l	1
Surrogate: n-Pentacosane	"	"	"	50.0-150		80.5	%	
<u>MW-2</u> Diesel Range Hydrocarbons	9060430	6/28/99	7/8/99	<u>M906497-02</u>	0.200	7.15	<u>Water</u> mg/l	1,D
Surrogate: n-Pentacosane	"	"	"	50.0-150		105	%	D
<u>MW-3</u> Diesel Range Hydrocarbons	9060430	6/28/99	7/6/99	<u>M906497-03</u>	0.0500	0.103	<u>Water</u> mg/l	1
Surrogate: n-Pentacosane	"	"	"	50.0-150		85.1	%	
<u>MW-4</u> Diesel Range Hydrocarbons	9060430	6/28/99	7/8/99	<u>M906497-04</u>	0.100	3.78	<u>Water</u> mg/l	1,D
Surrogate: n-Pentacosane	"	"	"	50.0-150		134	%	D
<u>MW-5</u> Diesel Range Hydrocarbons	9060430	6/28/99	7/6/99	<u>M906497-05</u>	0.0500	0.0538	<u>Water</u> mg/l	1
Surrogate: n-Pentacosane	"	"	"	50.0-150		82.7	%	
<u>MW-6</u> Diesel Range Hydrocarbons	9060430	6/28/99	7/6/99	<u>M906497-06</u>	0.0500	ND	<u>Water</u> mg/l	
Surrogate: n-Pentacosane	"	"	"	50.0-150		89.6	%	





Blaine Tech Services (Chev) 1680 Rogers Avenue San Jose, CA 95112	Project: Chevron 9-4800 Project Number: 990617-S1 1700 Castro St. Oakland Project Manager: Christine Lillie	Sampled: 6/17/99 Received: 6/18/99 Reported: 7/13/99
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**Diesel Hydrocarbons (C9-C24) by DHS LUM/Quality Control
Sequoia Analytical - Morgan Hill**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 9060430		Date Prepared: 6/28/99			Extraction Method: EPA 3520B					
Blank		9060430-BLK1								
Diesel Range Hydrocarbons	7/6/99			ND	mg/l	0.0500				
Surrogate: n-Pentacosane	"	0.100		0.0891	"	50.0-150	89.1			
LCS		9060430-BS1								
Diesel Range Hydrocarbons	7/6/99	1.00		0.945	mg/l	60.0-140	94.5			
Surrogate: n-Pentacosane	"	0.100		0.0901	"	50.0-150	90.1			
Matrix Spike		9060430-MS1		M906513-01						
Diesel Range Hydrocarbons	7/6/99	1.00	0.0767	1.05	mg/l	50.0-150	97.3			
Surrogate: n-Pentacosane	"	0.100		0.0945	"	50.0-150	94.5			
Matrix Spike Dup		9060430-MSD1		M906513-01						
Diesel Range Hydrocarbons	7/6/99	1.00	0.0767	1.01	mg/l	50.0-150	93.3	50.0	4.20	
Surrogate: n-Pentacosane	"	0.100		0.102	"	50.0-150	102			





Blaine Tech Services (Chev) 1680 Rogers Avenue San Jose, CA 95112	Project: Chevron 9-4800 Project Number: 990617-S1 1700 Castro St. Oakland Project Manager: Christine Lillie	Sampled: 6/17/99 Received: 6/18/99 Reported: 7/13/99
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Notes and Definitions

#	Note
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- D Data reported from a dilution.
- 1 Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- Recov. Recovery
- RPD Relative Percent Difference





Sequoia Analytical 885 Jarvis Dr. Morgan Hill, CA. 95037 Attention: Anne Fowler	Client Project ID: M906497 - Blaine Tech Services Sample Matrix: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 906-2315	Sampled: Jun 17, 1999 Received: Jun 18, 1999 Reported: Jul 6, 1999
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QC Batch Number:	GC063099	GC070199	GC063099	GC063099	GC063099	GC063099
	802002A	802002A	802002A	802002A	802002A	802002A

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-2315 MW-1	Sample I.D. 906-2316 MW-2	Sample I.D. 906-2317 MW-3	Sample I.D. 906-2318 MW-4	Sample I.D. 906-2319 MW-5	Sample I.D. 906-2320 MW-6
Purgeable Hydrocarbons	50	810	27,000	530	590	N.D.	N.D.
Benzene	0.50	270	2,200	190	58	N.D.	N.D.
Toluene	0.50	150	260	110	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	95	1,500	24	N.D.	N.D.	N.D.
Total Xylenes	0.50	340	5,900	88	160	N.D.	N.D.
MTBE	2.5	15	4,700	210	6,200	N.D.	N.D.
Chromatogram Pattern:		Gasoline	Gasoline	Gasoline	Gasoline	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	200	1.0	10	1.0	1.0
Date Analyzed:	6/30/99	7/1/99	6/30/99	6/30/99	6/30/99	6/30/99
Instrument Identification:	HP-2	HP-2	HP-2	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	119	100	129	98	93	92

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Charlie Westwater
Project Manager





Sequoia Analytical 885 Jarvis Dr. Morgan Hill, CA. 95037 Attention: Anne Fowler	Client Project ID: M906497 - Blaine Tech Services Sample Matrix: Water Analysis Method: EPA 5030/8015 Mod./8020 First Sample #: 906-2321	Sampled: Jun 17, 1999 Received: Jun 18, 1999 Reported: Jul 6, 1999
--	---	--

QC Batch Number: GC063099

802002A
TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-2321 TB
Purgeable Hydrocarbons	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Total Xylenes	0.50	N.D.
MTBE	2.5	N.D.

Chromatogram Pattern: --

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	6/30/99
Instrument Identification:	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	93

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Charlie Westwater
Project Manager





Sequoia Analytical
885 Jarvis Dr.
Morgan Hill, CA. 95037
Attention: Anne Fowler

Client Project ID: M906497 - Blaine Tech Services
Matrix: Liquid

QC Sample Group: 9062315-321

Reported: Jul 6, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC063099 802002A	GC063099 802002A	GC063099 802002A	GC063099 802002A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	9062302	9062302	9062302	9062302
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/30/99	6/30/99	6/30/99	6/30/99
Analyzed Date:	6/30/99	6/30/99	6/30/99	6/30/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Result:	20	18	19	62
MS % Recovery:	100	90	95	103
Dup. Result:	20	18	20	61
MSD % Recov.:	100	90	100	102
RPD:	0.0	0.0	5.1	1.6
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	2LCS063099	2LCS063099	2LCS063099	2LCS063099
Prepared Date:	6/30/99	6/30/99	6/30/99	6/30/99
Analyzed Date:	6/30/99	6/30/99	6/30/99	6/30/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
LCS Result:	20	18	19	62
LCS % Recov.:	100	90	95	103

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

SEQUOIA ANALYTICAL, #1271

Charlie Westwater
Project Manager





Sequoia Analytical
885 Jarvis Dr.
Morgan Hill, CA. 95037
Attention: Anne Fowler

Client Project ID: M906497 - Blaine Tech Services
Matrix: Liquid

QC Sample Group: 9062315-321

Reported: Jul 6, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC070199 802002A	GC070199 802002A	GC070199 802002A	GC070199 802002A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater
MS/MSD #:	9062355	9062355	9062355	9062355
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/1/99	7/1/99	7/1/99	7/1/99
Analyzed Date:	7/1/99	7/1/99	7/1/99	7/1/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Result:	20	18	18	61
MS % Recovery:	100	90	90	102
Dup. Result:	19	17	18	58
MSD % Recov.:	95	85	90	97
RPD:	5.1	5.7	0.0	5.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	2LCS070199	2LCS070199	2LCS070199	2LCS070199
Prepared Date:	7/1/99	7/1/99	7/1/99	7/1/99
Analyzed Date:	7/1/99	7/1/99	7/1/99	7/1/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
LCS Result:	19	18	19	60
LCS % Recov.:	95	90	95	100

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

SEQUOIA ANALYTICAL, #1271


Charlie Westwater
Project Manager



Field Data Sheets

CHEVRON WELL MONITORING DATA SHEET

Project #: <u>990617-S1</u>	Station #: <u>9-4800</u>
Sampler: <u>KPS</u>	Date: <u>6/17/99</u>
Well I.D.: <u>MW-1</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: <u>29.95</u>	Depth to Water: <u>25.36</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> 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

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port

Other: _____

Other: _____

<u>7</u>	X	<u>3</u>	=	<u>21</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
<u>12:38</u>	<u>72.2</u>	<u>8.0</u>	<u>1000</u>	<u>1</u>	
<u>12:41</u>	<u>70.4</u>	<u>7.8</u>	<u>1000</u>	<u>2</u>	
<u>12:44</u>	<u>70.0</u>	<u>7.6</u>	<u>1000</u>	<u>3</u>	

Did well dewater? Yes No Gallons actually evacuated: 3

Sampling Time: 12:48 Sampling Date: 6/17/99

Sample I.D.: MW-1 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
	D.R.P. (if req'd):	Pre-purge:	mV	Post-purge:

CHEVRON WELL MONITORING DATA SHEET

Project #: 990617-51	Station #: 9-4800
Sampler: KPS	Date: 6/17/99
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8
Total Well Depth: 30.30	Depth to Water: 24.3
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	x	3	=	3	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
13:07	71.2	7.5	1000	1	odor
13:11	70.5	8.0	900	2	odor
13:15	72.1	7.5	1000	3	odor

Did well dewater? Yes No Gallons actually evacuated: 3

Sampling Time: 1320 Sampling Date: 6/17/99

Sample I.D.: MW-2 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
	Pre-purge:	mV	Post-purge:	mV

CHEVRON WELL MONITORING DATA SHEET

Project #: 990617-51	Station #: 9-4800
Sampler: KPS	Date: 6/17/99
Well I.D.: MW-3	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 29.81	Depth to Water: 25.42 25.42
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
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: _____

0.7 0.7	x	3	=	2.1 2.1	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
12:04	71.2	7.6	1000	1	
12:08	71.8	7.8	1000	2	
12:11	71.0	7.8	1000	3	

Did well dewater? Yes No Gallons actually evacuated: 3

Sampling Time: 12:17 Sampling Date: 6/17/99

Sample I.D.: MW-3 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
R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

CHEVRON WELL MONITORING DATA SHEET

Project #: <u>990617-S1</u>	Station #: <u>9-4800</u>
Sampler: <u>KPS</u>	Date: <u>6/17/99</u>
Well I.D.: <u>MW-4</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <u>29.03</u>	Depth to Water: <u>24.94</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
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: _____

<u>7</u>	x	<u>3</u>	=	<u>21</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
10:23	71.6	6.9	2000	1	
10:27	72.6	7.2	1000	2	
10:30	70.2	7.4	800	3	

Did well dewater? Yes No Gallons actually evacuated: 3

Sampling Time: 10:35 Sampling Date: 6/17/99

Sample I.D.: MW-4 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>990617-S1</u>	Station #: <u>9-4800</u>
Sampler: <u>KPS</u>	Date: <u>6/17/99</u>
Well I.D.: <u>MW-S</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: <u>28.36</u>	Depth to Water: <u>26.00</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
4"	0.65	Other	radius ² * 0.163

Purge Method:

- Bailer
- Disposable Bailer
- Middleburg
- Electric Submersible
- Extraction Pump

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port

Other: _____

Other: _____

<u>4</u>	X	<u>3</u>	=	<u>1.2</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
<u>10:53</u>	<u>70.0</u>	<u>7.4</u>	<u>1000</u>	<u>.5</u>	
<u>10:56</u>	<u>69.6</u>	<u>7.6</u>	<u>1500</u>	<u>1</u>	
<u>11:00</u>	<u>70.6</u>	<u>7.5</u>	<u>1400</u>	<u>2</u>	

Did well dewater? Yes No Gallons actually evacuated: 2

Sampling Time: 11:05 Sampling Date: 6/17/99

Sample I.D.: MW-S 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 #: 990617-S1	Station #: 9-4800
Sampler: KPS	Date: 6/17/99
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8
Total Well Depth: 28.31	Depth to Water: 24.59
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: _____

3.7	x	3	=	11.1	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
11:29	70.2	7.8	800	4	
11:35	70.4	7.8	900	8	
11:40	71.6	7.8	400	12	

Did well dewater? Yes No Gallons actually evacuated: 12

Sampling Time: 11:45 Sampling Date: 6/17/99

Sample I.D.: MW-6 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
R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV