



Chevron

DH

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) 842-3370

Date: October 19, 1999
To: Distribution
Re: Groundwater Monitoring Report, 9-0517

510 6241

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

99 OCT 29 PM 4:25

ENVIRONMENTAL PROTECTION

BLAINE
TECH SERVICES INC.



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

October 14, 1999

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

3rd Quarter 1999 Monitoring at 9-0517

Third Quarter 1999 Groundwater Monitoring at
Former Chevron Service Station Number 9-0517
3900 Piedmont Ave.
Oakland, CA

Monitoring Performed on August 23, 1999

Groundwater Sampling Report 990823-S-4

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

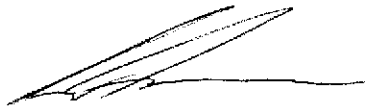
map which is located in the **Professional Engineering Appendix**.

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,



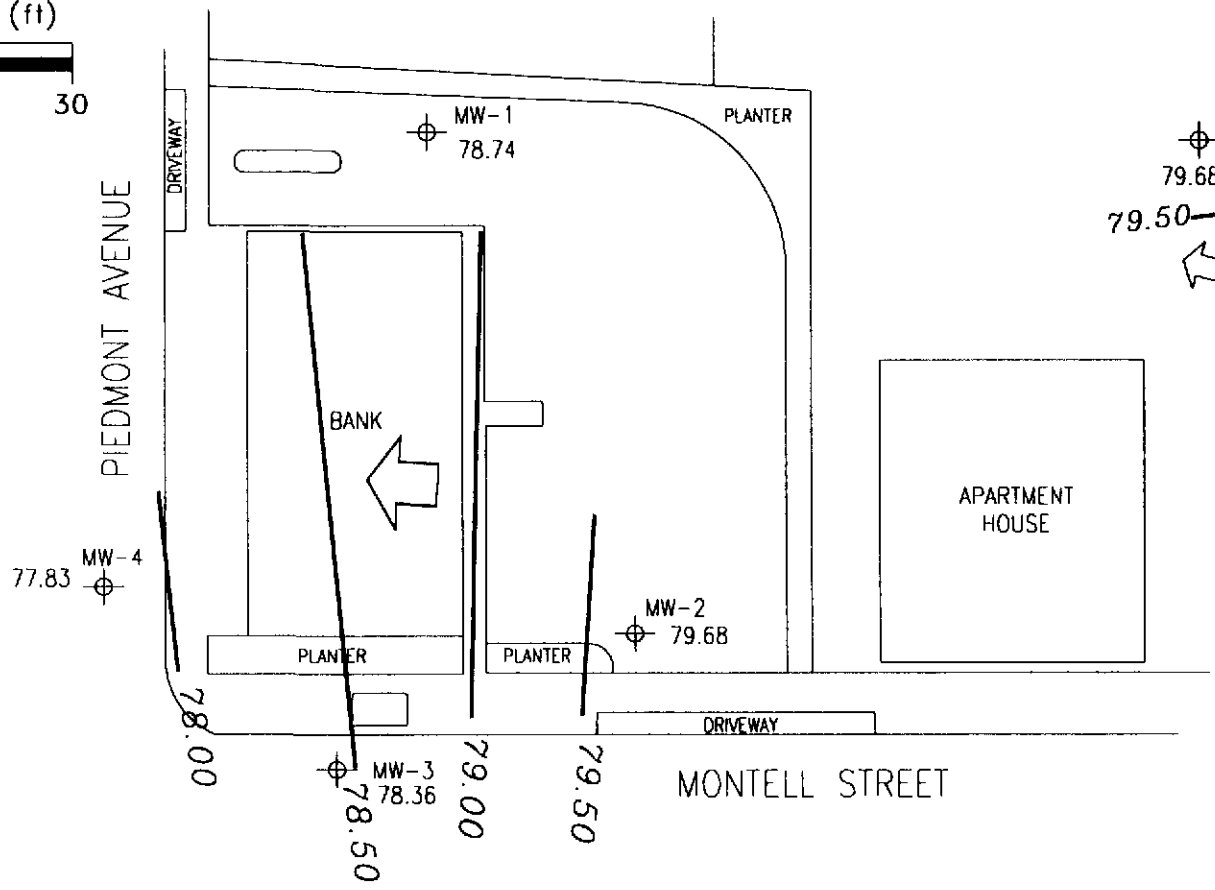
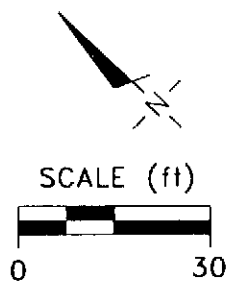
Scott Boor
Project Coordinator

SDB/cm

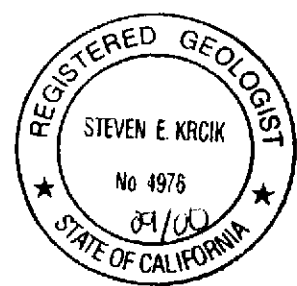
attachments: Professional Engineering Appendix
Cumulative Table of Well Data and Analytical Results
Analytical Appendix
Field Data Sheets

cc: **Madhulla Logan, Alameda County Health Care Services**
Neil B. & Diane C. Goodhue
Greg Gurss, Gettler-Ryan, Inc.
Bette Owen, Chevron Products Company (w/o enclosure)

Professional Engineering Appendix



- EXPLANATION**
- MONITORING WELL
 - 79.68 GROUNDWATER ELEVATION (FT. MSL)
 - 79.50— GROUNDWATER ELEVATION CONTOUR (FT. MSL)
 - APPROXIMATE GROUNDWATER FLOW DIRECTION;
APPROXIMATE GRADIENT = 0.02



Ref. 0517-qm.dwg
Base map from Gettler-Ryan, Inc.

PREPARED BY
RRM
 engineering contracting firm

Former Chevron Station 9-0517
 3900 Piedmont Avenue
 Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP,
AUGUST 23, 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
MW-1										
08/03/98	87.89	75.46	12.43	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5
11/23/98	87.89	78.84	9.05	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0
02/08/99	87.89	81.39	6.50	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5
05/07/99	87.89	80.76	7.13	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
08/23/99	87.89	78.74	9.15	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5
MW-2										
08/03/98	86.09	74.75	11.34	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	3.4
11/23/98	86.09	79.19	6.90	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0
02/08/99	86.09	80.86	5.23	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5
05/07/99	86.09	79.97	6.12	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
08/23/99	86.09	79.68	6.41	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5
MW-3										
08/03/98	86.28	74.20	12.08	--	4000	160	< 5.0	< 5.0	73	180
11/23/98	86.28	78.59	7.69	--	4000	67.7	7.56	17.1	24.5	41.2
02/08/99	86.28	80.01	6.27	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5
05/07/99	86.28	79.32	6.96	--	1800	53.6	8.96	33	18.6	21.4
08/23/99	86.28	78.36	7.92	--	3970	155	24	88.8	39.8	185
MW-4										
08/03/98	87.22	74.30	12.92	--	1900	110	12	< 0.5	55	130
11/23/98	87.22	77.82	9.40	--	4080	136	17.8	37.2	30.1	51.8
02/08/99	87.22	79.40	7.82	*	2900	150	16	< 5.0	15	230
02/08/99	87.22	79.40	7.82	Confirmation Run	--	--	--	--	--	30.7
05/07/99	87.22	79.80	7.42	--	6050	161	< 25	39.8	36.9	< 250
05/07/99	87.22	79.80	7.42	Confirmation Run	--	--	--	--	--	30.2
08/23/99	87.22	77.83	9.39	--	3930	203	37.6	58.6	42.2	255

* Chromatogram pattern indicates gas and 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
TRIP BLANK										
08/03/98	--	--	--	--	< 50	<0.5	<0.5	<0.5	<0.5	<2.5
11/23/98	--	--	--	--	< 50	<0.5	<0.5	<0.5	<0.5	<2.0
02/08/99	--	--	--	--	< 50	<0.5	<0.5	<0.5	<0.5	<2.5
05/07/99	--	--	--	--	< 50	<0.5	<0.5	<0.5	<0.5	<5.0
08/23/99	--	--	--	--	< 50	<0.5	<0.5	<0.5	<0.5	<2.5

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on November 23, 1998. Earlier field data and analytical results are drawn from the August 3, 1998, Gettler-Ryan, Inc. report.

ABBREVIATIONS:

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



September 9, 1999

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

RE: Chevron 9-0517/9080850

Dear Christine Lillie

Enclosed are the results of analyses for sample(s) received by the laboratory on August 24, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wendy Bonnes
Project Manager

CA ELAP Certificate Number 1210



Blaine Tech Services (Chev) 1680 Rogers Avenue San Jose, CA 95112	Project: Chevron 9-0517 (3900 Piedmont Ave., Oakland) Project Number: 990823-S4 Project Manager: Christine Lillie	Sampled: 8/23/99 Received: 8/24/99 Reported: 9/9/99
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ANALYTICAL REPORT FOR 9080850

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	9080850-01	Water	8/23/99
MW-2	9080850-02	Water	8/23/99
MW-3	9080850-03	Water	8/23/99
MW-4	9080850-04	Water	8/23/99
TB	9080850-05	Water	8/23/99



Blaine Tech Services (Chev) 1680 Rogers Avenue San Jose, CA 95112	Project: Chevron 9-0517 (3900 Piedmont Ave., Oakland) Project Number: 990823-S4 Project Manager: Christine Lillie	Sampled: 8/23/99 Received: 8/24/99 Reported: 9/9/99
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**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Morgan Hill**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
				9080850-01			Water	
Purgeable Hydrocarbons	9081012	8/28/99	8/28/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		2.50	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		75.1	%	
				9080850-02			Water	
Purgeable Hydrocarbons	9081012	8/28/99	8/28/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	
Methyl tert-butyl ether	"	"	"		2.50	ND	"	
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		99.5	%	
				9080850-03			Water	
Purgeable Hydrocarbons	9081050	8/31/99	8/31/99		1000	3970	ug/l	1.D
Benzene	"	"	"		10.0	155	"	D
Toluene	"	"	"		10.0	24.0	"	D
Ethylbenzene	"	"	"		10.0	88.8	"	D
Xylenes (total)	"	"	"		10.0	39.8	"	D
Methyl tert-butyl ether	"	"	"		50.0	185	"	D
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		108	%	
				9080850-04			Water	
Purgeable Hydrocarbons	9081050	8/31/99	8/31/99		1000	3930	ug/l	1.D
Benzene	"	"	"		10.0	203	"	D
Toluene	"	"	"		10.0	37.6	"	D
Ethylbenzene	"	"	"		10.0	58.6	"	D
Xylenes (total)	"	"	"		10.0	42.2	"	D
Methyl tert-butyl ether	"	"	"		50.0	255	"	D
Surrogate: a,a,a-Trifluorotoluene	"	"	"	70.0-130		93.8	%	
				9080850-05			Water	
Purgeable Hydrocarbons	9081012	8/28/99	8/28/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		0.500	ND	"	



Blaine Tech Services (Chev) 1680 Rogers Avenue San Jose, CA 95112	Project: Chevron 9-0517 (3900 Piedmont Ave.,Oakland) Project Number: 990823-S4 Project Manager: Christine Lillie	Sampled: 8/23/99 Received: 8/24/99 Reported: 9/9/99
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**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Morgan Hill**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
TB (continued)				9080850-05				
Methyl tert-butyl ether	9081012	8/28/99	8/28/99		2.50	ND	ug/l	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	"	"	70.0-130		95.0	%	



Blaine Tech Services (Chev) 1680 Rogers Avenue San Jose, CA 95112	Project: Chevron 9-0517 (3900 Piedmont Ave.,Oakland) Project Number: 990823-S4 Project Manager: Christine Lillie	Sampled: 8/23/99 Received: 8/24/99 Reported: 9/9/99
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**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/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: 9081012			Date Prepared: 8/28/99			Extraction Method: EPA 5030B [P/T]				
Blank			9081012-BLK1							
Purgeable Hydrocarbons	8/28/99			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	2.50				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.81	"	70.0-130	98.1			
LCS			9081012-BS1							
Purgeable Hydrocarbons	8/28/99	250		277	ug/l	70.0-130	111			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.3	"	70.0-130	103			
Matrix Spike			9081012-MS1 9080798-01							
Purgeable Hydrocarbons	8/28/99	250	ND	285	ug/l	60.0-140	114			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.4	"	70.0-130	104			
Matrix Spike Dup			9081012-MSD1 9080798-01							
Purgeable Hydrocarbons	8/28/99	250	ND	272	ug/l	60.0-140	109	25.0	4.48	
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.2	"	70.0-130	102			
Batch: 9081050			Date Prepared: 8/31/99			Extraction Method: EPA 5030B [P/T]				
Blank			9081050-BLK1							
Purgeable Hydrocarbons	8/31/99			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	0.500				
Methyl tert-butyl ether	"			ND	"	2.50				
Surrogate: a,a,a-Trifluorotoluene	"	10.0		10.2	"	70.0-130	102			
LCS			9081050-BS1							
Benzene	8/31/99	10.0		9.21	ug/l	70.0-130	92.1			
Toluene	"	10.0		9.13	"	70.0-130	91.3			
Ethylbenzene	"	10.0		9.35	"	70.0-130	93.5			
Xylenes (total)	"	30.0		28.5	"	70.0-130	95.0			
Surrogate: a,a,a-Trifluorotoluene	"	10.0		9.27	"	70.0-130	92.7			
Matrix Spike			9081050-MS1 9080584-03							
Benzene	8/31/99	10.0	ND	9.22	ug/l	60.0-140	92.2			
Toluene	"	10.0	ND	8.76	"	60.0-140	87.6			



Blaine Tech Services (Chev) 1680 Rogers Avenue San Jose, CA 95112	Project: Chevron 9-0517 (3900 Piedmont Ave.,Oakland) Project Number: 990823-S4 Project Manager: Christine Lillie	Sampled: 8/23/99 Received: 8/24/99 Reported: 9/9/99
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**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/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*
Matrix Spike (continued)		9081050-MS1	9080584-03							
Ethylbenzene	8/31/99	10.0	ND	9.09	ug/l	60.0-140	90.9			
Xylenes (total)	"	30.0	ND	27.5	"	60.0-140	91.7			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	10.0		7.33	"	70.0-130	73.3			
Matrix Spike Dup		9081050-MSD1	9080584-03							
Benzene	8/31/99	10.0	ND	9.26	ug/l	60.0-140	92.6	25.0	0.433	
Toluene	"	10.0	ND	8.84	"	60.0-140	88.4	25.0	0.909	
Ethylbenzene	"	10.0	ND	9.10	"	60.0-140	91.0	25.0	0.110	
Xylenes (total)	"	30.0	ND	27.7	"	60.0-140	92.3	25.0	0.652	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	"	10.0		7.47	"	70.0-130	74.7			



Blaine Tech Services (Chev) 1680 Rogers Avenue San Jose, CA 95112	Project: Chevron 9-0517 (3900 Piedmont Ave.,Oakland) Project Number: 990823-S4 Project Manager: Christine Lillie	Sampled: 8/23/99 Received: 8/24/99 Reported: 9/9/99
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Notes and Definitions

#	Note
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- D Data reported from a dilution.
- I Chromatogram Pattern: Gasoline C6-C12
- 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

4

CHEVRON WELL MONITORING DATA SHEET

Project #: <u>990823-54</u>	Station #: <u>9-0517</u>
Sampler: <u>KPS</u>	Date: <u>8/23/99</u>
Well I.D.: <u>MW-1</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <u>16.52</u>	Depth to Water: <u>9.15</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: _____

~~1.2~~ 1.2 x 3 = 3.6 Gals.
 1 Case Volume (Gals.) Specified Volumes Calculated Volume

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
14:10	70.0	6.4	441	1.5	
14:13	68.1	6.7	599	3	
14:16	67.9	7.0	623	4	

Did well dewater? Yes No Gallons actually evacuated: 4

Sampling Time: 14:20 Sampling Date: 8/23/99

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

4

CHEVRON WELL MONITORING DATA SHEET

Project #: 990823-54	Station #: 9-0517
Sampler: KPS	Date: 8/23/99
Well I.D.: MW-2	Well Diameter: ② 3 4 6 8
Total Well Depth: 16.45	Depth to Water: 6.4
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multplier	Well Diameter	Multplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius * 0.163

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

Sampling Method: Bailer
 Disposable Bailer
 Extraction Port
 Other: _____

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

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
14:30	74.3	6.9	45	1.5	
14:33	73.6	7.0	46	3	
14:36	73.4	7.3	46.3	5	

Did well dewater? Yes No Gallons actually evacuated: 5

Sampling Time: 14:40 Sampling Date: 8/23/99

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

4

CHEVRON WELL MONITORING DATA SHEET

Project #: 990823-54	Station #: 9-0517
Sampler: KPS	Date: 8/23/99
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8
Total Well Depth: 17.57	Depth to Water: 7.92
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Well Diameter	Multplier	Well Diameter	Multplier
2"	0.16	3"	1.02
3"	0.57	6"	1.47
4"	0.65	Other	radius ² * 0.165

Purge Method: Bailer / Disposable Bailer / Middleburg / Electric Submersible Extraction Pump

Sampling Method: Bailer / Disposable Bailer / Extraction Port / Other: _____

Other: _____

$$\frac{1.5}{\text{Case Volume (Gals.)}} \times \frac{3}{\text{Specified Volumes}} = \frac{4.5}{\text{Calculated Volume}} \text{ Gals.}$$

Time	Temp (°F)	pH	Cond.	Gals. Removed	Observations
14:48	72.9	7.0	588	1.5	
14:52	72.5	7.2	587	3	
14:56	72.6	7.3	641	5	

Did well dewater? Yes No Gallons actually evacuated: 5

Sampling Time: ~~15:02~~ 15:02 Sampling Date: 8/23/99

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