

November 5, 1998

Mr. Larry Seto 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

PO Box 6004

Chevron Products Company

6001 Bollinger Canyon Road Building L, Room 1110

San Ramon, CA 94583-0904

Re: Former Signal Service Station #S0800

800 Center Street Oakland, California

Dear Mr. Seto:

Enclosed are amended pages to the Third Quarter Monitoring report for 1998 dated October 19, 1998, that was prepared by our consultant Blaine Tech Services, Inc. for the above noted facility. The amended pages show the CUB analytical results by using gasoline degraders and summarizes the bio-parameters on one sheet as additional analyses.

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

Sincerely,

CHEVRON PRODUCTS COMPANY

Philip R. Briggs

Site Assessment and Remediation Project Manager

Enclosure

cc: Ms. Bette Owen, Chevron

Ms. Anne Payne, Chevron, V-1156

November 5, 1998 Mr. Larry Seto Former Signal Service Station #S0800 Page 2

Cc. Mr. Terrell A. Sadler 618 Brooklyn Avenue Oakland, CA. 94606

> Mr. James Scott BPH, Inc. 333 Hegenberger Road, Suite 209 Oakland, CA 94621

Mr. Hollis Rodgers c/o Victor E. Brown, Esq. 580 Grand Avenue Oakland, CA 94610

Mr. James Perkins, R.G., C.E.M. Pacific Environmental Group, Inc. 2025 Gateway Place, Suite 440 San Jose, CA 95110



Client: Sequoia Analytical Sequoia Workorder #:9810F55

Contact: Mike Gregory

October 29, 1998 CytoCulture Code: 98-82

Project Description/Code: Blaine/ 9810F55

Tel: 650-364-9600 Fax: 650-364-9233

SAMPLES: Six water samples were received on 10/22/98. The samples were assayed that day and stored at 4°C for any follow up work.

Hydrocarbon-Degrading Bacteria Enumeration Assays

ANALYSIS REQUEST: Bacterial enumeration for total petroleum hydrocarbon-degraders (gasoline) in

soil.

CARBON SOURCE: Petroleum hydrocarbons were added as the sole carbon and energy sources for the

growth of hydrocarbon-degrading aerobic bacteria on agar plates. Gasoline was dissolved into the agar to provide aliphatic and aromatic hydrocarbons in the

growth matrix.

PROTOCOLS:

Hydrocarbon Degraders: Sterile agar plates ($100 \times 15 \text{ mm}$) were prepared with minimal salts medium at pH 6.8 with 1.5% noble agar, without any other carbon sources or nutrients added. Plates were inoculated with 1.0 ml of sample or a log dilution of each water sample. Triplicate plates were inoculated with sample log dilutions of 10^{0} , 10^{-1} , and 10^{-2} . The hydrocarbon plates were poured on 10/22/98 and counted after 7 days on 10/29/98. The plate count data are reported as colony forming units (cfu) per milliliter (ml) of sample. Each bacteria population value represents a statistical average of the plate count data obtained with inoculations for two of the four log dilutions tested.

Hydrocarbon-Degrading Bacteria Enumeration Results

CLIENT SAMPLE NUMBER	SAMPLE DATE	HYDROCARBON DEGRADERS
		(cfu/gm)
MW-1	10/21/98	4.7×10^2
MW-2	10/21/98	8.8×10^2
MW-3	10/21/98	6.0 x 10 ¹
MW-4	10/21/98	8.6×10^4
MW-6	10/21/98	1.8×10^3
MW-7	10/21/98	4.8×10^3

1.0 x 10¹ cfu/ml is the lowest detection level for this assay.

Bacterial enumerations were performed by Dr. Sean P. Bushart. CytoCulture is available on a consulting basis to assist in the interpretation of these data and their application to field remediation protocols.

Sean P. Bushart, Ph.D. Laboratory Services

Randall von Wedel, Ph.D. Principal, Director of Research

Sequoia Analytical

Subcontracted Microbiology Assays performed by

CytoCulture Environmental Biotechnology

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Received for Cyto Culture Lab by: Date/Hr:					CytoCulture Tel: 510-233-0102 Please fax Chain of Custody form										
						Lab Services Fax: 510-233-3777 to CytoCulture prior to delivery									



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

November 3, 1998

Mr. Phil Briggs Chevron USA Products Company P.O. Box 6004 San Ramon, CA 94583-0904

Re: Former Signal Service Station #206145 (S-800)

Dear Mr. Briggs,

Please find attached the amended pages to the 3rd Quarter 1998 sampling report 980903-H-1 for the site listed above. Please replace the existing pages with the amended pages. If you have any questions or comments, I can be reached at (408) 573-0555 ext. 206.

Sincerely,

Christine Lillie Project Coordinator \$3 001 29 PM 2: 53

October 27, 1998

Mr. Larry Seto Alameda County Health Care Services Department of Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Former Signal Service Station #S0800

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

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

Dear Mr. Seto:

Re:

Enclosed is a copy of the Third Quarter Groundwater Monitoring report for 1998 and dated October 19, 1998, that was prepared by our consultant Blaine Tech Services, Inc. for the above noted facility. Groundwater samples were analyzed for Contaminate Utilizing Bacteria (CUB) and the bio-parameters of Alkalinity, Ferrous Iron, Nitrate and Sulfate. Monitoring wells MW-1, MW-2, MW-3, MW-6 and MW-7 were sampled for all constituents while well MW-4 was only sampled for CUB. Well MW-5 was inaccessible and therefore, no sample was taken.

The previous sampling event, in which the CUB was determined, used hydrocarbon-degraders of diesel and jet fuel as the growth matrix. Since the area of the site was impacted with gasoline-based hydrocarbons an additional sampling event was requested for CUB. However, our consultant failed to specify on the chain of custody form that this analysis was to be run with gasoline-degraders and the lab used the standard analysis of diesel and jet fuel in this sampling event (copy of letter from consultant enclosed). When this error was discovered the consultant re-sampled the site last week and the results are expected within ten days. Note that the lab waits 7 days before they take a plate count of the bacteria.

The depth to ground water varied from 8.08 feet to 9.71 feet below grade with a direction of flow southwesterly.

October 27, 1998 Mr. Larry Seto Former Signal Service Station #S0800 Page 2

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

Sincerely,

CHEVRON PRODUCTS COMPANY

Philip R. Briggs

Site Assessment and Remediation Project Manager

Enclosure

cc: Ms. Bette Owen, Chevron

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Mr. James Perkins, R.G., C.E.M. Pacific Environmental Group, Inc. 2025 Gateway Place, Suite 440 San Jose, CA 95110



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

October 19, 1998

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

3rd Quarter 1998 Monitoring at 206145 (S-800)

Third Quarter 1998 Groundwater Monitoring at Former Chevron Service Station Number 206145 800 Center St. Oakland, CA

Monitoring Performed on September 3, 1998

Sampling for Confaminate Utilizing

Backeria (CUB) performed on 10-21-98

Groundwater Sampling Report 980903-H-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,

Francis Thie Vice President

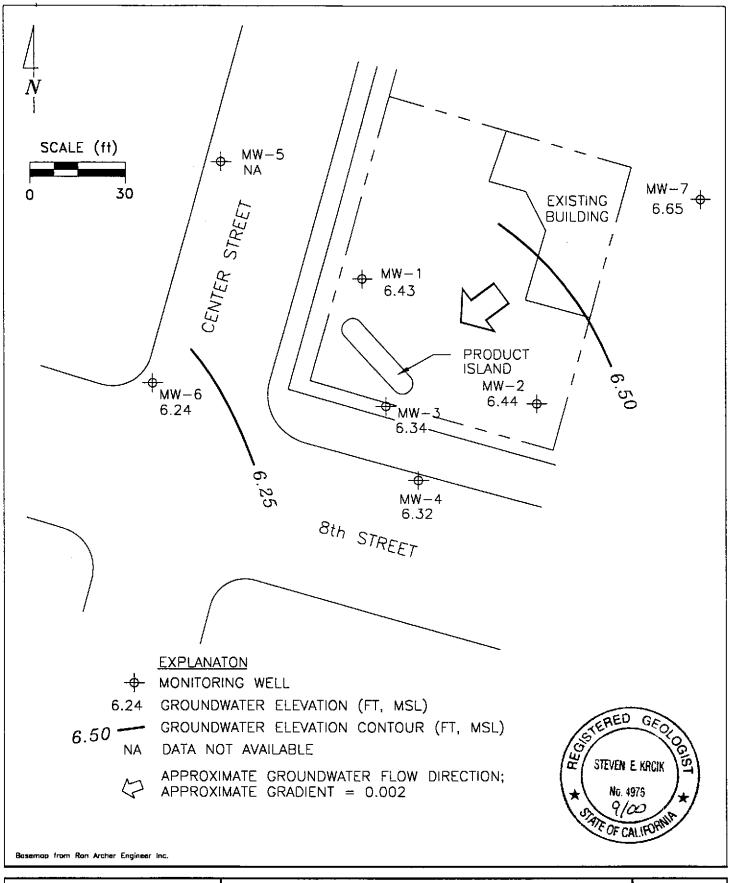
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attachments: Professional Engineering Appendix

Cumulative Table of Well Data and Analytical Results

Analytical Appendix Field Data Sheets

Professional Engineering Appendix





Former Signal Service Station 206145

800 Center Street Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP, SEPTEMBER 3, 1998

FIGURE:

1 PROJECT: DACO4

Table of Well Data and Analytical Results

Vertical Mea	asurements	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	CUB (cfu/ml)	
MW-1		·	-									
10/27/95	15.69	10.54	5.15		170,000	19,000	34,000	4800	26,000			
02/20/97	15.64	8.96	6.68		18,000	870	3500	470	2100	<250		
04/24/97	15.64	7.30	8.34		76,000	4600	16,000	1600	8300	1000		
07/23/97	15.64	5.90	9.74		37,000	2700	8000	870	6100	<250		
10/29/97	15.64			Inaccessible								
01/28/98	15.64	9.30	6.34		10,000	380	2000	300	1500	<25		
05/11/98	15.64	8.72	6.92		17,000	880	3100	380	2300	<250		
07/16/98	15. 64	7.23	8.41		29,000	2700	6800	890	3900	<1000		
08/04/98	15.64	6.90	8.74	**							<1.0 x 10 ¹	
09/03/98	15.64	6.43	9.21	**/+							4.1×10^3	
10/21/98	15.64	5.59	10.05	***				 ·			4.7×10^2	
MW-2												
10/27/95	15.77	10.60	5.17		<50	<0.5	<0.5	<0.5	<0.5			
02/20/97	15.72	8.51	7.21		<50	<0.5	<0.5	<0.5	<0.5	<2.5	No also	
04/24/97	15.72	7.82	7.90		83*	<0.5	<0.5	<0.5	<0.5	<2.5		
07/23/97	15.72	5.92	9.80		<50	<0.5	<0.5	<0.5	<0.5	<2.5		
10/29/97	15.72	5.13	10.59		<50	<0.5	<0.5	<0.5	<0.5	<2.5		
01/28/98	15.72	9.21	6.51		<50	<0.5	<0.5	<0.5	<0.5	<2.5		
05/11/98	15.72	8.82	6.90	Sampled annually								
07/16/98	15.72	7.37	8.35									
08/04/98	15.72	7.03	8.69	**							1.9×10^{1}	
09/03/98	15.72	6.44	9.28	**/+		-+					3.0×10^{2}	
10/21/98	15.72	5.51	10.21	***							8.8×10^{2}	

^{*} Chromatogram pattern indicates an unidentified hydrocarbon.

^{**} Contaminate hydrocarbon utilizing bacteria plate count was run with diesel and jet fuel degraders.

^{***}Contaminate hydrocarbon utilizing bacteria plate count was run with gasoline degraders.

⁺ See Table of Additional Analyses.

Vertical Mea	asurements	are in feet.		Analytical results are in parts per billion (ppb)									
	Well	Ground	Depth										
DATE	Head Elev.	Water Elev.	To Water	Notes	TPH- Gasoline	Benzene	Toluene	Ethyl- Benzene	Xylene	MTBE	CUB (cfu/ml)		
MW-3						· · · · · · · · · · · · · · · · · · ·							
10/27/95	15.46	10.37	5.09		33,000	11,000	1700	2300	4200				
02/20/97	15.42	8.37	7.05		260	56	<1.0	7.6	5.9	<5.0			
04/24/97	15.42	7.29	8.13		1400	310	28	76 .	75	74			
07/23/97	15.42	5.84	9.58		37,000	10,000	1500	2700	4200	2500			
10/29/97	15.42	5.09	10.33		53,000	12,000	1200	3000	3100	2500			
01/28/98	15.42	8.94	6.48		210	43	1.5	1.7	3.9	10			
05/11/98	15.42	8.49	6.93		59	11	<0.5	2.1	<0.5	<2.5			
07/16/98	15.42	7.14	8.28		260	90	4.8	18	5.7	<10			
08/04/98	15.42	6.88	8.54	*							8.5×10^{2}		
09/03/98	15.42	6.34	9.08	*/+		**					2.4×10^3		
10/21/98	15.42	5.62	9.80	**							6.0 x 10 ¹		
MW-4													
10/27/95	14.45	9.37	5.08		66	6.8	<0.5	<0.5	< 0.5				
02/20/97	14.40	8.12	6.28		54	<0.5	<0.5	<0.5	7.4	39			
04/24/97	14.40	7.29	7.11		54	1.4	<0.5	0.65	3.0	100			
07/23/97	14.40	5.80	8.60		<50	<0.5	<0.5	<0.5	<0.5	<2.5			
10/29/97	14.40	5.74	8.66	Inaccessible									
11/13/97	14.40	4.97	9.43		<50	<0.5	0.79	<0.5	<0.5	<2.5			
01/28/98	14.40	8.88	5.52		<50	<0.5	<0.5	<0.5	<0.5	<2.5			
05/11/98	14.40	8.40	6.00	Sampled biannually									
07/16/98	14.40	7.08	7.32		<50	<0.5	<0.5	<0.5	<0.5	<5.0			
08/04/98	14.40	6.28	8.12	*	**						1.8 x 10 ⁴		
09/03/98	14.40	6.32	8.08	*/+		**				_	1.4×10^4		
10/21/98	14.40	5.64	8.76	**							8.6 x 10 ⁴		

^{*} Contaminate hydrocarbon utilizing bacteria plate count was run with diesel and jet fuel degraders.

^{**} Contaminate hydrocarbon utilizing bacteria plate count was run with gasoline degraders.

⁺ See Table of Additional Analyses.

Vertical Me	asurements	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	мтве	CUB (cfu/ml)		
MW-5													
01/03/97					<50	<0.5	<0.5	<0.5	<0.5				
02/20/97	15.03			Inaccessible	44 (4)					_			
04/24/97	15.03			Inaccessible									
04/30/97	15.03	7.06	7.97		<50	<0.5	<0.5	<0.5	<0.5	<2.5			
07/23/97	15.03			Inaccessible						_			
10/29/97	15.03			Inaccessible									
01/28/98	15.03	8.83	6.20		<50	<0.5	<0.5	<0.5	<0.5	<2.5	••		
05/11/98	15.03			Inaccessible									
07/16/98	15.03	7.28	7.75		<50	<0.5	<0.5	<0.5	<0.5	<5.0			
08/04/98	15.03			Inaccessible				w.w					
MW-6													
01/03/97					<50	<0.5	<0.5	<0.5	<0.5				
02/20/97	14.73	8.11	6.62		800	310	23	11	28	<12			
04/24/97	14.73	7.13	7.60		<50	<0.5	<0.5	<0.5	<0.5	<2.5			
07/23/97	14.73	5.73	9.00		<50	<0.5	<0.5	<0.5	<0.5	<2.5			
10/29/97	14.73	4.98	9.75		<50	<0.5	<0.5	<0.5	<0.5	<2.5			
01/28/98	14.73	8.19	6.54		160	38	<0.5	<0.5	<0.5	<2.5			
05/11/98	14.73	8.08	6.65		1700	490	72	39	52	<25			
07/16/98	14.73	7.04	7.69		<50	<0.5	<0.5	<0.5	<0.5	<5.0			
08/04/98	14.73	6.89	7.84	*							8.6 x 10 ³		
09/03/98	14.73	6.24	8.49	*/+						**	2.9×10^{3}		
10/21/98	14.73	5.46	9.27	**							1.8×10^{3}		

^{*} Contaminate hydrocarbon utilizing bacteria plate count was run with diesel and jet fuel degraders.

^{**}Contaminate hydrocarbon utilizing bacteria plate count was run with gasoline degraders.

⁺ See Table of Additional Analyses.

Vertical Me	asurements	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	мтве	CUB (cfu/ml)
MW-7			· · · · · · · · · · · · · · · · · · ·								
01/03/97					<50	<0.5	<0.5	<0.5	<0.5		
02/20/97	16.36	8.86	7.50		<50	<0.5	<0.5	<0.5	<0.5	<2.5	
04/24/97	16.36	7.59	8.77		<50	<0.5	<0.5	<0.5	<0.5	<2.5	
07/23/97	16.36	6.09	10.27		<50	<0.5	<0.5	<0.5	<0.5	<2.5	
10/29/97	16.36	5.28	11.08		<50	<0.5	<0.5	<0.5	<0.5	<2.5	
01/28/98	16.36	9.10	7.26		<50	<0.5	<0.5	<0.5	<0.5	<2.5	
05/11/98	16.36	9.11	7.25	Sampled annually	•••						
07/16/98	16.36	8.00	8.36							-	
08/04/98	16.36	7.32	9.04	*							1.5 x 10 ³
09/03/98	16.36	6.65	9.71	*/+							6.5×10^2
10/21/98	16.36	5.96	10.40	**							4.8×10^{3}

^{*} Contaminate hydrocarbon utilizing bacteria plate count was run with diesel and jet fuel degraders.

^{**}Contaminate hydrocarbon utilizing bacteria plate count was run with gasoline degraders.

⁺ See Table of Additional Analyses.

Vertical Me	asurements	s 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	CUB (cfu/ml)
TRIP B	LANK				_			•			
02/20/97		**			<50	<0.5	<0.5	<0.5	<0.5	<2.5	
04/24/97					· <50	<0.5	<0.5	<0.5	<0.5	<2.5	
07/23/97					<50	<0.5	<0.5	<0.5	<0.5	<2.5	
10/29/97					<50	<0.5	<0.5	<0.5	<0.5	<2.5	
01/28/98					<50	<0.5	<0.5	<0.5	<0.5	<2.5	
05/11/98					<50	<0.5	<0.5	<0.5	<0.5	<2.5	
07/16/98					<50	<0.5	<0.5	<0.5	<0.5	<5.0	

ADDITIONAL ANALYSES

Analytical values are in parts per billion (ppb)

DATE	Notes	Total Alkalinity	Ferrous Iron	Nitrate as Nitrate	Sulfate	Pre-purge D.O. (mg/L)	Post-purge D.O. (mg/L)	Pre-purge O.R.P. (mV)	Post-purge O.R.P. (mV)
MW-1 09/03/98		230,000	9800	<1000	6100	2.3	1.6	-90	-103
MW-2 09/03/98		390,000	7400	<1000	21,000	2.8	2.5	-206	-163
MW-3 09/03/98		830,000	45,000	<1000	10,000	3.1	0.7	-124	-99
MW-4 09/03/98						2.6	1.1	-190	-206
MW-6 09/03/98		94,000	62	28,000	47,000	2.6	3.2	-148	-167
MW-7 09/03/98		170,000	120	7800	57,000	2.7	3.2	-207	-229

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on February 20, 1997.

Earlier field data and analytical results are drawn from the January 24, 1997 Groundwater Technology, Inc. report.

ABBREVIATIONS:

TPH = Total Petroleum Hydrocarbons

MTBE = Methyl t-Butyl Ether

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

CUB = Contaminate Utilizing Baceria

Analytical Appendix



Redwood City, CA 94063 Walnut Creek, CA 94598 Sacramento, CA 95834 Petaluma, CA 94954 (650) 364-9600 (925) 988-9600 (916) 921-9600 (707) 792-1865

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

Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Client Proj. ID: Chevron 206145, 980903-H1

Sampled: 09/03/98 Received: 09/04/98 Analyzed: see below

San Jose, CA 95112 Attention: Fran Thie Lab Proj. ID: 9809546

Reported: 09/23/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9809546-01 Sample Desc : LIQUID,MW-1				
Alkalinity: Total Bacti Count Ferrous Iron Nitrate as Nitrate Sulfate	mg CaCO3/L P/A mg/L mg/L mg/L	09/15/98 09/21/98 09/10/98 09/10/98	40.0 0.010 1.0 1.0	230 Attached 9.8 N.D. 6.1
Lab No: 9809546-02 Sample Desc : LIQUID,MW-2				
Alkalinity: Total Bacti Count Ferrous Iron Nitrate as Nitrate Sulfate	mg CaCO3/L P/A mg/L mg/L mg/L	09/15/98 09/21/98 09/10/98 09/10/98	40.0 0.010 1.0 1.0	390 Attached 7.4 N.D. 21
Lab No: 9809546-03 Sample Desc : LIQUID,MW-3				
Alkalinity: Total Bacti Count Ferrous Iron Nitrate as Nitrate Sulfate	mg CaCO3/L P/A mg/L mg/L mg/L	09/15/98 09/21/98 09/10/98 09/10/98	40.0 0.010 1.0 1.0	830 Attached 45 N.D. 10
Lab No: 9809546-04 Sample Desc : LIQUID,MW-6				
Alkalinity: Total Bacti Count Ferrous Iron Nitrate as Nitrate Sulfate	mg CaCO3/L P/A mg/L mg/L mg/L	09/15/98 09/21/98 09/10/98 09/10/98	40.0 0.010 1.0 1.0	94 Attached 0.062 28 47

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory Project Manager

Page:



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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:

Lab Proj. ID: 9809546

Chevron 206145, 980903-H1

Sampled: 09/03/98 Received: 09/04/98 Analyzed: see below

Attention:

Fran Thie

Reported: 09/23/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9809546-05 Sample Desc : LIQUID,MW-7				
Alkalinity: Total Bacti Count	mg CaCO3/L P/A	09/15/98	40.0	170 Attached
Ferrous Iron	mg/L	09/21/98	0.010	0.12
Nitrate as Nitrate	mg/L	09/10/98	1.0	7.8
Sulfate	mg/L	09/10/98	1.0	57

Lab No:

9809546-06 Sample Desc : LIQUID, MW-4

Bacti Count

P/A

Attached

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

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Project Manager

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

Client Proj. ID: Chevron 206145, 980903-H1

Received: 09/04/98
Reported: 09/23/98 Received: 09/04/98

Lab Proj. ID: 9809546

Reported: 09/23/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of f^0 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

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Mike Gregory Project Manager

Page: 1



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Reported: Sep 23, 1998

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

Client Project ID: Chevron 206145, 980903-H1

QC Sample Group: 9809546-01-05

QUALITY CONTROL DATA REPORT

Liquid Method: EPA 300.0 Analyst: G. Fish

Matrix:

Analyst.	G. FISH											
ANALYTE	Fluoride	Chloride	Nitrite	Bromide	Nitrate	Phosphate	Sulfate					
QC Batch #: 0	QC Batch #: 0910983000ACB											
Sample No.:	9809512-2											
Date Prepared:	9/10/98	9/10/98	9/10/98	9/10/98	9/10/98	9/10/98	9/10/98					
Date Analyzed:	9/10/98	9/10/98	9/10/98	9/10/98	9/10/98	9/10/98	9/10/98					
Instrument I.D.#:	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1					
Sample Conc., mg/L:	N.D.	39	N.D.	N.D.	N.D.	N.D.	80					
Conc. Spiked, mg/L:	100	100	100	100	100	100	100					
Matrix Spike, mg/L:	100	130	94	91	93	77	190					
% Recovery:	100	91	94	91	93	77	110					
Matrix												
Spike Duplicate, mg/L:	110	140	98	95	97	83	190					
% Recovery:	110	101	98	95	97	83	110					
Relative % Difference:	9.5	10	4.2	4.3	4.2	7.5	0.0					
RPD Control Limits:												

LCS Batch#: LCS0910983000ACB

Date Prepared:	9/10/98	9/10/98	9/10/98	9/10/98	9/10/98	9/10/98	9/10/98
Date Analyzed:	9/10/98	9/10/98	9/10/98	9/10/98	9/10/ 9 8	9/10/98	9/10/98
Instrument I.D.#:	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1	INAC1
Conc. Spiked, mg/L:	10	10	10	10	10	10	10
LCS Recovery, mg/L:	10	9.2	9.7	9.1	9.3	9.1	9.4
LCS % Recovery:	100	92	97	91	93	91	94

Percent Recovery Control Limits:

reident necovery Cor	itroi tillillis.						
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:

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: Fran Thie Client Project ID: Chevron 206145, 980903-H1

QC Sample Group: 9809546-01-05

Reported: Sep 23, 1998

QUALITY CONTROL DATA REPORT

Matrix: Method: Liquid

Analyst:

EPA 310.2 K. Cesar

ANALYTE

Alkalinity

QC Batch #: IN0915983102FIA

Sample No.:

9809546-1

Date Prepared:

9/15/98

Date Analyzed:

9/15/98

Instrument I.D.#:

FIA

Sample Conc., mg/L:

230

Conc. Spiked, mg/L:

100

100

Matrix Spike, mg/L:

340

% Recovery:

110

Matrix

Spike Duplicate, mg/L:

340 110

% Recovery:

Relative % Difference:

0.0

RPD Control Limits:

0-20

LCS Batch#:

LCS091598

Date Prepared:

9/15/98

Date Analyzed: Instrument I.D.#:

9/15/98 FIA

Conc. Spiked, mg/L:

200

LCS Recovery, mg/L:

200

LCS % Recovery:

220 111

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.

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Blaine Tech Services, Inc.

1680 Rogers Ave.

San Jose, CA 95112

Client Project ID:

Chevron 206145, 980903-H1

Matrix:

Liquid

Attention: Fran Thie

Work Order #:

9809546 -01-05

Reported: S

Sep 24, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel .	•
QC Batch#:	ME0921986010M2A	ME0921986010M2A	ME0921986010M2A	ME0921986010M2A	
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010	
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010	
Analyst:	C. Caoile	C. Caoile	C. Caoile	C. Caoile	
MS/MSD #:	9809B1303	9809B1303	9809B1303	9809B1303	
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	
Prepared Date:	9/21/98	9/21/98	9/21/98	9/21/98	
Analyzed Date:	9/21/98	9/21/98	9/21/98	9/21/98	
strument 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:	1.1	0.88	0.96	0.95	
MS % Recovery:	110	88	96	95	
Dup. Result:	1.0	0.89	0.96	0.95	
MSD % Recov.:	100	89	96	95	
RPD:	9.5	1.1	0.0	0.0	
RPD Limit:	0-20	0-20	0-20	0-20	

LCS #:	CCVMI090998	CCVMI090998	CCVMt090998	CCVMI090998
Prepared Date:	9/9/98	9/9/98	9/9/98	9/9/98
Analyzed Date:	9/9/98	9/9/98	9/9/98	9/9/98
Instrument I.D.#:	MTJA5	MTJA5	MTJA5	MTJA5
Conc. Spiked:	5.0 mg/L	5.0 mg/L	5.0 mg/L	5.0 mg/L
LCS Result:	5.0	5.1	5.1	5.3
LCS % Recov.:	100	102	102	106
MS/MSD	80-120	80-120	80-120	80-120
LCS Control Limits	80 -120	80-120	80-120	80-120

Please Note:

SEQUOIA ANALYTICAL

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

interference, the LCS recovery is to be used to validate the batch.

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

9809546.BLA <1>

Field Data Sheets

i	· · · · · · · · · · · · · · · · · · ·								
Project #:	: 98090	3-H1	· .	Station #: 206/4/5					
Sampler:	MH			Date: 9/5	798				
Well I.D.	: Mw-1		·	Well Diameter: 2 3 4 6 8					
Total We	II Depth:	13.47		Depth to Water: 9.2/					
Depth to	Free Produ	ıct:		Thickness of Free Product (feet):					
Reference	ed to:	PVC)	Grade	D.O. Meter (i	if req'd): YSI HACH	I			
2" 0.16 3" 0.37			0.16 0.37	5° 1	Multiplier 1.02 1.47 1.s ² * 0.163				
Purge Method: Bailer Disposable Bailer Middleburg Electric Submersible Extraction Pump Other:			sible	Sampling Method: Bailer Disposable Bailer Extraction Port Other:					
		. 7 lume (Gals.)	X Specified V		Z./ Gais. Calculated Volume				
Time	Temp (°F)	pН	Cond.	Gals. Removed	d Observations				
1603	68.5	6.3	458	/	C der				
1605	69.3	6.4	471	2	1				
1607	69.4	6.5	493	3	→				
Did well	dewater?	Yes	No	Gallons actually evacuated:					
Sampling Time: 1610				Sampling Date: 9/3					
Sample I.D.: NW-7/				Laboratory:	Sequoia GTEL N. Creek Assoc.				
Analyzed for: TPH-G BTEX MTBE TPH-D				Other: Contain in	rade, Ferrors Iron rade Hydrocator, Alkalinity / Sut	44			
Duplicate I.D.: Analyzed for:					MTBE TPH-D Other:				
D.O. (if re	eq'd):		Pre-purge:	2.3 "3/	/u Post-purge: /, 6	mg/⊓			
O.R.P. (if	req'd):		Pre-purge:	- 90 m	V Post-purge: -	mV			

Project #: 980903 - 41				Station #: 206145					
Sampler:	MH			Date: 9/3/98					
Well I.D.	: MW-2	,		Well Diamete	er: 2	3 4	6	8	
Total We	ll Depth:	13.29	Depth to Water: 9.28						
Depth to 1	Free Produ	ict:	Thickness of Free Product (feet):						
Reference	ed to:	PVC	Grade	D.O. Meter (i	f req'd):		YSI	HAC	H
2" 0.16 3" 0.37			5" I. 6" I.	fultiplier .02 .47 .2 • 0.163					
Purge Method: Disposable Bailer Middleburg Electric Submersible Extraction Pump Other:				∠ Disposa	ion Port				
	1 Case Volume (Gals.) X Specified				Calculated V	Gals. Volume			
Time	Temp (°F)	pН	Cond.	Gals. Removed	Obser	vations			
1458	71,2	6.0	819	j					
1502	70.4	6.7	851	1.5					
1502	70,6	6.7	853	2					
Did well dewater? Yes No			Gallons actual	Iy evacua	ated: 2				
Sampling Time: 150 7			Sampling Date	: 9/3	-	-			
Sample I.D.: MW - 2			Laboratory:	Sequoia	GTEL	N. Creek	Assoc	. Labs	
Analyzed for: TPH-G BTEX MTBE TPH-D			Other: Contami	itrate,	Ferrow on Carte	s Iro	14/50	y fak	
Duplicate I.D.: Analyzed for:				•	PH-D	Other:	, -, .		
D.O. (if re	:q'd):		Pre-purge:	2.8 mg/	Pos	t-purge:	2,5	-	^{mg} /⊔
O.R.P. (if	req'd):		Pre-purge:	- 20(mV	Pos	st-purge:	_ /	()	mV

Station #: 206145 Project #: 980903-41 Sampler: MH Well Diameter: 2 Well I.D.: NW-3 Depth to Water: 9.08 Total Well Depth: 1426 Thickness of Free Product (feet): Depth to Free Product: PVC USI Referenced to: D.O. Meter (if req'd): HACH Grade Well Diameter Multiplier Well Diameter Multiplier 0.16 1.02 6" 0.37 1.47 radius² * 0.163 0.65 Other Sampling Method: Bailer Purge Method: Bailer ✓ Disposable Bailer Disposable Bailer Extraction Port Middleburg Other: _ Electric Submersible Extraction Pump Other: 0.8 Calculated Volume 1 Case Volume (Gals.) Specified Volumes Temp (°F) Cond. Gals. Removed Observations pΗ Time 6.7 70.7 1415 1551 6.8 94 1312 1307 6.8 L9.3 15.55 No Gallons actually evacuated: Did well dewater? Yes Sampling Date: Sampling Time: 1558 Sample I.D.: Mw - 3 Laboratory: Sequoia GTEL N. Creek Assoc. Labs Iron N. trate, Other: Contaminate Locarbon Allealinity Butter Analyzed for: TPH-G BTEX MTBE TPH-D Duplicate I.D.: Analyzed for: TPH-G BTEX MTBE TPH-D Other: 0.> D.O. (if req'd): Pre-purge: J.1 Post-purge: mVO.R.P. (if req'd): Post-purge: Pre-purge: -124 m√

	_							
Project #:	98090	13-41		Station #: 206145				
Sampler:	MH			Date: 9/3/98				
Well I.D.	: MW - 4	/	·	Well Diameter: 2 3 4 6 8				
Total We	ll Depth:/	3.43		Depth to Water: 8.08				
Depth to 1	Free Produ	ict:		Thickness of F	ree Product (feet):			
Reference	ed to:	(PVC')	Grade	D.O. Meter (if	req'd): YSI HACH			
2" 0.16 3" 0.37 4" 0.65 Purge Method: Bailer ✓ Disposable Bailer Middleburg Electric Submersible Extraction Pump			0.16 0.37 0.65 ler ible	Weil Diameter Multiplier 5" 1.02 6" 1.47 Other radius* * 0.163 Sampling Method: Bailer Disposable Bailer Extraction Port Other:				
	Other:				Gals. Alculated Volume			
Time	Temp (°F)	pН	Cond.	Gals. Removed	Observations			
1514	72.5	6.6	737	/	Black Color			
15/6	71.9	6.5	741	2				
1518	71.7	6.5	740	3	→			
					•			
Did well d	lewater?	Yes	No	Gallons actually evacuated: 3				
Sampling Time: 1520				Sampling Date: 9/3				
Sample I.D.: MW - 4				Laboratory:	Sequoia GTEL N. Creek Assoc. Labs			
Analyzed:	for: TPH-(G BTEX	MTBE TPH-D	Other: Contago	ninate Hydrocarbon			
Duplicate	I.D.:		Analyzed for:		MTBE TPH-D Other:			
D.O. (if re	q'd):		Pre-purge:	2.6 mg/u	Post-purge: /, / "" /L			
O.R.P. (if	req'd):		Pre-purge:	-190 mV	Post-purge: -206 mV			

Project #:	: 98090	3-41		Station #: 2	C6145			
Sampler:	MH			Date: 9/3/98				
Well I.D.	: MW-6	·		Well Diameter	r: ② 3 4	6 8		
Total We	ll Depth:	19.68		Depth to Water: 8,49				
Depth to	Free Produ	ıct:		Thickness of F	Free Product (fee	et):		
Reference	ed to:	PVC	Grade	D.O. Meter (if		YSI	НАСН	
Purge Metho		Bailer	0.16 0.37 0.65	5" 1.03 6" 1.41	7 * 0.163 : Bailer			
	Ele	Disposable Bai Middleburg ectric Submers Extraction Pun	sible	Other:	Disposable Bailer Extraction Port	-		
	1 Case Vo	Solume (Gals.)	XS Specified V		Gals. alculated Volume			
Time	Temp (°F)	pН	Cond.	Gals. Removed	Observations			
1531	73.1	6.4	390	2				
1534	72.4	6.5	487	4				
1539	723	6.5	49/	6				
Did well d	lewater?	Yes	No	Gallons actually	y evacuated: (6		
Sampling	Time: /5	95		Sampling Date:	: 9/3			
Sample I.I	D.: MW	-6		Laboratory:	Sequoia GTEL			
Analyzed	for: TPH-	G BTEX	MTBE TPH-D	Other: Contamin	i trate, Ferro	US Iron	1: 1. Butak	
Duplicate	I.D.:				MTBE TPH-D	Other:	7	
D.O. (if re	:q'd):		Pre-purge:	2. c "%/L	Post-purge:	3.2	mg/L	
O.R.P. (if	req'd):		Pre-purge:	-448 mV	Post-purge:		mV	

Project #1		_					
Project #: 980903 - A	//	Station #: 206145					
Sampler: MH		Date: 9/3/98					
Well I.D.: MW - 7		Well Diameter: 2 3 4 6 8 Depth to Water: 9.7/					
Total Well Depth: 18.3/	<i>'</i>						
Depth to Free Product:		Thickness of F	ree Product (fe	et):	<u> </u>		
Referenced to: Pv	C Grade	D.O. Meter (if	req'd):	YSI	НАСН		
Well Diameter 2" 3" 4"	Multiplier W. 0.16 0.37 0.65	Veil Diameter Multiplier 5° 1.02 6° 1.47 Other radius² • 0.163					
Purge Method: Bail Disposable Middle Electric Sub Extraction Other:	e Bailer burg omersible	Sampling Method: Bailer Disposable Bailer Extraction Port Other:					
1.4 1 Case Volume (Ga	x 3 Specified V		7. 2 Gals. alculated Volume				
Time Temp (°F) pH	Cond.	Gals. Removed	Observations				
1431 72.2 73	574	1.5					
143471.6 7.2	515	3.0					
1439 71.4 7.	2 523	4.5					
				· · · · · ·			
Did well dewater? Yes	No	Gallons actuall	y evacuated:	15			
Sampling Time: 1445		Sampling Date:	9/3				
Sample I.D.: MW-7	Laboratory:	Sequoia GTEL	N. Creek	Assoc. La	abs		
Analyzed for: трн-с вте	Other: Nitrate	ate Hydrocar	bon, Alka	Inity,5	ulfate		
Duplicate I.D.:	Analyzed for:		MTBE TPH-D	Other:			
D.O. (if req'd):	Pre-purge:	2.7 mg/L	Post-purge:	3,2		mg/L	
O.R.P. (if req'd):	Pre-purge:	-267 mV	Post-purge:		9	mV	