Chevron U.S.A. Inc.
2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

Marketing Department

92 JAN 14 PM 1:23

January 10, 1992

Mr. Paul Smith
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

Re: Former Chevron Service Station #9-0019
210 Grand Avenue, Oakland

Dear Mr. Smith:

Enclosed we are forwarding the Quarterly Ground Water Sampling Report dated December 23, 1991, prepared by our consultant Sierra Environmental Services for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline, BTEX, halogenated volatile organics and metals. Benzene was detected in monitor wells MW-1, MW-4, MW-5, and MW-6 only at concentrations of 7.2, 3.4, 8000, and 1.9 ppb, respectively. Negligible concentrations of 1,2-DCA were detected in monitor wells MW-3 and MW-5 only. Negligible concentrations of metals were detected in monitor wells MW-5, MW-7 and MW-8 only. These wells are located cross-gradient from the potential source area on-site approximately 60 to 100-feet. Based upon this data, we surmise that the concentrations detected are not a reflection of our past operations of a service station. Thus, we will discontinue analyzing for metals in subsequent sampling events. We would appreciate your review and comments. Depth to groundwater was measured at approximately 5.5 to 7.5-feet below grade, and the direction of flow fluctuates from the west-northwest to the southwest.

* MW-5 is only 20' cross gradient

Chevron will continue to sample this site and report findings on a quarterly basis. We are currently evaluating all of the data collected to date for assessment of appropriate next actions with respect to corrective action. A work plan will be prepared outlining our proposed course of action and forwarded to you for your review and concurrence prior to implementation.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-9581.

Very truly yours,
CHEVRON U.S.A. INC.

Nancy Vukelich
Environmental Engineer

cc: Mr. Eddy So, RWQCB-Bay Area
Ms. Jean Wahler, Sierra Environmental Services
Ms. B.C. Owen
File (9-0019Q2)

SIERRA

Environmental Services

December 23, 1991

Nancy Vukelich
Chevron USA
P.O. Box 5004
San Ramon, CA 94583

Re: Former Chevron Service Station #9-0019
210 Grand Avenue
Oakland, California
SES Project #1-200-04

Dear Ms. Vukelich:

This report presents the results of the quarterly ground water sampling at Former Chevron Service Station #9-0019, located at 210 Grand Avenue in Oakland, California (Figure 1, Appendix A). Eight wells, MW-1 and MW-3 through MW-9, were sampled (Figure 2, Appendix A).

On November 22, 1991, SES personnel visited the site. Free-phase hydrocarbons were not present in any of the site wells. Water level data are shown in Table 1 (Appendix B) and a ground water elevation contour map is included as Figure 2 (Appendix A).

Ground water samples were collected on November 22, 1991 in accordance with SES Standard Operating Procedure - Ground Water Sampling (Appendix C). All analyses were performed by Superior Precision Analytical, Inc. of Martinez, California. Analytic results for ground water are presented in Tables 2 and 3 (Appendix B). The chain of custody documents and laboratory analytic reports are included in Appendix D. SES is not responsible for laboratory omissions or errors.

On November 15, 1991, well MW-2 (Figure 2, Appendix A) **was destroyed** by Soils Exploration Services, C-57 License #582696, of Vacaville, California, using a drill rig with a 10-inch hollow-stem auger. The entire casing and all well construction materials were drilled out per Alameda County Permit #91642.

Thank you for allowing us to provide services to Chevron. Please call if you have any questions.

Sincerely,
Sierra Environmental Services

Chris J. Bramer
Senior Project Engineer

Roger Greensfelder
Registered Geologist #003011

REGISTERED GEOLOGIST
R. N. GREENSFELDER
No. 003011
STATE OF CALIFORNIA

AM/CJB/RG/ly
20004QM.DE1

Appendices
A - Figures
B - Tables
C - SES Standard Operating Procedure
D - Chain of Custody Documents and Laboratory Analytic Reports

cc: Wyman Hong, Alameda County Flood Control

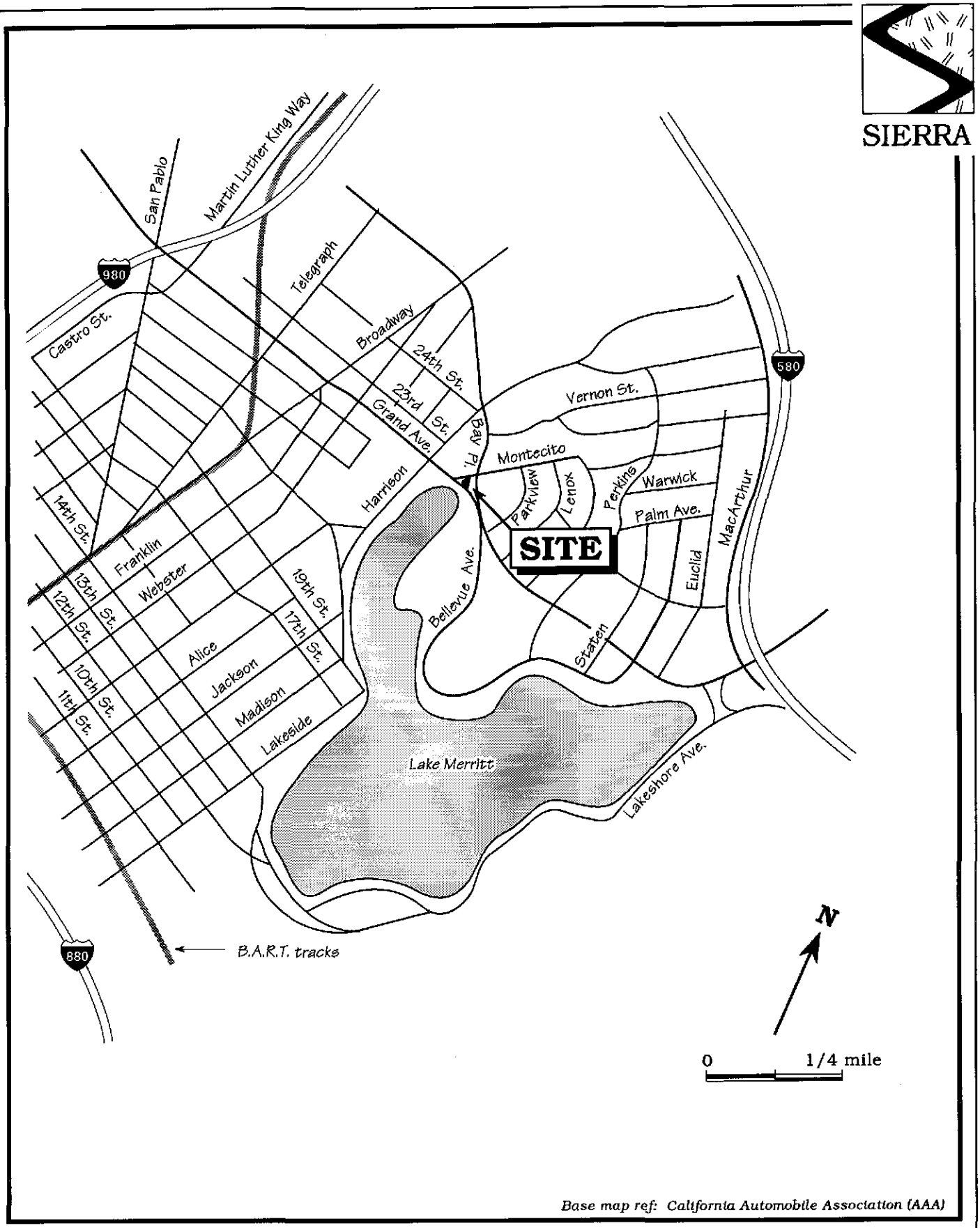

Figure 1. Site Location Map – Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California

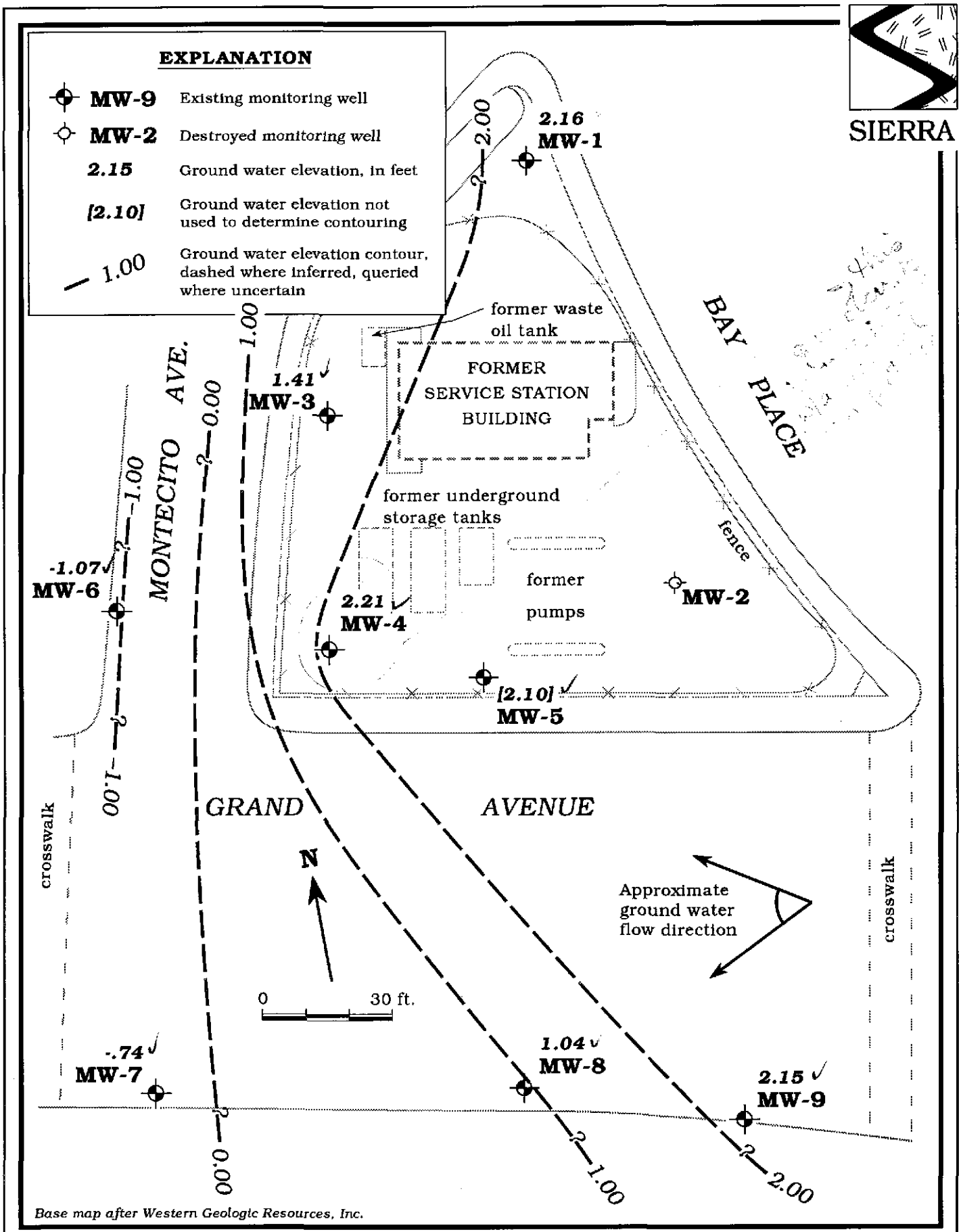

Figure 2. Monitoring Well Location and Ground Water Elevation Contour Map – November 22, 1991 – Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California

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Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<----------feet below grade---------->		
MW-1	3/14/89	6.74	9.63	2.89	0	6 - 12	5 - 12	1 - 5
	6/8/89	7.14		2.49	0			
	9/14/89	7.21		2.42	0			
	12/8/89	7.29		2.34	0			
	3/19/90	7.00		2.63	0			
	7/6/90	7.13		2.50	0			
	10/3/90	7.53		2.10	0			
	8/23/91	7.06		2.57	0			
	11/22/91	**7.47**		**2.16**	**0**			
MW-2	3/14/89	6.08	8.99	2.91	0	8 - 13	7 - 13	1 - 7
	6/8/89	5.22		3.77	0			
	9/14/89	5.95		3.04	0			
	12/8/89	9.25		-0.26	0			
	3/19/90	5.92		3.07	0			
	7/6/90	6.79	9.01	2.22	0			
	10/3/90	---[1]		---[1]	0			
	8/23/91	---[1]		---[1]				
	11/22/91	**---[2]**		**---[2]**	**0**			
MW-3	3/14/89	6.02	8.18	2.16	0	9 - 15.5	8 - 15.5	1 - 8
	6/8/89	5.88		2.30	0			
	9/14/89	6.30		1.88	0			
	12/8/89	9.52		-1.34	0			
	3/19/90	6.17		2.01	0			
	7/6/90	7.52	8.19	0.67	0			
	10/3/90	7.31		0.88	0			
	8/23/91	5.65		2.53	0			
	11/22/91	**6.78**		**1.41**	**0**			

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Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<----------feet below grade---------->		
MW-4	3/14/89	5.52	7.60	2.08	0	9.5 - 14.5	9 - 14.5	1 - 9
	6/8/89	4.19		3.41	0			
	9/14/89	4.80		2.80	0			
	12/8/89	4.86		2.74	0			
	3/19/90	4.65		2.95	0			
	7/6/90	6.42	7.59	1.17	0			
	10/3/90	6.39		1.20	0			
	8/23/91	4.42		3.17	0			
	11/22/91	**5.38**		**2.21**	**0**			
MW-5	3/14/89	6.98	8.35	1.37	0	7.5 - 15	6.5 - 15	1 - 6.5
	6/8/89	4.73		3.62	0			
	9/14/89	5.37		2.98	0			
	12/8/89	9.13		-0.78	0			
	3/19/90	5.12		3.23	0			
	7/6/90	5.81		2.54	0			
	10/3/90	6.90		1.45	0			
	8/23/91	5.05		3.30	0			
	11/22/91	**6.25**		**2.10**	**0**			
MW-6	7/6/90	9.09	6.56	-2.53	0	5.5 - 10	5 - 10	1 - 5
	10/3/90	5.78		.78	0			
	8/23/91	7.49		-0.93	0			
	11/22/91	**7.63**		**-1.07**	**0**			
MW-7	7/6/90	5.85	4.99	-0.86	0	4.5 - 10	4 - 10	1 - 4
	10/3/90	6.25		-1.26	0			
	8/23/91	5.50		-0.51	0			
	11/22/91	**5.73**		**-.74**	**0**			

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Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<----------*feet below grade*---------->		
MW-8	7/6/90	3.98	6.77	2.79	0	5.5 - 8	5.5 - 8	1 - 5.5
	10/3/90	4.73		2.04	0			
	8/23/91	4.76		2.01	0			
	11/22/91	**5.73**		**1.04**	**0**			
MW-9	7/6/90	4.61	7.63	3.02	0	5 - 10	4.5 - 10	1 - 4.5
	10/3/90	5.14		2.49	0			
	8/23/91	5.45		2.18	0			
	11/22/91	**5.48**		**2.15**	**0**			

EXPLANATION:

DTW = Depth to water
TOC = Top of casing elevation
GWE = Ground water elevation
msl = Measurements referenced relative to mean sea level
--- = Well not measured

NOTES:

Water level and well construction data prior to August 23, 1991 were compiled from the ground water sampling report for this site prepared November 12, 1990 by Western Geologic Resources, Inc. of San Rafael, California.

[1] Well filled with dirt during site demolition.

[2] Well destroyed November 15, 1991.

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Table 2. Analytic Results for Ground Water - Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California

Sample ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B	T	E	X	O&G	Chloroform	1,2-DCA	F113	TCA
				<----------ppb---------->									
MW-1	3/14/89	CCAS	8260/503E	600	<0.2	<0.2	3.2	1.7	<3,000	1.0	<0.2	<20.0	<0.2
	6/9/89	CCAS	8260	<50	<0.1	<0.5	<0.1	<0.2	---	<0.5	<0.1	<20.0	<0.1
	9/14/89	CCAS	8260	<50	<0.2	<1.0	<0.2	<0.4	---	<1.0	<0.2	<1.0	0.7
	12/8/89	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	3/19/90	GTEL	8015/8020/601	190	0.8	<0.3	7	3	---	<0.5	<0.5	---	<0.5
	7/6/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/3/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	8/23/91	SPA	8015/8020/8010	150	5.0	11	3.5	10	---	<0.5	<0.5	---	<0.5
	11/22/91	**SPA**	**8015/8020/8010**	**86**	**7.2**	**11**	**2.9**	**13**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-2	3/14/89	CCAS	8260/503E	<100	6.7	7.1	0.5	4.6	<3,000	<1.0	0.7	<20.0	<0.2
	6/9/89	CCAS	8260	<100	<0.2	<1.0	<0.2	<0.4	---	<1.0	<0.2	<20.0	<0.2
	9/14/89	CCAS	8260	<50	<0.2	<1.0	<0.2	<0.4	---	<1.0	<0.2	<1.0	<0.2
	12/8/89	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	3/19/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	7/6/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/3/90[1]	---	---	---	---	---	---	---	---	---	---	---	---
	8/23/91[1]	---	---	---	---	---	---	---	---	---	---	---	---
	11/22/91[6]	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
MW-3	3/14/89	CCAS	8260/503E	<100	2.1	0.8	<0.2	2.0	<3,000	<1.0	3.0	<20.0	<0.2
	6/9/89	CCAS	8260	<100	<0.5	<1.0	<0.2	<0.4	---	<1.0	3.3	<20.0	<0.2
	9/14/89	CCAS	8260	<50	<0.2	<1.0	<0.2	<0.4	---	<1.0	2.2	<1.0	<0.2
	12/8/89	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	1.3	---	<0.5
	3/19/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	0.5	1.3	---	<0.5
	7/6/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/3/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	**0.83**	---	<0.5
	8/23/91	SPA	8015/8020/8010	220	16	22	5.5	16	---	<0.5	**0.6**	---	<0.5
	11/22/91	**SPA**	**8015/8020/8010**	**<50**	**<0.5**	**<0.5**	**<0.5**	**0.6**	**---**	**0.6**	**1.0**	**<0.5**	**<0.5**
MW-4	3/14/89	CCAS	8260/503E	3,000	810.0	200.0	30.0	130.0	<3,000	<20.0	<5.0	<20.0	<5.0
	6/9/89	CCAS	8260	900	440.0	13.0	22.0	40.0	---	<20.0	<5.0	60.0	<5.0
	9/14/89	CCAS	8260	540	220.0	2.0	6.1	9.3	---	<1.0	**2.3**	<1.0	<0.2
	12/8/89	GTEL	8015/8020/601	150	18	<0.3	1.0	<0.6	---	<0.5	1.9	---	<0.5
	3/19/90	GTEL	8015/8020/601	270	50	<0.3	0.7	<0.6	---	<0.5	0.8	---	<0.5
	7/6/90	GTEL	8015/8020/601	140	0.7	<0.3	0.5	<0.6	---	<0.5	**0.79**	---	<0.5
	10/3/90	GTEL	8015/8020/601	180	<0.3	<0.3	2	<0.6	---	<0.5	<0.5	---	<0.5
	8/23/91	SPA	8015/8020/8010	400	9.9	6.8	3.1	7.1	---	<0.5	<0.5	---	<0.5
	11/22/91	**SPA**	**8015/8020/8010**	**130**	**3.4**	**1.3**	**3.5**	**6.0**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

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Table 2. Analytic Results for Ground Water - Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California (continued)

Sample ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B	T	E	X	O&G	Chloroform	1,2-DCA	F113	TCA
				<----------				ppb					---------->
MW-5	3/14/89	CCAS	8260/503E	20,000	6,600.0	1,600.0	270.0	1,100.0	<3,000	<100.0	<20.0	<20.0	<20.0
	6/9/89	CCAS	8260	15,000	>2,800.0[2]	270.0	240.0	640.0	---	<20.0	28.0	<20.0	<5.0
(D)	6/9/89	CCAS	8260	12,000	5,100.0	300.0	240.0	700.0	---	<200.0	<50.0	<20.0	<50.0
	9/14/89	CCAS	8260	15,000	>730.0[2]	>320.0[2]	>290.0[2]	440.0	---	<10.0	<2.0	<20.0	<2.0
(D)	9/14/89	CCAS	8260	15,000	3,300	450	490	730	---	<100	<20	<100	<20
(T)	9/14/89	CCAS	8260	16,000	3,100	550	400	690	---	<50	<10	<50	<10
	12/8/89	GTEL	8015/8020/601	20,000	4,600	640	390	1,300	---	<0.5	27	---	<0.5
	3/19/90	GTEL	8015/8020/601	25,000	6,500	1,200	450	2,200	---	<0.5	10	---	0.7
	6/6/90	GTEL	8015/8020/601	30,000	5,600	890	210	1,400	---	<0.5	<0.5	---	<0.5[3]
	10/3/90	GTEL	8015/8020/601	29,000	6,000	790	270	1,500	---	<0.5	<0.5	---	<0.5[4]
	8/23/91	SPA	8015/8020/8010	36,000	6,100	1,200	460	2,600	---	<0.5	3.9	---	<0.5[5]
	11/22/91	**SPA**	**8015/8020/8010**	**21,000**	**8,000**	**1,500**	**530**	**2,600**	**---**	**<0.5**	**3.9**	**<0.5**	**<0.5[12,13]**
MW-6	7/6/90	GTEL	8015/8020/601	210	<0.3	<0.3	3	7	---	<0.5	<0.5	---	<0.5
	10/3/90	GTEL	8015/8020/601	320	<0.3	0.3	1	<0.6	---	<0.5	<0.5	---	<0.5
	8/23/91	SPA	8015/8020/8010	320	1.7	<0.5	2.1	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	**SPA**	**8015/8020/8010**	**190**	**1.9**	**2.2**	**5.4**	**7.7**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-7	7/6/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	<1,000	<0.5	<0.5	---	<0.5
	10/3/90	GTEL	8015/8020/601	<50	<1.5	<1.5	<1.5	<3	---	<0.5	<0.5	---	<0.5
	8/23/91	SPA	8015/8020/8010	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	**SPA**	**8015/8020/8020**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-8	7/6/90	GTEL	8015/8020/601/413.2	<50	<0.3	<0.3	<0.3	<0.6	<1,000	<0.5	<0.5	---	<0.5
	10/3/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	8/23/91	SPA	8015/8020/8010	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	**SPA**	**8015/8020/8010**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-9	7/6/90	GTEL	8015/8020/601/413.2	<50	<0.3	<0.3	<0.3	<0.6	<1,000	<0.5	<0.5	---	<0.5
	10/3/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	8/23/91	SPA	8015/8020/8010	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	**SPA**	**8015/8020/8010**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

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Table 2. Analytic Results for Ground Water - Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California (continued)

Sample ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B	T	E	X	O&G	Chloroform	1,2-DCA	F113	TCA
				<----------ppb---------->									
Trip Blank	12/8/89	CCAS	8260	<100	<0.1	<0.2	<0.1	<0.2	---	<0.5	<0.1	---	<0.1
	6/9/89	CCAS	8260	<50	<0.5	<0.5	<0.1	<0.2	---	<0.5	<0.1	<20.0	<0.1
	9/14/89	CCAS	8260	<50	<0.1	<0.5	<0.1	<0.2	---	<0.5	<0.1	<0.5	<0.1
	12/8/89	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	4.4	<0.5	---	1.9
	3/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	7/6/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/3/90	GTEL	8015/8020/601	<50	<0.3	<0.3	<0.3	1	---	<0.5	<0.5	---	<0.5
AA	8/23/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	11/22/91	**SPA**	**8015/8020/8010**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**	**---**	**---**	**<0.5**	**---[7,8,9]**
Bailer Blank													
BB	8/23/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	11/22/91	**SPA**	**8015/8020/8010**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**	**---**	**---**	**<0.5**	**---[7,10,11]**
DHS MCLs	---	---	---	NE	1	---	680	1,750	NE	NE	0.5	1,200	200
DHS RALs	---	---	---	NE	---	100	---	---	NE	NE	---	---	---

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Table 2. Analytic Results for Ground Water - Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California (continued)

EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
O&G = Oil and Grease
1,2-DCA = 1,2-Dichloroethane
F113 = Trichlorotrifluoroethane (Freon 113)
TCA = 1,1,1-Trichloroethane
TCE = Trichloroethene
ppb = Parts per billion
--- = Not analyzed/not applicable
(D) = Duplicate sample
(T) = Triplicate sample
DHS MCLs = Department of Health Services Maximum Contaminant Levels
DHS RALs = Department of Health Services Recommended Action Levels
NE = Not established

ANALYTIC METHODS:

8260 = EPA Method 8260 for TPPH(G), BTEX and halogenated volatile organics
503E = Standard Methods Method 503E for O&G
8015 = EPA Method 8015 for TPPH(G)
8020 = EPA Method 8020 for BTEX
601 = EPA Method 601 for Halogenated Volatile Organics
8010 = EPA Method 8010 for Halogenated Volatile Organics

ANALYTIC LABORATORIES:

CCAS = Central Cost Analytic Services, San Luis Obispo, California
GTEL = GTEL Environmental Laboratory of Concord, California
SPA = Superior Precision Analytical, Inc. of San Francisco and Martinez, California

NOTES:

Analytic results for ground water prior to August 23, 1991 were compiled from the ground water sampling report for this site prepared November 12, 1990 by Western Geologic Resources, Inc., of San Rafael, California.

[1] Well obstructed during site demolition.
[2] Saturated column.
[3] 1,2-Dichloropropane was detected at 1.2 ppb.
[4] 1,2-Dichloropropane and trichloroethane were detected at 2 ppb and 0.74 ppb, respectively.
[5] 1,2 dichloropropane was detected at 0.9 ppb.
[6] Well destroyed November 15, 1991.
[7] Bromodichloromethane was detected at 0.8 ppb.
[8] Dibromochloromethane was detected at 2.4 ppb.
[9] Bromoform was detected at 4.7 ppb.
[10] Dibromochloromethane was detected at 2.2 ppb.
[11] Bromoform was detected at 4.8 ppb.
[12] TCE was detected at 1.0 ppb.
[13] 1,2-Dichloropropane was detected at 0.8 ppb.

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Table 3. Analytic Results for Ground Water - Metals - Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California

Sample ID	Date Sampled	Anaytic Lab	Analytic Method	Cadmium	Chromium	Nickel	Lead	Zinc
				<----------ppm---------->				
MW-1	11/22/91	SPA	6010	<0.05	<0.05	<0.1	<0.1	<0.05
MW-2[1]	---	---	---	---	---	---	---	---
MW-3	11/22/91	SPA	6010	<0.05	<0.05	<0.1	<0.1	<0.05
MW-4	11/22/91	SPA	6010	<0.05	<0.05	<0.1	<0.1	.18
MW-5	11/22/91	SPA	6010	<0.05	.27	0.7	0.3	1.2
MW-6	11/22/91	SPA	6010	<0.05	<0.05	<0.1	<0.1	.26
MW-7	11/22/91	SPA	6010	<0.05	<0.05	<0.1	0.1	.13
MW-8	11/22/91	SPA	6010	<0.05	0.05	0.1	0.2	.19
MW-9	11/22/91	SPA	6010	<0.05	<0.05	<0.1	<0.1	<0.05

ANALYTICAL METHOD:

6010 = EPA Method 6010 for Cadmium, Chromium, Nickel, Lead and Zinc

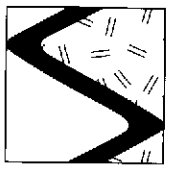
ANALYTIC LABORATORY:

SPA = Superior Precision Analytical, Inc. of Martinez, California

NOTES:

[1] MW-2 destroyed November 15, 1991.

20004T.GWM



SIERRA

SES STANDARD OPERATING PROCEDURE

GROUND WATER SAMPLING

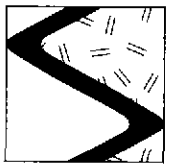
The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination of the sample, and to preserve the sample for subsequent analysis. Wells will be sampled no less than 24 hours after well development. Collection methods specific to ground water sampling are presented below.

Prior to sampling, each well is checked for the presence of free-phase hydrocarbons using an MMC flexi-dip interface probe. Product thickness (measured to the nearest 0.01 foot) is noted on the sampling form. Water level measurements are also made using either a water level meter or the interface probe. The water level measurements are also noted on the sampling form.

Prior to sampling, each well is purged of a minimum of four well casing volumes of water using a steam-cleaned PVC bailer, or a pre-cleaned pump. Temperature, pH and electrical conductivity are measured at least three times during purging. Purging is continued until these parameters have stabilized (i.e., changes in temperature, pH or conductivity do not exceed ±0.5°F, 0.1 or 5%, respectively).

The purge water is stored temporarily on-site in 55-gallon Department of Transportation-approved drums pending analytic results. The drums are labeled with the date, contents, the SES field personnel initials and SES phone number.

Ground water samples are collected from the wells with steam-cleaned Teflon bailers. The water samples are decanted into the appropriate container for the analysis to be performed. Pre-preserved sample containers may be used or the analytic laboratory may add preservative to the sample upon arrival. Duplicate samples are collected from each well as a back-up sample and/or to provide quality control. The samples are labeled to include the project number, sample ID, date, preservative, and the field person's initials. The samples are placed in polyethylene bags and in an ice chest (maintained at 4°C with blue ice or ice) for transport under chain-of-custody to the laboratory.



SIERRA

The chain-of-custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with the field personnel and ending with the laboratory personnel.

A trip blank and bailer blank accompanies each sampling set, or 5% trip blanks and 5% bailer blanks are included for sets of greater than 20 samples. The bailer blank is prepared by pouring previously boiled water into a steam-cleaned Teflon bailer prior to sampling a well. The trip and bailer blanks are analyzed for some or all of the same compounds as the ground water samples.

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☒ No 84459

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-0019
Facility Address 210 GRAND AVE OAKLAND
Consultant Project Number 1-200-04
Consultant Name SIERRA ENVIRONMENTAL SERVICES
Address Box 2546 MARTINEZ CA 94553
Project Contact (Name) JEANNE WALLER
(Phone) (510) 370-1280 (Fax Number) 370-7959

Chevron Contact (Name) NANCY VUKELICH
(Phone) (510) 842-9581
Laboratory Name SPA
Laboratory Release Number 44 82030
Samples Collected by (Name) ARGY MENN / BILL KEANE
Collection Date 11/22/91
Signature Argy Menn Bill Keane

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					Remarks
								Analyses To Be Performed												
MW AA	1	3	W	G	12:35	HCL	YES	✓												ANALYZE
MW AA		3	W	G	12:35	HCL	YES		(1)		✓									IN ORDER
MW BB	2	3	W	G	12:40	HCL	YES	✓												
MW BB		3	W	G	12:40	HCL	YES		(2)		✓									
MW-9	3	3	W	G	8:30	HCL	YES	✓												
MW-9		3	W	G	8:30	HCL	YES		(3)		✓									
MW-9		1	W	G	8:30	HCL	YES								✓					
MW-8	4	3	W	G	11:30	HCL	YES	✓												
MW-8		3	W	G	11:30	HCL	YES			(4)	✓									
MW-8		1	W	G	11:30	HCL	YES								✓					
MW-7	5	3	W	G	8:15	HCL	YES	✓												
MW-7		3	W	G	8:15	HCL	YES			(5)	✓									
MW-7		1	W	G	8:15	HCL	YES								✓					

Please Initial: SS
Samples Stored in ice
Appropriate containers
Samples received
VOA headspace

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
W Keane	SES	11/22 3:20			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received for Laboratory By (Signature)		Date/Time 1520 11/22/91

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
(5 Days)
10 Days
As Contracted

COC-3.DWG/03 91/HCH

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No 84459

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-0019
Facility Address 210 GRAND AVE OAKLAND
Consultant Project Number 1-200-04
Consultant Name SIERRA ENVIRONMENTAL SERVICES
Address BOX 2546 MARTINEZ CA 94553
Project Contact (Name) JEANNE WALLER
(Phone) (510) 370-1280 (Fax Number) 370-7959

Chevron Contact (Name) NANCY VUKELICH
(Phone) (510) 842-9581
Laboratory Name SPL
Laboratory Release Number 448030
Samples Collected by (Name) Angy Mena / Bill Keene
Collection Date 11/22/91
Signature Angy Mena Bill Keene

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)						Remarks
MW-1		3	W	G	13:00	HCL	YES	✓													ANALYZE
MW-1	(6)	3	W	G	13:00	HCL	YES			(6)	✓										IN ORDER
MW-1		1	W	G	13:00	HCL	YES								✓						
MW-3		3	W	G	11:55	HCL	YES	✓													
MW-3	(7)	3	W	G	11:55	HCL	YES			(7)	✓										
MW-3		1	W	G	11:55	HCL	YES								✓						
MW-6		3	W	G	12:05	HCL	YES	✓													
MW-6	(8)	3	W	G	12:05	HCL	YES			(8)	✓										
MW-6		1	W	G	2:05pm	HCL	YES								✓						
MW-4		3	W	G	13:10	HCL	YES	✓													
MW-4	(9)	3	W	G	13:10	HCL	YES			(9)	✓										
MW-4		1	W	G	13:10	HCL	YES								✓						

Please Initial:
Samples Stored in ice.
Appropriate containers
Samples preserved
VOA's without headspace
Comments:

SS

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
W Keene	SES	11/22 320			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time 1520 11/23/91

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
~~5 Days~~
10 Days
As Contracted

COC-3.DWG/03 91/HCH

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No 84459

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-0019
Facility Address 210 GRAND AVE OAKLAND
Consultant Project Number 1-200-04
Consultant Name SIERRA ENVIRONMENTAL SERVICES
Address BOX 2546 MARTINEZ CA 94553
Project Contact (Name) JEANNE WALLER
(Phone) (510) 370-1250 (Fax Number) 370-7959

Chevron Contact (Name) NANCY VUKELICH
(Phone) (510) 842-9581
Laboratory Name SPL
Laboratory Release Number 4482030
Samples Collected by (Name) ARGY MENN / BILL KEANE
Collection Date 11/22/91
Signature Argy Menn William Keane

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					Remarks
MW-5		3	W	G	13:20	HCL	YES	✓												ANALYZE AS
MW-5	(10)	3	W	G	13:20	HCL	YES			(10)	✓									ORDER
MW-5		1	W	G	13:20	HCL	YES													↓

Please Initial:
Samples Stored in ice.
Appropriate containers
Samples preserved
VOC's without headspace
Container intact

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
W Keane	SES	11/22 3:20			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time 1520 11/22/91

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

COC-3.DWG/03 91/HCH

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 84459
CLIENT: Sierra Environmental
CLIENT JOB NO.: 1-200-04

DATE RECEIVED: 11/22/91
DATE REPORTED: 12/02/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
84459- 1	MW-AA	11/22/91	11/27/91
84459- 2	MW-BB	11/22/91	11/27/91
84459- 3	MW-9	11/22/91	11/27/91
84459- 4	MW-8	11/22/91	11/27/91
84459- 5	MW-7	11/22/91	12/02/91
84459- 6	MW-1	11/22/91	11/27/91
84459- 7	MW-3	11/22/91	11/29/91
84459- 8	MW-6	11/22/91	11/27/91
84459- 9	MW-4	11/22/91	11/29/91
84459-10	MW-5	11/22/91	11/29/91

Laboratory Number:	84459 1	84459 2	84459 3	84459 4	84459 5
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	ND<50	ND<50	ND<50	ND<50
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
TOLUENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
ETHYL BENZENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
XYLENES:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Laboratory Number:	84459 6	84459 7	84459 8	84459 9	84459 10
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	86	ND<50	190	130	21000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	7.2	ND<0.5	1.9	3.4	8000
TOLUENE:	11	ND<0.5	2.2	1.3	1500
ETHYL BENZENE:	2.9	ND<0.5	5.4	3.5	530
XYLENES:	13	0.6	7.7	6.0	2600

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 84459

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = part per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L
Standard Reference: 10/04/91

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L
Standard Reference: 10/11/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	10/04/91	200 ng	88/85	3	70-130
Benzene	10/11/91	200 ng	107/97	10	70-130
Toluene	10/11/91	200 ng	101/95	6	70-130
Ethyl Benzene	10/11/91	200 ng	96/93	4	70-130
Total Xylenes	10/11/91	200 ng	103/98	5	70-130

Richard Srna, Ph.D.
Laboratory Director

Superior Precision Analytical, Inc.
P.O. Box 1545 • Martinez, California 94553 • (510) 229-1590 / fax (510) 229-0916

CERTIFICATE OF ANALYSIS

LABORATORY NO: 20306
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
DATE RECEIVED:11/05/91
DATE REPORTED:12/10/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 20306-1 (Analyzed:12/03/91)
SAMPLE: MW-AA (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	0.8
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	2.4
Chlorobenzene	0.5	ND
Bromoform	0.5	4.7
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Confirmed on second column.

QA/QC Summary: For Water Matrix (11/29/91)
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

Senior Analyst

Superior Precision Analytical, Inc.
P.O. Box 1545 • Martinez, California 94553 • (510) 229-1590 / fax (510) 229-0916

CERTIFICATE OF ANALYSIS

LABORATORY NO: 20306
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
DATE RECEIVED:11/22/91
DATE REPORTED:12/10/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 20306-2 (Analyzed:12/03/91)
SAMPLE: MW-BB (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	0.8
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	2.2
Chlorobenzene	0.5	ND
Bromoform	0.5	4.8
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Confirmed on second column.

QA/QC Summary: For Water Matrix (11/29/91)
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

Senior Analyst

Superior Precision Analytical, Inc.
P.O. Box 1545 ▪ Martinez, California 94553 ▪ (510) 229-1590 / fax (510) 229-0916

CERTIFICATE OF ANALYSIS

LABORATORY NO: 20306
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
DATE RECEIVED:11/22/91
DATE REPORTED:12/10/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 20306-4 (Analyzed:12/03/91)
SAMPLE: MW-1 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Confirmed on second column.

QA/QC Summary: For Water Matrix (11/29/91)
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

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CERTIFICATE OF ANALYSIS

LABORATORY NO: 20306
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
DATE RECEIVED:11/22/91
DATE REPORTED:12/10/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 20306-5 (Analyzed:12/03/91)
SAMPLE: MW-3 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	**0.6**
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	**1.0**
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Confirmed on second column.

QA/QC Summary: For Water Matrix (11/29/91)
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

Robin Paulson
Senior Analyst

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CERTIFICATE OF ANALYSIS

LABORATORY NO: 84459
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
DATE RECEIVED:11/22/91
DATE REPORTED:12/03/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 84459-9 (Analyzed:11/29/91)
SAMPLE: MW-4 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Second Column confirmation available upon request.

QA/QC Summary: For Water Matrix 11/29/91
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

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CERTIFICATE OF ANALYSIS

LABORATORY NO: 20306
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
DATE RECEIVED:11/22/91
DATE REPORTED:12/10/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 20306-6 (Analyzed:12/03/91)
SAMPLE: MW-5 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	**3.9**
Trichloroethene (TCE)	0.5	**1.0**
1,2-Dichloropropane	0.5	**0.8**
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Confirmed on second column.

QA/QC Summary: For Water Matrix (11/29/91)
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

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CERTIFICATE OF ANALYSIS

LABORATORY NO: 84459
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
DATE RECEIVED:11/22/91
DATE REPORTED:12/03/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 84459-8 (Analyzed:11/29/91)
SAMPLE: MW-6 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Second Column confirmation available upon request.

QA/QC Summary: For Water Matrix 11/29/91
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

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CERTIFICATE OF ANALYSIS

LABORATORY NO: 20306
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
DATE RECEIVED:11/22/91
DATE REPORTED:12/10/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 20306-3 (Analyzed:12/03/91)
SAMPLE: MW-7 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Confirmed on second column.

QA/QC Summary: For Water Matrix (11/29/91)
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

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CERTIFICATE OF ANALYSIS

LABORATORY NO: 84459
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
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DATE REPORTED:12/03/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 84459-4 (Analyzed:11/29/91)
SAMPLE: MW-8 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Second Column confirmation available upon request.

QA/QC Summary: For Water Matrix 11/29/91
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

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CERTIFICATE OF ANALYSIS

LABORATORY NO: 84459
CLIENT: Sierra Environmental
PROJECT NO: 1-200-04

DATE SAMPLED :11/22/91
DATE RECEIVED:11/22/91
DATE REPORTED:12/03/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS

LAB#: 84459-3 (Analyzed:11/29/91)
SAMPLE: MW-9 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

MDL: Method Detection Limit
*Second Column confirmation available upon request.

QA/QC Summary: For Water Matrix 11/29/91
MS/MSD Average Recovery: 85%
MS/MSD %RPD: 2%

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C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 84459
CLIENT: Sierra Environmental
CLIENT JOB NO.: 1-200-04

DATE RECEIVED: 11/22/91
DATE REPORTED: 12/02/91
DATE SAMPLED : 11/22/91

ANALYSIS FOR TOTAL NICKEL
by SW-846 METHOD 6010

LAB #	Sample Identification	Concentration (mg/L) Total Nickel
3	MW-9	ND<0.1
4	MW-8	0.1
5	MW-7	ND<0.1
6	MW-1	ND<0.1
7	MW-3	ND<0.1
8	MW-6	ND<0.1
9	MW-4	ND<0.1
10	MW-5	0.7

mg/L - parts per million (ppm)

Method Detection Limit for Nickel in Water: 0.1 mg/L

QAQC Summary: MS/MSD Average Recovery : 98%
Duplicate RPD : 7

Richard Srna, Ph.D.

Laboratory Manager

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C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 84459
CLIENT: Sierra Environmental
CLIENT JOB NO.: 1-200-04

DATE RECEIVED: 11/22/91
DATE REPORTED: 12/02/91

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD & ZINC
by EPA SW-846 Method 6010

LAB #	Sample Identification	Concentration (mg/L) Cadmium	Chromium	Lead	Zinc
3	MW-9	ND<0.05	ND<0.05	ND<0.1	ND<0.05
4	MW-8	ND<0.05	0.05	0.2	0.19
5	MW-7	ND<0.05	ND<0.05	0.1	0.13
6	MW-1	ND<0.05	ND<0.05	ND<0.1	ND<0.05
7	MW-3	ND<0.05	ND<0.05	ND<0.1	ND<0.05
8	MW-6	ND<0.05	ND<0.05	ND<0.1	0.26
9	MW-4	ND<0.05	ND<0.05	ND<0.1	0.18
10	MW-5	ND<0.05	0.27	0.3	1.2

mg/L - parts per million (ppm)

Method Detection Limit for Cadmium in Water: 0.05 mg/L
Method Detection Limit for Chromium in Water: 0.05 mg/L
Method Detection Limit for Lead in Water: 0.1 mg/L
Method Detection Limit for Zinc in Water: 0.05 mg/L

QAQC Summary: MS/MSD Average Recovery : 104%
Duplicate RPD : 5

Richard Srna, Ph.D.

Laboratory Manager