



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

January 2, 1992

Mr. Rafat Shahid
Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

Re: **Former Chevron Service Station #9-1026**
3701 Broadway, Oakland

*To Assoc
SPT*

Dear Mr. Shahid:

Enclosed we are forwarding the Quarterly Ground Monitoring Report dated December 20, 1991, prepared by our consultant Weiss Associates for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline and BTEX. Benzene concentrations ranged from non-detectable to 29,000 ppb. Depth to ground water was measured at approximately 14 to 20-feet below grade, and the direction of flow fluctuates from the southwest to the south.

The deepening of existing monitor wells F and B-1 has been held up while necessary documents are compiled per the City of Oakland encroachment permit requirements. Weiss Associates has been instructed to perform a soil vapor extraction pilot test to assess the feasibility and effectiveness of this technology at the referenced site. A report documenting the results of the test will be prepared and forwarded to you in conjunction with our proposed recommended corrective action approach.

Chevron will continue to monitor this site and report findings on a quarterly basis.

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
Nancy Vukelich
Environmental Engineer

Enclosure

cc: Mr. Eddie So, RWQCB-Bay Area
Ms. B.C. Owen
Ms. Fatima Lelic, Weiss Associates
File (9-1026Q2)

Mr. Bruce Bercovich
Kay & Merkel
100 The Embarcadero, Third Floor
San Francisco, CA 94105



December 20, 1991

DEC 23 91 T.L.R.

Nancy Vukelich
Chevron U.S.A., Inc.
P.O. Box 5004
San Ramon, CA 94583-0804

Re: **Fourth Quarter 1991
Ground Water Monitoring Report
Former Chevron Service Station #9-1026
3701 Broadway
Oakland, California
WA Job #4-418-01**

Dear Ms. Vukelich:

As you requested, Weiss Associates (WA) is providing this Ground Water Monitoring Report for the site referenced above (Figure 1). WA sampled the ground water monitoring wells (Figure 2) on November 8, 1991, in accordance with the requirements and procedures of the California Regional Water Quality Control Board - San Francisco Bay Region and local regulatory agencies.

SAMPLING PROCEDURES

Prior to purging and sampling the wells, WA measured the depth to ground water in each well to the nearest 0.01 ft using an electronic sounder (Table 1). We also checked the wells for floating hydrocarbons or sheen. Sheen was observed on the surface of purge water from wells B-1, B-2 and B-3.

WA collected ground water samples for analysis after purging at least 3 well-casing volumes of ground water from each well. Each sample was decanted from either a steam-cleaned or dedicated bailer into the appropriate clean sample containers and delivered to a California-certified laboratory following proper sample preservation and chain-of-custody procedures. Purged ground water was stored onsite in DOT-approved 55-gallon drums until properly disposed of offsite.

MONITORING AND ANALYTIC RESULTS

The top-of-casing elevation, depth to ground water and the ground water elevation for each well is presented in Table 1. The ground water elevation contours and ground water flow direction are shown on Figure 2.

Current and historical ground water analytic results are summarized in Table 2. The water sample collection records, and the analytic report and chain-of-custody forms are included as Attachments A and B, respectively. Ground water elevation contour maps for the past year are included in Figure 3.

PROPOSED WORK SCHEDULE

The First Quarter 1992 ground water sampling is scheduled for February 7, 1992. We will submit a report presenting the field and analytic data by mid-March 1992.

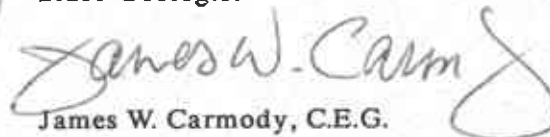
We appreciate this opportunity to provide hydrogeologic consulting services to Chevron USA and trust that this submittal meets your needs. Please call if you have any questions regarding this report.



Sincerely,
Weiss Associates



Mariette Shin
Staff Geologist



James W. Carmody, C.E.G.
Senior Project Hydrogeologist

MMS/JWC:cr

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Attachments A - Water Sample Collection Records
 B - Analytic Report and Chain-of-Custody Forms

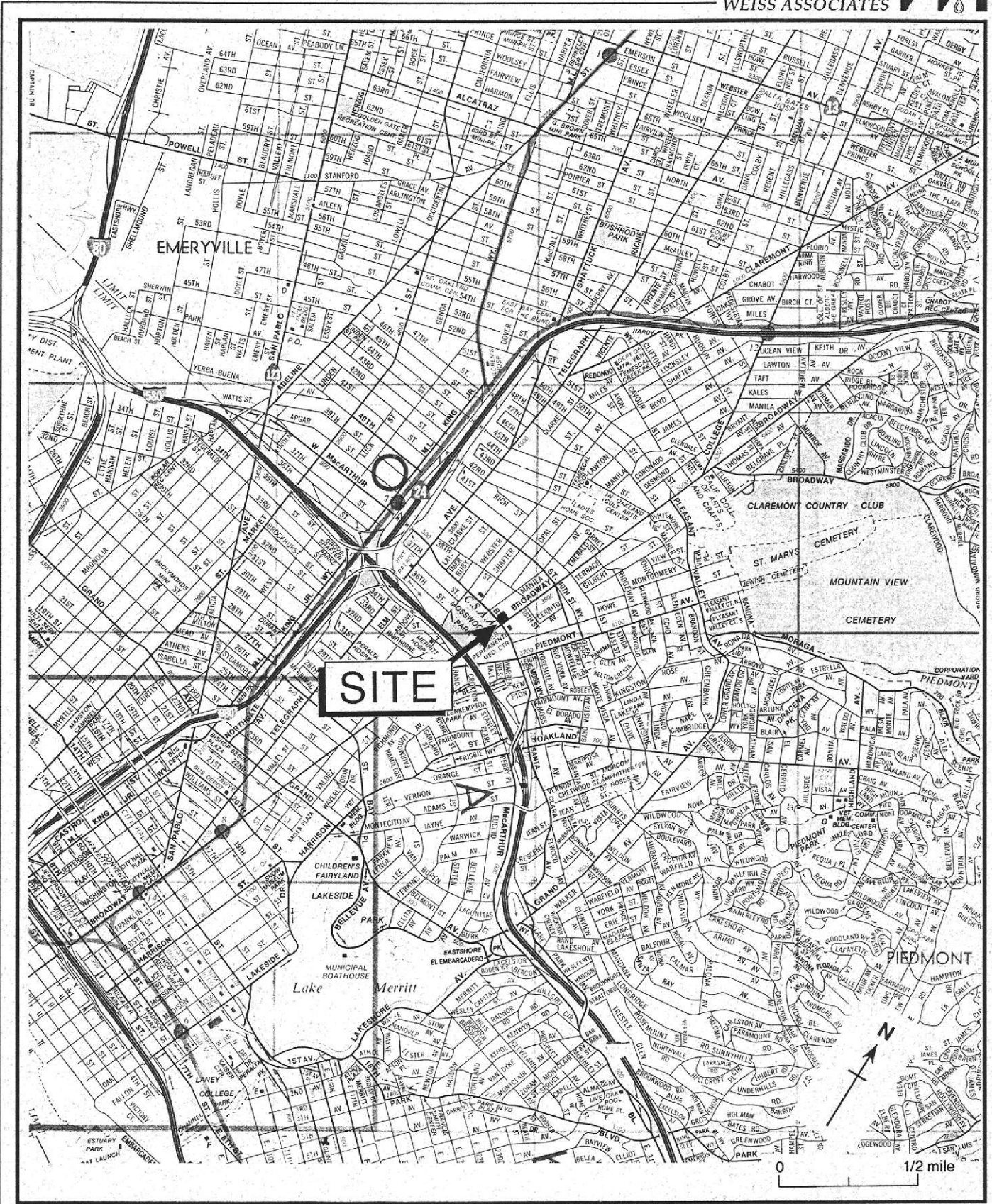


Figure 1. Site Location Map - Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California

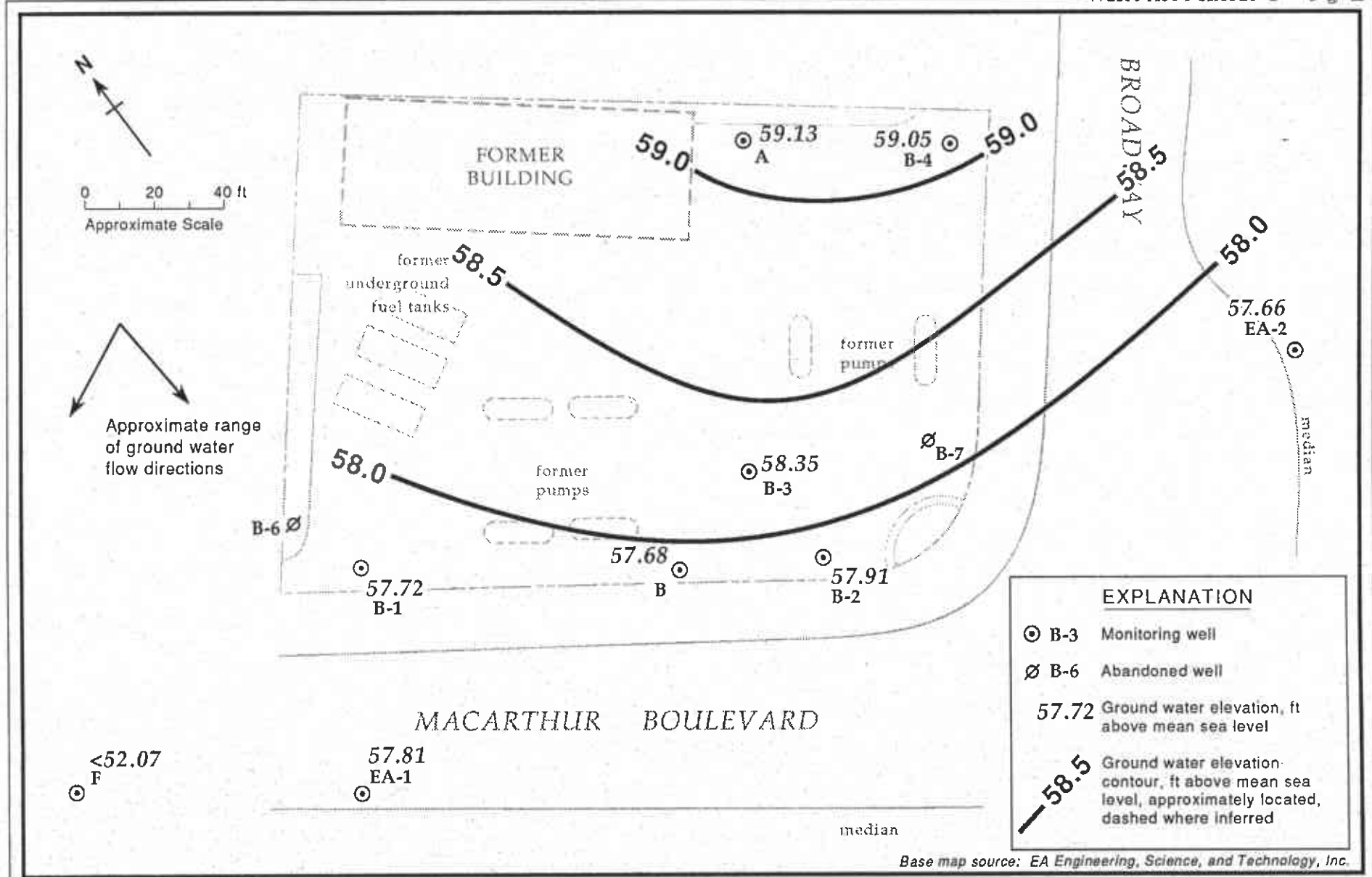


Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - November 8, 1991 - Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California

TABLE 1. Ground Water Elevation Data, Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Thickness of Floating Hydrocarbons in Well (ft)	Ground Water Elevation (ft above msl)
A	05/10/89	75.28 ^a	13.92		61.36
	08/09/89		15.62		59.66
	11/09/89		15.95		59.33
	02/08/90		14.73		60.55
	05/10/90		15.48		59.80
	08/09/90		15.66		59.62
	11/13/90		16.48		58.80
	04/05/91		13.22		62.06
	06/19/91		15.37		59.91
	08/21/91		15.99		59.29
	11/08/91		16.15		59.13
B	05/10/89	73.39 ^a	13.97	.20	59.58 ^b
	08/09/89		15.69	.20	57.86 ^b
	11/09/89		15.29	.08	58.16 ^b
	02/08/90		14.46		58.93
	05/10/90		15.07		58.32
	08/09/90		15.12		58.27
	11/13/90		15.76		57.63
	04/05/91		13.38		60.01
	06/19/91		15.14		58.25
	08/21/91		15.58		57.81
	11/08/91		15.71		57.68
B-1	05/10/89	71.77 ^a	12.58		59.19
	08/09/89		14.09		57.68
	11/09/89		14.06		57.71
	02/08/90		12.65		59.12
	05/10/90		13.62		58.15
	08/09/90		13.87		57.90
	11/13/90		14.38		57.39
	04/05/91		11.73		60.04
	06/19/91		13.56		58.21
	08/21/91		13.90		57.87
	11/08/91		14.05		57.72

-- Table 1 continues on next page --

TABLE 1. Ground Water Elevation Data, Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Thickness of Floating Hydrocarbons in Well (ft)	Ground Water Elevation (ft above msl)
B-2	05/10/89	74.51 ^a	14.58		59.93
	08/09/89		16.06		58.45
	11/09/89		16.95		57.56
	02/08/90		15.56		58.95
	05/10/90		15.94		58.57
	08/09/90		15.97		58.54
	11/13/90		16.70		57.81
	04/05/91		14.20		60.31
	06/19/91		15.83		58.68
	08/21/91		16.31		58.20
	11/08/91		16.60		57.91
B-3	05/10/89	74.12 ^a	14.02		60.01
	08/09/89		15.38		58.74
	11/09/89		15.55	.05	58.61 ^b
	02/08/90		14.68	<0.01	59.44 ^b
	05/10/90		15.15	.02	58.99 ^b
	08/09/90		15.27	<0.01	58.85 ^b
	11/13/90		16.04	.06	58.13 ^b
	04/05/91		13.30	<0.01	60.82 ^b
	06/19/91		15.16		58.96
	08/21/91		15.61		58.51
	11/08/91		15.77		58.35
B-4	05/10/89	76.43 ^a	14.93		61.50
	08/09/89		16.65		59.78
	11/09/89		16.99		59.44
	02/08/90		16.05		60.38
	05/10/90		16.49		59.94
	08/09/90		16.64		59.79
	11/13/90		17.42		59.01
	04/05/91		14.66		61.77
	06/19/91		16.48		59.95
	08/21/91		17.00		59.43
	11/08/91		17.38		59.05
B-6	05/10/89	72.66 ^a	12.11		60.55
	08/09/89		14.72		57.94
	11/09/89		13.85		58.81
	02/08/90		7.73		64.93
	05/10/90		c		
	08/09/90		14.51		58.15
	11/13/90		14.86		57.80
	04/05/91		10.43		62.23
06/19/91 ^c	---		---		

— Table 1 continues on next page —

TABLE 1. Ground Water Elevation Data, Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Thickness of Floating Hydrocarbons in Well (ft)	Ground Water Elevation (ft above msl)
B-7	05/10/89	75.40 ^a	14.73		60.67
	08/09/89		16.36		59.04
	11/09/89		16.64		58.76
	02/08/90		15.69		59.71
	05/10/90		^c		
	08/09/90		16.31		59.09
	11/13/90		17.09		58.31
	04/05/91		14.36		61.04
	06/19/91 ^e		---		---
EA-1	05/10/89	73.94 ^a	14.56		59.38
	08/09/89		16.09		57.85
	11/09/89		15.84		58.10
	02/08/90		15.05		58.89
	05/10/90		15.65		58.29
	08/09/90		15.67		58.27
	11/13/90		16.32		57.62
	04/05/91		14.03		59.91
	06/19/91		15.56		58.38
	08/21/91		15.99		57.95
11/08/91	16.13		57.81		
EA-2	05/10/89	75.24 ^a	15.95		59.29
	08/09/89		17.45		57.79
	11/09/89		17.41		57.83
	02/08/90		16.57		58.67
	05/10/90		17.12		58.12
	08/09/90		17.20		58.04
	11/13/90		17.88		57.36
	04/05/91		15.54		59.70
	06/19/91		17.07		58.17
	08/21/91		17.46		57.78
11/08/91	17.58		57.66		
F	05/10/89	72.01 ^a	18.70		53.31
	08/09/89		19.03		52.98
	11/09/89		19.02		52.99
	02/08/90		18.70		53.31
	05/10/90		18.98		53.03
	08/09/90		18.95		53.06
	11/13/90		19.10		52.91
	04/05/91		^d		---
	06/19/91		18.95		53.06
	08/21/91		>19.94		<52.07
11/08/91	>19.94		<52.07		

-- Table 1 continues on next page --

TABLE 1. Ground Water Elevation Data, Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California (continued)

^a = Top-of-Casing surveyed on 02/08/90

^b = Ground water elevation adjusted for floating hydrocarbons in the well by the relation:
Corrected ground water elevation = top-of-casing - depth to water + (0.8 x hydrocarbon thickness)

^c = Well abandoned in May 1991.

^d = Water level not recorded

TABLE 2. Analytic Results for Ground Water - Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California

Well ID	Date Sampled	Depth-to Water (ft)	Analytical Lab	TPH-G	parts per billion (µg/L)			
					B	E	T	X
A	05-09-89	13.92	SAL	11,000	260	94	<2	230
	08-09-89	15.62	SAL	12,000	370	100	<1.5	240
	11-09-89	15.95	SAL	16,000	690	180	10	350
	02-08-90	14.73	GTEL	14,000	600	120	7	270
	05-10-90	15.48	GTEL	16,000	840	140	4.8	340
	08-09-90	15.66	GTEL	17,000	510	170	40.0	280
	11-13-90	16.48	CEC	9,000	570	86	3.1	170
	03-27-91	13.22	SAL	8,000	660	110	<5	250
	06-19-91	15.37	SAL	8,900	740	120	<3	280
	08-21-91	15.99	CEC	6,800	620	85	23	200
	11-08-91	16.15	SAL	4,000	640	77	<5	160
B	05-09-89	13.97	---	---	---	---	---	---
	08-09-89	15.69	---	---	---	---	---	---
	11-09-89	15.29	---	---	---	---	---	---
	02-08-90	14.46	---	---	---	---	---	---
	05-10-90	15.07	---	---	---	---	---	---
	08-09-90	15.12	---	---	---	---	---	---
	11-13-90	15.76	---	---	---	---	---	---
	03-27-91	13.38	---	---	---	---	---	---
	06-19-91	15.14	SAL	26,000	7,100	430	370	1,000
	08-21-91	15.58	CEC	16,000	4,900	390	270	640
	11-08-91	15.71	SAL	11,000	2,400	280	48	160
B-1	05-10-89	12.58	SAL	16,000	2,300	81	260	740
	08-09-89	14.09	SAL	12,000	2,600	100	340	870
	11-09-89	14.06	SAL	17,000	340	110	140	760
	02-08-90	12.65	GTEL	5,500	70	17	19	150
	05-10-90	13.62	GTEL	18,000	770	73	110	600
	08-09-90	13.87	GTEL	82,000	750	95	66	980
	11-13-90	14.38	CEC	43,000	1,300	74	120	760
	03-27-91	11.73	SAL	18,000	580	94	92	770
	06-19-91	13.56	SAL	21,000	910	96	56	810
	08-21-91 ^e	13.90	CEC	50,000	2,400	300	610	1,800
	11-08-91	14.05	SAL	540,000	3,600	1,900	1,500	5,900
B-2	05-09-89	14.58	SAL	170,000	30,000	2,300	8,400	12,000
	08-10-89	16.06	SAL	60,000	29,000	2,400	8,700	12,000
	11-09-89	16.95	SAL	110,000	32,000	2,800	5,500	12,000
	02-08-90	15.56	GTEL	67,000	28,000	2,300	5,900	11,000
	05-10-90	15.94	GTEL	69,000	24,000	2,000	4,800	11,000
	08-09-90	15.97	GTEL	100,000	33,000	2,100	4,000	12,000
	11-13-90	16.70	CEC	110,000	33,000	2,900	4,300	13,000
	03-27-91	14.20	SAL	160,000	26,000	2,600	3,200	15,000
	06-19-91	15.83	SAL	100,000	22,000	2,000	2,500	11,000
	08-21-91	16.31	CEC	80,000	28,000	2,400	2,800	12,000
	11-08-91	16.60	SAL	94,000	29,000	2,200	1,900	11,000

-- Table 2 continues on next page --



TABLE 2. Analytic Results for Ground Water - Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California (continued)

Well ID	Date Sampled	Depth-to Water (ft)	Analytical Lab	TPH-G					
				B	E	T	X		
				-----parts per billion (µg/L) ----->					
B-3	05-10-89	14.02	SAL	70,000	12,000	1,400	9,500	8,900	
	08-09-89	15.38	---	---	---	---	---	---	
	11-09-89	15.55	---	---	---	---	---	---	
	02-08-90	14.68	---	---	---	---	---	---	
	05-10-90	15.15	---	---	---	---	---	---	
	08-09-90	15.27	---	---	---	---	---	---	
	11-13-90	16.04	---	---	---	---	---	---	
	03-27-91	13.30	---	---	---	---	---	---	
	06-19-91	15.16	SAL	260,000	20,000	2,200	9,000	16,000	
	08-21-91	15.61	CEC	70,000	28,000	1,800	11,000	11,000	
	11-08-91	15.77	SAL	150,000	29,000	2,200	9,700	13,000	
B-4	05-10-89	14.93	SAL	3,600	840	120	34	200	
	08-09-89	16.65	SAL	<500	4,200	370	130	260	
	08-09-89 (dup)	16.65	SAL	5,000	4,200	400	83	250	
	11-09-89	16.99	SAL	14,000	6,000	530	70	300	
	02-08-90	16.05	GTEL	12,000	5,400	460	130	320	
	05-10-90	16.49	GTEL	16,000	7,400	530	120	350	
	08-09-90	16.64	GTEL	21,000	7,000	550	100	320	
	11-13-90	17.42	CEC	17,000	8,500	500	120	300	
	03-27-91	14.66	SAL	14,000	7,700	610	75	210	
	06-19-91	16.48	SAL	16,000	7,800	550	110	340	
	08-21-91	17.00	CEC	18,000	11,000	450	110	340	
	11-08-91	17.38	SAL	18,000	6,800	500	98	620	
	B-6	05-09-89	12.11	SAL	26,000	120	250	110	1,300
		08-09-89	14.72	SAL	19,000	470	440	150	1,400
11-09-89		13.85	SAL	13,000	70	36	36	440	
02-08-90		7.73	GTEL	2,900	16	10	5	58	
05-10-90		---	---	---	---	---	---	---	
08-09-90		14.51	GTEL	14,000	55	130	3	500	
11-13-90		14.86	---	---	---	---	---	---	
03-27-91		10.43	---	---	---	---	---	---	
06-19-91	---	---	---	---	---	---	---		
B-7	05-10-89	14.73	SAL	210,000	13,000	2,000	19,000	20,000	
	08-09-89	16.36	SAL	672,000	8,700	2,700	17,000	30,000	
	11-09-89	16.64	SAL	150,000	7,000	1,800	12,000	16,000	
	02-08-90	15.69	GTEL	41,000	2,500	1,100	6,900	11,000	
	05-10-90	---	---	---	---	---	---	---	
	08-09-90	16.31	GTEL	50,000	1,100	640	3,900	7,200	
	11-13-90	17.09	---	---	---	---	---	---	
	03-27-91	14.36	---	---	---	---	---	---	
06-19-91	---	---	---	---	---	---	---		

-- Table 2 continues on next page --



TABLE 2. Analytic Results for Ground Water - Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California (continued)

Well ID	Date Sampled	Depth-to Water (ft)	Analytical Lab	TPH-G	parts per billion (µg/L)				
					B	E	T	X	
EA-1	05-09-89	14.56	SAL	<500	<0.5	<0.5	<0.5	<0.5	
	08-09-89	16.09	SAL	<500	<0.5	<0.5	<0.5	<0.5	
	11-09-89	15.84	SAL	<500	<0.5	<0.5	<0.5	<0.5	
	02-08-90	15.05	GTEL	<50	<0.3	<0.3	<0.3	<0.6	
	05-10-90	15.65	GTEL	<50	1	<0.3	<0.3	<0.6	
	08-09-90	15.67	GTEL	<50	<0.3	<0.3	<0.3	<0.6	
	11-13-90	16.32	CEC	<50	<0.4	<0.3	<0.3	<0.4	
	03-27-91	14.03	SAL	<50	0.7	<0.5	<0.5	<0.5	
	06-19-91	15.56	SAL	<50	<0.5	<0.5	<0.5	<0.5	
	08-21-91	15.99	CEC	<50	<0.4	<0.3	<0.3	<0.4	
	11-08-91	16.13	SAL	<50	<0.5	<0.5	<0.5	<0.5	
EA-2	05-09-89	15.95	SAL	760	<0.5	1.1	<0.5	<0.5	
	08-09-89	17.45	SAL	<500	<0.5	<0.5	<0.5	<0.5	
	11-09-89	17.41	SAL	<500	<0.5	<0.5	1	<0.5	
	02-08-90	16.57	GTEL	190	<0.3	<0.3	<0.3	<0.6	
	05-10-90	17.12	GTEL	<50	<0.3	<0.3	<0.3	<0.6	
	08-09-90	17.20	GTEL	120	<0.3	<0.3	<0.3	<0.6	
	11-13-90	17.88	CEC	160	<0.4	<0.3	1.0	<0.4	
	03-27-91	15.54	SAL	110	<0.5	<0.5	<0.5	<0.5	
	06-19-91	17.07	SAL	<50	<0.5	<0.5	<0.5	<0.5	
	08-21-91	17.46	CEC	70	0.8	<0.3	1.4	<0.4	
	11-08-91	17.58	SAL	<50	<0.5	<0.5	0.7	<0.5	
F	05-09-89	18.70	SAL	<500	<0.5	<0.5	0.6	1.0	
	08-09-89 ^g	19.03	---	---	---	---	---	---	
	11-09-89 ^g	19.02	---	---	---	---	---	---	
	02-08-90	18.70	GTEL	<50	0.4	<0.3	0.3	<0.6	
	05-10-90 ^g	18.98	---	---	---	---	---	---	
	08-09-90 ^g	18.95	---	---	---	---	---	---	
	11-13-90 ^g	19.10	---	---	---	---	---	---	
	03-27-91	---	SAL	64	<0.5	<0.5	<0.5	1	
	06-19-91 ^g	18.95	---	---	---	---	---	---	
	08-21-91 ^g	>19.94	---	---	---	---	---	---	
11-08-91	>19.94	---	---	---	---	---	---		
Travel Blank	05-10-89		SAL	<500	<0.5	<0.5	<0.5	<0.5	
	08-09-89		SAL	<500	<0.5	<0.5	<0.5	<0.5	
	11-09-89		SAL	<500	<0.5	<0.5	<0.5	<0.5	
	02-08-90		GTEL	<50	<0.3	<0.3	<0.3	<0.6	
	05-10-90		GTEL	<50	<0.3	<0.3	<0.3	<0.6	
	08-09-90		GTEL	<50	<0.3	<0.3	<0.3	<0.6	
	11-13-90		CEC	<50	<0.4	<0.3	<0.3	<0.4	
	03-27-91		SAL	<50	<0.5	<0.5	<0.5	<0.5	
	06-19-91		SAL	<50	<0.5	<0.5	<0.5	<0.5	
	08-21-91		CEC	<50	<0.4	<0.3	<0.3	<0.4	
	11-08-91		SAL	<50	<0.5	<0.5	<0.5	<0.5	

-- Table 2 continues on next page --



TABLE 2. Analytic Results for Ground Water - Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California (continued)

Well ID	Date Sampled	Depth-to Water (ft)	Analytical Lab	TPH-G	parts per billion (µg/L)			
					B	E	T	X
Bailer	05-10-89		SAL	<500	<0.5	<0.5	<0.5	<0.5
Blank	02-08-90		GTEL	<50	<0.3	<0.3	0.3	<0.6
	03-27-91		SAL	<50	<0.5	<0.5	<0.5	0.6
	11-08-91		SAL	<50	<0.5	<0.5	<0.5	<0.5
DHS MCLs				NE	1	680	100 ^h	1,750

Abbreviations:

TPH-G = Total Petroleum Hydrocarbons as Gasoline by EPA Method 8015
 B = Benzene by EPA Method 8020
 E = Ethylbenzene by EPA Method 8020
 T = Toluene by EPA Method 8020
 X = Xylenes by EPA Method 8020
 dup = Duplicate analysis
 <n = Not detected at detection limit of n parts per billion
 DHS MCLs = Department of Health Services Maximum Contaminant Level for Drinking Water
 NE = Not established by DHS

Analytical Laboratory:

GTEL = GTEL Environmental Laboratories, Inc. of Concord, California
 SAL = Superior Precision Analytical of San Francisco and Martinez, California
 CEC = Clayton Environmental Consultants of Pleasanton, California

Notes:

- a = Not sampled due to presence of floating hydrocarbons
- b = Not sampled due to large volume of evacuation water necessary
- c = Not sampled because screened interval of well needs to be assessed
- d = Well was not sampled due to poor surface water seals
- e = A groundwater sample was analyzed for Priority Pollutant Metals; concentrations were below detection limits.
- f = Well abandoned in May 1991
- g = Not sampled because of insufficient water in the well
- h = DHS Recommended Action Level for Drinking Water, MCL not established



ATTACHMENT A
WATER SAMPLE COLLECTION RECORDS



WATER SAMPLING DATA

Well Name A Date 11/8/91 Time of Sampling 13:39
 Job Name Chem. Oakland III Job Number 4-418-01 Initials BB
 Sample Point Description M (M = Monitoring Well)
 Location Right Side of Portable trailer office, near trailer hitch

WELL DATA: Depth to Water 16.15 ft (static pumping) @ 11:00 Depth to Product — ft.
 Product Thickness — Well Depth — ft (spec) Well Depth 20.06 ft (sounded) Well Diameter 2 in
 Initial Height of Water in Casing 3.91 ft. = volume 0.64 gal.
3 Casing Volumes to be Evacuated. Total to be evacuated 1.91 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —
 Bailer# and type 1.25" x 2' Tef Dedicated Yes (Y/N)
 Other —

Evacuation Time: Stop 12:39 13:18 —
 Start 12:35 13:15 —
 Total Evacuation Time 7 min
 Total Evacuated Prior to Sampling 1.9 gal.
 Evacuation Rate 0.27 gal. per minute

Formulas/Conversions
 r = well radius in ft.
 h = ht of water col in ft.
 vol. in cyl. = $\pi r^2 h$
 7.48 gal/ft³
 V_{2"} casing = 0.163 gal/ft
 V_{3"} casing = 0.367 gal/ft
 V_{4"} casing = 0.653 gal/ft
 V_{4.5"} casing = 0.826 gal/ft
 V_{6"} casing = 1.47 gal/ft
 V_{8"} casing = 2.61 gal/ft

Depth to Water during Evacuation — ft. — time
 Depth to Water at Sampling 19.49 ft. 13:41 time
 Evacuated Dry? NO After — gal. Time —
 80% Recovery = —
 % Recovery at Sample Time — Time —

CHEMICAL DATA: Meter Brand/Number —

Calibration:	<u>4.0</u>	<u>7.0</u>	<u>10.0</u>
Measured:	SC/ μ mhos	pH	T°C
			<u>N/A</u>

SAMPLE: Color Light Grey Odor Faint
 Description of matter in sample: very fine suspended silt particles
 Sampling Method: decanted from dedicated teflon btl.
 Sample Port: Rate — gpm Totalizer — gal.
 Time —

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
<u>3</u>	<u>111-A</u>	<u>w/cv</u>	<u>40ml</u>	<u>NO</u>	<u>yes</u>	<u>HCl</u>	<u>EPA 8015/8020</u>	<u>N</u>	<u>SAL</u>

1 Sample Type Codes: W = Water, S = Soil, Describe Other
 Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
 Cap Codes: PT = Plastic, Teflon lined;
 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
 5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]
 ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WATER SAMPLING DATA

Well Name B Date 11/8/91 Time of Sampling 11:38
 Job Name Chem. Oakland III Job Number 4-418-01 Initials BB
 Sample Point Description M (M = Monitoring Well)
 Location Near Sidewalk on MacArthur Blvd.

WELL DATA: Depth to Water 15.71 ft (static, pumping) @ 10.46 Depth to Product ft.
 Product Thickness Well Depth ft (spec) Well Depth 34.05 ft (sounded) Well Diameter 4 in
 Initial Height of Water in Casing 18.34 ft. = volume 11.9 gal.
3 Casing Volumes to be Evacuated. Total to be evacuated 36 gal.

EVACUATION METHOD: Pump # and type Hose # and type
 Bailer# and type 3"x3' PVC # AD Dedicated NO (Y/N)
 Other Sampled w/ WA Tef. bkr # RK

Evacuation Time: Stop 11:19 11:33
 Start 11:09 11:24
 Total Evacuation Time 19 min
 Total Evacuated Prior to Sampling 36 gal.
 Evacuation Rate 1.89 gal. per minute

Formulas/Conversions

- r = well radius in ft.
- h = ht of water col in ft.
- vol. in cyl. = $\pi r^2 h$
- 7.48 gal/ft³
- V₂" casing = 0.163 gal/ft
- V₃" casing = 0.367 gal/ft
- V₄" casing = 0.653 gal/ft
- V_{4.5}" casing = 0.826 gal/ft
- V₆" casing = 1.47 gal/ft
- V₈ casing = 2.61 gal/ft

Depth to Water during Evacuation ft. time
 Depth to Water at Sampling 15.75 ft. 11:41 time
 Evacuated Dry? NO After gal. Time
 80% Recovery =
 % Recovery at Sample Time Time

CHEMICAL DATA: Meter Brand/Number

Calibration: 4.0 7.0 10.0
 Measured: SC/ μ mhos pH T°C Time Volume Evacuated (gal.)

N/A

SAMPLE: Color Light Grey Odor Moderate
 Description of matter in sample: Suspended particles
 Sampling Method: decanted from WA teflon bailer # RK * globules of product detected on purge water.
 Sample Port: Rate gpm Totalizer gal.
 Time

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
3	111-B	w/cv	40ml	No	yes	HCl	EPA 8015/8020	N	SAL

1 Sample Type Codes: W = Water, S = Soil, Describe Other
 Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
 Cap Codes: PT = Plastic, Teflon lined;
 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
 5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]
 ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WATER SAMPLING DATA

Well Name B-1 Date 11/8/91 Time of Sampling 13107
 Job Name Chem. Oakland III Job Number 4-418-01 Initials BDJ
 Sample Point Description M (M = Monitoring Well)
 Location Western Corner of Site - on MacArthur

WELL DATA: Depth to Water 14.05 ft (static pumping) @ 10:30 Depth to Product — ft.
 Product Thickness — Well Depth — ft (spec) Well Depth 16.05 ft (sounded) Well Diameter 2 in
 Initial Height of Water in Casing 2 ft. = volume 0.32 gal.
3 Casing Volumes to be Evacuated. Total to be evacuated 1 gal.

EVACUATION METHOD: # RQ Pump # and type — Hose # and type —
 Bailer # and type 1/2" x 36" Teflon Dedicated No (Y/N)
 Other —

Evacuation Time: Stop 12:45 13:05 —
 Start 12:40 13:02 —
 Total Evacuation Time 8.0 min
 Total Evacuated Prior to Sampling 1.0 gal.
 Evacuation Rate 0.12 gal. per minute

Formulas/Conversions

- r = well radius in ft.
- h = ht of water col in ft.
- vol. in cyl. = $\pi r^2 h$
- 7.48 gal/ft³
- V_{2"} casing = 0.163 gal/ft
- V_{3"} casing = 0.367 gal/ft
- V_{4"} casing = 0.653 gal/ft
- V_{4.5"} casing = 0.826 gal/ft
- V_{6"} casing = 1.47 gal/ft
- V_{8"} casing = 2.61 gal/ft

Depth to Water during Evacuation — ft. — time
 Depth to Water at Sampling 15.55 ft. 13:07 time
 Evacuated Dry? No After — gal. Time —
 80% Recovery = —
 % Recovery at Sample Time — Time —

CHEMICAL DATA: Meter Brand/Number

Calibration: — 4.0 — 7.0 — 10.0
 Measured: — SC/pmhos — pH — T°C — Time — Volume Evacuated (gal.) —

SAMPLE: Color Drk Grey Odor medium
 Description of matter in sample: Silt + organic substance in suspension (sheen on surface)
 Sampling Method: decanted from a WA Teflon bailer # RQ (use for bailer blank)
 Sample Port: Rate — gpm Totalizer — gal.
 Time —

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
<u>3</u>	<u>101-B1</u>	<u>w/cv</u>	<u>40ml</u>	<u>No</u>	<u>yes</u>	<u>HCl</u>	<u>EPA 8015/8020</u>	<u>N</u>	<u>SAL</u>

1 Sample Type Codes: W = Water, S = Soil, Describe Other
 Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
 Cap Codes: PT = Plastic, Teflon lined;
 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
 5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]
 ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WATER SAMPLING DATA

Well Name B-2 Date 11/8/91 Time of Sampling 13:30
 Job Name Chem. Oakland III Job Number 4-418-01 Initials BDB
 Sample Point Description M (M = Monitoring Well)

Location Near Signal - Corner of MacArthur & Broadway

WELL DATA: Depth to Water 16.00 ft (static, pumping) @ 10:40 Depth to Product — ft.

Product Thickness — Well Depth — ft (spec) Well Depth 19.08 ft (sounded) Well Diameter 2 in

Initial Height of Water in Casing 2.48 ft. = volume 0.40 gal.

3 Casing Volumes to be Evacuated. Total to be evacuated 1.2 gal.

EVACUATION METHOD:

Pump # and type — Hose # and type —

Bailer # and type 1/2" x 36" Teflon Dedicated Yes (Y/N)

Other —

Evacuation Time: Stop 12:59 13:28 —

Start 12:55 13:20 —

Total Evacuation Time 12

Total Evacuated Prior to Sampling 1.2 gal.

Evacuation Rate 0.1 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 18.90 ft. 13:30 time

Evacuated Dry? Yes After 1.2 gal. Time 13:30

80% Recovery = 1.98 gal.

% Recovery at Sample Time 7.0% Time 13:30

Formulas/Conversions

r = well radius in ft.

h = ht of water col in ft.

vol. in cyl. = $\pi r^2 h$

7.48 gal/ft³

V₂" casing = 0.163 gal/ft

V₃" casing = 0.367 gal/ft

V₄" casing = 0.653 gal/ft

V_{4.5}" casing = 0.826 gal/ft

V₆" casing = 1.47 gal/ft

V₈ casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number

Calibration: 4.0 7.0 10.0

Measured: SC/ μ mhos pH T°C Time Volume Evacuated (gal.)

SC/ μ mhos	pH	T°C	Time	Volume Evacuated (gal.)
		<u>N</u>	<u>A</u>	

SAMPLE: Color Light Grey Odor medium

Description of matter in sample: Silly Buds Cloudy (Sheen on surface)

Sampling Method: decanted from a dedicated Teflon bailer

Sample Port: Rate — gpm Totalizer — gal. Time —

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
<u>3</u>	<u>111-B2</u>	<u>W/CU</u>	<u>40ml</u>	<u>No</u>	<u>Yes</u>	<u>HCl</u>	<u>EPA 8015/8020</u>	<u>N</u>	

1 Sample Type Codes: W = Water, S = Soil, Describe Other
 Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
 Cap Codes: PT = Plastic, Teflon lined;
 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
 5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WATER SAMPLING DATA

Well Name B-3 Date 11/8/91 Time of Sampling 15:30
 Job Name Chem. Oakland III Job Number 4-418-01 Initials BB
 Sample Point Description M (M = Monitoring Well)
 Location In Center of lot

WELL DATA: Depth to Water 15.77 ft (static) pumping) Depth to Product — ft.
 Product Thickness — Well Depth — ft (spec) Well Depth 8.90 ft (sounded) Well Diameter 2 in
 Initial Height of Water in Casing 3.13 ft. = volume 0.51 gal.
3 Casing Volumes to be Evacuated. Total to be evacuated 1.5 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —
 Bailer# and type 2.5" x 3' Teflon Dedicated NO (Y/N)
 Other # AN

Evacuation Time: Stop 13:06 13:24
 Start 13:04 13:26
 Total Evacuation Time 4.0 min.
 Total Evacuated Prior to Sampling 1.5 gal.
 Evacuation Rate 0.37 gal. per minute

Formulas/Conversions

- r = well radius in ft.
- h = ht of water col in ft.
- vol. in cyl. = $\pi r^2 h$
- 7.48 gal/ft³
- V₂" casing = 0.163 gal/ft
- V₃" casing = 0.367 gal/ft
- V₄" casing = 0.653 gal/ft
- V_{4.5}" casing = 0.826 gal/ft
- V₆" casing = 1.47 gal/ft
- V₈ casing = 2.61 gal/ft

Depth to Water during Evacuation — ft. — time
 Depth to Water at Sampling 17.54 ft. 15:30 time
 Evacuated Dry? No After 1.0 gal. Time 13:24
 80% Recovery = DO.34/B 2.5
 % Recovery at Sample Time 43% Time DOB 15:30

~~CHEMICAL DATA: Meter Brand/Number~~

~~Calibration: 4.0 7.0 10.0
 Measured: SC/pmhos pH T°C Time Volume Evacuated (gal.)
NA~~

SAMPLE: Color Greyish Brown Odor medium
 Description of matter in sample: Cloudy
 Sampling Method: decanted from a WA Teflon bailer* product seen detected
 Sample Port: Rate — gpm Totalizer — gal. on purple water.
 Time —

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
3	111 - B3	W	40ml	No	yes	HCl	EPA 8015/8020	N	SAL

1 Sample Type Codes: W = Water, S = Soil, Describe Other
 Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
 Cap Codes: PT = Plastic, Teflon lined;
 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
 5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WATER SAMPLING DATA

Well Name B-4 Date 11/8/91 Time of Sampling 13:51
 Job Name Chem. Oakland III Job Number 4-418-01 Initials BB

Sample Point Description M (M = Monitoring Well)
 Location NE Corner of lot, near driveway entrance to Broadway

WELL DATA: Depth to Water 17.38 ft (static, pumping) @ 10:55 Depth to Product ft.
 Product Thickness Well Depth ft (spec) Well Depth 19.5 ft (sounded) Well Diameter 2 in
 Initial Height of Water in Casing 2.13 ft. = volume 0.35 gal.
3 Casing Volumes to be Evacuated. Total to be evacuated 1.04 gal.

EVACUATION METHOD: Pump # and type Hose # and type
 Bailer# and type 1.25" x 2' ref. Dedicated Yes (Y/N)
 Other

Evacuation Time: Stop 12:54 13:22
 Start 12:50 13:20
 Total Evacuation Time 6 min
 Total Evacuated Prior to Sampling 1 gal.
 Evacuation Rate 0.16 gal. per minute

Formulas/Conversions

- r = well radius in ft.
- h = ht of water col in ft.
- vol. in cyl. = $\pi r^2 h$
- 7.48 gal/ft³
- V_{2"} casing = 0.163 gal/ft
- V_{3"} casing = 0.367 gal/ft
- V_{4"} casing = 0.653 gal/ft
- V_{4.5"} casing = 0.826 gal/ft
- V_{6"} casing = 1.47 gal/ft
- V_{8"} casing = 2.61 gal/ft

Depth to Water during Evacuation ft. time
 Depth to Water at Sampling 18.86 ft. 13:53 time
 Evacuated Dry? No After gal. Time
 80% Recovery =
 % Recovery at Sample Time Time

CHEMICAL DATA: Meter Brand/Number

Calibration: 4.0 7.0 10.0

Measured: SC/ μ mhos pH T°C Time Volume Evacuated (gal.)

SC/ μ mhos	pH	T°C	Time	Volume Evacuated (gal.)
N/A				

SAMPLE: Color Light Grey Odor Faint
 Description of matter in sample: Fine suspended silt particles
 Sampling Method: decanted from dedicated teflon br.
 Sample Port: Rate gpm Totalizer gal.
 Time

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
3	III - B4	W/CV	40ml	No	Yes	HCl	EPA 8015/8020	N	SAL

1 Sample Type Codes: W = Water, S = Soil, Describe Other
 Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
 Cap Codes: PT = Plastic, Teflon lined;
 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
 5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WATER SAMPLING DATA

Well Name B EA-1 Date 11/8/91 Time of Sampling 14150
 Job Name Cher, Oakland III Job Number 4-418-01 Initials BDB
 Sample Point Description M (M = Monitoring Well)
 Location on median - MacArthur Blvd.

WELL DATA: Depth to Water 16.03 ft (static pumping) at 11:18 Depth to Product — ft.
 Product Thickness — Well Depth — ft (spec) Well Depth 30.63 ft (sounded) Well Diameter 4 in
 Initial Height of Water in Casing 14.5 ft. = volume 9.47 gal.
3 Casing Volumes to be Evacuated. Total to be evacuated 28.4 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —
 Bailer# and type 3" x 36" PVC Dedicated yes (Y/N)
 Other —

Evacuation Time: Stop 14:45 — —
 Start 14:15 — —
 Total Evacuation Time 30 min.
 Total Evacuated Prior to Sampling 30.0 gal.
 Evacuation Rate 1.0 gal. per minute

Formulas/Conversions

- r = well radius in ft.
- h = ht of water col in ft.
- vol. in cyl. = $\pi r^2 h$
- 7.48 gal/ft³
- V_{2"} casing = 0.163 gal/ft
- V_{3"} casing = 0.367 gal/ft
- V_{4"} casing = 0.653 gal/ft
- V_{4.5"} casing = 0.826 gal/ft
- V_{6"} casing = 1.47 gal/ft
- V_{8"} casing = 2.61 gal/ft

Depth to Water during Evacuation — ft. — time
 Depth to Water at Sampling 16.07 ft. at 14:50 time
 Evacuated Dry? No After — gal. — Time —
 80% Recovery = —
 % Recovery at Sample Time — Time —

CHEMICAL DATA: Meter Brand/Number —

Calibration:	4.0	7.0	10.0		
Measured:	SC/pHos	pH	T°C	Time	Volume Evacuated (gal.)
			<u>N/A</u>		

SAMPLE: Color Tannish Orange Odor None
 Description of matter in sample: Silty suspended sediment
 Sampling Method: Accounted from a sample taken from port on ded. PVC bailer
 Sample Port: Rate — gpm Totalizer — gal.
 Time —

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
<u>3</u>	<u>111 - EA1</u>	<u>w/cu</u>	<u>40ml</u>	<u>No</u>	<u>Yes</u>	<u>HCl</u>	<u>EPA-8015/8020</u>	<u>N</u>	<u>SAL</u>

1 Sample Type Codes: W = Water, S = Soil, Describe Other
 Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
 Cap Codes: PT = Plastic, Teflon lined;
 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
 5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WATER SAMPLING DATA

Well Name EA-2 Date 11/8/91 Time of Sampling 14:32
 Job Name Chev. Oakland III Job Number 4-418-01 Initials BB
 Sample Point Description M (M = Monitoring Well)
 Location In Median strip on Broadway

WELL DATA: Depth to Water 17.58 ft (static) pumping @ 1108 Depth to Product — ft.
 Product Thickness — Well Depth — ft (spec) Well Depth 30.22 ft (sounded) Well Diameter 4 in
 Initial Height of Water in Casing 12.64 ft = volume 8.25 gal.
3 Casing Volumes to be Evacuated. Total to be evacuated 24.76 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —
 Bailer# and type 3" x 36" PVC Dedicated yes (Y/N)
 Other —

Evacuation Time: Stop 14:31
 Start 14:16
 Total Evacuation Time 15 min
 Total Evacuated Prior to Sampling 25 gal.
 Evacuation Rate 1.66 gal. per minute

Formulas/Conversions
 r = well radius in ft.
 h = ht of water col in ft.
 vol. in cyl. = $\pi r^2 h$
 7.48 gal/ft³
 V_{2"} casing = 0.163 gal/ft
 V_{3"} casing = 0.367 gal/ft
 V_{4"} casing = 0.653 gal/ft
 V_{4.5"} casing = 0.826 gal/ft
 V_{6"} casing = 1.47 gal/ft
 V_{8"} casing = 2.61 gal/ft

Depth to Water during Evacuation — ft. — time
 Depth to Water at Sampling 27.26 ft. 14:34 time
 Evacuated Dry? No After — gal. Time —
 80% Recovery = —
 % Recovery at Sample Time — Time —

CHEMICAL DATA: Meter Brand/Number —

Calibration:	4.0	7.0	10.0	
Measured:	SC/ μ mhos	pH	T°C	Time
			<u>N/A</u>	

SAMPLE: Color Light Brown Odor None detected
 Description of matter in sample: fine suspended silt particles.
 Sampling Method: sampled from port on ded. PVC bailer.
 Sample Port: Rate — gpm Totalizer — gal.
 Time —

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
<u>3</u>	<u>111 - EA2</u>	<u>w/cv</u>	<u>40ml</u>	<u>No</u>	<u>yes</u>	<u>HCl</u>	<u>EPA 8015/8020</u>	<u>N</u>	<u>SAL</u>

1 Sample Type Codes: W = Water, S = Soil, Describe Other
 Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
 Cap Codes: PT = Plastic, Teflon lined;
 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
 5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WEISS ASSOCIATES
NOT Sampled

WATER SAMPLING DATA

Well Name F Date 11/8/91 Time of Sampling because the well is dry
Job Name Chem. Oakland III Job Number 4-418-01 Initials BDB
Sample Point Description M (M = Monitoring Well)
Location on median MacArthur

WELL DATA: Depth to Water _____ ft (static, pumping) Depth to Product _____ ft.
Product Thickness _____ Well Depth _____ ft (spec) Well Depth _____ ft (sounded) Well Diameter _____ in
Initial Height of Water in Casing _____ ft. = volume _____ gal.
Casing Volumes to be Evacuated. Total to be evacuated _____ gal.

EVACUATION METHOD: Pump # and type _____ Hose # and type _____
Bailer# and type _____ Dedicated _____ (Y/N)
Other _____

Evacuation Time: Stop _____
Start _____
Total Evacuation Time N/A
Total Evacuated Prior to Sampling _____ gal.
Evacuation Rate _____ gal. per minute

Formulas/Conversions

- r = well radius in ft.
- h = ht of water col in ft.
- vol. in cyl. = $\pi r^2 h$
- 7.48 gal/ft³
- V₂" casing = 0.163 gal/ft
- V₃" casing = 0.307 gal/ft
- V₄" casing = 0.653 gal/ft
- V_{4.5}" casing = 0.826 gal/ft
- V₆" casing = 1.47 gal/ft
- V₈ casing = 2.61 gal/ft

Depth to Water during Evacuation _____ ft. _____ time
Depth to Water at Sampling _____ ft. _____ time
Evacuated Dry? _____ After _____ gal. Time _____
80% Recovery = _____
% Recovery at Sample Time _____ Time _____

CHEMICAL DATA: Meter Brand/Number _____

Calibration: _____ 4.0 _____ 7.0 _____ 10.0

Measured:	SC/ μ mhos	pH	T°C	Time	Volume Evacuated (gal.)
			<u>N/A</u>		

SAMPLE: Color _____ Odor _____
Description of matter in sample: _____
Sampling Method: _____
Sample Port: Rate _____ gpm Totalizer _____ gal.
Time _____

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
3	111 - F	w/cv	40ml	No	yes	HCl	EPA 8015/8020	N	SAL

NOT SAMPLED
WELL IS DRY

1 Sample Type Codes: W = Water, S = Soil, Describe Other
Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
Cap Codes: PT = Plastic, Teflon lined;
2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name Bailer Blanks Date 11/8/91 Time of Sampling 12:38
 Job Name chev. Oakland III Job Number 4-418-51 Initials BDB
 Sample Point Description N (M = Monitoring Well)
 Location _____

WELL DATA: Depth to Water _____ ft (static, pumping) Depth to Product _____ ft.
 Product Thickness _____ Well Depth _____ ft (spec) Well Depth _____ ft (sounded) Well Diameter _____ in
 Initial Height of Water in Casing _____ ft. = volume _____ gal.
 Casing Volumes to be Evacuated. Total to be evacuated _____ gal.

EVACUATION METHOD: Pump # and type _____ Hose # and type _____
 Bailer # and type _____ Dedicated _____ (Y/N)
 Other _____

Evacuation Time: Stop _____
 Start _____
 Total Evacuation Time _____
 Total Evacuated Prior to Sampling _____ gal.
 Evacuation Rate _____ gal. per minute
 Depth to Water during Evacuation _____ ft. _____ time
 Depth to Water at Sampling _____ ft. _____ time
 Evacuated Dry? _____ After _____ gal. Time _____
 80% Recovery = _____
 % Recovery at Sample Time _____ Time _____

Formulas/Conversions
 r = well radius in ft.
 h = ht of water col in ft.
 vol. in cyl. = $\pi r^2 h$
 7.48 gal/ft³
 V₂" casing = 0.163 gal/ft
 V₃" casing = 0.367 gal/ft
 V₄" casing = 0.653 gal/ft
 V_{4.5}" casing = 0.826 gal/ft
 V₆" casing = 1.47 gal/ft
 V₈ casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number _____

Calibration: _____ 4.0 _____ 7.0 _____ 10.0

Measured:	SC/ μ mhos	pH	T°C	Time	Volume Evacuated (gal.)

SAMPLE: Color Clear Odor None
 Description of matter in sample: None
 Sampling Method: decanted from a WA bailer (Teflon 1 1/2 x 36" #RQ)
 Sample Port: Rate _____ gpm Totalizer _____ gal.
 Time _____

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
1/8 BDB	111-22	w/cv	40ml	NO	yes	HCl	EPA 8015/8020	N	SAL

1 Sample Type Codes: W = Water, S = Soil, Describe Other
 Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
 Cap Codes: PT = Plastic, Teflon lined;
 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
 5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]
 ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:



WATER SAMPLING DATA

Well Name TRAVEL BLANKS Date 11-8-91 Time of Sampling 0800
Job Name Chew. Oak M Job Number 4-418-01 Initials BB
Sample Point Description _____ (M = Monitoring Well)

Location _____

WELL DATA: Depth to Water _____ ft (static, pumping) Depth to Product _____ ft.
Product Thickness _____ Well Depth _____ ft (spec) Well Depth _____ ft(sounded) Well Diameter _____ in
Initial Height of Water in Casing _____ ft. = volume _____ gal.
Casing Volumes to be Evacuated. Total to be evacuated _____ gal.

EVACUATION METHOD: Pump # and type _____ Hose # and type _____
Bailer# and type _____ Dedicated _____ (Y/N)
Other _____

Evacuation Time: Stop _____
Start _____
Total Evacuation Time _____

Total Evacuated Prior to Sampling _____ gal.
Evacuation Rate _____ gal/ per minute

Depth to Water during Evacuation N/A ft. N/A time
Depth to Water at Sampling _____ ft. _____ time
Evacuated Dry? _____ After _____ gal. _____ Time _____
80% Recovery = _____
% Recovery at Sample Time _____ Time _____

Formulas/Conversions

- r = well radius in ft.
- h = ht of water col in ft.
- vol. in cyl. = $\pi r^2 h$
- 7.48 gal/ft³
- V₂" casing = 0.163 gal/ft
- V₃" casing = 0.367 gal/ft
- V₄" casing = 0.653 gal/ft
- V_{4.5}" casing = 0.826 gal/ft
- V₆" casing = 1.47 gal/ft
- V₈ casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number _____

Calibration: _____ 4.0 _____ 7.0 _____ 10.0

Measured: _____ SC/ μ mhos _____ pH _____ T°C _____ Time _____ Volume Evacuated (gal.) _____

SAMPLE: Color Clear Odor None

Description of matter in sample: none

Sampling Method: prepared by SAL personnel.

Sample Port: Rate _____ gpm Totalizer _____ gal.
Time _____

# of Cont.	Sample ID	Cont. Type ¹	Vol ²	Fil ³	Ref ⁴	Preservative (specify)	Analytic Method	Turn ⁵	LAB
3	111-21	w/w	40ml	No	Yes	HCl	EPA 8015/8020	N	SAL

1 Sample Type Codes: W = Water, S = Soil, Describe Other
Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
Cap Codes: PT = Plastic, Teflon lined;
2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]
ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:

ATTACHMENT B
ANALYTIC REPORT AND CHAIN-OF-CUSTODY FORMS



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

LABORATORY NO.: 84356
CLIENT: Weiss Associates
CLIENT JOB NO.: 4-418-01

DATE RECEIVED: 11/11/91
DATE REPORTED: 11/18/91

Page 1 of 2

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
84356- 1	111-A	11/08/91	11/18/91
84356- 2	111-B	11/08/91	11/18/91
84356- 3	111-B1	11/08/91	11/15/91
84356- 4	111-B2	11/08/91	11/15/91
84356- 5	111-B3	11/08/91	11/15/91
84356- 6	111-B4	11/08/91	11/15/91
84356- 7	111-EA1	11/08/91	11/15/91
84356- 8	111-EA2	11/08/91	11/18/91
84356- 9	111-21	11/08/91	11/15/91
84356-10	111-22	11/08/91	11/18/91

Laboratory Number:	84356 1	84356 2	84356 3	84356 4	84356 5
--------------------	------------	------------	------------	------------	------------

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	4000	11000	540000	94000	150000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	640	2400	3600	29000	29000
TOLUENE:	ND<5	48	1500	1900	9700
ETHYL BENZENE:	77	280	1900	2200	2200
XYLENES:	160	160	5900	11000	13000

Laboratory Number:	84356 6	84356 7	84356 8	84356 9	84356 10
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ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	18000	ND<50	ND<50	ND<50	ND<50
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	6800	ND<0.5	ND<0.5	ND<0.5	ND<0.5
TOLUENE:	98	ND<0.5	0.7	ND<0.5	ND<0.5
ETHYL BENZENE:	500	ND<0.5	ND<0.5	ND<0.5	ND<0.5
XYLENES:	620	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Certified Laboratories



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

Page 2 of 2
QA/QC INFORMATION
SET: 84356

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	96/101	6	70-130
Benzene	10/11/91	200 ng	98/100	2	70-130
Toluene	10/11/91	200 ng	93/96	3	70-130
Ethyl Benzene	10/11/91	200 ng	91/95	4	70-130
Total Xylenes	10/11/91	200 ng	96/101	4	70-130

Richard Srna, Ph.D.


Laboratory Director

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

356
Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number <u>9-1026</u>	Chevron Contact (Name) <u>NANCY VUKELICH</u>
	Facility Address <u>3701 BROADWAY, OAKLAND</u>	(Phone) <u>510-842-9581</u>
	Consultant Project Number <u>4-418-01</u>	Laboratory Name <u>SUPERIOR ANALYTICAL</u>
	Consultant Name <u>WEISS ASSOCIATES</u>	Laboratory Release Number <u>4950430</u>
Address <u>5500 SHELLMOUND ST, EMERYVILLE, CA 94608</u>		Samples Collected by (Name) <u>BRIAN BUSCH / BRUCE BEALE</u>
Project Contact (Name) <u>MARIETTE SHIN</u>		Collection Date <u>11-8-91</u>
(Phone) <u>510-547-5420</u> (Fax Number) <u>510-547-5043</u>		Signature <u>Brian Busch</u>

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed											Remarks				
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Greases (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)								
111-A	1	3	W	G	12:39	HCl	Yes	X															
111-B	2	3			11:38			X															
111-B1	3	3			13:07			X															
111-B2	4	3			13:30			X															
111-B3	5	3			15:30			X															
111-B4	6	3			13:51			X															
111-EA1	7	3			14:50			X															
111-EA2	8	3			14:32			X															
111-21	9	3			0800			X															
111-22	10	1	↓	↓	12:38	↓	↓																

Please Initial: _____
 Samples Stored in ice. _____
 Appropriate containers _____
 Samples preserved _____
 VOA's without headspace 4
 Comments: _____

HOLD - PENDING ANALYTICAL RESULTS OF OTHER SAMPLES

Relinquished By (Signature) <u>Brian Busch</u>	Organization <u>WEISS</u>	Date/Time <u>11-8-91 15:20</u>	Received By (Signature) <u>Ronald C. Jensen</u>	Organization <u>WEISS ASSOC.</u>	Date/Time <u>11/11/91 09:00</u>	Turn Around Time (Circle Choice) <input checked="" type="checkbox"/> RECEIVED FROM SECURE AREA <input type="checkbox"/> 24 Hrs. <input type="checkbox"/> 48 Hrs. <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input checked="" type="checkbox"/> As Contracted
Relinquished By (Signature) <u>Ronald C. Jensen</u>	Organization <u>WEISS ASSOC.</u>	Date/Time <u>11/11/91 09:40</u>	Received By (Signature) <u>Brian Busch</u>	Organization <u>WEISS-IT</u>	Date/Time <u>11-11-91/09:00</u>	
Relinquished By (Signature) <u>Ronald C. Jensen</u>	Organization <u>WEISS-IT</u>	Date/Time <u>11/11/91/1102</u>	Received For Laboratory By (Signature) <u>Robert W...</u>	Date/Time <u>11/11/91 1830</u>		

COC-3.DWG/03-91/HCH