



## Chevron U.S.A. Products Company

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

August 3, 1992

SCVWD Coordinator  
Regional Water Quality Control Board  
San Francisco Bay Region  
2101 Webster Street, Suite #500  
Oakland, California 94612

**RECEIVED BY  
HAZARDOUS MATERIALS OFFICE**

**AUG 05 1992**

Re: ~~Chevron~~ Service Station #9-0260  
21995 Foothill Boulevard  
Hayward, California 94541

**HAYWARD FIRE DEPARTMENT**

Dear Coordinator,

Please find attached a copy of the 'Second Quarter 1992 Ground Water Monitoring Report' and a 'Subsurface Investigation Workplan' for the above referenced site. The ground water monitoring was performed on April 7, 1992. Chevron has a total of thirteen ground water monitoring wells here with six wells on-site and seven off-site. Five of the wells were sampled this event. The depth-to-water ranged from 11.83 to 21.36 feet-below-grade. Ground water was flowing to the southwest with a gradient of 0.025 ft/ft. The levels of dissolved hydrocarbons in the ground water samples were consistent with previous observations at this site.

The attached 'Subsurface Investigation Workplan' outlines Chevron's plan to install one ground water monitoring well and one piezometer at this site. Weiss Associates is scheduled to complete this work in August. The new well and piezometer will enable us to further assess the extent of hydrocarbons in the ground water downgradient of the site.

Geraghty & Miller has completed the installation of the biological treatment system (bio-reactor) for the contaminated water. The pilot test of the system has begun, and it has been operating for about one month. We will update you on the system's performance in the next g.w. monitoring report. The system was plumbed so that the effluent is transferred through two granular activated carbon and two granular activated alumina filter vessels prior to discharge to the sanitary sewer. These vessels polish and remove the arsenic from the effluent.

I declare under penalty of perjury that the information contained in the attached report is true and correct, and that any recommended actions are appropriate under the current circumstances, to the best of my knowledge.

If you have any questions, please call me at (510) 842-8896.

Truly yours,

Jeff Zindel  
Environmental Engineer

cc: Mr. Rafat Shahid, Alameda County  
Mr. Hugh Murphy, Hayward Fire Dept.  
File(MAC 9-0260R9)  
cc: w/o attachments: Bill Scudder, PDS-Chevron



May 5, 1992

Walter F. Posluszny, Jr.  
Chevron U.S.A. Products Company  
P.O. Box 5004  
San Ramon, CA 94583-0804

Re: Second Quarter 1992  
Ground Water Monitoring Report  
Chevron Service Station #9-0260  
21995 Foothill Boulevard  
Hayward, California  
WA Job #4-310-91

Dear Mr. Posluszny:

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 April 7, 1992, 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). No samples were collected from wells MW-4 and MW-12 because ground water extraction pumps were installed in these wells. However, ground water extraction has not begun at the site.

We also checked the wells for floating hydrocarbons. About 0.3 ft of floating hydrocarbons were measured in monitoring well MW-8 and it too, was not sampled. The hydrocarbons were subsequently bailed from the well.

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 a dedicated bailer



into appropriate clean sample containers and delivered to a California-certified laboratory following proper sample preservation and chain-of-custody procedures. Purged ground water was removed from the site and transported to the Chevron terminal in Richmond, California for recycling.

## MONITORING AND ANALYTIC RESULTS

The top-of-casing elevation, depth to ground water and the ground water elevation for each well are presented in Table 1. Ground water elevation contours and the ground water flow direction are shown on Figure 2. The ground water elevation contours indicate that ground water flows southwestward with a gradient of about 0.025 ft/ft.

Current and historical ground water analytic results are tabulated in Table 2. Total petroleum hydrocarbons as gasoline (TPH-G) and benzene isoconcentration contour maps are included as Figures 3 and 4, respectively. The water sample collection records, and analytic report and chain-of-custody forms are included as Attachments A and B, respectively.

## PROPOSED WORK SCHEDULE

The Third Quarter 1992 ground water sampling is scheduled for July 1, 1992. We will submit a report presenting the field and analytic data by mid-August 1992.

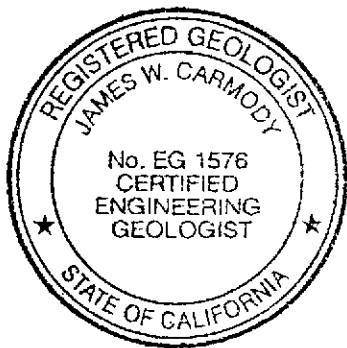
Walter F. Posluszny, Jr.  
May 5, 1992

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Weiss Associates



We appreciate this opportunity to provide hydrogeologic consulting services to Chevron 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:fc

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

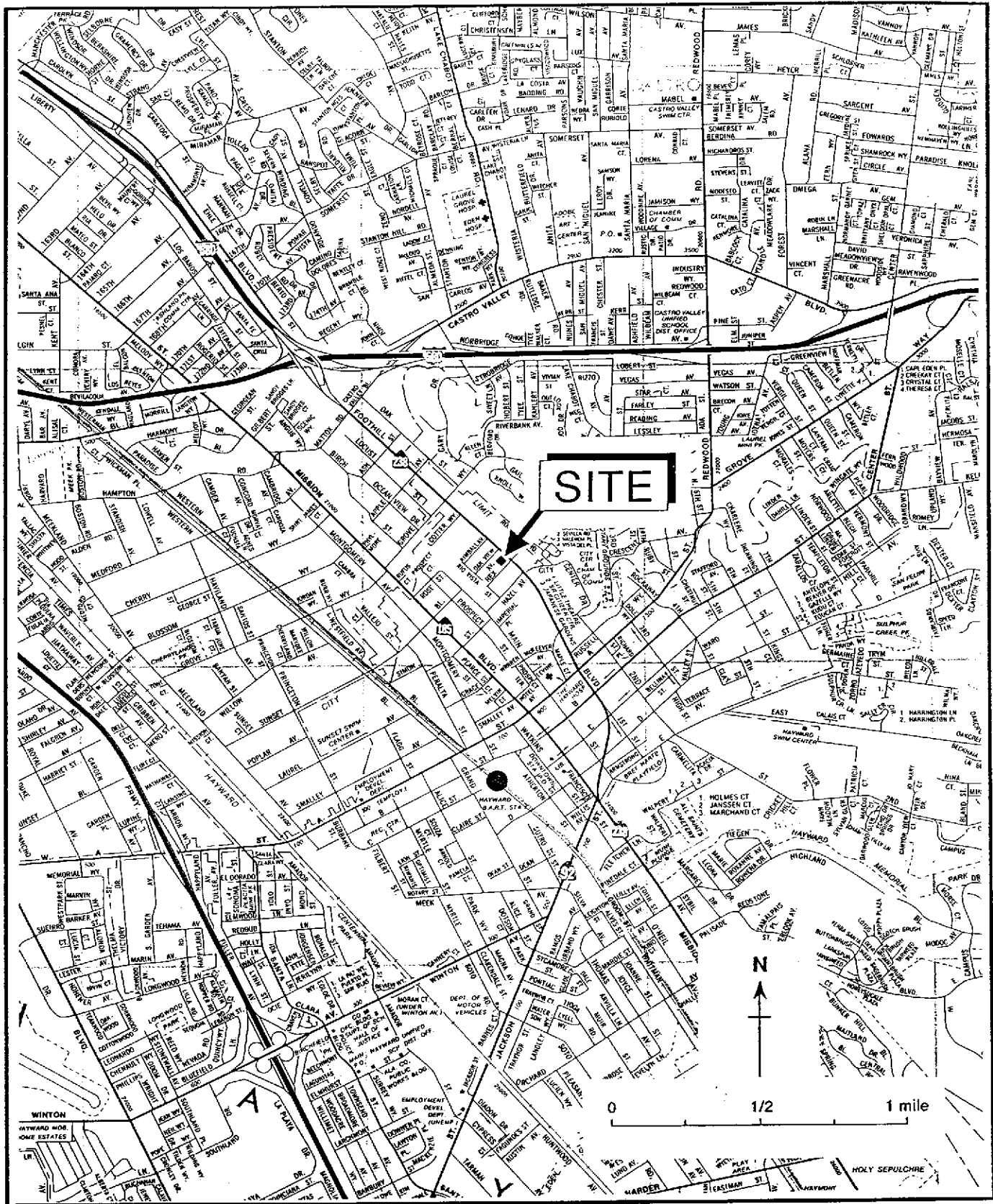


Figure 1. Site Location Map - Chevron Service Station #9-0260, 21995 Foothill Boulevard Hayward, California

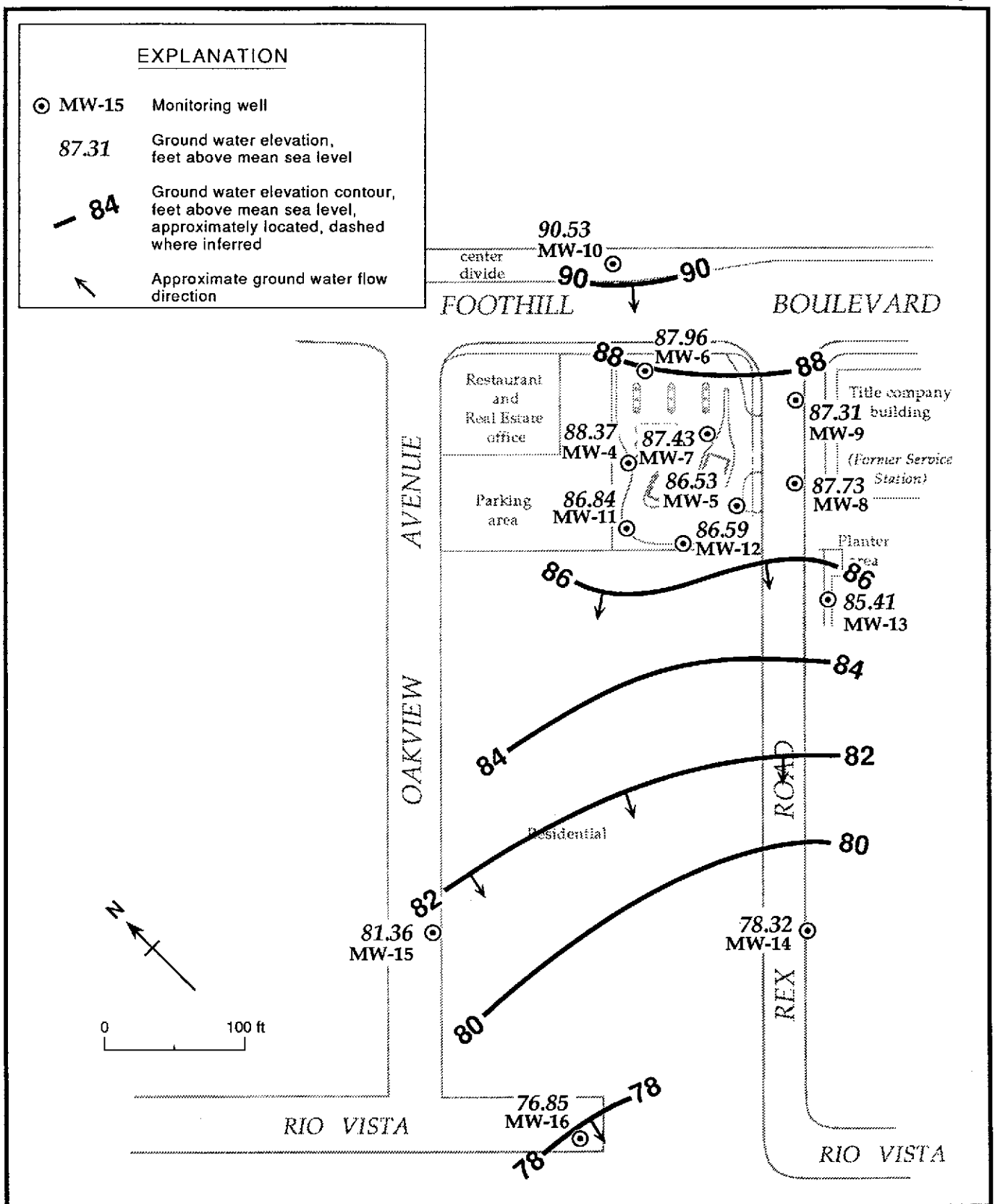


Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - April 7, 1992 - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California

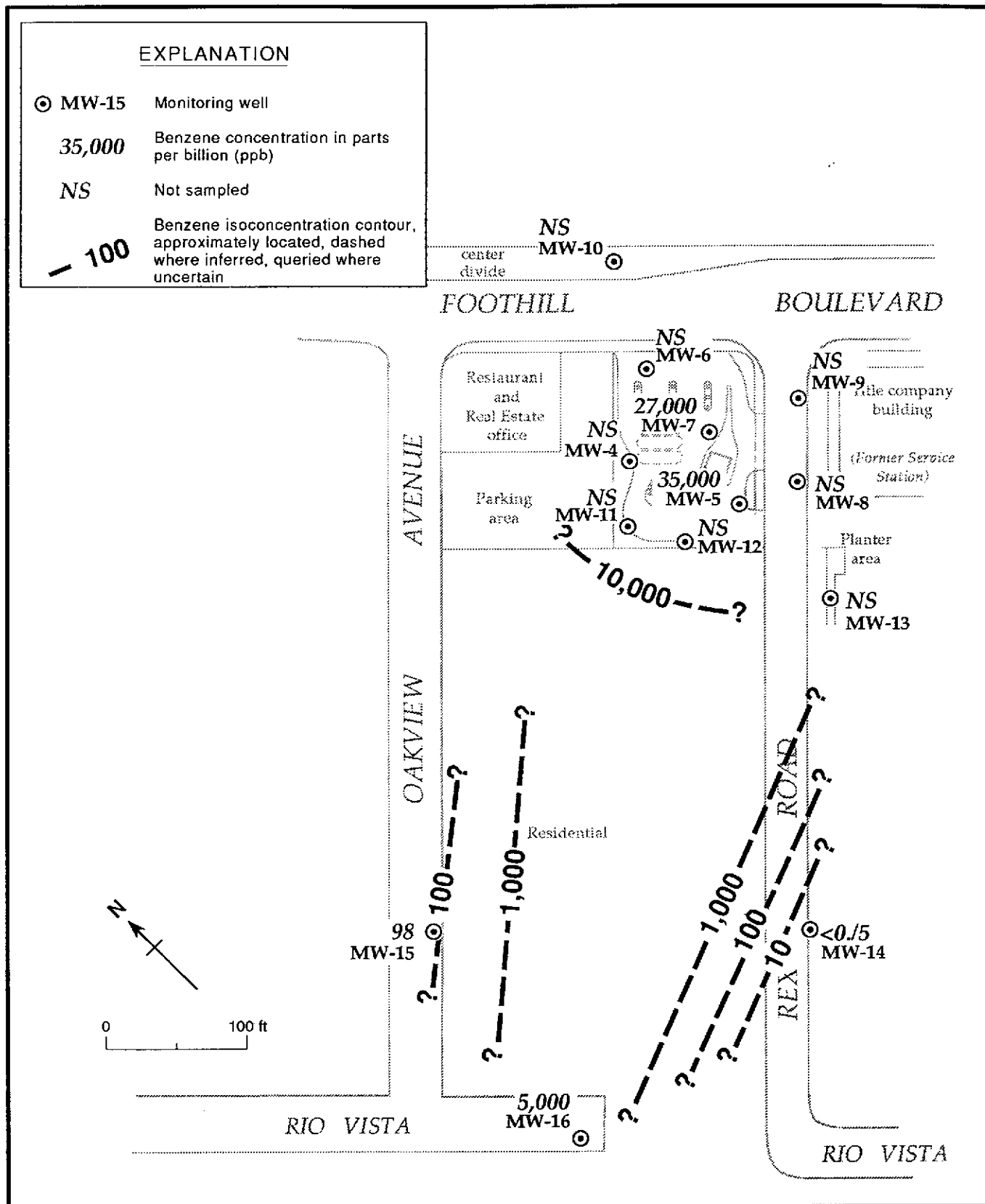


Figure 4. Benzene Concentrations in Ground Water - April 7, 1992 - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California

TABLE 1. Ground Water Elevation Data, Chevron Service Station #9-0260, 21995  
Foothill Boulevard, Hayward, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Thickness of Floating Hydrocarbons (ft)	Water Elevation (ft above msl)
MW-4	06/15/88	100.75	12.92	—	87.83
	09/27/88		14.22	—	86.53
	01/05/89		13.20	—	87.55
	04/06/89		12.32	—	88.43
	06/28/89		14.25	—	86.50
	10/03/89		14.75	—	86.00
	01/04/90		14.75	—	86.00
	04/03/90		13.81	—	86.94
	07/03/90		14.06	—	86.69
	11/06/90		15.66	—	85.09
	01/04/91		15.18	—	85.57
	04/03/91		11.00	—	89.75
	07/02/91		14.25	—	86.50
	10/02/91		16.16	—	84.59
	01/02/92		15.26	—	85.49
	04/07/92		12.38	—	88.37
MW-5	06/15/88	99.97	12.30	—	87.67
	09/27/88		13.25	—	86.72
	01/05/89		12.70	—	87.27
	04/06/89		12.22	—	87.75
	06/28/89		13.81	—	86.16
	10/03/89		14.27	—	85.70
	01/04/90		14.31	—	85.66
	04/03/90		13.50	—	86.47
	07/03/90		13.64	—	86.33
	11/06/90		15.14	—	84.83
	01/04/91		14.90	0.01	85.08 <sup>a</sup>
	04/03/91		11.56	—	88.41
	07/02/91		13.89	—	86.08
	10/02/91		15.26	—	84.71
	01/02/92		14.97	—	85.00
	04/07/92		13.44	—	86.53

-- Table 1 continues on next page --



TABLE 1. Ground Water Elevation Data, Chevron Service Station #9-0260, 21995  
Foothill Boulevard, Hayward, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Thickness of Floating Hydrocarbons (ft)	Water Elevation (ft above msl)
MW-6	06/15/88	101.43	13.51	—	87.92
	09/27/88		14.56	—	86.87
	01/05/89		13.48	—	87.95
	04/06/89		12.60	—	88.83
	06/28/89		14.58	—	86.85
	10/03/89		13.03	—	88.40
	01/04/90		15.08	—	86.35
	04/03/90		14.06	—	87.37
	07/03/90		14.28	—	87.15
	11/06/90		16.10	—	85.33
	01/04/91		15.52	—	85.91
	04/03/91		11.03	—	90.40
	07/02/91		14.44	—	86.99
	10/02/91		16.22	—	85.21
	01/02/92		15.71	—	85.72
	04/07/92		13.47	—	87.96
MW-7	06/15/88	100.91	12.57	—	88.34
	09/27/88		13.60	—	87.31
	01/05/89		12.98	—	87.93
	04/06/89		12.34	—	88.57
	06/28/89		14.08	—	86.83
	10/03/89		14.53	—	86.38
	01/04/90		14.49	—	86.42
	04/03/90		13.66	—	87.25
	07/03/90		13.86	—	87.05
	11/06/90		15.58	—	85.33
	01/04/91		15.25	—	85.66
	04/03/91		11.41	—	89.50
	07/02/91		14.18	—	86.73
	10/02/91		15.78	—	85.13
	01/02/92		15.45	—	85.46
	04/07/92		13.48	—	87.43

-- Table 1 continues on next page --

TABLE 1. Ground Water Elevation Data, Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Thickness of Floating Hydrocarbons (ft)	Water Elevation (ft above msl)
MW-8	01/05/89	99.67	12.02	—	87.65
	04/06/89		11.78	—	87.89
	06/28/89		13.40	—	86.27
	10/03/89		13.84	0.11	85.92 <sup>a</sup>
	01/04/90		13.99	0.10	85.76 <sup>a</sup>
	04/03/90		13.07	0.30	86.84 <sup>a</sup>
	07/03/90		13.11	0.04	86.59 <sup>a</sup>
	11/06/90		14.77	0.15	85.02 <sup>a</sup>
	01/04/91		14.59	0.18	85.22 <sup>a</sup>
	04/03/91		11.53	0.05	88.18 <sup>a</sup>
	07/02/91		13.71	0.48	86.34 <sup>a</sup>
	10/02/91		14.84	0.27	85.05 <sup>a</sup>
	01/02/92		15.05	0.30	84.86 <sup>a</sup>
	04/07/92		12.17	0.29	87.73
MW-9	01/05/89	101.15	12.63	—	88.52
	04/06/89		12.46	—	88.69
	06/28/89		14.04	—	87.11
	10/03/89		14.61	—	86.54
	01/04/90		14.59	—	86.56
	04/03/90		13.75	—	87.40
	07/03/90		13.84	—	87.31
	11/06/90		15.42	—	85.73
	01/04/91		15.37	—	85.78
	04/03/91		12.27	—	88.88
	07/02/91		14.17	—	86.98
	10/02/91		15.68	—	85.47
	01/02/91		15.65	—	85.50
	04/07/92		13.84	—	87.31
MW-10	01/05/89	102.36	12.64	—	89.72
	04/06/89		11.38	—	90.98
	06/28/89		13.64	—	88.72
	10/03/89		13.85	—	88.51
	01/04/90		13.75	—	88.61
	04/03/90		12.86	—	89.50
	07/03/90		13.43	—	88.93
	11/06/90		14.82	—	87.54
	01/04/91		13.98	—	88.38
	04/03/91		9.79	—	92.57
	07/02/91		12.28	—	90.08
	10/02/91		14.53	—	87.83
	01/02/91		13.60	—	88.76
	04/07/92		11.83	—	90.53

— Table 1 continues on next page —

TABLE 1. Ground Water Elevation Data, Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Thickness of Floating Hydrocarbons (ft)	Water Elevation (ft above msl)
MW-11	06/28/89	99.97	14.33	---	85.64
	10/03/89		14.61	---	85.36
	01/04/90		14.55	---	85.42
	04/03/90		13.82	---	86.15
	07/03/90		14.00	---	85.97
	11/06/90		15.56	---	84.41
	01/04/91	b	14.88	0.30	---
	04/03/91		10.75	0.21	---
	07/02/91		13.97	0.02	---
	10/02/91		15.60	---	---
	01/02/92		14.51	---	85.46
	04/07/92		13.13	---	86.84
MW-12	06/28/89	99.64	14.10	---	85.54
	10/03/89		14.30	---	85.34
	01/04/90		14.35	---	85.29
	04/03/90		13.59	---	86.05
	07/03/90		13.77	---	85.87
	11/06/90		15.19	---	84.45
	01/04/91	b	14.52	0.06	---
	04/03/91		10.91	---	---
	07/02/91		13.51	---	---
	10/02/91		14.93	---	---
	01/02/92		14.45	---	85.19
	04/07/92		13.05	---	86.59
MW-13	06/28/89	98.47	13.22	---	85.25
	10/03/89		13.54	---	84.93
	01/04/90		13.64	---	84.83
	04/03/90		12.95	---	85.52
	07/03/90		13.05	---	85.42
	11/06/90		14.12	---	84.35
	01/04/91		14.05	---	84.42
	04/03/91		11.41	---	87.06
	07/02/91		13.17	---	85.30
	10/02/91		14.24	---	84.23
	01/02/92		14.13	0.03	84.34
	04/07/92		13.06	---	85.41

— Table 1 continues on next page —

TABLE 1. Ground Water Elevation Data, Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Thickness of Floating Hydrocarbons (ft)	Water Elevation (ft above msl)
MW-14	08/29/90	99.68	21.39	—	78.29
	11/06/90		21.62	—	78.06
	01/04/91		21.69	—	77.99
	04/03/91		19.53	—	80.15
	07/02/91		20.93	—	78.75
	10/02/91		21.52	—	78.16
	01/02/92		21.43	—	78.25
	04/07/92		21.36	—	78.32
MW-15	08/29/90	96.06	16.58	—	79.48
	11/06/90		17.43	—	78.63
	01/04/91		16.37	—	79.69
	04/03/91		12.46	—	83.60
	07/02/91		16.53	—	79.53
	10/02/91		17.33	—	78.73
	01/02/92		16.46	—	79.60
	04/07/92		14.70	—	81.36
MW-16	08/29/90	98.15	20.89	—	77.26
	11/06/90		21.27	—	76.88
	01/04/91		21.63	—	76.52
	04/03/91		19.32	—	78.83
	07/02/91		20.68	—	77.47
	10/02/91		21.18	—	76.97
	01/02/92		21.30	—	76.85
	04/07/92		20.19	—	77.96

<sup>a</sup> = Ground water elevation corrected for floating hydrocarbons by the formula: Ground Water Elevation = Top-of-casing elevation - Depth to ground water + (0.8 x hydrocarbon thickness)

<sup>b</sup> = Top of casing cut down; elevation unknown

TABLE 2. Analytic Results for Ground Water, Chevron Service Station #90260, 21995 Foothill Boulevard, Hayward, California

Sample ID and Sampling Frequency	Sample Date	Analytical Lab	Depth to Water (ft)	TPH-G <-----	B -----	E -----	T -----	X -----	EDC -----	EDB -----	VOCs -----
parts per billion (µg/L)											
MW-4 (Semi-Annually 2nd & 4th quarters)	02/05/88	B&C		88,000	24,000	1,700	19,000	10,000	---	---	---
	06/15/88	B&C	12.92	95,000	45,000	2,100	30,000	17,000	---	---	---
	09/27/88 <sup>a</sup>	CCAS	14.22	500,000	41,000	<5,000	27,000	16,000	<5,000	<5,000	---
	09/27/88 <sup>ab</sup>	CCAS	14.22	88,000	1,200	1,600	4,100	12,000	270	230	---
	01/05/89	SPA	13.20	64,000	41,000	2,700	29,000	14,000	---	---	---
	06/28/89	SPA	14.25	110,000	34,000	2,400	24,000	13,000	---	---	---
	10/03/89	SPA	14.75	240,000	36,000	3,200	31,000	19,000	---	---	---
	01/04/90	SPA	14.75	130,000	33,000	2,400	28,000	14,000	---	---	---
	04/03/90	SPA	13.81	110,000	41,000	2,900	32,000	17,000	---	---	---
	07/03/90	SPA	14.06	180,000	32,000	2,600	30,000	15,000	---	---	---
	11/06/90	SPA	15.66	170,000	31,000	2,700	30,000	17,000	---	---	---
	04/03/91	SPA	11.00	130,000	21,000	2,300	24,000	14,000	---	---	---
	10/02/91	SPA	16.16	240,000	27,000	2,600	33,000	16,000	---	---	---
	04/07/92	---	---	---	---	---	---	---	---	---	---
MW-5 (Semi-Annually 2nd & 4th quarters)	02/05/88	B&C		80,000	16,000	2,600	15,000	17,000	---	---	---
	06/15/88	B&C	12.30	77,000	42,000	2,500	38,000	16,000	---	---	---
	09/27/88 <sup>a</sup>	CCAS	13.25	470,000	39,000	<5,000	32,000	16,000	<5,000	<5,000	---
	09/27/88 <sup>ab</sup>	CCAS	13.25	48,000	1,800	1,600	3,500	10,000	410	420	---
	01/05/89	SPA	12.70	82,000	44,000	2,400	37,000	14,000	---	---	---
	06/28/89	SPA	13.81	80,000	36,000	2,400	24,000	13,000	---	---	---
	10/03/89	SPA	14.27	240,000	40,000	2,600	35,000	15,000	---	---	---
	01/04/90	SPA	14.31	130,000	37,000	2,400	31,000	13,000	---	---	---
	04/03/90	SPA	13.50	120,000	41,000	2,500	33,000	14,000	---	---	---
	07/03/90	SPA	13.64	200,000	28,000	1,800	25,000	10,000	---	---	---
	11/06/90	SPA	15.14	370,000	38,000	4,700	36,000	31,000	---	---	---
	04/03/91	SPA	11.56	140,000	36,000	2,700	32,000	17,000	---	---	---
	10/02/91	SPA	15.26	230,000	34,000	2,700	31,000	16,000	---	---	---
	04/07/92	SPA	13.44	220,000	35,000	2,500	30,000	14,000	---	---	---
MW-6 (Semi-Annually 1st & 3rd quarters)	02/05/88	B&C		53,000	5,100	2,100	4,400	14,000	---	---	---
	06/15/88	B&C	13.51	33,000	9,200	520	5,500	20,000	---	---	---
	09/27/88 <sup>a</sup>	CCAS	14.56	17,000	2,200	1,700	2,800	5,100	130	<10	---
	01/05/89	SPA	13.48	37,000	5,000	2,200	3,400	10,000	---	---	---
	06/28/89	SPA	14.58	80,000	7,000	2,000	4,100	9,700	---	---	---
	10/03/89	SPA	13.03	110,000	8,500	2,600	5,100	14,000	---	---	---
	01/04/90	SPA	15.08	59,000	5,200	2,000	2,600	11,000	---	---	---
	04/03/90	SPA	14.06	31,000	6,600	2,200	2,600	12,000	---	---	---
	07/03/90	SPA	14.28	66,000	5,800	2,000	2,900	9,800	---	---	---
	01/04/91	SPA	15.52	50,000	5,600	1,800	2,200	9,400	---	---	---
	07/02/91	SPA	14.44	81,000	11,000	2,100	2,700	13,000	---	---	---
	01/02/92	SPA	15.71	67,000	7,500	1,800	1,900	9,500	---	---	---

--Table 2 continues on next page--

TABLE 2. Analytic Results for Ground Water, Chevron Service Station #90260, 21995 Foothill Boulevard, Hayward, California (continued)

Sample ID and Sampling Frequency	Sample Date	Analytical Lab	Depth to Water	TPH-G	B	E	T	X	EDC	EDB	VOCs
-----parts per billion (µg/L)----->											
MW-7 (Semi-Annually 2nd & 4th quarters)	02/05/88	B&C		81,000	34,000	2,400	36,000	16,000	---	---	---
	06/15/88	B&C	12.57	77,000	40,000	1,400	41,000	24,000	---	---	---
	09/27/88 <sup>a</sup>	CCAS	13.60	30,000	9,700	400	8,900	4,100	2,600	<10	---
	01/05/89	SPA	12.98	96,000	36,000	2,800	38,000	16,000	---	---	---
	06/28/89	SPA	14.08	110,000	31,000	2,600	30,000	16,000	---	---	---
	10/03/89	SPA	14.53	230,000	34,000	2,400	34,000	15,000	---	---	---
	01/04/90	SPA	14.49	150,000	41,000	2,400	40,000	15,000	---	---	---
	04/03/90	SPA	13.66	100,000	31,000	2,100	28,000	16,000	---	---	---
	07/03/90	SPA	13.86	190,000	30,000	1,800	27,000	13,000	---	---	---
	11/06/90	SPA	15.58	160,000	27,000	1,900	25,000	15,000	---	---	---
	04/03/91	SPA	11.41	240,000	40,000	2,400	36,000	18,000	---	---	---
	10/02/91	SPA	15.78	220,000	26,000	2,500	27,000	18,000	---	---	---
	04/07/92	SPA	13.48	260,000	27,000	2,400	26,000	15,000	---	---	---
MW-8 (Semi-Annually 2nd & 4th quarters)	10/27/88 <sup>a</sup>	CCAS		190,000	27,000	2,200	43,000	15,000	<500	<500	---
	01/05/89	SPA	12.02	87,000	24,000	3,000	39,000	15,000	---	---	---
	06/28/89	SPA	13.40	120,000	22,000	2,900	35,000	16,000	---	---	---
	10/03/89 <sup>c</sup>		13.84	---	---	---	---	---	---	---	---
	01/04/90 <sup>c</sup>		13.99	---	---	---	---	---	---	---	---
	04/03/90 <sup>c</sup>		13.07	---	---	---	---	---	---	---	---
	07/03/90 <sup>c</sup>		13.11	---	---	---	---	---	---	---	---
	11/06/90 <sup>c</sup>		14.77	---	---	---	---	---	---	---	---
	04/03/91 <sup>c</sup>	---	11.53	---	---	---	---	---	---	---	---
	10/02/91 <sup>c</sup>	---	14.84	---	---	---	---	---	---	---	---
	04/07/92 <sup>c</sup>	---	12.17	---	---	---	---	---	---	---	---
MW-9 (Semi-Annually 1st & 3rd quarters)	10/27/88 <sup>a</sup>	CCAS		50,000	2,000	2,000	9,900	14,000	<500	<500	---
	01/05/89	SPA	12.63	55,000	670	3,400	8,900	16,000	---	---	---
	06/28/90	SPA	14.04	100,000	510	2,600	4,500	13,000	---	---	---
	10/03/89	SPA	14.61	130,000	540	3,200	8,000	17,000	---	---	---
	01/04/90	SPA	14.59	83,000	600	2,600	4,600	14,000	---	---	---
	04/03/90	SPA	13.75	52,000	1,600	3,100	5,400	16,000	---	---	---
	07/03/90	SPA	13.84	100,000	520	3,200	5,400	16,000	---	---	---
	01/04/91	SPA	15.37	59,000	1,100	2,500	5,600	13,000	---	---	---
	07/02/91	SPA	14.17	130,000	1,900	3,600	7,600	20,000	---	---	---
	01/02/92	SPA	15.65	100,000	3,300	2,800	8,200	14,000	---	---	---
MW-10 (Annually 1st quarter)	10/27/88 <sup>a</sup>	CCAS	<500	26	<5	13	<5	<5	<5	---	---
	01/05/89	SPA	12.64	<1,000	<0.3	<0.3	<0.3	<0.3	---	---	---
	06/28/89	SPA	13.64	<500	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/03/89	SPA	13.85	<500	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/04/90	SPA	13.75	<50	0.5	<0.5	1.1	1.7	---	---	---
	04/03/90	SPA	12.86	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/04/91	SPA	13.98	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/02/92	SPA	13.60	<50	<0.5	<0.5	<0.5	<0.5	---	---	---

- Table 2 continues on next page -

TABLE 2. Analytic Results for Ground Water, Chevron Service Station #90260, 21995 Foothill Boulevard, Hayward, California (continued)

Sampling ID and Sampling Frequency	Sample Date	Analytical Lab	Depth to Water (ft)	TPH-G	B	E	T	X	EDC	EDB	VOCs
-----parts per billion (µg/L)----->											
MW-11 (Semi-Annually 1st & 3rd quarters)	06/28/89	SPA	14.33	60,000	36,000	2,500	13,000	12,000	---	---	ND <sup>d</sup>
	10/03/89	SPA	14.61	14,000	4,200	240	1,400	1,300	---	---	---
	01/04/90	SPA	14.55	82,000	33,000	2,000	11,000	10,000	---	---	---
	04/03/90	SPA	13.82	78,000	35,000	2,300	12,000	12,000	---	---	---
	07/03/90	SPA	14.00	140,000	32,000	2,100	12,000	10,000	---	---	---
	01/04/91 <sup>c</sup>	---	14.88	---	---	---	---	---	---	---	---
	04/03/91 <sup>c</sup>	---	10.75	---	---	---	---	---	---	---	---
	07/02/91	SPA	13.97	340,000	29,000	3,700	14,000	24,000	---	---	---
	01/02/92	SPA	14.51	130,000	27,000	2,200	14,000	12,000	---	---	---
MW-12 (Semi-Annually 2nd & 4th quarters)	06/28/89	SPA	14.10	55,000	30,000	2,900	21,000	19,000	---	---	ND <sup>d</sup>
	10/03/89	SPA	14.30	170,000	30,000	2,700	23,000	15,000	---	---	---
	01/04/90	SPA	14.35	110,000	24,000	2,300	19,000	12,000	---	---	---
	04/03/90	SPA	13.59	89,000	41,000	3,300	28,000	17,000	---	---	---
	07/03/90	SPA	13.77	170,000	27,000	2,200	20,000	12,000	---	---	---
	11/06/90	SPA	15.19	110,000	28,000	2,400	21,000	14,000	---	---	---
	04/09/91	SPA	10.91	170,000	39,000	2,400	17,000	14,000	---	---	---
	10/02/91	SPA	14.93	170,000	27,000	2,600	15,000	17,000	---	---	---
	04/07/92	---	---	---	---	---	---	---	---	---	---
MW-13 (Semi-Annually 1st & 3rd quarters)	06/28/89	SPA	13.22	54,000	12,000	1,900	10,000	15,000	---	---	ND <sup>d</sup>
	10/03/89	SPA	13.54	120,000	10,000	2,300	10,000	15,000	---	---	---
	01/04/90	SPA	13.64	87,000	6,800	2,000	10,000	12,000	---	---	---
	04/03/90	SPA	12.95	53,000	12,000	2,900	14,000	17,000	---	---	---
	07/03/90	SPA	13.05	90,000	8,400	2,000	11,000	11,000	---	---	---
	01/04/91	SPA	14.05	72,000	5,500	2,300	12,000	12,000	---	---	---
	07/02/91	SPA	13.17	120,000	12,000	2,500	13,000	14,000	---	---	---
	01/02/92 <sup>c</sup>	SPA	14.13	---	---	---	---	---	---	---	---
MW-14 (Quarterly)	08/29/90	SPA	21.39	970	4	0.7	2	2	1	---	ND <sup>e</sup>
	11/06/90	SPA	21.62	920	10	4	10	9	---	---	---
	01/04/91	SPA	21.69	1,000	<0.5	2.6	4.0	4.2	---	---	---
	04/03/91	SPA	19.53	1,200	380	7	6	18	---	---	---
	07/02/91	SPA	20.93	460	27	1.2	1.0	1.0	---	---	---
	10/02/91	SPA	21.52	480	6.7	1.4	0.8	1.8	---	---	---
	01/02/92	SPA	21.43	1,100	2.4	6.2	1.5	18	---	---	---
	04/07/92	SPA	21.36	290	<0.5	<0.5	1.4	1.2	---	---	---
MW-15 (Quarterly)	08/29/90	SPA	16.58	2,000	26	72	2	110	<0.5	---	0.6 <sup>f</sup>
	11/06/90	SPA	17.43	1,300	40	45	5	63	---	---	---
	01/04/91	SPA	16.37	1,700	46	58	2.8	86	---	---	---
	04/03/91	SPA	12.46	2,100	74	44	0.8	85	---	---	---
	07/02/91	SPA	16.53	1,700	39	35	<0.5	46	---	---	---
	10/02/91	SPA	17.33	1,100	50	40	<0.5	33	---	---	---
	01/02/92	SPA	16.46	1,300	51	30	<0.5	30	---	---	---
	04/07/92	SPA	14.70	2,600	98	64	<5	36	---	---	---

- Table 2 continues on next page --

TABLE 2. Analytic Results for Ground Water, Chevron Service Station #90260, 21995 Foothill Boulevard, Hayward, California (continued)

Sampling ID and Sampling Frequency	Sample Date	Analytical Lab	Depth to Water (ft)	TPH-G	B	E	T	X	EDC	EDB	VOCs
-----parts per billion (µg/L)----->											
MW-16 (Quarterly)	08/29/90	SPA	20.89	11,000	6,000	1,100	51	20	<0.5	---	ND <sup>g</sup>
	11/06/90	SPA	21.27	15,000	6,300	1,300	340	540	---	---	---
	01/04/91	SPA	21.63	16,000	6,800	1,300	820	1,500	---	---	---
	04/03/91	SPA	19.32	45,000	7,300	1,800	2,200	4,900	---	---	---
	07/02/91	SPA	20.68	30,000	6,400	1,500	530	1,800	---	---	---
	10/02/91	SPA	21.18	24,000	4,600	1,400	450	1,600	---	---	---
	01/02/92	SPA	21.30	20,000	4,700	1,200	240	1,100	---	---	---
	04/07/92	SPA	20.19	40,000	5,000	1,100	980	2,100	---	---	---
Bailer Blank	01/05/89	SPA		<1,000	<0.3	<0.3	<0.3	<0.3	---	---	---
Trip Blank	01/05/89	SPA		<1,000	<0.3	<0.3	<0.3	<0.3	---	---	---
	10/03/89	SPA		<500	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/04/90	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/03/90	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/03/90	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/06/90	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/04/91	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/03/91	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/02/91	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/02/91	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/02/92	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/07/92	SPA		<50	<0.5	<0.5	<0.5	<0.5	---	---	---
DTSC MCLs				NE	1	680	100 <sup>h</sup>	1,750	0.5	0.02	100 <sup>i</sup>

**Abbreviations:**

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Modified EPA Method 8015  
 B = Benzene by Method 602 or 8020  
 E = Ethylbenzene by EPA Method 602 or 8020  
 T = Toluene by EPA Method 602 or 8020  
 X = Xylenes by EPA Method 602 or 8020  
 EDC = 1,2-dichloroethane by EPA Method 524.2/8240  
 EDB = Ethylene dibromide by EPA Method 524.2/8240  
 VOCs = Volatile Organic Compounds by EPA Method 8010  
 --- = Not analyzed  
 DTSC MCL = Department of Toxic Substance Control Maximum Contaminant Level for drinking water  
 NE = DTSC MCL not established  
 <n = Not detected at detection limit of n parts per billion

**Analytical Laboratory:**

B&C = Brown and Caldwell Laboratories of Emeryville, California  
 CCAS = Central Coast Analytical Services of San Luis Obispo, California

SPA = Superior Precision Analytical of San Francisco and Martinez, California

**Notes:**

- <sup>a</sup> = Samples analyzed only by Fuel Fingerprint Analysis - EPA Method 524.2/8240 for total fuel and aromatic volatile hydrocarbons  
<sup>b</sup> = Samples from MW-4 and MW-5 were analyzed a second time after the holding time expired to confirm the high TPH-G reported in the original analysis. Although the samples were preserved with NaHSO<sub>4</sub> and refrigerated, the second analysis was not conducted until 52 days after sample collection.  
<sup>c</sup> = Well not sampled due to the presence of floating hydrocarbons.  
<sup>d</sup> = Not detected at detection limits ranging from 500 to 2,000 ppb.  
<sup>e</sup> = Not detected at detection limits ranging from 0.5 to 4.0 ppb.  
<sup>f</sup> = Chloroform detected at 0.6 ppb. No other VOCs were detected.  
<sup>g</sup> = Not detected at detection limits ranging from 25 to 500 ppb.  
<sup>h</sup> = DHS Recommended Action Level for Drinking Water.  
<sup>i</sup> = DHS MCL for Chloroform = 100 ppb - MCLs vary for other compounds.



ATTACHMENT A  
WATER SAMPLE COLLECTION RECORDS

## WATER SAMPLING DATA

Well Name MW-5 Date 4/7/92 Time of Sampling 1253 1315  
 Job Name CHEV. HAYWARD Job Number 4-310-91 Initials AEK  
 Sample Point Description M (M = Monitoring Well)  
 Location S. SIDE OF SITE

WELL DATA: Depth to Water 13.44 ft (static/pumping) Depth to Product — ft.  
 Product Thickness — Well Depth 18.5 ft (spec) Well Depth — ft (sounded) Well Diameter 4 in  
 Initial Height of Water in Casing 5.06 ft = volume 3.30 gal.  
3 Casing Volumes to be Evacuated. Total to be evacuated 9.91 gal.

EVACUATION METHOD: Pump # and type GRUNDFOS #2 Hose # and type NALGENE  
 Bailer# and type 3\* "PVC Dedicated N Y (Y/N)  
 Other —

Evacuation Time: Stop 12:21  
 Start 12:17  
 Total Evacuation Time 4 min  
 Total Evacuated Prior to Sampling 6.5 gal.  
 Evacuation Rate 1.625 gal. per minute

Depth to Water during Evacuation — ft. — time  
 Depth to Water at Sampling — ft. — time  
 Evacuated Dry? yes After 6.5 gal. Time 12:21  
 80% Recovery = —  
 % Recovery at Sample Time 93% Time 13:15

## Formulas/Conversions

$r$  = well radius in ft.  
 $h$  = ht of water col in ft.  
 $\text{vol. in cyl.} = \pi r^2 h$   
 $7.48 \text{ gal/ft}^3$   
 $V_2$ " casing =  $0.163 \text{ gal/ft}$   
 $V_3$ " casing =  $0.367 \text{ gal/ft}$   
 $V_4$ " casing =  $0.653 \text{ gal/ft}$   
 $V_{4.5}$ " casing =  $0.826 \text{ gal/ft}$   
 $V_6$ " casing =  $1.47 \text{ gal/ft}$   
 $V_8$  casing =  $2.61 \text{ gal/ft}$

## CHEMICAL DATA: Meter Brand/Number

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

SAMPLE: Color SLIGHTLY CLOUDY Odor MODERATE  
 Description of matter in sample: VERY FINE PARTICLES  
 Sampling Method: PORT, DGD. BLR  
 Sample Port: Rate — gpm Totalizer — gal.  
 Time —

# of Cont.	Sample ID	Cont. Type <sup>1</sup>	Vol <sup>2</sup>	Fil <sup>3</sup>	Ref <sup>4</sup>	Preservative (specify)	Analytic Method	Turn <sup>5</sup>	LAB
<u>2</u>	<u>042-05</u>	<u>w/cv</u>	<u>40ml</u>	<u>N</u>	<u>Y</u>	<u>HCl</u>	<u>EPA 8015/602</u>	<u>N</u>	<u>SPA</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 MW-7 Date 4/7/92 Time of Sampling 12:05  
 Job Name CHEV. HAYWARD Job Number 4-310-91 Initials LS  
 Sample Point Description m (M = Monitoring Well)  
 Location CENTER OF SITE

WELL DATA: Depth to Water 13.48 ft (static, pumping) Depth to Product — ft.  
 Product Thickness — Well Depth 17.6 ft (spec) Well Depth — ft (sounded) Well Diameter 4 in  
 Initial Height of Water in Casing 4.12 ft. = volume 2.69 gal.  
3 Casing Volumes to be Evacuated. Total to be evacuated 8.07 gal.

## EVACUATION METHOD:

Pump # and type GRUNDFOS #2 Hose # and type 1/2" ALUM

Bailer # and type 3" PVC Dedicated Y N (Y/N)

Other —

Evacuation Time: Stop 12:23

Start 11:58

Total Evacuation Time 5min

Total Evacuated Prior to Sampling 8.5 gal.

Evacuation Rate .60 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling — ft. — time

Evacuated Dry? — After — gal. Time —

30% 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/ft<sup>3</sup>

V<sub>2"</sub> casing = 0.163 gal/ft

V<sub>3"</sub> casing = 0.367 gal/ft

V<sub>4"</sub> casing = 0.653 gal/ft

V<sub>4.5"</sub> casing = 0.826 gal/ft

V<sub>6"</sub> casing = 1.47 gal/ft

V<sub>8"</sub> casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number —

Calibration: — 4.0 — 7.0 — 10.0

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

SAMPLE: Color Slightly cloudy Odor moderate-Strong

Description of matter in sample: fine sand

Sampling Method: Sample port on dedicated bailer

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type <sup>1</sup>	Vol <sup>2</sup>	Fil <sup>3</sup>	Ref <sup>4</sup>	Preservative (specify)	Analytic Method	Turn <sup>5</sup>	LAB
2	042-07	W/CV	40ml	N	Y	HCl	EPA 8015/602	N	SPA

<sup>1</sup> 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;

<sup>2</sup> = Volume per container; <sup>3</sup> = Filtered (Y/N); <sup>4</sup> = Refrigerated (Y/N)

<sup>5</sup> Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:

Well Name MW-8 Date 4/7/92 Time of Sampling \_\_\_\_\_  
Job Name CHEV. HAYWARD Job Number 4-310-91 Initials \_\_\_\_\_  
Sample Point Description M (M = Monitoring Well)  
Location REX RD.

WELL DATA: Depth to Water      ft (static pumping) Depth to Product 11.875 ft.  
Product Thickness 2.125 Well Depth 18.5 ft (spec) Well Depth      ft (sounded) Well Diameter 4 in  
Initial Height of Water in Casing      ft = volume      gal.  
3 Casing Volumes to be Evacuated. Total to be evacuated      gal.

**EVACUATION METHOD:** Pump # and type Grundfos #2 Hose # and type NALGENE  
 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 \_\_\_\_\_

Calibration: ~~4.0~~ 7.0 ~~10.0~~

Measured:	SC/ $\mu$ mhos	pH	T $^{\circ}$ C	Time	Volume Evacuated (gal.)
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SAMPLE: Color \_\_\_\_\_ Odor \_\_\_\_\_  
Description of matter in sample: \_\_\_\_\_  
Sampling Method: \_\_\_\_\_  
Sample Port: Rate \_\_\_\_\_ gpm Totalizer \_\_\_\_\_ gal.  
Time \_\_\_\_\_

[illegible]

5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

3 Turnaround |N = Normal, W = 1 week, R = 24 hour, HOLD (open),  
 ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:

• Weiss Associates January 23, 1990

## WATER SAMPLING DATA

Well Name MW-14 Date 4/7/92 Time of Sampling 1027  
 Job Name CHEV. HAYWARD Job Number 4-310-91 Initials AEK  
 Sample Point Description M (M = Monitoring Well)  
 Location PEX RD., SW OF SITE

WELL DATA: Depth to Water 21.36 ft (static/pumping) Depth to Product \_\_\_\_\_ ft.  
 Product Thickness \_\_\_\_\_ Well Depth 41.5 ft (spec) Well Depth \_\_\_\_\_ ft (sounded) Well Diameter 2 in  
 Initial Height of Water in Casing 20.14 ft = volume 3.28 gal.  
3 Casing Volumes to be Evacuated. Total to be evacuated 9.85 gal.

EVACUATION METHOD: Pump # and type GRUNDFOS #2 Hose # and type NALGENE  
 Bailer# and type -PVC Dedicated N Y (Y/N)  
 Other \_\_\_\_\_

Evacuation Time: Stop 1020  
 Start 1011  
 Total Evacuation Time 9  
 Total Evacuated Prior to Sampling 10 gal.  
 Evacuation Rate 1.1 gal. per minute

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

## Formulas/Conversions

$r$  = well radius in ft.  
 $h$  = ht of water col in ft.  
 $\text{vol. in cyl.} = \pi r^2 h$   
 $7.48 \text{ gal/ft}^3$   
 $V_2$ " 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

## CHEMICAL DATA: Meter Brand/Number \_\_\_\_\_

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

SAMPLE: Color CLEAR Odor SLIGHT  
 Description of matter in sample: NONE  
 Sampling Method: PORT, DEP. BLR.  
 Sample Port: Rate \_\_\_\_\_ gpm Totalizer \_\_\_\_\_ gal.  
 Time \_\_\_\_\_

# of Cont.	Sample ID	Cont. Type <sup>1</sup>	Vol <sup>2</sup>	Fil <sup>3</sup>	Ref <sup>4</sup>	Preservative (specify)	Analytic Method	Turn <sup>5</sup>	LAB
2	042-14	W/CV	40ml	N	Y	HCL	EPA 8015/602	N	SPA

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 MW-15 Date 4/7/92 Time of Sampling 1253  
 Job Name CHEV. HAYWARD Job Number 4-310-91 Initials AK  
 Sample Point Description M (M = Monitoring Well)  
 Location \_\_\_\_\_

WELL DATA: Depth to Water 14.70 ft (static, pumping) Depth to Product \_\_\_\_\_ ft.  
 Product Thickness \_\_\_\_\_ Well Depth 22 ft (spec) Well Depth \_\_\_\_\_ ft (sounded) Well Diameter 2 in  
 Initial Height of Water in Casing 7.3 ft. = volume 1.19 gal.  
3 Casing Volumes to be Evacuated. Total to be evacuated 3.57 gal.

EVACUATION METHOD: Pump # and type GRUNDFOS #2 Hose # and type NALGENE  
 Bailer# and type None Dedicated Y (Y/N)  
 Other \_\_\_\_\_

Evacuation Time: Stop 1056  
 Start 1054  
 Total Evacuation Time 2  
 Total Evacuated Prior to Sampling 4 gal.  
 Evacuation Rate 2.0 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/ft<sup>3</sup>V<sub>2"</sub> casing = 0.163 gal/ftV<sub>3"</sub> casing = 0.367 gal/ftV<sub>4"</sub> casing = 0.653 gal/ftV<sub>4.5"</sub> casing = 0.826 gal/ftV<sub>6"</sub> 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? Y After 4 gal. Time 1056  
 80% Recovery = \_\_\_\_\_  
 % Recovery at Sample Time \_\_\_\_\_ Time \_\_\_\_\_

## CHEMICAL DATA: Meter Brand/Number \_\_\_\_\_

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

SAMPLE: Color CLOUDY Odor MODERATE  
 Description of matter in sample: VERY FINE PARTICLES  
 Sampling Method: PORT, DGD. BUR.  
 Sample Port: Rate \_\_\_\_\_ gpm Totalizer \_\_\_\_\_ gal.  
 Time \_\_\_\_\_

# of Cont.	Sample ID	Cont. Type <sup>1</sup>	Vol <sup>2</sup>	Fil <sup>3</sup>	Ref <sup>4</sup>	Preservative (specify)	Analytic Method	Turn <sup>5</sup>	LAB
2	042-15	W/CV	40ml	N	Y	HCl	EPA 8015/602	N	SPA

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 MW-16 Date 4/7/92 Time of Sampling 11:30  
 Job Name CHEV. HAYWARD Job Number 4-310-91 Initials LJ  
 Sample Point Description M (M = Monitoring Well)  
 Location CUL-DE-SAC, REX RD.

WELL DATA: Depth to Water 20.19 ft (static/pumping) Depth to Product      ft.  
 Product Thickness      Well Depth 40 ft (spec) Well Depth      ft (sounded) Well Diameter 2 in  
 Initial Height of Water in Casing 19.81 ft. = volume 3.23 gal.  
3 Casing Volumes to be Evacuated. Total to be evacuated 9.69 gal.

EVACUATION METHOD: Pump # and type GRUNDFOS #2 Hose # and type NALGENE  
 Bailer # and type PVC Dedicated Y (Y/N)  
 Other     

Evacuation Time: Stop 1122  
 Start 1110  
 Total Evacuation Time 12  
 Total Evacuated Prior to Sampling 10 gal.  
 Evacuation Rate 0.83 gal. per minute

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

## Formulas/Conversions

$r$  = well radius in ft.  
 $h$  = ht of water col in ft.  
 $\text{vol. in cyl.} = \pi r^2 h$   
 $7.48 \text{ gal/ft}^3$   
 $V_2$ " 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

CHEMICAL DATA: Meter Brand/Number     

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

SAMPLE: Color gray / cloudy Odor moderate / strong  
 Description of matter in sample: fine gray particles  
 Sampling Method: sample port on dedicated Bailer  
 Sample Port: Rate      gpm Totalizer      gal.  
 Time     

# of Cont.	Sample ID	Cont. Type <sup>1</sup>	Vol <sup>2</sup>	Fil <sup>3</sup>	Ref <sup>4</sup>	Preservative (specify)	Analytic Method	Turn <sup>5</sup>	LAB
2	042-16	W/KV	40ml	N	Y	HCl	EPA 8015/602	N	SPA

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 4/7/92 Time of Sampling 0745  
 Job Name CHEV. HAYWARD Job Number 4-310-91 Initials AKL  
 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 \_\_\_\_\_ 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/ $\mu$ mhos pH T°C Time Volume Evacuated (gal.)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

SAMPLE: Color \_\_\_\_\_ Odor \_\_\_\_\_

Description of matter in sample: \_\_\_\_\_

Sampling Method: \_\_\_\_\_

Sample Port: Rate \_\_\_\_\_ gpm Totalizer \_\_\_\_\_ gal.

Time \_\_\_\_\_

# of Cont.	Sample ID	Cont. Type <sup>1</sup>	Vol <sup>2</sup>	Fil <sup>3</sup>	Ref <sup>4</sup>	Preservative (specify)	Analytic Method	Turn <sup>5</sup>	LAB
2	042-21	W/CV	40ml	N	Y	HCl	EPA 8015/602	N	SPA
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

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.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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

LABORATORY NO.: 12984  
CLIENT: Weiss Associates  
CLIENT JOB NO.: 4-310-01

DATE RECEIVED: 04/08/92  
DATE REPORTED: 04/15/92

Page 1 of 2

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
12984- 1	042-05	04/07/92	04/15/92
12984- 2	042-07	04/07/92	04/14/92
12984- 3	042-14	04/07/92	04/15/92
12984- 4	042-15	04/07/92	04/13/92
12984- 5	042-16	04/07/92	04/13/92
12984- 6	042-21	04/07/92	04/14/92

Laboratory Number:	12984	12984	12984	12984	12984
	1	2	3	4	5

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	220000	260000	290	2600	40000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	35000	27000	ND<0.5	98	5000
TOLUENE:	30000	26000	1.4	ND<5	980
ETHYL BENZENE:	2500	2400	ND<0.5	64	1100
XYLENES:	14000	15000	1.2	36	2100

Laboratory Number:	12984
	6

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)
OIL AND GREASE:	NA
TPH/GASOLINE RANGE:	ND<50
TPH/DIESEL RANGE:	NA
BENZENE:	ND<0.5
TOLUENE:	ND<0.5
ETHYL BENZENE:	ND<0.5
XYLENES:	ND<0.5



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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

### ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2  
QA/QC INFORMATION  
SET: 12984

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 503E:

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: 10/12/91

SW-846 Method 8020/BTXE

Minimum Quantitation Limit in Water: 0.5ug/l

Standard Reference: 04/07/92

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	04/07/92	200ng	105/93	12	76-111
Benzene	04/07/92	200ng	95/93	2.1	78-110
Toluene	04/07/92	200ng	91/90	1.7	78-111
Ethyl Benzene	04/07/92	200ng	91/89	2.8	78-118
Total Xylene	04/07/92	600ng	86/84	2.0	73-113

Richard Srna, Ph.D.

Laboratory Director

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

Chevron Facility Number 9-0260  
Facility Address 21995 FOOTHILL BLVD HAYWARD  
Consultant Project Number 4-310-01  
Consultant Name WEISS ASSOCIATES  
Address 5500 SHELLMOUND ST EMERYVILLE  
Project Contact (Name) MARIETTE SHIN  
(Phone) 510-547-5420 (Fax Number) 510-547-5043

Chevron Contact (Name) WALT POSLUSZNY  
(Phone) 510-842-9040  
Laboratory Name SUPERIOR ANALYTICAL  
Laboratory Release Number 6999320  
Samples Collected by (Name) ANNI KREML/LORE JAMES  
Collection Date 4/7/92  
Signature Anni Kreml

Sample Number	Number of Containers	Matrix S = Soil    A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed										Remarks	
							TPH* + TPH GAS (8020 + 3015)	TPH Diesel (8015)	Oil and Grease (5520)	Chlorinated HC (8010)	Non Chlorinated HC (8020)	Total Lead (AA)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)	BTEX - 602				
042-05	2	W	G	1315	HCL	Y	X											(TPH-G/BTEX: 8015/602)
042-07				1205														
042-14				1027														
042-15				1253														
042-16				1130														
042-21	↓	↓	↓	0745	↓	↓	↓											
											</							

Please initial:  
Samples Submitted Yes  
Appropriate containers Yes  
Samples preserved Yes  
VOA's without headspace Yes  
Comments:

Relinquished By (Signature) <u>Anni Kreml</u>	Organization <u>WEISS ASSOC.</u>	Date/Time <u>4/7/92 15:15</u>	Received By (Signature) <u>Robert L. Brown</u>	Organization <u>Weiss</u>	Date/Time <u>4/7/92 15:15</u>	Turn Around Time (Circle-Ghlice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <u>Robert L. Brown</u>	Organization <u>Weiss</u>	Date/Time <u>4/8/92 10:58</u>	Received By (Signature) <u>EXPRESS IT</u>	Organization <u>EXPRESS IT</u>	Date/Time <u>4/8 1055</u>	
Relinquished By (Signature) <u>Don Ellefson</u>	Organization <u>EXP. IT</u>	Date/Time <u>4/8/92 1614</u>	Received For Laboratory By (Signature) <u>Cecilia Jaeger</u>		Date/Time <u>4/8/92 4:15 pm</u>	