



**Chevron U.S.A. Products Company**

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November 9, 1992

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**NOV 17 1992**

**HAYWARD FIRE DEPARTMENT**

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

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

Dear Coordinator,

Please find attached a report of the recent subsurface investigation performed at the above referenced site. This investigation consisted of drilling two soil borings and completing one as a monitoring well and the other as a piezometer. This work was completed in August 1992.

The investigation was conducted to further assess the extent of hydrocarbons in ground water downgradient of the site and to determine how San Lorenzo Creek affects ground water flow in the area. As you can see in Figure 2, boring BH-T, completed as monitoring well MW-17, was drilled on the southwest side of San Lorenzo Creek. No hydrocarbons were detected in any of the soil samples from this boring. Also, no hydrocarbons were detected in the ground water sample from MW-17. These findings provide evidence that contaminated ground water has not migrated beyond San Lorenzo Creek. To confirm this conclusion Chevron will sample well MW-17 during the fourth quarter ground water monitoring event. Boring BH-U, completed as piezometer P-1, was drilled on the northeast side of San Lorenzo Creek, the side nearest the station. The highest TPH-g concentration of the soil samples from this boring was 37 ppm. Based on the ground water elevation data, the ground water on both sides of San Lorenzo Creek is inferred to flow toward the creek.

Chevron plans to continue to pump and treat ground water, and we will continue to monitor the ground water on a quarterly frequency.

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 9-0260R12)



September 17, 1992

Jeff Zindel  
Chevron USA Products Company  
P.O. Box 5004  
San Ramon, CA 94583-0804

Re: Subsurface Investigation  
Chevron Service Station #9-0260  
21995 Foothill Boulevard  
Hayward, California  
WA Job #4-310-05

Dear Mr. Zindel:

This letter presents the results of Weiss Associates' (WA) subsurface investigation conducted for the operating Chevron station referenced above (Figure 1). WA installed one ground water monitoring well and one piezometer up to 850 ft southwest of the site, as described in our workplan dated March 30, 1992. The objective of this work was to further assess the extent of hydrocarbons in ground water downgradient of the site and to evaluate how San Lorenzo Creek affects the ground water flow direction and gradient in this vicinity.

#### SCOPE OF WORK

The scope of work for this subsurface investigation included:

- Obtaining the necessary encroachment and well construction permits from local agencies, drilling two offsite soil borings and collecting soil samples for hydrogeologic description and hydrocarbon analyses;
- Completing one boring as a ground water monitoring well and one boring as a piezometer;
- Developing the newly installed well and collecting ground water samples for hydrocarbon analyses;



- Surveying the top-of-casing elevation referenced to mean sea level of the newly installed well and piezometer and determining the ground water gradient and flow direction beneath the site vicinity;
- Arranging for the disposal of drill cuttings and well purge water; and
- Reporting the results.

The site background and each of these tasks are described below.

## SITE BACKGROUND

The station is located in a mixed commercial and residential area at the west corner of Foothill Boulevard and Rex Road in Hayward, California (Figure 1). Sediments underlying the site are Quaternary alluvial deposits derived from Mesozoic marine sediments and intrusives and Pleistocene volcanics of the Diablo Range.<sup>1</sup> The drilling conducted for this investigation was located within the Hayward Fault Zone, a regional right-lateral strike-slip fault that trends northwest-southeast near the site. Surface water in the site vicinity drains into San Lorenzo Creek, which empties into San Francisco Bay about 4 miles west of the site.

In December 1987, EA Engineering, Science, and Technology, Inc. of Lafayette, California conducted a soil vapor survey at the Chevron site.<sup>2</sup> Vapor samples from around the underground fuel tanks contained up to 4,300 parts per million (ppm) by volume hydrocarbons.

Between 1988 and 1990, WA installed ground water monitoring wells MW-4 through MW-16 and drilled 5 additional soil borings in the site vicinity (Figure 2).<sup>3</sup> Wells MW-1, MW-2 and MW-3 were previously installed as tank backfill wells.

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<sup>1</sup> Robinson, G.D., 1956, Geologic Map of the Hayward Quadrangle, California, United States Geologic Survey, Map GQ 88, Scale 1:24,000.

<sup>2</sup> EA, December 31, 1987, Report of Soil Vapor Contaminant Assessment, Chevron service station #9-0260, 21995 Foothill Boulevard, Hayward, California, prepared for Chevron U.S.A., 11 pp. and 1 appendix.

<sup>3</sup> WA, October 24, 1990, Subsurface Investigation, Phase IV at Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California, prepared for Chevron U.S.A., 14 pp. and 3 appendices.

WA has monitored ground water beneath the site vicinity quarterly since 1988.<sup>4</sup> The water table, generally between 10 and 20 ft deep beneath the site vicinity, has fluctuated by as much as 5 ft in some wells (Table 1). Wells MW-5, MW-8, MW-11, MW-12 and MW-13 have contained floating hydrocarbons and ground water samples from wells MW-4, MW-6, MW-7, MW-9 and MW-16 have contained over 10,000 parts per billion (ppb) total petroleum hydrocarbons as gasoline (TPH-G) (Table 2).

From August 1991 to January 1992, Chevron conducted a ground water treatment system pilot test at the site using an oil/water separator and a hydrogen peroxide/ultra violet light reactor. In March 1992, Chevron began another pilot test using a bioreactor and activated alumina to treat ground water. Ground water from both tests has been pumped from wells MW-4, MW-11 and MW-12 at a total approximate flow rate of 1.5 gallons per minute (gpm) and discharged after treatment to the sanitary sewer under permit with the Oro Loma Sanitary District. The bioreactor pilot testing is not yet completed.

Other potential sources of hydrocarbons exist or have existed in the site vicinity. An operating Unocal service station is about 400 ft southeast of the site at the south corner of Foothill Boulevard and Hazel Street. Additionally, according to Hayward Fire Department documents, a former Standard Oil service station was abandoned, and one underground waste oil and three underground fuel tanks were removed from 22211 Foothill Boulevard in 1974. This former station was located southeast and across Rex Road from the currently operating Chevron station (Figure 2). The Golden Bay Title Company building currently occupies the property. It is unknown if hydrocarbons were released from these tanks because soil sampling was not required during tank excavations at that time.

## SOIL BORING AND SAMPLING

Prior to drilling, WA obtained encroachment permits from the City of Hayward and the Alameda County Flood Control and Water Conservation District (ACFCWCD) and a well construction permit from the ACFCWCD - Zone 7. On August 4, 1992, Bayland Drilling, Inc. of Menlo Park, California drilled soil borings BH-T and BH-U (Figure 2) using a CME-55

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<sup>4</sup> WA, May 5, 1992, Ground Water Monitoring Report, Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California, prepared for Chevron U.S.A., 3 pp. and 2 attachments.

hollow-stem auger drill rig. The drilling was directed by WA Geologist Thomas Fojut working under the supervision of James W. Carmody, Certified Engineering Geologist.

Boring BH-T was drilled at the south corner of the intersection of Main Street and Sunset Boulevard. Boring BH-U was drilled on the access road along the northeast side of San Lorenzo Creek in the ACFCWCD right-of-way about 450 ft northwest of Hazel Street. San Lorenzo Creek is a concrete-lined flood control channel which is about 14 ft deep near where BH-U was drilled. At the time of drilling, water was less than 1 ft deep and was flowing northwestward through the channel.

WA collected soil samples from the borings at least every five ft for lithologic description and possible chemical analysis. Samples were collected with a split-barrel drive sampler lined with steam-cleaned stainless steel tubes. After removal from the sampler, the tubes were immediately trimmed, capped with Teflon sheeting and plastic caps, hermetically sealed with Teflon tape, properly labeled and refrigerated for delivery under chain-of-custody to Superior Precision Analytical, Inc. (SPA) in San Francisco, California. Drilling equipment was steam-cleaned prior to use and between borings, and sampling equipment was washed with an Alconox solution between samples to prevent cross-contamination. The boring logs are presented in Attachment A and the chain-of-custody forms for the soil samples are included in Attachment B.

Sediments encountered in boring BH-T consisted of silts with a low estimated permeability from the surface to about 10 ft depth, and sands with a moderate to high estimated permeability between 10 and 38 ft depth. Sediments from boring BH-U were primarily sands with a moderate to high estimated permeability. Ground water stabilized in borings BH-T and BH-U at about 24 and 10 ft depth, respectively.

Soil cuttings from the borings were temporarily stockpiled on and covered with plastic sheeting on the Chevron property pending the analytic results. Balch Petroleum of Milpitas, California arranged for the proper disposal of the soil.

## ANALYTIC RESULTS FOR SOIL

Selected soil samples from each boring were analyzed for TPH-G by modified EPA Method 8015 and for benzene, ethylbenzene, toluene, and xylenes (BETX) by EPA Method 8020. Analytic results for soil are compiled in Table 3 and the analytic report is included in Attachment B.

No hydrocarbons were detected in soil samples from BH-T. Soil from about 5.5 and 10.5 ft depth in boring BH-U contained 37 and 2 ppm TPH-G, respectively. 0.58 ppm benzene and 6.8 ppm xylenes were detected in the soil sample from 5.5 ft depth in boring BH-U. Less than 1 ppm total BETX were detected in each soil sample from between 10.5 and 18.5 ft depth in boring BH-U.

## MONITORING WELL AND PIEZOMETER INSTALLATION AND WELL DEVELOPMENT AND SAMPLING

Monitoring well MW-17 and piezometer P-1 (Figure 2) were installed in borings BH-T and BH-U, respectively. The two-inch diameter well and one-inch diameter piezometer were constructed with 0.010-inch slotted, flush-threaded Schedule 40 PVC screen and blank casing. The top of the screen for well MW-17 is about five ft above the water table, and the top of the screen of piezometer P-1 is about five ft below the water table. Number 1/20 Monterey sand fills the annular space around each screen from the bottom of each borehole to about one ft above the top of the screen. A two-ft thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal of Portland Type I-II cement mixed with 3 to 5% bentonite by volume for each. The well and piezometer heads are secured with locking well plugs beneath at-grade, traffic-rated vaults. The well and piezometer construction details are shown on the boring logs presented in Attachment A.

On August 13, 1992, WA developed well MW-17 using surge block agitation and bailer evacuation. Evacuation continued until at least ten well-casing volumes were removed from the well. The well yielded about 0.5 gpm during development.

On August 13, 1992, after developing the well, WA collected ground water samples from well MW-17 with a disposable plastic bailer. The samples were decanted from the bailer into



40-ml volatile organic analysis (VOA) vials, labeled and refrigerated for transport under chain-of-custody to SPA in San Francisco, California. The chain-of-custody form for ground water is included in Attachment C.

Water from well development, purging and steam cleaning during drilling was transported to the Chevron Terminal in Richmond, California for recycling.

#### ANALYTIC RESULTS FOR GROUND WATER

Ground water samples from well MW-17 were analyzed for TPH-G by modified EPA Method 8015 and BETX by EPA Method 8020. No TPH-G or BETX were detected in the water samples. Analytic results for ground water from well MW-17 and the other wells, which were sampled the same day, are compiled in Table 2 and the analytic report is included in Attachment C.

#### GROUND WATER ELEVATIONS AND FLOW

Tucker and Associates of Calistoga, California (California State License Number LS4460) surveyed the top-of-casing elevation of well MW-17, piezometer P-1 and existing wells MW-4, MW-11 and MW-12. The survey report is included in Attachment D.

On August 13, 1992, WA measured ground water depths in wells MW-4 through MW-17 and piezometer P-1. Top of casing elevations, water depth measurements and calculated ground water elevations are presented in Table 1. Ground water elevation contours are shown on Figure 2.

Based on the ground water elevation data, ground water generally flows southwestward with a gradient ranging from about 0.024 ft/ft beneath the site to about 0.010 ft/ft between the site and San Lorenzo Creek. Southwest of the creek, ground water between MW-17 and P-1 is inferred to flow northward towards the creek. Since the water level in piezometer P-1 is about 10 ft below grade, whereas, the bottom of the canal is about 14 ft below grade, ground water from either side of the creek may be discharging to San Lorenzo Creek.

This is further supported by the observation of ground water seeping up through the seams of the concrete-lined canal bottom. Therefore, based on the ground water elevation data and this observation, we have shown the ground water elevation contours on Figure 2 as oblique to the creek with an inferred flow consistent with the creek's northwestward flow direction.

## CONCLUSIONS

The results of this investigation indicate that:

- No hydrocarbons were detected in soil samples from boring BH-T;
- Unsaturated soil from boring BH-U contained 37 ppm TPH-G and up to 6.8 ppm of individual BETX constituents;
- No hydrocarbons were detected in ground water from well MW-17; and
- Ground water from either side of San Lorenzo Creek is inferred to flow towards the creek and appears to recharge the creek through cracks and joints in the creek's concrete lining.



Jeff Zindel  
September 17, 1992

8

Weiss Associates 

We appreciate the opportunity to provide hydrogeological services to Chevron and trust that this submittal meets your needs. Please call if you have any questions.



Sincerely,  
Weiss Associates

*Thomas Fojut*

Thomas Fojut  
Staff Geologist

*James W. Carmody*

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

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Attachments: Figures

Tables

A - Boring Logs

B - Analytic Reports and Chain-of-Custody Forms for Soil

C - Analytic Report and Chain-of-Custody Form for Ground Water

D - Monitoring Well Survey Report

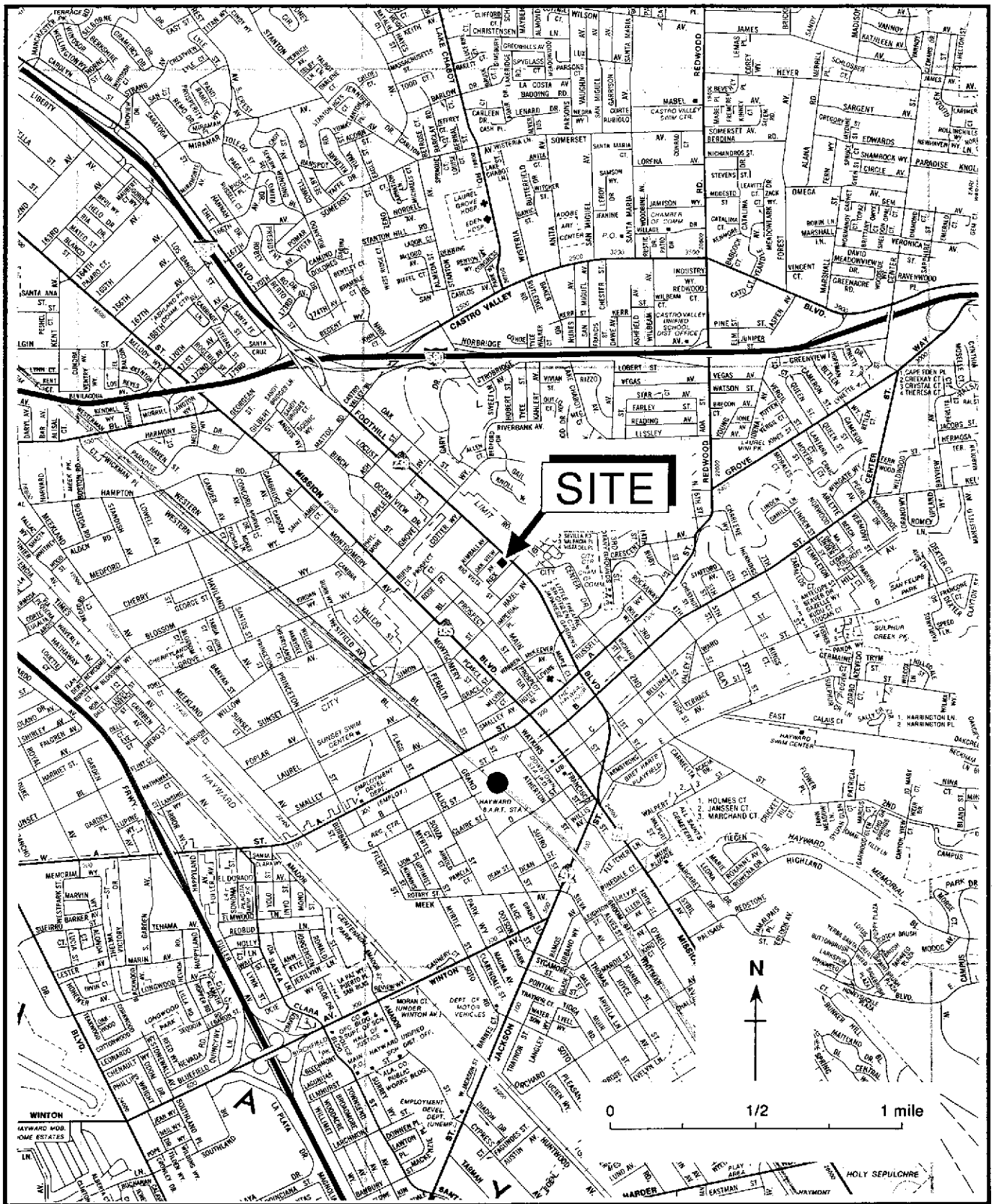


Figure 1. Site Location Map - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California

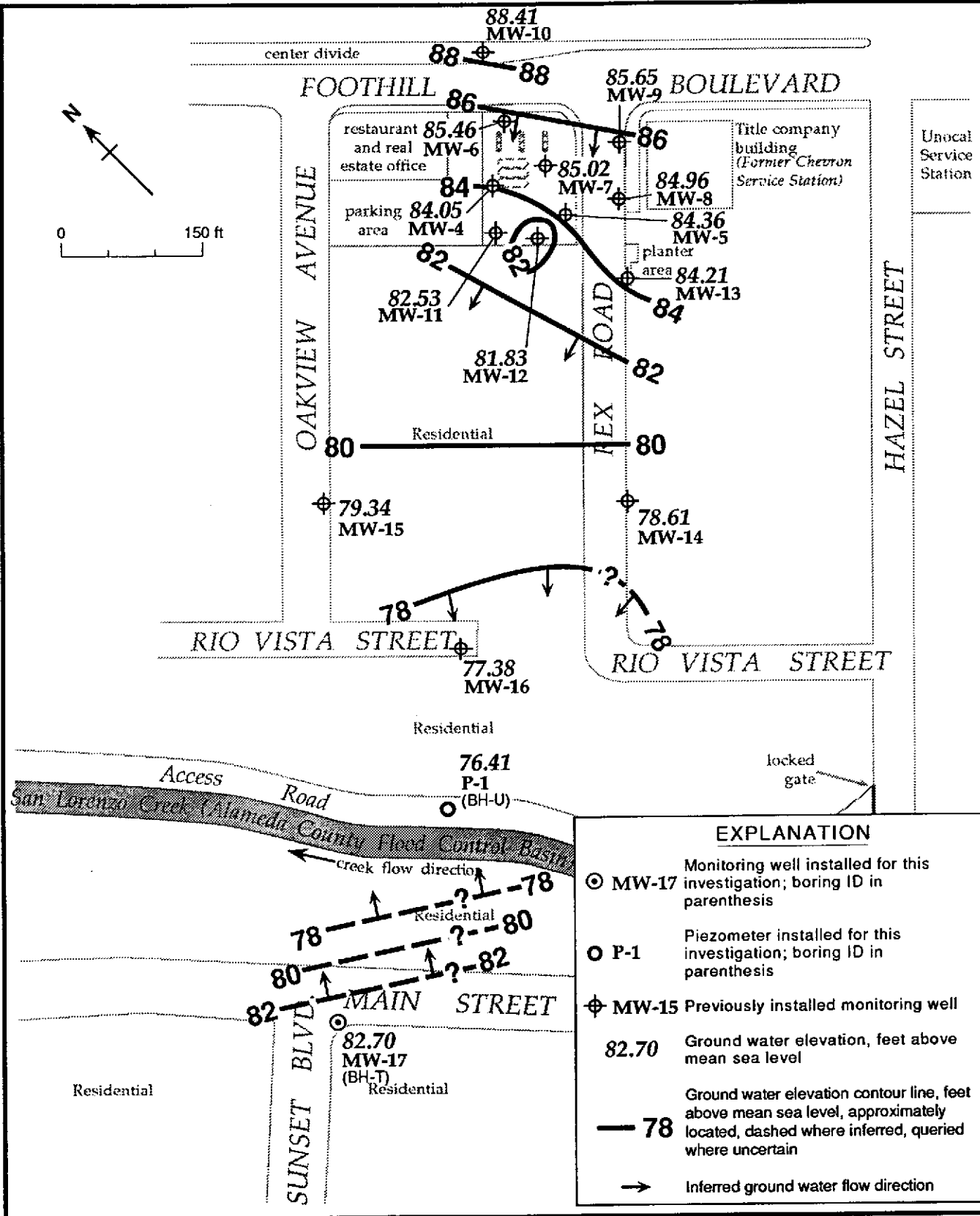


Figure 2. Monitoring Well and Piezometer Locations and Ground Water Elevation Contours - August 13, 1992 - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California

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)	Floating Hydrocarbon Thickness (ft)	Ground 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
	08/13/92	100.73 <sup>a</sup>	16.68	---	84.05
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>b</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
	08/13/92		15.61	---	84.36

-- 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)	Floating Hydrocarbon Thickness (ft)	Ground 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
	08/13/92		15.97	---	85.46
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
	08/13/92		15.89	---	85.02

-- 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)	Floating Hydrocarbon Thickness (ft)	Ground 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>b</sup>
	01/04/90		13.99	0.10	85.76 <sup>b</sup>
	04/03/90		13.07	0.30	86.84 <sup>b</sup>
	07/03/90		13.11	0.04	86.59 <sup>b</sup>
	11/06/90		14.77	0.15	85.02 <sup>b</sup>
	01/04/91		14.59	0.18	85.22 <sup>b</sup>
	04/03/91		11.53	0.05	88.18 <sup>b</sup>
	07/02/91		13.71	0.48	86.34 <sup>b</sup>
	10/02/91		14.84	0.27	85.05 <sup>b</sup>
	01/02/92		15.05	0.30	84.86 <sup>b</sup>
	04/07/92		12.17	0.29	87.73 <sup>b</sup>
	08/13/92		14.96	0.31	84.96 <sup>b</sup>
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
	08/13/92		15.50	---	85.65

-- 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)	Floating Hydrocarbon Thickness (ft)	Ground Water Elevation (ft above msl)
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
	08/13/92		13.95	---	88.41
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		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
	08/13/92	99.57 <sup>a</sup>	17.04	---	82.53
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		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
	08/13/92	99.22 <sup>a</sup>	17.39	---	81.83

-- 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)	Floating Hydrocarbon Thickness (ft)	Ground Water Elevation (ft above msl)
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 <sup>b</sup>
	04/07/92		13.06	---	85.41
	08/13/92		14.26	---	84.21
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
	08/13/92		21.07	---	78.61
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
	08/13/92		16.72	---	79.34
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
	08/13/92		20.77	---	77.38

-- 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)	Floating Hydrocarbon Thickness (ft)	Ground Water Elevation (ft above msl)
MW-17	08/13/92	106.00	23.30	---	82.70
P-1	08/13/92	86.43	10.02	---	76.41

a = Top of casing elevation resurveyed

b = Ground water elevation corrected for floating hydrocarbons by the formula: Ground  
Ground water elevation = Top-of-casing elevation - Depth to ground water + (0.8 x  
hydrocarbon thickness)

c = Top of casing cut down; elevation unknown

TABLE 2. Analytic Results for Ground Water - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California

Sample ID (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 (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 <sup>c</sup>		12.38	---	---	---	---	---	---	---	---
MW-5 (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 (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	---	---	---
	08/13/92 <sup>d</sup>		15.97	---	---	---	---	---	---	---	---

-- Table 2 continues on next page --

TABLE 2. Analytic Results for Ground Water - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California (continued)

Sample ID (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-7 (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 (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>e</sup>		13.84	---	---	---	---	---	---	---	---
	01/04/90 <sup>e</sup>		13.99	---	---	---	---	---	---	---	---
	04/03/90 <sup>e</sup>		13.07	---	---	---	---	---	---	---	---
	07/03/90 <sup>e</sup>		13.11	---	---	---	---	---	---	---	---
	11/06/90 <sup>e</sup>		14.77	---	---	---	---	---	---	---	---
	04/03/91 <sup>e</sup>		11.53	---	---	---	---	---	---	---	---
	10/02/91 <sup>e</sup>		14.84	---	---	---	---	---	---	---	---
	04/07/92 <sup>e</sup>		12.17	---	---	---	---	---	---	---	---
MW-9 (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	---	---	---
	08/13/92	SPA	15.50	45,000	1,300	1,500	3,000	7,100	---	---	---
MW-10 (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	---	---	---

-- Table 2 continues on next page --

TABLE 2. Analytic Results for Ground Water - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California (continued)

Sample ID (Sampling Frequency)	Sample Date	Analytical Lab	Depth to Water (ft)	TPH-G	B	E	T	X	EDC	EDB	VOCs
<-----parts per billion (µg/L)----->											
	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	---	---	---
MW-11 (1st & 3rd quarters)	06/28/89	SPA	14.33	60,000	36,000	2,500	13,000	12,000	---	---	f
	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	---	---	---
	01/04/91e		14.88	---	---	---	---	---	---	---	---
	04/03/91e		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	---	---	---
	08/13/92	SPA	17.04	77,000	18,000	1,900	14,000	10,000	---	---	---
MW-12 (2nd & 4th quarters)	06/28/89	SPA	14.10	55,000	30,000	2,900	21,000	19,000	---	---	f
	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 <sup>c</sup>		13.05	---	---	---	---	---	---	---	---
MW-13 (1st & 3rd quarters)	06/28/89	SPA	13.22	54,000	12,000	1,900	10,000	15,000	---	---	f
	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	---	---	---
	01/02/92e	SPA	14.13	---	---	---	---	---	---	---	---
	08/13/92	SPA	14.26	84,000	7,400	2,600	11,000	13,000	---	---	---
MW-14 (All quarters)	08/29/90	SPA	21.39	970	4	0.7	2	2	1	---	f
	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	---	---	---

-- Table 2 continues on next page --

TABLE 2. Analytic Results for Ground Water - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California (continued)

Sample ID (Sampling Frequency)	Sample Date	Analytical Lab	Depth to Water (ft)	TPH-G	B	E	T	X	EDC	EDB	VOCs
-----parts per billion (µg/L)-----											
	04/07/92	SPA	21.36	290	<0.5	<0.5	1.4	1.2	---	---	---
	08/13/92	SPA	21.07	370	10	<0.5	1.2	0.9	---	---	---
MW-15 (All quarters)	08/29/90	SPA	16.58	2,000	26	72	2	110	<0.5	---	g
	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	---	---	---
	08/13/92	SPA	16.72	510	55	35	<0.5	2.8	---	---	---
MW-16 (All quarters)	08/29/90	SPA	20.89	11,000	6,000	1,100	51	20	<0.5	---	f
	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	---	---	---
	08/13/92	SPA	20.77	17,000	4,500	860	240	530	---	---	---
MW-17 (All quarters)	08/13/92	SPA	23.30	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
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	---	---	---
	08/13/92	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	i

-- Table 2 continues on next page --

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TABLE 2. Analytic Results for Ground Water - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California (continued)

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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  
<n = Not detected at laboratory method detection limit of n parts per billion  
DTSC MCL = California Department of Toxic Substances Control Maximum Contaminant Level for drinking water  
NE = Not established

Analytical Laboratory:

B&C = BC Analytical of Emeryville, California  
CCAS = Central Coast Analytical Services of San Luis Obispo, California  
SPA = Superior Precision Analytical of San Francisco and Martinez, California

Notes:

a = Samples analyzed only by Fuel Fingerprint Analysis - EPA Method 524.2/8240 for total fuel and aromatic volatile hydrocarbons  
b = Sample was analyzed a second time after the holding time expired to confirm the high TPH-G concentration reported in the original analysis. Although the samples were preserved with NaHSO<sub>4</sub> and refrigerated, the second analysis was conducted 52 days after sample collection.  
c = Not sampled due to ground water extraction pump installation  
d = Well was dry, not sampled  
e = Well not sampled due to the presence of floating hydrocarbons  
f = No VOCs detected  
g = 0.6 ppb chloroform detected  
h = DTSC recommended action level for drinking water.  
i = DTSC MCL for chloroform = 100 ppb

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Table 3. Analytic Results for Soil - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California

Boring ID (Well/Piezometer ID)	Sample Depth (ft)	Approximate Ground Water Depth (ft)	TPH-G <-----parts per million (mg/kg)----->	B	E	T	X
BH-T (MW-17)	5.5	24	<1	<0.005	<0.005	<0.005	<0.005
	10.5		<1	<0.005	<0.005	<0.005	<0.005
	15.0		<1	<0.005	<0.005	<0.005	<0.005
	20.5		<1	<0.005	<0.005	<0.005	<0.005
	25.5		<1	<0.005	<0.005	<0.005	<0.005
	28.5		<1	<0.005	<0.005	<0.005	<0.005
BH-U (P-1)	5.5	10	37	0.58	1.5	0.89	6.8
	10.5		2	0.40	0.010	0.008	0.35
	15.5		<1	0.005	<0.005	<0.005	<0.005
	18.5		<1	0.062	0.007	<0.005	0.030

Abbreviations:

TPH-G = Total Petroleum Hydrocarbons as Gasoline by modified 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

<n = Not detected above laboratory method detection limit of n ppm

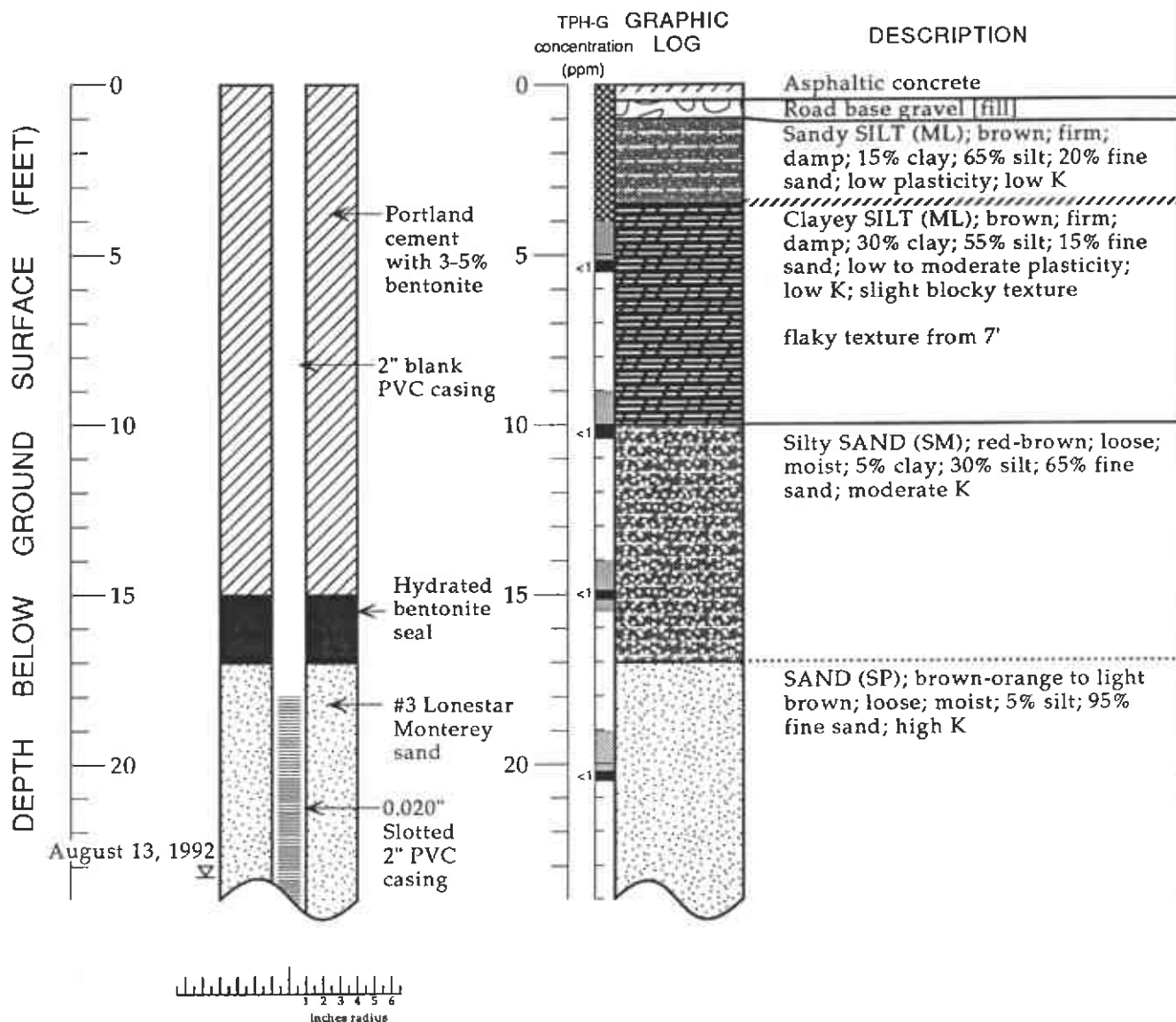
Analytical Laboratory:

Superior Precision Analytical, San Francisco, California

Note:

All samples collected August 4, 1992

# WELL MW-17 (BH-T)



## EXPLANATION

- ▼ Water level during drilling (date)
- ▽ Water level (date)
- Contact (dotted where approximate)
- ?-?-? Uncertain contact
- //// Gradational contact
- ▨ Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- ▤ Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Tom Fojut  
 Supervisor: James W. Carmody; CEG 1576  
 Drilling Company: Bayland Drilling, Menlo Park, CA  
 License Number: C57-374152  
 Driller: Frank Bartolovich  
 Drilling Method: Hollow-stem auger  
 Date Drilled: August 4, 1992  
 Well Head Completion: 2" locking well-plug, traffic-rated vault  
 Type of Sampler: Split barrel (2" ID)  
 Ground Surface Elevation: 106.59 feet above mean sea level  
 TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Well MW-17 (BH-T) - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California



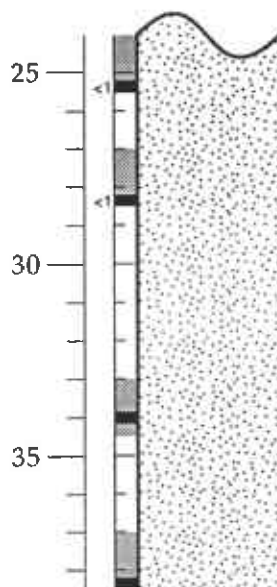
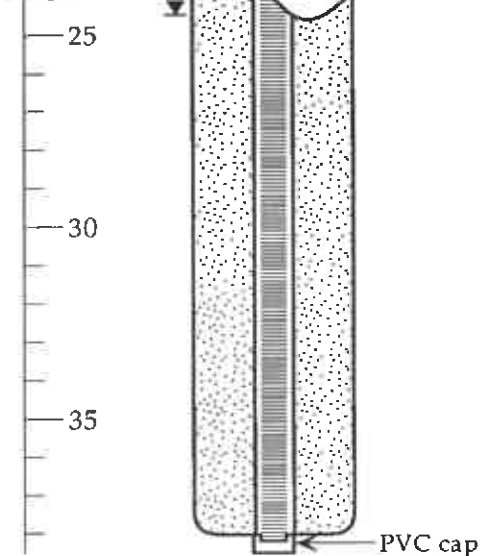
# WELL MW-17 (BH-T) (cont.)

TPH-G GRAPHIC  
concentration LOG  
(ppm)

DESCRIPTION

DEPTH BELOW GROUND SURFACE (FEET)

August 4, 1992



wet; light gray from 24.0'

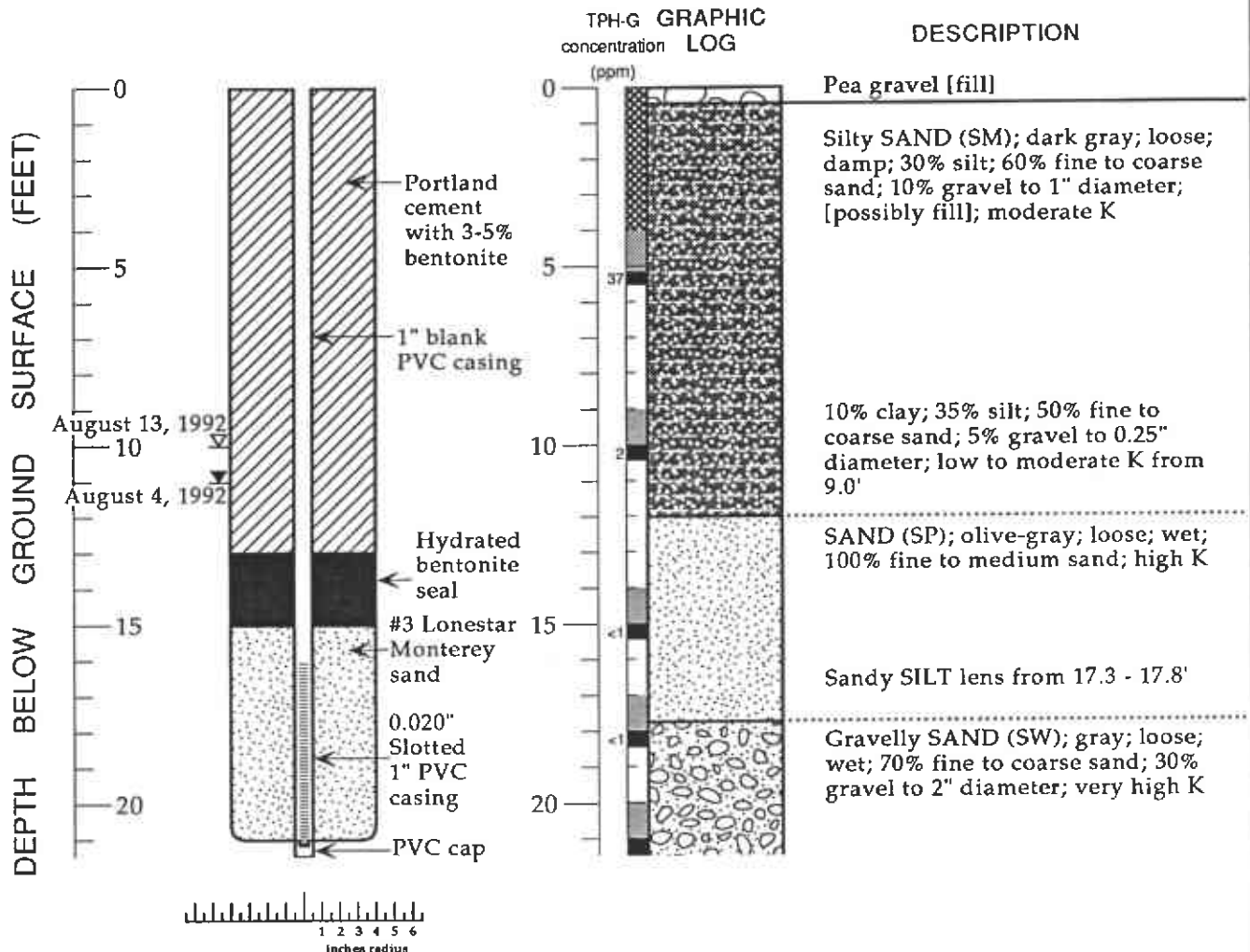
blue from 27.7 to 28'

blue-gray; 100% fine to coarse sand  
from 33.0'

0.5" diameter gravel at 33.5'

gray; 100% fine to medium sand  
from 37.0'

# PIEZOMETER P-1 (BH-U)



## EXPLANATION

- ▼ Water level during drilling (date)
- ▽ Water level (date)
- Contact (dotted where approximate)
- ?-?-? Uncertain contact
- //////// Gradational contact
- ▨ Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- ▩ Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Tom Fojut  
 Supervisor: James W. Carmody; CEG 1576  
 Drilling Company: Bayland Drilling, Menlo Park, CA  
 License Number: C57-374152  
 Driller: Frank Bartolovich  
 Drilling Method: Hollow-stem auger  
 Date Drilled: August 4, 1992  
 Type of Sampler: Split barrel (2" ID)  
 Piezometer Head Completion: Locking cap, traffic-rated vault  
 Ground Surface Elevation: 86.73 feet above mean sea level  
 TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Piezometer Construction Details - Piezometer P-1 (BH-U) - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California

**ATTACHMENT B**

**ANALYTIC REPORTS AND CHAIN-OF-CUSTODY FORMS FOR SOIL**



# Superior Precision Analytical, Inc.

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

Weiss Associates  
Attn: Tom Fojut

Project 4-310-05  
Reported 08/11/92

## TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
13347- 1	BH-T-5.5	08/04/92	08/06/92 Soil
13347- 2	BH-T-10.5	08/04/92	08/06/92 Soil
13347- 3	BH-T-15.0	08/04/92	08/10/92 Soil
13347- 4	BH-T-20.5	08/04/92	08/06/92 Soil
13347- 5	BH-T-25.5	08/04/92	08/10/92 Soil
13347- 6	BH-T-28.5	08/04/92	08/06/92 Soil

## RESULTS OF ANALYSIS

Laboratory Number: 13347- 1 13347- 2 13347- 3 13347- 4 13347- 5

Gasoline:	ND<1	ND<1	ND<1	ND<1	ND<1
Benzene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Toluene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Ethyl Benzene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Xylenes:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

Laboratory Number: 13347- 6

Gasoline:	ND<1
Benzene:	ND<.005
Toluene:	ND<.005
Ethyl Benzene:	ND<.005
Xylenes:	ND<.005
Concentration:	mg/kg



# 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

### ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2  
QA/QC INFORMATION  
SET: 13347

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

mg/kg = parts per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:  
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:  
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:  
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg

EPA SW-846 Method 8020/BTXE  
Minimum Quantitation Limit in Soil: 0.005mg/kg

ANALYTE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
-----	-----	-----	---	-----
Gasoline:	200 ng	96/90	6%	75-111
Benzene:	200 ng	95/100	5%	75-114
Toluene:	200 ng	93/95	2%	78-114
Ethyl Benzene:	200 ng	89/93	4%	76-120
Xylenes:	600 ng	92/95	3%	71-117

Richard Srna, Ph.D.

*Cecilia J. Srna (for)*  
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 BL HAYWARD  
Consultant Project Number 4-310-05  
Consultant Name WEISS ASSOCIATES  
Address 5500 SHELLMOUND ST EMERYVILLE 94608  
Project Contact (Name) TOM FOJUT  
(Phone) 510-547-5420 (Fax Number) 510-547-5043

Chevron Contact (Name) JEFF ZINDEL  
(Phone) 510-842-8896  
Laboratory Name SUPERIOR PRECISION ANALYTICAL  
Laboratory Release Number 6999320  
Samples Collected by (Name) TOM FOJUT  
Collection Date 8-4-92  
Signature Tom Fojut

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed												Remarks
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)					
BH-T-5.5		1	S	G	915	NONE	Y												HOLD	
10.5					920															
15.0					930															
20.5					945															
25.5					955															
28.5					1010															
34.0					1025															
38.5					1105															
BH																				

Please initial: CFJ  
 Samples Stored in Ice. Yes  
 Appropriate containers. NA  
 Samples preserved. NA  
 VOA's without headspace. NA  
 Comments:

Relinquished By (Signature) <u>Tom Fojut</u>	Organization <u>WEISS ASSOCIATES</u>	Date/Time <u>8/5/92</u>	Received By (Signature) <u>Jeff Zindel</u>	Organization <u>EXPRESS-IT</u>	Date/Time <u>8/5/92</u>	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <u>Tom Fojut</u>	Organization <u>WEISS ASSOCIATES</u>	Date/Time <u>8/5/92</u>	Received By (Signature) <u>Jeff Zindel</u>	Organization <u>EXPRESS-IT</u>	Date/Time <u>8/5/92</u>	
Relinquished By (Signature) <u>Tom Fojut</u>	Organization <u>WEISS ASSOCIATES</u>	Date/Time <u>8/5/92</u>	Received For Laboratory By (Signature) <u>Cecilia Jorgensen</u>	Organization <u>EXPRESS-IT</u>	Date/Time <u>8/5/92</u>	

Fax copy of Lab Report and COC to Chevron Contact:

1347

## Chain-of-Custody-Record

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

Chevron Facility Number 9-0260  
Facility Address 21995 FOOTHILL BL HAYWARD  
Consultant Project Number 4-310-05  
Consultant Name WEISS ASSOCIATES  
Address 5500 SHELLMOUND ST EMERYVILLE 94608  
Project Contact (Name) TOM FOJUT  
(Phone) 510-547-5420 (Fax Number) 510-547-5043

Chevron Contact (Name) JEFF ZINDEL  
(Phone) 510-842-8896  
Laboratory Name SUPERIOR PRECISION ANALYTICAL  
Laboratory Release Number 6999320  
Samples Collected by (Name) TOM FOJUT  
Collection Date 8-4-92  
Signature Tom Fojut

[illegible]



# Superior Precision Analytical, Inc.

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

Weiss Associates  
Attn: Tom Fojut

Project 4-310-05  
Reported 08/10/92

## TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
13348- 1	BH-U-5.5	08/04/92	08/06/92 Soil
13348- 2	BH-U-10.5	08/04/92	08/06/92 Soil
13348- 3	BH-U-15.5	08/04/92	08/06/92 Soil
13348- 4	BH-U-18.5	08/04/92	08/06/92 Soil

## RESULTS OF ANALYSIS

Laboratory Number: 13348- 1 13348- 2 13348- 3 13348- 4

Gasoline:	37	2	ND<1	ND<1
Benzene:	0.58	0.40	0.005	0.062
Toluene:	0.89	0.008	ND<0.005	ND<0.005
Ethyl Benzene:	1.5	0.010	ND<0.005	0.007
Xylenes:	6.8	0.35	ND<0.005	0.030
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg





# Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • 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

### ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2  
QA/QC INFORMATION  
SET: 13348

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

mg/kg = parts per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:  
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:  
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:  
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg

EPA SW-846 Method 8020/BTXE  
Minimum Quantitation Limit in Soil: 0.005mg/kg

ANALYTE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
-----	-----	-----	---	-----
Gasoline:	200 ng	96/90	7	75-111
Benzene:	200 ng	95/100	5	75-114
Toluene:	200 ng	93/95	3	78-114
Ethyl Benzene:	200 ng	89/93	4	76-120
Xylenes:	600 ng	92/95	3	71-117

Richard Srna, Ph.D.

*Cecilia G. Jorgensen (for)*  
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 BL HAYWARD  
Consultant Project Number 4-310-05  
Consultant Name WEISS ASSOCIATES  
Address 5500 SHELLMOUND ST EMERYVILLE 94608  
Project Contact (Name) TOM FOJUT  
(Phone) 510-547-5420 (Fax Number) 510-547-5043

Chevron Contact (Name) JEFF ZINDEL  
(Phone) 510-842-8896  
Laboratory Name SUPERIOR PRECISION ANALYTICAL  
Laboratory Release Number 6999320  
Samples Collected by (Name) TOM FOJUT  
Collection Date 8-4-92  
Signature Tom Fojut

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analytes To Be Performed											Remarks
								BTX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)				
BH- U 5.5		1	S	G	225	NONE	Y	X											
10.5		1			230			X											
15.5		1			245			X											
18.5		1			255			X											
21.5		1			305														HOLD
PLEASE REPORT THESE SAMPLES AS ONE REPORT BY THEMSELVES.																			

Relinquished By (Signature)

Tom Fojut

Organization

WEISS

Date/Time

8/5/92 10:15

Received By (Signature)

[Signature]

Organization

SP-1

Date/Time

8/5/92

Turn Around Time (Circle Choice)

24 Hrs.

48 Hrs.

5 Days

10 Days

Contracted

Relinquished By (Signature)

Organization

Date/Time

Received By (Signature)

Organization

Date/Time

Relinquished By (Signature)

Organization

Date/Time

Received For Laboratory By (Signature)

Date/Time

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

# Chain-of-Custody-Record

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

Chevron Facility Number 9-0260  
Facility Address 21995 FOOTHILL BL HAYWARD  
Consultant Project Number 4-310-05  
Consultant Name WEISS ASSOCIATES  
Address 5500 SHELLMOUND ST EMERYVILLE 94608  
Project Contact (Name) TOM FOJUT  
(Phone) 510-547-5420 (Fax Number) 510-547-5043

Chevron Contact (Name) JEFF ZINDEL  
(Phone) 510-842-8896  
Laboratory Name SUPERIOR PRECISION ANALYTICAL  
Laboratory Release Number 6999320  
Samples Collected by (Name) TOM FOJUT  
Collection Date 8-4-92  
Signature Tom Fojut

Sample Number	Lab 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
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)			
BH-U 5.5		1	S	G	225	NONE	Y											HOLD
↓ 10.5		↓	↓	↓	230	↓	↓											↓
↓ 15.5		↓	↓	↓	245	↓	↓											
↓ 18.5		↓	↓	↓	255	↓	↓											
↓ 21.5		↓	↓	↓	305	↓	↓											

Please Initial: [Signature]  
Samples Stored in ice. Yes  
Appropriate containers. NA  
Samples preserved. NA  
VOA's without headspace. NA  
Comments: \_\_\_\_\_

Relinquished By (Signature) <u>Tom Fojut</u>	Organization <u>WEISS ASSOCIATES</u>	Date/Time <u>8/5/92</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>Superior Precision Analytical</u>	Date/Time <u>8/5/92</u>	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <u>[Signature]</u>	Organization <u>WEISS ASSOCIATES</u>	Date/Time <u>8/5/92</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>Superior Precision Analytical</u>	Date/Time <u>8/5/92</u>	
Relinquished By (Signature) <u>[Signature]</u>	Organization <u>WEISS ASSOCIATES</u>	Date/Time <u>8/5/92</u>	Received For Laboratory By (Signature) <u>Cecilia Garguira</u>	Organization <u>Superior Precision Analytical</u>	Date/Time <u>8/5/92</u>	

**ATTACHMENT C**

**ANALYTIC REPORT AND CHAIN-OF CUSTODY FORM FOR GROUND WATER**



# Superior Precision Analytical, Inc.

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

Weiss Associates  
Attn: MARIETTE SHIN

Project 4-310-01  
Reported 08/24/92

## TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
13380- 1	082-09	08/13/92	08/21/92 Water
13380- 2	082-11	08/13/92	08/24/92 Water
13380- 3	082-13	08/13/92	08/24/92 Water
13380- 4	082-14	08/13/92	08/24/92 Water
13380- 5	082-15	08/13/92	08/24/92 Water
13380- 6	082-16	08/13/92	08/21/92 Water
13380- 7	082-17	08/13/92	08/21/92 Water
13380- 8	TB-LB	08/13/92	08/21/92 Water

## RESULTS OF ANALYSIS

Laboratory Number: 13380- 1 13380- 2 13380- 3 13380- 4 13380- 5

Gasoline:	45000	77000	84000	370	510
Benzene:	1300	18000	7400	10	55
Toluene:	3000	14000	11000	1.2	ND<0.5
Ethyl Benzene:	1500	1900	2600	ND<0.5	35
Xylenes:	7100	10000	13000	0.9	2.8
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 13380- 6 13380- 7 13380- 8

Gasoline:	17000	ND<50	ND<50
Benzene:	4500	ND<0.5	ND<0.5
Toluene:	240	ND<0.5	ND<0.5
Ethyl Benzene:	860	ND<0.5	ND<0.5
Xylenes:	530	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L



# 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

### ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2  
QA/QC INFORMATION  
SET: 13380

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

ug/L = parts per billion (ppb)

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

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:  
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:  
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE  
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE -----	MS/MSD RECOVERY -----	RPD ---	CONTROL LIMIT -----
Gasoline:	90/99	10%	76-111
Benzene:	95/98	3%	78-110
Toluene:	91/95	4%	78-111
Ethyl Benzene:	89/93	4%	78-118
Xylenes:	92/95	3%	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	Chevron Contact (Name)	JEFF ZINDEL
	Facility Address	21995 FOOTHILL BLVD HAYWARD	(Phone)	510-842-8896
	Consultant Project Number	4-310-01	Laboratory Name	SUPERIOR PRECISION ANALYTICAL
	Consultant Name	WEISS ASSOCIATES	Laboratory Release Number	6999320
	Address	5500 SHELLMOUND ST EMERYVILLE	Samples Collected by (Name)	BRIAN BUSCH / Paul CARDON
	Project Contact (Name)	MARIETTE SHIN	Collection Date	8-13-92
	(Phone)	510-547-5420	(Fax Number)	510-547-5043
			Signature	Brian Busch

[illegible]

Relinquished By (Signature) <i>Brian Bush</i>	Organization WEISS	Date/Time 8/13/92	Received By (Signature) <i>Ronald C. Jensen</i>	Organization weiss Assoc.	Date/Time 8/17/92 09:00	Turn Around Time (Circle Choice) RECEIVED 24 Hrs. FROM SECURE 48 Hrs. AREA 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <i>Ronald C. Jensen</i>	Organization weiss Assoc.	Date/Time 8/17/92 10:30	Received By (Signature) <i>Jm Cy X677</i>	Organization Exp-it	Date/Time 8-17-92 10:30	
Relinquished By (Signature) <i>Jm Cy X677</i>	Organization Exp-it	Date/Time 8/17/92 11:33	Received For Laboratory By (Signature) <i>Kurt Wille</i>	Date/Time 8/17/92 6P		

COC-1.DWG/11/90/HCH

STORED OVERNIGHT IN A LOCKED, SECURE PLACE.

**ATTACHMENT D**  
**MONITORING WELL SURVEY REPORT**



*Tucker & Associates*  
SURVEYING & MAPPING



Weiss Associates  
5500 Shellmound Street  
Emeryville CA. 94608

August 17, 1992

Re: Monitoring well elevations at Chevron Station- 21995  
Foothill Blvd., Hayward, CA.

<u>Well #</u>	<u>Grd. El.</u>	<u>Orient</u>	<u>T.O.C. El.</u>	<u>Casing Dia.</u>	<u>Orient</u>
MW-4	101.57	N	100.73	4"	N
MW-11	100.42	N	99.57	4"	N
MW-12	100.10	N	99.22	4"	N
MW-17	106.59	N	106.00	2"	N
P-1	86.73	N	86.43	2"	N

Notes:

Elevations were established using the CALTRANS Mon. at B.C. of curve 4' Westerly from Westerly Median curb Foothill Blvd. near Northerly line of Hazel Street, using an El. of 106.50 feet. We checked the El. of TBM JEK-90084 and we found it to be 102.17' as listed.

Top of Casing elevations were taken at found ink marks on the N'ly side of casing.

Ground elevations were taken on rim of "Christie" or other vault box on N'ly side.

Elevations were established on 8/13/92.