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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

Marketing Department

92 FEB 13 AM 10:52

February 10, 1992

Mr. Edgar Howell
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, CA 94621

94601

Re: Chevron Service Station #9-0076
4625 Foothill Blvd., Oakland

Dear Mr. Howell:

Enclosed we are forwarding the Ground Water Monitoring Report dated January 30, 1992, prepared by our consultant Weiss Associates for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline and BTEX. Benzene was detected in all monitor wells with the exception of monitor wells C-5 and C-8 at concentrations ranging from .7 to 20,000 ppb. Separate-phase hydrocarbons were not observed in monitor well C-2 during this monitoring event. Depth to ground water was measured at approximately 26 to 30-feet on-site and 41-feet off-site. The direction of ground water flow is to the southwest.

The ground water extraction system started up on November 15, 1991. Chevron will continue to monitor this site and report findings on a quarterly basis and monitor the effectiveness of the ground water extraction system.

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

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

Nancy Vukelich
Environmental Engineer

Enclosure

cc: Mr. Eddy So, RWQCB-Bay Area
Mr. S.A. Willer
File (9-0076Q2)

Weiss Associates
Environmental and Geologic Services
5500 Shellmound Street, Emeryville, CA 94608-2411
Fax: 510-547-5043 Phone: 510-547-5420

January 30, 1992

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

Re: Fourth Quarter 1991
Ground Water Monitoring Report
Chevron Service Station #9-0076
4265 Foothill Boulevard
Oakland, California
WA Job #4-417-91

Dear Ms. Vukelich:

As you requested, Weiss Associates (WA) is providing this Ground Water Monitoring Report for the site referenced above (Figure 1). WA sampled the ground water monitoring wells (Figure 2) on December 20, 1991, in accordance with the requirements and procedures of the California Regional Water Quality Control Board - San Francisco Bay Region and local regulatory agencies.

SAMPLING PROCEDURES

Prior to purging and sampling the wells, WA measured the depth to ground water in each well to the nearest 0.01 ft using an electronic sounder (Table 1). We also checked the wells for floating hydrocarbons or sheen. No floating hydrocarbons or sheen was detected in any 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 either a steam-cleaned or dedicated bailer into the appropriate clean sample containers and delivered to a California-certified laboratory following proper sample preservation and chain-of-custody procedures. Purged ground water was stored onsite in DOT-approved 55-gallon drums until properly disposed of offsite.

MONITORING AND ANALYTIC RESULTS

The top-of-casing elevation, depth to ground water and the ground water elevation for each well are presented in Table 1. The ground water elevation contours and flow direction are shown on Figure 2. The contours suggest ground water flows to the southwest and southeast with a relatively steep gradient of about 0.02 to 0.12 ft/ft.

Current and historical ground water analytic results are summarized in Table 2. The water sample collection records, and the analytic report and chain-of-custody forms are included as Attachments A and B, respectively.

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

REGISTERED GEOLOGIST
JAMES W. CARMODY
No. EG 1576
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Sincerely,
Weiss Associates

Mariette Shin
Staff Geologist

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

MMS/JWC:fcr

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

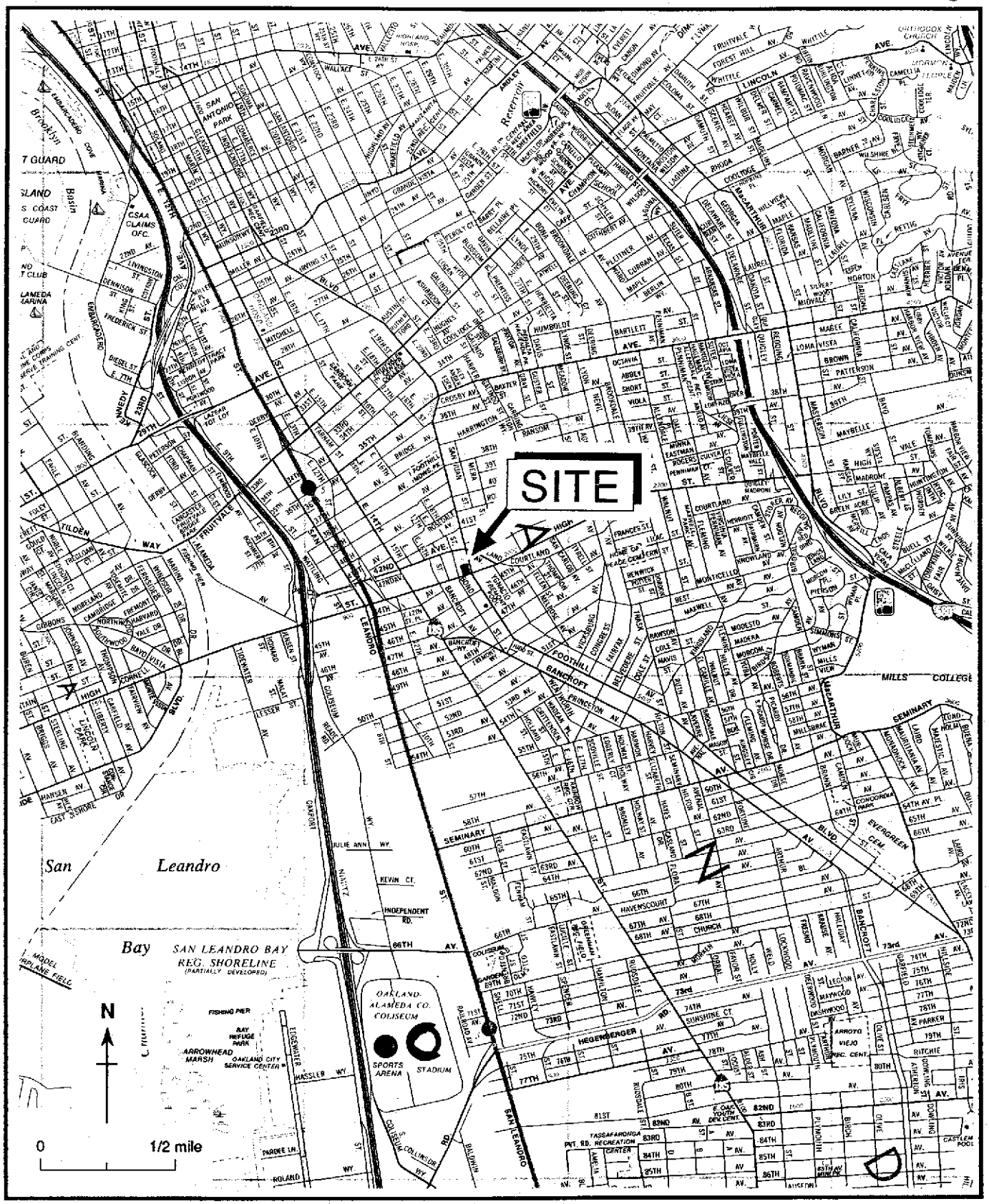

Figure 1. Site Location Map - Chevron Service Station #9-0076, 4265 Foothill Boulevard, Oakland, California

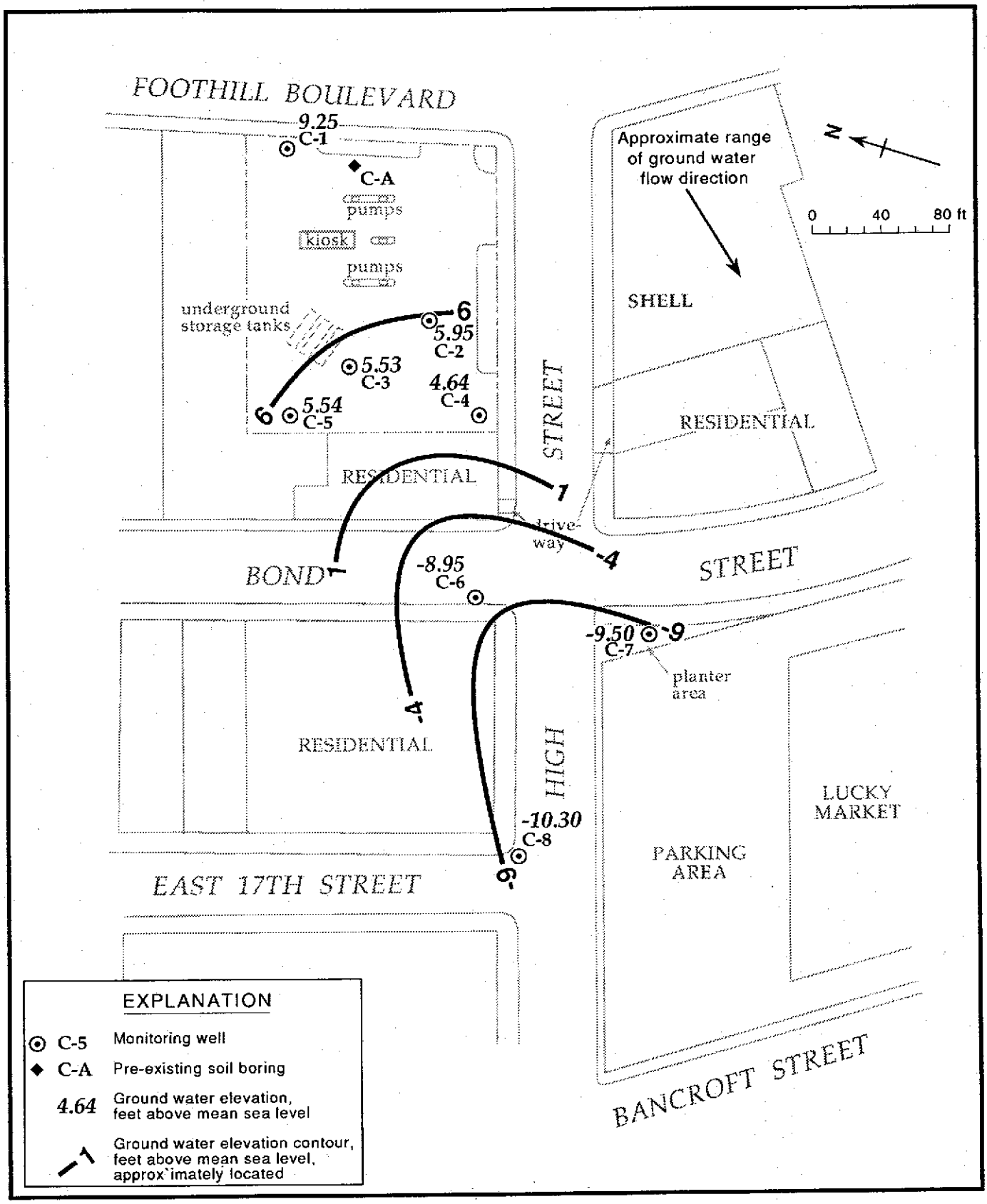

Figure 2. Monitoring Well Locations and Ground Water Elevations - December 20, 1991 - Chevron Service Station #9-0076, 4265 Foothill Boulevard, Oakland, California

1/30/92

TABLE 1. Ground Water Elevation Data - Chevron Service Station #9-0076, 4265 Foothill Boulevard, Oakland, California

Well ID	Date	Top-of-casing Elevation (ft above msl)	Depth to Water (ft)	Floating Hydrocarbon Thickness	Ground Water Elevation (ft above msl)
C-1	04/28/89[a]	35.42[b]	20.05		15.37
	08/08/89[a]		24.07		11.35
	12/21/89		22.81		12.61
	08/27/90		22.12		13.30
	11/04/90		25.56		9.86
	06/18/91		21.64		13.78
	09/19/91		24.58		10.84
	12/20/91		26.17		9.25
C-2	04/28/89[a]	35.18[b]	26.44		8.74
	08/08/89[a]		29.90	0.01	5.29[c]
	12/21/89		29.32		5.86
	08/27/90		29.55	0.17	5.77[c]
	11/04/90		30.47		4.71
	06/18/91		28.33	0.06	6.90[c]
	09/19/91		29.39	0.06	5.84[c]
	12/20/91		29.232		5.95
C-3	04/28/89[a]	35.28[b]	28.00		7.28
	08/08/89[a]		30.00		5.28
	12/21/89		30.53		4.75
	08/27/90		29.68		5.60
	11/04/90	35.30[d]	30.36		4.94
	06/18/91		28.46		6.84
	09/19/91		29.33		5.97
	12/20/91		29.77		5.53
C-4	01/12/89[a]	33.45[b]	29.49		3.96
	04/12/89[a]		27.44		6.01
	08/08/89[a]		29.55		3.90
	12/21/89		30.02		3.43
	08/27/90	33.48[d]	29.02		4.46
	11/04/90		29.81		3.67
	06/18/91		27.45		6.03
	09/19/91		28.65		4.83
	12/20/91		28.84		4.64
C-5	08/27/90	35.50	29.83		5.67
	11/14/90		30.56		4.94
	06/18/91		28.52		6.98
	09/19/91		29.51		5.99
	12/20/91		29.96		5.54

-- Table 1 continues on next page --

TABLE 1. Ground Water Elevation Data - Chevron Service Station #9-0076, 4265 Foothill Boulevard, Oakland, California (continued)

Well ID	Date	Top-of-casing Elevation (ft above msl)	Depth to Water (ft)	Floating Hydrocarbon Thickness	Ground Water Elevation (ft above msl)
C-6	08/27/90	32.40	44.11		-11.71
	11/14/90		44.03		-11.63
	06/18/91		43.49		-11.09
	09/19/91		34.32		-1.92
	12/20/91		41.35		-8.95
C-7	08/27/90	32.17	44.23		-12.06
	11/14/90		44.11		-11.94
	06/18/91		42.05		-9.88
	09/19/91		41.72		-9.55
	12/20/91		41.67		-9.50
C-8	11/14/90	30.68	43.29		-12.61
	06/18/91		42.62		-11.94
	09/19/91		41.72		-11.04
	12/20/91		40.98		-10.30

[a] = Ground water elevation measured against project datum, not actual top-of-casing elevation.
[b] = Top-of-casing elevation surveyed 1/03/90.
[c] = Ground water elevation adjusted for floating hydrocarbons in the well by the relation: Ground water elevation = Top-of-casing elevation - Depth to water + .8 (product thickness).
[d] = Top-of-casing elevation resurveyed 08/21/90.

TABLE 2. Analytic Results for Ground Water, Chevron Service Station #9-0076, 4265 Foothill Blvd, Oakland, California

Well ID	Analytic Date	Analytical Lab	Depth to Water (ft)	TPH-G	B	E	T	X
				<----------parts per billion---------->				
C-1	04/28/89	SPA	20.05	940	30	11	1.3	13
	08/08/89	SPA	24.07	820	45	13	2	13
	08/27/90	GTEL	22.12	440	15	6	1	13
	06/18/91	SPA	21.64	74	5.6	1.9	0.6	1.3
	09/19/91	SPA	24.58	150	7.1	2.3	<0.5	3
	12/20/91	**SPA**	**250**	**10**	**3.7**	**<0.5**	**1.6**	
C-2	04/28/89*	SPA	26.44	120,000	30,000	3,000	22,000	17,000
	08/08/89*	---	29.90	---	---	---	---	---
	08/27/90*	---	29.55	---	---	---	---	---
	06/18/91*	---	28.33	---	---	---	---	---
	09/19/91*	---	29.39	---	---	---	---	---
	12/20/91	**SPA**		**170,000**	**20,000**	**2,800**	**10,000**	**19,000**
C-3	04/28/89	SPA	28.00	<500	1.7	<0.5	<0.5	<0.5
	08/08/89	SPA	30.00	<500	1	<0.5	<0.5	<0.5
	08/27/90	GTEL	29.68	<50	<0.3	<0.3	<0.3	<0.6
	06/18/91	SPA	28.46	52	1.1	<0.5	<0.5	1.2
	09/19/91	SPA	29.33	73	1.2	<0.5	<0.5	<0.5
	12/20/91	**SPA**		**<50**	**0.7**	**<0.5**	**<0.5**	**<0.5**
C-4	04/28/89	SPA	29.49	20,000	6,300	230	550	1,500
	08/08/89	SPA	29.55	8,000	7,500	88	340	1,000
	08/27/90	GTEL	29.02	26,000	10,000	410	280	1,400
	06/18/91	SPA	27.45	34,000	14,000	450	410	1,300
	09/19/91	SPA	28.65	16,000	7,400	110	90	460
	12/20/91	**SPA**		**24,000**	**012,000**	**260**	**120**	**740**
C-5	08/27/90	GTEL	29.83	<50	<0.3	<0.3	<0.3	<0.6
	06/18/91	SPA	28.52	<50	<0.5	<0.5	<0.5	<0.5
	09/19/91	SPA	29.51	<50	<0.5	<0.5	<0.5	<0.5
	12/20/91	**SPA**		**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
C-6	08/27/90	GTEL	44.11	7,200	2,100	41	6	300
	06/18/91	SPA	43.49	4,400	2,500	160	18	77
	09/19/91	SPA	34.32	3,100	1,600	73	8.3	8
	12/20/91	SPA		4,400	1,300	74	3.2	10
C-7	08/27/90	GTEL	44.23	110	26	4	0.8	6
	06/18/91	SPA	42.05	23,000	5,700	1,000	420	2,800
	09/19/91	SPA	41.72	26,000	4,600	970	330	2,400
	12/20/91	**SPA**		**33,000**	**5,500**	**1,00**	**270**	**2,100**

-- Table 2 continues on next page --

TABLE 2. Analytic Results for Ground Water, Chevron Service Station #9-0076, 4265 Foothill Blvd, Oakland, California (continued)

Well ID	Analytic Date	Analytical Lab	Depth to Water (ft)	TPH-G	B	E	T	X
				<----------parts per billion---------->				
C-8	11/14/90	GTEL	43.29	<50	<0.3	<0.3	<0.3	<0.6
	06/18/91	SPA	42.62	<50	<0.5	<0.5	<0.5	<0.5
	09/19/91	SPA	41.72	<50	<0.5	<0.5	<0.5	<0.5
	12/20/91	**SPA**		**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Bailer	08/08/89	SPA		<500	<0.5	<0.5	<0.5	<0.5
Blank	08/27/90	GTEL		<50	<0.3	<0.3	<0.3	<0.6
	06/18/91	SPA		<50	<0.5	<0.5	<0.5	0.5
Travel	04/28/89	SPA		<500	<0.5	<0.5	<0.5	<0.5
Blank	08/08/89	SPA		<500	<0.5	<0.5	<0.5	<0.5
	08/27/90	GTEL		<50	<0.3	<0.3	<0.3	<0.6
	11/14/90	GTEL		<50	<0.3	<0.3	<0.3	<0.6
	06/18/91	SPA		<50	<0.5	<0.5	<0.5	<0.5
	09/19/91	SPA		<50	<0.5	<0.5	<0.5	<0.5
	12/20/91	**SPA**		**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
DHS MCLs	---	---		NE	1	680	100[a]	1,750

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
DHS MCLs = Department of Health Services maximum contaminant levels for drinking water
NE = Not established
* = Floating hydrocarbons in well
a = DHS recommended action level for drinking water; no MCL established

Analytical Laboratory:

SPA = Superior Precision Analytical, Inc., San Francisco, California
GTEL = GTEL Environmental Laboratories, Inc., Concord, California

ATTACHMENT A

WATER SAMPLE COLLECTION RECORDS

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name C-1 Date 12/20/91 Time of Sampling 1619

Job Name CHEV. OAK. II Job Number 4-417-01 Initials RK

Sample Point Description M (M = Monitoring Well)

Location N. CORNER OF SITE

WELL DATA: Depth to Water 26.17 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth 39.89 ft (spec) Well Depth 39.81 ft(sounded) Well Diameter 3 in

Initial Height of Water in Casing 13.64 ft. = volume 5.00 gal.

3 Casing Volumes to be Evacuated. Total to be evacuated 15.00 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —

Bailer# and type 1½ x 48" PVC #12 Dedicated N (Y/N)

Other —

Evacuation Time: Stop 1146

Start 1121

Total Evacation Time 25

Total Evacuated Prior to Sampling 14 gal.

Evacuation Rate 0.56 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 28.62 ft. 1620 time

Evacuated Dry? Y After 14 gal. Time 1146

80% Recovery = 28.90

% Recovery at Sample Time 80% Time 1620

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^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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number

Calibration: 4.0 7.0 10.0

Measured:	SC/µmhos	pH	°C	Time	Volume Evacuated (gal.)
N/A					

SAMPLE: Color VERY LIGHT TAN Odor SLIGHT

Description of matter in sample: VERY FINE SILT

Sampling Method: POUR FROM TEF. BLR. #RG

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-01	W/CV	40ml	N	Y	HCl	8015/8020	N	SAL

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

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name C-2 Date 12/20/91 Time of Sampling 1652

Job Name CHEV. OAK. II Job Number 4-417-01 Initials ARK

Sample Point Description M (M = Monitoring Well)

Location S. SIDE OF SITE

WELL DATA: Depth to Water 29.23 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth 32.34 ft (spec) Well Depth 32.12 ft(sounded) Well Diameter 3 in

Initial Height of Water in Casing 2.89 ft. = volume 1.06 gal.

3 Casing Volumes to be Evacuated. Total to be evacuated 3.18 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —

Bailer# and type 1.5x48" PVC #10 Dedicated N (Y/N)

Other —

Evacuation Time: Stop 1304

Start 1300

Total Evacation Time 4

Total Evacuated Prior to Sampling 1 gal.

Evacuation Rate 0.25 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 29.71 ft. 1653 time

Evacuated Dry? Y After 1 gal. Time 1304

80% Recovery = 29.81

% Recovery at Sample Time 80% Time 1653

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^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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number —

Calibration: — 4.0 — 7.0 — 10.0

Measured:	SC/µmhos	pH	T°C	Time	Volume Evacuated (gal.)
	N/A				

SAMPLE: Color ALMOST CLEAR Odor VERY STRONG

Description of matter in sample: TRACE

Sampling Method: POUR FROM TEF. BLR # AP

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-02	W/CV	40ml	N	Y	HCl	8015 /8020	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:

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name C-3 Date 12/20/91 Time of Sampling 1630

Job Name CHEV. OAK. II Job Number 4-417-01 Initials RK

Sample Point Description M (M = Monitoring Well)

Location ~~4-417-01~~ BY UNDERGROUND STOR. TANKS

WELL DATA: Depth to Water 29.77 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth 39.82 ft (spec) Well Depth 39.81 ft(sounded) Well Diameter 3 in

Initial Height of Water in Casing 10.04 ft. = volume 3.68 gal.

3 Casing Volumes to be Evacuated. Total to be evacuated 11.05 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —

Bailer# and type 1.5X48" PVC#11 Dedicated N (Y/N)

Other —

Evacuation Time: Stop 1243

Start 1226

Total Evacation Time 17

Total Evacuated Prior to Sampling 4 gal.

Evacuation Rate 0.24 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 30.09 ft. 1631 time

Evacuated Dry? Y After 4 gal. Time 1243

80% Recovery = 31.78

% Recovery at Sample Time 97% Time 1631

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^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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number —

Calibration: — 4.0 — 7.0 — 10.0

Measured:	SC/µmhos	pH	T°C	Time	Volume Evacuated (gal.)
	N/A				

SAMPLE: Color LT. TAN Odor MODERATE

Description of matter in sample: VERY FINE SILT

Sampling Method: POUR FROM TEF. BLR. W/ AL

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-03	w/cv	40ml	N	Y	HCl	8015/8020	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:

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name C-4 Date 12/20/91 Time of Sampling 1642

Job Name CHEV. OAK, II Job Number 4-417-01 Initials AK

Sample Point Description M (M = Monitoring Well)

Location SW. CORNER OF SITE

WELL DATA: Depth to Water 27.45 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth 39.86 ft (spec) Well Depth 39.74 ft (sounded) Well Diameter 3 in

Initial Height of Water in Casing 12.29 ft. = volume 4.51 gal.

3 Casing Volumes to be Evacuated. Total to be evacuated 13.53 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —

Bailer# and type 1.5x48" PVC # 14 Dedicated N (Y/N)

Other —

Evacuation Time: Stop 1215

Start 1202 Time

Total Evacation Time 13

Total Evacuated Prior to Sampling 5 gal.

Evacuation Rate 0.38 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 29.94 ft. 1642 time

Evacuated Dry? Y After 5 gal. Time 1215

80% Recovery = 29.91

% Recovery at Sample Time 80% Time 1642

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^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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number —

Calibration: — 4.0 — 7.0 — 10.0

Measured:	SC/µmhos	pH	T°C	Time	Volume Evacuated (gal.)
	N/A				

SAMPLE: Color ALMOST CLEAR Odor MODERATE

Description of matter in sample: TRACE

Sampling Method: POUR FROM TEF. BLR. #13

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-04	w/cv	40ml	N	Y	HCl	8015/8020	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:

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name C-5 Date 12/20/91 Time of Sampling 1606

Job Name CHEV. OAK. II Job Number 4-417-01 Initials AEK

Sample Point Description M (M = Monitoring Well)

Location W. CORNER OF SITE

WELL DATA: Depth to Water 29.96 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth 44.78 ft (spec) Well Depth 44.62 ft(sounded) Well Diameter 2 in

Initial Height of Water in Casing 14.66 ft. = volume 2.39 gal.

3 Casing Volumes to be Evacuated. Total to be evacuated 7.17 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —

Bailer# and type 1.5 x 60" PVC Dedicated Y (Y/N)

Other —

Evacuation Time: Stop 1603

Start 1550

Total Evacation Time 13

Total Evacuated Prior to Sampling 7.5 gal.

Evacuation Rate — gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 30.07 ft. 1607 time

Evacuated Dry? NO After — gal. Time —

80% Recovery = —

% Recovery at Sample Time — Time —

Formulas/Conversions

r = well radius in ft.

h = ht of water col in ft.

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

7.48 gal/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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number —

Calibration: — 4.0 — 7.0 — 10.0

Measured:	SC/µmhos	pH	T°C	Time	Volume Evacuated (gal.)
		N/A			

SAMPLE: Color LT. TAN Odor MODERATE

Description of matter in sample: SILT/SAND

Sampling Method: PUMP FROM DED. BLR.

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-05	W/CV	40ml	N	Y	HCl	8015/8020	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:

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name C-6 Date 12/20/91 Time of Sampling 1528

Job Name CHEV. OAK. II Job Number 4-417-01 Initials AEK

Sample Point Description M (M = Monitoring Well)

Location BOND ST., BY HIGH ST. (N. SIDE)

WELL DATA: Depth to Water 41.35 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth 55.19 ft (spec) Well Depth 55.05 ft(sounded) Well Diameter 2 in

Initial Height of Water in Casing 13.7 ft. = volume 2.23 gal.

3 Casing Volumes to be Evacuated. Total to be evacuated 6.70 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —

Bailer# and type 1.5x60" PVC Dedicated Y (Y/N)

Other —

Evacuation Time: Stop 1527

Start 1514

Total Evacation Time 13

Total Evacuated Prior to Sampling 7 gal.

Evacuation Rate 0.54 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 43.24 ft. 1529 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.

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

7.48 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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number —

Calibration: — 4.0 — 7.0 — 10.0

Measured:	SC/μmhos	pH	T°C	Time	Volume Evacuated (gal.)
	N/A				

SAMPLE: Color LT. GRAY Odor MODERATE/STRONG

Description of matter in sample: SAND/SILT

Sampling Method: POUR FROM DED. BLR.

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-06	W/CV	40 ml	N	Y	HCl	8015/8020	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:

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name C-7 Date 12/20/91 Time of Sampling 1353

Job Name CHEV. OAK. #E Job Number 4-417-01 Initials AK

Sample Point Description M (M = Monitoring Well)

Location PLANTER, BOND & HIGH ST.'S (SW CORNER)

WELL DATA: Depth to Water 41.67 ft (static) pumping) Depth to Product — ft.

Product Thickness — Well Depth 54.64 ft (spec) Well Depth 54.60 ft(sounded) Well Diameter 2 in

Initial Height of Water in Casing 12.93 ft. = volume 2.11 gal.

3 Casing Volumes to be Evacuated. Total to be evacuated 6.32 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —

Bailer# and type 1.5x60" PVC Dedicated Y (Y/N)

Other —

Evacuation Time: Stop 1348 — —

Start 1339 — —

Total Evacation Time 9

Total Evacuated Prior to Sampling 6.5 gal.

Evacuation Rate 0.72 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 50.71 ft. 1355 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.

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

7.48 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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number —

Calibration: — 4.0 — 7.0 — 10.0

Measured:	SC/μmhos	pH	T°C	Time	Volume Evacuated (gal.)
	N/A				

SAMPLE: Color LT. GRAY Odor MODERATE

Description of matter in sample: SAND/SILT

Sampling Method: POUR FROM DED. BLR.

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-07	W/CV	40ml	N	Y	HCl	8015/8020	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:

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name C-8 Date 12/20/91 Time of Sampling 1453

Job Name CHEV. OAK. II Job Number 4-417-01 Initials AEK

Sample Point Description M (M = Monitoring Well)

Location E. 17TH & HIGH ST.

WELL DATA: Depth to Water 40.98 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth 58.45 ft (spec) Well Depth 57.97 ft (sounded) Well Diameter 2 in

Initial Height of Water in Casing 16.99 ft. = volume 2.77 gal.

3 Casing Volumes to be Evacuated. Total to be evacuated 8.31 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —

Bailer# and type 1.5 x 48" PVC Dedicated Y (Y/N)

Other — 36"

Evacuation Time: Stop ~~1450~~ 1449

Start 1419

Total Evacation Time 30

Total Evacuated Prior to Sampling 8.5 gal.

Evacuation Rate 0.28 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 41.61 ft. 1453 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.

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

7.48 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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number —

Calibration: — 4.0 — 7.0 — 10.0

Measured:	SC/µmhos	pH	T°C	Time	Volume Evacuated (gal.)
	N/A				

SAMPLE: Color TAN Odor SLIGHT/MODERATE

Description of matter in sample: SAND/SILT

Sampling Method: POUR FROM DED. BLR.

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-08	W/cV	40ml	N	Y	HCl	8015/8020	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:

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name TRIP BLANKS Date 12/20/91 Time of Sampling 0730

Job Name CHEV. OAK. II Job Number 4-417-01 Initials AK

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 Evacation Time _____

Total Evacuated Prior to Sampling _____ gal.

Evacuation Rate _____ gal. per minute

Depth to Water during Evacuation _____ ft. _____ time

Depth to Water at Sampling _____ ft. _____ time

Evacuated Dry? _____ After _____ gal. Time _____

80% Recovery = _____

% Recovery at Sample Time _____ Time _____

Formulas/Conversions

r = well radius in ft.

h = ht of water col in ft.

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

7.48 gal/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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number _____

Calibration: _____ 4.0 _____ 7.0 _____ 10.0

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

SAMPLE: Color CLEAR Odor NONE

Description of matter in sample: NONE

Sampling Method: POUR FROM ARROWHEAD DI WATER: MIL EXP 11/27/93 1A 08:47

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-21	W/cv	40ml	N	Y	HCl	8015/8020	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:

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name BAILER BLANKS Date 12/20/91 Time of Sampling 1052

Job Name CHEV. OAK. II Job Number 4-417-21 Initials AEK

Sample Point Description ~~MW~~ (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 Evacation Time ____ N/A

Total Evacuated Prior to Sampling ____ gal.

Evacuation Rate ____ gal. per minute

Depth to Water during Evacuation ____ ft. ____ time

Depth to Water at Sampling ____ ft. ____ time

Evacuated Dry? ____ After ____ gal. Time ____

80% Recovery = ____

% Recovery at Sample Time ____ Time ____

Formulas/Conversions

r = well radius in ft.

h = ht of water col in ft.

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

7.48 gal/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

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number ____

Calibration: ____ 4.0 ____ 7.0 ____ 10.0

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

SAMPLE: Color CLEAR Odor NONE

Description of matter in sample: NONE

Sampling Method: POUR FROM TEF. BLK ORG, W/ ARROW HEAD DI WATER: MILEAP. 11/27/1408.

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
2	121-22	W/CV	40ml	N	Y	HCl	8015/8020	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.: 12647
CLIENT: Weiss Associates
CLIENT JOB NO.: 4-417-01

DATE RECEIVED: 12/23/91
DATE REPORTED: 12/31/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
12647- 1	121-01	12/20/91	12/30/91
12647- 2	121-02	12/20/91	12/26/91
12647- 3	121-03	12/20/91	12/30/91
12647- 4	121-04	12/20/91	12/31/91
12647- 5	121-05	12/20/91	12/30/91
12647- 6	121-06	12/20/91	12/26/91
12647- 7	121-07	12/20/91	12/26/91
12647- 8	121-08	12/20/91	12/30/91
12647- 9	121-21	12/20/91	12/30/91
12647-10	121-22	12/20/91	/ /

Laboratory Number:	12647 1	12647 2	12647 3	12647 4	12647 5
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	250	170000	ND<50	24000	ND<50
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	10	20000	0.7	12000	ND<0.5
TOLUENE:	ND<0.5	10000	ND<0.5	120	ND<0.5
ETHYL BENZENE:	3.7	2800	ND<0.5	260	ND<0.5
XYLENES:	1.6	19000	ND<0.5	740	ND<0.5

Laboratory Number:	12647 6	12647 7	12647 8	12647 9	12647 10
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	4400	33000	ND<50	ND<50	NA
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	1300	5500	ND<0.5	ND<0.5	NA
TOLUENE:	3.2	270	ND<0.5	ND<0.5	NA
ETHYL BENZENE:	74	1000	ND<0.5	ND<0.5	NA
XYLENES:	10	2100	ND<0.5	ND<0.5	NA

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

QA/QC INFORMATION
SET: 12647

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: 07/23/91

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/l
Standard Reference: 06/13/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	07/23/91	200ng	94/94	0.6	59-121
Benzene	06/13/91	200ng	103/101	1.5	70-125
Toluene	06/13/91	200ng	102/101	1.0	74-116
Ethyl Benzene	06/13/91	200ng	106/104	1.9	75-120
Total Xylene	06/13/91	600ng	105/103	2.1	75-119

Richard Srna, Ph.D.
Cecilia G. Joaquin (for)
Laboratory Director

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 9-0076 (OAK. II)
Facility Address 4265 FOOTHILL BLVD, OAKLAND
Consultant Project Number 4-417-01
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) NANCY VUKELICH
(Phone) 510 842-9581
Laboratory Name SUPERIOR PRECISION ANALYTICAL
Laboratory Release Number 4505080
Samples Collected by (Name) ANN KREML
Collection Date 12/20/91
Signature Ann Kreml

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: BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)	Remarks
121-01		2	W	G	1619	HCl	Y	X								
121-02					1652											
121-03					1630											
121-04					1642											
121-05					1606											
121-06					1528											
121-07					1353											
121-08					1453											
121-21					0730											
121-22					1052											HOLD PENDING POS. ANALYSIS OF ALL OTHER ~~ECS~~ SAMPLES

Please Initial: CLG YK
Samples Stored in Ice.
Appropriate containers.
Samples preserved.
VOA's without headspace.
Correct...

Stored over weekend in secure area

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Ann Kreml	WEISS ASSOC	12/20/91 1820	Ronald C. Jensen	weiss assoc.	12/23/91 08:30
Ronald C. Jensen	weiss assoc.	12/23/91 10:00	[illegible]	ECS	12-23-91 1000
[illegible]	ECS	12-23-91	Cecilia Y Jaegun		12/23/91 12:00

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

COC-3.DWG/03 91/HC