Weiss Associates Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: 510-547-5420

91 DEC 19 PM 12:31

TRANSMITTAL LETTER

FROM: Teresa McClish **DATE:** December 17, 1991

TO: Paul Smith
Alameda County Health Department
Hazardous Materials Department
80 Swan Way, Room 200
Oakland, California 94621

VIA:
- [x] First Class Mail
- [ ] Fax ___ pages
- [ ] UPS (Surface)
- [ ] Federal Express
- [ ] Courier

SUBJECT: CALWATER reports for Shell Oil Company. **JOB:** 81-463-02

AS:
- [ ] We discussed on the telephone on _____
- [ ] You requested _____
- [ ] We believe you may be interested
- [x] Is required

WE ARE SENDING:
- [x] Enclosed
- [ ] Under Separate Cover Via _____

Copies of 4th quarter CALWATER reports that were sent to the RWQCB for Shell sites in your jurisdiction.

FOR:
- [x] Your information
- [ ] Your use
- [ ] Your review & comments
- [ ] Return to you

PLEASE:
- [x] Keep this material
- [ ] Return within 2
- [ ] Acknowledge receipt

cc: Kurt Miller
Shell Oil Company
P.O. Box 4023
Concord, CA 94524

D:\ALL\TRANS\169T4MA1.WP

SHELL OIL CORPORATION

QUARTERLY REPORT TO

THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

Date of Report: December 17, 1991

Service Station WIC Number:	20460010109
Site Address (Number, Street):	29 Wildwood
City:	Piedmont
County:	Alameda

Actions in the past three months:

Collected 4th quarter ground water samples and submitted 4th quarter status report.

Actions planned for next three months:

Continue quarterly ground water monitoring.

Soil Contamination defined? Y\N	N
Soil Clean-up in progress? Y\N	N
Free-product plume defined? Y\N	NA
Free-product cleanup in progress? Y\N	NA
Dissolved constituent plume defined? Y\N	Y
Dissolved constituent cleanup in progress? Y\N	N

Contractor: Weiss Associates, Emeryville, California.

Weiss Associates Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: 510-547-5420

STID 1107
94610

TRANSMITTAL LETTER

FROM: Dave Elias **DATE:** December 16, 1991

TO: Paul Smith
Alameda County Department
of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621-1426

VIA:
- X First Class Mail
- ___ Fax ___ pages
- ___ UPS (Surface)
- ___ Federal Express
- ___ Courier

SUBJECT: Shell Service Station, WIC #204-6001-0109
29 Wildwood Avenue, Piedmont, California

JOB: 81-463-01

AS:
- ___ We discussed on the telephone today
- ___ You requested _____
- ___ We believe you may be interested
- X Is required

WE ARE SENDING:
- X Enclosed
- ___ Under Separate Cover Via _____

Quarterly ground water monitoring report for the subject site

FOR:
- ___ Your information
- X Your use
- ___ Your review & comments
- ___ Return to you

PLEASE:
- X Keep this material
- ___ Return within 2 weeks
- ___ Acknowledge receipt

MESSAGE: Please call if you have any questions.

1/16/92
Tel con w/
David Elias
wants to reduce frequency
of monitoring wells
1, 2, 3 + 4
I requested that perhaps
a synopsis of the site
history addressing whether
source material for
GW contam has been
removed or adequately
addressed be performed
and also a
proposal for activity
regarding
30 ppb benzene
MW-3.

PS.

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

December 11, 1991

Mr. Paul Smith
Alameda County Department
of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621-1426

Re: Shell Service Station
WIC #204-6001-0109
29 Wildwood Avenue
Piedmont, California
WA Job #81-463-01

Dear Mr. Smith:

This letter describes Weiss Associates' (WA) fourth quarter 1991 activities at the Shell service station referenced above (Figure 1). This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 265.d. Included below are:

- Descriptions and results of activities performed to date in the fourth quarter 1991, and
- Proposed work for the first quarter 1992.

Proposed ground water sampling frequency modifications, which are on hold pending approval of the Alameda County Department of Environmental Health, are presented in Table 1.

FOURTH QUARTER 1991 ACTIVITIES

During this quarter, WA:

- Collected ground water samples from all six site wells,
- Measured ground water depths, determined ground water elevations and flow direction, and

- Analyzed the ground water samples and tabulated the analytic results.

These activities are described below.

Ground Water Sampling

On October 29, 1991, WA collected ground water samples from monitoring wells MW-1 through MW-5 and E-4 (Figure 2) as part of the quarterly ground water monitoring program at Shell Service Station WIC #204-6001-0109 in Piedmont, California. Hydrocarbons were only detected in the water samples from well MW-3, which contained 1.0 part per million (ppm) total petroleum hydrocarbons as gasoline (TPH-G) and 0.035 ppm benzene.

Sampling Personnel: WA Environmental Technician Bruce Beale

Method of Purging Wells:

- Steam-cleaned PVC bailer - Well E-4
- Dedicated PVC bailers - Well MW-1 through MW-5

Volume of Water Purged Prior to Sampling:

- Wells MW-1, MW-4 and MW-5 were purged of four well-casing volumes, about 22 to 33 gallons each.
- Wells MW-1, MW-2, MW-3 and E-4 were purged dry; water level was allowed to recover for at least two hours prior to sampling.

Method of Collecting Ground Water Samples:

- Decanted from steam-cleaned Teflon bailer - Well E-4
- Drawn through sampling ports on the sides of dedicated PVC bailers - Wells MW-1 through MW-5

Methods of Containing Ground Water Samples:

- 40 ml glass volatile organic analysis (VOA) vials, preserved with hydrochloric acid and packed in protective foam sleeves

All samples were refrigerated and transported under chain-of-custody to the analytical laboratory.

Water Samples Transported to:

- National Environmental Testing (NET) Pacific Inc., Santa Rosa, California, and were received on October 31, 1991

Quality Assurance / Quality Control:

- A travel blank was submitted for analysis.

Water sample collection records and chain-of-custody forms are included in Attachments A and B, respectively.

Ground Water Elevations and Flow Direction

- Water depths were measured in all wells on October 29, 1991. Although ground water elevations decreased by 0.04 ft in well MW-2, ground water elevations in the other wells increased by 0.18 to 0.64 ft since the previous quarter.
- Ground water flows west to south-southwest which is consistent with the ground water flow pattern over the past year (Figure 3).
- The potentiometric surface of flowing artesian well E-4 was greater than 4.5 ft above the top-of-casing in July 1989 and was higher than ground surface during this quarter. This well screens a deeper water-bearing zone than wells MW-1 through MW-5.

Water depth measurements and ground water elevations are presented in Table 1. Ground water elevation contours are plotted on Figure 2.

Chemical Analyses

The Ground Water Samples were Analyzed for:

- TPH-G by modified EPA Method 8015, and
- Benzene, ethylbenzene, toluene and xylenes (BETX) by EPA Method 8020.

The laboratory analyzed the samples on November 7, 1991. The results are presented in Table 2 and the analytic reports are included in Attachment B.

Discussion of Analytic Results of Ground Water for this Quarter:

- TPH-G of 1.0 ppm and benzenes at 0.035 ppm were detected in a water sample from MW-3. The maximum contaminant level (MCL) for benzene is 0.001 ppm.
- No hydrocarbons were detected in water samples from wells MW-1, MW-2, MW-4, MW-5 and E-4.
- No TPH-G were detected in samples from well MW-5 for the first time in six quarters.

ANTICIPATED WORK FOR FIRST QUARTER 1992.

During the first quarter 1992, on behalf of Shell Oil, WA plans to:

- Continue quarterly monitoring of ground water at this site, and
- Prepare a quarterly status report presenting all data generated during the previous quarter including water sampling results and analysis.

Please call if you have any questions.

Sincerely,
Weiss Associates

David C. Elias
Staff Geologist

Joseph P. Theisen, C.E.G.
Senior Project Hydrogeologist

DCE/JPT:fcr

E:\ALL\SHELL\450\463QMDE1.WP

Attachments: Figures
Tables
A - Water Sample Collection Records
B - Analytic Report and Chain-of-Custody Form

cc: Kurt Miller, Shell Oil Company, P.O. Box 4023, Concord, California 94524
Lester Feldman, Regional Water Quality Control Board - San Francisco Bay Region, 2101 Webster Street, Oakland, California 94612

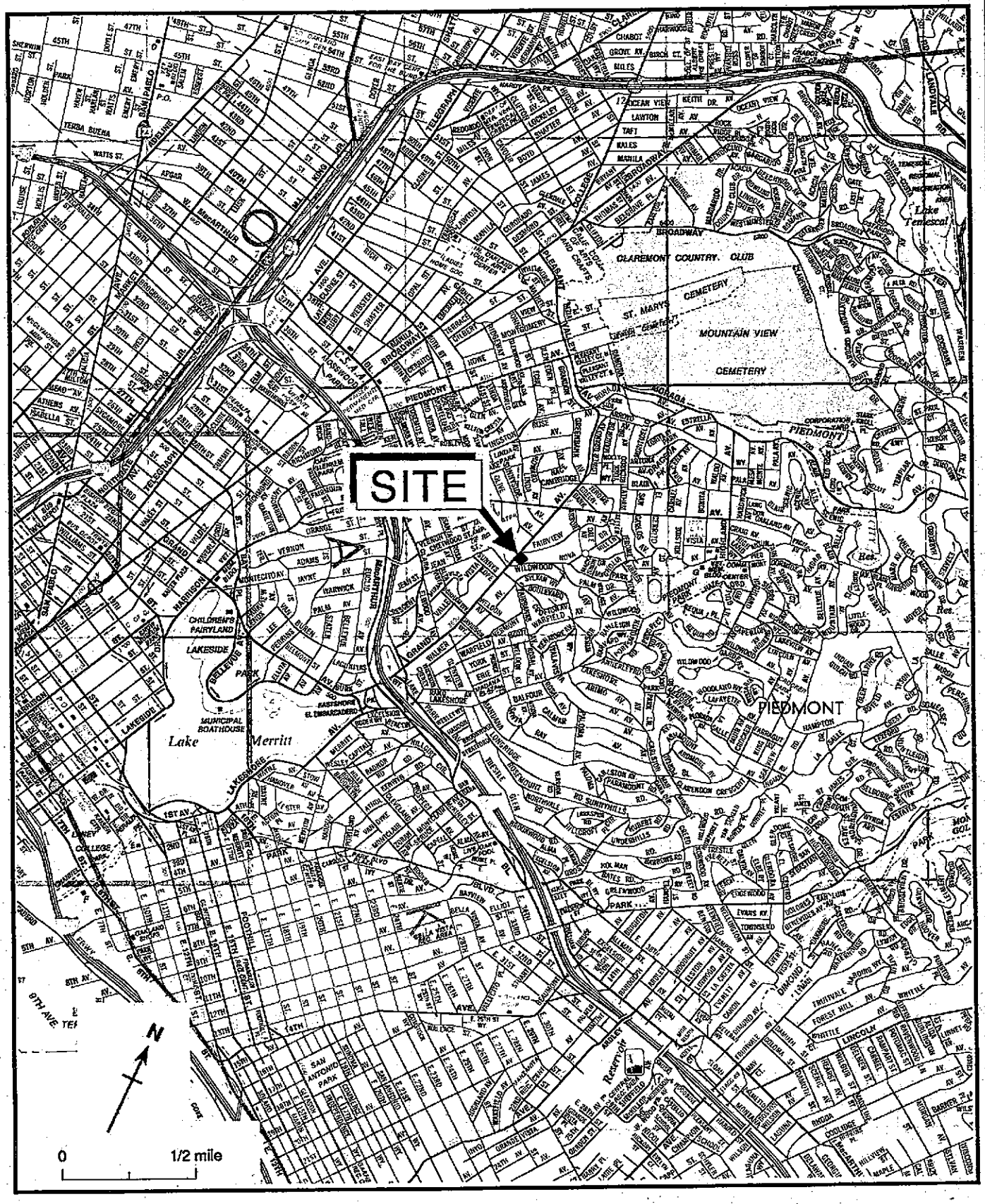

Figure 1. Site Location Map - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California

6/6/90

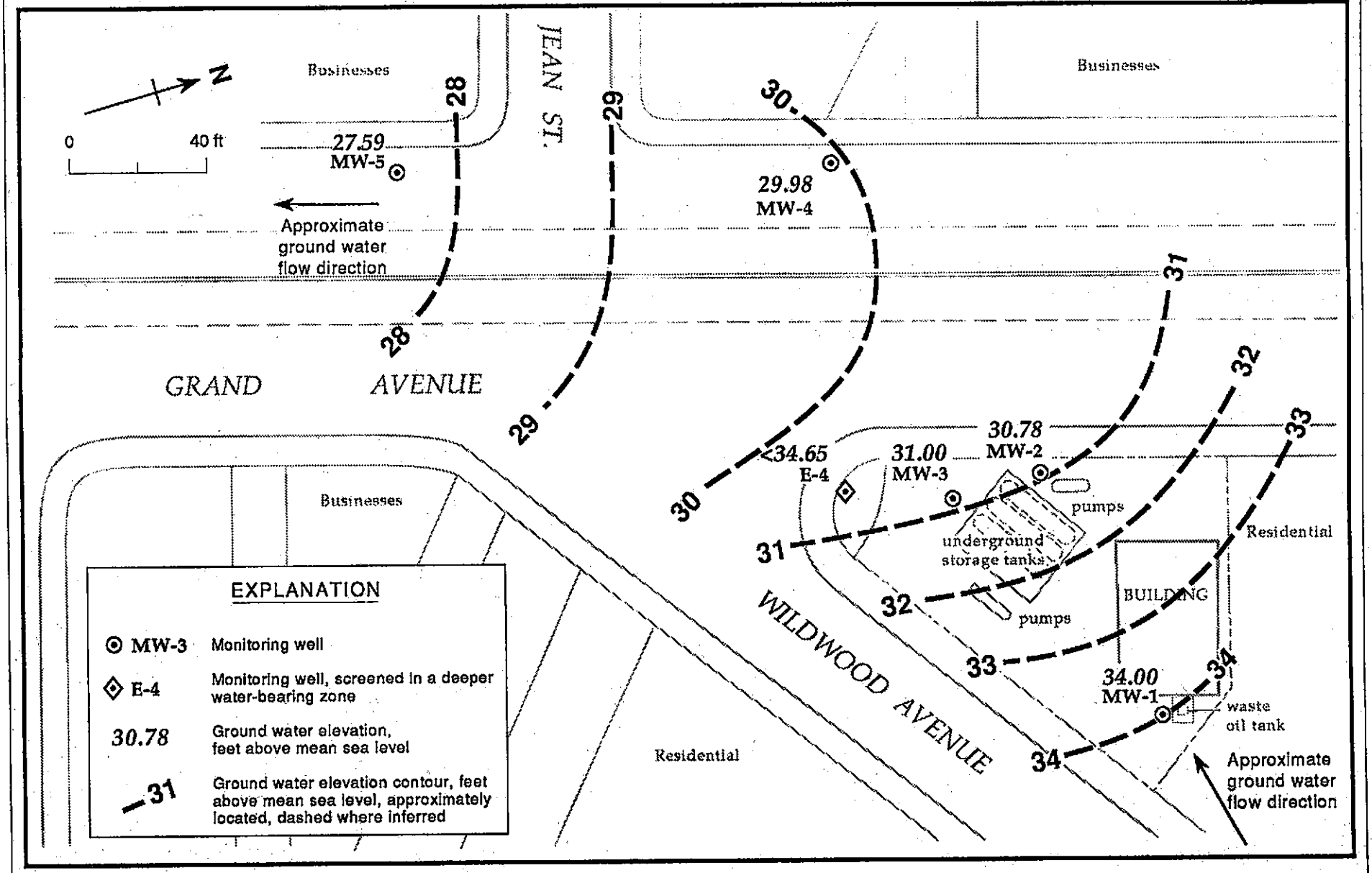

Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - October 29, 1991 - Shell Service Station, WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California

12/16/91

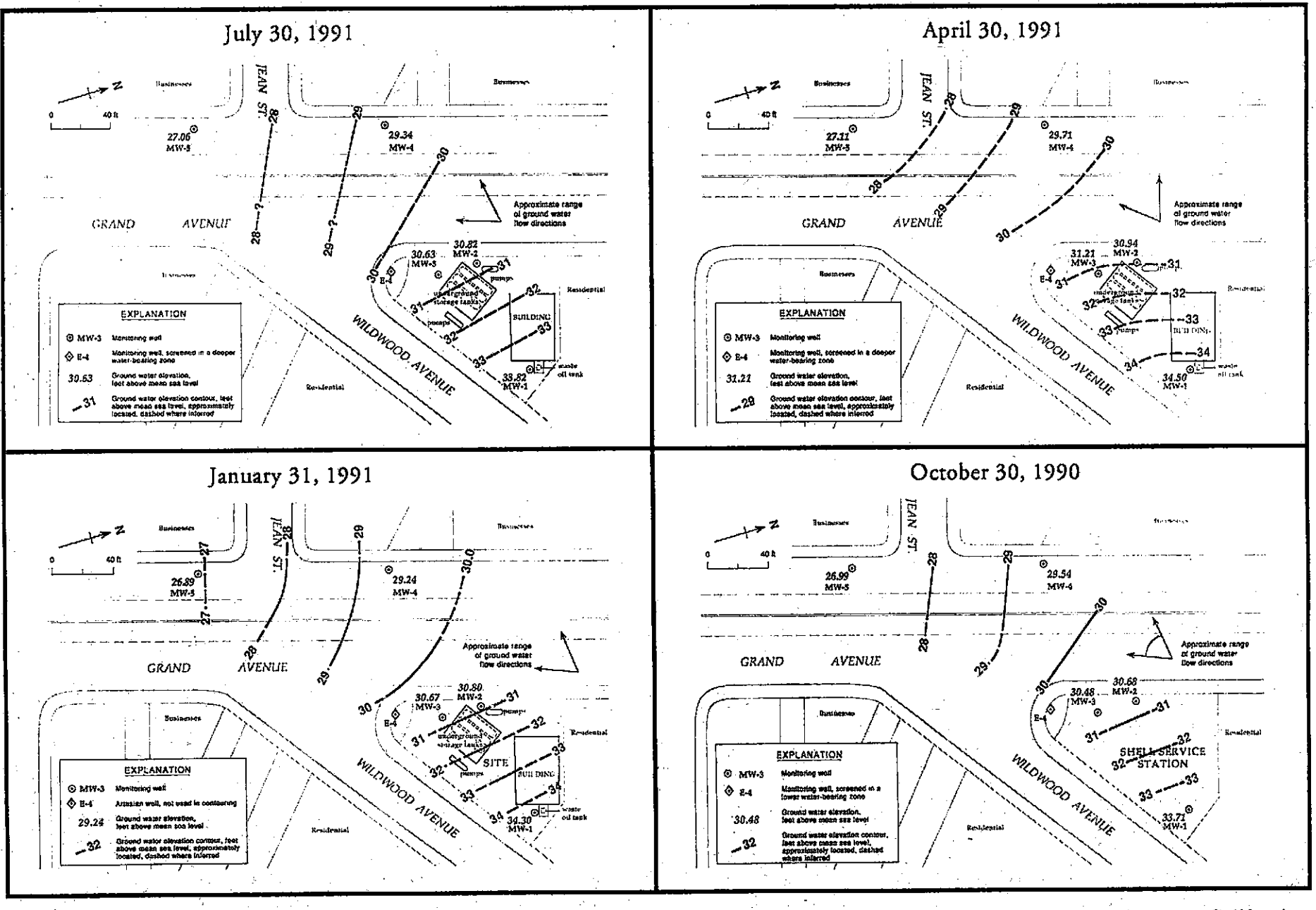

Figure 3. Previous Ground Water Elevation Contour Maps - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California

11/22/91

TABLE 1. Proposed Modifications to Ground Water Sampling Frequency, Shell Service Station, WIC# 204-6001-0109, 29 Wildwood Avenue, Piedmont, California

Well ID	Current Sampling Frequency	Recommended Sampling Frequency	Rationale for Recommended Sampling Frequency
MW-1	Quarterly	Annually	Virtually no hydrocarbons detected for nine consecutive quarters; up-gradient well
MW-2	Quarterly	Semi-Annually	Stable hydrocarbon concentrations for nine consecutive quarters; source area well
MW-3	Quarterly	Semi-Annually	Stable hydrocarbon concentrations for nine consecutive quarters; source area well
MW-4	Quarterly	Quarterly	Down-gradient monitoring well
MW-5	Quarterly	Quarterly	Down-gradient monitoring well
E-4	Quarterly	Semi-Annually	No petroleum hydrocarbons detected for nine consecutive quarters; down-gradient well screened in a deeper water-bearing zone

TABLE 2. Ground Water Elevations, Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground water Elevation (ft above msl)
MW-1	07/12/89	37.96	2.76	35.20
	01/30/90		3.10	34.86
	04/27/90		3.24	34.72
	07/31/90		4.26	33.70
	10/30/90		4.25	33.71
	01/31/91		3.66	34.30
	04/30/91		3.46	34.50
	07/30/91		4.14	33.82
	10/29/91		3.96	34.00
MW-2	07/12/89	34.89	3.66	31.23
	01/30/90		3.49	31.40
	04/27/90		3.79	31.10
	07/31/90		4.03	30.86
	10/30/90		4.21	30.68
	01/31/91		4.09	30.80
	04/30/91		3.95	30.94
	07/30/91		4.07	30.82
	10/29/91		4.11	30.78
MW-3	07/12/89	35.00	3.83	31.17
	01/30/90		3.24	31.76
	04/27/90		4.02	30.98
	07/31/90		4.31	30.69
	10/30/90		4.52	30.48
	01/31/91		4.33	30.67
	04/30/91		3.79	31.21
	07/30/91		4.37	30.63
	10/29/91		4.00	31.00
MW-4	01/30/90	33.73	4.50	29.23
	04/27/90		3.62	30.11
	07/31/90		4.19	29.54
	10/30/90		4.19	29.54
	01/31/91		4.49	29.24
	04/30/91		4.02	29.71
	07/30/91		4.39	29.34
	10/29/91		3.75	29.98
MW-5	01/30/90	31.38	7.12	24.26
	04/27/90		4.19	27.19
	07/31/90		4.09	27.29
	10/30/90		4.39	26.99
	01/31/91		4.49	26.89
	04/30/91		4.27	27.11
	07/30/91		4.32	27.06
	10/29/91		3.79	27.59

— Table 2 continues on next page —

TABLE 2. Ground Water Elevations, Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground water Elevation (ft above msl)
E-4	07/12/89	34.63	a	>39.13
	01/30/90		b	>34.63
	04/27/90		b	>34.63
	07/31/90		b	>34.63
	10/30/90		b	>34.63
	01/31/91		b	>34.63
	04/30/91		b	>34.63
	07/30/91		b	>34.63
	10/29/91		b	>34.63

a = Well E-4 is a flowing artesian well. The potentiometric surface was greater than 4.5 ft above ground surface.

b = Well E-4 potentiometric surface was higher than the top of well casing.

TABLE 3. Analytic Results for Ground Water, Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X	HVOCs
			<----------parts per million (mg/L)---------->					
MW-1	07/12/89[a]	2.76	<0.05	<0.0005	<0.001	<0.001	<0.003	b
	01/30/90	3.10	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/27/90	3.24	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/31/90	4.26	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/30/90	4.25	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/31/91	3.66	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/30/91	3.46	<0.05	0.0008	0.0006	<0.0005	0.0012	---
	07/30/91	4.14	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/29/91	**3.96**	**<0.05**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	---
MW-2	07/12/89[a]	3.66	0.060	0.0027	<0.001	<0.001	<0.003	b
	01/30/90	3.49	<0.05	0.0066	0.00054	<0.0005	0.00093	---
	04/27/90	3.79	0.060	0.0021	<0.0005	<0.0005	<0.0005	---
	07/31/90	4.03	0.070	0.0015	<0.0005	<0.0005	<0.0005	---
	10/30/90	4.21	0.070	<0.0005	<0.0005	0.0007	0.0016	---
	01/31/91	4.09	0.080	<0.0005	0.0009	<0.0005	0.0019	---
	04/30/91	3.95	0.10	0.0059	0.0007	0.0006	0.0020	---
	07/30/91	4.07	<0.05	<0.0005	<0.0005	<0.0007	<0.0005	---
	10/29/91	**4.11**	**<0.05**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	---
MW-3	07/12/89[a]	3.83	3.9	0.38	0.099	0.041	0.030	c
	01/30/90	3.24	5.5	0.44	0.079	0.035	0.13	---
	04/27/90	4.02	4.5	0.31	0.037	0.026	0.11	---
	07/31/90	4.31	3.5	0.21	0.0084	0.017	0.062	---
	10/30/90	4.52	2.3	0.061	<0.0005	<0.0005	0.028	---
	01/31/91	4.33	4.1	0.30	0.019	0.020	0.081	---
	04/30/91	3.79	3.8	0.370	0.0086	0.019	0.060	---
	07/30/91	4.37	3.3	0.160	0.015	0.013	0.087	---
	10/29/91	**4.00**	**1.0**	**0.035**	**0.0029**	**0.0028**	**0.0081**	---
MW-4	01/31/90	4.50	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/27/90	3.62	0.13[d]	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/31/90	4.19	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/30/90	4.19	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/31/91	4.49	0.05[d]	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/30/91	4.02	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	e
	07/30/91	4.39	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/29/91	**3.75**	**<0.05**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	---
MW-5	01/31/90	7.12	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/27/90	4.19	0.21[d]	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/31/90	4.09	0.090	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/30/90	4.39	0.10	0.0008	0.0006	0.0007	0.0014	---
	01/31/91	4.49	0.080[d]	<0.0005	<0.0005	<0.0005	<0.0005	---

--Table 3 continues on next page --

TABLE 3. Analytic Results for Ground Water, Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	B	E	T	X	HVOCs
			<----------parts per million (mg/L)---------->					
	04/30/91	4.27	0.09	<0.0005	<0.0005	<0.0005	<0.0005	f
	07/30/91	4.37	0.09	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/29/91	**3.79**	**<0.05**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	---
E-4	07/12/89[a]	g	<0.05	<0.0005	<0.001	<0.001	<0.003	---
	01/31/90	g	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/27/90	g	0.12[d]	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/31/90	g	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/30/90	g	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/31/91	g	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/30/91	g	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	b
	07/30/91	g	<0.05	<0.0005	<0.0005	0.0006	<0.0005	---
	10/29/91	**g**	**<0.05**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	---
Trip Blank	07/12/89[a]		<0.05	<0.0005	<0.001	<0.001	<0.003	---
	01/31/90		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/27/90		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/31/90		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/30/90		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/31/91		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/30/91		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/30/91		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/29/91		**<0.05**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	---
Bailer Blank	04/27/90		0.11[d]	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/31/91		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	---
DHS MCLs			NE	0.001	0.680	0.10[h]	1.750	i

-- Table 3 continues on next page --

TABLE 3. Analytic Results for Ground Water, Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California (continued)

Abbreviations:

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Modified EPA Method 8015
B = Benzene by EPA 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
HVOCs = Halogenated volatile organic compounds by EPA Method 601 or 624
--- = Not analyzed
NE = Not established
DHS MCLs = California Department of Health Services maximum contaminant levels for drinking water
<n = Not detected above detection limit of n ppm

Notes:

a = Analyzed by International Technology Analytical Services, Inc., San Jose, California.
b = No HVOCs detected.
c = BETX detected at 0.41, 0.097, 0.036 and 0.30 ppm, respectively, by EPA Method 624.
d = Non-gasoline peak reported as TPH-G by Modified EPA Method 8015.
e = 0.015 ppm tetrachloroethene (PCE), 0.0041 ppm trichlorethene (TCE) and 0.0034 ppm trans-1,2-dichlorethene (DCE) detected
f = 0.220 ppm PCE, 0.022 ppm TCVE and 0.017 ppm DCE detected
g = Artesian well; potentiometric surface above top-of-casing elevation.
h = DHS recommended action level for drinking water; MCL not established.
i = DHS MCLs for PCE = 0.005 ppm; TCE = 0.005 ppm; DCE = 0.01 ppm.

Analytical Laboratory:

National Environmental Testing Pacific, Inc., Santa Rosa, California

ATTACHMENT A

WATER SAMPLE COLLECTION RECORDS

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name MW-1 Date 10/29/91 Time of Sampling 1252

Job Name Shell Piedmont Job Number 81-463-01 Initials EC

Sample Point Description M (M = Monitoring Well)

Location NW Corner of Station

WELL DATA: Depth to Water 5.96 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth — ft (spec) Well Depth 13.21 ft(sounded) Well Diameter 4 in

Initial Height of Water in Casing 9.25 ft. = volume 6.04 gal.

4 Casing Volumes to be Evacuated. Total to be evacuated 24.16 gal.

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

Bailer# and type 4" x 3' PVC Dedicated YES (Y/N)

Other —

Evacuation Time: Stop 1115 1251 ____

Start 1104 1245 ____

Total Evacation Time 11 17

Total Evacuated Prior to Sampling 17 cc 25 gal.

Evacuation Rate 1.47 1.55 cc gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 4.77 ft. 1255 time

Evacuated Dry? YES After 17 gal. Time 1115

80% Recovery = 5.81 OTW

% Recovery at Sample Time 100% Time 1255 cc 1245

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

9.25(E)
7.4
Δ 1.85 = 2

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 CLEAR Odor NONE

Description of matter in sample: NONE

Sampling Method: FROM SAMPLE PORT OR DED BAILER

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
3	101-01	V/cv	40ml	No	yes	None	EPA 601/602	N	KET

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 MW-2 Date 10/29/91 Time of Sampling 1201

Job Name Shell Piedmont Job Number 81-463-01 Initials CC

Sample Point Description M (M = Monitoring Well)

Location Western Corner of Station

WELL DATA: Depth to Water 4.11 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth — ft (spec) Well Depth 11.53 ft(sounded) Well Diameter 4 in

Initial Height of Water in Casing 7.42 ft. = volume 4.85 gal.

4 Casing Volumes to be Evacuated. Total to be evacuated 19.40 gal.

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

Bailer# and type 4"x3' PVC Dedicated YES (Y/N)

Other —

Evacuation Time: Stop 959

Start 952

Total Evacation Time 7

Total Evacuated Prior to Sampling 8 gal.

Evacuation Rate 1.14 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 5.67 ft. 1203 time

Evacuated Dry? YES After 8 gal. Time 959

80% Recovery = —

% Recovery at Sample Time 0.79 Time 1203

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 SLIGHT NONE

Description of matter in sample: NONE

Sampling Method: FROM SAMPLE PORT ON BED BAILER

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
3	101-02	W/cv	40 ml	No	Yes	None	EPA 8015/602	N	NET

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 MW-3 Date 10/29/91 Time of Sampling 1216
Job Name Shell Piedmont Job Number 81-463-01 Initials CC
Sample Point Description M (M = Monitoring Well)
Location IN WESTERN CORNER OF STATION

WELL DATA: Depth to Water 4.00 ft (static, pumping) Depth to Product — ft.
Product Thickness — Well Depth — ft (spec) Well Depth 9.12 ft(sounded) Well Diameter 4 in
Initial Height of Water in Casing 5.12 ft. = volume 3.34 gal.
4 Casing Volumes to be Evacuated. Total to be evacuated 13.37 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —
Bailer# and type 4"x5' PVC Dedicated Yes (Y/N)
Other —

Evacuation Time: Stop 1014
Start 1009
Total Evacation Time 5
Total Evacuated Prior to Sampling 7 gal.
Evacuation Rate 1.4 gal. per minute

Depth to Water during Evacuation — ft. — time
Depth to Water at Sampling 4.33 ft. 1217 time
Evacuated Dry? Yes After 7 gal. Time 1014
80% Recovery = —
% Recovery at Sample Time 2.94 Time 1217

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 MODERATE
Description of matter in sample: NONE
Sampling Method: FROM SAMPLE PORT ON DED BAILER
Sample Port: Rate — gpm Totalizer — gal.
Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
3	101-03	W/cv	40ml	No	Yes	None	EPA 8015/602	N	NET

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 MW-4 Date 10/29/91 Time of Sampling 13:27

Job Name Shell Piedmont Job Number 81-463-01 Initials BDB

Sample Point Description M (M = Monitoring Well)

Location On Grand Ave. across street from Site

WELL DATA: Depth to Water 3.75 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth — ft (spec) Well Depth 12.16 ft(sounded) Well Diameter 4 in

Initial Height of Water in Casing 8.41 ft. = volume 5.5 gal.

4 Casing Volumes to be Evacuated. Total to be evacuated 22.0 gal.

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

Bailer# and type 4"x 5' PVC Dedicated YES (Y/N)

Other —

Evacuation Time: Stop 11:24 12:46 13:26

Start 11:12 12:40 ~~13:20~~ 13:20 BDB 10/29

Total Evacation Time 24.0 min.

Total Evacuated Prior to Sampling 22.0 gal.

Evacuation Rate 0.92 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 10.45 ft. 13:27 time

Evacuated Dry? Yes After 7.5 gal. Time 11:24

80% Recovery = 6.72

% Recovery at Sample Time 90% Time 13:27

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 Tan Odor None

Description of matter in sample: Silty Suspended Sediment

Sampling Method: BDB 10/29 Sample Taken from port on dedicated PVC bailer

Sample Port: Rate — gpm Totalizer N/R gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
3	101-04	w/cv	40ml	No	yes	None	EPA 8015/602	N	NET

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 MW-5 Date 10/29/91 Time of Sampling 12:10

Job Name Shell Piedmont Job Number 81-463-01 Initials BDB

Sample Point Description M (M = Monitoring Well)

Location On Grand Ave. across street from Site

WELL DATA: Depth to Water 3.79 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth — ft (spec) Well Depth 16.04 ft(sounded) Well Diameter 4 in

Initial Height of Water in Casing 12.30 ft. = volume 8.03 gal.

4 Casing Volumes to be Evacuated. Total to be evacuated 32.12 gal.

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

Bailer# and type 4"x8" PVC Dedicated YES (Y/N)

Other —

Evacuation Time: Stop 12:07 — —

Start 11:40 — —

Total Evacation Time 47 min

Total Evacuated Prior to Sampling 33.0 gal.

Evacuation Rate 0.70 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 5.15 ft. 12:10 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 Tan Odor None

Description of matter in sample: Silty suspended sediment

Sampling Method: Bailer Sample Taken from a port on a dedicated PVC bailer

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
3	101-05	W/CV	40 ml	No	Yes	None	EPA 8015/8020	N	NET

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 E4 Date 10/29/91 Time of Sampling 1344

Job Name Shell Pleasant Job Number 81-463-01 Initials CC

Sample Point Description M (M = Monitoring Well)

Location SOUTHERN CORNER OF STATION NEAR ST. SIGN

WELL DATA: Depth to Water 0.00 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth — ft (spec) Well Depth 34.32 ft(sounded) Well Diameter 3 in

Initial Height of Water in Casing 34.32 ft. = volume 50.38 gal. 12.5

4 Casing Volumes to be Evacuated. Total to be evacuated 50.38 gal.

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

Bailer# and type 3"x4' PVC Dedicated NO (Y/N)

Other WEISS #CB

Evacuation Time: Stop 1047 _____ _____

Start 1024 _____ _____

Total Evacation Time 23

Total Evacuated Prior to Sampling 20 gal.

Evacuation Rate 0.87 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 16.37 ft. 1346 time

Evacuated Dry? YES After 20 gal. Time 1047

80% Recovery = 27.46 or 6.86 OTW

% Recovery at Sample Time 0.52 Time 1346

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: TEFLON BAILER, WEISS #CB 2"x3'

Sample Port: Rate — gpm Totalizer — gal.

Time —

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
3	101-E4	W/cv	40ml	No	Yes	None	EPA 8015/8020	1	NET

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 Blank Date 10/29/91 Time of Sampling 1130

Job Name Shell Piedmont Job Number 81-463-61 Initials CC

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: WITH 2"x3" TEFLON WEISS II RJ ARGONAUT Coated WM

Sample Port: Rate - gpm Totalizer - gal. MIC EXP 10/05/93 1A 87:14

Time -

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
3	101-22	V/C	40ml	N	Y	NONE	EPA 8015/8020	5	NET

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:

* Distilled water : MIL EXP 10/03/93
1A 07:14

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name Trip blanks Date 10/29/91 Time of Sampling 0800

Job Name Shell Piedmont Job Number 81-463-01 Initials JDB

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: Poured from Newly opened bottle of Distilled water

Sample Port: Rate ____ gpm Totalizer _____ gal.

Time _____

# of Cont.	Sample ID	Cont. Type[1]	Vol[2]	Fil[3]	Ref[4]	Preservative (specify)	Analytic Method	Turn[5]	LAB
3	101-21	w/cv	40ml	No	Yes	None	EPA 8015/602	N	NET

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 FORM

NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Scott McCloud
Weiss Associates
5500 Shellmound St.
Emeryville, CA 94608

Date: 11/13/1991
NET Client Acct. No: 35760
NET Pacific Log No: 91.0352
Received: 10/31/1991

Client Reference Information

SHELL, 29 Wildwood Ave., Piedmont

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

Enclosure(s)

Ref: SHELL, 29 Wildwood Ave., Piedmont

SAMPLE DESCRIPTION: 101-01
Date Taken: 10/29/1991
Time Taken:
LAB Job No: (-103567)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)				
METHOD 5030 (GC,FID)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
as Gasoline		0.05	ND	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
Benzene		0.5	ND	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	ND	ug/L
Xylenes (Total)		0.5	ND	ug/L

Ref: SHELL, 29 Wildwood Ave., Piedmont

SAMPLE DESCRIPTION: 101-02
Date Taken: 10/29/1991
Time Taken:
LAB Job No: (-103568)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)				
METHOD 5030 (GC,FID)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
as Gasoline		0.05	ND	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
Benzene		0.5	ND	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	ND	ug/L
Xylenes (Total)		0.5	ND	ug/L

Ref: SHELL, 29 Wildwood Ave., Piedmont

SAMPLE DESCRIPTION: 101-03
Date Taken: 10/29/1991
Time Taken:
LAB Job No: (-103569)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)				
METHOD 5030 (GC,FID)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			5	
as Gasoline		0.05	1.0	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
Benzene		0.5	35	ug/L
Ethylbenzene		0.5	2.9	ug/L
Toluene		0.5	2.8	ug/L
Xylenes (Total)		0.5	8.1	ug/L

NET Pacific, Inc

Client Acct: 35760
Client Name: Weiss Associates
NET Log No: 91.0352

Date: 11/13/1991
Page: 5

Ref: SHELL, 29 Wildwood Ave., Piedmont

SAMPLE DESCRIPTION: 101-04
Date Taken: 10/29/1991
Time Taken:
LAB Job No: (-103570)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)				
METHOD 5030 (GC,FID)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
as Gasoline		0.05	ND	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
Benzene		0.5	ND	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	ND	ug/L
Xylenes (Total)		0.5	ND	ug/L

Ref: SHELL, 29 Wildwood Ave., Piedmont

SAMPLE DESCRIPTION: 101-05
Date Taken: 10/29/1991
Time Taken:
LAB Job No: (-103571)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)				
METHOD 5030 (GC,FID)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
as Gasoline		0.05	ND	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
Benzene		0.5	ND	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	ND	ug/L
Xylenes (Total)		0.5	ND	ug/L

Ref: SHELL, 29 Wildwood Ave., Piedmont

SAMPLE DESCRIPTION: 101-E4
Date Taken: 10/29/1991
Time Taken:
LAB Job No: (-103572)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)				
METHOD 5030 (GC,FID)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
as Gasoline		0.05	ND	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
Benzene		0.5	ND	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	ND	ug/L
Xylenes (Total)		0.5	ND	ug/L

Ref: SHELL, 29 Wildwood Ave., Piedmont

SAMPLE DESCRIPTION: 101-21
Date Taken: 10/29/1991
Time Taken:
LAB Job No: (-103573)

Parameter	Method	Reporting Limit	Results	Units
TPH (Gas/BTXE,Liquid)				
METHOD 5030 (GC,FID)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
as Gasoline		0.05	ND	mg/L
METHOD 8020 (GC,Liquid)			--	
DATE ANALYZED			11-07-91	
DILUTION FACTOR*			1	
Benzene		0.5	ND	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	ND	ug/L
Xylenes (Total)		0.5	ND	ug/L

Ref: SHELL, 29 Wildwood Ave., Piedmont

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	0.05	mg/L	112	ND	112	101	10
Benzene	0.5	ug/L	112	ND	101	94	6.6
Toluene	0.5	ug/L	112	ND	104	99	4.5

NET Pacific, Inc

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

CHAIN OF CUSTODY RECORD

1847

Serial No.: _____

Date: 10-24-91
Page 1 of 1

LAB: NET

OIL COMPANY ENGINEERING - WEST
PIEDMONT CA

6001-0109

Phone No. 675-6114
510-
Fax #: 685-3943

T MILLER

Consultant Name & Address: ANALYZE 5500 SHELLMOUND
TPH-D ONLY IF TPH-G OR BETX ARE DETECTED IN ALL OTHER SAMPLES

Sampled By: CHRIS CHRISTENSEN / BRUCE BEALE

Printed Name: CHRIS CHRISTENSEN / BRUCE BEALE

Analysis Required

CHECK ONE (1) BOX ONLY

	CT/DT
Quarterly Monitoring	5461
Site Investigation	5441
Soil for disposal	5442
Water for disposal	5443
Air Sample- Sys O&M	5452
Other Sample - Sys O&M	5453
Other	

TURN AROUND TIME

- 24 hours ☐
- 48 hours ☐
- 15 days ☒ (Normal)
- Other ☐ _____

NOTE: Notify Lab as soon as possible of 24/48 hrs. TAT.

Sample ID	Date	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mo)	TPH (EPA 8015 Mo)	BTEX (EPA 8020/602)	Volatile Organics (EPA)	Test for Disposal	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
101-01	10-24-91		✓		3	✓	✓	✓			40ml	NONE	N	UST/WO/WATER	
101-02														UST/GAS/WATER	
101-03															
101-04															
101-05															
101-E4															
101-21															SEE COMMENT
101-22	↓		↓		↓	↓	↓	↓			↓	↓	↓	↓	HOLD

CUSTODY SEALED 10/30/91

Relinquished By (signature): C. Ch. Tenen	Printed name: CHRIS CHRISTENSEN	Date: 10-24-91 Time: 16:45	Received (signature): Ronald C. Jensen	Printed name: RONALD C. JENSEN	Date: 10/30/91 Time: 10:00
Relinquished By (signature): Ronald C. Jensen	Printed name: RONALD C. JENSEN	Date: 10/30/91 Time: 13:35	Received (signature): Mike Tavani	Printed name: MIKE TAVANI	Date: 10/30/91 Time: 1335
Relinquished By (signature): Mike Tavani	Printed name: MIKE TAVANI	Date: 10/30/91 Time:	Received (signature): Kelly Temple	Printed name: Kelly Temple	Date: 10/31/91 Time: 0820

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Last Revision Date: 10/15/91

RECEIVED FROM SECURE AREA

Quarterly Monitoring

SHELL OIL INVOICE COVER SHEET

CONSULTANT NAME:		
INVOICE DATE:	INVOICE NO:	BLANKET PO NO: MOH-

SHELL LOCATION ADDRESS: 1100 Howard Street
CITY: San Francisco STATE: CA ZIP: 94103
WIC: 204-6786-4201

GENERAL DESCRIPTION OF WORK	CLASS TYPE	% OF TOTAL	AMOUNT
ENVIRONMENTAL COMPLIANCE	5460		
SITE INVESTIGATION/ASSESSMENT	5441		
CONTAMINATED SOIL DISPOSAL	5442		
CONTAMINATED WATER DISPOSAL	5443		
CONTAMINATED SOIL REMEDIATION	5452		
CONTAMINATED WATER REMEDIATION	5453		
SITE MONITORING ONLY	5461		
CAR WASH SLUDGE DISPOSAL	5411		
TANK WATER BOTTOMS	5406		
OTHER:			
OTHER:			
CAPITAL ADC:205620 AFE NO.			
	TOTAL PAY THIS AMOUNT:	100%	

SUB-ACCOUNT CODING	(circle one)
DISPOSABLE PROPERTY	1140
HOLDING PROPERTY	1150
RELINQUISMENT	1180
SALARY OPERATION	2030
LEASE OPERATION	3050
OPEN DEALER	4050
DEALER LEASE OPER.	5050

CONSULTANT APPROVAL
SIGNATURE:
DATE:

SHELL APPROVAL
SIGNATURE:
DATE: