Weiss Associates Environmental and Geologic Services

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

92 SEP 28 AM 12:52

September 22, 1992

1107

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 #81-463-201

Dear Mr. Smith:

This letter describes recently completed and anticipated 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 in the third quarter 1992 and proposed work for the fourth quarter 1992.

Third Quarter 1992 Activities:

- EMCON Associates of San Jose, California measured ground water depths in five of the six wells and collected water samples from all six wells. Ground water depths were not taken from E-4 since it is a flowing artesian well. EMCON's report describing these activities and presenting analytic results for ground water are included as Attachment A.

- Weiss Associates (WA) used EMCON's ground water elevation calculations to prepare a ground water elevation contour map (Figure 2).

- WA re-evaluated whether installation of a ground water remediation system is warranted for this site. The results of this evaluation will be presented shortly.

Anticipated Fourth Quarter 1992 Activities:

WA will submit a report presenting the results of fourth quarter 1992 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results and a ground water elevation contour map.

Please call if you have any questions.

Sincerely,
Weiss Associates

J. Michael Asport
Technical Assistant

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

JMA/JPT:jma

E:\ALL\SHELL\450\463QMAU2.WP

Attachments: Figures
A - EMCON's Ground Water Monitoring Report

cc: Kurt Miller, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
Lester Feldman, Regional Water Quality Control Board - San Francisco Bay, 2101 Webster Street, Suite 500, Oakland, California 94612

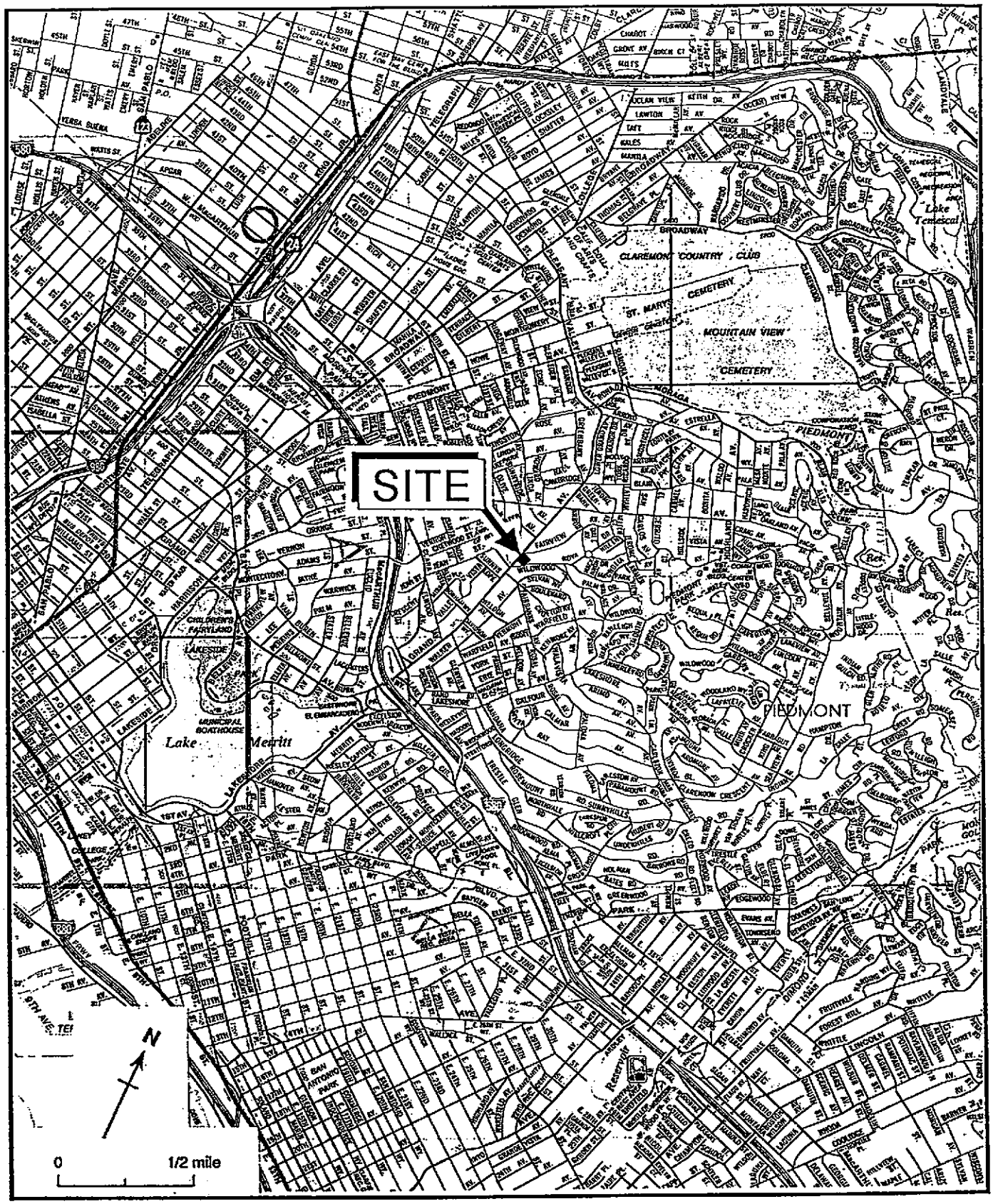

Figure 1. Site Location Map - Shell Service Station WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California

6/6/90

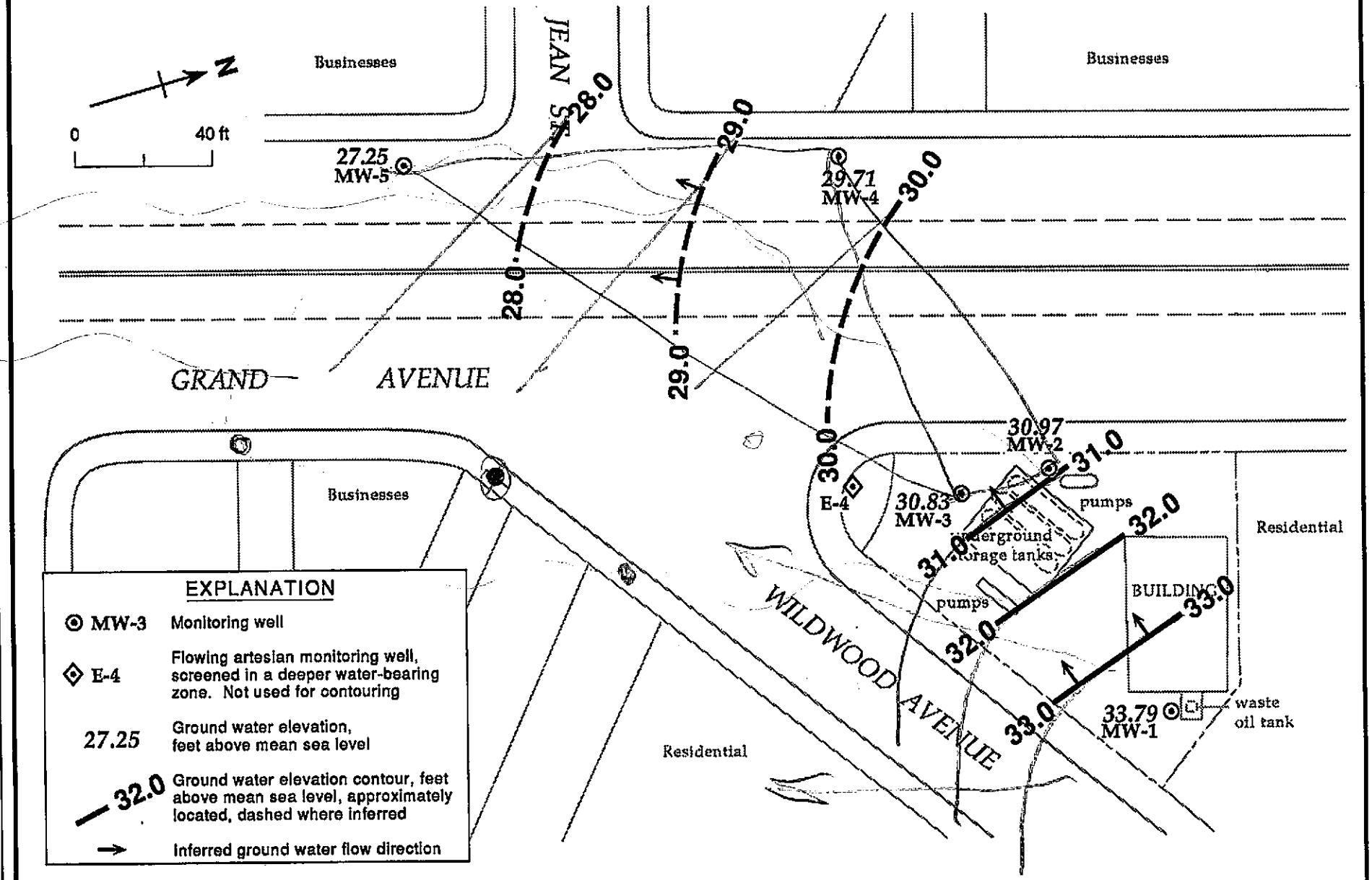

Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - July 21, 1992 - Shell Service Station, WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California

9/23/92

ATTACHMENT A

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

EMCON Associates
1433 North Market Boulevard • Sacramento, California 95834-1943 • (916) 928-3300 • Fax (916) 928-3341

September 3, 1992
Project G67-01.01

Mr. David Elias
Weiss Associates
5500 Shellmound Street
Emeryville, California 94608-2411

Dear Mr. Elias:

After reviewing our third quarter 1992 ground-water monitoring data we discovered that an error was reported in our second quarter 1992 monitoring report. The data indicates that on April 14, well designations for MW-1 and MW-2 were inadvertently reversed in the field. The error has been corrected in this quarter's Summary of Analytical Results, and Monitoring Well Field Measurement Data. We are sorry for any inconvienencce this may have caused.

Table 1

Table 2

If you have any questions, please call.

Very truly yours,

EMCON Associates

James R. Pittilla
Environmental Sampling Coordinator

Phillip R. Graham
Environmental Sampling Supervisor

JRP/PRG:jrp

EMCON Associates
1433 North Market Boulevard • Sacramento, California 95834-1943 • (916) 928-3300 • Fax (916) 928-3341

September 3, 1992
Project G67-01.01

Mr. David Elias
Weiss Associates
5500 Shellmound Street
Emeryville, California 94608-2411

Re: Third Quarter 1992 Ground-water Monitoring Report, 29 Wildwood Avenue, Piedmont, WIC# 204-6001-0109

Dear Mr. Elias:

This letter report presents the results of the third quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) service station at 29 Wildwood Avenue, Piedmont. Monitoring at this site is being conducted on a quarterly basis.

GROUND-WATER ELEVATION SURVEY

On July 21, 1992, static water levels were measured in all site wells before purging and sampling. Water levels were measured to 0.01 foot from the top of the well casing using an oil/water interface probe. A summary of the monitoring well field measurement data including water-level measurements and ground-water elevations from this quarter's event and four previous monitoring events is presented Table 1

SAMPLING AND ANALYSIS

Ground-water samples were collected on July 21, 1992 from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5 and E-4. A site map, including the monitoring well locations, is attached, as provided by Weiss Associates. Ground-water monitoring wells were purged before sampling using a polyvinyl chloride bailer, a centrifugal pump, a low-flow submersible pump, or a Teflon® bailer. Samples were collected using a Teflon bailer. The procedures used to purge and sample ground-water monitoring wells were detailed in our November 14, 1991 Proposal to Conduct Ground-water Monitoring for Shell Oil Company, and were included in our first quarter 1992 report. Wells MW-2, MW-3, MW-4, and E-4 were evacuated to dryness after the removal of fewer than three casing volumes. These wells were allowed to recharge for up to 24 hours. Samples were collected as soon as the wells had recharged to a level sufficient for sample collection.

Quality Control samples for third quarter 1992 monitoring included a trip blank, field blank and a duplicate well sample. The duplicate sample was collected from monitoring well MW-3.

Samples were cooled with ice packs and delivered, under chain-of-custody control, to Sequoia Analytical laboratory for analysis.

ANALYTICAL RESULTS

Samples were analyzed for low to medium boiling point hydrocarbons, benzene, toluene, total xylenes and ethylbenzene. Analytical results this quarter's event and four previous monitoring events are summarized in Table 2. Certified analytical reports and chain-of-custody records for this quarter's event are included as attachments to this letter.

If you have any questions, please call.

Very truly yours,

EMCON Associates

James R. Pittilla
Environmental Sampling Coordinator

Phillip R. Graham
Environmental Sampling Supervisor

JRP/PRG:jrp

Attachments: Table 1 Monitoring Well Field Measurement Data
Table 2 Summary of Analytical Results
Site Map, Certified Analytical Reports and
Chain-of-Custody Records,Water Level;
Floating Product Survey,
Water Sample Field Data Sheets.

cc. Dan Kirk, Shell Oil Company

SamplingDoc.G67-01.01

TABLE 1
MONITORING WELL FIELD MEASUREMENT DATA
SHELL OIL COMPANY
29 Wildwood Avenue, Piedmont, California

Well Designation	Water Level Measurement Date	Top of Casing Elevation (ft/MSL)	Depth to Ground-water (ft)	Ground-water Elevation (ft/MSL)	Floating Product Thickness (ft/MSL)	Total Depth (ft)	Sampling Date	pH (std. units)	Electrical Conductivity (µmhos/cm)	Temperature (degrees F)	Turbidity (NTU)
MW-1	7/30/91	37.96	4.14	33.82	--	--	--	--	--	--	--
	10/29/91		3.96	34.00	--	--	--	--	--	--	--
	1/20/92		3.59	34.37	--	13.1	01/20/92	6.86	931	61.2	60.3
	4/14/92		3.18	31.71	--	13.1	4/14/92	6.77	994	63.2	8.0
	7/21/92		4.17	33.79	--	13.1	07/21/92	7.19	1018	67.2	21.9
MW-2	7/30/91	34.89	4.07	30.82	--	--	--	--	--	--	--
	10/29/91		4.11	30.78	--	--	--	--	--	--	--
	1/20/92		3.86	31.03	--	11.5	1/20/92	6.87	678	63.6	7.8
	4/14/92		3.66	34.30	--	11.5	04/14/92	6.55	736	66.5	5.9
	7/21/92		3.92	30.97	--	11.5	7/21/92	6.98	676	72.3	5.0
MW-3	7/30/91	35.00	4.37	30.63	--	--	--	--	--	--	--
	10/29/91		4.00	31.00	--	--	--	--	--	--	--
	1/20/92		3.87	31.13	--	9.0	1/20/92	7.07	1007	58.6	>200
	4/14/92		3.15	31.85	--	9.1	4/14/92	6.98	847	66.0	17.5
	7/21/92		4.17	30.83	--	9.0	7/21/92	7.19	933	73.4	24.2
MW-4	7/30/91	33.73	4.39	29.34	--	--	--	--	--	--	--
	10/29/91		3.75	29.98	--	--	--	--	--	--	--
	1/20/92		3.94	29.79	--	12.3	1/20/92	6.89	753	61.2	69.2
	4/14/92		3.71	30.02	--	12.3	4/14/92	6.72	720	64.3	65.2
	7/21/92		4.02	29.71	--	12.4	7/21/92	6.91	759	71.3	30.9

TABLE 1
MONITORING WELL FIELD MEASUREMENT DATA
SHELL OIL COMPANY
29 Wildwood Avenue, Piedmont, California

Well Designation	Water Level Measurement Date	Top of Casing Elevation (ft/MSL)	Depth to Ground-water (ft)	Ground-water Elevation (ft/MSL)	Floating Product Thickness (ft/MSL)	Total Depth (ft)	Sampling Date	pH (std. units)	Electrical Conductivity (µmhos/cm)	Temperature (degrees F)	Turbidity (NTU)
MW-5	7/30/91	31.38	4.32	27.06	--	--	--	--	--	--	--
	10/29/91		3.79	27.59	--	--	--	--	--	--	--
	1/20/92		4.09	27.29	--	16.0	1/20/92	6.85	870	62.4	24.3
	4/14/92		4.12	27.26	--	16.1	4/14/92	6.66	919	65.1	17.7
	7/21/92		4.13	27.25	--	16.0	7/21//92	6.87	938	70.2	14.3
E-4 *	7/30/91	34.63	**	>34.63**	--	--	--	--	--	--	--
	10/29/91		**	>34.63**	--	--	--	--	--	--	--
	1/20/92		**	>34.63**	--	34.2	1/20/92	7.61	1234	61.9	34.0
	4/14/92		**	>34.63**	--	34.3	4/14/92	7.42	1231	68.6	39.8
	7/21/92		**	>34.63**	--	34.2	7/21/92	7.48	1277	68.4	52.0

ft/MSL = elevation in feet, relative to mean sea level
NTU = nephelometric turbidity units
* = Well E-4 is a flowing artesian well.
** = Well E-4 potentiometric surface was higher than the top of well casing.

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
SHELL OIL COMPANY
29 Wildwood Avenue, Piedmont, California

Sample Type: Water
Units: mg/l (ppm), unless otherwise noted

Sample Designation	Sample Date	TPH as Gasoline* ppb	Benzene ppb	Toluene	Ethyl-benzene	Total Xylenes
MW-1	07/30/91	ND	ND	ND	ND	ND
	10/29/91	ND	ND	ND	ND	ND
	01/20/92	ND	ND	ND	ND	ND
	04/14/92	ND	ND	ND	ND	ND
	07/21/92	ND	ND	ND	ND	ND
MW-2	07/30/91	ND	ND	ND	ND	ND
	10/29/91	ND	ND	ND	ND	ND
	01/20/92	ND	0.00084	ND	0.00041	0.00048
	04/14/92	0.07 70	0.016 16	ND	0.0031	0.0021
	07/21/92	ND	ND	ND	ND	ND
MW-3	07/30/91	3.3	0.160 = 160	0.013	0.015	0.087
	10/29/91	1.0	0.035 = 35	0.0028	0.0029	0.0081
	01/20/92	6.9	0.38 = 380	0.018	0.047	0.048
	04/14/92	6.0 6,000	0.48 480	0.038	0.041	0.055
	07/21/92	~~3.07 3070~~ 3.7 3,700	0.33 330 ✓	0.013 ✓	0.03 ✓	0.023 ✓
MW-4	07/30/91	ND	ND	ND	ND	ND
	10/29/91	ND	ND	ND	ND	ND
	01/20/92	ND	ND	ND	ND	ND
	04/14/92	ND	ND	ND	ND	ND
	07/21/92	ND	ND	ND	ND	ND

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
SHELL OIL COMPANY
29 Wildwood Avenue, Piedmont, California

Sample Type: Water
Units: mg/l (ppm), unless otherwise noted

Sample Designation	Sample Date	TPH as Gasoline* ppb	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-5	07/30/91	0.09	ND	ND	ND	ND
	10/29/91	ND	ND	ND	ND	ND
	01/20/92	ND	ND	ND	ND	ND
	04/14/92	ND**	ND	ND	ND	ND
	07/21/92	0.074 74	ND	ND	ND	ND
E-4 lower aquifer	07/30/91	ND	ND	0.0006	ND	ND
	10/29/91	ND	ND	ND	ND	ND
	01/20/92	ND	ND	ND	ND	ND
	04/14/92	ND	ND	ND	ND	ND
	07/21/92	ND	ND	ND	ND	ND
Trip Blank	07/30/91	ND	ND	ND	ND	ND
	10/29/91	ND	ND	ND	ND	ND
	01/20/92	--	--	--	--	--
	04/14/92	ND	ND	ND	ND	ND
	07/21/92	ND	ND	ND	ND	ND
Field Blank	07/21/92	ND	ND	0.63	ND	ND
X-Dup (MW-3)	07/21/92	3.9	0.33	0.012	0.027	0.023

ND = Not detected.
* = low to medium boiling point hydrocarbons
** = The analysis Petroleum Hydrocarbons as Gasoline shows several inknown peaks.

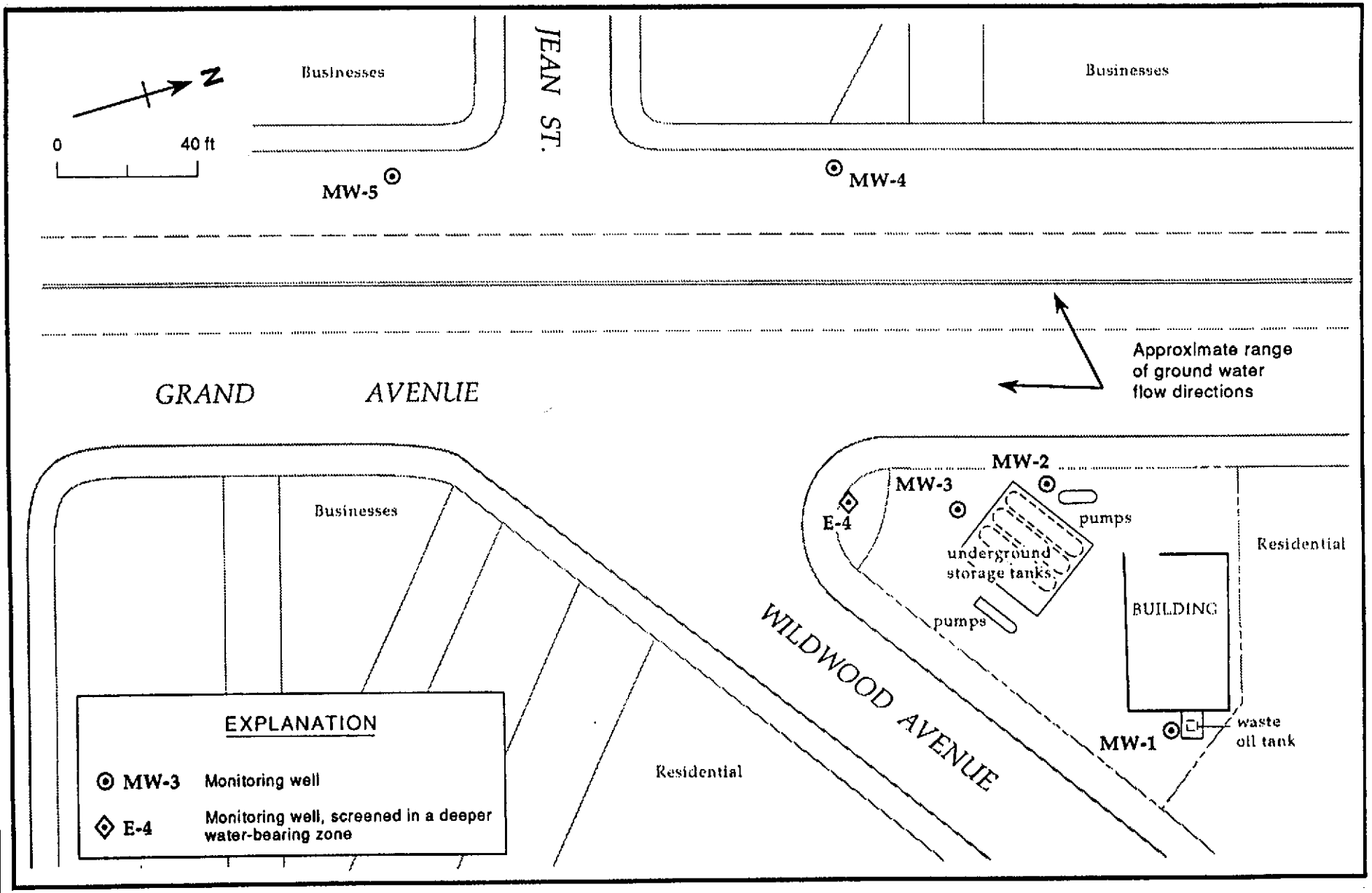

Figure 2. Monitoring Well Locations - Shell Service Station, WIC #204-6001-0109, 29 Wildwood Avenue, Piedmont, California

5/19/92

FIELD REPORT
WATER LEVEL / FLOATING PRODUCT SURVEY

EMCON ASSOCIATES
1433 North Market Boulevard
Sacramento, California 95834
(916) 928-3300

PROJECT NO : G67-01.01 **LOCATION** 29 Wildwood Ave, Piedmont **DATE** 7/21/92

CLIENT : Shell Oil Company **SAMPLER :** R Park **DAY OF WEEK** Tuesday

	WELL ID	TOTAL DEPTH (Feet)	FIRST DTW (Feet)	SECOND DTW (Feet)	DEPTH TO FLOATING PRODUCT (Feet)	FLOATING PRODUCT THICKNESS (Feet)	COMMENTS
1	MW-1	13.1	4.17	4.17	—	—	2357 dedicated bailer 15/16"
2	MW-2	11.5	3.92	3.92	—	—	2357 Water over cap
4	MW-3	9.0	4.17	4.17	—	—	2357
3	MW-4	12.4	4.02	4.02	—	—	2357
4	MW-5	16.0	4.13	4.13	—	—	2357
5	E-4	34.2	0.00	0.00			

DTW = Depth to Water

Replaced Le locks

SEQUOIA ANALYTICAL

819 Striker Avenue, Suite 8 • Sacramento, CA 95834
(916) 921-9600 • FAX (916) 921-0100

EMCON Associates
1433 N. Market Blvd.
Sacramento, CA 95834
Attention: Jim Pittilla

Project: Shell, 29 Wildwood Ave., Piedmont, CA

Enclosed are the results from 9 water samples received at Sequoia Analytical on July 23,1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2070442	Water, MW-1	7/21/92	EPA 5030/8015/602
2070443	Water, MW-2	7/21/92	EPA 5030/8015/602
2070444	Water, MW-3	7/21/92	EPA 5030/8015/602
2070445	Water, MW-4	7/21/92	EPA 5030/8015/602
2070446	Water, MW-5	7/21/92	EPA 5030/8015/602
2070447	Water, E-4	7/21/92	EPA 5030/8015/602
2070448	Water, Field Blank	7/21/92	EPA 5030/8015/602
2070449	Water, Trip Blank	7/21/92	EPA 5030/8015/602
2070450	Water, X-Dup	7/21/92	EPA 5030/8015/602

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Sheldon Fung

Michael R. Giles
Laboratory Director

SEQUOIA ANALYTICAL

819 Striker Avenue, Suite 8 • Sacramento, CA 95834
(916) 921-9600 • FAX (916) 921-0100

EMCON Associates	Client Project ID:	Shell, 29 Wildwood Ave., Piedmont, CA	Sampled:	Jul 21, 1992
1433 N. Market Blvd.	Matrix Descript:	Water	Received:	Jul 23, 1992
Sacramento, CA 95834	Analysis Method:	EPA 5030/8015/602	Analyzed:	7/27-28/92
Attention: Jim Pittilla	First Sample #:	207-0442	Reported:	Jul 29, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/602)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)	Detection Limit Multiplication Factor
207-0442	MW-1	N.D.	N.D.	N.D.	N.D.	N.D.	D.L. x 1
207-0443	MW-2	N.D.	N.D.	N.D.	N.D.	N.D.	D.L. x 1
207-0444	MW-3	3,700	330	13	30	23	D.L. x 10
207-0445	MW-4	N.D.	N.D.	N.D.	N.D.	N.D.	D.L. x 1
207-0446	MW-5	74	N.D.	N.D.	N.D.	N.D.	D.L. x 1
207-0447	E-4	N.D.	N.D.	N.D.	N.D.	N.D.	D.L. x 1
207-0448	Field Blank	N.D.	N.D.	0.63	N.D.	N.D.	D.L. x 1
207-0449	Trip Blank	N.D.	N.D.	N.D.	N.D.	N.D.	D.L. x 1
207-0450	X-Dup	3,900	330	12	27	23	D.L. x 10
Detection Limits:		**50**	**0.50**	**0.50**	**0.50**	**0.50**	

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Michael R. Giles
Laboratory Director

SEQUOIA ANALYTICAL

819 Striker Avenue, Suite 8 • Sacramento, CA 95834
(916) 921-9600 • FAX (916) 921-0100

EMCON Associates
1433 N. Market Blvd.
Sacramento, CA 95834
Attention: Jim Pittilla

Client Project ID: Shell, 29 Wildwood Ave., Piedmont, CA

QC Sample Group: 2070442-50

Reported: Jul 29, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 602	EPA 602	EPA 602	EPA 602
Analyst:	C. Chapman	C. Chapman	C. Chapman	C. Chapman
Reporting Units:	ppb	ppb	ppb	ppb
Date Analyzed:	Jul 27, 1992	Jul 27, 1992	Jul 27, 1992	Jul 27, 1992
QC Sample #:	207-0448	207-0448	207-0448	207-0448
Sample Conc.:	N.D.	0.63	N.D.	N.D.
Spike Conc. Added:	10	10	10	20
Conc. Matrix Spike:	11	11	10	20
Matrix Spike % Recovery:	110	104	100	100
Conc. Matrix Spike Dup.:	11	12	11	21
Matrix Spike Duplicate % Recovery:	106	114	110	105
Relative % Difference:	0.0	9.2	9.5	4.9

SEQUOIA ANALYTICAL

Michael R. Giles
Laboratory Director

$$\text{\% Recovery:} \quad \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference:} \quad \frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}} \times 100$$

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No.: _____

Date: 7/21/92
Page 1 of 2

Site Address: 29 Wildwood Avenue Piedmont, CA

WIC#: 204-6001-0109

Shell Engineer: Dan Kirk — Phone No. 510 675-6168 — Fax #:

Consultant Name & Address: EMCON Associates 1433 N. Mrkt Blvd, Sacto 95834

Consultant Contact: Jim Pitilla — Phone No. 916 928-3300 — Fax #: 928-3341

Comments: G67-01.01

Sampled By: R Park

Printed Name: RPark

LAB: Sequoia

CHECK ONE (1) BOX ONLY		CT/DT
Quarterly Monitoring	[X]	5461
Site Investigation	[ ]	5441
Soil for disposal	[ ]	5442
Water for disposal	[ ]	5443
Air Sample- Sys O&M	[ ]	5452
Water Sample - Sys O&M	[ ]	5453
Other	[ ]	

TURN AROUND TIME: 24 hours [ ] ; 48 hours [ ] ; 15 days [X] (Normal) ; Other [ ] _____

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

Analysis Required: TPH (EPA 8015 Mod. Gas); TPH (EPA 8015 Mod. Diesel); BTEX (EPA 8020/602); Volatile Organics (EPA 8240); Test for Disposal

Sample ID	Date	Soil	Water	Air	No. of conts.	Container Size	Preservative Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-1	7/21/92		X		32	40ml VOA	HCl		52070-442 AB	
MW-2									-443	
MW-3									-444	
MW-4									-445	
MW-5									-446	
E-4									-447	
Field Blank									-448	
Trip Blank									-449	

Relinquished By (signature): R Park	Printed name: RPark	Date: 7/22/92	Received (signature): [signature]
Relinquished By (signature): [signature]	Printed name: J.R. PITTILLA	Time: 0830	Received (signature): Sheldon Fung
Relinquished By (signature):	Printed name:	Date:	Received (signature):
		Time:	

Printed name: J.R. PITTILLA	Date: 7/22/92	
Printed name: Sheldon Fung	Time: 0830	
Printed name:	Date: 7-23-92	
	Time: 815	
	Date:	
	Time:	

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

Last Revision Date: 10/15/91

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No.: _____

Date: 7/21/92
Page 2 of 2

Site Address: 29 Wildwood Avenue
Piedmont, CA

WIC#: 204-6001-0109

Shell Engineer: Dan Kirk
Phone No. 510 675-6168
Fax #:

Consultant Name & Address: EMCON Associates
1433 N. Mrkt Blvd, Sacto 95834

Consultant Contact: Jim Pittilla
Phone No. 916 928-3300
Fax #: 928-3341

Comments: G67-0101

Sampled By: R Park

Printed Name: R Park

LAB: Sequoia

Analysis Required

CHECK ONE (1) BOX ONLY | CT/DT
- Quarterly Monitoring [X] 5461
- Site Investigation [ ] 5441
- Soil for disposal [ ] 5442
- Water for disposal [ ] 5443
- Air Sample- Sys O&M [ ] 5452
- Water Sample - Sys O&M [ ] 5453
- Other [ ]

TURN AROUND TIME
- 24 hours [ ]
- 48 hours [ ]
- 15 days [X] (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 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Container Size	Preservative Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
X-DUP	7/21/92		X		3 2	X		X			40ml VOA	HCl		52070-450 AB	

Relinquished By (signature): R Park	Printed name: R Park	Date: 7/22/92 Time: 0930	Received (signature): J Pittilla	Printed name: J.K. PITTILLA	Date: 7/22/92 Time: 1830
Relinquished By (signature): J Pittilla	Printed name: J.K. PITTILLA	Date: 7/23/92 Time: 0815	Received (signature): Sheldon Fung	Printed name: Sheldon Fung	Date: 7-23-92 Time: 815
Relinquished By (signature):	Printed name:	Date: Time:	Received (signature):	Printed name:	Date: Time:

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

Last Revision Date: 10/15/91

WATER SAMPLE FIELD DATA SHEET

Rev. 1/92

EMCON ASSOCIATES

PROJECT NO: 267-0101 | SAMPLE ID: mw-1

PURGED BY: RPark | CLIENT NAME: Shell-29 Wildwood Ave.

SAMPLED BY: ↓ | LOCATION: Piedmont

TYPE: Ground Water ✓ Surface Water ___ Leachate ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 ✓ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL):		VOLUME IN CASING (gal.):	5.9
DEPTH OF WELL (feet):	13.1	CALCULATED PURGE (gal.):	17.6
DEPTH TO WATER (feet):	4.17	ACTUAL PURGE VOL. (gal.):	18.0

DATE PURGED: 7/21/92 | End Purge: 1402

DATE SAMPLED: ↓ | Sampling Time: 1410

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual/cobalt)	TURBIDITY (visual/NTU)
1355	6.0	7.41	996	70.1	clear	39.7
1350	12.0	7.27	1033	67.7	↓	55.1
1402	18.0	7.19	1018	67.2	↓	21.9

OTHER ___ ODOR: slight

(COBALT 0-100) ___ (NTU 0-200) ___

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ___

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
✓ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	✓ Bailer (Teflon®)
___ Centrifugal Pump	___ Bailer (PVC)	___ Bomb Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: good - dedicated bailer | LOCK #: 2357

REMARKS: ___

pH, E.C., Temp. Meter Calibration: Date: 7/21/92 | Time: 1340 | Meter Serial No.: ___

E.C. 1000 1035, 1000 | pH 7 7.02, 7.00 | pH 10 10.05, 10.00 | pH 4 4.04, ___

Temperature ° F: 71.3

Signature: ___ | Reviewed By: ___ | Page 1 of 6

WATER SAMPLE FIELD DATA SHEET

Rev. 1/92

EMCON ASSOCIATES

PROJECT NO: 0067-01.01 | SAMPLE ID: MW-2
PURGED BY: R Park | CLIENT NAME: Shell-29W. Idwood Ave.
SAMPLED BY: J | LOCATION: Piedmont

TYPE: Ground Water l Surface Water ____ Leachate ____ Other ____

CASING DIAMETER (inches): 2 ____ 3 ____ 4 l 4.5 ____ 6 ____ Other ____

CASING ELEVATION (feet/MSL):		VOLUME IN CASING (gal.):	5.0
DEPTH OF WELL (feet):	11.5	CALCULATED PURGE (gal.):	14.9
DEPTH TO WATER (feet):	3.92	ACTUAL PURGE VOL. (gal.):	9.0

DATE PURGED: 7/21/92 | End Purge: 1417
DATE SAMPLED: J | Sampling Time: 1430

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual/cobalt)	TURBIDITY (visual/NTU)
1415	5.0	7.04	632	74.5	orange tint	37.7
1430	after recharge	6.90	676	72.3	clear	5.0

OTHER: / ODOR: slight

(COBALT 0-100): / (NTU 0-200): /

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): /

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	l Bailer (Teflon®)
l Centrifugal Pump	___ Bailer (PVC)	___ Bomb Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ____		Other: ____	

WELL INTEGRITY: Good - dedicated bailer | LOCK #: 2357

REMARKS: Evacuated well at 9.0 gallons purged, 1417. Allowed to recharge. At 1425, well at 9.3. Sampled at 1430

pH, E.C., Temp. Meter Calibration: Date: ____ Time: ____ Meter Serial No.: ____

E.C. 1000 ____ / ____ pH 7 ____ / ____ pH 10 ____ / ____ pH 4 ____ / ____

Temperature ° F: ____

Signature: R Brown | Reviewed By: JRP | Page 7 of 6

WATER SAMPLE FIELD DATA SHEET

Rev. 1/92

EMCON ASSOCIATES

PROJECT NO: 6U7-01.01 | SAMPLE ID: MW-3

PURGED BY: R Park | CLIENT NAME: Shell-29 Wildwood Ave

SAMPLED BY: V | LOCATION: Pldmont

TYPE: Ground Water ℓ Surface Water ___ Leachate ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 ℓ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL):		VOLUME IN CASING (gal.):	3.2
DEPTH OF WELL (feet):	9.0	CALCULATED PURGE (gal.):	9.5
DEPTH TO WATER (feet):	4.17	ACTUAL PURGE VOL. (gal.):	5.5

DATE PURGED: 7/21/92 | End Purge: 1614

DATE SAMPLED: | Sampling Time: 1630

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual/cobalt)	TURBIDITY (visual/NTU)
1613	4.5	7.04	893	75.1	grylnt	37.6
1630	aftrrchage	7.19	933	73.4	↓	24.2

OTHER ___ ODOR: light

(COBALT 0-100) ___ (NTU 0-200) ___

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): XDUP, fldblank

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
ℓ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	ℓ Bailer (Teflon®)
ℓ Centrifugal Pump	___ Bailer (PVC)	___ Bomb Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: good LOCK #: 2357

REMARKS: Evacuated well at 5.5 gallons purged, 1614. Allowed to recharge. At 1625, well at 5.0. Sampled at 1630.

pH, E.C., Temp. Meter Calibration: Date: ___ Time: ___ Meter Serial No.: ___

E.C. 1000 ___/___ pH 7 ___/___ pH 10 ___/___ pH 4 ___/___

Temperature ° F: ___

Signature: R Park Reviewed By: gkp Page 3 of 6

WATER SAMPLE FIELD DATA SHEET

Rev. 1/92

EMCON ASSOCIATES

PROJECT NO: G67-01.01 | SAMPLE ID: MW-4

PURGED BY: RPark | CLIENT NAME: Shell-29 Wildwood Ave

SAMPLED BY: ↓ | LOCATION: Piedmont

TYPE: Ground Water ✓ Surface Water ___ Leachate ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 ✓ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL):		VOLUME IN CASING (gal.):	5.5
DEPTH OF WELL (feet):	12.4	CALCULATED PURGE (gal.):	16.5
DEPTH TO WATER (feet):	4.02	ACTUAL PURGE VOL. (gal.):	10.5

DATE PURGED: 7/21/92 | End Purge: 1450

DATE SAMPLED: ↓ | Sampling Time: 1505

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual/cobalt)	TURBIDITY (visual/NTU)
1440	6.0	7.03	759	73.1	gry	116.4
1505	after recharge	6.91	759	71.3	clr	30.9

OTHER ✓ ODOR: slight

(COBALT 0-100) ✓ (NTU 0-200) ✓

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ✓

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
✓ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	✓ Bailer (Teflon®)
✓ Centrifugal Pump	___ Bailer (PVC)	___ Bomb Sampler	___ Bailer (Stainless Steel)
✓ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: good - dedicated bailer | LOCK #: 2357

REMARKS: Evacuated well at 10.5 gallons purged, 1450. Allowed to recharge. At 1500, Qwl at 6.4. Sampled at 1505. Bentonite at bottom of well.

pH, E.C., Temp. Meter Calibration: Date: ___ Time: ___ Meter Serial No.: ___

E.C. 1000 ___/___ pH 7 ___/___ pH 10 ___/___ pH 4 ___/___

Temperature °F: ___

Signature: [signature] Reviewed By: gcp Page 4 of 6

WATER SAMPLE FIELD DATA SHEET

Rev. 1/92

EMCON ASSOCIATES

PROJECT NO: 067-01.01 SAMPLE ID: MW-5

PURGED BY: IRVIN CLIENT NAME: Shell-29 Wildwood Ave

SAMPLED BY: ↓ LOCATION: Piedmont

TYPE: Ground Water ✓ Surface Water ___ Leachate ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 ✓ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL):		VOLUME IN CASING (gal.):	7.0
DEPTH OF WELL (feet):	16.0	CALCULATED PURGE (gal.):	23.3
DEPTH TO WATER (feet):	4.13	ACTUAL PURGE VOL. (gal.):	24.0

DATE PURGED: 7/21/92 End Purge 1514

DATE SAMPLED: ↓ Sampling Time 1525

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@ 25° C)	TEMPERATURE (°F)	COLOR (visual/cobalt)	TURBIDITY (visual/NTU)
1510	8.0	6.90	991	72.1	Clear	32.5
1512	16.0	6.90	923	70.1	↓	9.4
1514	24.0	6.87	939	70.2	↓	14.3

OTHER ✓ ODOR: slight (COBALT 0-100) ✓ (NTU 0-200) ✓

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ✓

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	✓ Bailer (Teflon®)
✓ Centrifugal Pump	___ Bailer (PVC)	___ Bomb Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: good - dedicated bailer LOCK #: 2357

REMARKS: ___

pH, E.C., Temp. Meter Calibration: Date: ___ Time: ___ Meter Serial No.: ___

E.C. 1000 ___/___ pH 7 ___/___ pH 10 ___/___ pH 4 ___/___

Temperature ° F: ___

Signature: [signature] Reviewed By: GP Page 5 of 6

WATER SAMPLE FIELD DATA SHEET

Rev. 1/92

EMCON ASSOCIATES

PROJECT NO: Cau7-01.91 SAMPLE ID: E-4

PURGED BY: RPark CLIENT NAME: Shell - 29 Wildwood Ave.

SAMPLED BY: " LOCATION: Piedmont

TYPE: Ground Water ℓ Surface Water ___ Leachate ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ℓ 4 ___ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): ___ VOLUME IN CASING (gal.): 12.6

DEPTH OF WELL (feet): 34.2 CALCULATED PURGE (gal.): 37.7

DEPTH TO WATER (feet): 0.00 ACTUAL PURGE VOL. (gal.): 22.0

DATE PURGED: 7/21/92 End Purge 1605

DATE SAMPLED: " Sampling Time 1645

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (µmhos/cm@ 25° C)	TEMPERATURE (°F)	COLOR (visual/cobalt)	TURBIDITY (visual/NTU)
1550	13.0	7.69	1276	69.1	lt. brown	>200
1645	after recharge	7.48	1277	68.4	clear	52.0

OTHER ___ ODOR: slight (COBALT 0-100) ___ (NTU 0-200) ___

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ___

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
ℓ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	ℓ Bailer (Teflon®)
ℓ Centrifugal Pump	___ Bailer (PVC)	___ Bomb Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: good - flowing artesian - waterway LOCK #: 2357

REMARKS: Evacuated well at ~ 22.0 gallons purged, 1605 Allowed to recharge. At 1645, DTW at 28.9'. Sampled at 1645

pH, E.C., Temp. Meter Calibration: Date: ___ Time: ___ Meter Serial No.: ___

E.C. 1000 ___ / ___ pH 7 ___ / ___ pH 10 ___ / ___ pH 4 ___ / ___

Temperature ° F: ___

Signature: RPark Reviewed By: JRP Page 6 of 6