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January 26, 1994 Project 305-087.01

Mr. Lynn Walker Shell Oil Company P.O. Box 5278 Concord, California 94520

Re: Quarterly Report - Fourth Quarter 1993
Former Shell Service Station
7194 Amador Valley Boulevard at Village Parkway
Dublin, California
WIC No 204-2217-0105

Dear Mr. Walker:

The following presents the results of the fourth quarter 1993 monitoring program for the site referenced above (Figures 1 and 2). This letter has been prepared for Shell Oil Company by Pacific Environmental Group, Inc. (PACIFIC).

#### **FINDINGS**

Groundwater monitoring wells were sampled and gauged by Blaine Tech Services, Inc. (Blaine) at the direction of PACIFIC on November 11, 1993. Groundwater elevation contours for the sampling date are shown on Figure 2, and include groundwater elevation data supplied by Kaprealian Engineering for the Unocal service station, data supplied by Alisto Engineering for the BP service station east of the site, and data supplied by Resna for the ARCO station northeast of the site. Table 1 presents groundwater elevation data.

Groundwater analytical data are presented in Table 2. Total petroleum hydrocarbons calculated as gasoline and benzene concentrations for the November 1993 sampling event are shown on Figure 3. Blaine's groundwater sampling report is presented as Attachment A. Field purging and sampling data are presented in Table 3.

If you have any questions regarding the contents of this letter, please call.

Sincerely,

Pacific Environmental Group, Inc.

Michael Hurd// Senior Geologist

RG 5319



Attachments: Table 1 - Groundwater Elevation Data

Table 2 - Groundwater Analytical Data - Total Petroleum

Hydrocarbons (TPH as Gasoline and BTEX

Compounds)

Table 3 - Field Purging and Sampling Data

Figure 1- Site Location Map

Figure 2- Groundwater Elevation Contour Map Figure 3- TPH-g/Benzene Concentration Map Attachment A - Groundwater Sampling Report

cc: Mr. Craig Mayfield, Alameda County Flood Control and Water Conservation District

Mr. Eddy So, Regional Water Quality Control Board Mr. Gil Wistar, Alameda County Health Care Services

Mr. Rick Schroder, Shell Oil Company

### Table 1 Groundwater Elevation Data

	· · · · · · · · · · · · · · · · · · ·	Well	Depth to	Groundwater
Well	Date	Elevation	Water	Elevation
Number	Gauged	(feet, MSL)	(feet, TOC)	(feet, MSL)
<b> </b>	<del></del>			
MW-1	05/09/88	334.83	8.72	326.11
į	08/26/88		9.15	325.68
	10/05/88		8.54	326.29
	11/22/88		9.31	325.52
	12/09/88		9.33	325.50
	01/13/89		NM	NM [
	02/10/89		8.51	326.32
	03/02/89		8.71	326.12
	04/04/89		7.93	326.90
1	05/01/89		8.43	326.40
	06/01/89		8.56	326.27
	06/29/89		8.60	326.23
1	08/09/89		8.43	326.40
	09/11/89		8.65	326.18
	10/10/89		8.52	326.31
1	10/25/89		8.56	326.27
	12/20/89		8.80	326.03
Ì	01/17/90		8.47	326.36
	02/23/90	•	8.25	326.58
	06/04/90		8.62	326.21
	11/20/90		9.50	325.33
	02/12/91		9.51	325.32
	05/06/91		8.34	326.49
	08/28/91		9.28	325.55
	11/13/91		9.59	325.24
	02/25/92		7.49	327.34
	05/12/92		8.64	326.19
1	08/12/92		9.15	325.68
	11/10/92		10.04	324.79
	02/10/93		7.24	327.59
ļ	05/10/93		7.78	327.05
	08/12/93		8.54	326.29
Ì	11/11/93		_ 8.56	326.27
}	. 11/11/00		3 3.33	<del></del>
MW-2	05/09/88	336.96	10.85	326.11
]	08/26/88		11.29	325.67
	10/05/88		10.83	326 13
	11/22/88		11 42	325 54
	12/09/88		11 45	325 51
	01/13/89		NM	NM
	02/10/89		10.74	326 22
	03/02/89		10.24	326.05
	03/02/09		10.06	326 90
	04/04/09		10.00	020 00

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-2 (cont.)	05/01/89 05/31/89 06/28/89		10.58 10.73 10.90 10.78	326.38 326.23 326.06 326.18
	08/08/89 09/08/89 10/09/89 10/24/89		10.97 10.88 11.00	325.99 326.08 325.96
	12/21/89 01/17/90 02/23/90 06/04/90		11.06 10.78 10.35 10.72	325.90 326.18 326.61 326.24
	11/20/90 02/12/91 05/06/91		11.35 11.64 10.05	325.61 325.32 326.91
	08/28/91 11/13/91 02/25/92 05/12/92		11.16 11.57 9.66 10.97	325.80 325.39 327.30 325.99
	08/12/92 11/10/92 02/10/93		11.58 12.05 9.28	325.38 324.91 327.68 327.31
	05/10/93 08/12/93 11/11/93		9.65 10.70 11.36	326.26 325.60
MW-3	05/09/88 08/26/88 10/05/88 11/22/88 12/09/88	336.96	10.59 11.10 10.43 11.16 11.24	326.37 325.86 326.53 325.80 325.72
	01/13/89 02/10/89 03/02/89 04/04/89		NM 10.43 10.59 9.45	NM 326.53 326.37 327.51
	05/01/89 06/01/89 06/28/89 08/09/89		10.20 10.40 10 60 10 64	<b>326.76</b> <b>326.56</b> <b>326.36</b> 326.32
	09/11/89 10/10/89 10/26/89 12/21/89		10 83 10 95 10 86 11 09	326 13 326 01 326 10 325 87
	01/17/90		10.90	326.06

		Well	Depth to	Groundwater
Well	Date	Elevation	Water	Elevation
Number	Gauged	(feet, MSL)	(feet, TOC)	(feet, MSL)
MW-3	02/23/90		10.52	326.44
(cont.)	06/04/90	•	10.52	326.44
(COIIL.)	11/20/90		12.65	324.31
	02/12/91		11.16	325.80
	05/06/91	336.93	9.85	327.08
	08/28/91	330.30	10.90	326.03
	11/13/91		11.28	325.65
	02/25/92		9.04	327.89
			10.50	326.43
	05/12/92 08/12/92		10.94	325.99
	, ,		11.84	325.09
l	11/10/92		8.82	328.11
	02/10/93		8.88	328.05
ı	05/10/93		10.36	326.57
	08/12/93 11/11/93		10.64	326.29
	11/11/93		70.04	020.20
MW-4	05/09/88	337.14	10.88	326.26
	08/26/88		11.34	325.80
	10/05/88		10.87	326.27
	11/22/88		11.41	325.73
	12/09/88		11.46	325.68
	01/13/89		NM	NM
	02/10/89		10.78	326.36
	03/02/89		10.92	326.22
]	04/04/89		10.04	327.10
•	05/01/89		10.52	326.62
	05/31/89		10.62	326.52
	06/28/89		- 11.00	326.14
[	08/09/89		10.92	326.22
	09/08/89		11.05	326.09
}	10/10/89		10.97	326.17
İ	10/26/89		11.35	325.79
	12/21/89		- 11.07	326.07
	01/17/90		11.08	326.06
	02/23/90		10.90	325.24
ì	06/04/90		10.74	326.40
	11/20/90		11 45	325 69
	02/12/91		11 50	325 64
1	05/06/91		10 04	327.10
	08/28/91		11 18	325 96
	11/13/91		11 60	325.54
- mary	02/25/92		9 45	327.69
	05/12/92		10 84	326.30
	08/12/92		11 36	325.78
	11/10/92		12 12	325 02
1	, ,			

#### Former Shell Service Station 7194 Amador Valley Boulevard at Village Parkway Dublin, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-4 (cont.)	02/10/93 05/10/93 08/12/93 11/11/93		9.40 9.54 10.68 11.97	327.74 327.60 326.46 325.17
MW-5	08/26/88 10/05/88 11/22/88 12/09/88 01/13/89 02/10/89 03/02/89 04/05/89 05/01/89 06/01/89 06/29/89 08/09/89 10/25/89 12/20/89 11/20/90 02/11/91 05/06/91 08/28/91 11/13/91 02/25/92 05/12/92 08/12/92 11/10/92 02/10/93 05/10/93 08/12/93 11/11/93	334.96	9.10 9.95 8.93 10.48 NM 10.35 8.50 7.72 8.21 8.40 8.65 8.76 8.80 11.92 9.03 11.26 9.95 8.30 8.57 9.45 9.27 7.90 9.28 9.36 9.02 8.65 9.40 9.68 7.77 7.76 8.75 9.32	325.86 325.01 326.03 324.48 NM 324.61 326.46 327.24 326.75 326.56 326.31 326.20 326.16 323.04 325.93 323.70 325.01 326.66 326.39 325.51 325.69 327.06 325.68 325.69 325.56 325.94 326.31 325.56 325.94 326.31 325.56 325.28 326.99 327.20 326.21 325.64
MW-6	08/26/88 10/05/88 11/22/88 12/09/88 01/13/89 02/10/89 03/02/89 04/04/89 05/01/89	335 42	9 69 9 27 9 77 9.85 NM 9 10 9 29 8 48 8 90 9 16	325.73 326.15 325.65 325.27 NM 326.32 326.13 326.94 326.52 326.26

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Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-6	06/29/89		9.30	326.12
(cont.)	08/09/89		9.30	326.12
(00)	09/11/89		9.31	326.11
	10/10/89		9.32	326.10
	10/24/89		9.30	326.12
	12/20/89		9.58	325.84
	01/18/90		9.46	325.96
	02/23/90		8.94	326.48
	06/04/90		9.22	326.20
	11/20/90		9.65	325.77
	02/12/91		9.85	325.57
	05/06/91		9.12	326.30
	08/28/91		9.68	325.74
	11/13/91		10.00	325.42
•	02/25/92		8.44	326.98
	05/12/92		9.11	326.31
	08/12/92		9.72	325.70
			10.56	324.86
	11/10/92		7.65	327,77
	02/10/93		8.10	327.32
	05/10/93		9.18	326.24
	08/12/93 11/11/93		9.38	326.04
MW-7	08/26/88	333.23	7.94	325.29
10144-1	10/05/88	000.20	7.54	325.69
	11/22/88		NM	NM
	12/09/88		7.53	325.70
i	01/13/89		NM	NM
1	01/13/09		6.62	326.61
	02/10/09		7.03	326.20
1	04/05/89		6.80	326.43
1	05/01/89		6.53	326.70
	05/01/09		6.93	326.30
\ ·		•	6.85	326.38
	06/28/89		6.67	326.56
	08/09/89		6.90	326.33
ļ	09/07/89		9.90 6.90	326 33
	10/10/89		7 29	325.94
	10/24/89		7 47	325.54
	12/20/89		7 49	325 74
Ì	01/18/90			326 31
Į.	02/23/90		6 92 6 95	326 28
}	06/04/90		6 95 9 10	325 13
	11/20/90		8 10	J20 10

Well	Date	Well Elevation	Depth to Water	Groundwater Elevation
Number	Gauged	(feet, MSL)	(feet, TOC)	(feet, MSL)
MW-7	02/11/91		8.04	325.19
(cont.)	05/06/91		6.37	325.86
1	08/28/91		7.94	325.29
ļ	11/13/91		8.41	324.82
	02/25/92		6.99	326.24
1	05/12/92		7.42	325.81
ļ	08/12/92		8.65	324.58
1	11/10/92	•	8.82	324.41
1	02/10/93		6.06	327.17
1	05/10/93		6.68	326.55
	08/12/93		6.83	326.40 326.33
	11/11/93		6.90	320.33
MW-8	03/01/89	335.80	8.28	327.52
\ .	04/04/89		7.31	328.49
<u> </u>	05/01/89		8.97	326.83
	05/31/89		9.17	326.63
	06/28/89		9.40	326.40
	08/08/89		9.42	326.28
	09/07/89		8.50	327.30
1	10/10/89		9.46	326.34
	10/26/89		9.56	326.24
	12/21/89		9.57	326.23
Ì	01/18/90		9.29	326.51
	02/26/90		8.50	327.30
	06/04/90		9.04	326.76
	02/11/91		9.40	326.40
Į	05/06/91		8.70	327.10 326.12
	08/28/91		9.68 9.87	326.93
}	11/13/91		9.67 7.45	328.35
	02/25/92		9.19	326.61
	05/12/92 08/12/92		9.82	325.98
	11/10/92	•	10.41	325.39
	02/10/93	·	7.35	328.45
	05/10/93		8.00	327.80
1	08/12/93		9 00	326 80
	11/11/93		9 47	326 33
			0.40	200.00
MW-9	03/01/89	334 57	8 48	326 09
	04/04/89		7 69	326.88
	05/01/89		8 20	326 37
	05/31/89		8 72	325.85
	06/28/89		9 00	325 57
	08/08/89		8 53	326 04

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-9	09/07/89		8.99	325.58
(cont.)	10/09/89		8.89	325.68
	10/23/89		9.02	325.55
	12/21/89		9.48	325.09
	01/18/90		8.73	325.84
	02/26/90	•	9.06	325.51
	06/04/90		8.64	325.93
	11/20/90		9.95	324.62
	02/11/91		9.85	324.72
	05/06/91		10.05	324.52
	08/28/91		10.34	324.23
1	11/13/91		9.39	325.18
ļ	02/25/92		7.18	327.39
	05/12/92		8.54	326.03
	08/12/92		8.97	325.60
	10/92		9.61	324.96
	02/10/93		7.20	327.37
1	05/10/93		7.56	327.01
ļ	08/12/93		8.25	326.32
	11/11/93		10.30	324.27
MW-10	03/02/89	335.37	8.95	326.42
	04/04/89		<b>7</b> .89	327.48
}	05/01/89		9.07	326.30
	06/01/89		8.86	326.51
Ì	06/29/89		9.05	326.32
}	08/09/89		9.70	326.67
	09/07/89		8.14	327.23
	10/10/89		9.21	326.16
1	10/26/89		9.60	325.77
	12/20/89		9.42	325.95
	06/90		Well Dest	royed
MW-11	03/02/89	334.20	8.30	325.90
	04/04/89		7.52	325.68
1	05/01/89		7.97	326.23
	11/20/90		NM	NM
Personal Co.	05/31/90		8 13	326.07
<b>!</b>	06/28/89		8 30	325 90
	08/08/89		8 22	325 98
	09/07/89		8 32	325.88
1	10/09/89		8 28	325 92
	10/24/89		8 38	325 82

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-11	12/20/89		8.48	325.72
(cont.)	01/18/90		8.20	326.00
) ` ′	02/26/90		7.86	326.34
1	06/04/90		8.13	326.07
ļ	11/20/90		8.83	325.37
	02/11/90		8.95	325.25
	05/06/91		7.71	326.49
	08/28/91		8.62	325.58
	11/15/91		8.99	325.21
	02/25/92		7.21	326.99
	05/12/92		8.26	325.94
Ì	08/12/92		8.75	325.45
	11/10/92		9.47	324.73
<b>,</b>	02/10/93		6.79	327.41
	05/10/93		7.18	327.02
ì	08/12/93		8.10	326.10
	11/11/93		8.56	325.64
MW-12	03/02/89	332.53	6.94	325.59
İ	04/04/89		6.33	326.20
1	05/01/89		6.62	325.91
ļ	06/01/89		6.82	325.71
	06/29/89		7.00	325.53
	08/09/89		6.76	325.77
]	09/07/89		6.81	325.72
	10/09/89		7.11	325.42
	10/24/89		7.60	324.93
1	12/20/89		8.25	324.28
ļ	01/18/90		8.23	324.30
ì	02/26/90		7.54	324.99
1	06/04/90		7.96	324.57
	11/20/90		8.80	323.73
	02/12/90	,	7.85	324.68
	05/06/91		7.35	325.18
}	08/28/91		7.79	324.74
	11/13/91		7.89	324.64
1	02/25/92		6.14	326 39
	05/12/92		7.54	324.99
	08/12/92		9 83	322 70
	11/10/92		8 32	324.21
	02/10/93		6 75	325.78
	05/10/93		Well	Inaccessible
	08/12/93		6 23	326 30
	11/11/93		7 43	325 10

## Former Shell Service Station 7194 Amador Valley Boulevard at Village Parkway Dublin, California

Well Number	Date Gauged	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)
MW-13	05/06/91	335.64	8.37	327.27
1	08/28/91		9.82	325.82
	11/13/91		10.19	325.45
İ	02/25/92		7.66	327.98
	05/12/92	•	9.16	326.48
	08/12/92		10.91	324.73
	11/10/92		10.69	324.95
	02/10/93		7.49	328.15
	05/10/93		8.06	327.58
ļ	08/12/93		8.73	326.91
	11/11/93		9.15	326.49
RW-1	12/09/89	336.19	10.73	325.46
	01/13/89		NM	NM
]	02/10/89		10.91	325.28
<b>,</b>	03/02/89		10.15	325.04
1	04/05/89		9.34	326.85
	05/01/89		9.85	326.34
1	06/01/89		9.96	326.23
1	06/30/89		9.90	326.29
	08/09/89		9.80	326.39
1	09/11/89		10.02	326.17
1	10/10/89		9.88	326.31
	10/25/89		9.80	326.39
	12/21/89		10.25	325.94
ļ	01/17/89		9.80	326.39
	02/23/90		9.60	326.59
	06/04/90		9.97	326.22
}	11/20/90		10.50	325.69
	02/11/91		10.87	325.32
ļ	02/25/92		Well No	t Gauged
	05/12/92		NM	NM
}	08/12/92	-	NM	NM
-	11/10/92	_	NM	NM
	05/10/93		9.26	326.93
	08/12/93		NM	NM
1	11/11/93		NM	NM

MSL = Mean sea level

TOC = Top of casing

NM = Not measured

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-1	05/09/88		120	50	NR	120
IALA A - 1	08/26/88	200,000	4,400	260	300	450
	10/05/88	17,000	6,700	360	210	730
	11/22/88	8,000	3,900	830	250	340
	12/09/88	11,000	790	36	7.3	68
	01/13/89	8,800	3,800	110	330	90
	02/10/89	18,000	4,700	400	660	190
	03/02/89	14,000	6,100	770	320	440
	04/04/89	11,000	4,800	770	270	780
	05/01/89	11,000	2,800	088	410	780
•	06/01/89	ND	ND	ND	ND	ND
	06/29/89	4,700	310	160	75	260
	08/09/89	12,000	1,300	620	830	680
	09/11/89	ND	ND	ND	ND	2.2
	10/10/89	8,700	1,100	310	180	590
	10/25/89	7,500	660	250	460	480
	12/20/89	6,200	270	110	260	220
	01/17/90	7,400	200	170	160	260
	02/23/90	1,500	130	13	30	24
	06/04/90	830	88	10	2.6	28
	11/20/90	NΑ	NA	NA	NA	NA
	02/12/91	1,500	180	39	82	110
	05/06/91	510	41	11	25	35
	08/28/91	450	41	16	24	34
	11/13/91	320	41	14	23	33
	02/25/92	240	24	9.2	14	20
	05/12/92	320	60	25	. 29	41
	08/12/92	230	26	16	20	25 24
	08/12/92(D)	220	25	16	19	
•	11/10/92	120	13	8.8	9	13 5.1
	02/10/93	80	3.3	2.9	2.4	10
-	05/10/93	100	8.5	5.5	5.2	32
	08/12/93	130	10	11	8.3	
	11/11/93	ND	ND	ND	ND	ND
MW-2	05/09/88	ND	ND	ND	NR	ND
<u>-</u>	08/26/88	1,700	230	16	87	120
	10/05/88	200	20	2 3	83	12
	11/22/88	800	93	16	4 3	60
	12/09/88	270	45	3 6	7 2	14
	01/13/89	180	26	2 3	17	7

Former Shell Service Station

## 7194 Amador Valley Boulevard at Village Parkway Dublin, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-2	02/10/89	320	43	1.7	34	15
(cont.)	03/02/89	230	24	0.9	9.2	18
(00110)	04/04/89	230	53	2.3	7.1	20
	05/01/89	ND	2.7	ND	ND	ND
	05/31/89	120	14	ND	3.9	7.6
	06/28/89	ND	4.1	ND	ND	ND
	08/08/89	88	3.9	ND	ND	ND
	09/08/89	ND	3.2	ND	ND	ND
	10/09/89	110	6.7	ND	ND	ND
	10/24/89	ND	2.5	ND	ND	1.9
	12/21/89	ND	7.1	ND	5	9.8
	01/17/90	ND	4.4	ND	1.6	1.4
	02/23/90	70	6.3	ND	2.7	2.5
	06/04/90	60	2.4	ND	8.0	ND
	11/20/90	60	5.6	ND	ND	ND
	02/12/91	130	14	NĎ	0.9	0.5
	05/06/91	60	1.5	ND	5	ND
	08/28/91	100	6.3	ND	1	1.1
	11/13/91	ND	11	ND	1.3	ND
	02/25/92	ND	3.8	ND	ND	ND
	05/12/92	ND	6.0	ND	ND	ND
	08/12/92	110	6.8	ND	1.0	ND
	11/10/92	56	4.5	ND	ND	ND
	02/10/93	81	4.8	0.6	1.4	1.9
	05/10/93	90	0.8	8.0	0.6	3.2
	08/12/93	420	61	18	21	53
	11/11/93	ND	ND	ND	ND	ND
MW-3	05/09/88	76	10	4.4	NR	15
	08/26/88	5,200	170	6	32	54
	10/05/88	260	-100	2.7	5.8	7
	11/22/88	180	75	1.4	8.1	4 ND
	12/09/88	160	5	5.9	ND	
	01/13/89	160	36	1.2	3 .	2
ļ	02/10/89	300	83	ND	86	8
-	03/02/89	570	160	1	17	9
	04/04/89	150	64	8 0	2 7	6
	05/01/89	130	48	1 2	3 4	2
	06/01/89	ND	ND	ND	ND	ND
	06/28/89	90	68	0 7	ND	51
	08/09/89	150	23	5 3	2 6	ND

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-3	09/11/89	ND	ND	ND	ND	ND .
(cont.)	10/10/89	80	6.4	0.72	, ND	ND
(DOILL)	10/26/89	150	11	ND	1.6	ND
	12/21/89	ND	6.8	ND	ND	ND
	01/17/90	ND	4	· ND	6.8	ND
	02/23/90	50	10	ND	1.2	0.9
	06/04/90	80	10	ND	1.4	ND
	11/20/90	100	26	0.7	1.2	1.9
	02/12/91	130	27	ND	ND	ND
	05/06/91	120	31	0.8	2.1	8.0
	08/28/91	340	87	1.1	6.5	3.8
	11/13/91	240	140	ND	3,1	0.9
	02/25/92	80	17	ND	ND	ND
	05/12/92	74	31	ИD	2.6	ИD
	08/12/92	160	24	0.5	2.9	ND
	11/10/92	130	27	ND	1.1	0.9
	11/10/92(D)	110	2.6	ND	1.1	0.7
	02/10/93	92	5.7	ND	ND	ND
	02/10/93(D)	80	5.2	ND	ND	ND
	05/10/93	250	100	ND	ND	ND
	05/10/93(D)	200	80	ND	2.4	ND
	08/12/93	380	110	16	13	43
	11/11/93	170	35	8.0	29	9.2
MW-4	05/09/88	290	76	33	NA	150
	08/26/88	210	640	41	110	160
	10/05/88	450	110	6.3	16	20
	11/22/88	500	110	4	20	27
	12/09/88	260	920	7.5	5.9	11
	01/13/89	990	200	6.5	46	14
	02/10/89	290	90 -	3.6	8.8	9
	03/02/89	630	210	6.2	34	7
	04/04/89	640	340	13	25	40
ļ	05/01/89	100	<b>6</b> 5	2	3	4
	05/31/89	60	ND	ND	ND	ND
	06/28/89	110	62	1 3	ND	4.8
1	08/09/89	160	110	2	6 4	ND
	09/08/89	94	45	0 5	3 8	ND
	10/10/89	90	30	1	1 9	ND
	10/26/89	ND	3 4	ND	ND	ND
	12/21/89	ND	35	1 1	3 6	16

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-4	01/17/90	ND	4	ND	6.8	ND
(cont.)	02/23/90	ND	8	ND	1.1	0.7
(0.5)	06/04/90	160	85	1.1	1.9	ND
	11/20/90	140	52	1	8.0	0.9
	02/12/91	130	48	ND	1.5	ND
	05/06/91	140	49	1.3	4.1	1.7
	08/28/91	90	13	ND	1	1.1
	11/13/91	ND	10	ND	ND	ND
	02/25/92	120	47	ND	0.5	0.5
	05/12/92		Well	Sampled Sen	niannually	
	08/12/92	ND	3.5	ND	NĎ	ND
	11/10/92		Well	Sampled Sen	niannually	
	02/11/93	190	59	3.2	3.6	3.1
	05/10/93			Sampled Sen	niannually	
	08/12/93	50	4.1	1.1	1.3	3.2
	11/11/93			I Sampled Sen	niannually	,
MW-5	08/26/88	210	6	44	9	19
	10/05/88	7,500	2,700	ND	110	590
	11/22/88	150	21	26	3	2
	12/09/88	240	37	2.2	·6.7	7.7
	01/13/89	80	1.6	ND	7.7	2
	02/10/89	60	ND	ND	ND	ND
	03/02/89	ND	ND	ND	ND	ND
	04/05/89	ND	ND	ND	ND	ND
	05/01/89	ND.	1.3	ND	ND	ND
	06/01/89	ND	ND	ND	ND	ND
	06/29/89	ND	ND	ND	ND	ND
	08/09/89	89	8.5	1.8	1.5	2.2
	09/11/89	1,100	7.8	1.4	ND	6.3
	10/10/89	ND	ND	ND	ND	ND
٠.	10/25/89	ND	1.4	ND	ND	1.6
	12/20/89	ND	ND	ND	ND	ND
	01/18/90	ND	ND	ND	ND	ND
	02/23/90	ND	ND	ND	0.6	ND
	06/04/90	ND	ND	ND	ND	ND
	11/20/90	ND	ND	ND	ND	1
	02/11/91	ND	ND	ND	ND	ND
	05/06/91	ND	ND	ND	ND	ND
	08/28/91	ND	ND	ND	ND	1
	11/13/91	ND	ND	ND	ND	ND
1	02/25/92	ND	ND	ND	ND	ND

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-5	 05/12/92	ND	ND	ND	ND .	ND
(cont.)	08/12/92	56	0.5	ND	ND	ND
(COIII.)	11/10/92	ND	ND	ND	ND	ND
	02/11/93	ND	ND	ND	ND	ND
	05/10/93	ND	1.5	ND	1.2	5.2
	09/16/93	ND	ND	ND	ND	ND
	11/11/93	ND	12	ND	1.2	ND
MW-6	08/26/88	15,000	390	390	670	1,700
10111	10/05/88	2,700	130	38	960	220
	11/22/88	NA	NA	NA	NA	ΝĀ
	12/09/88	540	62	3	26	5
	01/13/89	980	160	22	120	29
	02/10/89	1,900	290	24	93	48
	03/02/89	1,400	160	20	130	33
	04/04/89	1,200	220	27	74	69
	05/01/89	790	120	11	25	17
	06/01/89	1,200	49	49	69	30 35
	06/29/89	940	130	15	69	35
	08/09/89	1,400	280	39	170	64 ND
	09/11/89	ND	ND	ND	ND	ND 16
	10/10/89	1,000	85	11	12	39
	10/24/89	1,500	67	20	50 ND	ND 2a
	12/20/89	ND	4.9	5.1	, ND	18
	01/18/90	ND	67	12	48 47	30
	02/23/90	1	150	16 ND	47 ND	0.6
	06/04/90	190	ND	ND	- 39	21
	11/20/90	730	120	12	33	16
	02/12/91	550	65	10	38	23
)	05/06/91	550	72	11	36 28	20
ļ	08/28/91	580	82	7.6	20	12
İ	11/13/91	430	60	7.6		11
	02/25/92	400	52	6.6 36	1,8 12	49
	05/12/92	950	260	15	55	18
1	08/12/92	<b>660</b>	<b>90</b> 23	37	15	6.8
	11/10/92	350	23 42	11	29	17
	02/11/93	660	42 ND	ND	ND	ND
	05/10/93	190	39	15	23	38
	08/12/93	360	39 43	16	23	40
	08/12/93(D) 11/11/93	330 ND	ND	ND	ND	ND
14141	, ,	ND	0.8	ND	ND	ND
MW-7	08/26/88	ND	ND	ND	ND	ND
	10/05/88 11/22/88	700	41	9	1	20

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-7	12/09/88	ND	ND	ND	ND .	0.6
(cont.)	01/13/89	ND	ND	ND	ND	ND
(00111.)	02/10/89	ND	ND	ND	ND	ND
	03/02/89	ND	ND	ND	ND	ND
	04/05/89	ND	ND	ND	ND	ND
	05/01/89	ND	ND	ND	ND	ND
	05/31/89	ND	ND	ND	ND	ND
	06/28/89	ND	ND	ND	ND	ND
	08/09/89	ND	NĐ	ND	ND	ND
	09/07/89	ND	ND	ND	ND	ND
	10/10/89	ND	ND	ND	ND	ND
	10/24/89	ND	ND	ND	ND	ND
	12/20/89	ND	ND	ND	ND	ND
	01/18/90	ND	ND	ND	ND	ND
	02/23/90	ND	ND	ND	NÐ	ND
	06/04/90	ND	ND	ND	ND	ND
	11/20/90	ND	ND	ND	ND	ND
	02/11/91	ND	ND.	ND	ND	ND
	05/06/91	ND	ND	ND	ND	ND
		ND	ND	ND	ND	ND
	08/28/91	ND ND	ND	ND	ND	ND
	11/13/91	ND	ND	ND	ND	ND
	02/25/92	140	We		miannually	
	05/12/92	52	0.8	0.9	ND	ND
	08/12/92	52	0.0 We		miannually	
	11/10/92		ND	ND	ND	ND
	02/11/93	ND	1ND		miannually	
	05/10/93	N1D	ND	ND	ND	ND
i	09/16/93 11/11/93	ND	We		emiannually	
	11/11/30					
MW-8	03/01/89	ND	ИD	ND	ND	ND
	04/04/89	ND	ND	ND	ND	ND
)	05/01/89	ND ·	ND	ND	ND	ND
	05/31/89	ND	ND	ND	ND	ND
	06/28/89	ND	ND	ND	ND	ND
	08/08/89	ND	ND	ND	ND	ND
	09/07/89	ND	ND	ND	ND	ND
1	10/10/89	ND	ND	ND	ND	ND
	10/16/89	ND	ND	ND	ND	ND
	12/21/89	ND	ND	ND	ND	ND
	01/18/90	ND	ND	ND	ND	ND

		TPH as	-	<b>~</b> .	Patrodio amongo	Vida i aa
Well Number	Date Sampled	Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-8	02/26/90	ND	ND	ND	ND.	ND
(cont.)	06/04/90	ND	ND	ND	ND	ND
` '	11/20/90	ND	ND	ND	ND	ND
	02/11/91	ND	ND	ND	ND	ND
	05/06/91	ND	ND	ND	ND	ND
	08/28/91	ND	ND	ND	ND	ND
	11/13/91	ND	ND	ND	ND	ND
	02/25/92	ND	ND	ND	· ND	ND
	05/12/92		Well	Sampled Sen	niannually	
	08/12/92	ND	ND	ND	ND	ND
	11/10/92		Well	Sampled Sen	niannually	
	02/10/93	ND	ND	ND	ND	ND
	05/10/93		Wel	Sampled Sen	niannually	
	09/16/93	ND	0.7	ND	ND	1.4
	11/11/93		Wel	l Sampled Ser	niannually	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
MW-9	03/1/89	ND	ND	ND	ND	ND
	04/04/89	ND	ND	ND	ND	ND
	05/01/89	ND	ND	ND	ND	ND
	05/31/89	ND	ND	ND	ND	ND
	06/28/89	ND	ND	ND	ND	ND
	08/08/89	ND	ND	ND	ND	ND
	09/07/89	ND	ND	ND	ND	ND
	10/09/89	ND	ND	ND	ND	ND
	10/23/89	ND	ND	ND	ND	ND
	12/21/89	ND	ND	ND	ND	ND
	01/18/90	ND	ND	ND	ND	ND
	02/26/90	ND	ND	ND	ND .	ND
	06/04/90	ND	ND	ND	ND	ND
	11/20/90	ND	ND	ND	ND	ND
	02/11/91	ND	ND	ND	ND	ND
	05/06/91	ND	ND	ND	ND	ND
	08/28/91	ND	ND	ND	ND	ND
	11/13/91	ND	ND	ND	ND	ND
	02/25/92	ND	ND	ND	ND	ND
	05/12/92	*******		II Sampled Se	miannually	
	08/12/92	ND	ND	ND	ND	ND
	11/10/92			ll Sampled Se	miannually	
	02/10/93	ND	ND	ND	ND	ND
	05/10/93			II Sampled Se	miannually	
	09/16/93	ND	ND	ND	ИĎ	ND
	11/11/93	**********			miannually	

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-10	03/02/89	1,000	140	36	ND ·	77
4	04/04/89	3,300	760	240	46	630
	05/01/89	680	99	24	8.1	32
	06/01/89	1,400	120	39	ND	45
	06/29/89	1,300	51	1.4	<b>6.1</b> ,	91
	08/09/89	860	310	26	45	82
	09/07/89	390	55	2.9	4.0	18
	10/10/89	460	85	7.6	10	45
	10/26/89	270	20	1.4	3.5	9.3
	12/20/89	ИD	5.7	ND	ND	ND
•	01/18/90	NA	NA	NA	NA	NA
	06/90			Well Destro	oyed	
	/ /		A I D	110	ND	ND
MW-11	03/02/89	ND	ND	ND	ND	ND
	04/04/89	ND	ND	ND	ND	ND
	05/01/89	ND	ND	ND	ND	ND
	11/20/90	ND	ND	ND	ND	ND
	05/31/89	ND	ND	ND	ND	ND
	06/28/89	ND	ND	ND	ND	ND
	08/08/89	ND	ND	ND	ND	NĎ
	09/07/89	ND	ND	ND	ND	ND
	10/09/89	ND	ND	ND	ND	ND
	10/24/89	ND	ND	ND	ND	ND
	12/20/89	ND	ND	ND	ND	ND
	01/18/90	ND	ND	ND	ND	ND
	02/26/90	ND	ND	ND	ND	ND
	06/04/90	ND	ND	ND	ND	ND
	11/20/90	ND	ND	ND	ND	ND
	02/11/91	ND	ND	ND	ND	ND
	05/06/91	ND	ND	ND	ND	ND
	08/28/91	ND	ND	ND	ND	1
	11/15/91	ND	ND	ND	ND	ND
	02/25/92	ND	ND	ND	ND	ND
	05/12/92			l Sampled Ser	niannually	
	08/12/92	ND	ND	ND	ND	ND
	11/10/92		Wel	I Sampled Ser	miannually	
	02/11/93	61*	ND	ND	ND	ND
	05/10/93		Wel	I Sampled Ser	miannually	
	08/12/93	140	18	13	7 5	32
	11/11/93		Wel	I Sampled Ser	miannually	

Former Shell Service Station

7194 Amador V	alley Bouleva Dublin, Califo	 e Parkway	
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Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-12	03/02/89	ND	ND	ND	ND.	ND
	04/04/89	ND	ND	ND	ND	ND
	05/01/89	ND	ND	ND	ND	ND
	06/01/89	ND	ND	ND	ND	ND
	06/29/89	ND	ND	ND	ND	ND
	08/09/89	ND	ND	ND	ND	ND
	09/07/89	ND	ND	ND	ND	ND
	10/09/89	ND	ND	ND	ND	ND
	10/24/89	ND	ND	ND	ND	ND
	12/20/89	ND	ND	ND	ND	ND
	01/18/90	ND	ND	ND	ND	ND
	02/26/90	ND	ND	ND	ND	ND
	06/04/90	ND	ND	ND	ND	ND
	11/20/90	ND	ND	ND	ND	ND
	02/12/91	ND	ND	ND	ND	ND
	05/06/91	ND	ND	ND	ND	ND
	08/28/91	ND	ND	ND	ND	1
	11/13/91	ND	ND	ND	ND	ND
	02/25/92	ND	ND	/ ND	ND	ND
	05/12/92		Well Rer	noved from Sa	ampling Program	
MW-13	05/06/91	1,100	430	30	41	130
	08/28/91	1,000	350	6.4	44	43
	11/13/91	680	320	5.6	38	17
	02/25/92	780	260	3.5	26	15
	05/12/92	660	210	3.5	26	5.8
	08/12/92	400	140	9.6	21	23
	11/10/92	60	220	2.9	23	11
	02/11/93	970	340	11	29	32
	05/10/93	2,300	.440	ND	ND	ND
	08/12/93	8,900	670	<i>2</i> 3	76	61
	11/11/93	470	230	<2.5	27	11
	11/11/93(D)	610	190	<2.5	21	8.0
RW-1	12/09/89	6,800	740	5	11	37
	01/13/89	10,000	3,200	27	60	ND
	02/10/89	6 000	2,800	ND	ND	ND
	03/02/89	3,900	2.400	ND	ND	ND
	04/05/89	1,700	1 000	ND	9	ND
	05/01/89	900	390	5	10	ND
	06/01/89	1,100	1 4	3 3	ND	13
	06/30/89	1,400	ND	ND	ND	ND

#### Table 2 (continued) **Groundwater Analytical Data**

#### Total Petroleum Hydrocarbons (TPH as Gasoline and BTEX Compounds)

#### Former Shell Service Station 7194 Amador Valley Boulevard at Village Parkway Dublin, California

Well Number	Date Sampled	TPH as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
RW-1	08/09/89	7,500	1,700	210	280	300
(cont.)	09/11/89	97	1.7	2.1	2.3	14
, ,	10/10/89	1,400	48	4.5	ND	3
	10/25/89	820	51	1.2	25	3
	12/21/89	490	16	1	8.5	19
	01/17/90	ND	27	1.7	14	1.6
	02/23/90	420	42	1.8	13	2.7
	06/04/90	180	23	0.7	5.3	1.2
	11/20/90	1,900	170	52	29	38
	02/11/91		*	Well Not Sam	oled	·

ppb = Parts per billion

NR = Not requested

ND = Not detected

NA = Not analyzed

(D) = Duplicate sample

\* = Laboratory noted concentration is not indicative of gasoline. See certified analytical results for detection limits.

### Table 3 Field Purging and Sampling Data

#### Former Shell Service Station 7194 Amador Valley Boulevard at Village Parkway Dublin, California

Sample Date: November 11, 1993

Depth of Well	Depth to Water (feet)	Depth to Liquid (feet)	рH	Temperature (°F)	Conductivity	Turbidity (NTU)	Purge Volumes (gallons)	Time of Purging	Time of Sampling
			,	Well N	лW-1				
25.12	8.56	~~	7.8 7.7 7.4	64.4 65.6 65.0	900 900 1000	120 143 67	11 22 33	12:18 12:21 12:24	12:30
Purge M	ethod: Electr	ic Submersib	le		Sample Meth	od: Bailer			
				Well	лW-2				
24.54	11.36		7.2 7.2 7.3	66.2 65.8 66.4	3800 4000 4400	56 110 34	9 18 26	13:45 13:48 13:51	13:59
Purge M	ethod: Electr	ic Submersib	ole		Sample Meth	od: Bailer			
				Well N	MW-3				
24.24	10.64		7.4 7.4 7.3	66.8 67.2 66.2	2000 2000 2100	80 44 >200	9 18 27	13:20 13:23 13:26	13:35
Purge M	ethod: Electr	ic Submersib	ole	1	Sample Meth	nod: Bailer	<u> </u>		
			,	Well !	MW-5				
44.67	9.32		7.0 7.2 7.3	65.4 68.4 68.8	2300 2500 2300	12 >200 >200	23 30 30	11:45 11:48 14:38	14:40
		<b>ic Submersik</b> d at 30 gallor			Sample Meth	nod: Bailer			
				Well	M'W-6				
22 86	9.38		7.6 7.5 7.2	67 6 70 6 67 2	820 1100 1800	>200 142 >200	9 18 27	12:48 12:51 12:54	13.00
		ric Submersit			Sample Meth	and Railor	<del></del>		

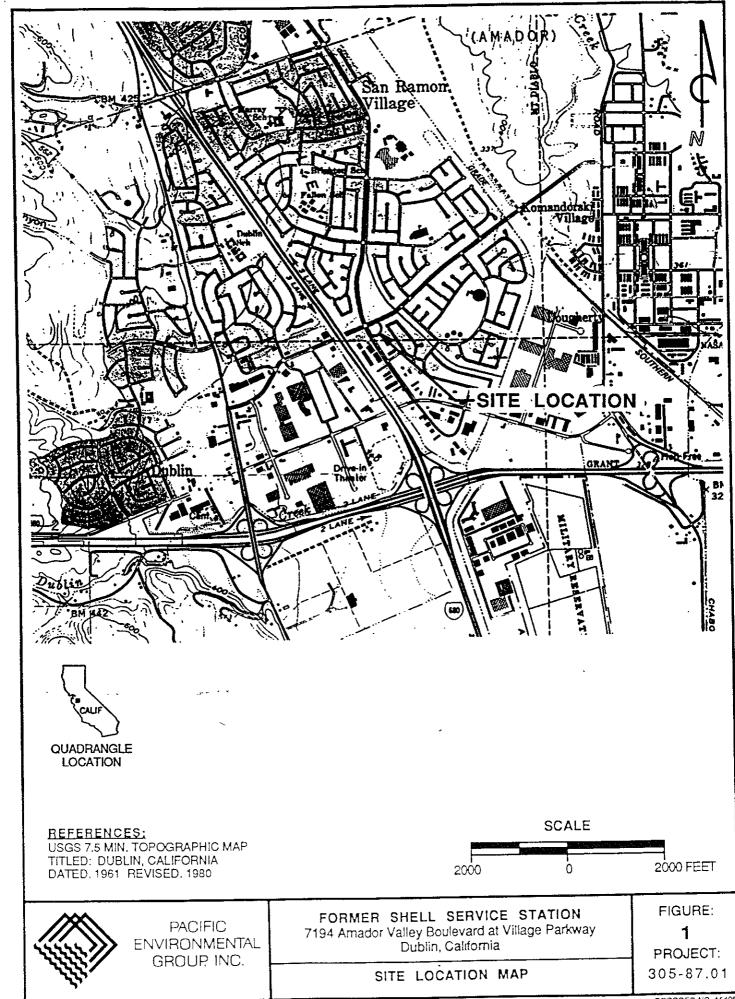
30508701/4Q93 January 26, 1994

## Table 3 (continued) Field Purging and Sampling Data

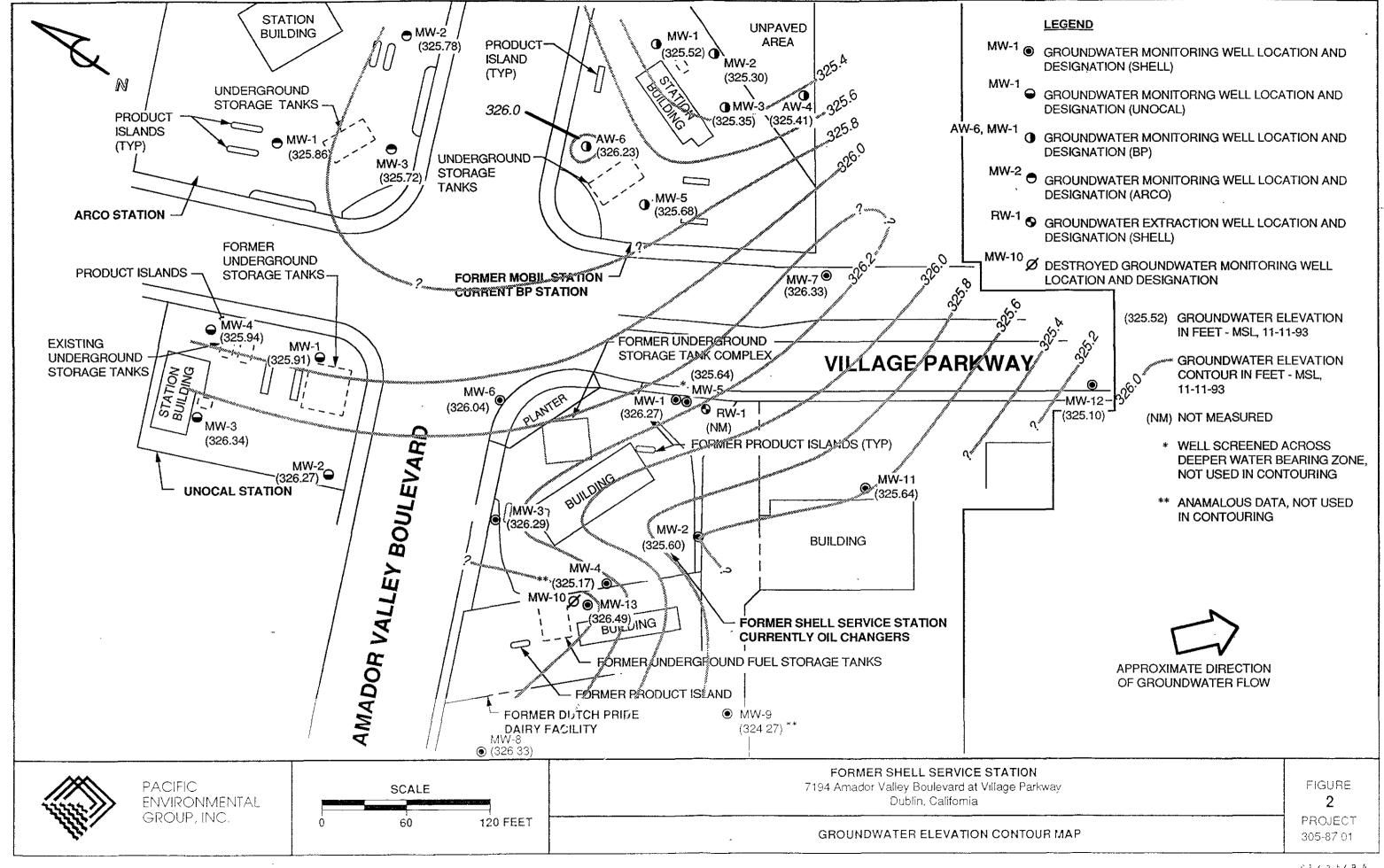
#### Former Shell Service Station 7194 Amador Valley Boulevard at Village Parkway Dublin, California

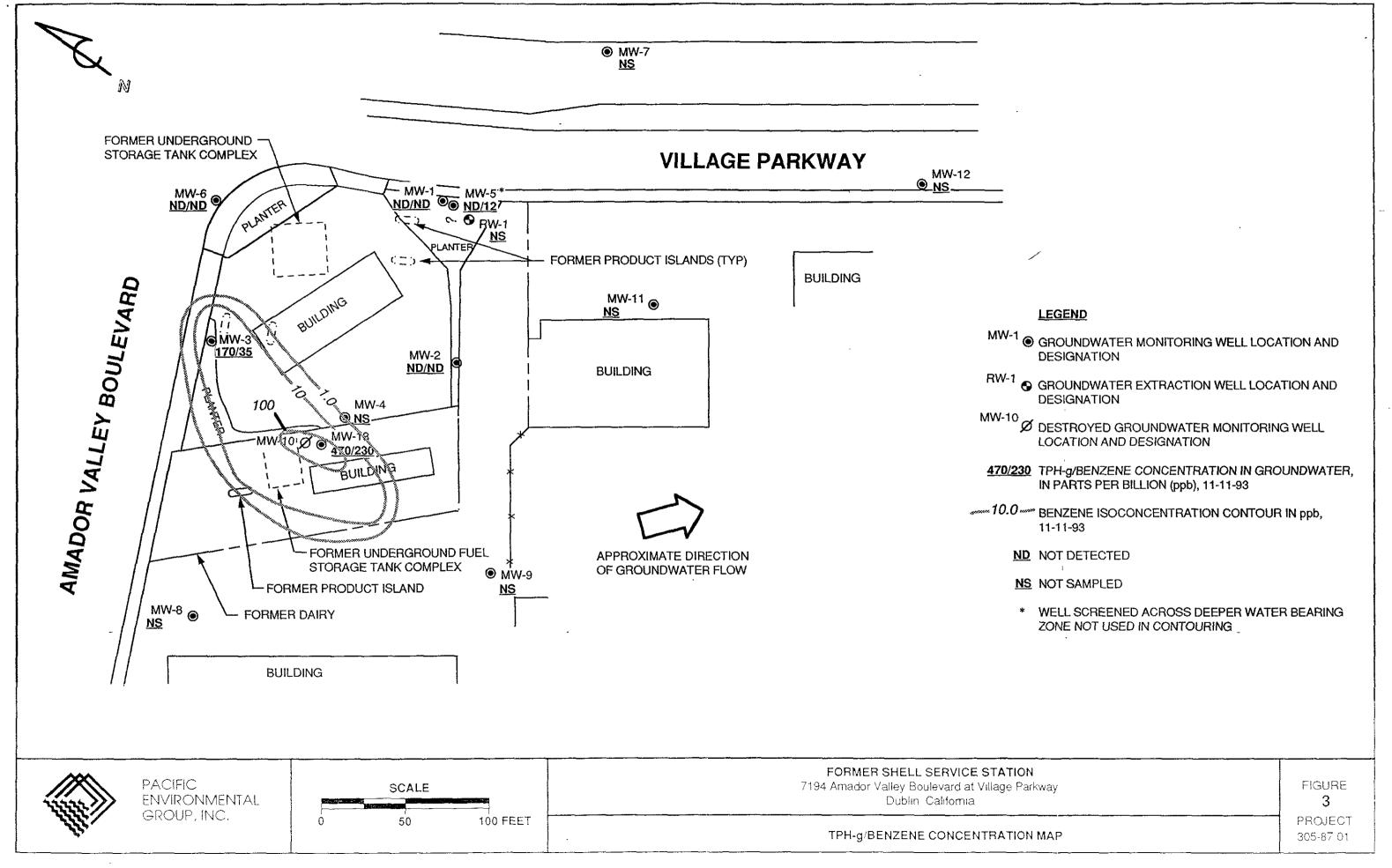
Sample Date: November 11, 1993

Well (fe	et) (fe	uid et) pH	Temperature (°F)	Conductivity	Turbidity (NTU)	Volumes (gallons)	Time of Purging	Time of Sampling
·	, , , <sub>e</sub> , , , ,		Well M	1W-13				
17.02 9.	15	- 7.9 7.8 7.7	67.2 66.8 67.0	2000 1800 1700	30 15 17	6 11 16	14:10 14:13 14:16	14:25
Purge Method:	Electric Sub	mersible		Sample Meth	od: Bailer	·		<u></u>

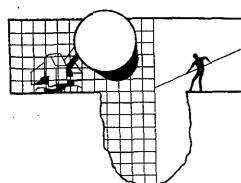


REORDER NO A54081





# ATTACHMENT A GROUNDWATER SAMPLING REPORT



### BLAINE TECH SERVICES INC.

985 TIMOTHY DRIVE SAN JOSE, CA 95133 (408) 995-5535 FAX (408) 293-8773

December 10, 1993

Shell Oil Company P.O. Box 5278 Concord, CA 94520-9998

Attn: Daniel T. Kirk

DEG 1 8 7003

SITE: Shell WIC #204-2217-0105 7194 Amador Valley Blvd. Dublin, California

QUARTER: 4th quarter of 1993

#### QUARTERLY GROUNDWATER SAMPLING REPORT 931111-L-1

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in reponse to the request of the consultant who is overseeing work at this site on behalf of our mutual client, Shell Oil Company. Data collected in the course of our field work is presented in a TABLE OF WELL GAUGING DATA. The field information was collected during our preliminary gauging and inspection of the wells, the subsequent evacuation of each well prior to sampling, and at the time of sampling.

Measurements taken include the total depth of the well and the depth to water. The surface of water was further inspected for the presence of immiscibles which may be present as a thin film (a sheen on the surface of the water) or as a measurable free product zone (FPZ). At intervals during the evacuation phase, the purge water was monitored with instruments that measure electrical conductivity (EC), potential hydrogen (pH), temperature (degrees Fahrenheit), and turbidity (NTU) In the interest of simplicity, fundamental information is tabulated here, while the bulk of the information is turned over directly to the consultant who is making professional interpretations and evaluations of the conditions at the site.

#### STANDARD PROCEDURES

#### **Evacuation**

Groundwater wells are thoroughly purged before sampling to insure that the sample is collected from water that has been newly drawn into the well from the surrounding geologic formation. The selection of equipment to evacuate each well is based on the physical characteristics of the well and what is known about the performance of the formation in which the well has been installed. There are several suitable devices which can be used for evacuation. The most commonly employed devices are air or gas actuated pumps, electric submersible pumps, and hand or mechanically actuated bailers. Our personnel frequently employ USGS/Middleburg positive displacement pumps or similar air actuated pumps which do not agitate the water standing in the well.

Normal evacuation removes three case volumes of water from the well. More than three case volumes of water are removed in cases where more evacuation is needed to achieve stabilization of water parameters and when requested by the local implementing agency. Less water may be obtained in cases where the well dewaters and does not recharge to 80% of its original volume within two hours and any additional time our personnel have reason to remain at the site. In such cases, our personnel return to the site within twenty four hours and collect sample material from the water which has recharged into the well case.

#### **Decontamination**

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site. Effluent water from purging and on-site equipment cleaning is collected and transported to Shell's Martinez Manufacturing Complex in Martinez, California.

#### Free Product Skimmer

The column headed, VOLUME OF IMMISCIBLES REMOVED (ml) is included in the TABLE OF WELL GAUGING DATA to cover situations where a free product skimming device must be removed from the well prior to gauging. Skimmers are installed in wells with a free product zone on the surface of the water. The skimmer is a free product recovery device which often prevents normal well gauging and free product zone measurements. The 2.0" and 3.0" PetroTraps fall into the category of devices that obstruct normal gauging. In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the PetroTrap before putting it back in the well. This

recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such sites is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

#### Sample Containers

Sample material is collected in specially prepared containers which are provided by the laboratory that performs the analyses.

#### Sampling

Sample material is collected in stainless steel bailer type devices normally fitted with both a top and a bottom check valve. Water is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

Following collection, samples are promptly placed in an ice chest containing prefrozen blocks of an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

#### Sample Designations

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label.

#### **Chain of Custody**

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Shell Oil Company chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person accepting custody of the samples).

#### Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to Anametrix, Inc. in San Jose, California. Anametrix, Inc. is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #1234

#### **Objective Information Collection**

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

#### Reportage

Submission of this report and the attached laboratory report to interested regulatory agencies is handled by the consultant in charge of the project. Any professional evaluations or recommendations will be made by the consultant under separate cover.

Please call if we can be of any further assistance.

RCB/mla

attachments: table of well gauging data

chain of custody

certified analytical report

ce: Pacific Environmental Group, Inc. 2025 Gateway Place, Suite #440

San Jose, CA 95110 ATTN: Rhonda Barrick

#### TABLE OF WELL GAUGING DATA

WELL I D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1	11/11/93	TOC		NONE		•••	8.56	25,12
MW-2	11/11/93	TOC	***	NONE			11.36	24.54
MW-3	11/11/93	TOC		NONE	***	_	10.64	24.24
MW-4	11/11/93	TOC		NONE			11.97	24.72
MW-5	11/11/93	TOC	***	NONE .			9.32	44.67
MW-6	11/11/93	TOC		NONE			9.38	22.86
MW-7	11/11/93	TOC		NONE			6.90	16.44
MW-8	11/11/93	TOC		NONE			9.47	16.15
MW-9	11/11/93	TOC		NONE			10.30	17.83
MW-11	11/11/93	TOC	<del>**</del>	NONE		~	8.56	16.41
MW-12	11/11/93	TOC		NONE			7.43	17.12
MW-13 *	11/11/93	TOC	ODOR	NONE	war		9.15	17.02
	, ,							

<sup>•</sup> Sample DUP was a duplicate sample taken from well MW-13.

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1961 Concourse Drive Suite E San Jose, CA 95131 Tcl: 408-432-8192 Fax: 408-432-8198

MR. JIM KELLER BLAINE TECH 985 TIMOTHY DRIVE SAN JOSE, CA 95133 Workorder # : 9311194 Date Received : 11/12/93 Project ID : 204-2217-0105

Purchase Order: MOH-B813

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9311194- 1	MW-1
9311194- 2	MW-2
9311194- 3	MW-3
9311194- 4	MW-5
9311194- 5	MW-6
9311194- 6	MW-13
9311194- 7	DUP
9311194- 8	E.B.
9311194- 9	T.B.

This report consists of 9 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D. Laboratory Director

#### REPORT SUMMARY ANAMETRIX, INC. (408)432-8192

MR. JIM KELLER BLAINE TECH

985 TIMOTHY DRIVE SAN JOSE, CA 95133 Workorder # : 9311194
Date Received : 11/12/93
Project ID : 204-2217-0105
Purchase Order: MOH-B813

Department : GC Sub-Department: TPH

#### SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9311194- 1	MW-1	WATER	11/11/93	TPHgBTEX
9311194- 2	MW-2	WATER	11/11/93	TPHgBTEX
9311194- 3	MW-3	WATER	11/11/93	TPHgBTEX
9311194- 4	MW-5	WATER	11/11/93	TPHgBTEX
9311194- 5	MW-6	WATER	11/11/93	TPHgBTEX
9311194- 6	MW-13	WATER	11/11/93	TPHgBTEX
9311194- 7	DUP	WATER	11/11/93	TPHgBTEX
9311194- 8	E.B.	WATER	11/11/93	TPHgBTEX
9311194- 9	T.B.	WATER	11/11/93	TPHgBTEX

### REPORT SUMMARY ANAMETRIX, INC. (408)432-8192

MR. JIM KELLER BLAINE TECH 985 TIMOTHY DRIVE SAN JOSE, CA 95133 Workorder # : 9311194
Date Received : 11/12/93
Project ID : 204-2217-0105

Purchase Order: MOH-B813

Department : GC Sub-Department: TPH

#### QA/QC SUMMARY :

- The relative percent difference for toluene and total xylenes for the matrix spike and matrix spike duplicate on sample MW-13 are outside of quality control limits due to matrix interference.

Ohur Balmen 1/20/33 Department Supervisor Date Peggie Danison 1/30/93 Chemist Date

# ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS (GASOLINE WITH BTEX) ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9311194 Project Number: 204-2217-0105

atrix : WATER Date Released : 11/22/93

Matrix : WATER
Date Sampled : 11/11/93

	Reporting Limit	Sample I.D.# MW-1	Sample I.D.# MW-2	Sample I.D.# MW-3	Sample I.D.# MW-5	Sample I.D.# MW-6
COMPOUNDS	(ug/L)	-01	-02	-03	-04 	-05 
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline % Surrogate Rec Instrument I. Date Analyzed RLMF	overy D.	ND ND ND ND ND 102% HP12 11/17/93	ND ND ND ND ND 111% HP12 11/17/93	35 8.0 29 9.2 170 129% HP12 11/17/93	12 ND 1.2 ND ND 122% HP12 11/17/93	ND ND ND ND 109% HP12 11/17/93

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.

RLMF - Reporting Limit Multiplication Factor (Dilution).

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Churlian Burch 11.23 93 Analyst Date

Supervieor Date

#### ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS (GASOLINE WITH BTEX) ANAMETRIX, INC. - (408) 432-8192

Project Number: 204-2217-0105 Date Released: 11/22/93 Anametrix W.O.: 9311194

: WATER Matrix

Date Sampled : 11/11/93

	Reporting Limit	Sample I.D.# MW-13	Sample I.D.# DUP	Sample I.D.# E.B.	Sample I.D.# T.B.	Sample I.D.# BN1601E2
COMPOUNDS	(ug/L)	-06	-07	-08	-09	BLANK
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	0.5 0.5 0.5 0.5 50	230 <2.5 27 11 470	190 <2.5 21 8.0 610	ND ND ND ND	ND ND ND ND	ND ND ND ND ND
<pre>% Surrogate Rec Instrument I. Date Analyzed RLMF</pre>	D.	121% HP12 11/17/93	123% HP12 11/18/93	102% HP12 11/17/93	108% HP12 11/17/93	96% HP12 11/16/93 1

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.

RLMF - Reporting Limit Multiplication Factor (Dilution).

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Min lesh Burch 1/29.93

Date

Cheul Balma 11/29/53
upervisor Dat

#### ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS (GASOLINE WITH BTEX) ANAMETRIX, INC. - (408) 432-8192

Project Number: 204-2217-0105 Date Released: 11/22/93 Anametrix W.O.: 9311194

Matrix : WATER Date Sampled : N/A

	Reporting Limit	I.D.# BN1701E2			
COMPOUNDS	(ug/L)	BLANK	BLANK	 <b>-</b>	
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline % Surrogate Rec Instrument I. Date Analyzed RLMF	D	ND ND ND ND ND 95% HP12 11/17/93	ND ND ND ND 95% HP12 11/18/93		

ND - Not detected at or above the practical quantitation limit for the

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.

RLMF - Reporting Limit Multiplication Factor (Dilution).

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Crsh Buch 1123 43
Date

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#### TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT EPA METHOD 5030 WITH GC/PID ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 204-2217-0105 MW-13 Anametrix I.D.: 11194-06

Analyst : CMB
Supervisor : CMB
Date Released : 11/22/93
Instrument I.D.: HP12 Matrix : WATER
Date Sampled : 11/11/93
Date Analyzed : 11/17/93

COMPOUND	SPIKE AMT (ug/L)	SAMPLE CONC (ug/L)	REC MS (ug/L)	%REC MS	REC MD (ug/L)	%REC MD	RPD	%REC LIMITS	*
BENZENE TOLUENE ETHYLBENZENE TOTAL XYLENES	100 100 100 100	230 0 27 11	290 89 130 100	60% 89% 103% 89%	350 130 170 140	120% 130% 143% 129%	19% 37% 27% 33%	45-139 51-138 48-146 50-139	
p-BFB				139%		130%		61-139	_

<sup>\*</sup> Quality control limits established by Anametrix, Inc.

#### TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT EPA METHOD 5030 WITH GC/PID ANAMETRIX, INC. (408) 432-8192

Anametrix I.D.: MN1601E3

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 11/16/93 Analyst : cmb
Supervisor : cs
Date Released : 11/18/93
Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS *
Benzene Toluene Ethylbenzene Total Xylenes	20.0 20.0 20.0 20.0	19.3 21.1 22.9 21.2	97% 106% 115% 106%	52-133 57-136 56-139 56-141
P-BFB			108%	61-139

<sup>\*</sup> Quality control limits established by Anametrix, Inc.

#### TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT EPA METHOD 5030 WITH GC/PID ANAMETRIX, INC. (408) 432-8192

Anametrix I.D.: MN1701E1

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 11/17/93 Analyst : Omb Supervisor : O Date Released : 11/18/93 Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS *
Benzene Toluene Ethylbenzene Total Xylenes	20.0 20.0 20.0 20.0	15.5 16.6 18.2 16.6	78% 83% 91% 83%	52-133 57-136 56-139 56-141
P-BFB			112%	61-139

<sup>\*</sup> Quality control limits established by Anametrix, Inc.

#### TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT EPA METHOD 5030 WITH GC/PID ANAMETRIX, INC. (408) 432-8192

Anametrix I.D.: MN1801E1

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 11/18/93 Analyst : Owb Supervisor : 24 Date Released : 11/22/93 Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS *
Benzene Toluene Ethylbenzene Total Xylenes	20.0 20.0 20.0 20.0	16.0 17.4 19.1 17.4	80% 87% 96% 87%	52-133 57-136 56-139 56-141
P-BFB			101%	61-139

<sup>\*</sup> Quality control limits established by Anametrix, Inc.