

20303
D.S.J.

C A M B R I A

AUG 28 2002

21 August 2002

Donna Drogos
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Second Quarter 2002 Monitoring Report**
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, California
Incident# 98995741
Cambria Project# 244-0902-002



Dear Ms. Drogos:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US, Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring report in accordance with the reporting requirements of 23 CCR 2652d.

SECOND QUARTER 2002 ACTIVITIES

Groundwater Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged and sampled all site wells, calculated groundwater elevations, and compiled the analytical data. Cambria prepared a groundwater elevation contour map (Figure 1). Blaine's report, presenting the laboratory report, is included as Attachment A.

AB 2886 Geotracker Well Survey: Virgil Chavez Surveying resurveyed the elevations and locations of the site wells in compliance with AB 2886 requirements. The new elevations will be incorporated into the third quarter 2002 monitoring report.

ANTICIPATED THIRD QUARTER 2002 ACTIVITIES

Groundwater Monitoring: The next sampling event is scheduled for the third quarter of 2002. At that time, Blaine will gauge all wells, sample wells MW-2 and MW-4, and tabulate the data. Cambria will prepare a monitoring report. Wells MW-1 and MW-3 are sampled on an annual basis during the first quarterly groundwater monitoring event.

Oakland, CA
San Ramon, CA
Sonoma, CA

**Cambria
Environmental
Technology, Inc.**

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

Sensitive Receptor Survey and Offsite Investigation Work Plan: Per your agency's request, Cambria will conduct a sensitive receptor survey within a 1/2-mile radius of the site. The survey will identify hospitals, churches, schools, water producing wells, and utility conduits in the site vicinity. The intent of the proposed offsite investigation is to evaluate the extent of methyl-tert-butyl ether impact to groundwater and potential transport to any nearby sensitive receptors. The results of the sensitive receptor survey will help determine the locations where additional subsurface assessment may be necessary. Cambria will submit the results of the sensitive receptor survey in an upcoming offsite investigation report.



Well Re-Survey: The groundwater data table will be updated to reflect the results of the recent wellhead or top of casing re-survey.

CLOSING

We appreciate the opportunity to work with you on this project. Please call Max Shahbazian at (510) 420-3344, if you should have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc

Max Shahbazian, R.G.
Project Geologist

Matthew W. Derby, P.E.
Senior Project Engineer

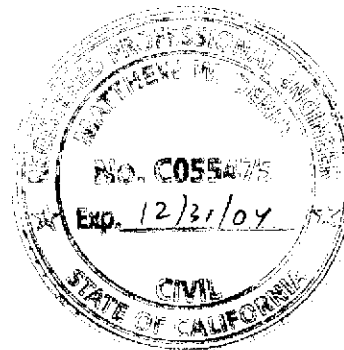
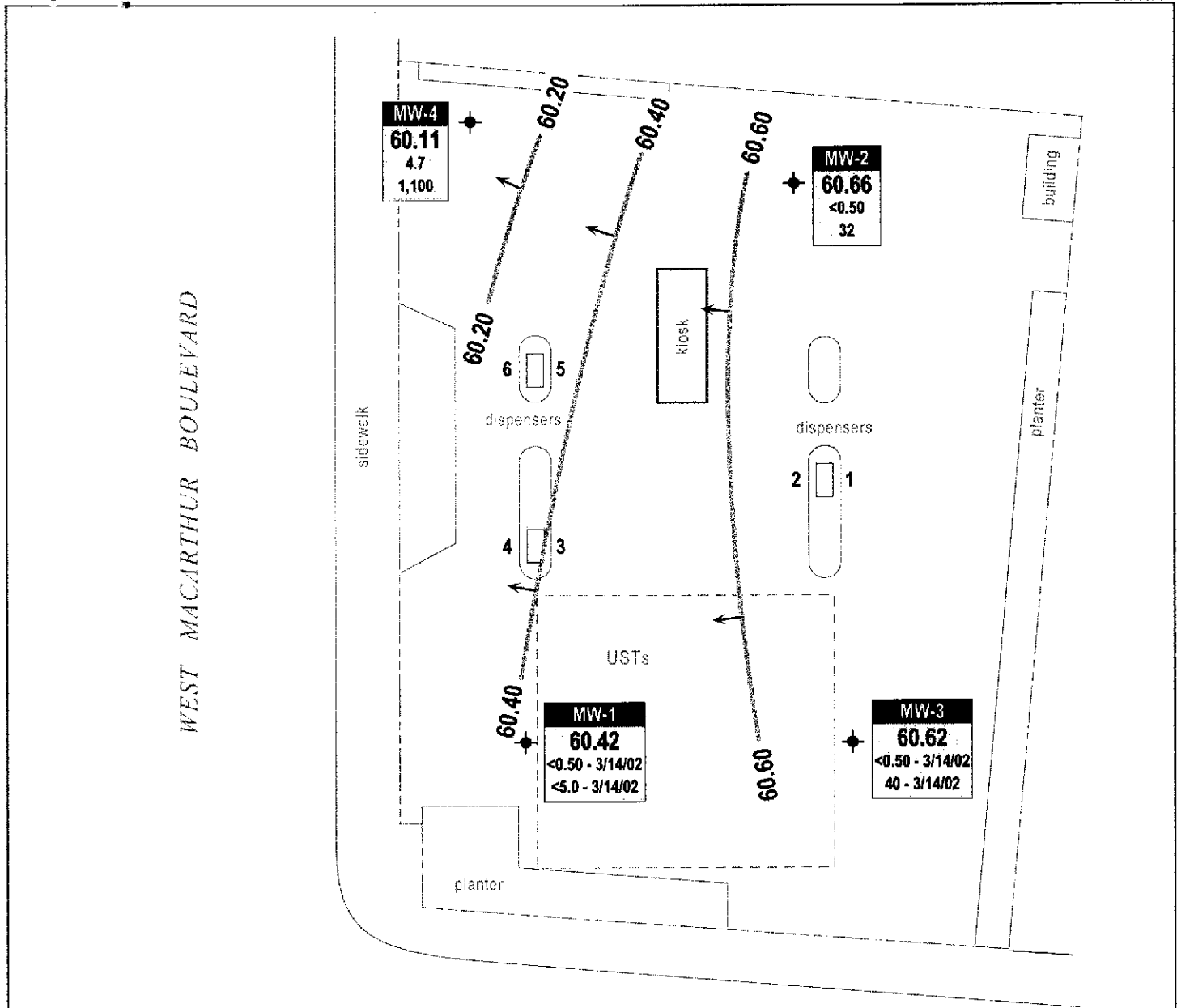


Figure: 1 - Groundwater Elevation Contour Map

Attachment: A - Blaine Groundwater Monitoring Report

cc: Karen Petryna, Shell Oil Products US, P.O. Box 7869, Burbank, California 91501-7869



WEST MACARTHUR BOULEVARD

PIEDMONT AVENUE

EXPLANATION

MW-1 ◆ Monitoring well location

→ Groundwater flow direction

XX.XX Groundwater elevation contour, in feet above mean sea level (msl), approximately located; dashed where inferred

Well	Well designation
ELEV	Groundwater elevation, in feet above msl
Benzene MTBE	Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260.

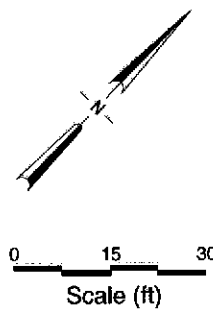


FIGURE 1

Shell-branded Service Station

230 West MacArthur Boulevard
Oakland, California
Incident #98995741



CAMBRIA

Groundwater Elevation Contour Map

June 13, 2002

G:\OAKLAND\230MACARTHUR\FIGURES\20M02-MP.A1

BLAINE
TECH SERVICES, INC.



1680 ROGERS AVENUE
SAN JOSE, CA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE
CONTRACTOR'S LICENSE #746684
www.blainetech.com

July 11, 2002

Karen Petryna
Shell Oil Products US
P.O. Box 7869
Burbank, CA 92510-7869

Second Quarter 2002 Groundwater Monitoring at
Shell-branded Service Station
230 West MacArthur Blvd.
Oakland, CA

Monitoring performed on June 13, 2002

Groundwater Monitoring Report 020613-MN-2

This report covers the routine monitoring of groundwater wells at this Shell-branded facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight-hour refresher courses.

ATTACHMENT A
Blaine Groundwater Monitoring Report

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Leon Gearhart
Project Coordinator

LG/jt

attachments: Cumulative Table of WELL CONCENTRATIONS
Certified Analytical Report
Field Data Sheets

cc: Anni Kreml
Cambria Environmental Technology, Inc.
1144 65th Street, Suite C
Oakland, CA 94608-2411

WELL CONCENTRATIONS
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, CA
Wic #204-5508-0703

Well ID	Date	TPHg (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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MW-1	07/14/1988	ND	ND	ND	ND	ND	NA	NA	73.89	13.30	60.59
MW-1	10/04/1988	ND	8	4.3	ND	9	NA	NA	73.89	13.65	60.24
MW-1	11/10/1988	ND	ND	ND	ND	ND	NA	NA	73.89	13.55	60.34
MW-1	12/09/1988	ND	ND	ND	ND	ND	NA	NA	73.89	13.22	60.67
MW-1	01/10/1989	ND	ND	ND	ND	NA	NA	NA	73.89	12.86	61.03
MW-1	01/20/1989	ND	ND	NA	NA	ND	NA	NA	73.89	12.91	60.98
MW-1	02/06/1989	ND	ND	ND	ND	ND	NA	NA	73.89	12.94	60.95
MW-1	03/10/1989	ND	ND	ND	ND	ND	NA	NA	73.89	12.59	61.30
MW-1	06/06/1989	ND	ND	ND	ND	ND	NA	NA	73.89	14.05	59.84
MW-1	09/07/1989	ND	ND	ND	ND	ND	NA	NA	73.89	14.92	58.97
MW-1	12/18/1989	ND	ND	ND	ND	ND	NA	NA	73.89	14.88	59.01
MW-1	03/08/1990	ND	ND	ND	ND	ND	NA	NA	73.89	14.08	59.81
MW-1	06/07/1990	ND	ND	ND	ND	ND	NA	NA	73.89	13.89	60.00
MW-1	09/05/1990	ND	ND	ND	ND	ND	NA	NA	73.89	14.83	59.06
MW-1	12/03/1990	ND	ND	ND	ND	ND	NA	NA	73.89	15.05	58.84
MW-1	03/01/1991	ND	ND	ND	ND	ND	NA	NA	73.89	14.34	59.55
MW-1	06/03/1991	ND	ND	ND	ND	ND	NA	NA	73.89	14.16	59.73
MW-1	09/04/1991	ND	ND	ND	ND	ND	NA	NA	73.89	14.60	59.29
MW-1	03/13/1992	ND	ND	ND	ND	ND	NA	NA	73.89	13.40	60.49
MW-1	06/03/1992	ND	ND	ND	ND	ND	NA	NA	73.89	13.76	60.13
MW-1	08/19/1992	87	ND	ND	ND	ND	NA	NA	73.89	14.57	59.32
MW-1	11/16/1992	ND	ND	ND	ND	ND	NA	NA	73.89	14.78	59.11
MW-1	02/18/1993	59a	ND	ND	ND	ND	NA	NA	73.89	12.14	61.75
MW-1	06/01/1993	ND	ND	ND	ND	ND	NA	NA	73.89	13.30	60.59
MW-1	08/30/1993	ND	ND	ND	ND	ND	NA	NA	73.89	14.32	59.57

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MW-1	12/13/1993	ND	ND	ND	ND	ND	NA	NA	73.89	14.06	59.83
MW-1	03/03/1994	100	ND	ND	ND	ND	NA	NA	73.89	13.12	60.77
MW-1	06/06/1994	ND	ND	ND	ND	ND	NA	NA	73.89	14.20	59.69
MW-1	09/12/1994	ND	ND	ND	ND	ND	NA	NA	73.89	15.72	58.17
MW-1	12/15/1994	ND	ND	ND	ND	ND	NA	NA	73.89	12.98	60.91
MW-1	3/13/1995 b	60	4.7	9.8	ND	2.9	NA	NA	73.89	11.74	62.15
MW-1	04/21/1995	ND	ND	ND	ND	ND	NA	NA	73.89	NA	NA
MW-1	06/26/1995	ND	ND	ND	ND	ND	NA	NA	73.89	13.00	60.89
MW-1	09/12/1995	ND	ND	ND	ND	ND	NA	NA	73.89	14.14	59.75
MW-1	03/21/1996	<50	<0.5	<0.5	<0.5	<0.5	ND	NA	73.89	11.03	62.86
MW-1	06/28/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	73.89	13.53	60.36
MW-1	09/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	73.89	14.33	59.56
MW-1	12/19/1996	NA	NA	NA	NA	NA	NA	NA	73.89	13.20	60.69
MW-1	12/05/1997	NA	NA	NA	NA	NA	NA	NA	73.89	12.39	61.50
MW-1	12/24/1998	NA	NA	NA	NA	NA	NA	NA	73.89	13.59	60.30
MW-1	12/23/1999	NA	NA	NA	NA	NA	NA	NA	73.89	15.63	58.26
MW-1	12/11/2000	NA	NA	NA	NA	NA	NA	NA	73.89	15.36	58.53
MW-1	12/27/2001	NA	NA	NA	NA	NA	NA	NA	73.89	12.09	61.80
MW-1	03/12/2002	NA	NA	NA	NA	NA	NA	NA	73.89	12.33	61.56
MW-1	03/14/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	73.89	12.08	61.81
MW-1	06/13/2002	NA	NA	NA	NA	NA	NA	NA	73.89	13.47	60.42

MW-2	07/14/1988	ND	7.9	2.6	1.1	4	NA	NA	75.24	15.18	60.06
MW-2	10/04/1988	90	ND	1.3	2.3	12	NA	NA	75.24	15.30	59.94
MW-2	11/10/1988	ND	ND	ND	ND	2	NA	NA	75.24	15.17	60.07
MW-2	12/09/1988	ND	ND	0.6	ND	3	NA	NA	75.24	14.82	60.42

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MW-2	01/20/1989	ND	ND	ND	ND	ND	NA	NA	75.24	14.54	60.70
MW-2	02/06/1989	NA	ND	ND	ND	ND	NA	NA	75.24	14.59	60.65
MW-2	03/10/1989	ND	ND	ND	ND	ND	NA	NA	75.24	14.88	60.36
MW-2	06/06/1989	ND	ND	0.5	ND	ND	NA	NA	75.24	15.30	59.94
MW-2	09/07/1989	ND	ND	ND	ND	ND	NA	NA	75.24	16.76	58.48
MW-2	12/18/1989	ND	ND	ND	ND	ND	NA	NA	75.24	16.65	58.59
MW-2	03/08/1990	ND	ND	ND	ND	ND	NA	NA	75.24	15.92	59.32
MW-2	06/07/1990	ND	ND	ND	ND	ND	NA	NA	75.24	16.10	59.14
MW-2	09/05/1990	ND	ND	ND	ND	ND	NA	NA	75.24	16.61	58.63
MW-2	12/03/1990	ND	ND	ND	ND	ND	NA	NA	75.24	17.06	58.18
MW-2	03/01/1991	ND	ND	ND	ND	ND	NA	NA	75.24	16.62	58.62
MW-2	06/03/1991	ND	ND	ND	ND	ND	NA	NA	75.24	16.65	58.59
MW-2	09/04/1991	ND	ND	ND	ND	ND	NA	NA	75.24	16.57	58.67
MW-2	03/13/1992	ND	ND	ND	ND	ND	NA	NA	75.24	14.66	60.58
MW-2	06/03/1992	ND	ND	ND	ND	ND	NA	NA	75.24	15.90	59.34
MW-2	08/19/1992	67	ND	ND	ND	ND	NA	NA	75.24	16.72	58.52
MW-2	11/16/1992	50	ND	ND	ND	1.2	NA	NA	75.24	16.66	58.58
MW-2	02/18/1993	52a	ND	ND	ND	ND	NA	NA	75.24	13.88	61.36
MW-2 (D)	02/18/1993	52a	ND	ND	ND	ND	NA	NA	75.24	13.88	61.36
MW-2	06/01/1993	ND	ND	ND	ND	ND	NA	NA	75.24	14.74	60.50
MW-2	08/30/1993	70a	ND	ND	ND	ND	NA	NA	75.24	15.85	59.39
MW-2	12/13/1993	68a	ND	ND	ND	ND	NA	NA	75.24	15.83	59.41
MW-2	03/03/1994	280a	ND	ND	ND	ND	NA	NA	75.24	14.80	60.44
MW-2	06/06/1994	ND	ND	ND	ND	ND	NA	NA	75.24	16.65	58.59
MW-2	09/12/1994	ND	ND	ND	ND	ND	NA	NA	75.24	16.72	58.52
MW-2	12/15/1994	230a	ND	ND	ND	ND	NA	NA	75.24	15.25	59.99

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MW-2	03/13/1995	ND	2.9	6.3	ND	2.7	NA	NA	75.24	15.32	59.92
MW-2	04/21/1995	ND	ND	ND	ND	ND	NA	NA	75.24	NA	NA
MW-2	06/26/1995	ND	ND	ND	ND	ND	NA	NA	75.24	14.65	60.59
MW-2	09/12/1995	ND	ND	ND	ND	ND	NA	NA	75.24	15.78	59.46
MW-2	03/21/1996	<50	<0.5	<0.5	<0.5	<0.5	ND	NA	75.24	12.72	62.52
MW-2	06/28/1996	<50	<0.5	<0.5	<0.5	<0.5	160	NA	75.24	14.95	60.29
MW-2	09/19/1996	<50	<0.5	<0.5	<0.5	<0.5	27	NA	75.24	15.64	59.60
MW-2	12/19/1996	NA	NA	NA	NA	NA	NA	NA	75.24	14.47	60.77
MW-2	12/05/1997	NA	NA	NA	NA	NA	NA	NA	75.24	14.22	61.02
MW-2	12/24/1998	NA	NA	NA	NA	NA	NA	NA	75.24	14.97	60.27
MW-2	12/23/1999	NA	NA	NA	NA	NA	NA	NA	75.24	16.07	59.17
MW-2	12/11/2000	NA	NA	NA	NA	NA	NA	NA	75.24	15.78	59.46
MW-2	12/27/2001	NA	NA	NA	NA	NA	NA	95	75.24	14.25	60.99
MW-2	03/14/2002	120	<0.50	<0.50	<0.50	<0.50	NA	31	75.24	14.59	60.65
MW-2	06/13/2002	100	<0.50	<0.50	<0.50	<0.50	NA	32	75.24	14.58	60.66
MW-3	07/14/1988	ND	ND	ND	ND	ND	NA	NA	74.68	14.05	60.63
MW-3	10/04/1988	ND	ND	ND	ND	5	NA	NA	74.68	14.60	60.08
MW-3	11/10/1988	ND	ND	ND	ND	ND	NA	NA	74.68	14.35	60.33
MW-3	12/09/1988	ND	ND	ND	ND	ND	NA	NA	74.68	14.04	60.64
MW-3	01/10/1989	ND	ND	ND	ND	NA	NA	NA	74.68	13.70	60.98
MW-3	01/20/1989	NA	NA	ND	ND	ND	NA	NA	74.68	13.72	60.96
MW-3	02/06/1989	70	ND	ND	ND	ND	NA	NA	74.68	13.75	60.93
MW-3	03/10/1989	150	ND	ND	ND	ND	NA	NA	74.68	13.42	61.26
MW-3	06/06/1989	ND	ND	ND	ND	ND	NA	NA	74.68	14.52	60.16
MW-3	09/07/1989	ND	0.65	ND	ND	ND	NA	NA	74.68	15.52	59.16

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Wic #204-5508-0703

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MW-3	12/18/1989	46	1.3	ND	0.44	0.66	NA	NA	74.68	19.59	55.09
MW-3	03/08/1990	ND	ND	ND	ND	ND	NA	NA	74.68	14.72	59.96
MW-3	06/07/1990	ND	ND	ND	ND	ND	NA	NA	74.68	14.65	60.03
MW-3	09/05/1990	ND	ND	ND	ND	ND	NA	NA	74.68	15.51	59.17
MW-3	12/03/1990	ND	ND	ND	ND	ND	NA	NA	74.68	14.85	59.83
MW-3	03/01/1991	1.9	59	ND	22	ND	NA	NA	74.68	14.92	59.76
MW-3	06/03/1991	ND	ND	ND	ND	ND	NA	NA	74.68	14.75	59.93
MW-3	09/04/1991	ND	ND	ND	ND	ND	NA	NA	74.68	15.14	59.54
MW-3	03/13/1992	ND	ND	ND	ND	ND	NA	NA	74.68	13.50	61.18
MW-3	06/03/1992	ND	ND	ND	ND	ND	NA	NA	74.68	14.39	60.29
MW-3	08/19/1992	92	ND	ND	ND	ND	NA	NA	74.68	15.08	59.60
MW-3 (D)	08/19/1992	76	ND	ND	ND	ND	NA	NA	74.68	15.08	59.60
MW-3	11/16/1992	200a	ND	ND	ND	ND	NA	NA	74.68	15.43	59.25
MW-3 (D)	11/16/1992	140a	ND	ND	ND	ND	NA	NA	74.68	15.43	59.25
MW-3	02/18/1993	680a	ND	ND	ND	ND	NA	NA	74.68	12.96	61.72
MW-3	06/01/1993	160a	ND	ND	ND	ND	NA	NA	74.68	13.98	60.70
MW-3 (D)	06/01/1993	150a	ND	ND	ND	ND	NA	NA	74.68	13.98	60.70
MW-3	08/30/1993	110a	ND	ND	ND	ND	NA	NA	74.68	14.82	59.86
MW-3	12/13/1993	140a	ND	ND	ND	ND	NA	NA	74.68	14.70	59.98
MW-3 (D)	12/13/1993	110a	ND	ND	ND	ND	NA	NA	74.68	14.70	59.98
MW-3	03/03/1994	61a	ND	ND	ND	ND	NA	NA	74.68	13.92	60.76
MW-3	06/06/1994	ND	ND	ND	ND	ND	NA	NA	74.68	14.73	59.95
MW-3	09/12/1994	ND	ND	ND	ND	ND	NA	NA	74.68	15.42	59.26
MW-3	12/15/1994	ND	ND	0.9	ND	0.6	NA	NA	74.68	13.80	60.88
MW-3	03/13/1995	100a	7.9	17	0.7	6.1	NA	NA	74.68	12.41	62.27
MW-3	04/21/1995	60	0.9	1.1	ND	1	NA	NA	74.68	NA	NA

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Wic #204-5508-0703

Well ID	Date	TPHg (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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MW-3	06/26/1995	ND	ND	ND	ND	ND	NA	NA	74.68	13.79	60.89
MW-3	09/12/1995 b	ND	ND	ND	ND	ND	NA	NA	74.68	14.77	59.91
MW-3	03/21/1996	<50	<0.5	<0.5	<0.5	<0.5	17	NA	74.68	11.80	62.88
MW-3	06/28/1996	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	74.68	14.19	60.49
MW-3	09/19/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	74.68	14.85	59.83
MW-3	12/19/1996	NA	NA	NA	NA	NA	NA	NA	74.68	13.61	61.07
MW-3	12/05/1997	NA	NA	NA	NA	NA	NA	NA	74.68	13.16	61.52
MW-3	12/24/1998	NA	NA	NA	NA	NA	NA	NA	74.68	14.08	60.60
MW-3	12/23/1999	NA	NA	NA	NA	NA	NA	NA	74.68	15.92	58.76
MW-3	12/11/2000	NA	NA	NA	NA	NA	NA	NA	74.68	15.31	59.37
MW-3	12/27/2001	NA	NA	NA	NA	NA	NA	NA	74.68	12.84	61.84
MW-3	03/12/2002	NA	NA	NA	NA	NA	NA	NA	74.68	12.54	62.14
MW-3	03/14/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	40	74.68	12.78	61.90
MW-3	06/13/2002	NA	NA	NA	NA	NA	NA	NA	74.68	14.06	60.62

MW-4	01/23/1990	1,600	100	10	30	20	NA	NA	73.83	14.68	59.15
MW-4	03/08/1990	4,200	260	18	88	39	NA	NA	73.83	14.38	59.45
MW-4	06/07/1990	2,000	150	6.9	14	17	NA	NA	73.83	14.27	59.56
MW-4	09/05/1990	1,700	130	10	7.2	19	NA	NA	73.83	15.40	58.43
MW-4	12/03/1990	2,600	108	41	17	59	NA	NA	73.83	15.90	57.93
MW-4	06/03/1991	2,800	160	15	8.8	32	NA	NA	73.83	14.60	59.23
MW-4	09/04/1991	Sheen	NA	NA	NA	NA	NA	NA	73.83	15.25	58.58
MW-4	03/13/1992	2,700	180	70	5.9	29	NA	NA	73.83	12.72	61.11
MW-4	06/03/1992	1,700	190	ND	30	23	NA	NA	73.83	14.33	59.50
MW-4	08/19/1992	170	4.2	ND	0.6	1	NA	NA	73.83	15.18	58.65
MW-4	11/16/1992	2,600	92	49	50	81	NA	NA	73.83	15.39	58.44

WELL CONCENTRATIONS
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, CA
Wic #204-5508-0703

Well ID	Date	TPHg (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-4	02/18/1993	7,400	120	38	51	87	NA	NA	73.83	12.62	61.21
MW-4	06/01/1993	7,000	1,800	1,700	1,600	1,700	NA	NA	73.83	13.68	60.15
MW-4	08/30/1993	2,100	80	11	ND	11	NA	NA	73.83	14.83	59.00
MW-4 (D)	08/30/1993	2,100	77	5.6	ND	5.5	NA	NA	73.83	14.83	59.00
MW-4	12/13/1993	2,000a	20	ND	21	52	NA	NA	73.83	14.50	59.33
MW-4	03/03/1994	3,500	150	86	85	90	NA	NA	73.83	13.48	60.35
MW-4 (D)	03/03/1994	3,200	130	73	74	76	NA	NA	73.83	13.48	60.35
MW-4	06/06/1994	590	25	ND	ND	ND	NA	NA	73.83	14.26	59.57
MW-4 (D)	06/06/1994	400	16	ND	ND	ND	NA	NA	73.83	14.26	59.57
MW-4	09/12/1994	1,800	42	ND	3.7	4.7	NA	NA	73.83	15.42	58.41
MW-4 (D)	09/12/1994	2,000	40	ND	5.7	8	NA	NA	73.83	15.42	58.41
MW-4	12/15/1994	2,900	78	14	94	17	NA	NA	73.83	13.43	60.40
MW-4 (D)	12/15/1994	2,900	90	7	96	18	NA	NA	73.83	13.43	60.40
MW-4	03/13/1995	2,700	240	24	99	34	NA	NA	73.83	12.13	61.70
MW-4 (D)	03/13/1995	2,500	300	24	140	28	NA	NA	73.83	12.13	61.70
MW-4	06/25/1995	2,100	87	10	67	25	NA	NA	73.83	13.26	60.57
MW-4 (D)	06/25/1995	2,300	92	12	74	26	NA	NA	73.83	13.26	60.57
MW-4	09/12/1995 b	1,300	33	13	9.3	15	NA	NA	73.83	14.64	59.19
MW-4 (D)	09/12/1995 b	1,500	2.1	16	11	17	NA	NA	73.83	14.64	59.19
MW-4	03/21/1996	2,100	50	3.2	40	5.4	ND	NA	73.83	11.55	62.28
MW-4 (D)	03/21/1996	1,700	24	<0.5	39	7.2	740	NA	73.83	11.55	62.28
MW-4	06/28/1996	1,300	61	6.2	53	11	1,000	NA	73.83	13.86	59.97
MW-4 (D)	06/28/1996	1,200	29	6.2	50	8.3	1,000	NA	73.83	13.86	59.97
MW-4	09/19/1996	820	12	<2.5	2.8	4.3	720	NA	73.83	14.72	59.11
MW-4 (D)	09/19/1996	580	9.6	<2.5	<2.5	<2.5	760	1,200	73.83	14.72	59.11
MW-4	12/19/1996	1,200	28	<5.0	<5.0	<5.0	<25	NA	73.83	13.06	60.77

WELL CONCENTRATIONS
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, CA
Wic #204-5508-0703

Well ID	Date	TPHg (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-4	12/05/1997	1,900	36	9	16	18	630	NA	73.83	12.89	60.94
MW-4	12/24/1998	1,100	23	5.3	38	7.9	1,100	NA	73.83	13.92	59.91
MW-4	12/17/1999	1,100	22	21	13	11	3,800	3,200	73.83	14.28	59.55
MW-4	12/23/1999	NA	NA	NA	NA	NA	NA	NA	73.83	16.24	57.59
MW-4	12/11/2000	975	25.0	11.3	<5.00	<5.00	1960	1730c	73.83	14.15	59.68
MW-4	12/27/2001	2,000	9.9	<5.0	18	<5.0	NA	1,400	73.83	12.61	61.22
MW-4	03/14/2002	1,700	6.6	<2.0	2.1	2.1	NA	1,100	73.83	12.35	61.48
MW-4	06/13/2002	1,200	4.7	<2.0	<2.0	<2.0	NA	1,100	73.83	13.72	60.11

Abbreviations:

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to December 27, 2001, by EPA Method 8015.

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to December 27, 2001, by EPA Method 8020.

MTBE = Methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

GW = Groundwater

ug/L = Parts per billion

msl = Mean sea level

ft = Feet

<n = Below detection limit

D = Duplicate sample

ND = Not detected at or above the quantitative limit.

NA = Not applicable

WELL CONCENTRATIONS
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, CA
Wic #204-5508-0703

Well ID	Date	TPHg (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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Notes:

- a = Chromatogram pattern indicates the presence of an unidentified hydrocarbon.
- b = The laboratory noted the sample was analyzed after the method specified holding time.
- c = This sample was analyzed outside of EPA recommended hold time.



Report Number : 26954

Date : 6/24/2002

Leon Gearhart
Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112-1105

Subject : 2 Water Samples
Project Name : 230 W. MacArthur Blvd., Oakland
Project Number : 020613-MN2
P.O. Number : 98995741

Dear Mr. Gearhart,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink that reads "Joel Kiff". The signature is written in a cursive style with a large, looped "J" and a stylized "K".

Joel Kiff



Report Number : 26954

Date : 6/24/2002

Subject : 2 Water Samples
Project Name : 230 W. MacArthur Blvd., Oakland
Project Number : 020613-MN2
P.O. Number : 98995741

Case Narrative

Hydrocarbons reported as TPH as Gasoline do not exhibit a typical Gasoline chromatographic pattern for sample MW-2. Matrix Spike/Matrix Spike Duplicate Results associated with sample MW-4 for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.

Approved By:  _____
Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 916-297-4800



Report Number : 26954

Date : 6/24/2002

Project Name : 230 W. MacArthur Blvd., Oakland

Project Number : 020613-MN2

Sample : MW-2

Matrix : Water

Lab Number : 26954-01

Sample Date :6/13/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	6/18/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	6/18/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	6/18/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	6/18/2002
Methyl-t-butyl ether (MTBE)	32	5.0	ug/L	EPA 8260B	6/18/2002
TPH as Gasoline	100	50	ug/L	EPA 8260B	6/18/2002
Toluene - d8 (Surr)	97.3		% Recovery	EPA 8260B	6/18/2002
4-Bromofluorobenzene (Surr)	94.5		% Recovery	EPA 8260B	6/18/2002

Sample : MW-4

Matrix : Water

Lab Number : 26954-02

Sample Date :6/13/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	4.7	2.0	ug/L	EPA 8260B	6/23/2002
Toluene	< 2.0	2.0	ug/L	EPA 8260B	6/23/2002
Ethylbenzene	< 2.0	2.0	ug/L	EPA 8260B	6/23/2002
Total Xylenes	< 2.0	2.0	ug/L	EPA 8260B	6/23/2002
Methyl-t-butyl ether (MTBE)	1100	20	ug/L	EPA 8260B	6/23/2002
TPH as Gasoline	1200	200	ug/L	EPA 8260B	6/23/2002
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	6/23/2002
4-Bromofluorobenzene (Surr)	99.4		% Recovery	EPA 8260B	6/23/2002

Approved By:  Joel Kiff

Report Number : 26954

Date : 6/24/2002

QC Report : Method Blank Data

Project Name : **230 W. MacArthur Blvd., Oakland**

Project Number : **020613-MN2**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	6/22/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	6/22/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	6/22/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	6/22/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	6/22/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	6/22/2002
Toluene - d8 (Surr)	100		%	EPA 8260B	6/22/2002
4-Bromofluorobenzene (Surr)	107		%	EPA 8260B	6/22/2002
Benzene	< 0.50	0.50	ug/L	EPA 8260B	6/18/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	6/18/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	6/18/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	6/18/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	6/18/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	6/18/2002
Toluene - d8 (Surr)	96.7		%	EPA 8260B	6/18/2002
4-Bromofluorobenzene (Surr)	93.8		%	EPA 8260B	6/18/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
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Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 26954

Date : 6/24/2002

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : 230 W. MacArthur Blvd.,

Project Number : 020613-MN2

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	26943-05	<0.50	37.4	37.7	41.1	41.8	ug/L	EPA 8260B	6/22/02	110	111	0.792	70-130	25
Toluene	26943-05	<0.50	37.4	37.7	41.5	42.0	ug/L	EPA 8260B	6/22/02	111	111	0.337	70-130	25
Tert-Butanol	26943-05	110	187	189	338	345	ug/L	EPA 8260B	6/22/02	119	122	2.16	70-130	25
Methyl-t-Butyl Ether	26943-05	280	37.4	37.7	276	273	ug/L	EPA 8260B	6/22/02	0.00	0.00	0.00	70-130	25
Benzene	26954-01	<0.50	40.0	40.0	41.3	39.1	ug/L	EPA 8260B	6/18/02	103	97.8	5.57	70-130	25
Toluene	26954-01	<0.50	40.0	40.0	37.6	35.4	ug/L	EPA 8260B	6/18/02	93.9	88.4	5.95	70-130	25
Tert-Butanol	26954-01	<5.0	200	200	199	204	ug/L	EPA 8260B	6/18/02	99.7	102	2.10	70-130	25
Methyl-t-Butyl Ether	26954-01	32	40.0	40.0	69.1	67.6	ug/L	EPA 8260B	6/18/02	92.6	88.9	4.10	70-130	25

Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 26954

Date : 6/24/2002

QC Report : Laboratory Control Sample (LCS)

Project Name : **230 W. MacArthur Blvd.,**

Project Number : **020613-MN2**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	6/22/02	114	70-130
Toluene	40.0	ug/L	EPA 8260B	6/22/02	113	70-130
Tert-Butanol	200	ug/L	EPA 8260B	6/22/02	109	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	6/22/02	102	70-130
Benzene	40.0	ug/L	EPA 8260B	6/18/02	108	70-130
Toluene	40.0	ug/L	EPA 8260B	6/18/02	90.1	70-130
Tert-Butanol	200	ug/L	EPA 8260B	6/18/02	100	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	6/18/02	110	70-130

KIFF ANALYTICAL, LLC

Approved By:  Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

EQUIVA WELL MONITORING DATA SHEET

BTS #: <u>020613-MW1</u>	Site: <u>98995241</u>
Sampler: <u>MDN</u>	Date: <u>6/13/02</u>
Well I.D.: <u>MW-2</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>27.69</u>	Depth to Water: <u>14.58</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: Bailer Waterm
 Disposable Bailer Peristaltic
 Middleburg Extraction Pump
 Electric Submersible Other _____

Sampling Method: Bailer
 Disposable Bailer
 Extraction Port
 Dedicated Tubing
 Other: _____

8.5 (Gals.) X 3 = 25.5 Gals.
 I Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
930	64.8	5.6	906	126	8.5	Slightly Cloudy
932	66.7	5.8	645	97	17.0	"
933	66.8	5.9	607	71	25.5	clearing

Did well dewater? Yes No Gallons actually evacuated: 25.5

Sampling Time: 938 Sampling Date: 6/13/02

Sample I.D.: MW-2 Laboratory: Kiff Sequoia Other _____

Analyzed for: TPH-C BTEX MTBE TPH-D Other: _____

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

EQUIVA WELL MONITORING DATA SHEET

BTS #: 020613-MW1	Site: 98995241
Sampler: MDN	Date: 6/13/02
Well I.D.: MW-4	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 24.00	Depth to Water: 13.72
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Middleburg <input checked="" type="checkbox"/> Electric Submersible	Water <input type="checkbox"/> Peristaltic <input type="checkbox"/> Extraction Pump Other _____	Sampling Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing Other: _____
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$6.7 \text{ (Gals.)} \times 3 = 20.1 \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume	Specified Volumes	Calculated Volume															

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
945	66.0	6.2	554	132	6.7	cloudy
946	66.1	6.2	559	60	13.4	clearing
947	66.3	6.1	598	42	20.1	"

Did well dewater? Yes No Gallons actually evacuated: 20.1

Sampling Time: 952 Sampling Date: 6/13/02

Sample I.D.: MW-4 Laboratory: Kiff Sequoia Other _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

EB I.D. (if applicable): @ _____ Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV