

C A M B R I A

March 8, 2002

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

Re: **Fourth Quarter 2001 Monitoring Report**
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, California
Incident# 98995741
Cambria Project# 244-0902-002

MAR 13 2002



Dear Ms. Drogos:

On behalf of Equiva Services LLC, Cambria Environmental Technology, Inc. (Cambria) is submitting this groundwater monitoring report in accordance with the reporting requirements of 23 CCR 2652d.

FOURTH QUARTER 2001 ACTIVITIES

Groundwater Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged all site wells, sampled MW-4, 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.

Additional Oxygenate Analysis: In addition to the regular quarterly analysis for total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene, xylenes, and methyl-tertiary-butyl ether (MTBE), groundwater samples from monitoring wells MW-2 and MW-4 were analyzed for five additional oxygenates. Analytical results for MTBE, di-isopropyl ether, ethyl tert-butyl ether, tert-amyl methyl ether, tert-butyl alcohol, and ethanol are presented on Table 1.

Oakland, CA
San Ramon, CA
Sonoma, CA

**Cambria
Environmental
Technology, Inc.**

1144 65th Street
Suite 8
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

ANTICIPATED 2002 ACTIVITIES

Sampling Frequency Increase: In order to more accurately evaluate contaminant trends, Cambria has coordinated increasing the site wells' monitoring frequency to the following:

- MW-1: Sample annually in the first quarter,
- MW-2: Sample quarterly,
- MW-3: Sample annually in the first quarter, and
- MW-4: Sample quarterly.



Groundwater Monitoring: The next sampling event is scheduled for the second quarter of 2002. At that time, Blaine will gauge and sample all wells and tabulate the data. Cambria will prepare a monitoring report.

Sensitive Receptor Survey and Site Assessment Work Plan: Cambria recommends performing additional site assessment to try identify the source of MTBE impact in groundwater at the site. We also recommend performing a sensitive receptor survey. Cambria will submit a site assessment work plan, including the results of a sensitive receptor survey, within the second quarter 2002.

CLOSING

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

Sincerely,
Cambria Environmental Technology, Inc



Anni Kreml
Senior Staff Scientist

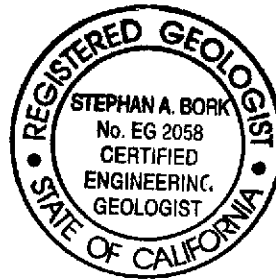
Stephan A. Bork, C.E.G., C.HG.
Associate Hydrogeologist

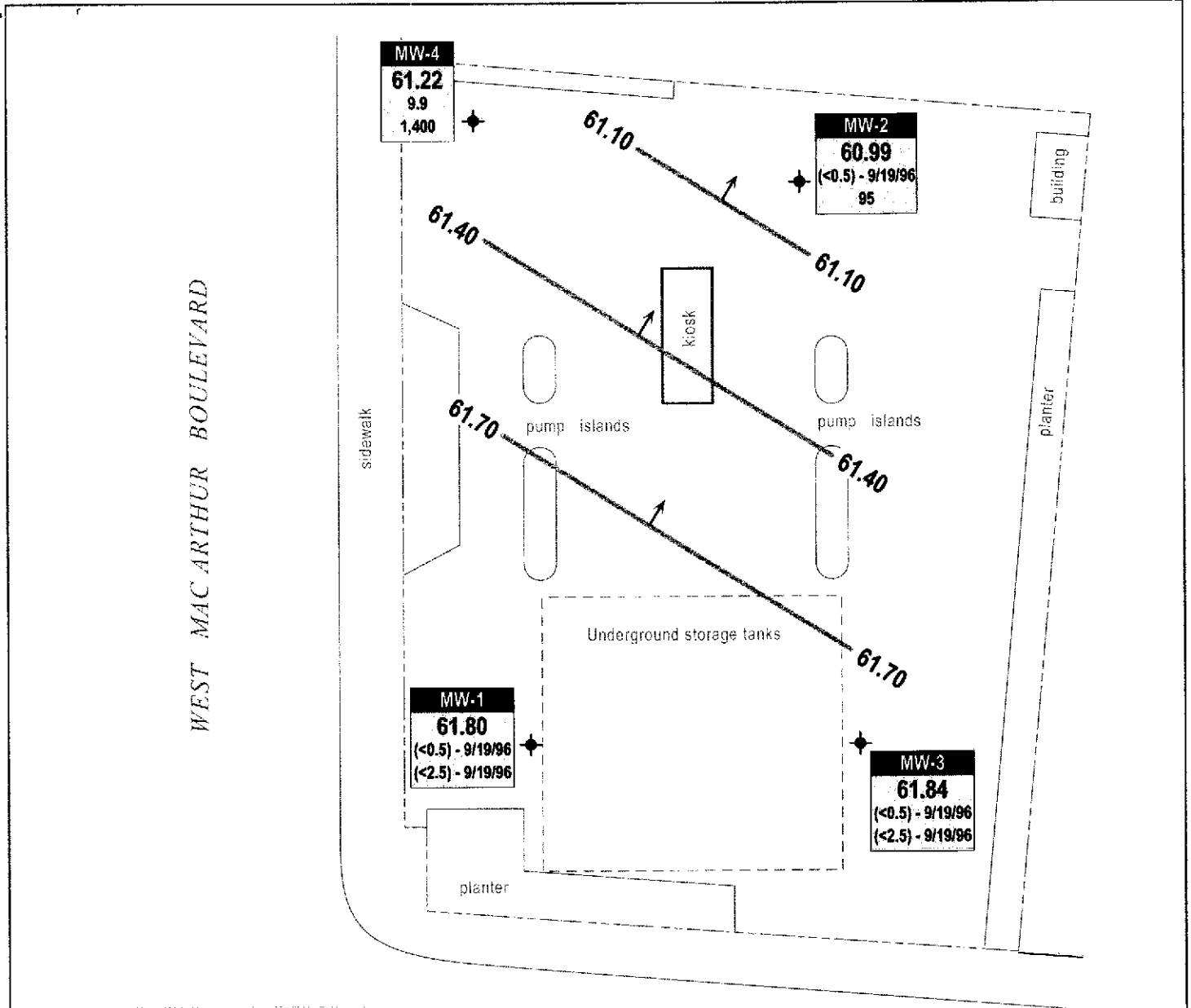
Figure: 1 - Groundwater Elevation Contour Map

Table: 1 - Groundwater Analytical Data - Oxygenates

Attachment: A - Blaine Groundwater Monitoring Report

cc: Karen Petryna, Equiva Services LLC, P.O. Box 7869, Burbank, California 91501-7869

g:\oakland230macarthur\qm\4q01\4q01qm.doc



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	Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260; results in parentheses were analyzed by EPA Method 8020.
MTBE	

PIEDMONT AVENUE

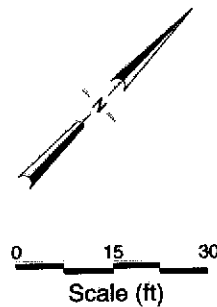


FIGURE 1

Shell-branded Service Station

230 West MacArthur Boulevard
Oakland, California
Incident #98995741



C A M B R I A

Groundwater Elevation Contour Map

December 27, 2001

G:\OAKLAND\230MACARTHUR\FIGURES\4QM01-MP.A1

CAMBRIA

Table 1. Groundwater Analytical Data - Oxygenates - Shell-branded Service Station, Incident #98995741, 230 W. MacArthur Boulevard, Oakland, California

Sample ID	Date Sampled	MTBE	DIPE	ETBE	TAME	TBA	Ethanol
		←————— (Concentrations in ppb) —————→					
MW-2	12/27/01	95	<2.0	<2.0	<2.0	<50	<500
MW-4	12/27/01	1,400	55	<5.0	<5.0	1,100	<500

Abbreviations:

MTBE = Methyl tert-butyl ether, analyzed by EPA Method 8260

DIPE = Di-isopropyl ether, analyzed by EPA Method 8260

ETBE = Ethyl tert-butyl ether, analyzed by EPA Method 8260

TAME = Tert-amyl methyl ether, analyzed by EPA Method 8260

TBA = Tert-butyl alcohol, analyzed by EPA Method 8260

Ethanol analyzed by EPA Method 8260

ppb = Parts per billion

ATTACHMENT A
Blaine Groundwater Monitoring Report

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

January 22, 2002

Karen Petryna
Equiva Services LLC
P.O. Box 7869
Burbank, CA 92510-7869

Fourth Quarter 2001 Groundwater Monitoring at
Shell-branded Service Station
230 West MacArthur Blvd.
Oakland, CA

Monitoring performed on December 27, 2001

Groundwater Monitoring Report 011227-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, appropriate 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.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type 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. concentrates on objective data collection and does not participate in the interpretation of analytical results, the definition of geological or hydrological conditions, the formulation of recommendations, or the marketing of remedial systems.

Please call if you have any questions.

Yours truly,

Leon Gearhart
Project Coordinator

LG/mrb

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)
---------	------	----------------	-------------	-------------	-------------	-------------	------------------------	------------------------	--------------	----------------------------	--------------------------

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

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-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-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
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

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-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
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

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-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-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
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

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-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
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

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-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-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
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

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 (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
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

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)
---------	------	----------------	-------------	-------------	-------------	-------------	------------------------	------------------------	--------------	----------------------------	--------------------------

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

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 : 24104

Date : 01/07/2002

Nick Sudano
Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112-1105

Subject : 2 Water Samples
Project Name : 230 W. MacArthur Blvd., Oakland
Project Number : 011227-MN2
P.O. Number : 98995741

Dear Mr. Sudano,

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,



Joel Kiff



Report Number : 24104

Date : 01/07/2002

Subject : 2 Water Samples
Project Name : 230 W. MacArthur Blvd., Oakland
Project Number : 011227-MN2
P.O. Number : 98995741

Case Narrative

Matrix Spike/Matrix Spike Duplicate Results associated with samples MW-2, 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 : 24104

Date : 01/07/2002

Project Name : 230 W. MacArthur Blvd., Oakland

Project Number : 011227-MN2

Sample : MW-2

Matrix : Water

Lab Number : 24104-01

Sample Date :12/27/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Methyl-t-butyl ether (MTBE)	95	5.0	ug/L	EPA 8260B	01/03/2002
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	01/03/2002
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	01/03/2002
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	01/03/2002
Tert-Butanol	< 50	50	ug/L	EPA 8260B	01/03/2002
Ethanol	< 500	500	ug/L	EPA 8260B	01/03/2002
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	01/03/2002
1,2-Dichlorobenzene - d4 (Surr)	99.8		% Recovery	EPA 8260B	01/03/2002

Approved By:  Joel Kiff



Report Number : 24104

Date : 01/07/2002

Project Name : 230 W. MacArthur Blvd., Oakland

Project Number : 011227-MN2

Sample : MW-4

Matrix : Water

Lab Number : 24104-02

Sample Date :12/27/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	9.9	5.0	ug/L	EPA 8260B	01/03/2002
Toluene	< 5.0	5.0	ug/L	EPA 8260B	01/03/2002
Ethylbenzene	18	5.0	ug/L	EPA 8260B	01/03/2002
Total Xylenes	< 5.0	5.0	ug/L	EPA 8260B	01/03/2002
Methyl-t-butyl ether (MTBE)	1400	5.0	ug/L	EPA 8260B	01/03/2002
Diisopropyl ether (DIPE)	55	5.0	ug/L	EPA 8260B	01/03/2002
Ethyl-t-butyl ether (ETBE)	< 5.0	5.0	ug/L	EPA 8260B	01/03/2002
Tert-amyl methyl ether (TAME)	< 5.0	5.0	ug/L	EPA 8260B	01/03/2002
Tert-Butanol	1100	50	ug/L	EPA 8260B	01/03/2002
Ethanol	< 500	500	ug/L	EPA 8260B	01/03/2002
TPH as Gasoline	2000	500	ug/L	EPA 8260B	01/03/2002
Toluene - d8 (Surr)	99.3		% Recovery	EPA 8260B	01/03/2002
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	01/03/2002

Approved By:  Joel Kiff

Report Number : 24104

Date : 01/07/2002

QC Report : Method Blank Data

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

Project Number : **011227-MN2**

<u>Parameter</u>	<u>Measured Value</u>	<u>Method Reporting Limit</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Date Analyzed</u>
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/03/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/03/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/03/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	01/03/2002
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	01/03/2002
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	01/03/2002
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	01/03/2002
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	01/03/2002
Tert-Butanol	< 50	50	ug/L	EPA 8260B	01/03/2002
Ethanol	< 500	500	ug/L	EPA 8260B	01/03/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	01/03/2002
Toluene - d8 (Surr)	100		%	EPA 8260B	01/03/2002
4-Bromofluorobenzene (Surr)	103		%	EPA 8260B	01/03/2002

<u>Parameter</u>	<u>Measured Value</u>	<u>Method Reporting Limit</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Date Analyzed</u>
------------------	-----------------------	-------------------------------	--------------	------------------------	----------------------

Approved By: Joel Kiff

QC Report : Matrix Spike/ Matrix Spike Duplicate

Report Number : 24104

Date : 01/07/2002

Project Name : 230 W. MacArthur Blvd.,

Project Number : 011227-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	24104-01	<0.50	19.6	18.5	18.6	16.1	ug/L	EPA 8260B	01/03/2009	4.6	86.9	8.54	70-130	25
Toluene	24104-01	<0.50	19.6	18.5	18.9	15.1	ug/L	EPA 8260B	01/03/2009	6.2	81.5	16.5	70-130	25
Tert-Butanol	24104-01	<5.0	98.1	92.7	96.8	95.8	ug/L	EPA 8260B	01/03/2009	8.7	103	4.68	70-130	25
Methyl-t-Butyl Ether	24104-01	95	19.6	18.5	102	104	ug/L	EPA 8260B	01/03/2003	7.3	49.0	27.1	70-130	25

KIFF ANALYTICAL, LLC

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

Approved By:  Joel Kiff

Report Number : 24104

Date : 01/07/2002

QC Report : Laboratory Control Sample (LCS)

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

Project Number : **011227-MN2**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	20.0	ug/L	EPA 8260B	01/02/200	97.4	70-130
Toluene	20.0	ug/L	EPA 8260B	01/02/200	99.0	70-130
Tert-Butanol	100	ug/L	EPA 8260B	01/02/200	102	70-130
Methyl-t-Butyl Ether	20.0	ug/L	EPA 8260B	01/02/200	85.4	70-130

KIFF ANALYTICAL, LLC

Approved By:  Joel Kiff

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

LAB: Kiff

EQUIVA Services LLC Chain Of Custody Record

Lab Identification (if necessary):

Address:

City, State, Zip:

Equiva Project Manager to be invoiced:

SCIENCE & ENGINEERING
 TECHNICAL SERVICES
 CRMT-HOUSTON

Karen Petryna

24104

INCIDENT NUMBER (S&E ONLY)

9 8 9 9 5 7 4 1

SAP or CRMT NUMBER (TS/CRMT)

DATE: 12/27/01

PAGE: 1 of 1

CONSULTANT COMPANY: Blaine Tech Services			SITE ADDRESS (Street and City): 230 W. MacArthur Blvd., Oakland		
ADDRESS: 1680 Rogers Avenue			PROJECT CONTACT (Report to): Nick Sudano		
CITY: San Jose, CA 95112			CONSULTANT PROJECT NO.: BTS # 011227-MN2		
TELEPHONE: 408-573-0555	FAX: 408-573-7771	E-MAIL: nsudano@blainetech.com	SAMPLER NAME(S) (Print): Michael Niukata		

TURNAROUND TIME (BUSINESS DAYS):
 30 DAYS 5 DAYS 72 HOURS 48 HOURS 24 HOURS LESS THAN 24 HOURS

LA - RWQCB REPORT FORMAT UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per BORING _____ ALL _____

SPECIAL INSTRUCTIONS OR NOTES: TEMPERATURE ON RECEIPT C° _____

REQUESTED ANALYSIS

TPH- Gas, Purgeable	BTEX	MTBE (0021B - 5ppb RL)	MTBE (0260B - 0.5 ppbRL)	Oxygenates (5) by (0260)	Ethanol (0260E)	Methanol	1,2-DCA	EDB (0260B)	TPH-Diesel, Extractable (0015m)	MTBE (0260B) Confirmation, See note	FIELD NOTES:
											Container/Preservative or PID Readings or Laboratory Notes
											-01
											-02

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.
		DATE	TIME		
	MW-2	12/27/01	1137	GW	3
	MW-4	↓	1153	↓	3

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) <i>John Cattle</i>	Date: <i>12/28/01</i>	Time: <i>1132</i>

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client.

10/16/00 Revision

O&G Graphic (714) 898-9702

EQUIVA WELL MONITORING DATA SHEET

BTS #: <u>01227-MW2</u>	Site: <u>98995741</u>
Sampler: <u>Mike N</u>	Date: <u>12/27/01</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>14.25</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> <u>HACH</u>

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

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

8.7 (Gals.) X 3 = 26.1 Gals.
 1 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
<u>1130</u>	<u>65.0</u>	<u>7.0</u>	<u>868</u>	<u>27</u>	<u>8.7</u>	<u>Clear</u>
<u>1131</u>	<u>67.4</u>	<u>6.9</u>	<u>691</u>	<u>29</u>	<u>17.4</u>	<u>"</u>
<u>1132</u>	<u>68.3</u>	<u>6.7</u>	<u>663</u>	<u>39</u>	<u>26.1</u>	<u>"</u>

Did well dewater? Yes No Gallons actually evacuated: 26.1

Sampling Time: 1:37 Sampling Date: 12/27/01

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

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Oxygenates & Ethanol (8260)

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:	<u> </u> ^{mg/L}	Post-purge:	<u> </u> ^{mg/L}
O.R.P. (if req'd):	Pre-purge:	<u> </u> mV	Post-purge:	<u> </u> mV

EQUIVA WELL MONITORING DATA SHEET

BTS #: 01227-MW2	Site: 98995741
Sampler: Mike N	Date: 12/27/01
Well I.D.: MW-4	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 24.00	Depth to Water: 12.61
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:

- Bailor
- Disposable Bailor
- Middleburg
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other _____

Sampling Method:

- Bailor
- Disposable Bailor
- Extraction Port
- Dedicated Tubing
- Other _____

7.4	(Gals.) X	3	=	22.2	Gals.
1 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
1146	66.2	6.6	669	54	7.4	Slightly cloudy
1147	67.4	6.5	668	47	14.8	" "
1148	68.1	6.5	670	41	22.2	" "

Did well dewater? Yes No Gallons actually evacuated: 22.2

Sampling Time: 1153 Sampling Date: 12/27/01

Sample I.D.: MW-4 Laboratory: Sequoia Columbia Other KIFF

Analyzed for TPH-G BTEX MTBE TPH-D Other: Oxygenates & Ethanol (8260)

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