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Shell Oil Products US

March 14, 2003

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

Alameda County
MAR 19 2003
Environmental Health

Subject: Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, California

Dear Ms. Drogos:

Attached for your review and comment is a copy of the *Fourth Quarter 2002 Monitoring Report* for the above referenced site. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (559) 645-9306 with any questions or concerns.

Sincerely,

Shell Oil Products US

Karen Petryna
Sr. Environmental Engineer

March 14, 2003

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

Re: **Fourth Quarter 2002 Monitoring Report**
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, California
Incident # 98995741
Cambria Project # 245-0902-002



Dear Ms. Drogos:

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

FOURTH QUARTER 2002 ACTIVITIES

Groundwater Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California gauged all site wells, sampled selected site wells, calculated groundwater elevations, and compiled the analytical data. Cambria prepared a site vicinity map which includes previously submitted well survey information (Figure 1) and a groundwater elevation contour map (Figure 2). Blaine's report, presenting the analytical laboratory reports, is included as Attachment A.

ANTICIPATED FIRST QUARTER 2003 ACTIVITIES

Groundwater Monitoring: The first quarter sampling event is scheduled for March 2003. At that time, Blaine will gauge and sample all wells, 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.

Subsurface Investigation Work Plan: Cambria's October 31, 2002 *Sensitive Receptor Survey, Conduit Study Report and Subsurface Investigation Work Plan* included a work plan to

**Cambria
Environmental
Technology, Inc.**

5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

investigate whether hydrocarbon-impacted groundwater has migrated offsite in the direction of the sanitary sewer line in West Mac Arthur Boulevard. Proposed boring locations are shown on Figure 2. Cambria will proceed with permitting and scheduling upon receipt of written approval of the work plan from Alameda County Health Care Services Agency.

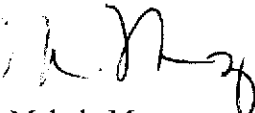
Joint Monitoring and Sampling with Adjacent Site: Cambria's October 31, 2002 *Sensitive Receptor Survey, Conduit Study Report and Subsurface Investigation Work Plan* also indicated that based on review of the available data, the impact to groundwater at the Shell and at the adjacent Oakland Auto Works site at 240 West MacArthur, appear to be separate. Cambria recommended conducting joint groundwater monitoring and sampling events with the adjacent site to confirm groundwater flow patterns between the sites. Cambria will attempt to coordinate joint sampling beginning in the second quarter of 2003.

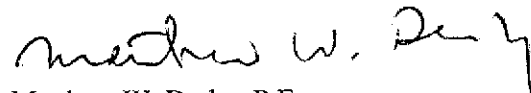


CLOSING

We appreciate the opportunity to work with you on this project. Please call Melody Munz at (510) 420-3324, if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc


Melody Munz
Project Engineer


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

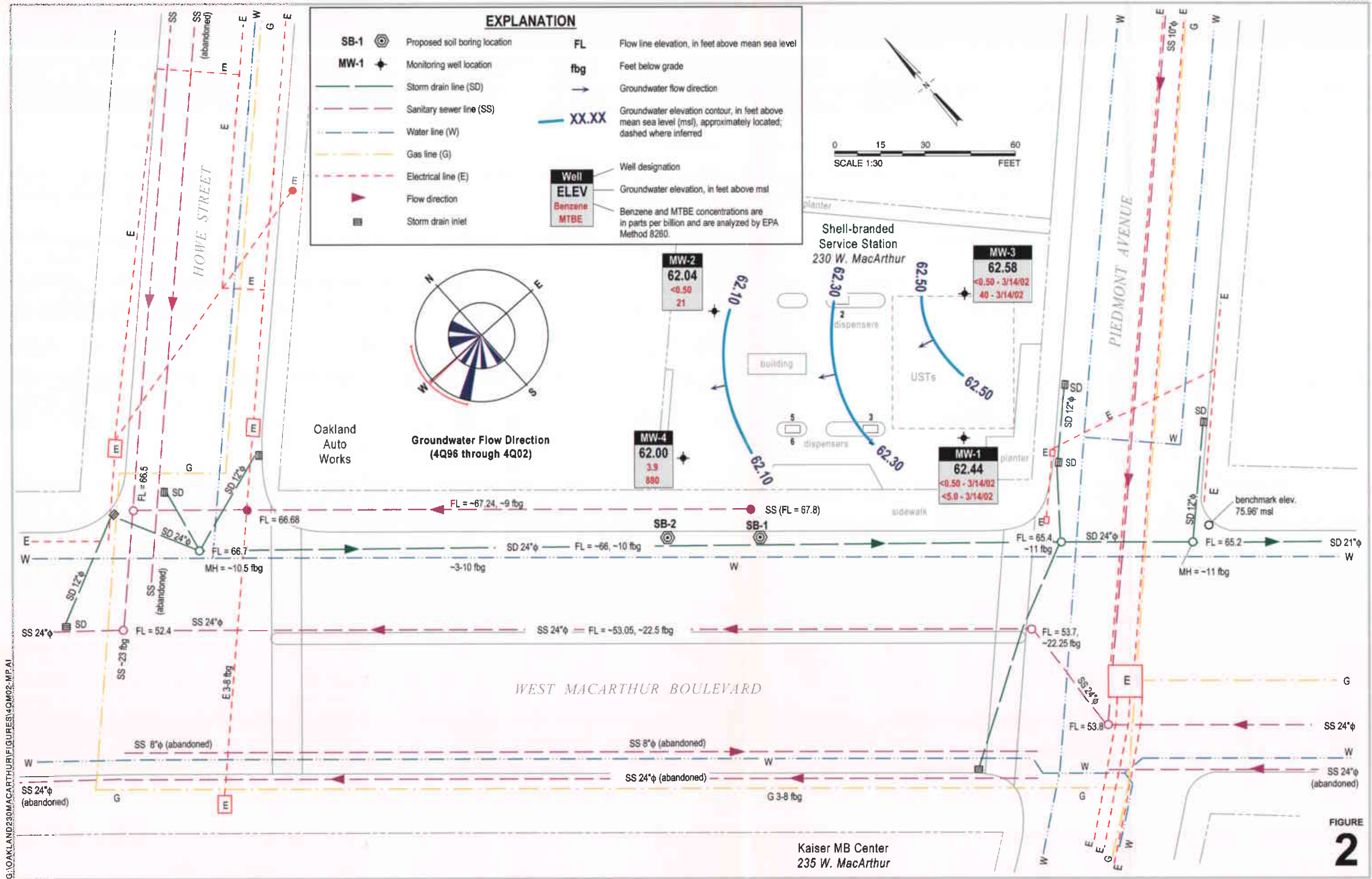


Figures: 1 - Vicinity/Area Well Survey Map
2 - Groundwater Elevation Contour Map with Underground Utility and Proposed Soil Boring Locations

Attachment: A - Blaine Groundwater Monitoring Report

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

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Groundwater Elevation Contour Map with Underground Utility and Proposed Soil Boring Locations



Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, California
Incident #98995741

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 16, 2003

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

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

Monitoring performed on December 12, 2002

Groundwater Monitoring Report 021212-RH-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. Purge water (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. 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

Well ID	Date	TPPH ₂ (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
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

WELL CONCENTRATIONS
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, CA

Well ID	Date	TPPH (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	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-1	09/09/2002	NA	NA	NA	NA	NA	NA	NA	76.92	14.30	62.62
MW-1	12/12/2002	NA	NA	NA	NA	NA	NA	NA	76.92	14.48	62.44
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

WELL CONCENTRATIONS
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Oakland, CA

Well ID	Date	TPPH (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	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
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

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230 West MacArthur Boulevard
Oakland, CA

Well ID	Date	TPPH (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-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-2	09/09/2002	90	<0.50	<0.50	<0.50	<0.50	NA	54	78.25	15.49	62.76
MW-2	12/12/2002	92	<0.50	<0.50	<0.50	<0.50	NA	21	78.25	16.21	62.04

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

WELL CONCENTRATIONS
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Oakland, CA

Well ID	Date	TPPH (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	03/08/1990	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
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

WELL CONCENTRATIONS
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, CA

Well ID	Date	TPPH (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	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-3	09/09/2002	NA	NA	NA	NA	NA	NA	NA	77.69	14.77	62.92
MW-3	12/12/2002	NA	NA	NA	NA	NA	NA	NA	77.69	15.11	62.58

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

WELL CONCENTRATIONS
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, CA

Well ID	Date	TPPH (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	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
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

WELL CONCENTRATIONS
Shell-branded Service Station
230 West MacArthur Boulevard
Oakland, CA

Well ID	Date	TPPH (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	12/17/1999	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
MW-4	09/09/2002	620	3.7	<2.0	<2.0	<2.0	NA	760	76.82	14.56	62.26
MW-4	12/12/2002	1,500	3.9	<2.0	<2.0	<2.0	NA	880	76.82	14.82	62.00

Abbreviations:

TPPH = 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

Well ID	Date	TPPH (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.
- Site surveyed January 30, 2002, by Virgil Chavez Land Surveying of Vallejo, California.



Report Number : 30380

Date : 12/20/2002

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 : 021212-RH2
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 initial "J".

Joel Kiff



Report Number : 30380

Date : 12/20/2002

Subject : 2 Water Samples
Project Name : 230 W. MacArthur Blvd., Oakland
Project Number : 021212-RH2
P.O. Number : 98995741

Case Narrative

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.
Hydrocarbons reported as TPH as Gasoline do not exhibit a typical Gasoline chromatographic pattern for sample MW-2.

Approved By:  _____
Joel Kiff



Report Number : 30380

Date : 12/20/2002

Project Name : 230 W. MacArthur Blvd., Oakland

Project Number : 021212-RH2

Sample : MW-2

Matrix : Water

Lab Number : 30380-01

Sample Date :12/12/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Methyl-t-butyl ether (MTBE)	21	5.0	ug/L	EPA 8260B	12/16/2002
TPH as Gasoline	92	50	ug/L	EPA 8260B	12/16/2002
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	12/16/2002
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	12/16/2002

Sample : MW-4

Matrix : Water

Lab Number : 30380-02

Sample Date :12/12/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	3.9	2.0	ug/L	EPA 8260B	12/19/2002
Toluene	< 2.0	2.0	ug/L	EPA 8260B	12/19/2002
Ethylbenzene	< 2.0	2.0	ug/L	EPA 8260B	12/19/2002
Total Xylenes	< 2.0	2.0	ug/L	EPA 8260B	12/19/2002
Methyl-t-butyl ether (MTBE)	880	20	ug/L	EPA 8260B	12/19/2002
TPH as Gasoline	1500	200	ug/L	EPA 8260B	12/19/2002
Toluene - d8 (Surr)	97.9		% Recovery	EPA 8260B	12/19/2002
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	12/19/2002

Approved By:  Joel Kiff

Report Number : 30380

Date : 12/20/2002

QC Report : Method Blank Data

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

Project Number : **021212-RH2**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	12/16/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/16/2002
Toluene - d8 (Surr)	103		%	EPA 8260B	12/16/2002
4-Bromofluorobenzene (Surr)	99.6		%	EPA 8260B	12/16/2002
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/16/2002
Methyl-t-butyl ether (MTBE)	< 5.0	5.0	ug/L	EPA 8260B	12/16/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/16/2002
Toluene - d8 (Surr)	97.3		%	EPA 8260B	12/16/2002
4-Bromofluorobenzene (Surr)	104		%	EPA 8260B	12/16/2002

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

KIFF ANALYTICAL, LLC

2795 2nd St. Suite 300 Davis, CA 95616 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : 230 W. MacArthur Blvd.,

Project Number : 021212-RH2

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 Recov. Limit	Relative Percent Diff. Limit
Benzene	30322-25	<0.50	79.4	80.0	77.4	78.9	ug/L	EPA 8260B	12/16/02	97.5	98.6	1.20	70-130	25
Toluene	30322-25	<0.50	79.4	80.0	74.3	75.3	ug/L	EPA 8260B	12/16/02	93.6	94.1	0.533	70-130	25
Tert-Butanol	30322-25	24	397	400	390	422	ug/L	EPA 8260B	12/16/02	92.1	99.5	7.72	70-130	25
Methyl-t-Butyl Ether	30322-25	360	79.4	80.0	382	352	ug/L	EPA 8260B	12/16/02	21.8	0.00	200	70-130	25
Benzene	30364-02	<0.50	40.0	40.0	39.2	38.2	ug/L	EPA 8260B	12/16/02	98.0	95.5	2.58	70-130	25
Toluene	30364-02	<0.50	40.0	40.0	39.1	38.2	ug/L	EPA 8260B	12/16/02	97.7	95.5	2.28	70-130	25
Tert-Butanol	30364-02	380	200	200	582	594	ug/L	EPA 8260B	12/16/02	103	109	5.50	70-130	25
Methyl-t-Butyl Ether	30364-02	<0.50	40.0	40.0	39.6	39.3	ug/L	EPA 8260B	12/16/02	99.0	98.3	0.735	70-130	25

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By: Joel Kiff



QC Report : Laboratory Control Sample (LCS)

Report Number : 30380

Date : 12/20/2002

Project Name : 230 W. MacArthur Blvd.,

Project Number : 021212-RH2

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	12/16/02	97.2	70-130
Toluene	40.0	ug/L	EPA 8260B	12/16/02	94.2	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/16/02	93.8	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/16/02	82.4	70-130
Benzene	40.0	ug/L	EPA 8260B	12/16/02	95.8	70-130
Toluene	40.0	ug/L	EPA 8260B	12/16/02	95.6	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/16/02	90.1	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/16/02	96.3	70-130

KIFF ANALYTICAL, LLC

Approved By:


Joel Kiff

SHILL Chain of Custody Record

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced:
 Karen Petryna
 30380

SCIENCE & ENGINEERING
 TECHNICAL SERVICES
 CRMT HOUSTON

INCIDENT NUMBER (SAE ONLY)
 9 8 9 9 5 7 4 1

SAP or CRMT NUMBER (TS/CRMT)

DATE: 12/12/02
 PAGE: 1 of 1

SAMPLING COMPANY: **Blaine Tech Services** LOG CODE: **BTSS** SITE ADDRESS (Street and City): **230 W. MacArthur Blvd., Oakland** GLOBAL ID NO.: **T0600101240**

EDF DELIVERABLE TO (Responsible Party or Designee): **Anni Kraml** PHONE NO.: **(510) 420-3335** E-MAIL: **ShellOaklandEDF@cambria-env.com** CONSULTANT PROJECT NO.: **BTS# 021212-R12**

PROJECT CONTACT (Hardcopy or PDF Report to): **Leon Gearhart** SAMPLER NAME(S) (Print): **Ryan Hanstedt** LAB USE ONLY

TELEPHONE: **408-573-0555** FAX: **408-573-7771** E-MAIL: **lgearhart@blainetech.com**

TURNAROUND TIME (BUSINESS DAYS):
 0 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: CHECK BOX IF EDD IS NOT NEEDED

REQUESTED ANALYSIS										FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
TPH - Gas, Purgeable	BTEX	MTBE (6021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	EDB & 1,2-DCA (8260B)			

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (6021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	Ethanol (8260B)	Methanol	EDB & 1,2-DCA (8260B)			TEMPERATURE ON RECEIPT C°	
		DATE	TIME														
	MW-2	12/12	1415	GW	3	X	X	X									-01
	MW-4	↓	1440	↓	↓	X	X	X									-02

Relinquished by: (Signature) *[Signature]* Received by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Received by: (Signature) _____ Date: _____ Time: _____

Relinquished by: (Signature) _____ Received by: (Signature) *John Little / Kiff Analytical* Date: *12/30/02* Time: *1112*

O&O Graphic (714) 898-9702