

# C A M B R I A

July 9, 2001

Mr. Don Hwang  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

JUL 13 2001

Re: **Second Quarter 2001 Monitoring Report**  
Former Shell Service Station  
2703 Martin Luther King Jr. Way  
Oakland, California  
Incident #97093397  
Cambria Project #243-0781-002



Dear Mr. Hwang:

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.

## **SECOND QUARTER 2001 ACTIVITIES**

**Groundwater Monitoring:** Blaine Tech Services, Inc. (Blaine) of San Jose, California developed newly installed wells MW-3, MW-4 and MW-5 on April 25, 2001, and gauged and sampled the site wells on May 3, 2001. Blaine calculated groundwater elevations and compiled the analytical data, and Cambria prepared a groundwater elevation contour map (Figure 1). Blaine's report, presenting the laboratory report and supporting field documents, is included as Attachment A.

## **ANTICIPATED THIRD QUARTER 2001 ACTIVITIES**

**Groundwater Monitoring:** Blaine will gauge and sample all wells and tabulate the data. Cambria will prepare a monitoring report.

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

C A M B R I A


Mr. Don Hwang  
July 9, 2001


**CLOSING**

We appreciate the opportunity to work with you on this project. Please call Jacquelyn Jones at (510) 420-3316 if you have any questions or comments.

Sincerely,  
**Cambria Environmental Technology, Inc**



  
Jacquelyn L. Jones  
Project Geologist

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

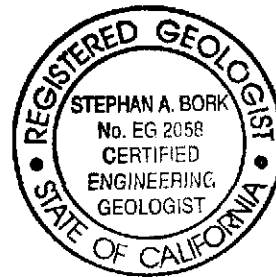


Figure: 1 - Groundwater Elevation Contour Map

Attachment: A - Blaine Groundwater Monitoring Report and Field Notes

cc: Karen Petryna, Equiva Services LLC, P.O. Box 7869, Burbank, California 91510-7869  
Matthew Dudley, Burnham and Brown, 1901 Harrison Street, Oakland, California 94612  
Rodney & Janet Kwan, 1834 Alameda Ave., Alameda, CA 94501

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**ATTACHMENT A**  
**Blaine Groundwater Monitoring Report**  
**and Field Notes**

**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

May 29, 2001

Karen Petryna  
Equiva Services LLC  
P.O. Box 7869  
Burbank, CA 91510-7869

Second Quarter 2001 Groundwater Monitoring at  
Former Shell Service Station  
2703 Martin Luther King Jr. Way  
Oakland, CA

Monitoring performed on April 25 and May 3, 2001

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Groundwater Monitoring Report 010503-C-2

This report covers the routine monitoring of groundwater wells at this Former Shell 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.

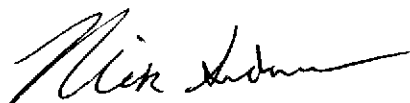
Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

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.

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,

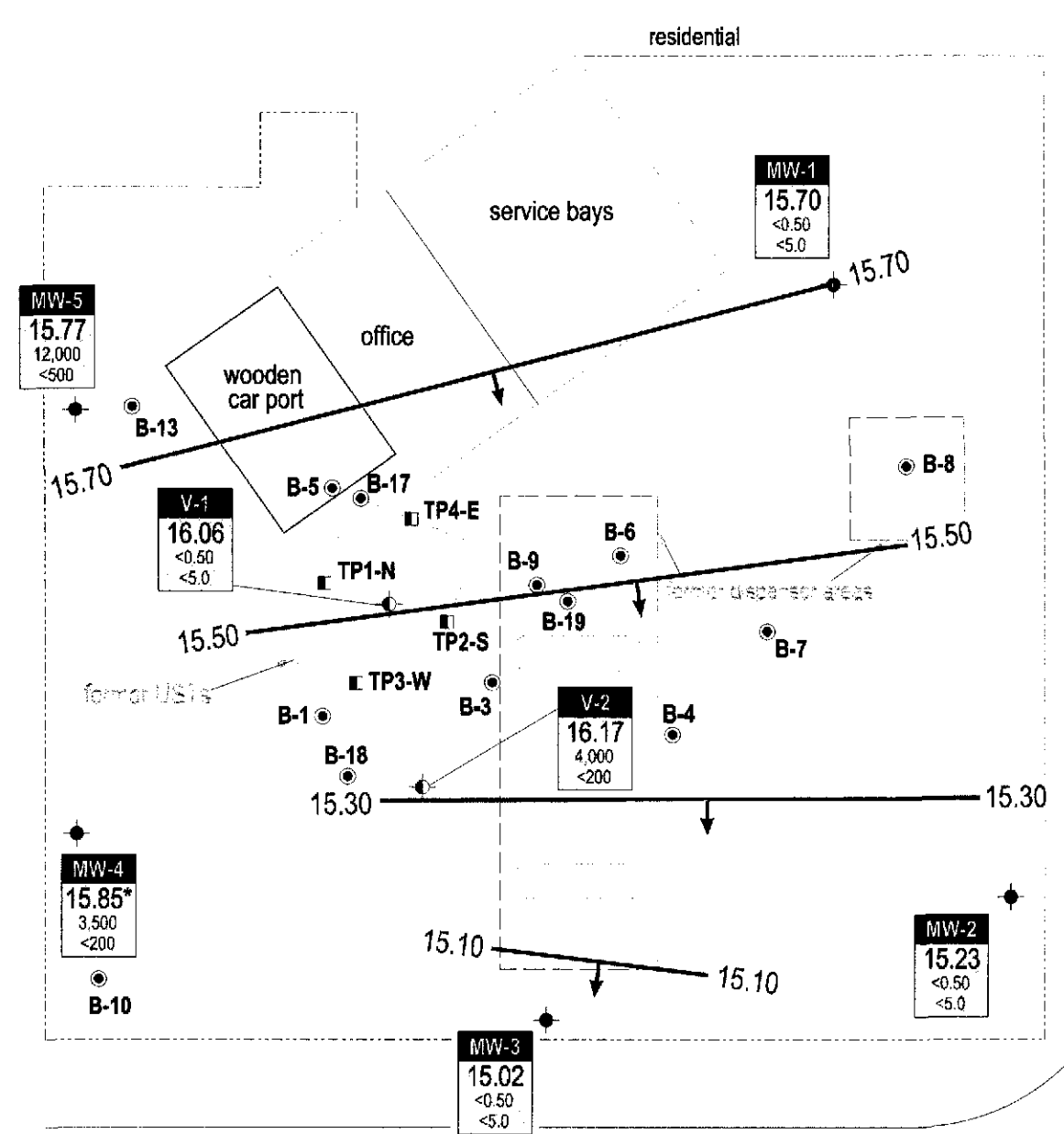
A handwritten signature in black ink, appearing to read "Nick Sudano". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Nick Sudano  
Project Coordinator

NS/jt

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

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

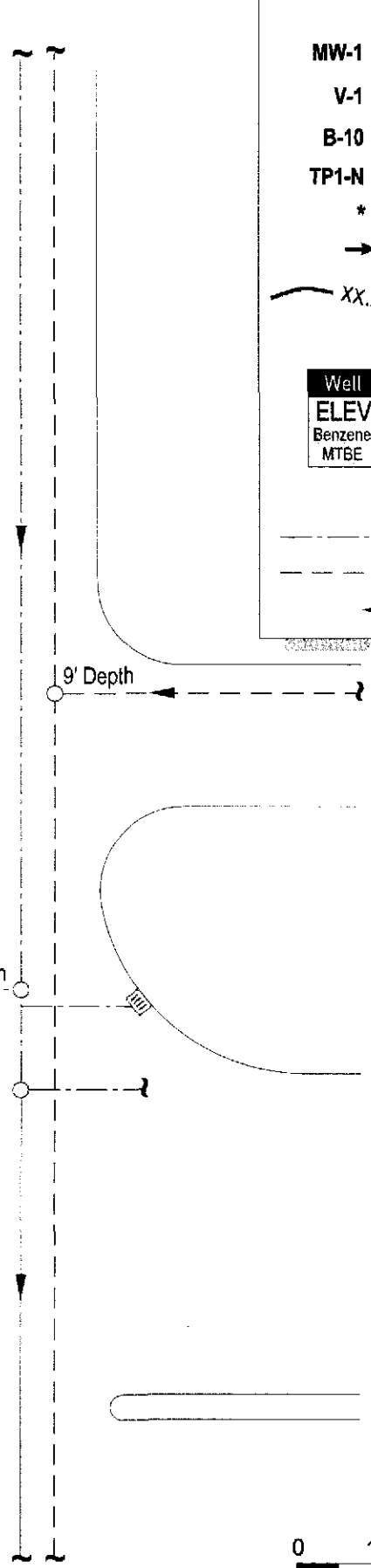


7' Depth

MARTIN LUTHER KING JR WAY

3.5' Depth

9' Depth



**EXPLANATION**

- MW-1 ● Monitoring well location
- V-1 ● Soil vapor well location, not used for contouring
- B-10 ● Soil boring location
- TP1-N ■ UST excavation samples
- \* Data anomalous, not used for contouring
- Groundwater flow direction
- XX.XX Groundwater elevation contour, in feet above mean sea level (msl), approximately located, dashed where inferred

Well	ELEV	Benzene	MTBE
MW-5	15.77	12,000	<500
V-1	16.06	<0.50	<5.0
V-2	16.17	4,000	<200
MW-4	15.85*	3,500	<200
MW-2	15.23	<0.50	<5.0
MW-3	15.02	<0.50	<5.0
MW-1	15.70	<0.50	<5.0

- Well designation
- Groundwater elevation, in feet above msl
- Benzene and MTBE concentrations are in parts per billion and are analyzed by EPA Method 8260
- Storm drain
- - - Sanitary sewer line
- ▲ Flow direction indicator

27th STREET

5' Depth

5.5' Depth



FIGURE 1

Groundwater Elevation Contour Map

May 3, 2001

C A M B R I A

**Former Shell Service Station**  
 2703 Martin Luther King Jr. Way  
 Oakland, California  
 Incident #97093397

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2703 Martin Luther King Way**  
**Oakland, CA**  
**Wic #204-5508-1701**

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)	SPH Thickness (ft.)
MW-1 (B-11)	08/02/1996	NA	NA	NA	NA	NA	NA	NA	23.53	NA	NA	NA
MW-1 (B-11)	08/05/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	8.76	14.77	NA
MW-1 (B-11) (D)	08/05/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	NA	NA	NA
MW-1 (B-11)	10/17/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	9.88	13.65	NA
MW-1 (B-11)	01/08/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	6.82	16.71	NA
MW-1 (B-11)	04/07/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	7.89	15.64	NA
MW-1 (B-11)	07/02/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	8.71	14.82	NA
MW-1 (B-11)	10/24/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	9.26	14.27	NA
MW-1 (B-11)	01/09/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	7.94	15.59	NA
MW-1 (B-11)	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	7.21	16.32	NA
MW-1 (B-11)	07/14/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	7.78	15.75	NA
MW-1 (B-11)	10/01/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	8.39	15.14	NA
MW-1 (B-11)	01/18/1999	<50.0	<0.500	0.785	<0.500	<0.500	2.36	NA	23.53	8.28	15.25	NA
MW-1 (B-11)	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.53	8.41	15.12	NA
MW-1 (B-11)	08/23/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	23.53	8.17	15.36	NA
MW-1 (B-11)	10/06/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	23.53	9.37	14.16	NA
MW-1 (B-11)	01/27/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	23.53	7.52	16.01	NA
MW-1 (B-11)	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	23.53	7.66	15.87	NA
MW-1 (B-11)	07/19/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	23.53	7.81	15.72	NA
MW-1 (B-11)	10/24/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	23.53	8.33	15.20	NA
MW-1 (B-11)	01/04/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	23.53	8.33	15.20	NA
MW-1 (B-11)	05/03/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	23.53	7.83	15.70	NA
MW-2 (B-12)*	07/17/1996	<50	<0.50	0.69	<0.50	<0.50	<2.5	NA	22.47	NA	NA	NA

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2703 Martin Luther King Way**  
**Oakland, CA**  
**Wic #204-5508-1701**

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)	SPH Thickness (ft.)
MW-2 (B-12)*	08/05/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	8.35	14.12	NA
MW-2 (B-12)*	10/17/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	9.32	13.15	NA
MW-2 (B-12) (D)*	10/17/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	NA	NA	NA
MW-2 (B-12)*	01/08/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	6.80	15.67	NA
MW-2 (B-12) (D)*	01/08/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	NA	NA	NA
MW-2 (B-12)*	04/07/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	7.81	14.66	NA
MW-2 (B-12)*	07/02/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	8.27	14.20	NA
MW-2 (B-12)*	10/24/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	9.12	13.35	NA
MW-2 (B-12)*	01/09/1998	<50	<0.50	<0.50	<0.50	<0.50	6.3	NA	22.47	7.41	15.06	NA
MW-2 (B-12)*	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	6.59	15.88	NA
MW-2 (B-12)*	07/14/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	7.49	14.98	NA
MW-2 (B-12)*	10/01/1998	<50	<0.50	<0.50	<0.50	0.59	<2.5	NA	22.47	8.58	13.89	NA
MW-2 (B-12)*	01/18/1999	<50.0	<0.500	0.971	<0.500	<0.500	2.47	NA	22.47	8.68	13.79	NA
MW-2 (B-12)*	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	22.47	8.62	13.85	NA
MW-2 (B-12)*	08/23/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	22.47	7.43	15.04	NA
MW-2 (B-12)*	10/06/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	22.47	9.00	13.47	NA
MW-2 (B-12)*	01/27/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	22.47	8.15	14.32	NA
MW-2 (B-12)*	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	22.47	7.04	15.43	NA
MW-2 (B-12)*	07/19/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	22.47	7.13	15.34	NA
MW-2 (B-12)*	10/24/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	22.47	8.78	13.69	NA
MW-2 (B-12)*	01/04/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	22.47	8.33	14.14	NA
MW-2 (B-12)*	05/03/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	22.47	7.24	15.23	NA
MW-3	04/25/2001	NA	NA	NA	NA	NA	NA	NA	22.30	7.16	15.14	NA
MW-3	05/03/2001	<100	<0.50	<0.50	<0.50	<0.50	NA	<5.0	22.30	7.28	15.02	NA



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MW-4	04/25/2001	NA	NA	NA	NA	NA	NA	NA	22.51	7.05	15.46	NA
MW-4	05/03/2001	8000	3500	24	37	350	NA	<200	22.51	6.66	15.85	NA
MW-5	04/25/2001	NA	NA	NA	NA	NA	NA	NA	23.54	7.36	16.18	NA
MW-5	05/03/2001	160000	12000	20000	3600	23000	NA	<500	23.54	7.77	15.77	NA
B-10 *	07/17/1996	20000	400	<100	<100	870	<500	NA	NA	NA	NA	NA
B-13*	07/17/1996	290000	34000	21000	9900	47000	<2500	NA	NA	NA	NA	NA
V-1	08/02/1996	NA	NA	NA	NA	NA	NA	NA	23.26	NA	NA	NA
V-1	08/05/1996	NA	NA	NA	NA	NA	NA	NA	23.26	8.58	14.68	NA
V-1	10/17/1996	NA	NA	NA	NA	NA	NA	NA	23.26	10.02	13.24	NA
V-1	01/16/1997	9500	1200	250	280	880	<50	NA	23.26	5.55	17.71	NA
V-1	04/07/1997	2200	42	<5.0	130	15	<25	NA	23.26	7.40	15.86	NA
V-1	07/02/1997	2600	340	5.8	49	12	74	<4.0	23.26	8.94	14.32	NA
V-1	10/24/1997	57000	5200	2300	3600	16000	1900	<200	23.26	9.43	13.83	NA
V-1	01/09/1998	23000	2400	1700	1300	2300	310	NA	23.26	6.81	16.45	NA
V-1 (D)	01/09/1998	24000	2500	1800	1400	2400	450	NA	23.26	NA	NA	NA
V-1	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.26	4.58	18.68	NA
V-1 (D)	04/02/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.26	NA	NA	NA
V-1	07/14/1998	160	1.9	<0.50	4.2	<0.50	6.1	NA	23.26	7.51	15.75	NA
V-1	10/01/1998	440	18	<0.50	11	0.80	7.9	NA	23.26	8.49	14.77	NA
V-1	01/18/1999	697	55.7	0.839	28.2	<0.500	9.35	NA	23.26	8.59	14.67	NA

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**Oakland, CA**  
**Wic #204-5508-1701**

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)	SPH Thickness (ft.)
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V-1	04/29/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	23.26	8.69	14.57	NA
V-1	08/23/1999	457	33.4	3.59	16.3	<0.500	13.9	NA	23.26	8.99	14.27	NA
V-1	10/06/1999	714	53.7	0.740	8.69	<0.500	9.83	NA	23.26	9.55	13.71	NA
V-1	01/27/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	23.26	7.19	16.07	NA
V-1	04/18/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	23.26	7.67	15.59	NA
V-1	07/19/2000	255	21.7	<0.500	10.2	<0.500	7.33	<1.00a	23.26	7.53	15.73	NA
V-1	10/24/2000	200	4.05	0.566	<0.500	<0.500	7.82	NA	23.26	7.38	15.88	NA
V-1	01/04/2001	128	1.77	<0.500	<0.500	<0.500	6.40	<10.0b	23.26	8.41	14.85	NA
V-1	05/03/2001	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	23.26	7.20	16.06	NA

V-2	08/02/1996	NA	NA	NA	NA	NA	NA	NA	22.80	NA	NA	NA
V-2	08/05/1996	NA	NA	NA	NA	NA	NA	NA	22.80	7.94	14.86	NA
V-2	10/17/1996	NA	NA	NA	NA	NA	NA	NA	22.80	9.30	13.50	NA
V-2	01/08/1997	69000	4800	2800	2700	13000	750	NA	22.80	5.82	16.98	NA
V-2	04/07/1997	90000	4400	1900	3300	14000	<500	NA	22.80	7.10	15.70	NA
V-2 (D)	04/07/1997	77000	4400	2000	3200	14000	<250	NA	22.80	NA	NA	NA
V-2	07/02/1997	82000	5500	2700	3500	16000	530	<100	22.80	8.35	14.45	NA
V-2 (D)	07/02/1997	85000	5600	2800	3600	17000	520	<100	22.80	NA	NA	NA
V-2	10/24/1997	7300	1100	97	230	180	91	<12	22.80	10.03	12.77	NA
V-2 (D)	10/24/1997	12000	1700	340	650	630	120	<20	22.80	NA	NA	NA
V-2	01/09/1998	40000	4100	1500	2500	9000	280	NA	22.80	6.94	15.86	NA
V-2	04/02/1998	62000	6800	2400	3400	14000	<250	NA	22.80	5.35	17.45	NA
V-2	07/14/1998	43000	4700	1100	2500	6600	<250	NA	22.80	6.48	16.32	NA
V-2 (D)	07/14/1998	48000	5100	1300	2600	8100	<250	NA	22.80	NA	NA	NA
V-2	10/01/1998	53000	5200	1800	3200	10000	83	NA	22.80	8.41	14.39	NA

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
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**Wic #204-5508-1701**

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)	SPH Thickness (ft.)
V-2 (D)	10/01/1998	55000	5300	1900	3300	11000	65	NA	22.80	NA	NA	NA
V-2	01/18/1999	47100	5800	1960	3450	10200	<100	NA	22.80	8.29	14.51	NA
V-2	04/29/1999	65000	6100	2800	3200	12000	540	NA	22.80	8.19	14.61	NA
V-2	08/23/1999	59600	6240	2190	3900	14700	390	NA	22.80	8.44	14.36	NA
V-2	10/06/1999	63800	4820	1860	2840	11100	<1000	NA	22.80	8.96	13.84	NA
V-2	01/27/2000	59600	10200	2840	3450	12100	<500	NA	22.80	7.57	15.23	NA
V-2	04/18/2000	45000	6050	2700	3340	12200	<250	NA	22.80	8.14	14.66	NA
V-2	07/19/2000	31800	4440	1270	2390	6820	<500	NA	22.80	8.21	14.59	NA
V-2	10/24/2000	40100	4810	1730	2960	8650	734	<10.0	22.80	8.53	14.27	NA
V-2	01/04/2001	37500	4510	1390	2710	6880	375	NA	22.80	8.03	14.77	NA
V-2	05/03/2001	51000	4000	1900	2800	8200	NA	<200	22.80	6.63	16.17	NA

Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by modified EPA Method 8260B; prior to May 3, 2001 analyzed by EPA Method 8015.

BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to May 3, 2001, analyzed by EPA Method 8020.

MTBE = methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

SPH = Separate-Phase Hydrocarbons

GW = Groundwater

ug/L = parts per billion

msl = Mean sea level

ft = Feet

<n = Below detection limit

D = Duplicate sample

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**2703 Martin Luther King Way**  
**Oakland, CA**  
**Wic #204-5508-1701**

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)	SPH Thickness (ft.)
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NA = Not applicable

Notes:

\* = Water sample from Boring

a = This sample analyzed outside of EPA recommended holding time.

b = Due to error of Sequoia Analytical laboratories, well V-1 confirmed for MTBE by EPA Method 8260 instead of V-2.

Site surveyed June 14, 2001 by Virgil Chavez Land Surveying of Vallejo, California.



Report Number : 20183

Date : 5/23/2001

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

Subject : 7 Water Samples  
Project Name : 2703 Martin Luther King Jr. Way, Oakland  
Project Number : 010503-C2  
P.O. Number : Incident# 97093397

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,

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 : 20183

Date : 5/23/2001

Project Name : 2703 Martin Luther King Jr. Way, Oakland

Project Number : 010503-C2

Sample : MW-1

Matrix : Water

Lab Number : 20183-01

Sample Date :5/3/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	5/13/2001
Toluene	< 0.50	0.50	ug/L	EPA 8260B	5/13/2001
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	5/13/2001
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	5/13/2001
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8260B	5/13/2001
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	5/13/2001
Toluene - d8 (Surr)	97.9		% Recovery	EPA 8260B	5/13/2001
4-Bromofluorobenzene (Surr)	95.2		% Recovery	EPA 8260B	5/13/2001

Sample : MW-2

Matrix : Water

Lab Number : 20183-02

Sample Date :5/3/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	5/13/2001
Toluene	< 0.50	0.50	ug/L	EPA 8260B	5/13/2001
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	5/13/2001
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	5/14/2001
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8260B	5/13/2001
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	5/13/2001
Toluene - d8 (Surr)	98.6		% Recovery	EPA 8260B	5/13/2001
4-Bromofluorobenzene (Surr)	94.7		% Recovery	EPA 8260B	5/13/2001

Approved By:  Joel Kiff



Report Number : 20183

Date : 5/23/2001

Project Name : 2703 Martin Luther King Jr. Way, Oakland

Project Number : 010503-C2

Sample : MW-3

Matrix : Water

Lab Number : 20183-03

Sample Date :5/3/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	5/15/2001
Toluene	< 0.50	0.50	ug/L	EPA 8260B	5/15/2001
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	5/15/2001
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	5/15/2001
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8260B	5/15/2001
TPH as Gasoline	< 100	100	ug/L	EPA 8260B	5/15/2001
Toluene - d8 (Surr)	99.0		% Recovery	EPA 8260B	5/15/2001
4-Bromofluorobenzene (Surr)	91.5		% Recovery	EPA 8260B	5/15/2001

Sample : MW-4

Matrix : Water

Lab Number : 20183-04

Sample Date :5/3/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	3500	20	ug/L	EPA 8260B	5/15/2001
Toluene	24	20	ug/L	EPA 8260B	5/15/2001
Ethylbenzene	37	20	ug/L	EPA 8260B	5/15/2001
Total Xylenes	350	20	ug/L	EPA 8260B	5/15/2001
Methyl-t-butyl ether	< 200	200	ug/L	EPA 8260B	5/15/2001
TPH as Gasoline	8000	2000	ug/L	EPA 8260B	5/15/2001
Toluene - d8 (Surr)	99.4		% Recovery	EPA 8260B	5/15/2001
4-Bromofluorobenzene (Surr)	98.8		% Recovery	EPA 8260B	5/15/2001

Approved By:  Joel Kiff



Report Number : 20183

Date : 5/23/2001

Project Name : 2703 Martin Luther King Jr. Way, Oakland

Project Number : 010503-C2

Sample : MW-5

Matrix : Water

Lab Number : 20183-05

Sample Date :5/3/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	12000	50	ug/L	EPA 8260B	5/16/2001
Toluene	20000	50	ug/L	EPA 8260B	5/16/2001
Ethylbenzene	3600	50	ug/L	EPA 8260B	5/16/2001
Total Xylenes	23000	50	ug/L	EPA 8260B	5/16/2001
Methyl-t-butyl ether	< 500	500	ug/L	EPA 8260B	5/16/2001
TPH as Gasoline	160000	5000	ug/L	EPA 8260B	5/16/2001
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	5/16/2001
4-Bromofluorobenzene (Surr)	107		% Recovery	EPA 8260B	5/16/2001

Sample : V-1

Matrix : Water

Lab Number : 20183-06

Sample Date :5/3/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	5/22/2001
Toluene	< 0.50	0.50	ug/L	EPA 8260B	5/22/2001
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	5/22/2001
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	5/22/2001
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8260B	5/22/2001
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	5/22/2001
Toluene - d8 (Surr)	94.7		% Recovery	EPA 8260B	5/22/2001
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	5/22/2001

Approved By:  Joel Kiff

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





Report Number : 20183

Date : 5/23/2001

Project Name : 2703 Martin Luther King Jr. Way, Oakland

Project Number : 010503-C2

Sample : V-2

Matrix : Water

Lab Number : 20183-07

Sample Date : 5/3/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	4000	20	ug/L	EPA 8260B	5/13/2001
Toluene	1900	20	ug/L	EPA 8260B	5/13/2001
Ethylbenzene	2800	20	ug/L	EPA 8260B	5/13/2001
Total Xylenes	8200	20	ug/L	EPA 8260B	5/13/2001
Methyl-t-butyl ether	< 200	200	ug/L	EPA 8260B	5/13/2001
TPH as Gasoline	51000	2000	ug/L	EPA 8260B	5/13/2001
Toluene - d8 (Surr)	99.3		% Recovery	EPA 8260B	5/13/2001
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	5/13/2001

Approved By:  Joel Kiff

Report Number : 20183

Date : 5/23/2001

Project Name : **2703 Martin Luther King**

Project Number : **010503-C2**

20183 Quality Control Data - Method Blank

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	5/14/2001
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	5/14/2001
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	5/14/2001
<b>Total Xylenes</b>	< 0.50	0.50	ug/L	EPA 8260B	5/14/2001
<b>Methyl-t-butyl ether</b>	< 5.0	5.0	ug/L	EPA 8260B	5/14/2001
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	5/14/2001
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	5/14/2001
4-Bromofluorobenzene (Surr)	89.9		% Recovery	EPA 8260B	5/14/2001

Approved By:  Joel Kiff

Report Number : 20183

Date : 5/23/2001

**QC Report : Matrix Spike/ Matrix Spike Duplicate**

Project Name : **2703 Martin Luther King**

Project Number : **010503-C2**

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
<b>Spike Recovery Data</b>														
Benzene	20181-05	<0.50	24.2	22.9	23.8	22.7	ug/L	EPA 8260B	5/14/2001	98.7	99.2	0.546	70-130	25
Toluene	20181-05	<0.50	24.2	22.9	23.0	21.9	ug/L	EPA 8260B	5/14/2001	95.2	95.7	0.524	70-130	25
Tert-Butanol	20181-05	68	24.2	22.9	117	115	ug/L	EPA 8260B	5/14/2001	201	204	1.48	70-130	25
Methyl-t-Butyl Ether	20181-05	120	24.2	22.9	96.2	89.9	ug/L	EPA 8260B	5/14/2001	0.00	0.00	0.00	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 20183

Date : 5/23/2001

**QC Report : Laboratory Control Sample (LCS)**

Project Name : **2703 Martin Luther King**

Project Number : **010503-C2**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	18.9	ug/L	EPA 8260B	5/14/2001	98.4	70-130
Toluene	18.9	ug/L	EPA 8260B	5/14/2001	95.8	70-130
Tert-Butanol	94.5	ug/L	EPA 8260B	5/14/2001	110	70-130
Methyl-t-Butyl Ether	18.9	ug/L	EPA 8260B	5/14/2001	79.2	70-130

KIFF ANALYTICAL, LLC

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

Approved By: Joel Kiff

*Joel Kiff*  
\_\_\_\_\_  
Joel Kiff



## WELL GAUGING DATA

Project # 010503-02 Date 5-3-01 Client Equiva

Site 2301 Martin Luther King Jr. Drive

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or (TOC)	
MW-1	2					7.83	20.00	TOC	
MW-2	2					7.24	19.02 <del>19.32</del>	}	
MW-3	4				7.28	20.00 <del>19.97</del>			
MW-4	4				6.66	19.95			
MW-5					7.77	19.97			
V-1	2	INSTALLED				7.20	12.11 <del>12.75</del>		
V-2	2	UNINSTALLED				6.63	12.64 <del>12.90</del>	✓	7

## EQUIVA WELL MONITORING DATA SHEET

BTS #: <u>010503-C2</u>	Site: <u>2703 Martin Luther King Way</u>
Sampler: <u>Hank</u>	Date: <u>5-3-01</u>
Well I.D.: <u>MW-1</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <u>20.00</u>	Depth to Water: <u>&gt; 25</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:

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Bailer</li> <li><input type="checkbox"/> Disposable Bailer</li> <li><input type="checkbox"/> Middleburg</li> <li><input type="checkbox"/> Electric Submersible</li> </ul> | <ul style="list-style-type: none"> <li><del><input type="checkbox"/> Water</del></li> <li><del><input type="checkbox"/> Peristaltic</del></li> <li><del><input type="checkbox"/> Extraction Pump</del></li> <li><del><input type="checkbox"/> Other</del></li> </ul> |
|---|--|

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing
- Other: \_\_\_\_\_

No (Gals.) X Purge = \_\_\_\_\_ 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 <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>1436</u>	<u>71.8</u>	<u>6.7</u>	<u>1448</u>	<u>118</u>	/	

Did well dewater? Yes   No Gallons actually evacuated: 0

Sampling Time: 1442 Sampling Date: 5-3-01

Sample I.D.: MW-1 Laboratory: Sequoia Columbia Other Kiff

Analyzed for: TPH-G 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 #: <u>010503-C2</u>	Site: <u>2703 Martin Luther King Way</u>
Sampler: <u>Hant</u>	Date: <u>5-3-01</u>
Well I.D.: <u>MW-2</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth: <u>19.02</u>	Depth to Water: <u>7.24</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  
 Disposable Bailer  
 Middleburg  
 Electric Submersible  
 ~~Water~~  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

No (Gals.) X Purge = \_\_\_\_\_ Gals.  
 | 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 <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>1425</u>	<u>&gt;20.0</u>	<u>6.6</u>	<u>1083</u>	<u>&gt;200</u>	<u>✓</u>	

Did well dewater? Yes   No                      Gallons actually evacuated: 0

Sampling Time: 1430                      Sampling Date: 5-3-01

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

Analyzed for: TPH-G 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 #: <u>010503-C2</u>	Site: <u>2703 Martin Luther King Way</u>
Sampler: <u>Hank</u>	Date: <u>5-3-01</u>
Well I.D.: <u>MW-3</u>	Well Diameter: <del>2</del> 3 <u>4</u> 6 8
Total Well Depth: <u>20.00</u>	Depth to Water: <u>&gt;.28</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  
 Disposable Bailer  
 Middleburg  
 Electric Submersible  
 Water  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

No (Gals.) X Purge = \_\_\_\_\_ Gals.  
 | 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 <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>1343</u>	<u>&gt;0.9</u>	<u>6.3</u>	<u>1366</u>	<u>9</u>	<u>8</u>	

Did well dewater? Yes   No                      Gallons actually evacuated: 8

Sampling Time: 1348                      Sampling Date: 5-3-01

Sample I.D.: MW-3                      Laboratory: Sequoia Columbia Other Kiff

Analyzed for: TPH-G 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 #: <u>010503-C2</u>	Site: <u>2703 Martin Luther King Way</u>
Sampler: <u>Hank</u>	Date: <u>5-3-01</u>
Well I.D.: <u>Mw-4</u>	Well Diameter: <del>2</del> 3 <u>4</u> 6 8
Total Well Depth: <u>1995</u>	Depth to Water: <u>6.66</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:

- |  |   |
|--|---|
| <p><del>Bailer</del></p> <p><del>Disposable Bailer</del></p> <p><del>Middleburg</del></p> <p><del>Electric Submersible</del></p> | <p><del>Water</del></p> <p><del>Peristaltic</del></p> <p><del>Extraction Pump</del></p> <p><del>Other</del></p> |
|--|---|

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing
- Other: \_\_\_\_\_

No (Gals.) X Purge = \_\_\_\_\_ Gals.

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 <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>1359</u>	<u>69.0</u>	<u>6.5</u>	<u>2013</u>	<u>22</u>	<u>✓</u>	

Did well dewater? Yes  No  Gallons actually evacuated: 8

Sampling Time: 1405      Sampling Date: 5-3-01

Sample I.D.: Mw-4      Laboratory: Sequoia Columbia Other Kiff

Analyzed for: TPH-G 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 #: <u>010503-C2</u>	Site: <u>2703 Martin Luther King Way</u>
Sampler: <u>Hank</u>	Date: <u>5-3-01</u>
Well I.D.: <u>MW-5</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <u>19.77</u>	Depth to Water: <u>7.77</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  
 Disposable Bailer  
 Middleburg  
 Electric Submersible  
 ~~Water~~  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

NO (Gals.) X Purge = \_\_\_\_\_ Gals.  
 | 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 <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>1409</u>	<u>67.7</u>	<u>6.5</u>	<u>1732</u>	<u>26</u>	<u>✓</u>	<u>odor</u>

Did well dewater? Yes   No      Gallons actually evacuated: 8

Sampling Time: 1414      Sampling Date: 5-3-01

Sample I.D.: MW-5      Laboratory: Sequoia Columbia Other Kiff

Analyzed for: TPH-G 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:

## EQUIVA WELL MONITORING DATA SHEET

BTS #: <u>010503-C2</u>	Site: <u>2703 Martin Luther King Way</u>
Sampler: <u>Hant</u>	Date: <u>5-3-01</u>
Well I.D.: <u>V-1</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <u>1211</u>	Depth to Water: <u>&gt;20</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  
 Disposable Bailer  
 Middleburg  
 Electric Submersible  
 ~~Water~~  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

- Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

No (Gals.) X Purge = \_\_\_\_\_ Gals.  
 | 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 <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
<u>1448</u>	<u>&gt;18</u>	<u>6.3</u>	<u>1701</u>	<u>146</u>		
		<u>Put in ORC's</u>				

Did well dewater? Yes   (No) Gallons actually evacuated: 0

Sampling Time: 1453 Sampling Date: 5-3-01

Sample I.D.: V-1 Laboratory: Sequoia Columbia Other Kiff

Analyzed for: TPH-G 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 #: <u>010503-C2</u>	Site: <u>2703 Martin Luther King Way</u>
Sampler: <u>Hant</u>	Date: <u>5-3-01</u>
Well I.D.: <u>v-2</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth: <del>12.64</del> <u>12.64</u>	Depth to Water: <u>6.63</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:

- |   |  |
|---|--|
| <input type="checkbox"/> Bailer<br><input type="checkbox"/> Disposable Bailer<br><input type="checkbox"/> Middleburg<br><input type="checkbox"/> Electric Submersible | <input checked="" type="checkbox"/> <del>Water</del><br><input type="checkbox"/> Peristaltic<br><input type="checkbox"/> Extraction Pump<br><input type="checkbox"/> Other _____ |
|---|--|

Sampling Method:

- |   |                                       |
|---|---------------------------------------|
| <input checked="" type="checkbox"/> Bailer<br><input type="checkbox"/> Extraction Port<br><input type="checkbox"/> Dedicated Tubing | <input type="checkbox"/> Other: _____ |
|---|---------------------------------------|

No (Gals.) X Purge = \_\_\_\_\_ Gals.  
 | 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 <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1506	70.8	6.5	1219	12	✓	
		<u>Put in ORC's</u>				

Did well dewater? Yes   No                      Gallons actually evacuated: 0

Sampling Time: 1512                      Sampling Date: 5-3-01

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

Analyzed for: TPH-G BTEX MTBB 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



## WELL DEVELOPMENT DATA SHEET

Project #: <u>010425-M1</u>	Client: <u>Equiva</u>
Developer: <u>Matthew Mills</u>	Date Developed: <u>4/25/08</u>
Well I.D. <u>MW3</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth: Before <u>20.02</u> After <u>20.03</u>	Depth to Water: Before <u>7.16</u> After <u>19.13</u>
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF):  
 $(12 \times (d^2/4) \times \pi) / 231$   
 where  
 12 = in / foot  
 d = diameter (in.)  
 $\pi = 3.1416$   
 231 = in<sup>3</sup>/gal

Well dia.	VCF
2" =	0.16
3" =	0.37
4" =	0.65
6" =	1.47
10" =	4.08
12" =	6.87

<u>8.4</u>	X	<u>10</u>	=	<u>84</u>
1 Case Volume		Specified Volumes		gallons

Purging Device:      Bailer            Electric Submersible        
                                  Middleburg            Suction Pump     

Type of Installed Pump \_\_\_\_\_  
 Other equipment used 4" Snub

TIME	TEMP (F)	pH	COND.	TURBIDITY	VOLUME REMOVED:	NOTATIONS:
14:10	73.8	7.4	1739	156	8.5	Hard bottom
14:16	72.7	7.4	1706	167	17	
14:18	71.6	7.3	1694	158	25.5	Switched to 3" electric Sids
14:20	71.6	7.3	1711	116	34	
14:23	71.7	7.9	1740	107	47	
dewatered at 14:25					dtw = 18.65	
17:27	66.4	7.3	1770	123	50	
17:29	67.4	7.0	1508	112	58	
dewatered @ 17:30					dtw = 19.13	

Did Well Dewater?  If yes, note above.      Gallons Actually Evacuated: 58

## WELL DEVELOPMENT DATA SHEET

Project #: <u>010425-M1</u>	Client: <u>EQUIVA</u>
Developer: <u>Matthew Miller</u>	Date Developed: <u>4/25/01</u>
Well I.D. <u>MW-4</u>	Well Diameter: (circle one) 2 3 <u>(4)</u> 6
Total Well Depth:	Depth to Water:
Before <u>20.14</u> After <u>20.16</u>	Before <u>7.65</u> After <u>18.79</u>
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF): {12 x (d <sup>2</sup> /4) x π} / 231	Well dia.	VCF
where	2" =	0.16
12 = in / foot	3" =	0.37
d = diameter (in.)	4" =	0.65
π = 3.1416	6" =	1.47
231 = in <sup>3</sup> /gal	10" =	4.08
	12" =	6.87

<u>8.5</u>	X	<u>10</u>	=	<u>85</u>
1 Case Volume		Specified Volumes		gallons

Purging Device:      Bailer       Electric Submersible   
                                  Middleburg       Suction Pump

Type of Installed Pump \_\_\_\_\_  
 Other equipment used 4" snub

TIME	TEMP (F)	pH	COND.	TURBIDITY	VOLUME REMOVED:	NOTATIONS:
1520	67.1	7.4	2428	65	8.5	odor - sheep, Hard
1529	64.8	7.3	2364	111	17	odor - <span style="float: right;">Bottle</span>
1531	65.1	7.5	2420	125	25	odor
1549	64.8	8.1	2448	117	30	
dewatered				D <sub>tw</sub> = 17.95		
1746	66.3	7.3	2176	103	38	switched to 8" electric sub
1748	66.3	7.3	2196	95	46	
1750	66.6	7.4	2279	93	52	
dewatered at 1750				D <sub>tw</sub> = 18.79		

Did Well Dewater? <u>Yes</u> If yes, note above.	Gallons Actually Evacuated: <u>52</u>
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## WELL DEVELOPMENT DATA SHEET

Project #: <u>010425-M1</u>	Client: <u>Equiva</u>
Developer: <u>Matthew Miller</u>	Date Developed: <u>4/25/01</u>
Well I.D. <u>MW 5</u>	Well Diameter: (circle one) 2 3 <u>4</u> 6
Total Well Depth:	Depth to Water:
Before <u>19.94</u> After <u>19.97</u>	Before <u>7.36</u> After <u>17.57</u>
Reason not developed:	If Free Product, thickness:
Additional Notations:	

**Volume Conversion Factor (VCF):**

$$(12 \times (d^2/4) \times \pi) / 231$$

where

12 = in / foot

d = diameter (in.)

$\pi = 3.1416$

231 = in<sup>3</sup>/gal

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.65
6"	1.47
10"	4.08
12"	6.87

<u>8.2</u>	X	<u>10</u>	=	<u>82</u>
1 Case Volume		Specified Volumes		gallons

Purging Device:      Bailer       Electric Submersible   
                                  Middleburg       Suction Pump

Type of Installed Pump \_\_\_\_\_  
 Other equipment used 4" snub

TIME	TEMP (F)	pH	COND.	TURBIDITY	VOLUME REMOVED:	NOTATIONS:
1631	63.1	7.3	1805	>200	8	odor sheen very turbid
1637	64.4	7.2	1773	99	16	little silt but turbid
1640	64.5	7.3	1780	91	24	Hard Bottom
1642	64.8	7.2	1757	93	32	switched to 8" electric sub
1644	64.8	7.2	1755	89	40	
1646	65.2	7.2	1736	73	48	
1648	65.2	7.3	1798	>200	56	
1650	65.3	7.3	1785	>200	64	
						dewatered @ 1650      dtw = 17.57
Did Well Dewater? <u>Yes</u> If yes, note above.				Gallons Actually Evacuated: <u>64</u>		