



RD85

October 14, 2003

Alameda County  
OCT 22 2003  
Environmental Health

QUARTERLY GROUNDWATER MONITORING REPORT  
SEPTEMBER 2003 GROUNDWATER SAMPLING  
ASE JOB NO. 3540

at  
Oakland Truck Stop  
8255 San Leandro Street  
Oakland, California

Prepared for:  
Mr. Nissan Saidian  
5733 Medallion Court  
Castro Valley, CA 94522

Prepared by:  
AQUA SCIENCE ENGINEERS, INC.  
208 W. El Pintado  
Danville, CA 94526  
(925) 820-9391

## 1.0 INTRODUCTION

### Site Location (Site). See Figure 1

Oakland Truck Stop  
8255 San Leandro Street  
Oakland, California

### Responsible Party

Mr. Nissan Saidian  
5733 Medallion Court  
Castro Valley, CA 94522

### Environmental Consulting Firm

Aqua Science Engineers, Inc. (ASE)  
208 West El Pintado  
Danville, CA 94526  
Contact: Robert Kitay, Senior Geologist  
(925) 820-9391

### Agency Review

Mr. Amir Gholami  
Alameda County Health Care Services Agency (ACHCSA)  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Mr. Chuck Headlee  
California Regional Water Quality Control Board (RWQCB)  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

The following is a report detailing the methods and findings of the June 2003 quarterly groundwater sampling at the above-referenced site. This sampling was conducted as required by the ACHCSA and RWQCB. ASE has prepared this report on behalf of Mr. Nissan Saidian, owner of the property.

## **2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT**

On September 19, 2003, ASE measured the depth to water in each site groundwater monitoring well using an electric water level sounder. The surface of the groundwater was also checked for the presence of Liquid Phase Hydrocarbons (LPH) or sheen using an electronic oil/water interface probe. The presence of LPH was confirmed with a disposable bailer half-filled for direct observation.

Monitoring well MW-1 contained approximately 0.32-feet of LPH this quarter and a hydrocarbon sheen was observed in monitoring well MW-3. Oakland Truck Stop staff has begun bailing LPH from monitoring well MW-1 on a weekly basis. No LPH or sheen was observed in any of the remaining site monitoring wells. Groundwater elevation data is presented as Table One.

A groundwater potentiometric surface map for September 19, 2003 is presented as Figure 2. Groundwater beneath the site flows to the west and northwest with a gradient of approximately 0.0012 feet/foot. The groundwater flow direction at the site has been very inconsistent and highly variable.

## **3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS**

Prior to sampling, monitoring wells MW-2 through MW-9 were purged of three well casing volumes of groundwater using dedicated polyethylene bailers. The parameters pH, temperature, and conductivity were monitored during the well purging, and samples were not collected until these parameters stabilized. Groundwater samples were collected from each well using dedicated polyethylene bailers. Monitoring well MW-1 was not sampled due to the presence of LPH.

All samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid, and sealed without headspace. The samples were then labeled and placed in coolers with wet ice for transport to Kiff Analytical, LLC of Davis, California under appropriate chain-of-custody documentation. Well sampling field logs are presented in Appendix A.

The monitoring well purge water was placed in a 55-gallon steel drum, stored temporarily on site, and later removed for proper disposal.

The groundwater samples were analyzed for total petroleum hydrocarbons as diesel (TPH-D) by EPA Method 3550/8015M, and total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethylbenzene, and total xylenes (collectively known as BTEX), and oxygenates by EPA Method 8260B. The analytical results are presented in Table Two. The certified analytical report and chain-of-custody documentation are included as Appendix B.

#### **4.0 CONCLUSIONS**

Monitoring well MW-1 contained approximately 0.32-feet of free-floating diesel hydrocarbons and MW-3 contained a hydrocarbon sheen.

In general, concentrations of dissolved diesel related hydrocarbons, remained the same or decreased slightly across the site, while concentrations of gasoline related hydrocarbons generally increased. TPH-G, BTEX, and MTBE concentrations reached record high levels in monitoring well MW-3. The MTBE concentration in the groundwater sample collected from monitoring well MW-9 was at a record low concentration. Hydrocarbon concentrations in the groundwater samples collected from monitoring wells MW-2 through MW-6, and MW-9 exceeded Environmental Screening Levels (ESLs) as presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region dated July 2003.

#### **5.0 RECOMMENDATIONS**

ASE recommends that this site remain on a quarterly sampling schedule. The next sampling is scheduled for December 2003. Oakland Truck Stop staff will continue periodic LPH removal from monitoring well MW-1 during the next quarter. In addition, ASE anticipates conducting a pilot study for ozone sparging remediation at the site once an approval letter is received from the ACHCSA.

#### **6.0 REPORT LIMITATIONS**

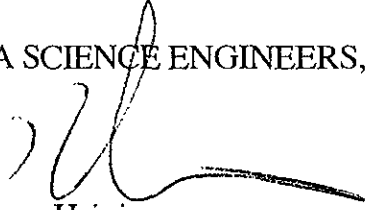
The results presented in this report represent conditions at the time of the groundwater sampling, at the specific locations where the groundwater samples were collected, and for the specific parameters analyzed by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the former underground storage tanks and associated plumbing at the site, or for parameters not analyzed by the

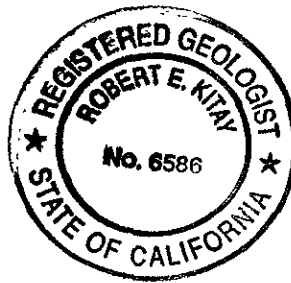
laboratory. All of the laboratory work cited in this report was prepared under the direction of independent CAL-DHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.


Aqua Science Engineers appreciates the opportunity to provide environmental consulting services for this project, and trust that this report meets your needs. Please feel free to call us at (925) 820-9391 if you have any questions or comments.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

  
Damian Hriciga  
Project Geologist



  
Robert E. Kitay, R.G., R.E.A.  
Senior Geologist

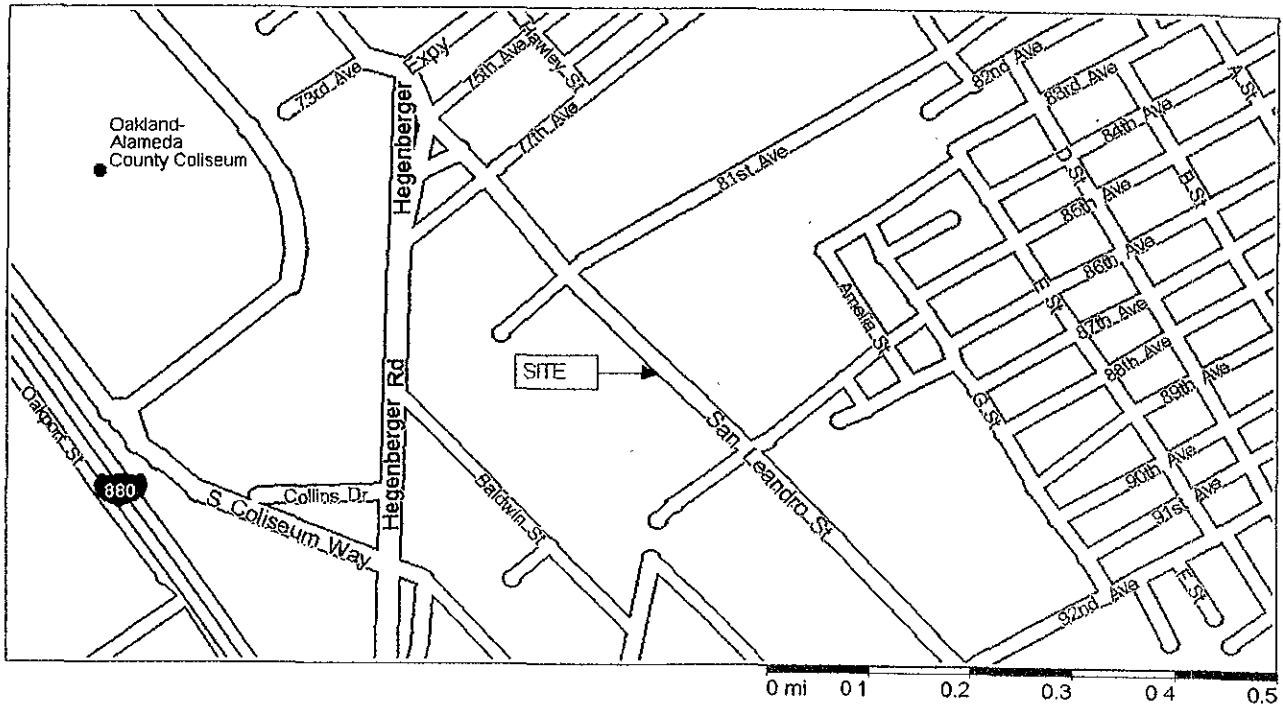
Attachments: Table One through Three  
Figures 1 and 2  
Appendices A and B

cc: Mr. Nissan Saidian  
Mr. Amir Gholami, ACHCSA  
Mr. Chuck Headlee, RWQCB, San Francisco Bay Region

## **FIGURES**



NORTH



# LOCATION MAP

OAKLAND TRUCK STOP  
8255 SAN LEANDRO STREET  
OAKLAND, CALIFORNIA

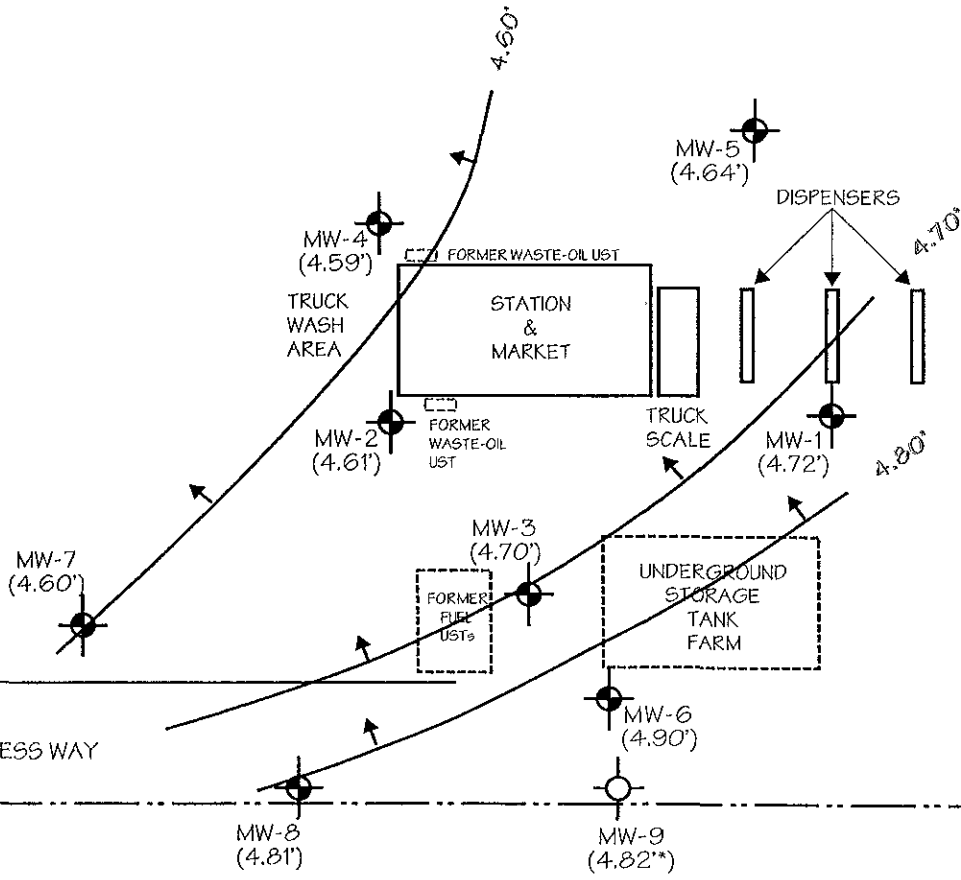
AQUA SCIENCE ENGINEERS, INC.

Figure 1

PROPERTY BOUNDARIES

CAFE

SAN LEANDRO STREET



LEGEND

- Water elevation does not appear to be correct and was not used in contouring
- Potentiometric surface contour with arrow indicating groundwater flow direction
- 4-inch diameter Monitoring well
- Monitoring Well with groundwater elevation in feet  
MW-4 (4.59')



NORTH

SCALE  
1" = 50'

POTENTIOMETRIC  
SURFACE CONTOUR MAP  
9/19/03

OAKLAND TRUCK STOP  
8255 SAN LEANDRO STREET  
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC.

Figure 2



# **TABLES**

**TABLE ONE**  
**Groundwater Elevation Data**  
**Oakland Truck Stop**  
**8255 San Leandro Street, Oakland, CA**

Well ID & Date Sampled	Top of Casing Elevation (msl)	Depth to Water (feet)	Free-Floating Hydrocarbon Thickness (feet)	Groundwater Elevation (msl)
<b>MW-1</b>				
8/16/1999	97.12	Unknown	> 1.0	Unknown
8/27/1999		6.90	0.36	90.51*
9/10/1999		6.85	0.18	90.41*
9/24/1999		6.65	0.08	90.53*
10/8/1999		6.87	0.28	90.47*
10/22/1999		6.81	0.23	90.49*
11/2/1999		6.94	0.31	90.43*
11/19/1999		6.91	0.12	90.31*
12/6/1999		6.93	0.12	90.29*
3/8/2000		5.93	0.21	91.36*
6/14/2000		6.57	0.72	90.41*
12/11/2000		6.70	0.60	90.90*
3/6/2001		5.75	0.40	91.69*
6/6/2001		7.60	1.48	90.70*
9/4/2001		6.80	0.20	90.48*
3/11/2002		approx. 7.47	approx. 3	approx. 92.05*
6/6/2002		6.49	0.67	91.17*
9/4/2002	11.02	6.89	0.54	4.56*
12/17/2002		4.65		6.47*
3/7/2003		6.55	1.19	3.52*
6/5/2003		9.77	4.63	4.95*
9/19/2003		6.56	0.32	4.72*
<b>MW-2</b>				
8/16/1999	96.82	6.30	--	90.52
12/6/1999		8.46	--	88.36
3/8/2000		9.12	--	87.70
6/14/2000		8.34	--	88.48
12/11/2000		5.94	--	90.88
3/6/2001		4.70	--	92.12
6/6/2001		6.03	--	90.79
9/4/2001		6.34	--	90.48
3/11/2002		4.89	--	91.93
6/6/2002		5.69	--	91.13
9/4/2002	10.70	6.17	--	4.53
12/17/2002		4.39	--	6.31
3/7/2003		5.44	--	5.26
6/5/2003		5.59	--	5.11
9/19/2003		6.09	--	4.61

TABLE ONE  
 Groundwater Elevation Data  
 Oakland Truck Stop  
 8255 San Leandro Street, Oakland, CA

Well ID & Date Sampled	Top of Casing Elevation (msl)	Depth to Water (feet)	Free-Floating Hydrocarbon Thickness (feet)	Groundwater Elevation (msl)
<u>MW-3</u>				
8/16/1999	96.43	5.85	--	90.58
12/6/1999		5.70	--	90.73
3/8/2000		5.32	--	91.11
6/14/2000		6.95	--	89.48
12/11/2000		6.22	--	90.21
3/6/2001		4.83	--	91.60
6/6/2001		5.62	--	90.81
9/4/2001		5.91	--	90.52
3/11/2002		4.42	--	92.01
6/6/2002		5.19	--	91.24
9/4/2002	10.32	5.72	--	4.60
12/17/2002		3.96	--	6.36
3/7/2003		4.88	--	5.44
6/5/2003		5.05	--	5.27
9/19/2003		5.62	--	4.70
<u>MW-4</u>				
8/16/1999	96.60	6.12	--	90.48
12/6/1999		5.98	--	90.62
3/8/2000		4.32	--	92.28
6/14/2000		5.58	--	91.02
12/11/2000		5.70	--	90.90
3/6/2001		4.46	--	92.14
6/6/2001		5.89	--	90.71
9/4/2001		6.16	--	90.44
3/11/2002		4.67	--	91.93
6/6/2002		5.50	--	91.10
9/4/2002	10.50	5.97	--	4.53
12/17/2002		4.22	--	6.28
3/7/2003		5.23	--	5.27
6/5/2003		5.38	--	5.12
9/19/2003		5.91	--	4.59
<u>MW-5</u>				
12/6/1999	96.30	5.94	--	90.36
3/8/2000		4.06	--	92.24
6/14/2000		5.25	--	91.05
12/11/2000		5.45	--	90.85
3/6/2001		4.12	--	92.18
6/6/2001		5.56	--	90.74
9/4/2001		5.84	--	90.46
3/11/2002		4.38	--	91.92
6/6/2002		5.16	--	91.14
9/4/2002	10.20	5.62	--	4.58
12/17/2002		4.12	--	6.08
3/7/2003		4.89	--	5.31
6/5/2003		5.04	--	5.16
9/19/2003		5.56	--	4.64

**TABLE ONE**  
**Groundwater Elevation Data**  
**Oakland Truck Stop**  
**8255 San Leandro Street, Oakland, CA**

Well ID & Date Sampled	Top of Casing Elevation (msl)	Depth to Water (feet)	Free-Floating Hydrocarbon Thickness (feet)	Groundwater Elevation (msl)
<u>MW-6</u>				
12/6/1999	96.79	5.80	--	90.99
3/8/2000		4.10	--	92.69
6/14/2000		5.64	--	91.15
12/11/2000		5.72	--	91.07
3/6/2001		4.32	--	92.47
6/6/2001		5.81	--	90.98
9/4/2001		6.12	--	90.67
3/11/2002		4.49	--	92.30
6/6/2002		5.33	--	91.46
9/4/2002	10.71	5.92	--	4.79
12/17/2002		3.85	--	6.86
3/7/2003		4.96	--	5.75
6/5/2003		5.18	--	5.53
9/19/2003		5.81	--	4.90
<u>MW-7</u>				
9/4/2002	9.17	4.67	--	4.50
12/17/2002		3.11	--	6.06
3/7/2003		3.89	--	5.28
6/5/2003		3.57	--	5.60
9/19/2003		4.57	--	4.60
<u>MW-8</u>				
9/4/2002	9.68	4.94	--	4.74
12/17/2002		3.26	--	6.42
3/7/2003		4.01	--	5.67
6/5/2003		4.28	--	5.40
9/19/2003		4.87	--	4.81
<u>MW-9</u>				
9/4/2002	11.07	6.26	--	4.81
12/17/2002		4.23	--	6.84
3/7/2003		5.26	--	5.81
6/5/2003		5.56	--	5.51
9/19/2003		6.25	--	4.82

Notes:

\* = Groundwater elevation adjusted for the presence of free-floating hydrocarbons by the equation: Adjusted groundwater elevation = Top of casing elevation - depth to groundwater + (0.8 x free-floating hydrocarbon thickness)

Mid Coast Engineers (MCE) surveyed all site monitoring wells on July 11, 2002 to mean sea level (MSL). The updated elevation data is reflected in the table above.

**TABLE TWO**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**Petroleum Hydrocarbons**  
**All results are in parts per billion**

Well ID DATE	TPH Gasoline	TPH Diesel	TPH Motor Oil	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA
<b>MW-1</b>												
8/16/1999												
12/6/1999												
3/8/2000												
6/14/2000												
12/11/2000												
3/6/2001												
6/6/2001												
9/4/2001												
3/11/2002												
6/6/2002												
9/4/2002												
12/17/2002												
3/7/2003												
6/5/2003												
9/19/2003												
<b>MW-2</b>												
8/16/1999	2,200	970*	< 500	3.8	< 2.0	3	< 4.0	< 20	NA	NA	NA	NA
12/6/1999	1,900	400*	< 500	16	< 0.5	1.5	< 0.5	5.2	NA	NA	NA	NA
3/8/2000	1,600*	530*	< 500	9.7	< 0.5	2.7	< 0.5	2.7	NA	NA	NA	NA
6/14/2000	2,000	75	< 100	2.8	< 0.5	3.4	< 0.5	16	3.4	< 0.5	< 0.5	64
12/11/2000	1,000	120	< 100	2.6	< 0.5	< 0.5	< 0.5	15	2.9	< 0.5	< 0.5	62
3/6/2001	1,500	1,400	NA	2.2	< 0.5	1.7	< 0.5	22	3.4	< 0.5	< 0.5	83
6/6/2001	1,700	190	NA	2.6	< 0.5	2.3	< 0.5	26	3.2	< 0.5	< 0.5	83
9/4/2001	2,000	450	NA	2.7	< 0.5	2.1	< 0.5	33	3.4	< 0.5	< 0.5	93
3/11/2002	1,100	410	NA	1.0	< 0.5	0.5	< 0.5	26	2.5	< 0.5	< 0.5	69
6/6/2002	900	430	NA	1.2	< 0.5	< 0.5	< 0.5	23	2.8	< 0.5	< 0.5	73
9/4/2002	910	510	NA	1.6	< 0.5	< 0.5	< 0.5	45	2.5	< 0.5	< 0.5	67
12/17/2002	190	220	NA	0.65	< 0.5	< 0.5	< 0.5	34	1.5	< 0.5	< 0.5	46
3/7/2003	380	300	NA	0.81	< 0.5	< 0.5	< 0.5	50	1.9	< 0.5	< 0.5	73
6/5/2003	2,200	2,200	NA	1.7	< 0.5	1.5	< 0.5	180	4.9	< 0.5	1.3	110
9/19/2003	2,300	520	NA	2.0	< 0.5	2.1	< 0.5	180	3.7	< 0.5	1.1	120
<b>MW-3</b>												
8/16/1999	56,000	10,000**	< 500	17,000	2,600	2,600	1,200	6,100	NA	NA	NA	NA
12/6/1999	40,000	9,100*	< 500	16,000	140	1,800	100	2,200/4,000‡	NA	NA	NA	NA
3/8/2000	22,000	4,500*	< 500	11,000	72	1,100	130	3,400	NA	NA	NA	NA
6/14/2000	34,000	16,000	< 100	13,000	94	1,300	160	4,800	31	< 10	21	2,700
12/11/2000	24,000	14,000	< 100	13,000	88	780	120	4,300	< 50	< 50	< 50	2,300
3/6/2001	34,000	12,000	NA	15,000	100	1,100	130	4,000	< 50	< 50	< 50	2,100
6/6/2001	34,000	20,000	NA	14,000	94	550	110	4,400	< 50	< 50	< 50	2,300
9/4/2001	29,000	19,000	NA	13,000	83	480	83	4,100	< 50	< 50	< 50	3,400
3/11/2002	12,000	14,000	NA	2,900	< 20	110	< 20	530	< 20	< 20	< 20	330
6/6/2002	20,000	14,000	NA	10,000	< 50	200	51	2,400	< 50	< 50	< 50	1,200
9/4/2002	24,000	17,000	NA	11,000	< 50	140	< 50	3,200	< 50	< 50	< 50	1,400
12/17/2002	4,900	17,000	NA	2,000	< 10	52	12	360	< 10	< 10	< 10	220
3/7/2003	8,700	16,000	NA	2,300	< 10	43	11	770	< 10	< 10	< 10	360
6/5/2003	27,000	14,000	NA	10,000	53	220	53	5,000	< 50	< 50	< 50	1,600
9/19/2003	120,000	13,000	NA	20,000	170	710	250	6,100	< 25	< 25	< 25	2,600

**TABLE TWO**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**Petroleum Hydrocarbons**  
**All results are in parts per billion**

Well ID DATE	TPH Gasoline	TPH Diesel	TPH Motor Oil	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA
<b>MW-4</b>												
8/16/1999	61***	1,100*	< 500	< 0.5	< 0.5	< 0.5	< 1.0	86	NA	NA	NA	NA
12/6/1999	130***	220*	< 500	< 1.0	< 1.0	< 1.0	< 1.0	130	NA	NA	NA	NA
3/8/2000	< 50	220*	< 500	< 0.5	< 0.5	< 0.5	< 0.5	130	NA	NA	NA	NA
6/14/2000	< 50	< 50	< 100	< 0.5	< 0.5	< 0.5	< 0.5	100	< 0.5	< 0.5	< 0.5	20
12/11/2000	< 50	< 50	< 100	< 0.5	< 0.5	< 0.5	< 0.5	110	< 0.5	< 0.5	< 0.5	16
3/6/2001	< 50	670	NA	< 0.5	< 0.5	< 0.5	< 0.5	110	< 0.5	< 0.5	< 0.5	99
6/6/2001	< 50	790	NA	< 0.5	< 0.5	< 0.5	< 0.5	110	< 0.5	< 0.5	< 0.5	20
9/4/2001	< 50	950	NA	< 0.5	< 0.5	< 0.5	< 0.5	110	< 0.5	< 0.5	< 0.5	26
3/11/2002	< 50	250	NA	< 0.5	< 0.5	< 0.5	< 0.5	84	< 0.5	< 0.5	< 0.5	21
6/6/2002	< 50	710	NA	< 0.5	< 0.5	< 0.5	< 0.5	92	< 0.5	< 0.5	< 0.5	21
9/4/2002	< 50	1,100	NA	< 0.5	< 0.5	< 0.5	< 0.5	150	< 0.5	< 0.5	< 0.5	18
12/17/2002	< 50	470	NA	< 0.5	< 0.5	< 0.5	< 0.5	120	< 0.5	< 0.5	< 0.5	< 5.0
3/7/2003	< 50	470	NA	< 0.5	< 0.5	< 0.5	< 0.5	120	< 0.5	< 0.5	0.52	18
6/5/2003	< 50	2,000	NA	< 0.5	< 0.5	< 0.5	< 0.5	110	< 0.5	< 0.5	0.50	23
9/19/2003	< 50	830	NA	< 0.5	< 0.5	< 0.5	< 0.5	110	< 0.5	< 0.5	< 0.80	23
<b>MW-5</b>												
12/6/1999	450***	2,000*	< 500	< 1.0	< 1.0	< 1.0	< 1.0	21	NA	NA	NA	NA
3/8/2000	51***	530*	< 500	< 0.5	< 0.5	< 0.5	< 0.5	84	NA	NA	NA	NA
6/14/2000	380	1,400	< 100	< 0.5	< 0.5	< 0.5	< 0.5	160	12	< 0.5	< 0.5	22
12/11/2000	540	590	< 100	< 0.5	< 0.5	< 0.5	< 0.5	240	9.5	< 0.5	< 0.5	32
3/6/2001	510	2,900	NA	< 0.5	< 0.5	< 0.5	< 0.5	140	13	< 0.5	< 0.5	19
6/6/2001	280	2,700	NA	< 0.5	< 0.5	< 0.5	< 0.5	180	13	< 0.5	< 0.5	26
9/4/2001	630	2,600	NA	< 0.5	< 0.5	< 0.5	< 0.5	180	9.4	< 0.5	< 0.5	29
3/11/2002	97	3,500	NA	< 0.5	< 0.5	< 0.5	< 0.5	29	0.79	< 0.5	< 0.5	7.4
6/6/2002	61	3,500	NA	< 0.5	< 0.5	< 0.5	< 0.5	150	2.9	< 0.5	< 0.5	34
9/4/2002	92	6,100	NA	< 0.5	< 0.5	< 0.5	< 0.5	370	3.6	< 0.5	< 0.5	72
12/17/2002	110	2,100	NA	< 0.5	< 0.5	< 0.5	< 0.5	110	4.2	< 0.5	< 0.5	14
3/7/2003	71	1,600	NA	< 0.5	< 0.5	< 0.5	< 0.5	150	2.2	< 0.5	< 0.5	35
6/5/2003	95	3,300	NA	< 0.5	< 0.5	< 0.5	< 0.5	170	4.6	< 0.5	< 0.5	43
9/19/2003	100	1,400	NA	< 0.5	< 0.5	< 0.5	< 0.5	310	5.2	< 0.50	0.68	86
<b>MW-6</b>												
12/6/1999	13,000	< 50	< 500	180	21	11	24	< 100	NA	NA	NA	NA
3/8/2000	< 10,000	4,600*	< 500	230	26	18	39	12,000	NA	NA	NA	NA
6/14/2000	8,400	12,000	< 100	190	12	9.5	22	15,000	< 5.0	< 5.0	70	3,300
12/11/2000	< 5,000	10,000	< 100	190	< 50	< 50	< 50	14,000	< 50	< 50	74	2,900
3/6/2001	5,300	6,700	NA	220	< 50	< 50	< 50	13,000	< 50	< 50	84	2,100
6/6/2001	5,000	23,000	NA	210	< 25	< 25	< 25	12,000	< 25	< 25	84	4,200
9/4/2001	5,400	22,000	NA	190	12	< 10	23	15,000	< 10	< 10	79	4,000
3/11/2002	4,600	11,000	NA	160	< 25	< 25	< 25	15,000	< 25	< 25	39	5,100
6/6/2002	< 5,000	14,000	NA	200	< 50	< 50	< 50	17,000	< 50	< 50	77	8,700
9/4/2002	< 5,000	50,000	NA	140	< 50	< 50	< 50	21,000	< 50	< 50	52	7,500
12/17/2002	< 5,000	9,100	NA	130	< 50	< 50	< 50	16,000	< 50	< 50	64	6,300
3/7/2003	< 5,000	12,000	NA	160	< 50	< 50	< 50	20,000	< 50	< 50	53	7,500
6/5/2003	< 5,000	23,000	NA	230	< 50	< 50	< 50	19,000	< 50	< 50	86	7,100
9/19/2003	8,900	24,000	NA	220	< 25	< 25	< 25	15,000	< 25	< 25	74	8,100

**TABLE TWO**  
**Summary of Chemical Analysis of GROUNDWATER Samples**  
**Petroleum Hydrocarbons**  
**All results are in parts per billion**

Well ID DATE	TPH Gasoline	TPH Diesel	TPH Motor Oil	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA
<b>MW-7</b>												
9/4/2002	<50	130****	NA	<0.5	<0.5	<0.5	<0.5	3.4	<0.5	<0.5	<0.5	<5.0
12/17/2002	<50	220	NA	<0.5	<0.5	<0.5	<0.5	2.8	<0.5	<0.5	<0.5	<5.0
3/7/2003	<50	140	NA	<0.5	<0.5	<0.5	<0.5	1.8	<0.5	<0.5	<0.5	<5.0
6/5/2003	<50	200	NA	<0.5	<0.5	<0.5	<0.5	2.5	<0.5	<0.5	<0.5	<5.0
9/19/2003	<50	320	NA	<0.5	<0.5	<0.5	<0.5	5.0	<0.5	<0.5	<0.5	<5.0
<b>MW-8</b>												
9/4/2002	<50	170	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
12/17/2002	<50	100	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
3/7/2003	<50	62	NA	<0.5	<0.5	<0.5	<0.5	33	<0.5	<0.5	<0.5	<5.0
6/5/2003	<50	270	NA	<0.5	<0.5	<0.5	<0.5	13	<0.5	<0.5	<0.5	<5.0
9/19/2003	<50	250	NA	<0.5	<0.5	<0.5	<0.5	11	<0.5	<0.5	<0.5	<5.0
<b>MW-9</b>												
9/4/2002	<2,500	1,000	NA	<25	<25	<25	<25	12,000	<25	<25	70	1,700
12/17/2002	<2,000	880	NA	<20	<20	<20	<20	4,500	<20	<20	23	2,300
3/7/2003	<500	450	NA	<5.0	<5.0	<5.0	<5.0	1,700	<5.0	<5.0	8.4	6,600
6/5/2003	<500	4,500	NA	<5.0	<5.0	<5.0	<5.0	120	<5.0	<5.0	<5.0	17,000
9/19/2003	<1000	4,500	NA	<10	<10	<10	<10	38	<10	<10	<10	15,000
DHS MCL	NE	NE	NE	1	150	700	1,750	13	NE	NE	NE	NE
ESL	400	500	500	46	150	290	1,800	NE	NE	NE	NE	NE

**Notes:**

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Most recent concentrations are in bold

DHS MCL is the California Department of Health Services maximum contaminant level for drinking water

ESL = Environmental screening levels presented in the "Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (July 2003)" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region.

NE = MCL/ESL not established.

NA = Sample not analyzed for this compound

\* = Non-typical diesel pattern, hydrocarbons in early diesel range.

\*\* = Estimated concentration due to overlapping fuel patterns in the sample.

\*\*\* = Non-typical gasoline pattern.

\*\*\*\* = Non-typical diesel pattern.

# = MTBE concentration by EPA Method 8260

# **APPENDIX A**

Well Sampling Field Logs





# WELL SAMPLING FIELD LOG

Project Name and Address: BTS  
 Job #: 5733 Date of sampling: 9/19/03  
 Well Name: MW-1 Sampled by: DH  
 Total depth of well (feet): \_\_\_\_\_ Well diameter (inches): 2  
 Depth to water before sampling (feet): 6.24/6.58  
 Thickness of floating product if any: 0.32  
 Depth of well casing in water (feet): \_\_\_\_\_  
 Number of gallons per well casing volume (gallons): \_\_\_\_\_  
 Number of well casing volumes to be removed: \_\_\_\_\_  
 Required volume of groundwater to be purged before sampling (gallons): \_\_\_\_\_  
 Equipment used to purge the well: \_\_\_\_\_  
 Time Evacuation Began: \_\_\_\_\_ Time Evacuation Finished: \_\_\_\_\_  
 Approximate volume of groundwater purged: \_\_\_\_\_  
 Did the well go dry: \_\_\_\_\_ After how many gallons: \_\_\_\_\_  
 Time samples were collected: \_\_\_\_\_  
 Depth to water at time of sampling: \_\_\_\_\_  
 Percent recovery at time of sampling: \_\_\_\_\_  
 Samples collected with: \_\_\_\_\_  
 Sample color: \_\_\_\_\_  
 Description of sediment in sample: \_\_\_\_\_

NOT SAMPLED THIS QUARTER

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



# WELL SAMPLING FIELD LOG

Project Name and Address: OTS  
 Job #: 5733 Date of sampling: 9/19/03  
 Well Name: MW-2 Sampled by: \_\_\_\_\_  
 Total depth of well (feet): 14.9 Well diameter (inches): \_\_\_\_\_  
 Depth to water before sampling (feet): 6.09  
 Thickness of floating product if any: —  
 Depth of well casing in water (feet): 8.81  
 Number of gallons per well casing volume (gallons): 1.5  
 Number of well casing volumes to be removed: 3  
 Req'd volume of groundwater to be purged before sampling (gallons): 4.5  
 Equipment used to purge the well: BAILER  
 Time Evacuation Began: 11:30 Time Evacuation Finished: \_\_\_\_\_  
 Approximate volume of groundwater purged: 4.5  
 Did the well go dry?: YES After how many gallons: 4.5  
 Time samples were collected: 11:45  
 Depth to water at time of sampling: —  
 Percent recovery at time of sampling: —  
 Samples collected with: BAILER  
 Sample color: \_\_\_\_\_ Odor: NO  
 Description of sediment in sample: \_\_\_\_\_

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1.5</u>	<u>68.1</u>	<u>5.83</u>	<u>1972</u>
<u>3.0</u>	<u>67.4</u>	<u>5.90</u>	<u>1901</u>
<u>4.5</u>	<u>67.2</u>	<u>5.91</u>	<u>1908</u>
_____	_____	_____	_____
_____	_____	_____	_____

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-2</u>	<u>5</u>	<u>40L WAD</u>	<u>NO</u>	<u>Y</u>	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



# WELL SAMPLING FIELD LOG

Project Name and Address: OTS  
 Job #: 5733 Date of sampling: 9/19/08  
 Well Name: MW-3 Sampled by: PA  
 Total depth of well (feet): 15.0 Well diameter (inches): \_\_\_\_\_  
 Depth to water before sampling (feet): 5.62  
 Thickness of floating product if any: \_\_\_\_\_  
 Depth of well casing in water (feet): 9.38  
 Number of gallons per well casing volume (gallons): 1.6  
 Number of well casing volumes to be removed: 3  
 Req'd volume of groundwater to be purged before sampling (gallons): 4.8  
 Equipment used to purge the well: BALLOON  
 Time Evacuation Began: 1240 Time Evacuation Finished: 1255  
 Approximate volume of groundwater purged: 4.8  
 Did the well go dry?: YES After how many gallons: 4.8  
 Time samples were collected: 1400  
 Depth to water at time of sampling: 9.82  
 Percent recovery at time of sampling: \_\_\_\_\_  
 Samples collected with: BALLOON  
 Sample color: \_\_\_\_\_ Odor: HC  
 Description of sediment in sample: \_\_\_\_\_

SHEEN

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1.6</u>	<u>69.10</u>	<u>5.90</u>	<u>1950</u>
<u>3.2</u>	<u>67.6</u>	<u>5.99</u>	<u>1820</u>
<u>4.8</u>	<u>67.2</u>	<u>6.10</u>	<u>1815</u>
_____	_____	_____	_____
_____	_____	_____	_____

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-2</u>	<u>5</u>	<u>60.0L VOA</u>	<u>HEP</u>	<u>Y</u>	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



# WELL SAMPLING FIELD LOG

Project Name and Address: OTS  
 Job #: 5733 Date of sampling: 9/19/03  
 Well Name: MW-4 Sampled by: DH  
 Total depth of well (feet): 11.0 Well diameter (inches): 2  
 Depth to water before sampling (feet): 5.91  
 Thickness of floating product if any: ---  
 Depth of well casing in water (feet): 8.09  
 Number of gallons per well casing volume (gallons): 1.4  
 Number of well casing volumes to be removed: 3  
 Req'd volume of groundwater to be purged before sampling (gallons): 4.1  
 Equipment used to purge the well: BAILER  
 Time Evacuation Began: 1029 Time Evacuation Finished: 1040  
 Approximate volume of groundwater purged: 4.1  
 Did the well go dry?: No After how many gallons: ---  
 Time samples were collected: 1045  
 Depth to water at time of sampling: 6.12  
 Percent recovery at time of sampling: ---  
 Samples collected with: BAILER  
 Sample color: --- Odor: No  
 Description of sediment in sample: ---

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1.4</u>	<u>70.5</u>	<u>5.90</u>	<u>1493</u>
<u>2.8</u>	<u>68.4</u>	<u>6.20</u>	<u>1588</u>
<u>4.2</u>	<u>68.8</u>	<u>6.70</u>	<u>1594</u>
---	---	---	---
---	---	---	---

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW 4</u>	<u>5</u>	<u>400ml VSA</u>	<u>---</u>	<u>X</u>	<u>---</u>
---	---	---	---	---	---
---	---	---	---	---	---
---	---	---	---	---	---



# WELL SAMPLING FIELD LOG

Project Name and Address: OTS  
 Job #: 5733 Date of sampling: 9/14/03  
 Well Name: MW-5 Sampled by: PH  
 Total depth of well (feet): 14.0 Well diameter (inches): 2  
 Depth to water before sampling (feet): 5.56  
 Thickness of floating product if any: -  
 Depth of well casing in water (feet): 8.44  
 Number of gallons per well casing volume (gallons): 1.4  
 Number of well casing volumes to be removed: 3  
 Req'd volume of groundwater to be purged before sampling (gallons): 4.3  
 Equipment used to purge the well: BALLER  
 Time Evacuation Began: 1100 Time Evacuation Finished: 1120  
 Approximate volume of groundwater purged: 4.3  
 Did the well go dry?: YES After how many gallons: 4.3  
 Time samples were collected: BALLER 1225  
 Depth to water at time of sampling: 9.83  
 Percent recovery at time of sampling: -  
 Samples collected with: BALLER  
 Sample color: - Odor: No  
 Description of sediment in sample: -

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1.4</u>	<u>69.9</u>	<u>6.90</u>	<u>1040</u>
<u>2.8</u>	<u>68.9</u>	<u>7.01</u>	<u>1138</u>
<u>4.3</u>	<u>68.7</u>	<u>7.25</u>	<u>1142</u>

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW 5</u>	<u>5</u>	<u>500 mL VOA</u>	<u>HCL</u>	<u>Y</u>	



# WELL SAMPLING FIELD LOG

Project Name and Address: OTS  
 Job #: 6733 Date of sampling: 9/19/03  
 Well Name: MW-6 Sampled by: pat  
 Total depth of well (feet): 14.3 Well diameter (inches): 2  
 Depth to water before sampling (feet): 5.81  
 Thickness of floating product if any: -  
 Depth of well casing in water (feet): 8.49  
 Number of gallons per well casing volume (gallons): 1.4  
 Number of well casing volumes to be removed: 3  
 Req'd volume of groundwater to be purged before sampling (gallons): 4.3  
 Equipment used to purge the well: BAILER  
 Time Evacuation Began: 1306 Time Evacuation Finished: 1310  
 Approximate volume of groundwater purged: 4.5  
 Did the well go dry?: No After how many gallons: -  
 Time samples were collected: 1315  
 Depth to water at time of sampling: 7.05  
 Percent recovery at time of sampling: -  
 Samples collected with: BAILER  
 Sample color: - Odor: S Rove H/C  
 Description of sediment in sample: -

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1.4</u>	<u>68.1</u>	<u>6.00</u>	<u>850</u>
<u>2.8</u>	<u>66.3</u>	<u>6.40</u>	<u>835</u>
<u>4.3</u>	<u>66.1</u>	<u>6.80</u>	<u>829</u>

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MW-6</u>	<u>5</u>	<u>20 L VOA</u>	<u>HCC</u>	<u>Y</u>	



# WELL SAMPLING FIELD LOG

Project Name and Address: OTS  
 Job #: 5733 Date of sampling: 9/19/03  
 Well Name: MU-7 Sampled by: PH  
 Total depth of well (feet): 15.4 Well diameter (inches): 2  
 Depth to water before sampling (feet): 4.57  
 Thickness of floating product if any: 10.83  
 Depth of well casing in water (feet): 10.83  
 Number of gallons per well casing volume (gallons): 1.8  
 Number of well casing volumes to be removed: 3  
 Req'd volume of groundwater to be purged before sampling (gallons): 5.5  
 Equipment used to purge the well: BAILER  
 Time Evacuation Began: 12:00 Time Evacuation Finished: 12:10  
 Approximate volume of groundwater purged: 55  
 Did the well go dry?: No After how many gallons: -  
 Time samples were collected: 12:15  
 Depth to water at time of sampling: 5.32  
 Percent recovery at time of sampling: -  
 Samples collected with: BAILER  
 Sample color: GREY Odor: No  
 Description of sediment in sample: SILT

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1.8</u>	<u>66.1</u>	<u>6.6</u>	<u>1310</u>
<u>3.6</u>	<u>63.5</u>	<u>6.48</u>	<u>1370</u>
<u>5.5</u>	<u>63.4</u>	<u>6.40</u>	<u>1368</u>
_____	_____	_____	_____
_____	_____	_____	_____

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
<u>MU-7</u>	<u>5</u>	<u>10 mL NOA</u>	<u>HCl</u>	<u>Y</u>	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____



# WELL SAMPLING FIELD LOG

Project Name and Address: OTS  
 Job #: 5733 Date of sampling: 9/19/03  
 Well Name: MW-8 Sampled by: DM  
 Total depth of well (feet): 15.0 Well diameter (inches): 2  
 Depth to water before sampling (feet): 4.87  
 Thickness of floating product if any: -  
 Depth of well casing in water (feet): 10.13  
 Number of gallons per well casing volume (gallons): 1.7  
 Number of well casing volumes to be removed: 3  
 Req'd volume of groundwater to be purged before sampling (gallons): 5.2  
 Equipment used to purge the well: BAILER  
 Time Evacuation Began: 1005 Time Evacuation Finished: 1010  
 Approximate volume of groundwater purged: 5.2  
 Did the well go dry?: No After how many gallons: 5  
 Time samples were collected: 1015  
 Depth to water at time of sampling: 6.34  
 Percent recovery at time of sampling: -  
 Samples collected with: BAILER  
 Sample color: GRY BRN Odor: NO  
 Description of sediment in sample: SILT

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1.7</u>	<u>66.0</u>	<u>6.08</u>	<u>1230</u>
<u>3.4</u>	<u>64.4</u>	<u>6.25</u>	<u>1242</u>
<u>5.2</u>	<u>64.1</u>	<u>6.30</u>	<u>1248</u>

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iccd?	Analysis
<u>MW-8</u>	<u>5</u>	<u>40 mL VOA</u>	<u>HCC</u>	<u>Y</u>	





# WELL SAMPLING FIELD LOG

Project Name and Address: OTS  
 Job #: 5733 Date of sampling: 9/19/03  
 Well Name: MW-9 Sampled by: PH  
 Total depth of well (feet): 19.9 Well diameter (inches): 4.5  
 Depth to water before sampling (feet): 6.25  
 Thickness of floating product if any: \_\_\_\_\_  
 Depth of well casing in water (feet): 13.65  
 Number of gallons per well casing volume (gallons): 8.2  
 Number of well casing volumes to be removed: 24.6  
 Req'd volume of groundwater to be purged before sampling (gallons): 24.6  
 Equipment used to purge the well: SUB PUMP  
 Time Evacuation Began: 1325 Time Evacuation Finished: 1350  
 Approximate volume of groundwater purged: 25  
 Did the well go dry?: NO After how many gallons: ~  
 Time samples were collected: 1350  
 Depth to water at time of sampling: 6.38  
 Percent recovery at time of sampling: \_\_\_\_\_  
 Samples collected with: RAILER  
 Sample color: \_\_\_\_\_ Odor: \_\_\_\_\_  
 Description of sediment in sample: \_\_\_\_\_

## CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>9</u>	<u>65.7</u>	<u>7.05</u>	<u>1201</u>
<u>18</u>	<u>64.0</u>	<u>7.20</u>	<u>1115</u>
<u>25</u>	<u>64.1</u>	<u>7.21</u>	<u>1118</u>
_____	_____	_____	_____
_____	_____	_____	_____

## SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Icecd?	Analysis
<u>MW-9</u>	<u>5</u>	<u>40ml vial</u>	<u>HC</u>	<u>✓</u>	<u>—</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

## **APPENDIX B**

Certified Analytical Report  
and  
Chain of Custody Documentation



Report Number : 35041

Date : 10/1/2003

Damian Hriciga  
Aqua Science Engineers, Inc.  
208 W. El Pintado Road  
Danville, CA 94526

Subject : 8 Water Samples  
Project Name : OTS  
Project Number :

Dear Mr. Hriciga,

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, appearing to read "Jeff Dahl".

Jeff Dahl



Report Number : 35041

Date : 10/1/2003

Subject : 8 Water Samples  
Project Name : OTS  
Project Number :

## Case Narrative

The Method Reporting Limit for Tert-amyl methyl ether has been increased due to the presence of an interfering compound for sample MW-4.

Matrix Spike/Matrix Spike Duplicate Results associated with sample MW-3 for the analytes Benzene, Toluene were outside of control limits. This may indicate a bias for the sample that was spiked. Since the LCS recoveries were within control limits, no data are flagged.

Matrix Spike/Matrix Spike Duplicate Results associated with sample MW-6 for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.

Approved By:  \_\_\_\_\_  
Jeff Dahl

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



Report Number : 35041

Date : 10/1/2003

Project Name : **OTS**

Project Number :

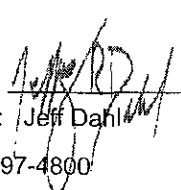
Sample : **MW-2**

Matrix : Water

Lab Number : 35041-01

Sample Date :9/19/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>2.0</b>	0.50	ug/L	EPA 8260B	9/24/2003
<b>Toluene</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/24/2003
<b>Ethylbenzene</b>	<b>2.1</b>	0.50	ug/L	EPA 8260B	9/24/2003
<b>Total Xylenes</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/24/2003
<b>Methyl-t-butyl ether (MTBE)</b>	<b>180</b>	0.50	ug/L	EPA 8260B	9/24/2003
<b>Diisopropyl ether (DIPE)</b>	<b>3.7</b>	0.50	ug/L	EPA 8260B	9/24/2003
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/24/2003
<b>Tert-amyl methyl ether (TAME)</b>	<b>1.1</b>	0.50	ug/L	EPA 8260B	9/24/2003
<b>Tert-Butanol</b>	<b>120</b>	5.0	ug/L	EPA 8260B	9/24/2003
<b>TPH as Gasoline</b>	<b>2300</b>	50	ug/L	EPA 8260B	9/24/2003
Toluene - d8 (Surr)	94.6		% Recovery	EPA 8260B	9/24/2003
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	9/24/2003
<b>TPH as Diesel</b>	<b>520</b>	50	ug/L	M EPA 8015	9/29/2003
Octacosane (Diesel Surrogate)	88.0		% Recovery	M EPA 8015	9/29/2003

Approved By:  Jeff Dahl

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



Report Number : 35041

Date : 10/1/2003

Project Name : **OTS**

Project Number :

Sample : **MW-3**

Matrix : Water

Lab Number : 35041-02

Sample Date :9/19/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>20000</b>	25	ug/L	EPA 8260B	9/27/2003
<b>Toluene</b>	<b>170</b>	25	ug/L	EPA 8260B	9/27/2003
<b>Ethylbenzene</b>	<b>710</b>	25	ug/L	EPA 8260B	9/27/2003
<b>Total Xylenes</b>	<b>250</b>	25	ug/L	EPA 8260B	9/27/2003
<b>Methyl-t-butyl ether (MTBE)</b>	<b>6100</b>	25	ug/L	EPA 8260B	9/27/2003
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 25</b>	25	ug/L	EPA 8260B	9/27/2003
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 25</b>	25	ug/L	EPA 8260B	9/27/2003
<b>Tert-amyl methyl ether (TAME)</b>	<b>&lt; 25</b>	25	ug/L	EPA 8260B	9/27/2003
<b>Tert-Butanol</b>	<b>2600</b>	250	ug/L	EPA 8260B	9/27/2003
<b>TPH as Gasoline</b>	<b>120000</b>	2500	ug/L	EPA 8260B	9/27/2003
Toluene - d8 (Surr)	98.6		% Recovery	EPA 8260B	9/27/2003
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	9/27/2003
<b>TPH as Diesel</b>	<b>13000</b>	50	ug/L	M EPA 8015	9/30/2003
Octacosane (Diesel Surrogate)	93.4		% Recovery	M EPA 8015	9/30/2003

Approved By:  Jeff Dahl

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



Report Number : 35041

Date : 10/1/2003

Project Name : OTS

Project Number :

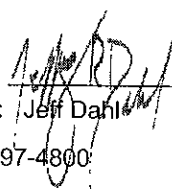
Sample : MW-4

Matrix : Water

Lab Number : 35041-03

Sample Date :9/19/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Toluene	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Methyl-t-butyl ether (MTBE)	110	0.50	ug/L	EPA 8260B	9/26/2003
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Tert-amyl methyl ether (TAME)	< 0.80	0.80	ug/L	EPA 8260B	9/26/2003
Tert-Butanol	23	5.0	ug/L	EPA 8260B	9/26/2003
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	9/26/2003
Toluene - d8 (Surr)	107		% Recovery	EPA 8260B	9/26/2003
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	9/26/2003
TPH as Diesel	830	50	ug/L	M EPA 8015	9/30/2003
Octacosane (Diesel Surrogate)	83.8		% Recovery	M EPA 8015	9/30/2003

Approved By:  Jeff Dahl



Report Number : 35041

Date : 10/1/2003

Project Name : **OTS**

Project Number :

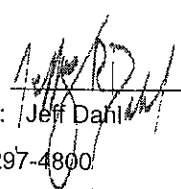
Sample : **MW-5**

Matrix : Water

Lab Number : 35041-04

Sample Date :9/19/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Toluene</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Ethylbenzene</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Total Xylenes</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Methyl-t-butyl ether (MTBE)</b>	<b>310</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Diisopropyl ether (DIPE)</b>	<b>5.2</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Tert-amyl methyl ether (TAME)</b>	<b>0.68</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Tert-Butanol</b>	<b>86</b>	5.0	ug/L	EPA 8260B	9/26/2003
<b>TPH as Gasoline</b>	<b>100</b>	50	ug/L	EPA 8260B	9/26/2003
Toluene - d8 (Surr)	107		% Recovery	EPA 8260B	9/26/2003
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	9/26/2003
<b>TPH as Diesel</b>	<b>1400</b>	50	ug/L	M EPA 8015	9/30/2003
Octacosane (Diesel Surrogate)	90.5		% Recovery	M EPA 8015	9/30/2003

Approved By:  Jeff Dahl

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





Report Number : 35041

Date : 10/1/2003

Project Name : OTS

Project Number :

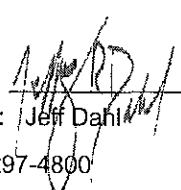
Sample : MW-6

Matrix : Water

Lab Number : 35041-05

Sample Date :9/19/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	220	25	ug/L	EPA 8260B	9/27/2003
Toluene	< 25	25	ug/L	EPA 8260B	9/27/2003
Ethylbenzene	< 25	25	ug/L	EPA 8260B	9/27/2003
Total Xylenes	< 25	25	ug/L	EPA 8260B	9/27/2003
Methyl-t-butyl ether (MTBE)	15000	25	ug/L	EPA 8260B	9/27/2003
Diisopropyl ether (DIPE)	< 25	25	ug/L	EPA 8260B	9/27/2003
Ethyl-t-butyl ether (ETBE)	< 25	25	ug/L	EPA 8260B	9/27/2003
Tert-amyl methyl ether (TAME)	74	25	ug/L	EPA 8260B	9/27/2003
Tert-Butanol	8100	250	ug/L	EPA 8260B	9/27/2003
TPH as Gasoline	8900	2500	ug/L	EPA 8260B	9/27/2003
Toluene - d8 (Surr)	96.5		% Recovery	EPA 8260B	9/27/2003
4-Bromofluorobenzene (Surr)	97.1		% Recovery	EPA 8260B	9/27/2003
TPH as Diesel	24000	50	ug/L	M EPA 8015	9/30/2003
Octacosane (Diesel Surrogate)	93.5		% Recovery	M EPA 8015	9/30/2003

Approved By:  Jeff Dahl

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



Report Number : 35041

Date : 10/1/2003

Project Name : **OTS**

Project Number :

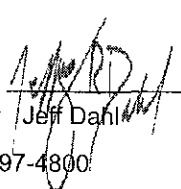
Sample : **MW-7**

Matrix : Water

Lab Number : 35041-06

Sample Date :9/19/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Toluene</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Ethylbenzene</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Total Xylenes</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Methyl-t-butyl ether (MTBE)</b>	<b>5.0</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Tert-amyl methyl ether (TAME)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	9/26/2003
<b>Tert-Butanol</b>	<b>&lt; 5.0</b>	5.0	ug/L	EPA 8260B	9/26/2003
<b>TPH as Gasoline</b>	<b>&lt; 50</b>	50	ug/L	EPA 8260B	9/26/2003
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	9/26/2003
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	9/26/2003
<b>TPH as Diesel</b>	<b>320</b>	50	ug/L	M EPA 8015	9/30/2003
Octacosane (Diesel Surrogate)	70.1		% Recovery	M EPA 8015	9/30/2003

Approved By:  Jeff Dahl

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



Report Number : 35041

Date : 10/1/2003

Project Name : **OTS**

Project Number :

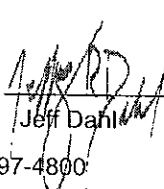
Sample : **MW-8**

Matrix : Water

Lab Number : 35041-07

Sample Date :9/19/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
<b>Total Xylenes</b>	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
<b>Methyl-t-butyl ether (MTBE)</b>	11	0.50	ug/L	EPA 8260B	9/26/2003
<b>Diisopropyl ether (DIPE)</b>	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
<b>Ethyl-t-butyl ether (ETBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
<b>Tert-amyl methyl ether (TAME)</b>	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
<b>Tert-Butanol</b>	< 5.0	5.0	ug/L	EPA 8260B	9/26/2003
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	9/26/2003
Toluene - d8 (Surr)	104		% Recovery	EPA 8260B	9/26/2003
4-Bromofluorobenzene (Surr)	107		% Recovery	EPA 8260B	9/26/2003
<b>TPH as Diesel</b>	<b>250</b>	50	ug/L	M EPA 8015	9/30/2003
Octacosane (Diesel Surrogate)	121		% Recovery	M EPA 8015	9/30/2003

Approved By:  Jeff Dahl



Report Number : 35041

Date : 10/1/2003

Project Name : **OTS**

Project Number :

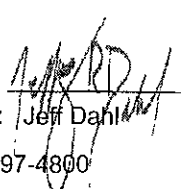
Sample : **MW-9**

Matrix : Water

Lab Number : 35041-08

Sample Date :9/19/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>&lt; 10</b>	10	ug/L	EPA 8260B	9/30/2003
<b>Toluene</b>	<b>&lt; 10</b>	10	ug/L	EPA 8260B	9/30/2003
<b>Ethylbenzene</b>	<b>&lt; 10</b>	10	ug/L	EPA 8260B	9/30/2003
<b>Total Xylenes</b>	<b>&lt; 10</b>	10	ug/L	EPA 8260B	9/30/2003
<b>Methyl-t-butyl ether (MTBE)</b>	<b>38</b>	10	ug/L	EPA 8260B	9/30/2003
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 10</b>	10	ug/L	EPA 8260B	9/30/2003
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 10</b>	10	ug/L	EPA 8260B	9/30/2003
<b>Tert-amyl methyl ether (TAME)</b>	<b>&lt; 10</b>	10	ug/L	EPA 8260B	9/30/2003
<b>Tert-Butanol</b>	<b>15000</b>	100	ug/L	EPA 8260B	9/30/2003
<b>TPH as Gasoline</b>	<b>&lt; 1000</b>	1000	ug/L	EPA 8260B	9/30/2003
Toluene - d8 (Surr)	99.4		% Recovery	EPA 8260B	9/30/2003
4-Bromofluorobenzene (Surr)	99.5		% Recovery	EPA 8260B	9/30/2003
<b>TPH as Diesel</b>	<b>4500</b>	50	ug/L	M EPA 8015	9/30/2003
Octacosane (Diesel Surrogate)	103		% Recovery	M EPA 8015	9/30/2003

Approved By:  Jeff Dahl

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

Report Number : 35041

Date : 10/1/2003

**QC Report : Method Blank Data**

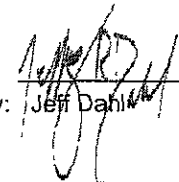
Project Name : **OTS**

Project Number :

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	< 50	50	ug/L	M EPA 8015	9/29/2003
Octacosane (Diesel Surrogate)	90.5		%	M EPA 8015	9/29/2003
Benzene	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Toluene	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	9/26/2003
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	9/26/2003
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	9/26/2003
Toluene - d8 (Surr)	104		%	EPA 8260B	9/26/2003
4-Bromofluorobenzene (Surr)	99.5		%	EPA 8260B	9/26/2003
Benzene	< 0.50	0.50	ug/L	EPA 8260B	9/30/2003
Toluene	< 0.50	0.50	ug/L	EPA 8260B	9/30/2003
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	9/30/2003
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	9/30/2003
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	9/30/2003
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	9/30/2003
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	9/30/2003
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	9/30/2003
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	9/30/2003
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	9/30/2003
Toluene - d8 (Surr)	101		%	EPA 8260B	9/30/2003
4-Bromofluorobenzene (Surr)	99.0		%	EPA 8260B	9/30/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
-----------	----------------	------------------------	-------	-----------------	---------------

Approved By:



KIFF ANALYTICAL, LLC

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

Report Number : 35041

Date : 10/1/2003

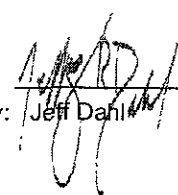
QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **OTS**

Project Number :

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
TPH as Diesel	Blank	<50	1000	1000	1020	1020	ug/L	M EPA 8015	9/29/03	102	102	0.00	70-130	25
Benzene	35068-05	1.4	39.9	39.9	24.7	30.7	ug/L	EPA 8260B	9/26/03	58.4	73.4	22.8	70-130	25
Toluene	35068-05	1.5	39.9	39.9	25.0	30.6	ug/L	EPA 8260B	9/26/03	58.9	72.9	21.3	70-130	25
Tert-Butanol	35068-05	220	200	200	371	421	ug/L	EPA 8260B	9/26/03	77.8	103	27.7	70-130	25
Methyl-t-Butyl Ether	35068-05	860	39.9	39.9	786	896	ug/L	EPA 8260B	9/26/03	0.00	83.6	200	70-130	25
Benzene	35173-01	7.4	40.0	40.0	46.6	46.7	ug/L	EPA 8260B	9/30/03	98.2	98.3	0.0509	70-130	25
Toluene	35173-01	<0.50	40.0	40.0	41.7	40.9	ug/L	EPA 8260B	9/30/03	104	102	1.99	70-130	25
Tert-Butanol	35173-01	<5.0	200	200	209	206	ug/L	EPA 8260B	9/30/03	104	103	1.37	70-130	25
Methyl-t-Butyl Ether	35173-01	44	40.0	40.0	79.4	79.6	ug/L	EPA 8260B	9/30/03	88.6	88.9	0.394	70-130	25

Approved By:

  
 Jeff Dahl

KIFF ANALYTICAL, LLC

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

Report Number : 35041

Date : 10/1/2003

QC Report : Laboratory Control Sample (LCS)

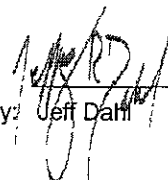
Project Name : **OTS**

Project Number :

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	9/26/03	87.9	70-130
Toluene	40.0	ug/L	EPA 8260B	9/26/03	91.6	70-130
Tert-Butanol	200	ug/L	EPA 8260B	9/26/03	89.8	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	9/26/03	89.6	70-130
Benzene	40.0	ug/L	EPA 8260B	9/30/03	98.9	70-130
Toluene	40.0	ug/L	EPA 8260B	9/30/03	101	70-130
Tert-Butanol	200	ug/L	EPA 8260B	9/30/03	102	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	9/30/03	92.9	70-130

KIFF ANALYTICAL, LLC

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

Approved By:  Jeff Daff

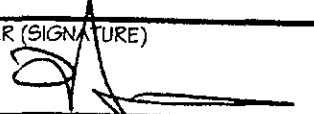
35041

Aqua Science Engineers, Inc.  
208 W. El Pintado Road  
Danville, CA 94526  
(925) 820-9391  
FAX (925) 837-4853

# Chain of Custody

PAGE 1 OF 1

SAMPLER (SIGNATURE)



PROJECT NAME

OTS

JOB NO.

ADDRESS

OAKLAND

## ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

NOT ALL SAMPLES ARE PRESENT!

PLEASE SEND EDF

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-DIESEL (EPA 3510/8015)	TPH-DIESEL & MOTOR OIL (EPA 3510/8015)	PURGEABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240/8260)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520)	LIFT METALS (6) (EPA 6010-7000)	CAM17 METALS (EPA 6010-7000)	PCBs & PESTICIDES (EPA 608/8080)	ORGANOPHOSPHORUS PESTICIDES (EPA 8140 EPA 608/8080)	FUEL OXYGENATES (EPA 8260)	Pb (TOTAL or DISSOLVED) (EPA 6010)	TPH-G/BTEX/5 OXY'S (EPA 8260)	TPH-G/BTEX/5 OXY'S / LEAD-BY-ANALYSIS / 1,2-DCP (EPA 8260)		
					Mw-2	9/19	1145	W	5		X										
Mw-3		1140	W	5		X												X			-02
Mw-4		1045	W	5		X												X			-03
Mw-5		1225	W	5		X												X			-04
Mw-6		1315	W	5		X												X			-05
Mw-7		1215	W	5		X												X			-06
Mw-8		1015	W	5		X												X			-07
Mw-9		1350	W	5		X												X			-08

RELINQUISHED BY:

 (signature) (time)

DAMIANA (printed name) 9/1/03 (date)

Company-

ASE

RECEIVED BY:

(signature) (time)

(printed name) (date)

Company-

RELINQUISHED BY:

(signature) (time)

(printed name) (date)

Company-

RECEIVED BY LABORATORY:

Michelle Woodworth 0850 (signature) (time)

Michelle Woodworth 092203 (printed name) (date)

Company-

Kiff Analytical

COMMENTS:

1,2-DCP = 1,2-dichloropropane

TURN AROUND TIME

STANDARD 24hr 48hr 72hr

OTHER: