

FUGRO WEST, INC.

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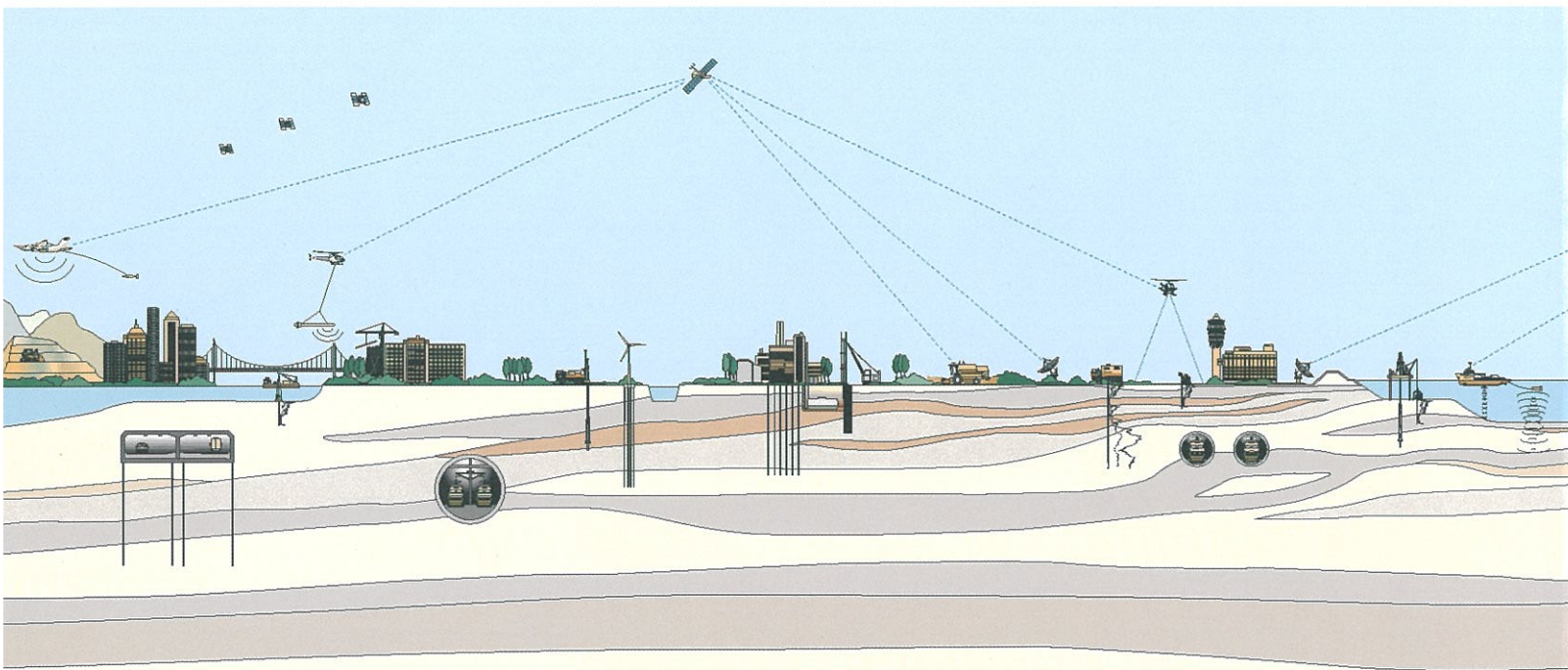
Alameda County  
Environmental Health



**WINTER 2007-2008 GROUNDWATER  
MONITORING REPORT  
2250 TELEGRAPH AVENUE  
OAKLAND, CALIFORNIA**

Prepared for:  
BUTTNER PROPERTIES

April 2008  
Fugro Project No. 609.004



April 9, 2008  
Project No. 609.004

Buttner Properties  
600 West Grand Avenue  
Oakland, California 94612

Attention: Ms. Marianne Robison

Subject: Winter 2007-2008 Groundwater Monitoring Report, 2250 Telegraph Avenue,  
Oakland, California

Dear Ms. Robison:

Fugro West, Inc., (Fugro) is pleased to present this report, which records the results of the Winter 2007-2008 groundwater monitoring event conducted in February 2008, for the 2250 Telegraph Avenue property (Site). The groundwater monitoring program has been implemented in accordance with a February 2004 Work Plan and the Addendum to the Work Plan dated August 5, 2004. The Site location is shown on the Vicinity Map - Plate 1 and the Site Plan is presented on Plate 2.

During this monitoring event, Fugro sampled the four wells located onsite (MW-1, MW-2, MW-3, and MW-4), as well as two wells located offsite: MW-5 located to the south, within the parking lane and MW-6 located to the south, in the eastbound lanes of the heavily traveled West Grand Avenue.

## **BACKGROUND**

In August 1990, a 10,000-gallon gasoline underground gasoline storage tank (UST) and one 280-gallon waste oil UST were removed from the Site. Approximately 500 cubic yards of gasoline-impacted soil were excavated from the former UST and pump island areas, and with concurrence from the Alameda County Environmental Health (ACEH) the contaminated soils were aerated onsite and disposed at a Class III sanitary landfill. The excavations were backfilled with clean imported materials, placed and compacted under engineering supervision, and the area was resurfaced with asphalt pavement.

In February 1994, contaminated soils near the former waste oil tank were over-excavated and removed from the Site. Four groundwater monitoring wells (MW-1 through MW-4) were installed onsite and a groundwater monitoring program was implemented. In May 1996, five temporary well points were installed and grab groundwater samples were obtained as part of a supplemental investigation to assist in determining locations for two offsite monitoring wells. Wells MW-5 and MW-6 were installed at offsite locations, downgradient from the former UST excavations in June 1997. In response to ACEH letters dated June 16, 1998, and November 8, 1999, all groundwater monitoring wells (MW-1 through MW-6) were monitored and sampled on a semi-annual basis through 2001.



In their letter dated January 16, 2002, the ACEH recommended a risk assessment and sensitive receptor survey be conducted to determine whether the Site might qualify as a "low risk site." While in the process of conducting these activities, a subsequent letter from the ACEH dated April 4, 2003, was received by the property owner. The April 2003 letter requested that additional source and site characterization studies, a preferential pathway study, and a well survey be conducted. In response to these requests, Fugro prepared a Preferential Pathway and Preliminary Risk Evaluation report dated February 19, 2004. Fugro conducted research to identify the location of preferential pathways in the immediate vicinity and evaluated the presence of sensitive receptors in the area. Fugro also compared detected concentrations to the Environmental Screening Levels established by the Regional Water Quality Control Board (RWQCB) for classification of impacted sites. These Site studies indicated the following:

- Source material has been removed from the Site and the Site has been restored to allow continued use of the Site;
- Residual concentrations of Total Petroleum Hydrocarbons (TPH) in soil beneath the onsite structure and concentrations in groundwater do not pose an immediate or significant risk to human health or the environment, considering the current commercial use of the Site;
- Groundwater below West Grand Avenue is impacted by commingled petroleum hydrocarbon releases from various sources;
- No drinking water wells exist within a half-mile radius of the Site;
- No utility corridors were located on or offsite, which would create a preferential migration pathway for contaminants of concern. City infrastructure maps indicate that storm and sanitary sewer mainlines do not extend below West Grand Avenue, they extend below Telegraph Avenue, situated along the upgradient side of the Site, and below Valley Street further to the east. Only one shallow storm drain connector extends from the southeast corner of the Site to Valley Street, and the connector is located above the groundwater surface;
- Shallow groundwater in the downtown Oakland area is not considered nor currently used as a potable water source; and
- With the exception of possible upward migration of soil gas vapors, no exposure pathways currently exist. Given the current commercial use of the Site, as well as the fact that the Site is completely paved and/or covered by concrete slabs, soil vapor migration is not a completed exposure pathway.

Fugro developed a scope of work (Work Plan, February 2004, and Work Plan Addendum, August 2004) to define the lateral extent of onsite soil and groundwater impacts, and to evaluate the potential for soil gas vapors to impact current and future occupants considering that the Site would be redeveloped in the future. In their letter dated August 19, 2005, ACEH requested further clarification for the proposed scope of services. Fugro provided responses to ACEH comments in the Groundwater Monitoring Report and Supplemental Work Plan Addendum dated October 15, 2005. To date, no further written comments or acknowledgement has been received from ACEH, and as such groundwater monitoring is the only activity being conducted at the Site.



Fugro has uploaded PDF copies of our 2005, 2006 and 2007 Groundwater Monitoring Reports to the ACEH ftp website. We also sent electronic copies of all attached tables in a Microsoft excel format, to ACEH as required.

### **GROUNDWATER MONITORING – WINTER 2007-2008**

Fugro conducted this monitoring event on February 5, 2008. Prior to sampling, the presence of free product was checked and the depth to groundwater was measured in all six wells. Fugro's field geologist noticed hydrocarbon odor during purging and sampling of monitoring wells MW-1, MW-4, and MW-6; however, no free product was observed. Each well was then purged of approximately three casing volumes of water while monitoring for changes in pH, conductivity, and temperature. Once the water levels stabilized, the wells were sampled with clean disposable bailers. Samples were retained in glass containers pre-cleaned by the laboratory in accordance with Environmental Protection Agency (EPA) protocols. The containers were placed in an ice-filled cooler and kept chilled, pending delivery to the laboratory.

The samples for this event were submitted under chain-of-custody documents to Curtis & Tompkins, Ltd., a laboratory certified by the State of California Department of Health Services for hazardous waste and water testing. A sample from each well was analyzed for the following constituents:

- Total volatile hydrocarbons as gasoline (TVHg), EPA Methods 5030/8015;
- Total extractable hydrocarbons as diesel and motor oil (TEHd and mo), EPA Methods 8015m, using silica gel cleanup;
- Lead scavengers including: dichloroethane and dibromoethane;
- Five fuel oxygenates by EPA Methods 8260 including; Methyl tert butyl ether (MTBE), TBA, DIPE, ETBE, and TAME; and
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX).

Well sampling forms, chain-of-custody documents, and the analytical test reports are presented in Appendix A. Groundwater elevation data are summarized in Table 1. Analytical test results are summarized in Table 2.

The groundwater flow directions for this Site are presented in the Rose Diagram on Plate 2. The gradient for this event was 0.033 feet/foot<sup>1</sup> directed towards the southeast. Based on the groundwater elevation data presented in Table 1, the groundwater gradient remains generally consistent with previous measurements. Groundwater was encountered at higher elevations compared to the Summer 2007 event, which is expected given that this current event was conducted during the rainy season.

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<sup>1</sup> Data based on current measurements in wells MW-1, MW-3, and MW-4. Data from wells MW-2, MW-5, MW-6 are not judged to be representative of site conditions.





TVHg was detected during this event in samples from wells MW-1 (100 µg/l), MW-3 (100 µg/l), MW-4 (2,100 µg/l) and MW-6 (1,400 µg/l). TEHd was detected in samples from wells MW-1 (62 µg/l), MW-2 (50 µg/l), MW-4 (2,100 µg/l) and MW-6 (560 µg/l). TEHmo was only detected in the sample from well MW-4 (2,200 µg/l). Concentrations of these analytes from this sampling event are significantly lower and generally consistent with previous data.

Analysis detected benzene and total xylenes in well MW-3 at concentrations of 7.6 µg/l and 0.5 µg/l, respectively. No concentrations of benzene, toluene, ethylbenzene, or total xylenes were detected in any of the remaining samples tested.

No MTBE concentrations were detected in any of the samples tested during this event. None of the lead scavengers or fuel oxygenates were detected in any of the samples analyzed.

### NEXT GROUNDWATER MONITORING EVENT

The next scheduled event will be conducted during the Summer of 2008. If you have any questions, please call either of the undersigned at (510) 268-0461.

Sincerely,

FUGRO WEST, INC.

Hanako Zeidenberg  
Staff Geologist



Jeriann N. Alexander, P.E., R.E.A.  
Project Manager  
Civil Engineer 40469 (exp. 3/31/09)  
REA 03130 (exp. 7/08)



HZ/JNA:rh

Attachments: Table 1 - Groundwater Elevation Data  
Table 2 - Chemical Concentrations in Groundwater  
Plate 1 - Vicinity Map  
Plate 2 - Site Plan with Groundwater Rose Diagram  
Appendix A - Well Sampling Forms, Analytical Test Report  
and Chain of Custody Form

Copies Submitted: (1) Addressee  
(1) Mr. Tim Robison, Ph.D.  
(PDF) Ms. Donna Drogos, Alameda County Environmental Health



## TABLES

**Table 1  
Groundwater Elevation Data  
2250 Telegraph Avenue  
Oakland, California**

<b>Monitoring</b>		<b>TOC Elevation</b>	<b>DTW</b>	<b>Elevation</b>
<u>Well</u>	<u>Date</u>	<u>(feet) MSL</u>	<u>(feet)</u>	<u>(feet) MSL</u>
MW-1	3/3/1994	20.55	10.39	10.16
	3/10/1994		10.54	10.01
	6/6/1994		11.36	9.19
	9/7/1994		11.92	8.63
	12/22/1994		10.83	9.72
	3/17/1995		9.73	10.82
	6/27/1995		10.51	10.04
	9/18/1995		11.12	9.43
	5/30/1996		10.49	10.06
	7/9/1997		11.79	8.76
	8/21/1998		11.00	9.55
	10/6/1998		11.84	8.71
	2/24/1999		9.74	10.81
	6/30/2000		11.28	9.27
	4/27/2001		10.56	9.99
	4/14/2005		10.12	10.43
	8/1/2005		10.56	9.99
	11/9/2005		12.53	8.02
	3/21/2006		9.71	10.84
	8/7/2006		11.40	9.15
10/27/2006	11.39	9.16		
3/20/2007	10.94	9.61		
8/8/2007	11.21	9.34		
	2/5/008		9.52	11.03
MW-2	3/3/1994	20.03	10.37	9.66
	3/10/1994		10.53	9.50
	6/6/1994		11.15	8.88
	9/7/1994		11.72	8.31
	12/22/1994		11.27	8.76
	3/17/1995		9.85	10.18
	6/27/1995		10.70	9.33
	9/18/1995		11.67	8.36
	5/30/1996		11.56	8.47
	7/9/1997		11.52	8.51
	8/21/1998		11.91	8.12
	10/6/1998		11.57	8.46
	2/24/1999		9.91	10.12
	6/30/2000		11.16	8.87
	4/27/2001		11.32	8.71
	4/14/2005		11.00	9.03
	8/1/2005		11.67	8.36
	11/9/2005		11.54	8.49
	3/21/2006		11.02	9.01
	8/7/2006		11.84	8.19
10/27/2006	11.92	8.11		
3/20/2007	12.52	7.51		
8/8/2007	12.82	7.21		
	2/5/2008		10.39	9.64

**Table 1  
Groundwater Elevation Data  
2250 Telegraph Avenue  
Oakland, California**

<b>Monitoring</b>		<b>TOC Elevation</b>	<b>DTW</b>	<b>Elevation</b>
<u>Well</u>	<u>Date</u>	<u>(feet) MSL</u>	<u>(feet)</u>	<u>(feet) MSL</u>
MW-3	3/3/1994	18.97	9.50	9.47
	3/10/1994		9.51	9.46
	6/6/1994		10.28	8.69
	9/7/1994		10.75	8.22
	12/22/1994		9.74	9.23
	3/17/1995		8.85	10.12
	6/27/1995		9.94	9.03
	9/18/1995		10.54	8.43
	5/30/1996		9.69	9.28
	7/9/1997		10.60	8.37
	8/21/1998		10.36	8.61
	10/6/1998		10.64	8.33
	2/24/1999		8.58	10.39
	6/30/2000		10.21	8.76
	4/27/2001		9.85	9.12
	4/14/2005		9.58	9.39
	8/1/2005		10.24	8.73
	11/9/2005		10.45	8.52
	3/21/2006		8.77	10.20
	8/7/2006		10.30	8.67
10/27/2006		10.63	8.34	
3/20/2007		9.72	9.25	
8/8/2007		10.48	8.49	
	2/5/2008		8.61	10.36
MW-4	3/3/1994	19.88	10.89	8.99
	3/10/1994		11.19	8.69
	6/6/1994		11.85	8.03
	9/7/1994		12.86	7.02
	12/22/1994		12.26	7.62
	3/17/1995		10.10	9.78
	6/27/1995		11.05	8.83
	9/18/1995		11.84	8.04
	5/30/1996		10.97	8.91
	7/9/1997		12.08	7.80
	8/21/1998		11.86	8.02
	10/6/1998		12.84	7.04
	2/24/1999		10.79	9.09
	6/30/2000		12.39	7.49
	4/27/2001		11.26	8.62
	4/14/2005		12.01	7.87
	8/1/2005		11.78	8.10
	11/9/2005		12.42	7.46
	3/21/2006		10.00	9.88
	8/7/2006		11.90	7.98
10/27/2006		12.75	7.13	
3/20/2007		11.20	8.68	
8/8/2007		12.00	7.88	
	2/5/2008		10.40	9.48



**Table 1  
Groundwater Elevation Data  
2250 Telegraph Avenue  
Oakland, California**

<b>Monitoring</b>		<b>TOC Elevation</b>	<b>DTW</b>	<b>Elevation</b>
<u>Well</u>	<u>Date</u>	<u>(feet) MSL</u>	<u>(feet)</u>	<u>(feet) MSL</u>
MW-5	6/26/1997	16.02	8.44	7.58
	7/9/1997		8.48	7.54
	8/21/1998		8.32	7.70
	10/6/1998		8.51	7.51
	2/24/1999		6.86	9.16
	6/30/2000		7.63	8.39
	4/27/2001		7.60	8.42
	4/15/2005		7.20	8.82
	8/1/2005		8.16	7.86
	11/9/2005		7.92	8.10
	3/21/2006		6.58	9.44
	8/7/2006		8.27	7.75
	10/27/2006		8.48	7.54
	3/20/2007		7.67	8.35
	8/8/2007		8.43	7.59
	2/5/2008		6.76	9.26
	MW-6	6/26/1997	18.36	10.89
7/9/1997			10.98	7.38
8/21/1998			11.00	7.36
10/6/1998			10.79	7.57
2/24/1999			9.32	9.04
6/30/2000			10.37	7.99
4/27/2001			10.10	8.26
4/15/2005			9.55	8.81
8/1/2005			10.54	7.82
11/9/2005			NA	NA
3/21/2006			9.11	9.25
8/7/2006			10.59	7.77
NA			NA	NA
3/20/2007			10.10	8.26
8/8/2007			10.85	7.51
2/5/2008			9.27	9.09

TOC = Top of Casing

DTW = Depth to Water

Elevation Reference: USGS benchmark W1197, 1969 with a reported elevation of +21.06 feet MSL datum.

NA = Not Accessible During This Sampling Event

**Table 2  
Chemical Concentrations in Groundwater  
2250 Telegraph Avenue, Oakland, California**



Well	Date	Groundwater Elevation MSL (feet)	Petroleum Hydrocarbons				Volatile Organics																			
			TVH as Gasoline µg/l	TEH as Kerosene µg/l	TEH as Diesel µg/l	TEH as Motor Oil µg/l	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Xylenes µg/l	MTBE -8020 µg/l	MTBE -8260 µg/l	TBA µg/l	DIPE µg/l	ETBE µg/l	TAME µg/l	1,1,1-TCA µg/l	1,2-DCA µg/l	1,2-DBA µg/l	PCE µg/l	Chloro-Benzene µg/l					
<b>Soil Gas ESL*</b>			NV	NV	NV	NV	540	380,000	170,000	160,000	24,000															
<b>Groundwater ESL**</b>			100	100	100	100	1	40	30	20	5															
Temp. Well 1	5/31/96	--	13,000	--	37,000	--	<50	<50	<50	380	--	--	--	--	--	<1	<1	--	<1	<1						
Temp. Well 2	5/30/96	--	250	--	<50	--	<0.5	<0.5	13	3.4	--	--	--	--	--	<1	<1	--	<1	<1						
Temp. Well 3	5/30/96	--	<50	--	83	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<1	20	--	<1	<1						
Temp. Well 4	5/31/96	--	11,000	--	1,900	--	130	66	340	260	--	--	--	--	--	<1	<1	--	<1	<1						
Temp. Well 5	5/30/96	--	70	--	180	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<1	<1	--	<1	<1						
MW-1	3/3/94	10.16	300	<50	<50	<500	1.3	<0.5	2.7	3.1	--	--	--	--	--	<0.5	5.5	--	<0.5	<0.5						
	6/6/94	9.19	430	180+	<50	<500	10	2.2	6.1	7.6	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5						
	9/7/94	8.63	410	<50	<50	<500	6.4	0.8	2.6	3.8	--	--	--	--	--	<0.5	3.8	--	<0.5	<0.5						
	12/22/94	9.72	130	<50	<50	<500	0.7	<0.5	0.6	0.8	--	--	--	--	--	<0.5	3.4	--	<0.5	<0.5						
	3/17/95	10.82	1,600	170	<50	<500	29	<0.5	9.1	6.9	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5						
	6/27/95	10.04	1,100	<50	<50	<500	14	<0.5	7.1	5	--	--	--	--	--	<0.5	3.3	--	<0.5	<0.5						
	9/18/95	9.43	370	--	110+	--	4.4	0.6	2	1.4	--	--	--	--	--	<0.5	2.4	--	<0.5	<0.5						
	8/21/98	9.55	170	--	62+	--	<0.5	0.76	0.79	<0.5	<2.0	--	--	--	--	--	--	--	--	--						
	2/24/99	10.81	20	--	280+	--	<0.5	<0.5	<0.5	<0.5	--	<2.0	--	--	--	--	--	--	--	--						
	6/30/00	13.47	240	--	<50	--	0.7	0.8	<0.5	0.74	4.0	--	--	--	--	--	--	--	--	--						
	4/27/01	9.99	160	--	<50	--	3.3	<0.5	0.86	<0.50	<2.0	--	--	--	--	--	--	--	--	--						
	4/15/05	10.43	520	--	99 <sup>LY</sup>	<300	3.3 <sup>C</sup>	1.8	<0.5	4.6	--	<0.5	<10	<0.5	<0.5	<0.5	--	0.6	<0.5	--						
	8/1/05	9.99	480	--	62 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	2.3	--	<0.5	18	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	11/9/05	8.02	290 <sup>Y</sup>	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	14	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	3/21/06	10.84	390	--	97 <sup>LY</sup>	<300	1	<0.5	0.6	<0.5	--	<0.5	16	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	8/7/06	9.15	720	--	130 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	18	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	10/27/06	9.16	250	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	12	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	3/20/07	9.61	290 <sup>Y</sup>	--	74 <sup>LY</sup>	<300	<0.5	<0.5	0.58	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	8/8/07	9.34	300 <sup>LY</sup>	--	95 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
		2/5/08	11.03	100 <sup>Y</sup>	--	62 <sup>Y</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
MW-2	3/3/94	9.66	110	<50	<50	<500	<0.5	1.7	0.58	2.7	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5						
	6/6/94	8.88	100	<50	<50	<500	11	<0.5	0.7	1.1	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5						
	9/7/94	8.31	<50	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5						
	12/22/94	8.76	<50	<50	<50	<500	0.8	<0.5	<0.5	0.8	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5						
	3/17/95	10.18	180	100	<50	<500	31	<0.5	1	1.8	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5						
	6/27/95	9.33	80	<50	<50	<500	6	<0.5	<0.5	<0.5	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5						
	9/18/95	8.36	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5						
	8/21/98	8.12	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	<2.0	--	--	--	--	--	--	--	--	--						
	2/24/99	10.12	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	<2.0	--	--	--	--	--	--	--	--						
	6/30/00	14.24	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	2.0	--	--	--	--	--	--	--	--	--						
	4/27/01	8.71	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	<2.0	--	--	--	--	--	--	--	--	--						
	4/15/05	9.03	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	8/1/05	8.36	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	11/9/05	8.49	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	3/21/06	9.01	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	8/7/06	8.19	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	10/27/06	8.11	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	3/20/07	7.51	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
	8/8/07	7.21	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--						
		2/5/08	9.64	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					



Table 2  
Chemical Concentrations in Groundwater  
2250 Telegraph Avenue, Oakland, California



Well	Date	Groundwater Elevation MSL (feet)	Petroleum Hydrocarbons				Volatile Organics																		
			TVH as Gasoline µg/l	TEH as Kerosene µg/l	TEH as Diesel µg/l	TEH as Motor Oil µg/l	Benzene µg/l	Toluene µg/l	Ethylbenzene µg/l	Xylenes µg/l	MTBE -8020 µg/l	MTBE -8260 µg/l	TBA µg/l	DIPE µg/l	ETBE µg/l	TAME µg/l	1,1,1-TCA µg/l	1,2-DCA µg/l	1,2-DBA µg/l	PCE µg/l	Chloro-Benzene µg/l				
Soil Gas ESL*			NV	NV	NV	NV	540	380,000	170,000	160,000	24,000														
Groundwater ESL**			100	100	100	100	1	40	30	20	5														
MW-3	3/3/94	9.47	85	<50	<50	<500	<0.5	0.77	<0.5	3.7	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5					
	6/6/94	8.69	100	110+	<50	<500	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	2.5	0.8	--	2.1	<0.5					
	9/7/94	8.22	220	<50	<50	<500	11	1.8	2.6	3.5	--	--	--	--	--	<0.5	<0.5	--	0.6	<0.5					
	12/22/94	9.23	130	95+	<50	<500	3.8	0.5	0.6	1.2	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5					
	3/17/95	10.12	1,500	270	<50	<500	83	6	10	15	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5					
	6/27/95	9.03	2,500	<50	<50	<500	330	8.9	8.1	20	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5					
	9/18/95	8.43	1,500	--	770+	--	400	11	2.2	3.3	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5					
	8/21/98	8.61	2,300	--	600+	--	410	9.3	36	25	<10	--	--	--	--	--	--	--	--	--					
	2/24/99	10.39	55	--	110+	--	<0.5	<0.5	<0.5	<0.5	--	<2.0	--	--	--	--	--	--	--	--					
	6/30/00	10.83	110	--	83+	--	<0.5	<0.5	0.51	<0.5	<2.0	--	--	--	--	--	--	--	--	--					
	4/27/01	8.67	<50	--	690+	--	<0.5	<0.5	<0.5	<0.5	<2.0	--	--	--	--	--	--	--	--	--					
	4/14/05	9.12	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	8/1/05	9.39	410	--	150 <sup>HL</sup>	750	17	<0.5	0.87c	1.4	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	11/9/05	8.73	1,100 <sup>Y</sup>	--	110 <sup>LY</sup>	<300	150	3.4	6.1	3.8	--	<0.5	13	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	3/21/06	10.20	100	--	61 <sup>Y</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	12	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	8/7/06	8.67	4,000 <sup>Y</sup>	--	280 <sup>LY</sup>	<300	630	9	31	12	--	<0.5	18	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	10/27/06	8.34	5,300	--	240 <sup>LY</sup>	<300	950	13	17	11	--	<10	<200	<10	<10	<10	--	<10	<10	--					
	3/20/07	9.25	1,000 <sup>LY</sup>	--	180 <sup>LY</sup>	<300	100	1.5	2.1	3.3	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	8/8/07	8.49	2,100 <sup>LY</sup>	--	130 <sup>LY</sup>	<300	260	5.1	5.8	3.6	--	<2.0	<40	<2.0	<2.0	<2.0	--	<2.0	<2.0	--					
	2/5/08	10.36	100	--	50 <sup>Y</sup>	<300	7.6	<0.5	<0.5	0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
MW-4	3/3/94	8.99	4,300	<50	240	<500	220	20	7.5	17	--	--	--	--	--	<0.5	5.9	--	<0.5	4.4					
	6/6/94	8.03	4,400	<50	800+	<500	140	<0.5	<0.5	<0.5	--	--	--	--	--	<0.5	<0.5	--	<0.5	<0.5					
	9/7/94	7.02	10,000	490+	280+	<500	84	<0.5	42	69	--	--	--	--	--	<0.5	4.4	--	0.5	4.3					
	12/22/94	7.62	2,400	450+	54+	<500	11	<0.5	7.1	11	--	--	--	--	--	<0.5	3.6	--	3.6	<0.5					
	3/17/95	9.78	2,200	380	160+	<500	<0.5	<0.5	7.9	10	--	--	--	--	--	<0.5	1.7	--	<0.5	4.5					
	6/27/95	8.83	3,100	<50	82	<500	<0.5	<0.5	13	19	--	--	--	--	--	<0.5	2.3	--	<0.5	4.8					
	9/18/95	8.04	3,000	--	1,231+	--	12	<0.7	6.9	8.3	--	--	--	--	--	<0.5	1.9	--	<0.5	4.0					
	8/21/98	8.02	1,700	--	600+	--	8.2	12	13	5.2	<2.0	--	--	--	--	--	--	--	--	--					
	2/24/99	9.09	2,700	--	2,100+	--	4.3	0.64	<0.5	0.54	--	<2.0	--	--	--	--	--	--	--	--					
	6/30/00	11.74	6,700	--	3,200+	--	3.1	1.7	11	16.7	27	--	--	--	--	--	--	--	--	--					
	4/27/01	8.62	1,900	--	710	--	<0.5	<0.5	<0.5	<0.5	14	--	--	--	--	--	--	--	--	--					
	4/14/05	7.87	2,900	--	2,200 <sup>HL</sup>	2,500	<0.5	<0.5	<0.5	5.1	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	8/1/05	8.10	2,000	--	2,100 <sup>HL</sup>	3,400 <sup>L</sup>	<0.5	<0.5	<0.5	5.8c	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	11/9/05	7.46	2,000 <sup>Y</sup>	--	1,900 <sup>HL</sup>	2,300 <sup>L</sup>	1.2	<0.5	<0.5	0.8	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	3/21/06	9.88	2,200	--	2,800 <sup>HL</sup>	4,000 <sup>L</sup>	1.2	<0.5	<0.5	0.7	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	8/7/06	7.98	2,500 <sup>Y</sup>	--	4,700 <sup>HL</sup>	7,200 <sup>L</sup>	0.6	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	10/27/06	7.13	2,200 <sup>Y</sup>	--	2,500 <sup>HL</sup>	3,200 <sup>L</sup>	0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	3/20/07	8.68	2,700	--	2,900 <sup>HL</sup>	3,500 <sup>L</sup>	0.77	<0.5	<0.5	0.67	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	8/8/07	7.88	6,100 <sup>LY</sup>	--	9,200 <sup>HL</sup>	12,000 <sup>HL</sup>	0.7	<0.5	<0.5	0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					
	2/5/08	9.48	2,100	--	2,100 <sup>Y</sup>	2,200	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--					



**Table 2**  
**Chemical Concentrations in Groundwater**  
**2250 Telegraph Avenue, Oakland, California**



Well	Date	Groundwater Elevation MSL (feet)	Petroleum Hydrocarbons				Volatile Organics																		
			TVH as Gasoline µg/l	TEH as Kerosene µg/l	TEH as Diesel µg/l	TEH as Motor Oil µg/l	Benzene µg/l	Toluene µg/l	Ethyl-benzene µg/l	Xylenes µg/l	MTBE -8020 µg/l	MTBE -8260 µg/l	TBA µg/l	DIPE µg/l	ETBE µg/l	TAME µg/l	1,1,1-TCA µg/l	1,2-DCA µg/l	1,2-DBA µg/l	PCE µg/l	Chloro-Benzene µg/l				
Soil Gas ESL*			NV	NV	NV	NV	540	380,000	170,000	160,000	24,000														
Groundwater ESL**			100	100	100	100	1	40	30	20	5														
MW-5	6/26/97	7.58	120	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<0.5	<0.5	--	1.6	<0.5					
	8/21/98	7.70	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	<2.0	--	--	--	--	--	--	--	--	--					
	2/24/99	9.16	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	--	<2.0	--	--	--	--	--	--	--	--					
	6/30/00	8.39	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	5.1	--	--	--	--	--	--	--	--	--					
	4/27/01	8.42	<50	--	<50	--	<0.5	<0.5	<0.5	<0.5	<2.0	--	--	--	--	--	--	--	--	--					
	4/14/05	8.82	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	8/1/05	7.86	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	11/9/05	8.10	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	3/21/06	9.44	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	8/7/06	7.75	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	10/27/06	7.54	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	3/20/07	8.35	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	8/8/07	7.59	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	2/5/08	9.26	<50	--	<50	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
MW-6	6/26/97	7.47	1,500+	--	450+	--	<0.5	<0.5	11	<0.5	--	--	--	--	--	<0.5	<0.5	--	<0.5	1.7					
	8/21/98	7.36	1,400	--	540+	--	<0.5	3.6	5.6	0.4	5.7	3.2	--	--	--	--	--	--	--	--					
	2/24/99	9.04	1,600	--	600+	--	<0.5	<0.5	0.56	<0.5	--	2.3	--	--	--	--	--	--	--	--					
	6/30/00	8.04	1,900	--	360+	--	0.56	3	5.4	3.5	30	--	--	--	--	--	--	--	--	--					
	4/27/01	8.26	1,600	--	440	--	<0.5	<0.5	<0.5	<0.5	3.3	--	--	--	--	--	--	--	--	--					
	4/14/05	8.81	2,100	--	890 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	5.9	--	0.7	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	8/1/05	7.82	2,100	--	670 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	11/9/05	NA	NA	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
	3/21/06	9.25	1,900	--	850 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	8/7/06	7.77	2,200 <sup>Y</sup>	--	940 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	10/27/06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
	3/20/07	8.26	2,000 <sup>Y</sup>	--	670 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	8/8/07	7.51	2,100 <sup>HL<sup>Y</sup></sup>	--	680 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				
	2/5/08	9.09	1,400	--	560 <sup>Y</sup>	<300	<0.5	<0.5	<0.5	<0.5	--	<0.5	<10	<0.5	<0.5	<0.5	--	<0.5	<0.5	--	--				

Notes:

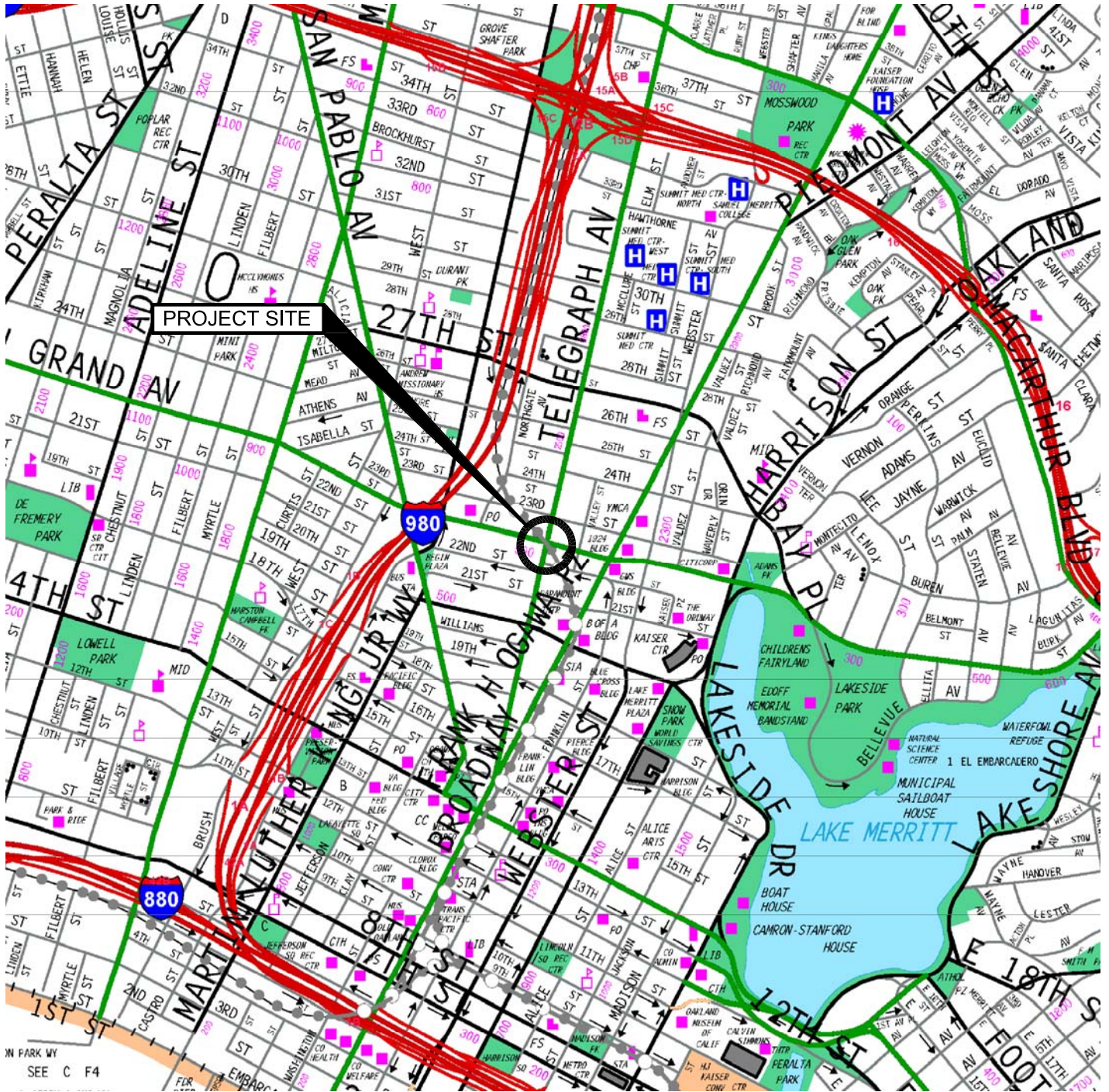
- DCA = Dichloroethane
- DBA = Dibromoethane
- TCA = Trichloroethane
- PCE = Tetrachloroethene
- MTBE = Methyl tert butyl ether
- TBA = Tert butyl alcohol
- DIPE = Isopropyl Ether
- ETBE = Ethyl tert butyl ether
- TAME = Methyl tert amyl ether
- = Chemical not tested for
- NR = Hydrocarbon range not reported by laboratory
- + = Uncategorized hydrocarbons quantified in ranges specified

- µg/l = micrograms per liter = parts per billion
- <1 = Chemical not present at a concentration greater than the laboratory detection limit shown or stated on test reports
- C = Presence Confirmed, but RPD between columns exceeds 40%
- Y = Sample exhibits chromatographic pattern which does not resemble standard
- H = Heavier hydrocarbon contributed to the quantitation
- L = Lighter hydrocarbon contributed to the quantitation
- \* = Environmental Screening Levels established by the San Francisco Bay Regional Water Quality Control Board Table E-1 Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Concerns
- \*\* = Environmental Screening Levels established by the San Francisco Bay Regional Water Quality Control Board Table F-1a Groundwater Screening Levels (groundwater is a current potential drinking water resource)
- NA = Not Accessible During This Sampling Event

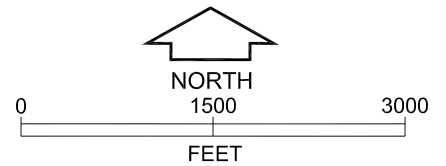


## PLATES

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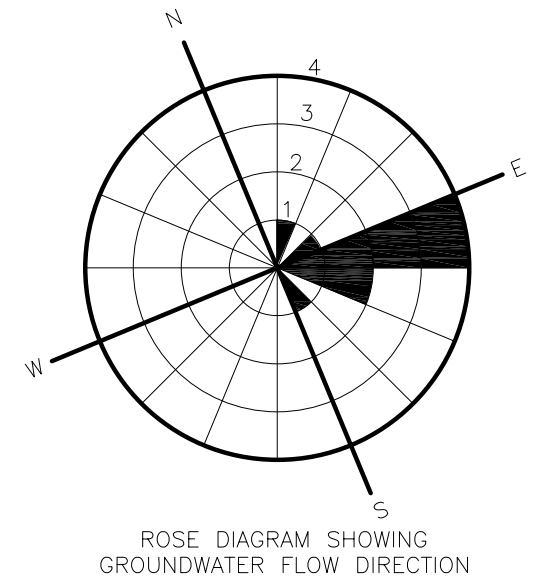
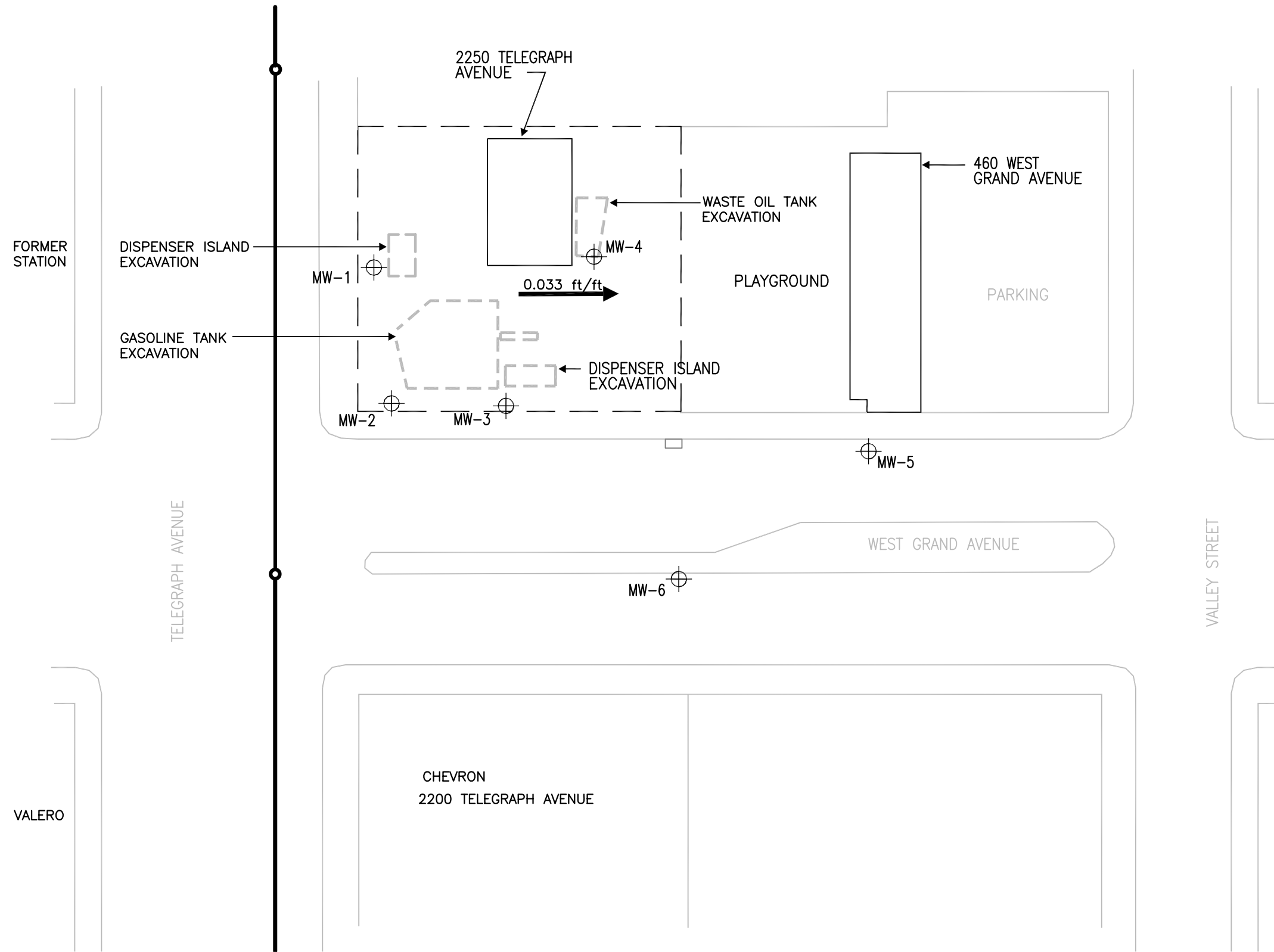
**SOURCE:** This Site Vicinity Map is based on The Thomas Guide Digital Edition 2003, Bay Area Metro, Alameda, Contra Costa, Marin, San Francisco, San Mateo, and Santa Clara Counties.



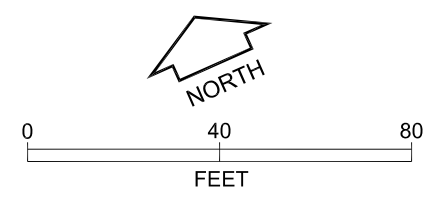
**VICINITY MAP**  
2250 Telegraph Avenue  
Oakland, California



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- EXPLANATION
- EXISTING STRUCTURE
  - LIMITS OF EXCAVATIONS
  - MONITORING WELL LOCATION
  - APPROXIMATE GROUNDWATER FLOW DIRECTION



**SITE PLAN**  
2250 Telegraph Avenue  
Oakland, California



**APPENDIX A**  
**WELL SAMPLING FORMS, ANALYTICAL TEST REPORT**  
**AND CHAIN OF CUSTODY FORM**





ES-F50 WELL SAMPLING FORM

PROJECT NAME: 2250 Telegraph Ave.  
 PROJECT NO.: 609.004  
 SAMPLED BY: H.Z.  
 DATE: 1/5/09  
 WEATHER: warm, sunny, slight breeze

WELL NO.: MW-3  
 WELL CASING DIAMETER: 2"  
 TOC ELEVATION: \_\_\_\_\_

TOTAL DEPTH OF CASING (BTOC): 10.31 FEET  
 DEPTH TO GROUNDWATER (BTOC): 9.52 FEET  
 FEET OF WATER IN WELL: 8.79 FEET

CALCULATED PURGE VOLUME: 430 gallons  
 (feet of water \* casing dia<sup>2</sup> \* .0408 \* # of Volumes)  
 FREE PRODUCT: none  
 PURGE METHOD: disposable bailer

MEASUREMENT METHOD: ELECTRONIC SOUNDER or OTHER \_\_\_\_\_

FIELD MEASUREMENTS

GALLONS REMOVED	TIME	Temp	pH	CONDUCTIVITY (µMHOS/CM)	TDS (g/L)	ORP (mV)	DO (mg/l)	COMMENTS (odor, color, ...)
Downhole (Pre-Purge)	1410	19.34	6.84	966	0.698	404	5.40	
1.5	1415	19.22	6.68	939	0.697	408	5.00	* clean, slight diesel odor
3	1419	19.37	6.63	959	0.698	412	4.30	(slight yellow)
4.5	1420	19.39	6.62	960	0.698	419	4.3	

ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTOC): 10.8 TIME SAMPLED: 1455

SAMPLING METHOD: disposable bailer

CONTAINERS / PRESERVATIVE: 6 / HCl 40 ML 1 / LITER  
1 / Poly OTHER

- ANALYSES: (Note if any samples are field filtered)
- \_\_\_\_\_ TEHd, TEHmo (8015 w/ Silica gel)
  - \_\_\_\_\_ TVHg, BTEX, MTBE (8015/8020)
  - \_\_\_\_\_ VOCs (8260)
  - \_\_\_\_\_ HVOCs (8260)
  - \_\_\_\_\_ Title 22 Metals (6010/9000)
  - \_\_\_\_\_ Pesticides (8080)
  - \_\_\_\_\_ PCBs (8080)
  - \_\_\_\_\_ Sulfate (300.0)
  - \_\_\_\_\_ Nitrate (300.0)
  - \_\_\_\_\_ Fe<sup>2+</sup> - Field Filtered

MISC FIELD OBSERVATION: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Equipment	Serial No.	Calibration
Conductivity	<u>YS165018</u>	<u>certified</u>
pH		<u>(Equipment)</u>
Turbidity		
Temperature		



ES-F50 WELL SAMPLING FORM

PROJECT NAME: 2250 Telegraph Ave.
PROJECT NO.: 609.004
SAMPLED BY: H.Z.
DATE: 2/5/09
WEATHER: Sunny, very warm

WELL NO.: mw-2
WELL CASING DIAMETER: 2"
TOC ELEVATION:

TOTAL DEPTH OF CASING (BTOC): 16.85 FEET
CALCULATED PURGE VOLUME: 3.16 gallons
DEPTH TO GROUNDWATER (BTOC): 10.39 FEET
FREE PRODUCT: none
FEET OF WATER IN WELL: 6.46 FEET
PURGE METHOD: disposable bailer

MEASUREMENT METHOD: ELECTRONIC SOUNDER or OTHER

FIELD MEASUREMENTS

Table with 9 columns: GALLONS REMOVED, TIME, Temp, pH, CONDUCTIVITY (µMHOS/CM), TDS (g/L), ORP (mV), DO (mg/l), COMMENTS (odor, color, ...). Contains 4 rows of data with handwritten values.

ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTOC): 10.45 TIME SAMPLED: 1355

SAMPLING METHOD: disposable bailer

CONTAINERS / PRESERVATIVE: 6 / HCl 40 ML
1 / LITER
Poly OTHER

- ANALYSES: (Note if any samples are field filtered)
TEHd, TEHmo (8015 w/ Silica gel)
TVHg, BTEX, MTBE (8015/8020)
VOCs (8260)
HVOCS (8260)
Title 22 Metals (6010/9000)
Pesticides (8080)
PCBs (8080)
Sulfate (300.0)
Nitrate (300.0)
Fe 2+ - Field Filtered

MISC FIELD OBSERVATION: water-filled well-head
(fairly quick recharge)

Equipment table with columns: Equipment, Serial No., Calibration. Includes handwritten entries for Conductivity, pH, Turbidity, and Temperature.



ES-F50 WELL SAMPLING FORM

PROJECT NAME: 2250 Telegraph  
 PROJECT NO.: 6691001  
 SAMPLED BY: H.Z.  
 DATE: 2/5/08  
 WEATHER: sunny, bright, breezy (slight)

WELL NO.: MW-3  
 WELL CASING DIAMETER: 2"  
 TOC ELEVATION: \_\_\_\_\_

TOTAL DEPTH OF CASING (BTOC): 16.30 FEET  
 DEPTH TO GROUNDWATER (BTGC): 8.61 FEET  
 FEET OF WATER IN WELL: 7.69 FEET

CALCULATED PURGE VOLUME: 3.77 gallons  
 (feet of water \* casing dia<sup>2</sup> \* .0408 \* # of Volumes)

FREE PRODUCT: none  
 PURGE METHOD: disposable bailer

MEASUREMENT METHOD: (ELECTRONIC SOUNDER) or OTHER \_\_\_\_\_

FIELD MEASUREMENTS

GALLONS REMOVED	TIME	Temp	pH	CONDUCTIVITY (µMHOS/CM)	TDS (g/L)	ORP (mV)	DO (mg/l)	COMMENTS (odor, color, ...)
Downhole (Pre-Purge)	12:30	19.370	6.35	153	0.111	126.4	5.03	clear, no odor
1.5	12:35	18.31	6.51	191	0.142	125.2	5.21	↓ grayish tint, no odor ↓
3	12:37	18.13	6.53	194	0.143	118.9	4.08	
	12:40	19.02	6.32	199	0.146	200	3.74	

ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTGC): 12.2 TIME SAMPLED: 1430

SAMPLING METHOD: disposable bailer

CONTAINERS / PRESERVATIVE: 6 HCl 1  
 40 ML LITER  
 Poly OTHER

- ANALYSES: (Note if any samples are field filtered)
- \_\_\_\_\_ TEHd, TEHmo (8015 w/ Silica gel)
  - \_\_\_\_\_ TVHg, BTEX, MTBE (8015/8020)
  - \_\_\_\_\_ VOCs (8260)
  - \_\_\_\_\_ HVOCs (8260)
  - \_\_\_\_\_ Title 22 Metals (6010/9000)
  - \_\_\_\_\_ Pesticides (8080)
  - \_\_\_\_\_ PCBs (8080)
  - \_\_\_\_\_ Sulfate (300.0)
  - \_\_\_\_\_ Nitrate (300.0)
  - \_\_\_\_\_ Fe<sup>2+</sup> - Field Filtered

MISC FIELD OBSERVATION: Going to sample MW-4 with this well recharges (~17' bgs and slowly rising - b.w)

Equipment	Serial No.	Calibration
Conductivity	<u>YSI-650.18</u>	<u>certification</u>
pH		<u>(Equip Co)</u>
Turbidity		
Temperature		



ES-F50 WELL SAMPLING FORM

PROJECT NAME: 2250 Telegraph Ave.  
 PROJECT NO.: 609-004  
 SAMPLED BY: H.Z.  
 DATE: 2/5/08  
 WEATHER: sunny, slight breeze, warm

WELL NO.: MW-4  
 WELL CASING DIAMETER: 24  
 TOC ELEVATION: \_\_\_\_\_

TOTAL DEPTH OF CASING (BTCC): 18.30 FEET  
 DEPTH TO GROUNDWATER (BTCC): 10.40 FEET  
 FEET OF WATER IN WELL: 7.90 FEET

CALCULATED PURGE VOLUME: 3.87 gallons  
 (feet of water \* casing dia<sup>2</sup> \* .0408 \* # of Volumes)  
 FREE PRODUCT: none  
 PURGE METHOD: disposable bailer

MEASUREMENT METHOD: ELECTRONIC SOUNDER or OTHER \_\_\_\_\_

FIELD MEASUREMENTS

GALLONS REMOVED	TIME	Temp	pH	CONDUCTIVITY (µMHOS/CM)	TDS (g/L)	ORP (mV)	DO (mg/l)	COMMENTS (odor, color, ...)
Downhole (Pre-Purge)	1200	19.53	6.64	799	0.562	-83.8	4.48	clear, diesel odor (strong)
1.5	1202	19.38	6.73	798	0.581	-93.6	6.11	↓
3	1205	19.44	6.72	803	0.584	-94.7	5.68	gray, diesel odor (strong)
4	1209	19.52	6.71	816	0.592	-97.6	3.97	

ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTCC): 10.80 TIME SAMPLED: 13:00

SAMPLING METHOD: disposable bailer

CONTAINERS / PRESERVATIVE: 6 / HCl 1 / -  
 40 ML LITER  
 Poly OTHER

- ANALYSES: (Note if any samples are field filtered)
- \_\_\_\_\_ TEHd, TEHmo (8015 w/ Silica gel)
  - \_\_\_\_\_ TVHg, BTEX, MTBE (8015/8020)
  - \_\_\_\_\_ VOCs (8260)
  - \_\_\_\_\_ HVOCs (8260)
  - \_\_\_\_\_ Title 22 Metals (6010/9000)
  - \_\_\_\_\_ Pesticides (8080)
  - \_\_\_\_\_ PCBs (8080)
  - \_\_\_\_\_ Sulfate (300.0)
  - \_\_\_\_\_ Nitrate (300.0)
  - \_\_\_\_\_ Fe<sup>2+</sup> - Field Filtered

MISC FIELD OBSERVATION: allow this well to recharge (at ~14' ggs + taking a while for water level to rise) some sheen (note: water-filled well head)

Equipment	Serial No.	Calibration
Conductivity	<u>451650.18</u>	<u>certification</u>
pH		<u>(equipment)</u>
Turbidity		
Temperature		



ES-F50 WELL SAMPLING FORM

PROJECT NAME: 2250 Telegraph Ave  
 PROJECT NO.: 609.009  
 SAMPLED BY: HZ  
 DATE: 2/5/08  
 WEATHER: breezy, sunny & clear

WELL NO.: nw-5  
 WELL CASING DIAMETER: 2"  
 TOC ELEVATION: \_\_\_\_\_

TOTAL DEPTH OF CASING (BTOC): 17.40 FEET  
 DEPTH TO GROUNDWATER (BTOC): 6.76 FEET  
 FEET OF WATER IN WELL: 10.64 FEET

CALCULATED PURGE VOLUME: 5.21 gallons  
 (feet of water \* casing dia<sup>2</sup> \* .0408 \* # of Volumes)  
 FREE PRODUCT: none  
 PURGE METHOD: disposable bailer

MEASUREMENT METHOD: ELECTRONIC SOUNDER or OTHER \_\_\_\_\_

FIELD MEASUREMENTS

GALLONS REMOVED	TIME	Temp	pH	CONDUCTIVITY (µMHOS/CM)	TDS (g/L)	ORP (mV)	DO (mg/l)	COMMENTS (odor, color, ...)
Downhole (Pre-Purge)	1115	19.12	6.40	498	0.329	141.9	3.67	no odor, brown
2	1115	18.52	6.44	451	0.320	139.8	4.10	↓
25	1121	18.69	6.25	454	0.322	143.9	3.87	
5.0	1125	18.77	6.34	454	0.325	145.5	4.21	

ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTOC): 6.79 TIME SAMPLED: 1130

SAMPLING METHOD: disposable bailer

CONTAINERS / PRESERVATIVE: 6 / HCl 11  
 40 ML LITER  
 Poly OTHER

- ANALYSES: (Note if any samples are field filtered)
- \_\_\_\_\_ TEHd, TEHmo (8015 w/ Silica gel)
  - \_\_\_\_\_ TVHg, BTEX, MTBE (8015/8020)
  - \_\_\_\_\_ VOCs (8260)
  - \_\_\_\_\_ HVOCs (8260)
  - \_\_\_\_\_ Title 22 Metals (6010/9000)
  - \_\_\_\_\_ Pesticides (8080)
  - \_\_\_\_\_ PCBs (8080)
  - \_\_\_\_\_ Sulfate (300.0)
  - \_\_\_\_\_ Nitrate (300.0)
  - \_\_\_\_\_ Fe<sup>2+</sup> - Field Filtered

MISC FIELD OBSERVATION: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Equipment	Serial No.	Calibration
Conductivity	<u>151-65018</u>	
pH		
Turbidity		
Temperature		



ES-F50 WELL SAMPLING FORM

PROJECT NAME: 2050 Telegraph Ave  
 PROJECT NO.: 609.001  
 SAMPLED BY: Hang  
 DATE: 2/3/08  
 WEATHER: bright, sunny

WELL NO.: MW-6  
 WELL CASING DIAMETER: 2"  
 TOC ELEVATION: \_\_\_\_\_

TOTAL DEPTH OF CASING (BTOC): 18.95 FEET  
 DEPTH TO GROUNDWATER (BTOC): 9.27 FEET  
 FEET OF WATER IN WELL: 9.68 FEET  
 CALCULATED PURGE VOLUME: \_\_\_\_\_ gallons  
 (feet of water \* casing dia<sup>2</sup> \* .0408 \* # of Volumes)  
 FREE PRODUCT: none  
 PURGE METHOD: disposable bailer  
 MEASUREMENT METHOD: ELECTRONIC SOUNDER or OTHER \_\_\_\_\_

FIELD MEASUREMENTS

GALLONS REMOVED	TIME	Temp	pH	CONDUCTIVITY (µMHOS/CM)	TDS (g/L)	ORP (mV)	DO (mg/l)	COMMENTS (odor, color, ...)
Downhole (Pre-Purge)	9:45	21.46	6.78	872	0.552	-88.6	3.07	diesel odor clear
2	9:49	20.44	6.86	900	0.660	-81.7	6.30	(yellowish)
3.5	9:49	20.41	6.80	896	0.639	-89.4	5.05	
5	9:52	20.38	6.80	896	0.639	-87.4	5.26	

ACTUAL DEPTH TO GROUNDWATER BEFORE SAMPLING (BTOC): 9.45 TIME SAMPLED: 9:57

SAMPLING METHOD: \_\_\_\_\_  
 CONTAINERS / PRESERVATIVE: 7 / HCl 40 ML  
Poly  
1 / - LITER  
OTHER

ANALYSES: (Note if any samples are field filtered)  
 \_\_\_\_\_ TEHd, TEHmo (8015 w/ Silica gel)  
 \_\_\_\_\_ TVHg, BTEX, MTBE (8015/8020)  
 \_\_\_\_\_ VOCs (8260)  
 \_\_\_\_\_ HVOCs (8260)  
 \_\_\_\_\_ Title 22 Metals (6010/9000)  
 \_\_\_\_\_ Pesticides (8080)  
 \_\_\_\_\_ PCBs (8080)  
 \_\_\_\_\_ Sulfate (300.0)  
 \_\_\_\_\_ Nitrate (300.0)  
 \_\_\_\_\_ Fe<sup>2+</sup> - Field Filtered

MISC FIELD OBSERVATION: water-filled well-head

Equipment	Serial No.	Calibration
Conductivity	<u>YSI-650.18</u>	
pH		
Turbidity		
Temperature		



Laboratory Job Number 200999  
ANALYTICAL REPORT

Fugro West Inc.  
1000 Broadway  
Oakland, CA 94607

Project : 609.004  
Location : 2250 Telgraph Av. Oakland  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW-1	200999-001
MW-2	200999-002
MW-3	200999-003
MW-4	200999-004
MW-5	200999-005
MW-6	200999-006

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature:   
Project Manager

Date: 02/13/2008

Signature:   
Operations Manager

Date: 02/14/2008

### CASE NARRATIVE

Laboratory number: 200999  
Client: Fugro West Inc.  
Project: 609.004  
Location: 2250 Telgraph Av. Oakland  
Request Date: 02/06/08  
Samples Received: 02/06/08

This hardcopy data package contains sample and QC results for six water samples, requested for the above referenced project on 02/06/08. The samples were received on ice and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

High surrogate recoveries were observed for bromofluorobenzene (FID) and trifluorotoluene (FID) in MW-4 (lab # 200999-004) and MW-6 (lab # 200999-006), due to interference from coeluting hydrocarbon peaks. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

Matrix spikes were not reported for batch 134537 because the parent sample was reextracted in another batch. No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.



**ES-F10 CHAIN OF CUSTODY**

200999

PROJECT NAME: 2250 Telegraph Avenue

PROJECT NO.: 609.004

LAB: C&T

PROJECT CONTACT: Jeri Alexander

TURNAROUND: Standard

SAMPLED BY: Hanako Zeidenberg

**ANALYSIS REQUESTED**

LABORATORY I.D. NUMBER	FIELD SAMPLE I.D.	MATRIX			CONTAINERS				PRESERVATIVE					SAMPLING DATE				NOTES	TPHg (\$260)	TPHd and mo (8015m w/silica)	BTEX, MTBE, 5 Fuel Oxygenates (\$260)	Lead Scavengers (\$260)	EDD						
		WATER	SOIL	AIR	VOA	LITER	PINT	TUBE	HCL (Voas)	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE	OTHER	NONE (Amber)	MONTH	DAY	YEAR							TIME					
-1	MW-1	X			6	1			X			X	X	0	2	0	5	0	8	1	4	5	5		X	X	X	X	X
-2	MW-2	X			6	1			X			X	X	0	2	0	5	0	8	1	3	5	5		X	X	X	X	X
-3	MW-3	X			6	1			X			X	X	0	2	0	5	0	8	1	4	4	0	X	X	X	X	X	
-4	MW-4	X			6	1			X			X	X	0	2	0	5	0	8	1	3	0	0		X	X	X	X	X
-5	MW-5	X			6	1			X			X	X	0	2	0	5	0	8	1	1	3	0		X	X	X	X	X
-6	MW-6	X			6	1			X			X	X	0	2	0	5	0	8	1	0	0	0	X	X	X	X	X	

**CHAIN OF CUSTODY RECORD**

RELINQUISHED BY: (Signature) <i>Hanako Zeidenberg</i>	DATE/TIME 2/6/08 14:19	RECEIVED BY: (Signature) <i>[Signature]</i>	DATE/TIME 2/6/08 14:19
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

**COMMENTS & NOTES:**

on ice, intact, standard  
no temp - KMW 2/6/08 1400



**FUGRO WEST, INC.**

1000 Broadway, Suite 200

Oakland, California 94607

Tel: 510.268.0461 Fax: 510.268.0137

Approved by Glenn Young, AC 62 Manager, Fugro West, Inc. 10/13/06

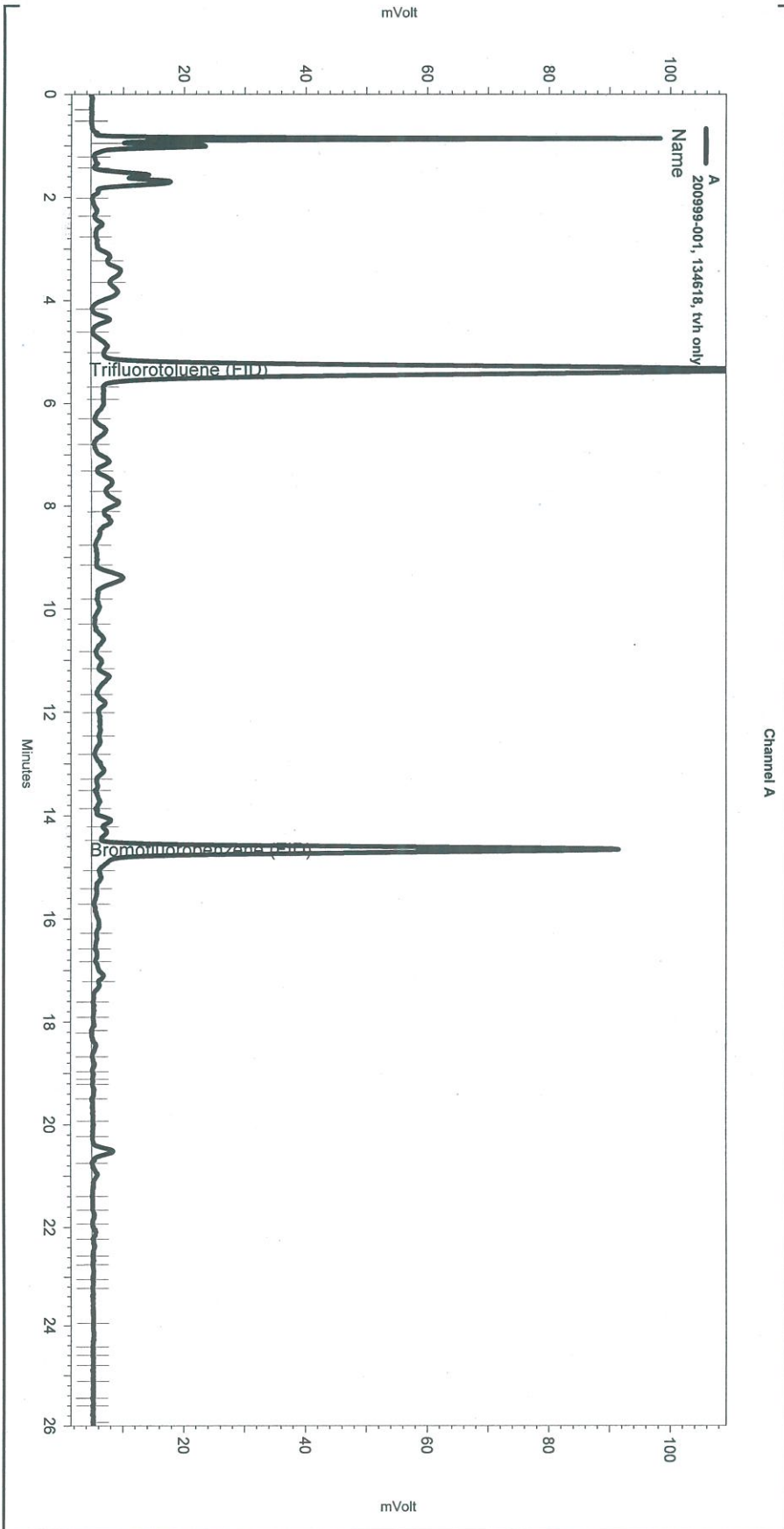
Note: If this is a printed copy, please check the online QMS to ensure that it is the latest version.





Sequence File: \\Lims\gdrive\ezchrom\Projects\GC05\Sequence\039.seq  
 Sample Name: 200999-001, 134618, tvh only  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\039\_015  
 Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe038.met

Software Version 3.1.7  
 Run Date: 2/8/2008 7:58:55 PM  
 Analysis Date: 2/9/2008 9:32:17 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.3



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No items selected for this section

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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Yes	Threshold	0	0	50

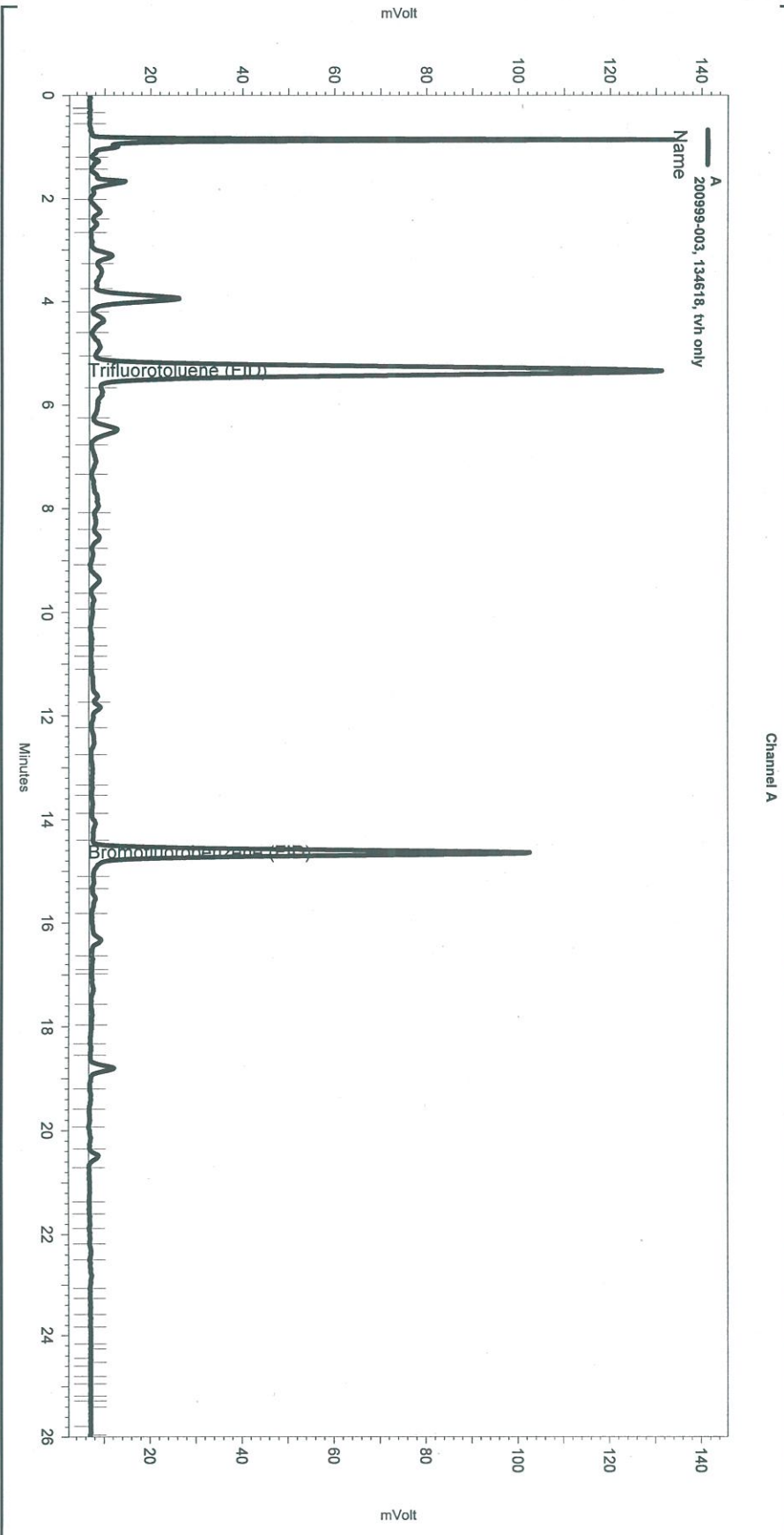
Manual Integration Fixes

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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC05\Sequence\039.seq  
 Sample Name: 200999-003, 134618, tvh only  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\039\_020  
 Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhbtxe038.met

Software Version 3.1.7  
 Run Date: 2/8/2008 10:56:48 PM  
 Analysis Date: 2/9/2008 9:32:33 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: c1.3



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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Yes	Threshold	0	0	50

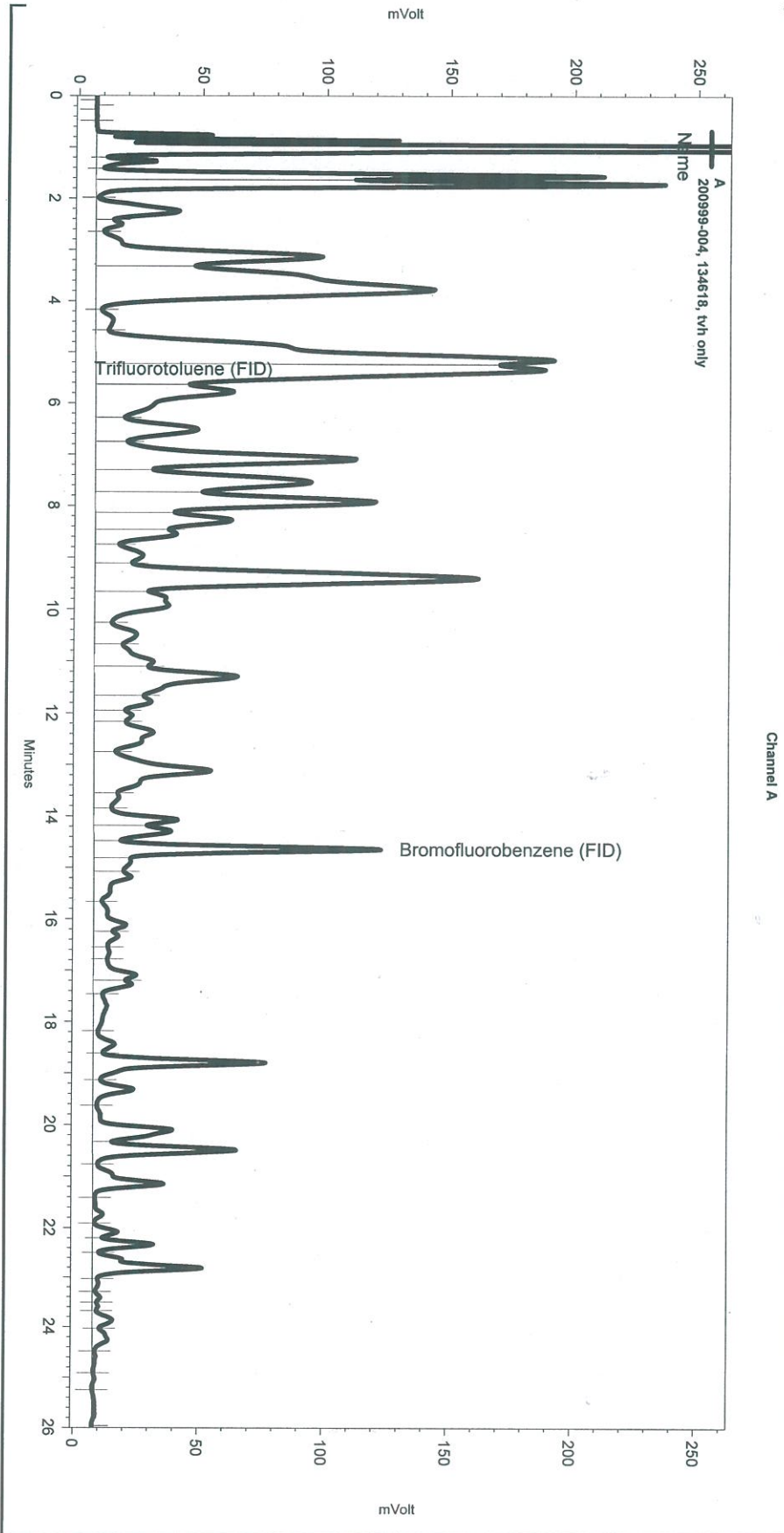
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\039\_020

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Sequence File: \\Lims\gdrive\ezchrom\Projects\GC05\Sequence\039.seq  
 Sample Name: 200999-004, 134618, tvh only  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\039\_021  
 Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\tvhtxe038.met

Software Version 3.1.7  
 Run Date: 2/8/2008 11:32:22 PM  
 Analysis Date: 2/9/2008 10:05:37 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.3



---< General Method Parameters >---

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Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

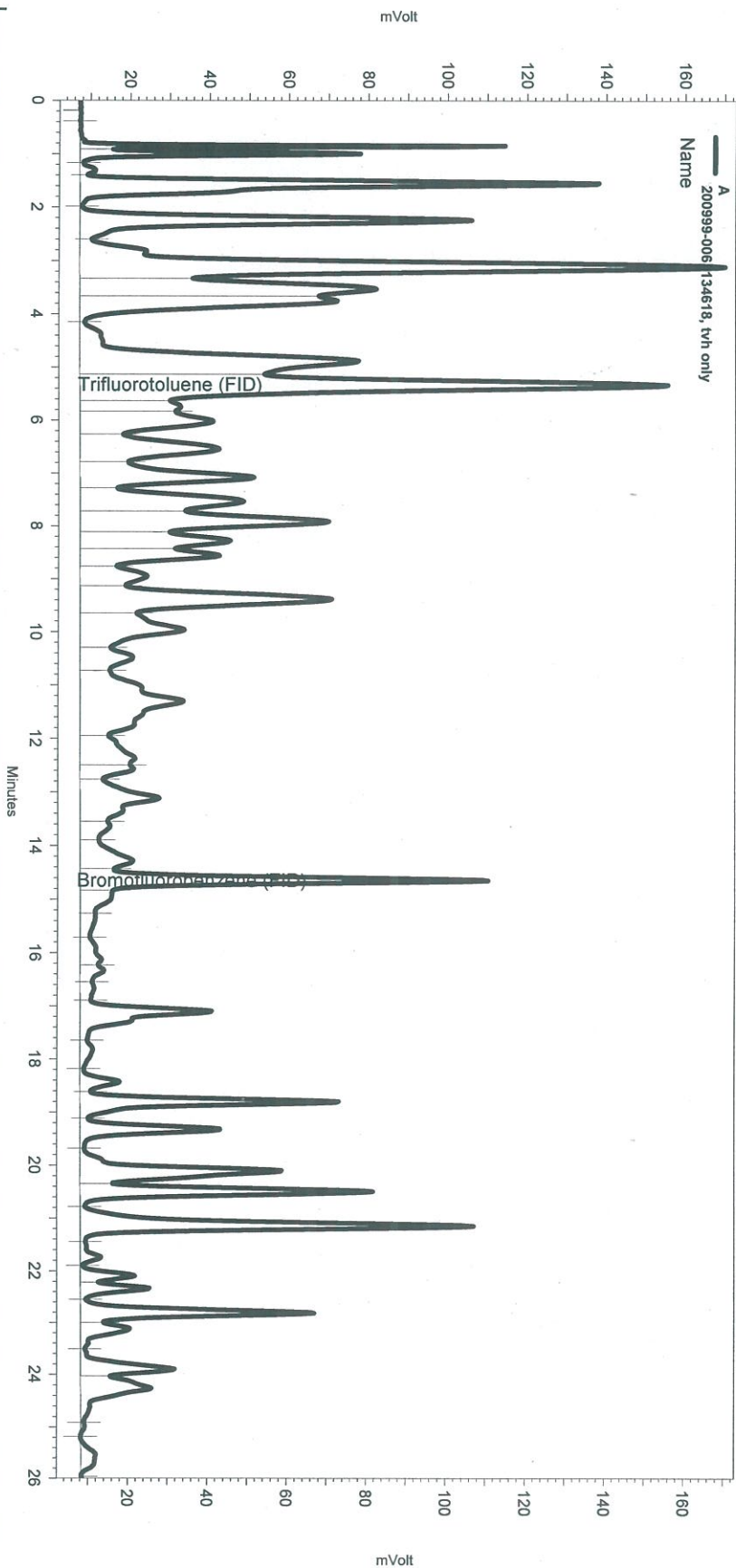
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\039\_021

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	14.815	0	0

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC05\Sequence\039.seq  
 Sample Name: 200999-006, 134618, tvh only  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\039\_023  
 Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lms2k3\trvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\trvhbtxe038.met

Software Version 3.1.7  
 Run Date: 2/9/2008 12:43:23 AM  
 Analysis Date: 2/9/2008 10:06:38 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.3



Channel A

---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

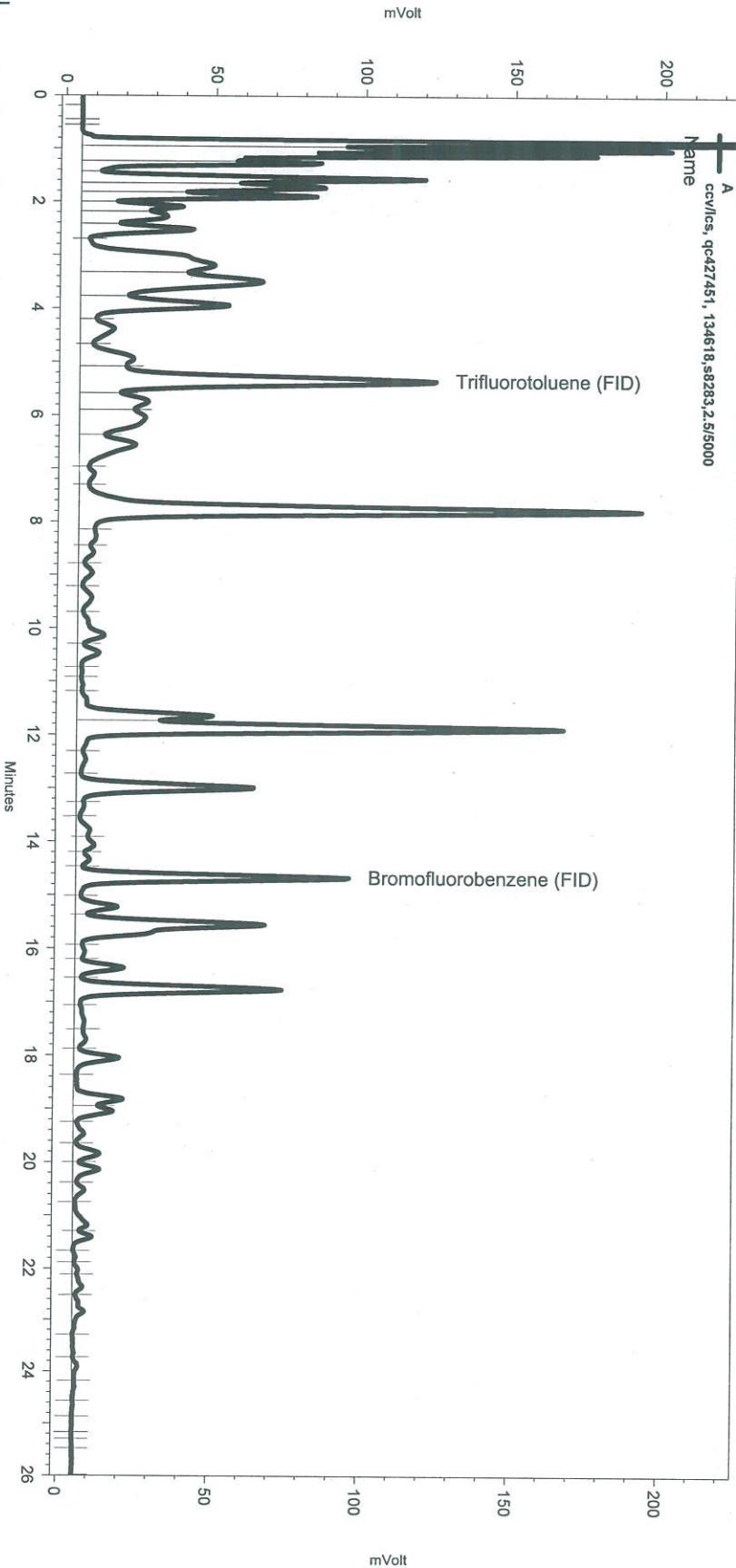
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\039\_023

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	14.832	0	0

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC05\Sequence\039.seq  
 Sample Name: ccv/lcs, qc427451, 134618,s8283,2.5/5000  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\039\_005  
 Instrument: GC05 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC05\Method\TVHBTXE038.met

Software Version 3.1.7  
 Run Date: 2/8/2008 1:00:18 PM  
 Analysis Date: 2/9/2008 9:31:40 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: {Data Description}



Channel A

---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC05\Data\039\_005

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				



## Batch QC Report

**Total Volatile Hydrocarbons**

Lab #:	200999	Location:	2250 Telegraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC427451	Batch#:	134618
Matrix:	Water	Analyzed:	02/08/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	951.2	95	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	69-140
Bromofluorobenzene (FID)	113	73-144

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	134618
MSS Lab ID:	201032-002	Sampled:	02/06/08
Matrix:	Water	Received:	02/07/08
Units:	ug/L	Analyzed:	02/08/08
Diln Fac:	1.000		

Type: MS Lab ID: QC427452

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	104.9	2,000	1,861	88	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	69-140
Bromofluorobenzene (FID)	124	73-144

Type: MSD Lab ID: QC427453

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,815	85	67-120	3	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	123	69-140
Bromofluorobenzene (FID)	133	73-144

### Total Extractable Hydrocarbons

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 3520C
Project#:	609.004	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	02/05/08
Units:	ug/L	Received:	02/06/08
Diln Fac:	1.000	Prepared:	02/06/08
Batch#:	134537		

Field ID: MW-1 Analyzed: 02/07/08  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 200999-001

Analyte	Result	RL
Diesel C10-C24	62 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	96	63-130

Field ID: MW-2 Analyzed: 02/07/08  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 200999-002

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	88	63-130

Field ID: MW-3 Analyzed: 02/07/08  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 200999-003

Analyte	Result	RL
Diesel C10-C24	50 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	94	63-130

Field ID: MW-4 Analyzed: 02/07/08  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 200999-004

Analyte	Result	RL
Diesel C10-C24	2,100 Y	50
Motor Oil C24-C36	2,200	300

Surrogate	%REC	Limits
Hexacosane	93	63-130

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 D= Not Detected  
 L= Reporting Limit  
 Page 1 of 2

**Total Extractable Hydrocarbons**

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 3520C
Project#:	609.004	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	02/05/08
Units:	ug/L	Received:	02/06/08
Diln Fac:	1.000	Prepared:	02/06/08
Batch#:	134537		

Field ID: MW-5 Analyzed: 02/07/08  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 200999-005

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	79	63-130

Field ID: MW-6 Analyzed: 02/08/08  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 200999-006

Analyte	Result	RL
Diesel C10-C24	560 Y	50
Motor Oil C24-C36	ND	300

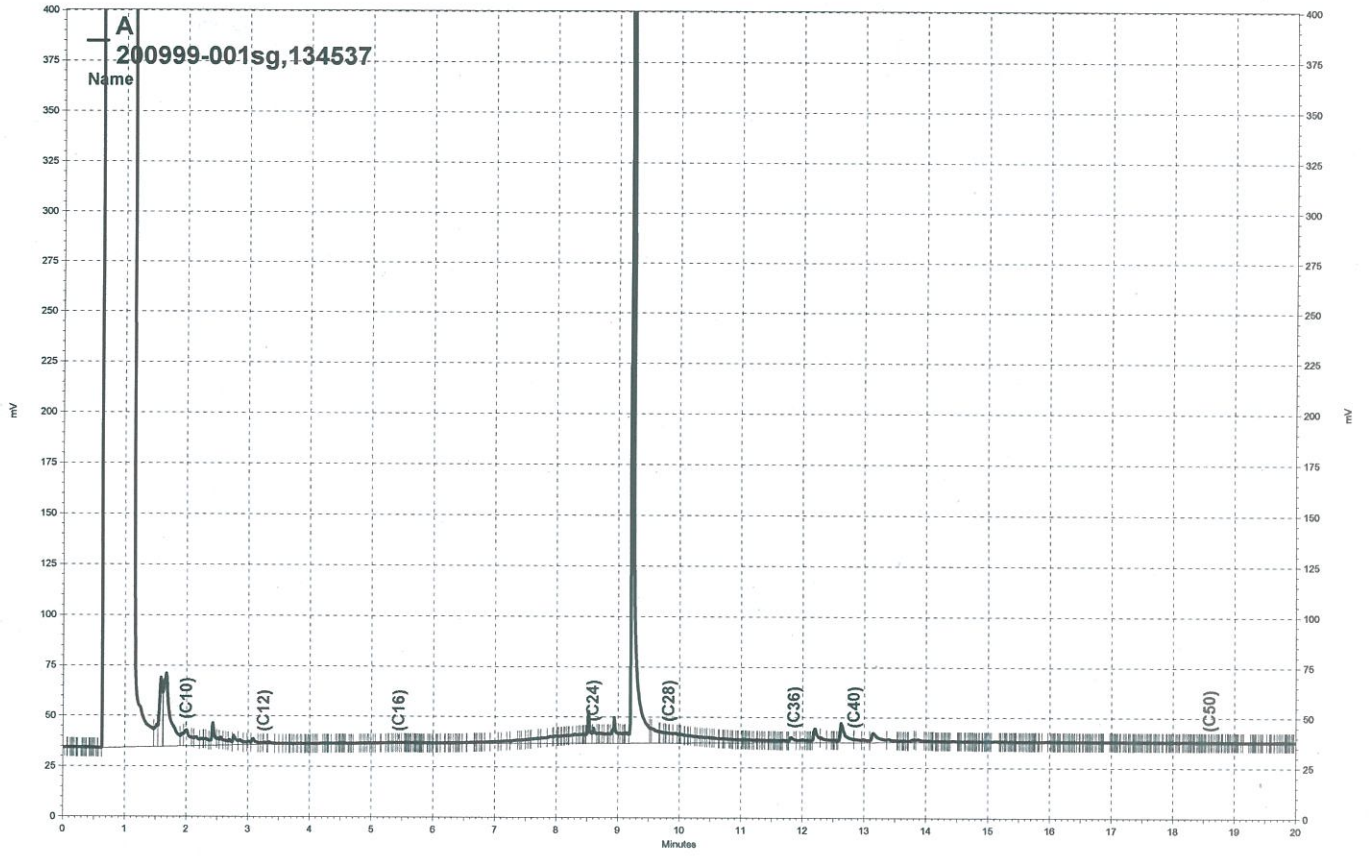
Surrogate	%REC	Limits
Hexacosane	88	63-130

Type: BLANK Analyzed: 02/07/08  
 Lab ID: QC427109 Cleanup Method: EPA 3630C

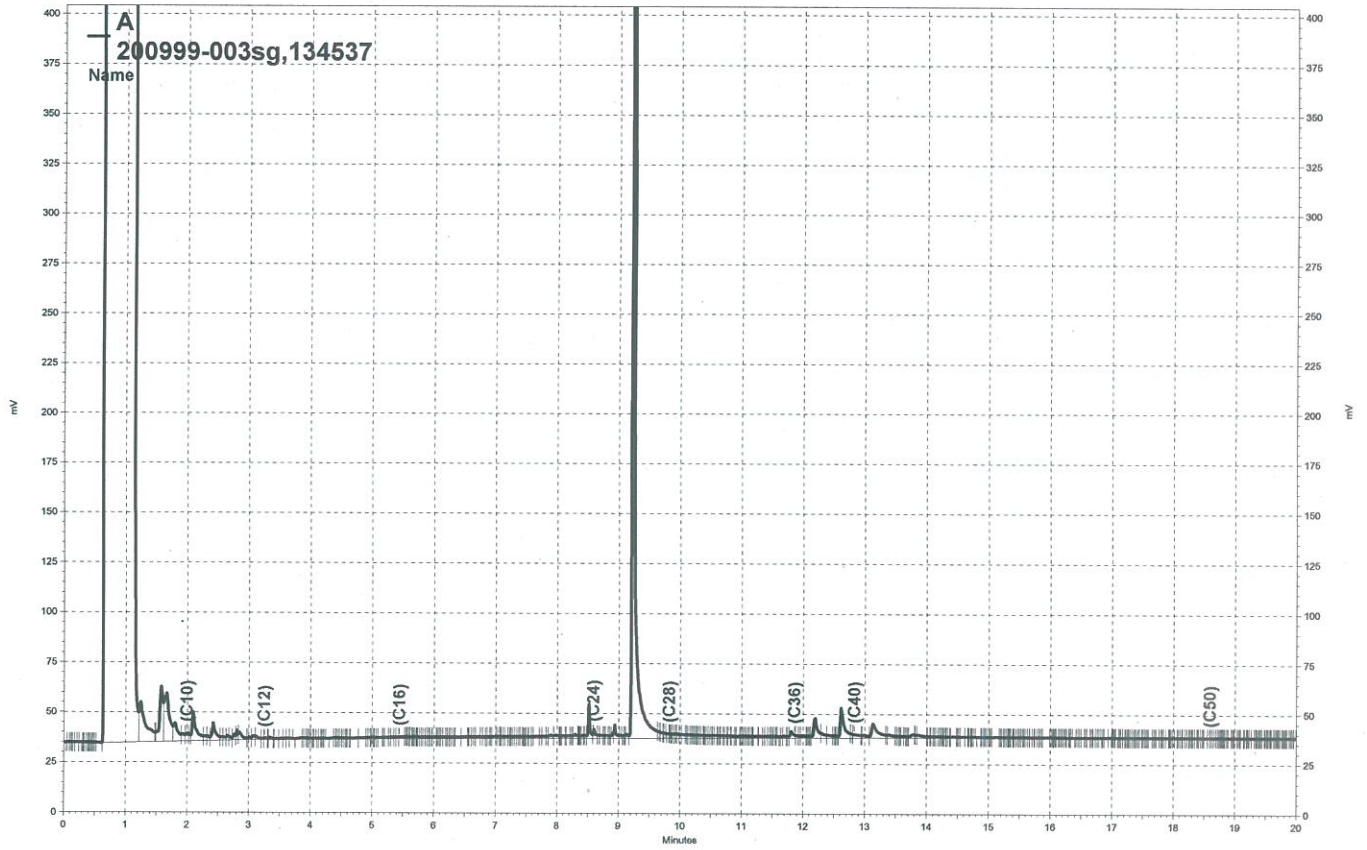
Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	93	63-130

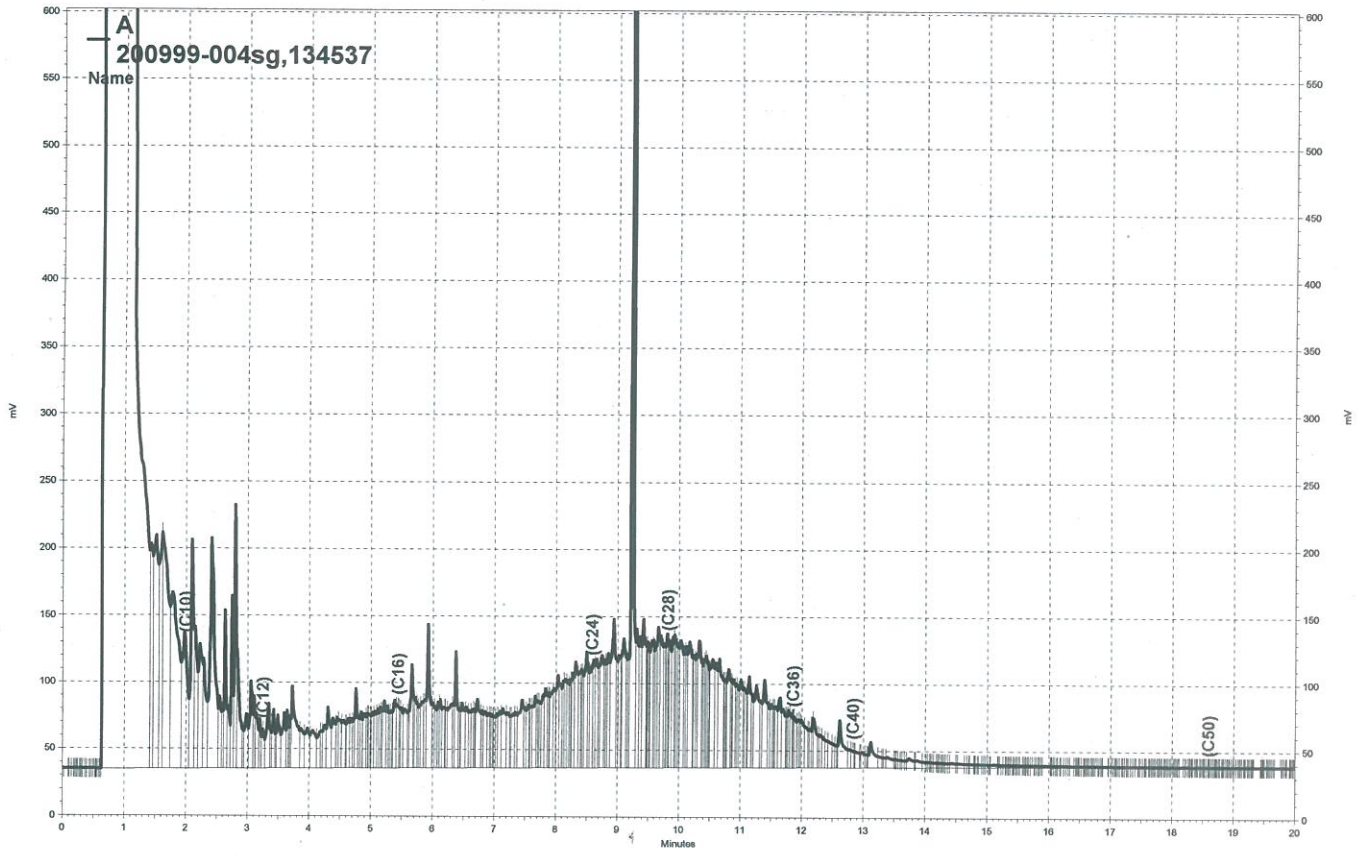
Y= Sample exhibits chromatographic pattern which does not resemble standard  
 D= Not Detected  
 L= Reporting Limit  
 Page 2 of 2



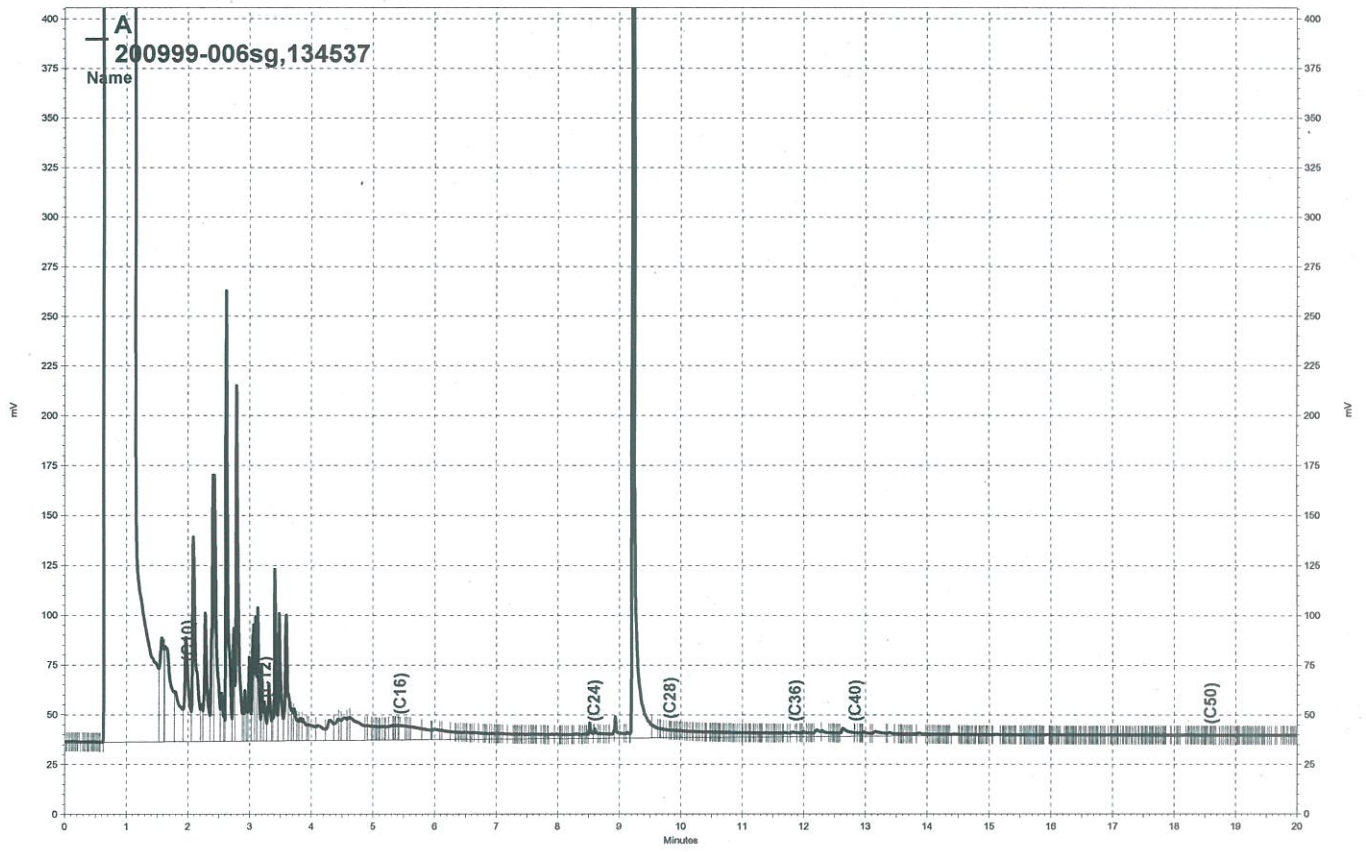
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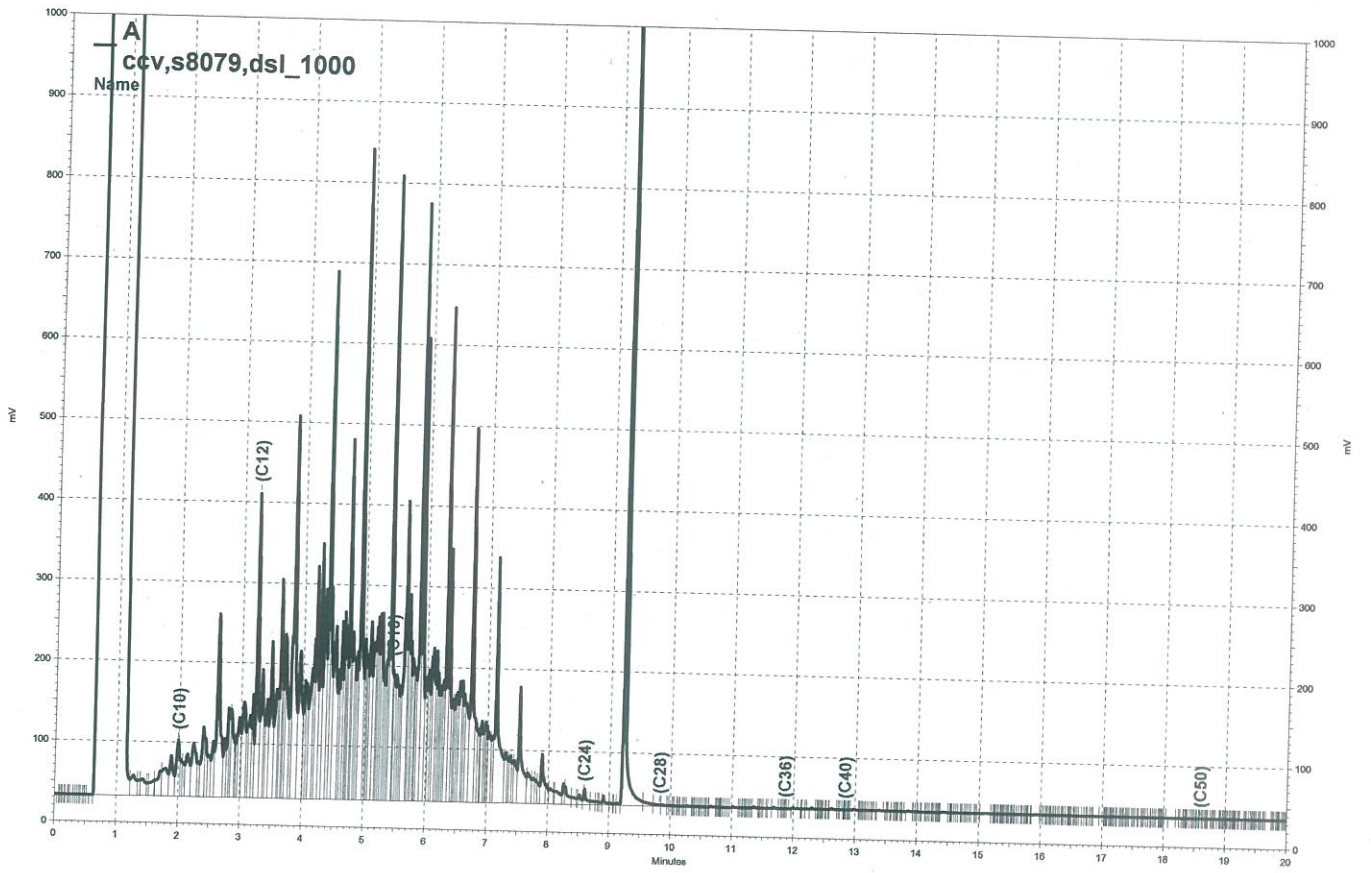


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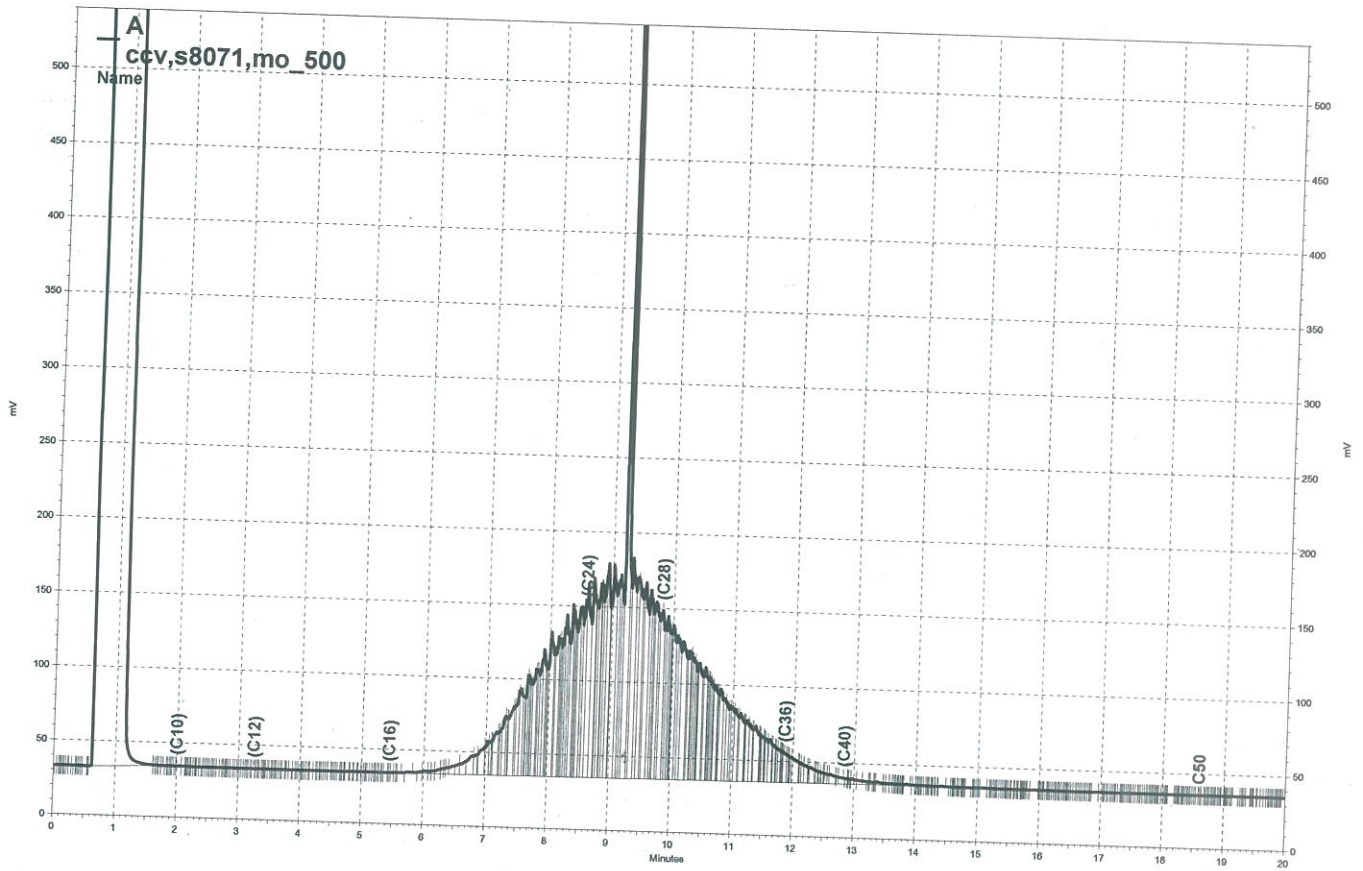


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## Batch QC Report

**Total Extractable Hydrocarbons**

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 3520C
Project#:	609.004	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC427110	Batch#:	134537
Matrix:	Water	Prepared:	02/06/08
Units:	ug/L	Analyzed:	02/07/08

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,905	76	61-120

Surrogate	%REC	Limits
Hexacosane	81	63-130

### BTXE & Oxygenates

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	134661
Lab ID:	200999-001	Sampled:	02/05/08
Matrix:	Water	Received:	02/06/08
Units:	ug/L	Analyzed:	02/10/08
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	115	80-123
1,2-Dichloroethane-d4	93	76-138
Toluene-d8	105	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected  
 RL= Reporting Limit

**BTXE & Oxygenates**

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	134661
Lab ID:	200999-002	Sampled:	02/05/08
Matrix:	Water	Received:	02/06/08
Units:	ug/L	Analyzed:	02/10/08
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-123
1,2-Dichloroethane-d4	93	76-138
Toluene-d8	105	80-120
Bromofluorobenzene	103	80-120

D= Not Detected  
L= Reporting Limit

### BTXE & Oxygenates

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	134724
Lab ID:	200999-003	Sampled:	02/05/08
Matrix:	Water	Received:	02/06/08
Units:	ug/L	Analyzed:	02/12/08
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	7.6	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	0.5	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-123
1,2-Dichloroethane-d4	95	76-138
Toluene-d8	101	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected  
 RL= Reporting Limit

**BTXE & Oxygenates**

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Field ID:	MW-4	Batch#:	134668
Lab ID:	200999-004	Sampled:	02/05/08
Matrix:	Water	Received:	02/06/08
Units:	ug/L	Analyzed:	02/11/08
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-123
1,2-Dichloroethane-d4	97	76-138
Toluene-d8	101	80-120
Bromofluorobenzene	105	80-120

### BTXE & Oxygenates

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	134668
Lab ID:	200999-005	Sampled:	02/05/08
Matrix:	Water	Received:	02/06/08
Units:	ug/L	Analyzed:	02/11/08
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-123
1,2-Dichloroethane-d4	92	76-138
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected  
 RL= Reporting Limit



**BTXE & Oxygenates**

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Field ID:	MW-6	Batch#:	134668
Lab ID:	200999-006	Sampled:	02/05/08
Matrix:	Water	Received:	02/06/08
Units:	ug/L	Analyzed:	02/11/08
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-123
1,2-Dichloroethane-d4	94	76-138
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected  
 RL= Reporting Limit  
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## Batch QC Report

BTXE & Oxygenates			
Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC427618	Batch#:	134661
Matrix:	Water	Analyzed:	02/10/08
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-123
1,2-Dichloroethane-d4	97	76-138
Toluene-d8	105	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

**BTXE & Oxygenates**

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC427640	Batch#:	134668
Matrix:	Water	Analyzed:	02/11/08
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-123
1,2-Dichloroethane-d4	94	76-138
Toluene-d8	100	80-120
Bromofluorobenzene	105	80-120

## Batch QC Report

BTXE & Oxygenates			
Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC427876	Batch#:	134724
Matrix:	Water	Analyzed:	02/12/08
Units:	ug/L		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
MTBE	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Toluene	ND	0.5
1,2-Dibromoethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-123
1,2-Dichloroethane-d4	94	76-138
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

BTXE & Oxygenates			
Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	134661
Units:	ug/L	Analyzed:	02/10/08
Diln Fac:	1.000		

Type: BS Lab ID: QC427619

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	156.3	138.1	88	55-158
MTBE	31.25	32.53	104	60-136
Isopropyl Ether (DIPE)	31.25	33.00	106	63-122
Ethyl tert-Butyl Ether (ETBE)	31.25	32.80	105	62-133
1,2-Dichloroethane	31.25	32.38	104	77-125
Benzene	31.25	31.86	102	80-120
Methyl tert-Amyl Ether (TAME)	31.25	30.19	97	69-137
Toluene	31.25	31.63	101	80-121
1,2-Dibromoethane	31.25	30.80	99	80-120
Ethylbenzene	31.25	27.87	89	80-124
m,p-Xylenes	62.50	58.00	93	80-128
o-Xylene	31.25	28.20	90	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	116	80-123
1,2-Dichloroethane-d4	97	76-138
Toluene-d8	106	80-120
Bromofluorobenzene	97	80-120

Type: BSD Lab ID: QC427620

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	156.3	141.8	91	55-158	3	20
MTBE	31.25	33.45	107	60-136	3	20
Isopropyl Ether (DIPE)	31.25	34.68	111	63-122	5	20
Ethyl tert-Butyl Ether (ETBE)	31.25	34.33	110	62-133	5	20
1,2-Dichloroethane	31.25	33.76	108	77-125	4	20
Benzene	31.25	33.61	108	80-120	5	20
Methyl tert-Amyl Ether (TAME)	31.25	31.43	101	69-137	4	20
Toluene	31.25	33.44	107	80-121	6	20
1,2-Dibromoethane	31.25	32.55	104	80-120	6	20
Ethylbenzene	31.25	28.69	92	80-124	3	20
m,p-Xylenes	62.50	59.49	95	80-128	3	20
o-Xylene	31.25	28.98	93	80-123	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	114	80-123
1,2-Dichloroethane-d4	96	76-138
Toluene-d8	106	80-120
Bromofluorobenzene	98	80-120

## Batch QC Report

**BTXE & Oxygenates**

Lab #:	200999	Location:	2250 Telegraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC427639	Batch#:	134668
Matrix:	Water	Analyzed:	02/11/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	79.82	80	55-158
MTBE	20.00	18.07	90	60-136
Isopropyl Ether (DIPE)	20.00	17.63	88	63-122
Ethyl tert-Butyl Ether (ETBE)	20.00	18.34	92	62-133
1,2-Dichloroethane	20.00	18.31	92	77-125
Benzene	20.00	18.59	93	80-120
Methyl tert-Amyl Ether (TAME)	20.00	18.83	94	69-137
Toluene	20.00	18.90	95	80-121
1,2-Dibromoethane	20.00	18.49	92	80-120
Ethylbenzene	20.00	17.85	89	80-124
m,p-Xylenes	40.00	36.81	92	80-128
o-Xylene	20.00	17.92	90	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-123
1,2-Dichloroethane-d4	92	76-138
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-120

## Batch QC Report

**BTXE & Oxygenates**

Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC427875	Batch#:	134724
Matrix:	Water	Analyzed:	02/12/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	96.99	78	55-158
MTBE	25.00	22.26	89	60-136
Isopropyl Ether (DIPE)	25.00	21.20	85	63-122
Ethyl tert-Butyl Ether (ETBE)	25.00	22.18	89	62-133
1,2-Dichloroethane	25.00	23.10	92	77-125
Benzene	25.00	23.14	93	80-120
Methyl tert-Amyl Ether (TAME)	25.00	22.74	91	69-137
Toluene	25.00	23.55	94	80-121
1,2-Dibromoethane	25.00	23.44	94	80-120
Ethylbenzene	25.00	21.64	87	80-124
m,p-Xylenes	50.00	45.41	91	80-128
o-Xylene	25.00	22.15	89	80-123

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-123
1,2-Dichloroethane-d4	93	76-138
Toluene-d8	101	80-120
Bromofluorobenzene	97	80-120

Batch QC Report

BTXE & Oxygenates			
Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	134668
MSS Lab ID:	201014-002	Sampled:	02/05/08
Matrix:	Water	Received:	02/06/08
Units:	ug/L	Analyzed:	02/11/08
Diln Fac:	1.000		

Type: MS Lab ID: QC427701

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<2.621	125.0	91.30	73	66-153
MTBE	<0.02835	25.00	22.01	88	72-129
Isopropyl Ether (DIPE)	<0.02592	25.00	21.53	86	72-124
Ethyl tert-Butyl Ether (ETBE)	<0.03784	25.00	22.33	89	72-131
1,2-Dichloroethane	<0.04761	25.00	23.81	95	80-129
Benzene	0.06700	25.00	23.94	95	80-122
Methyl tert-Amyl Ether (TAME)	<0.01915	25.00	22.70	91	76-128
Toluene	1.664	25.00	25.52	95	80-120
1,2-Dibromoethane	<0.06012	25.00	23.99	96	80-120
Ethylbenzene	2.701	25.00	24.40	87	80-123
m,p-Xylenes	3.106	50.00	48.48	91	80-126
o-Xylene	1.454	25.00	23.91	90	80-122

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-123
1,2-Dichloroethane-d4	93	76-138
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-120

Type: MSD Lab ID: QC427702

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	98.73	79	66-153	8	23
MTBE	25.00	22.34	89	72-129	1	20
Isopropyl Ether (DIPE)	25.00	21.32	85	72-124	1	20
Ethyl tert-Butyl Ether (ETBE)	25.00	22.36	89	72-131	0	20
1,2-Dichloroethane	25.00	23.61	94	80-129	1	20
Benzene	25.00	23.51	94	80-122	2	20
Methyl tert-Amyl Ether (TAME)	25.00	22.91	92	76-128	1	20
Toluene	25.00	24.97	93	80-120	2	20
1,2-Dibromoethane	25.00	24.12	96	80-120	1	20
Ethylbenzene	25.00	23.65	84	80-123	3	20
m,p-Xylenes	50.00	47.10	88	80-126	3	20
o-Xylene	25.00	23.22	87	80-122	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-123
1,2-Dichloroethane-d4	93	76-138
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-120

RPD= Relative Percent Difference



## Batch QC Report

BTXE & Oxygenates			
Lab #:	200999	Location:	2250 Telgraph Av. Oakland
Client:	Fugro West Inc.	Prep:	EPA 5030B
Project#:	609.004	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	134724
MSS Lab ID:	201032-002	Sampled:	02/06/08
Matrix:	Water	Received:	02/07/08
Units:	ug/L	Analyzed:	02/12/08
Diln Fac:	5.000		

Type: MS Lab ID: QC427892

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<13.11	625.0	483.6	77	66-153
MTBE	<0.1418	125.0	113.4	91	72-129
Isopropyl Ether (DIPE)	<0.1296	125.0	106.5	85	72-124
Ethyl tert-Butyl Ether (ETBE)	<0.1892	125.0	111.8	89	72-131
1,2-Dichloroethane	<0.2381	125.0	124.1	99	80-129
Benzene	0.4445	125.0	120.1	96	80-122
Methyl tert-Amyl Ether (TAME)	<0.09574	125.0	114.4	92	76-128
Toluene	0.8075	125.0	123.6	98	80-120
1,2-Dibromoethane	<0.3006	125.0	124.6	100	80-120
Ethylbenzene	<0.1673	125.0	111.3	89	80-123
m,p-Xylenes	<0.5219	250.0	232.4	93	80-126
o-Xylene	<0.3642	125.0	113.0	90	80-122

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-123
1,2-Dichloroethane-d4	96	76-138
Toluene-d8	103	80-120
Bromofluorobenzene	97	80-120

Type: MSD Lab ID: QC427893

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	625.0	467.1	75	66-153	3	23
MTBE	125.0	115.4	92	72-129	2	20
Isopropyl Ether (DIPE)	125.0	110.2	88	72-124	3	20
Ethyl tert-Butyl Ether (ETBE)	125.0	115.7	93	72-131	3	20
1,2-Dichloroethane	125.0	124.3	99	80-129	0	20
Benzene	125.0	122.3	97	80-122	2	20
Methyl tert-Amyl Ether (TAME)	125.0	116.5	93	76-128	2	20
Toluene	125.0	122.1	97	80-120	1	20
1,2-Dibromoethane	125.0	123.0	98	80-120	1	20
Ethylbenzene	125.0	108.2	87	80-123	3	20
m,p-Xylenes	250.0	225.0	90	80-126	3	20
o-Xylene	125.0	109.6	88	80-122	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-123
1,2-Dichloroethane-d4	95	76-138
Toluene-d8	102	80-120
Bromofluorobenzene	97	80-120