Subsurface Consultants, Inc.

September 21, 1999
SCI 447.055-

Mr. George Hill
305 Sheridan Avenue
Piedmont, California 94611

Mr. Gordon Linden
101 Gleneden Avenue
Oakland, California 94611

Groundwater Monitoring
June 1999 Quarterly Event
Connell Automobile Dealership (St ID# 469)
3093 Broadway
Oakland, California

Dear Messrs. Hill & Linden:

This letter records the results of the June 1999 quarterly groundwater monitoring event, as well as the June, July and August free product recovery and groundwater measurement events performed by Subsurface Consultants, Inc. (SCI) at the Connell Automobile Dealership in Oakland, California. The facility is situated at the southwest corner of the intersection of Hawthorne Street and Broadway, as shown on the Site Plan, Plate 1.

BACKGROUND

On December 18, 1989, three underground storage tanks (USTs), which previously contained gasoline, diesel, and waste oil, were removed from a sidewalk area located adjacent to the existing Connell facility. A dispenser island located within the existing building was also removed at that time. SCI understands that the pipelines connecting the fuel dispenser island with the USTs remained in-place.

Fourteen wells have been periodically sampled at the site since 1990 to evaluate impacts to groundwater due to previous UST releases. Impacts documented to date include a free floating gasoline plume and a mixed plume containing petroleum and chlorinated hydrocarbons. Since 1991, free product recovery has been conducted on a monthly basis by hand-bailing product from

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171 – 12th Street ■ Suite 202 ■ Oakland, California 94607-4911 ■ 510.268.0461 ■ FAX 510.268.0137

site wells. In October 1996, an internal combustion engine was installed to remove product from well MW-6 using soil vapor extraction (SVE) technologies. Due to elevated groundwater levels at the site caused by high seasonal rains, the SVE system was taken off-line and removed from the site in March 1998. Product recovery by hand bailing is ongoing.

MONITORING ACTIVITIES

Groundwater monitoring during this event was performed in accordance with the program outlined in the approved work plan dated April 15, 1999 as amended by the Alameda County Health Care Services Agency (ACHCSA) letter dated May 3, 1999. The program includes product level measurements and removal, and quarterly sampling (in the absence of free floating product) wells MW-1, MW-4, MW-6, MW-7, MW-8, MW-9, MW-13, MW-14 and MW-15. Water level measurements will continue to be made for wells MW-2, MW-3, MW-5, MW-10 and MW-11, however sampling of these wells is no longer required. There is not a well-designated MW-12.

Monthly Free Product Removal

Measurements of separate-phase product thickness and depth-to-water are summarized in Table 1. Free-floating product is measured and removed on a monthly basis. During this quarter (May, June, July and August), free product was observed in well MW-6 during each event and intermittently observed in wells MW-1, MW-4, MW-14 and MW-15. The quantity of free product removed to date is summarized in Table 2.

Groundwater Monitoring

Groundwater and free product elevation data are summarized in Table 2. The groundwater flow direction is generally towards the southeast at gradients varying from 0.01 to 0.1 ft/ft. Groundwater surface contours for this event are presented on Plates 2 through 4.

For this event wells MW-1, MW-6, MW-14 and MW-15 were not purged nor sampled due to the presence of free product. On July 1, 1999, wells: MW-4, MW-7, MW-8, MW-9, and MW-13 were purged by removing water with new disposable bailers or a submersible pump. The wells were purged until measurements of pH, temperature, and conductivity had stabilized. After the wells recharged to within 80 percent of their initial level, they were sampled with new disposable bailers. Purged water was placed in 55-gallon drums and remains on-site pending later disposal by others.

Groundwater samples collected from the wells were submitted for chemical analyses. The samples were retained in pre-cleaned containers supplied by the analytical laboratories and were placed in ice-filled coolers and remained iced until delivery to the laboratory. Chain-of-custody records accompanied the samples.

ANALYTICAL TESTING

Curtis & Tompkins, Ltd., a state-certified chemical testing laboratory performed chemical analyses of samples from the wells. The samples were analyzed for the constituents listed below.

Analysis	Sample Preparation Method	Analysis Method
Total Volatile Hydrocarbons (TVH)	EPA 5030	EPA 8015 Mod.
Halogenated Volatile Organic Compounds (HVOC)	EPA 5030	EPA 8010
Total Extractable Hydrocarbons (TEH) diesel and motor oil ranges	EPA 3520	EPA 8015 Mod.
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	EPA 5030	EPA 8021
Methyl Tertiary Butyl Ether (MtBE)	EPA 5030	EPA 8021/8260
Semi-volatile Organic Compounds (SVOC)	EPA 3520	EPA 8270
Cadmium, Chromium, Lead, Nickel, and Zinc	EPA 6010	ICP
1,2 Dichloroethane (1,2-DCA)	EPA 5030	EPA 8260

Summaries of analytical test results are summarized in Tables 3, 4 and 5. Field sampling forms, analytical test reports, and chain-of-custody documents are attached.

DISCUSSION AND CONCLUSIONS

Groundwater Flow Direction and Gradient

The groundwater flow direction trends across the site from the northwest to the southeast. This flow pattern is typical of what has been observed throughout the study. For the June, July and August events, groundwater elevations varied approximately 13, 20 and 11 feet, respectively across the site. A relatively flat area exists in the western portion of the site where the gradient is on the order of 0.01 ft/ft. A steeper gradient (0.1 ft/ft) exists on the eastern portion of the site.

Free Product

As shown in Table 2, well MW-6 had measurable free product removed this quarter. A mild hydrocarbon odor was detected in MW-4, a strong hydrocarbon odor was detected in wells MW-1, MW-6, and MW-14 with trace amounts of free product observed and removed. To date approximately 370 gallons of free product have been recovered.

Analytical Well Test Results

The concentrations of dissolved hydrocarbons and VOC's in wells MW-4, MW-8 and MW-9 are similar to previous measurements. However, dissolved hydrocarbons were detected in MW-7 where they have not been previously detected since December 1995. In addition, MW-13 showed slightly higher dissolved hydrocarbons than previously detected in past monitoring events.

The samples obtained during this event were analyzed for MtBE using EPA Methods 8021 and 8260 to evaluate whether MtBE was actually present. MtBE was not detected above the laboratory reporting limits in any sample using EPA Method 8260, however, it was detected in several samples using EPA Method 8021. This suggests that EPA Method 8021 is detecting compounds other than MtBE, and as such, is not a reasonable analysis to be used at this site. Hence, previous detection of MtBE at the site using EPA Method 8021 represented "false positive" detection of MtBE. Future analysis for MtBE will be conducted using EPA Method 8260.

As requested by the ACHCSA, wells MW-4, MW-7, MW-8, MW-9 and MW-13 were tested for dissolved cadmium, chromium, lead, nickel and zinc, using EPA Method 6010. The concentrations of these metals were all below the laboratory reporting limits, with the exception of lead in MW-4 (59 micrograms per liter) and nickel in MW-9 (34 micrograms per liter). The significance of this data is uncertain at this time as this event represents the first time metal analysis have been conducted on water samples.

As requested by the ACHCSA, wells MW-4, MW-7, MW-8, MW-9 and MW-13 were also tested for semi-volitale organic compounds (SVOC's) using EPA Method 8270. The concentrations of these compounds were all below the laboratory reporting limits, with the exception of 2-methyl naphthalene (370 micrograms per liter) and naphthalene (860 micrograms per liter) measured in the sample from well MW-4. 2-methyl naphthalene and naphthalene are soluble constituents of gasoline which have been detected in previous samples from well MW-1.

The next sampling event will be conducted in September 1999. The testing program will be similar to the June 1999 event with the exception that MtBE will only be analyzed for using EPA Method 8260.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

Jeriann N. Alexander, PE, REA
Civil Engineer 40469 (expires 3/31/03)
Registered Environmental Assessor 03130 (exp. 6/30/00)

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Attachments: Plate 1 - Site Plan
Plate 2 - Groundwater Elevation Countours – June 1999
Plate 3 – Groundwater Elevation Contours – July 1999
Plate 4 – Groundwater Elevation Contours – August 1999

Table 1- Groundwater and Free Product Elevation Data
Table 2 - Free Product Recovery
Table 3 - Summary of Petroleum Hydrocarbon and VOC Concentrations in Groundwater
Table 4 - Summary of Semi-Volatile Organic Compounds and Oil and Grease in Groundwater
Table 5 – Summary of Metals in Groundwater

Field Forms- June through August 1999
Analytical Test Reports
Chain-of-Custody Documents

cc: Ms. Susan Hugo
Senior Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Mr. Charles Headlee
Cal/EPA San Francisco Regional Water Quality
Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Mr. Paul Kibel, Esq.
Fitzgerald, Abbott & Beardsley, LLP
1221 Broadway, 12th Floor
Oakland, California 94612

HAWTHORNE STREET

SIDEWALK

3093 BROADWAY

WEBSTER STREET

SIDEWALK

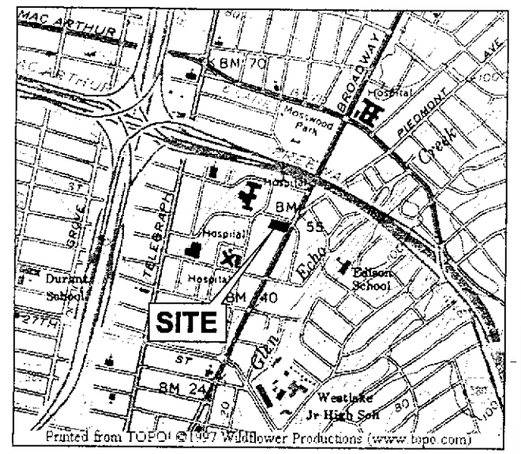
BROOK STREET

SIDEWALK

BROADWAY

SIDEWALK

11 1 14 15 6 9 8 10/CPT13 4 2 7 3 5 13



VICINITY MAP

EXPLANATION

- 6 — SCI MONITORING WELL
- 8 — EXTRACTION WELL
- FENCE
- RETAINING WALL
- FORMER TANK LOCATION

N

APPROXIMATE SCALE IN FEET

0 60 120

SITE PLAN

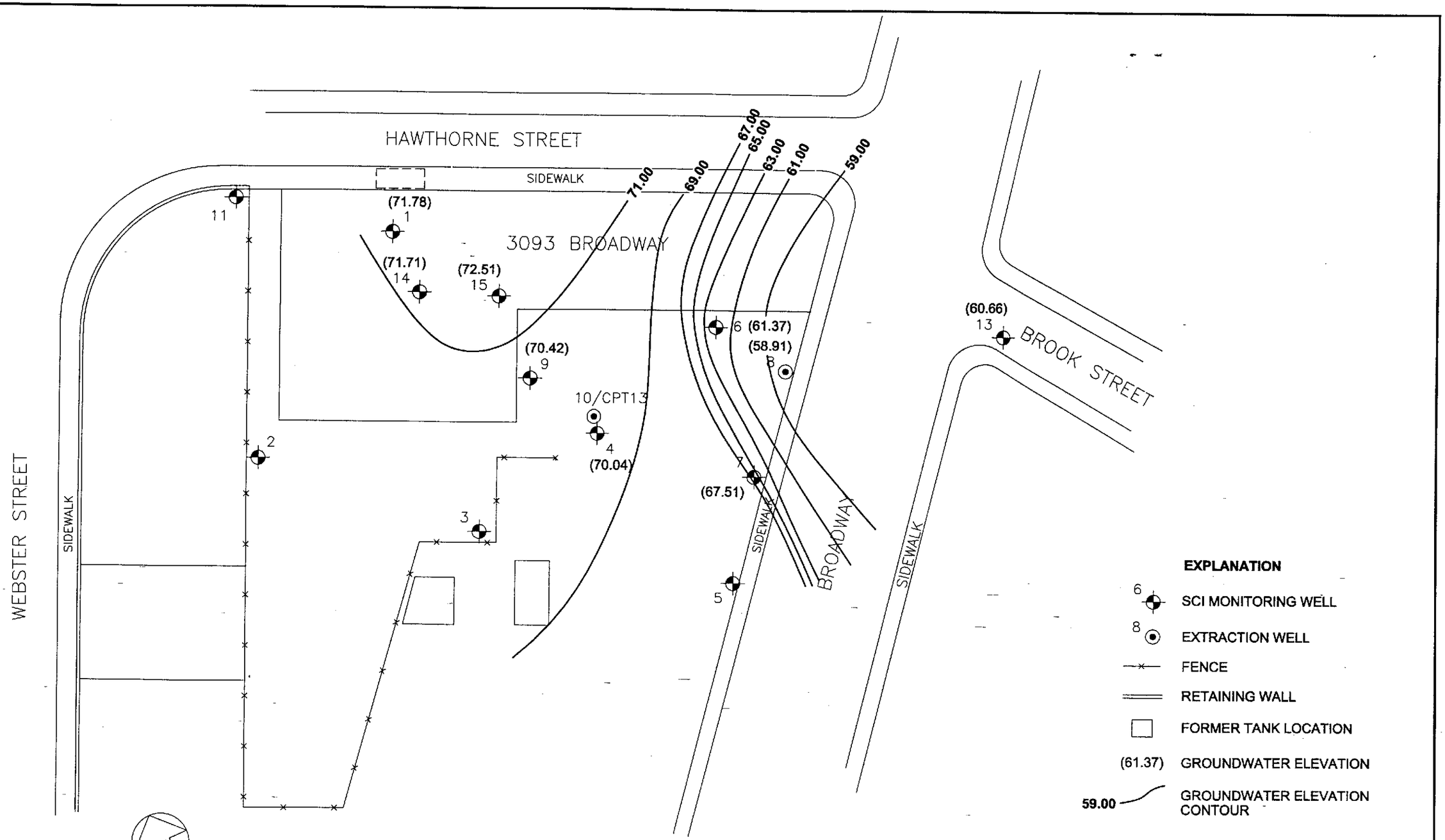
SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers

CONNELL OLDSMOBILE
OAKLAND, CALIFORNIA

JOB NUMBER	DATE	APPROVED
447.055	09/99	

PLATE 1

SITE0999.DWG



GROUNDWATER ELEVATION CONTOURS - JUNE 1999

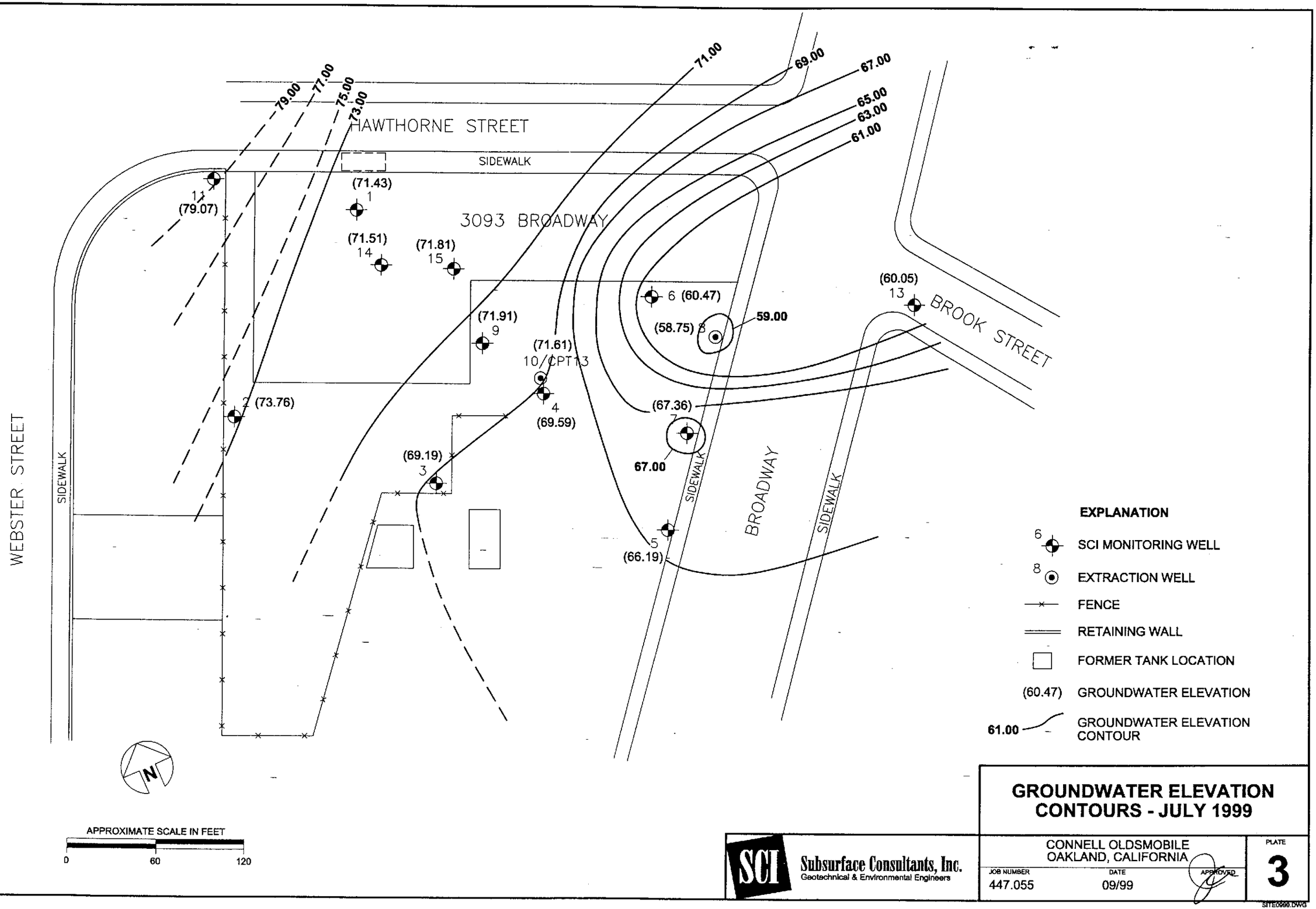
SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers

CONNELL OLDSMOBILE
OAKLAND, CALIFORNIA

JOB NUMBER	DATE	APPROVED
447.055	09/99	

PLATE 2

SITE0999.DWG



GROUNDWATER ELEVATION CONTOURS - JULY 1999

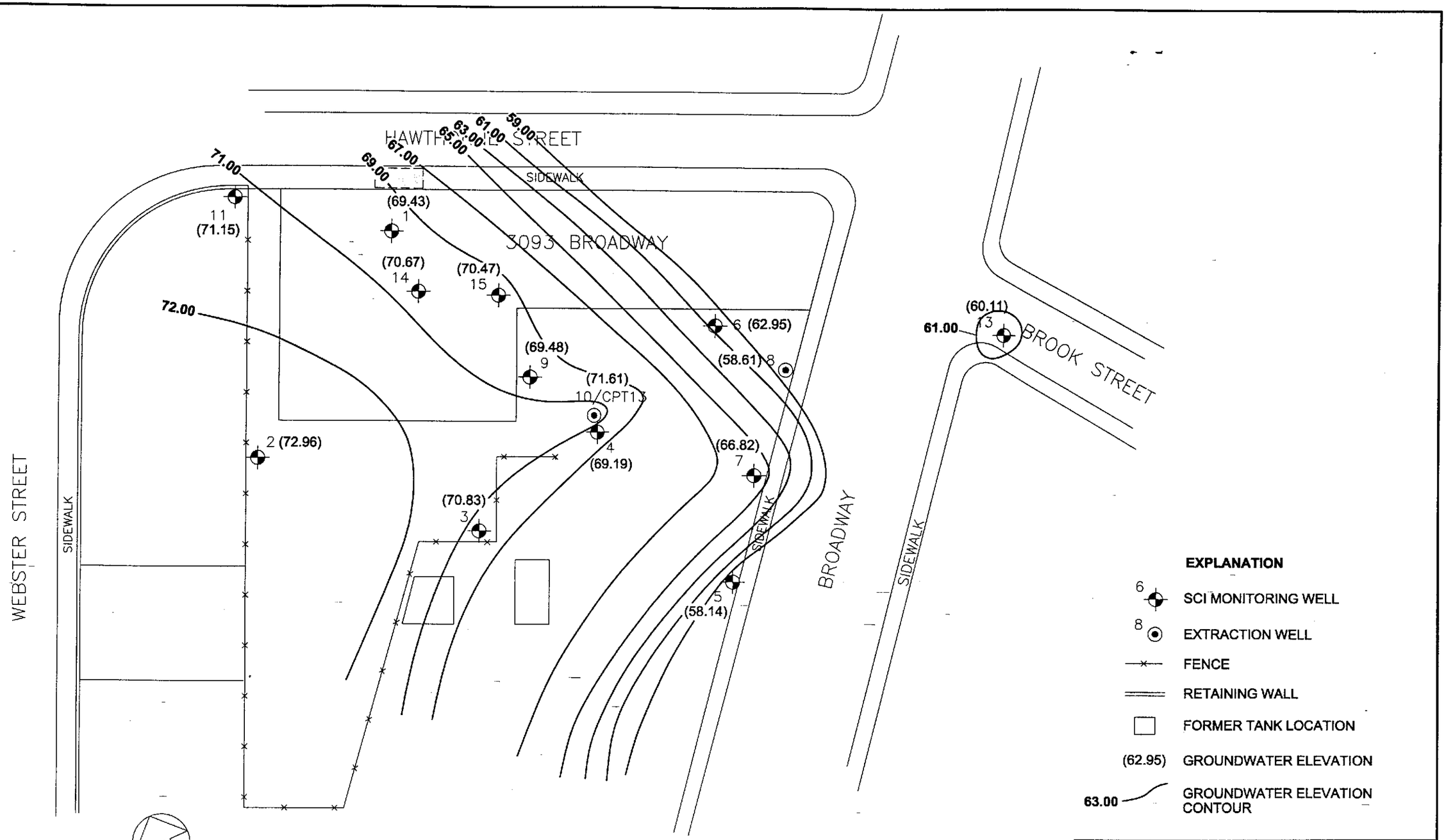
SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers

CONNELL OLDSMOBILE
OAKLAND, CALIFORNIA

JOB NUMBER	DATE	APPROVED
447.055	09/99	

PLATE 3

SITE0999.DWG



GROUNDWATER ELEVATION CONTOURS - AUGUST 1999

SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers

CONNELL OLDSMOBILE
OAKLAND, CALIFORNIA

JOB NUMBER	DATE	APPROVED
447.055	09/99	

PLATE 4

SITE0998.DWG

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-1	94.48	10/3/90	26.40	68.08	NM	--
		3/5/91	27.46	67.02	NM	--
		3/18/91	26.88	67.60	NM	--
		4/12/91	25.49	68.99	NM	--
		12/23/91	26.86	67.62	1.15	68.77
		12/26/91	26.08	68.40	0.22	68.63
		1/13/92	26.53	67.95	0.66	68.61
		2/28/92	27.75	66.73	0.42	67.15
		5/18/92	24.75	69.73	NM	--
		6/29/92	25.09	69.39	0.04	69.43
		7/29/92	25.46	69.02	0.15	69.17
		8/28/92	25.56	68.92	0.29	69.21
		10/28/92	26.44	68.04	0.52	68.56
		11/24/92	26.63	67.85	NM	--
		12/22/92	26.37	68.11	NM	--
		4/5/93	23.77	70.71	0	--
		7/20/93	24.51	69.97	0.6	70.57
		11/9/93	26.06	68.42	1.17	69.59
		8/30/95	21.73	72.75	0.23	72.98
		9/15/95	21.88	72.61	0.15	72.75
		10/2/95	22.42	72.06	0.42	72.48
		11/3/95	23.10	72.74	0.76	73.50
		11/30/95	23.38	72.54	0.7	73.24
		1/3/96	23.30	72.62	0.78	73.40
		2/2/96	22.96	72.28	0.84	73.12
		3/1/96	21.69	72.79	0.14	72.65
		4/4/96	21.11	73.67	0	--
		5/2/96	20.96	73.83	0	--
		6/5/96	20.98	73.81	0.04	73.85
		7/9/96	21.64	72.84	0.2	73.04
		8/8/96	22.43	72.05	0.33	72.38
		9/10/96	23.25	71.23	0.6	71.83
		10/1/96	23.58	70.90	0.6	71.50
		11/4/96	24.29	70.19	0.78	70.97
		12/2/96	24.63	69.85	0.88	70.73
		1/3/97	24.08	70.40	0.81	71.21
		2/6/97	22.46	72.02	0.3	72.32
		3/5/97	23.00	71.48	0	--
		4/1/97	22.29	72.19	0.2	72.39

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-1 (cont)	34.48	5/8/97	22.79	71.69	0.33	72.02
		6/6/97	24.33	70.15	1.69	71.84
		7/8/97	24.00	70.48	0.96	71.44
		8/7/97	24.58	69.90	1.29	71.19
		9/10/97	24.93	69.55	1.21	70.76
		10/1/97	24.89	69.59	0.86	70.45
		11/4/97	25.06	69.42	0.77	70.19
		12/4/97	24.76	69.52	0.54	70.06
		1/8/98	23.66	70.82	0	--
		2/5/98	22.64	71.84	0	--
		3/6/98	20.80	73.68	0	--
		4/2/98	20.31	74.17	0	--
		4/29/98	19.95	74.53	0	--
		6/3/98	20.41	74.07	0	--
		7/9/98	20.97	73.51	0.07	73.58
		8/4/98	21.40	73.08	trace	--
		8/26/98	21.85	72.63	0.10	72.73
		11/2/98	22.92	71.56	0.39	71.95
		12/4/98	23.29	71.19	0.29	71.48
		1/5/99	23.51	70.97	0.42	71.39
		2/8/99	23.08	71.40	0.05	71.45
		3/29/99	21.90	72.58	0.01	72.59
		4/30/99	21.52	72.96	0	--
		7/1/99	22.70	71.78	0.025	71.81
		7/27/99	23.05	71.43	0	--
		8/19/99	24.55	69.93	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-2	94.81	3/5/91	27.86	66.95	0	--
		3/18/91	27.46	67.35	0	--
		4/12/91	26.98	67.83	0	--
		5/18/92	26.50	68.31	0	--
		6/29/92	26.80	68.01	0	--
		7/29/92	27.08	67.73	0	--
		8/28/92	27.33	67.48	0	--
		10/28/92	27.65	67.16	0	--
		11/24/92	27.91	66.90	0	--
		12/22/92	27.74	67.07	NM	--
		4/5/93	25.95	68.86	0	--
		7/20/93	25.59	69.22	0	--
		11/9/93	26.72	68.09	0	--
		8/30/95	25.75	69.06	0	--
		10/2/95	25.10	69.71	0	--
		11/3/95	25.73	69.02	0	--
		11/30/95	25.34	69.41	0	--
		1/3/96	25.32	69.43	0	--
		2/2/96	25.10	69.65	0	--
		3/1/96	24.05	70.76	0	--
		4/4/96	23.41	71.49	0	--
		5/2/96	23.37	71.53	0	--
		6/5/96	23.75	71.11	0	--
		7/9/96	23.79	71.02	0	--
		8/8/96	24.27	70.54	0	--
		9/10/96	24.87	69.94	0	--
		10/1/96	25.12	69.69	0	--
		11/4/96	25.54	69.27	0	--
		12/2/96	25.74	69.07	0	--
		1/3/97	25.51	69.30	0	--
		2/6/97	24.68	70.13	0	--
		3/5/97	24.14	70.67	0	--
		4/1/97	24.18	70.63	0	--
		5/8/97	24.58	70.23	0	--
		6/6/97	25.20	69.61	0	--
		7/8/97	25.38	69.43	0	--
		8/7/97	25.52	69.29	0	--
		9/10/97	25.77	69.04	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-2 (cont.)	94.81	10/1/97	26.01	68.80	0	--
		11/4/97	26.23	68.58	0	--
		12/4/97	26.31	68.50	0	--
		1/8/98	25.94	68.87	0	--
		2/5/98	25.10	69.71	0	--
		3/6/98	22.23	72.58	0	--
		4/2/98	22.35	72.46	0	--
		4/29/98	22.18	72.63	0	--
		6/3/98	22.69	72.12	0	--
		7/9/98	22.98	71.83	0	--
		8/4/98	23.32	71.49	0	--
		8/26/98	23.72	71.09	0	--
		11/2/98	24.70	70.11	0	--
		12/4/98	24.94	69.87	0	--
		1/5/99		well not accessible		
		2/8/99	25.00	69.81	0	--
		3/24/99		well not accessible		
		4/30/99	23.08	71.73	0	--
		7/1/99	not measured			
		7/27/99	21.05	73.76	0	--
		8/19/99	21.85	72.96	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-3	90.08	3/6/91	23.17	66.91	NM	--
		3/18/91	22.76	67.32	NM	--
		4/12/91	22.51	67.57	NM	--
		5/12/92	23.17	66.91	NM	--
		6/29/92	22.90	67.18	NM	--
		7/29/92	22.17	67.91	NM	--
		8/28/92	22.28	67.80	NM	--
		10/28/92	22.67	67.41	0	--
		11/24/92	23.01	67.07	0	--
		12/22/92	22.91	67.17	NM	--
		4/5/93	22.11	67.97	0	--
		7/20/93	23.93	66.15	0	--
		11/9/93	23.14	66.94	0	--
		8/29/95	20.61	69.47	0	--
		10/2/95	21.18	68.90	0	--
		11/3/95	20.74	69.60	0	--
		11/30/95	20.68	69.66	0	--
		1/3/96	20.58	69.76	0	--
		2/2/96	20.43	69.91	0	--
		3/1/96	20.24	69.84	0	--
		4/4/96	18.50	71.58	0	--
		5/2/96	18.43	71.65	0	--
		6/5/96	18.51	71.57	0	--
		7/9/96	18.97	71.11	0	--
		8/8/96	19.51	70.57	0	--
		9/10/96	19.86	70.22	0	--
		10/1/96	20.04	70.04	0	--
		11/4/96	20.25	69.83	0	--
		12/2/96	20.40	69.68	0	--
		1/3/97	20.33	69.75	0	--
		2/6/97	19.98	70.10	0	--
		3/5/97	19.80	70.28	0	--
		4/1/97	19.76	70.32	0	--
		5/8/97	19.77	70.31	0	--
		6/6/97	20.18	69.90	0	--
		7/8/97	20.24	69.84	0	--
		8/7/97	20.38	69.70	0	--
		9/10/97	20.55	69.53	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-3	90.08	10/1/97	20.73	69.35	0	--
(cont.)		11/4/97	20.87	69.21	0	--
		12/4/97	20.89	69.19	0	--
		1/8/98	20.70	69.38	0	--
		2/5/98	20.37	69.71	0	--
		3/6/98	19.68	70.40	0	--
		4/2/98	18.76	71.32	0	--
		4/29/98	17.92	72.16	0	--
		6/3/98	17.78	72.30	0	--
		7/9/98	18.31	71.77	0	--
		8/4/98	18.67	71.41	0	--
		8/26/98	18.91	71.17	0	--
		11/2/98	19.60	70.48	0	--
		12/4/98	19.91	70.17	0	--
		1/5/99	20.01	70.07	0	--
		2/8/99	20.05	70.03	0	--
		3/29/99	19.15	70.93	0	--
		4/30/99	18.12	71.96	0	--
		7/1/99	not measured			
		7/27/99	20.89	69.19	0	--
		8/19/99	19.25	70.83	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-4	88.84	3/5/91	23.79	65.05	NM	--
		3/18/91	22.30	66.54	NM	--
		4/12/91	21.85	66.99	NM	--
		12/23/91	22.63	66.22	0.98	67.19
		12/26/91	22.52	66.32	0.96	67.28
		1/10/92	22.74	66.10	0.99	67.09
		2/28/92	22.00	66.84	0.67	67.51
		3/11/92	21.71	67.13	0.55	67.68
		3/13/92	21.56	67.28	0.49	67.77
		3/17/92	25.46	63.38	0.44	63.82
		3/18/92	21.38	67.47	0.44	67.90
		3/19/92	21.33	67.51	0.48	67.99
		3/23/92	21.29	67.55	0.42	67.97
		3/24/92	21.31	67.53	0.38	67.90
		3/25/92	21.17	67.67	0.36	68.04
		3/26/92	21.08	67.76	0.35	68.11
		3/27/92	20.92	67.92	0.26	68.18
		3/31/92	21.15	67.69	0.44	68.13
		4/1/92	20.90	67.94	0.24	68.18
		4/2/92	20.90	67.94	0.17	68.11
		4/10/92	20.91	67.93	0.33	68.26
		4/13/92	21.04	67.80	0.42	68.22
		4/20/92	20.74	68.10	0.19	68.29
		5/4/92	20.83	68.01	0.33	68.34
		5/18/92	21.33	67.51	0.23	67.74
		5/26/92	20.83	68.01	0.17	68.18
		6/1/92	20.85	67.99	0.19	68.17
		6/29/92	21.38	67.46	0.53	67.99
		7/29/92	21.69	67.15	0.56	67.71
		8/28/92	21.35	67.49	0.63	68.12
		10/28/92	22.48	66.36	0.84	67.20
		11/24/92	22.60	66.24	NM	--
		12/22/92	22.47	66.37	NM	--
		4/3/93	20.11	68.73	0.51	69.24
		7/20/93	20.48	68.36	0.52	68.88
		11/9/93	21.71	67.13	0.63	67.76
		8/30/95	19.90	68.94	2.2	71.14
		9/15/95	18.76	70.08	0.57	70.65

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-4 (cont.)	88.84	10/2/95	19.17	69.67	0.65	70.32
		11/3/95	19.45	69.39	0.44	69.83
		11/30/95	19.50	69.44	0.32	69.76
		1/3/96	19.31	69.53	0.2	69.73
		2/2/96	18.91	69.93	0.2	70.13
		3/1/96	18.25	70.59	0.19	70.78
		4/4/96	17.53	71.31	0.18	71.49
		5/2/96	17.50	71.34	0.25	71.59
		6/5/96	17.67	71.17	0.39	71.56
		7/9/96	18.29	70.55	0.5	71.05
		8/8/96	18.84	70.00	0	--
		9/10/96	19.31	69.53	0.34	69.87
		10/1/96	19.51	69.33	0.29	69.62
		11/4/96	20.13	68.71	0.35	69.06
		12/2/96	20.23	68.61	0.33	68.94
		1/3/97	19.33	69.51	0.1	69.61
		2/6/97	18.13	70.72	0.01	70.73
		3/5/97	18.17	70.67	0.06	70.73
		4/1/97	18.38	70.46	0.05	70.51
		5/8/97	18.63	70.21	0.03	70.24
		6/6/97	18.78	70.06	0.19	70.25
		7/8/97	19.21	69.63	0.02	69.65
		8/7/97	19.50	69.34	0.07	69.41
		9/10/97	19.86	68.98	0.04	69.02
		10/1/97	20.09	68.75	0.37	69.12
		11/4/97	20.19	68.65	0.19	68.84
		12/4/97	20.05	68.79	0	--
		1/8/98	19.53	69.31	0	--
		2/5/98	18.28	70.56	0	--
		3/6/98	16.42	72.42	0	--
		4/2/98	16.54	72.30	0	--
		4/29/98	16.11	72.73	0	--
		6/3/98	16.55	72.29	0	--
		7/9/98	17.13	71.71	0	--
		8/4/98	17.54	71.30	0	--
		8/26/98	18.02	70.82	0	--
		11/2/98	19.03	69.81	0	--
		12/4/98	19.21	69.63	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-4 (cont.)	88.84	1/5/99	19.33	69.51	0	--
		2/8/99	18.88	69.96	0	--
		3/29/99	17.51	71.33	0	--
		4/30/99	17.28	71.56	trace	--
		7/1/99	18.80	70.04	0	--
		7/27/99	19.25	69.59	0	--
		8/19/99	19.65	69.19	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-5	84.84	3/18/91	26.31	58.53	NM	--
		3/12/91	26.41	58.43	NM	--
		5/18/92	26.75	58.09	NM	--
		6/29/92	26.73	58.11	NM	--
		7/29/92	26.66	58.18	NM	--
		8/28/92	26.90	57.94	NM	--
		10/28/92	26.39	58.45	0	--
		11/24/92	26.83	58.01	0	--
		12/22/92	27.33	57.51	NM	--
		4/3/93	26.62	58.22	0	--
		7/20/93	26.60	58.24	0	--
		11/9/93	27.24	57.60	0	--
		8/30/95	27.46	57.38	0	--
		10/2/95	26.85	57.99	0	--
		11/3/95	26.67	58.87	0	--
		11/30/95	27.05	58.49	0	--
		1/3/96	26.60	59.04	0	--
		2/2/96	26.70	59.14	0	--
		3/1/96	26.00	58.84	0	--
		4/4/96	26.20	58.64	0	--
		5/2/96	26.02	58.82	0	--
		6/5/96	25.91	58.93	0	--
		7/9/96	26.20	58.64	0	--
		8/8/96	26.38	58.46	0	--
		9/10/96	26.42	58.42	0	--
		10/1/96	26.52	58.32	0	--
		11/4/96	26.69	58.15	0	--
		12/2/96	26.70	58.14	0	--
		1/3/97	25.84	59.00	0	--
		2/6/97	26.26	58.58	0	--
		3/5/97	26.20	58.64	0	--
		4/1/97	26.98	57.86	0	--
		5/8/97	26.76	58.08	0	--
		6/6/97	26.33	58.51	0	--
		7/8/97	26.84	58.00	0	--
		8/7/97	26.89	57.95	0	--
		9/10/97	26.76	58.08	0	--
		10/1/97	26.97	57.87	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-5 (cont.)	84.84	11/4/97	27.04	57.80	0	--
		12/4/97	26.34	58.50	0	--
		1/8/98	26.05	58.79	0	--
		2/5/98	25.31	59.53	0	--
		3/6/98	25.60	59.24	0	--
		4/2/98	25.80	59.04	0	--
		4/29/98	25.35	59.49	0	--
		6/3/98	25.28	59.56	0	--
		7/9/98	25.49	59.35	0	--
		8/4/98	25.77	59.07	0	--
		8/26/98	25.63	59.21	0	--
		11/2/98	26.29	58.55	0	--
		12/4/98	26.05	58.79	0	--
		1/5/99	25.69	59.15	0	--
		2/8/99	26.00	58.84	0	--
		3/29/99	25.73	59.11	0	--
		4/30/99	25.80	59.04	0	--
		7/27/99	18.65	66.19	0	--
		8/19/99	26.70	58.14	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-6	85.62	3/18/91	25.82	59.80	NM	--
		4/12/91	27.23	58.39	NM	--
		12/23/91	28.40	57.22	3.21	60.43
		12/26/91	27.25	58.37	1.67	60.04
		1/10/92	27.23	58.39	0.9	59.29
		2/4/92	27.71	57.91	2.04	59.95
		2/28/92	27.92	57.70	3	60.70
		3/10/92	27.16	58.46	2.06	60.52
		3/12/92	25.96	59.66	0.52	60.18
		3/13/92	25.70	59.92	0.21	60.13
		3/23/92	26.34	59.28	1.09	60.37
		3/30/92	25.73	59.89	0.35	60.25
		4/10/92	25.29	60.33	0.05	60.38
		4/13/92	25.52	60.10	0.21	60.31
		4/20/92	25.38	60.25	0.1	60.35
		5/4/92	25.40	60.22	NM	--
		5/18/92	25.50	60.12	0.17	60.29
		5/26/92	25.46	60.16	0.13	60.29
		6/1/92	25.46	60.16	0.09	60.26
		6/29/92	25.59	60.03	0.14	60.17
		7/29/92	26.90	58.72	1.71	60.43
		8/28/92	25.09	60.53	2.62	63.15
		10/28/92	25.02	60.60	3.94	64.54
		11/24/92	28.87	56.75	NM	--
		4/3/93	26.96	58.66	2.86	61.52
		7/20/93	26.17	59.45	2.6	62.05
		11/9/93	27.51	58.11	3.06	61.17
		8/30/95	28.00	57.62	7.96	65.58
		9/15/95	28.24	57.38	6.14	63.52
		10/2/95	28.39	57.23	6.13	63.36
		11/3/95	26.91	58.71	3.44	62.15
		11/30/95	27.58	58.04	4.41	62.45
		1/3/96	27.58	58.04	4.37	62.41
		2/2/96	27.96	57.68	5.15	62.83
		3/1/96	27.96	57.68	5.41	63.09
		4/4/96	27.69	57.93	5.69	63.62
		5/2/96	26.83	58.79	4.66	63.45
		6/5/96	27.15	58.47	5.17	63.64

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-6 (cont.)•	85.62	7/9/96	27.08	58.54	4.86	63.40
		8/8/96	26.71	58.91	4.05	62.96
		9/10/96	26.83	58.79	3.82	62.61
		10/1/96	26.96	58.66	3.77	62.43
		11/4/96	NM	NM	NM	NM
MW-6*	86.94	12/2/96	NM	NM	NM	NM
		1/3/97	NM	NM	NM	NM
		2/6/97	25.08	61.86	0.2	62.06
		3/5/97	24.20	62.74	0	--
		4/1/97	24.04	62.90	0	--
		5/8/97	26.54	60.40	1.88	62.28
		6/6/97	25.33	61.61	0.21	61.82
		7/8/97	25.30	61.64	0.07	61.71
		8/7/97	25.52	61.42	0	--
		9/10/97	25.76	61.18	0	--
		10/1/97	25.12	61.82	0	--
		11/4/97	26.16	60.78	0.18	60.96
		12/4/97	26.08	60.86	0.16	61.02
		1/8/98	25.79	61.15	0.1	61.25
		2/5/98	25.31	61.63	0.89	62.52
		3/6/98	24.63	62.31	0.46	62.77
MW-6†	85.82	4/2/98	24.45	62.49	0.59	63.08
		4/29/98	22.96	62.86	0.55	63.41
		6/3/98	22.81	63.01	0.41	63.42
		7/9/98	23.04	62.78	0.35	63.13
		8/4/98	23.29	62.53	0.35	62.88
		8/26/98	23.50	62.32	0.31	62.63
		11/2/98	24.24	61.58	0.43	62.01
		12/4/98	24.35	61.47	0.32	61.79
		1/5/99	24.51	61.31	0.4	61.71
		2/8/99	24.00	61.82	0.03	61.85
		3/29/99	23.82	62.00	0.19	62.19
		4/30/99	23.60	62.22	1.13	63.35
		7/1/99	24.45	61.37	0.42	61.79
		7/27/99	25.35	60.47	0.24	60.71
		8/19/99	24.87	60.95	0.24	60.71

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-7	85.41	3/18/91	21.63	63.78	NM	--
		4/12/91	22.13	63.28	NM	--
		5/18/92	21.67	63.74	NM	--
		6/29/92	20.75	64.66	NM	--
		7/29/92	21.07	64.34	NM	--
		8/28/92	21.35	64.06	NM	--
		10/28/92	21.81	63.60	0	--
		11/24/92	21.52	63.89	0	--
		12/22/92	obstructed	--	NM	--
		4/3/93	20.08	65.33	0	--
		7/20/93	19.59	65.82	0	--
		11/9/93	20.65	64.76	0	--
		8/30/95	18.78	66.63	0	--
		10/2/95	18.73	66.68	0	--
		11/3/95	19.23	66.18	0	--
		11/30/95	19.47	65.94	0	--
		1/3/96	18.52	66.89	0	--
		2/2/96	17.83	67.58	0	--
		3/1/96	17.61	67.80	0	--
		4/4/96	17.28	68.13	0	--
		5/2/96	17.15	68.26	0	--
		6/5/96	17.47	67.94	0	--
		7/9/96	18.06	67.35	0	--
		8/8/96	18.48	66.93	0	--
		9/10/96	18.79	66.62	0	--
		10/1/96	18.90	66.51	0	--
		11/4/96	18.69	66.72	0	--
		12/2/96	18.47	66.94	0	--
		1/3/97	17.98	67.43	0	--
		2/6/97	17.44	67.97	0	--
		3/5/97	16.73	68.68	0	--
		4/1/97	17.32	68.09	0	--
		5/8/97	17.72	67.69	0	--
		6/6/97	17.75	67.66	0	--
		7/8/97	17.94	67.47	0	--
		8/7/97	18.49	66.92	0	--
		9/10/97	18.48	66.93	0	--
		10/1/97	18.42	66.99	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-7 (cont.)	85.41	11/4/97	18.86	66.55	0	--
		12/4/97	18.16	67.25	0	--
		1/8/98	17.87	67.54	0	--
		2/5/98	17.56	67.85	0	--
		3/6/98	16.84	68.57	0	--
		4/2/98	16.51	68.90	0	--
		4/29/98	16.23	69.18	0	--
		6/3/98	16.48	68.93	0	--
		7/9/98	16.90	68.51	0	--
		8/4/98	17.24	68.17	0	--
		8/26/98	17.59	67.82	0	--
		11/2/98	18.37	67.04	0	--
		12/4/98	17.91	67.50	0	--
		1/5/99	18.35	67.06	NM	--
		2/8/99	16.82	68.59	0	--
		3/29/99	16.42	68.99	0	--
		4/30/99	16.30	69.11	0	--
		7/1/99	17.90	67.51	0	--
		7/27/99	18.05	67.36	0	--
		8/19/99	18.59	66.82	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-8	85.50	10/28/92	27.70	57.80	0	--
		11/24/92	27.62	57.88	0	--
		12/22/92	27.40	58.10	NM	--
		4/3/93	26.64	58.86	0	--
		7/20/93	26.60	58.90	0	--
		11/9/93	27.18	58.32	0	--
		8/30/95	26.35	59.15	0	--
		10/2/95	26.60	58.90	0	--
		11/3/95	26.62	58.88	0	--
		11/30/95	26.72	58.78	0	--
		1/3/96	26.64	58.86	0	--
		2/2/96	26.28	59.22	0	--
		3/1/96	25.81	59.69	0	--
		4/4/96	25.81	59.69	0	--
		5/2/96	26.15	60.03	0	--
		6/5/96	26.17	60.01	0	--
		7/9/96	26.32	59.18	0	--
		8/8/96	26.41	59.09	0	--
		9/10/96	26.66	58.84	0	--
		10/1/96	26.65	58.85	0	--
		11/4/96	26.77	58.73	0	--
		12/2/96	26.59	58.91	0	--
		1/3/97	25.98	59.52	0	--
		2/6/97	25.84	59.66	0	--
		3/5/97	25.94	59.56	0	--
		4/1/97	26.34	59.16	0	--
		5/8/97	26.39	59.11	0	--
		6/6/97	26.45	59.05	0	--
		7/8/97	26.65	58.85	0	--
		8/7/97	26.72	58.78	0	--
		9/10/97	26.89	58.61	0	--
		10/1/97	26.91	58.59	0	--
		11/4/97	26.82	58.68	0	--
		12/4/97	26.69	58.81	0	--
		1/8/98	26.39	59.11	0	--
		2/5/98	25.57	59.93	0	--
		3/6/98	25.29	60.21	0	--
		4/2/98	25.38	60.12	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-8 (cont.)	85.50	4/29/98	25.64	59.86	0	--
		6/3/98	25.38	60.12	0	--
		7/9/98	25.82	59.68	0	--
		8/4/98	25.96	59.54	0	--
		8/26/98	26.16	59.34	0	--
		11/2/98	26.23	59.27	0	--
		12/4/98	26.27	59.23	0	--
		1/5/99	26.31	59.19	0	--
		2/8/99	26.10	59.40	0	--
		3/29/99	20.93	64.57	0	--
		4/30/99	25.92	59.58	0	--
		7/1/99	26.59	58.91	0	--
		7/27/99	26.75	58.75	0	--
		8/19/99	26.89	58.61	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-9	90.37	10/28/92	23.37	67.00	0	--
		11/24/92	23.51	66.86	0	--
		12/22/92	23.31	67.06	NM	--
		4/3/93	21.14	69.23	0	--
		7/20/93	21.54	68.83	0	--
		11/9/93	27.53	62.84	0	--
		8/30/95	19.59	70.78	0	--
		10/2/95	20.05	70.32	0	--
		11/3/95	20.40	69.97	0	--
		11/30/95	20.65	69.72	0	--
		1/3/96	20.73	69.64	0	--
		2/2/96	20.19	70.18	0	--
		3/1/96	19.53	70.84	0	--
		4/4/96	18.74	71.63	0	--
		5/2/96	18.63	71.74	0	--
		7/9/96	19.15	71.22	0	--
		8/8/96	19.89	70.48	0.35	70.83
		9/10/96	20.11	70.26	0	--
		10/1/96	20.37	70.00	0	--
		11/4/96	20.69	69.68	0	--
		12/2/96	21.43	68.94	0	--
		1/3/97	20.72	69.65	0	--
		2/6/97	19.72	70.65	0	--
		3/5/97	19.59	70.78	0	--
		4/1/97	19.73	70.64	0	--
		5/8/97	19.96	70.41	0	--
		6/6/97	20.13	70.24	0	--
		7/8/97	20.53	69.84	0	--
		8/7/97	20.84	69.53	0	--
		9/10/97	21.15	69.22	0	--
		10/1/97	21.42	68.95	0	--
		11/4/97	21.55	68.82	0	--
		12/4/97	21.62	68.75	0	--
		1/8/98	21.31	69.06	0	--
		2/5/98	20.21	70.16	0	--
		3/6/98	20.99	69.38	0	--
		4/2/98	20.19	70.18	0	--
		4/29/98	19.27	71.10	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-9 (cont.)	90.37	6/3/98	19.86	70.51	0	--
		7/9/98	19.61	70.76	0	--
		8/4/98	19.35	71.02	0	--
		8/26/98	19.18	71.19	0	--
		11/2/98	20.09	70.28	0	--
		12/4/98	20.43	69.94	0	--
		1/5/99	20.41	69.96	0	--
		2/8/99	20.41	69.96	0	--
		3/29/99	18.46	71.91	0	--
		4/30/99	19.54	70.83	0	--
		7/1/99	19.95	70.42	0	--
		7/27/99	20.05	70.32	0	--
		8/19/99	20.89	69.48	trace	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-10	88.60	10/28/92	21.55	67.05	0	--
		11/24/92	21.86	66.74	0	--
		12/22/92	21.68	66.92	NM	--
		4/3/93	19.14	69.46	0	--
		7/20/93	19.79	68.81	0	--
		11/9/93	20.83	67.77	0	--
		8/30/95	17.99	70.61	0	--
		10/2/95	18.42	70.18	0	--
		11/3/95	18.82	69.78	0	--
		11/30/95	19.03	69.57	0	--
		1/3/96	18.96	69.64	0	--
		2/2/96	18.55	70.05	0	--
		3/1/96	17.81	70.79	0	--
		4/4/96	17.11	71.49	0	--
		5/2/96	17.04	71.56	0	--
		6/5/96	17.11	71.49	0	--
		7/9/96	17.64	70.96	0	--
		8/8/96	18.24	70.36	0	--
		9/10/96	18.82	69.78	0	--
		10/1/96	19.02	69.58	0	--
		11/4/96	19.59	69.01	0	--
		12/2/96	19.72	68.88	0	--
		1/3/97	18.86	69.74	0	--
		2/6/97	17.76	70.84	0	--
		3/5/97	17.84	70.76	0	--
		4/1/97	18.00	70.60	0	--
		5/8/97	18.36	70.24	0	--
		6/6/97	18.50	70.10	0	--
		7/8/97	18.98	69.62	0	--
		8/7/97	19.18	69.42	0	--
		9/10/97	19.58	69.02	0	--
		10/1/97	19.81	68.79	0	--
		11/4/97	19.95	68.65	0	--
		12/4/97	19.78	68.82	0	--
		1/8/98	19.26	69.34	0	--
		2/5/98	17.91	70.69	0	--
		3/6/98	16.07	72.53	0	--
		4/2/98	16.25	72.35	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-10 (cont.)	88.60	4/29/98	15.84	72.76	0	--
		6/3/98	16.27	72.33	0	--
		7/9/98	16.79	71.81	0	--
		8/4/98	17.25	71.35	0	--
		8/26/98	17.74	70.86	0	--
		11/2/98	18.75	69.85	0	--
		12/4/98	18.89	69.71	0	--
		1/5/99	19.04	69.56	0	--
		2/8/99	18.57	70.03	0	--
		3/29/99	17.23	71.37	0	--
		4/30/99 **	16.99	71.61	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-11	102.06	11/24/92	33.65	68.41	0	--
		12/22/92	33.37	68.69	NM	--
		4/5/93	31.03	71.03	0	--
		7/20/93	31.90	70.16	0	--
		11/9/93	32.60	69.46	0	--
		8/29/95	28.92	73.14	0	
		10/2/95	29.48	72.58	0	--
		11/3/95	29.73	72.33	0	--
		11/30/95	30.26	71.80	0	--
		1/3/96	30.06	72.00	0	--
		2/2/96	29.67	72.39	0	--
		3/1/96	28.74	73.32	0	--
		4/4/96	28.13	73.93	0	--
		5/2/96	28.26	74.06	0	--
		6/5/96	28.30	74.02	0	--
		7/9/96	28.92	73.14	0	--
		8/8/96	29.64	72.42	0	--
		9/10/96	30.66	71.40	0	--
		10/1/96	30.58	71.48	0	--
		11/4/96	31.14	70.92	0	--
		12/2/96	31.36	70.70	0	--
		1/3/97	30.73	71.33	0	--
		2/6/97	29.38	72.68	0	--
		3/5/97	29.22	72.84	0	--
		4/1/97	29.46	72.60	0	--
		5/8/97	29.93	72.13	0	--
		6/6/97	30.17	71.89	0	--
		7/8/97	30.62	71.44	0	--
		8/7/97	30.95	71.11	0	--
		9/10/97	31.38	70.68	0	--
		10/1/97	31.61	70.45	0	--
		11/4/97	31.88	70.18	0	--
		12/4/97	31.68	70.38	0	--
		1/8/98	31.05	71.01	0	--
		2/5/98	29.78	72.28	0	--
		3/6/98	27.75	74.31	0	--
		4/2/98	27.47	74.59	0	--
		4/29/98	27.22	74.84	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-11 (cont.)	102.06	6/3/98	27.74	74.32	0	--
		7/9/98	28.30	73.76	0	--
		8/4/98	28.72	73.34	0	--
		8/26/98	29.19	72.87	0	--
		11/2/98	30.16	71.90	0	--
		12/4/98	30.43	71.63	0	--
		1/5/99	30.54	71.52	0	--
		2/8/99	32.34	69.72	0	--
		3/29/99	29.07	72.99	0	--
		4/30/99	28.82	73.24	0	--
		7/27/99	22.99	79.07	0	--
		8/19/99	30.91	71.15	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-13	84.06	11/24/92	26.05	58.01	0	--
		12/22/92	25.08	58.98	NM	--
		4/5/93	24.64	59.42	0	--
		7/20/93	24.29	59.77	0	--
		11/9/93	24.23	59.83	0	--
		8/29/95	23.30	60.76	NM	--
		10/2/95	23.78	60.28	0	--
		11/3/95	23.73	60.33	0	--
		11/30/95	23.80	60.26	0	--
		1/3/96	23.95	60.11	0	--
		2/2/96	23.70	60.36	0	--
		3/1/96	23.36	60.70	0	--
		4/4/96	23.27	60.79	0	--
		5/2/96	23.35	60.87	0	--
		6/5/96	23.07	60.99	0	--
		7/9/96	23.31	60.75	0	--
		8/8/96	23.44	60.62	0	--
		9/10/96	23.66	60.40	0	--
		10/1/96	23.80	60.26	0	--
		11/4/96	24.04	60.02	0	--
		12/2/96	24.00	60.06	0	--
		1/3/97	23.30	60.76	0	--
		2/6/97	23.24	60.82	0	--
		3/5/97	23.24	60.82	0	--
		4/1/97	23.37	60.69	0	--
		5/8/97	23.46	60.60	0	--
		6/6/97	23.57	60.49	0	--
		7/8/97	23.80	60.26	0	--
		8/7/97	23.92	60.14	0	--
		9/10/97	24.07	59.99	0	--
		10/1/97	24.18	59.88	0	--
		11/4/97	24.27	59.79	0	--
		12/4/97	24.05	60.01	0	--
		1/8/98	23.83	60.23	0	--
		2/5/98	22.89	61.17	0	--
		3/6/98	22.51	61.55	0	--
		4/2/98	22.54	61.52	0	--
		4/29/98	22.27	61.79	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-13 (cont.)	84.06	6/3/98	22.34	61.72	0	--
		7/9/98	22.55	61.51	0	--
		8/4/98	22.75	61.31	0	--
		8/26/98	22.89	61.17	0	--
		11/2/98	23.20	60.86	0	--
		12/4/98	23.90	60.16	0	--
		1/5/99	23.65	60.41	NM	--
		2/8/99	23.35	60.71	0	--
		3/29/99	23.11	60.95	0	--
		4/30/99	23.31	60.75	0	--
		7/1/99	23.40	60.66	0	--
		7/27/99	24.01	60.05	0	--
		8/19/99	23.95	60.11	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-14	94.66	6/3/98	20.73	73.93	0	--
		7/9/98	21.23	73.43	0	--
		8/4/98	21.63	73.03	0	--
		8/26/98	22.06	72.60	0	--
		11/2/98	23.19	71.47	0	--
		12/4/98	23.42	71.24	0.23	71.47
		1/5/99	23.36	71.30	0.12	71.42
		2/8/99	23.17	71.49	trace	--
		3/29/99	22.08	72.58	trace	--
		4/30/99	21.17	73.49	0.01	73.50
		7/1/99	22.95	71.71	0.04	71.75
		7/27/99	23.15	71.51	0	--
		8/19/99	23.99	70.67	0	--

TABLE 1
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-15	94.76	6/3/98	21.13	73.63	0	--
		7/9/98	21.64	73.12	0	--
		8/4/98	22.03	72.73	0	--
		8/26/98	22.45	72.31	0	--
		11/2/98	23.37	71.39	0	--
		12/4/98	23.67	71.09	0	--
		1/5/99	23.73	71.03	0	--
		2/8/99	23.53	71.23	0	--
		3/29/99	22.46	72.30	0	--
		4/30/99	22.16	72.60	0	--
		7/1/99	22.25	72.51	0.01	72.52
		7/27/99	22.95	71.81	0	--
		8/19/99	24.29	70.47	0	--

Reference datum: arbitrary benchmark established by Levine Fricke.
TOC = Top of casing
Groundwater depths are measured below TOC.
NM = Not measured
* New TOC elevation due to connection to remediation system.
† New TOC elevation following disconnection of piping associated with the remediation system.
** Monitoring well discontinued from program as approved by ACHCSA

TABLE 2
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Date	Product Removed by Hand Bailing (gallons)	Cumulative Product Removed by Hand Bailing (gallons)
MW-1	12/23/91	2.00	2.00
	12/26/91	0.50	2.50
	1/13/92	1.00	3.50
	2/28/92	2.00	5.50
	11/9/93	0.50	6.00
	11/3/95	0.25	6.75
	11/30/95	0.25	7.00
	1/3/96	0.53	7.53
	2/2/96	0.75	8.28
	3/1/96	0.10	8.38
	4/4/96	0.00	8.38
	5/2/96	0.00	8.38
	6/5/96	0.10	8.48
	7/9/96	0.10	8.58
	8/8/96	0.05	8.63
	9/10/96	0.10	8.73
	10/1/96	0.25	8.98
	11/4/96	0.13	9.11
	12/2/96	0.26	9.37
	1/3/97	0.39	9.76
	2/6/97	0.01	9.77
	3/5/97	0.00	9.77
	4/1/97	0.01	9.78
	5/8/97	0.02	9.80
	6/6/97	0.26	10.06
	7/8/97	0.20	10.26
	8/7/97	1.00	11.26
	9/10/97	1.50	12.76
	10/1/97	0.26	13.02
	11/4/97	0.26	13.28
	12/4/97	0.19	13.47
	1/8/98	0.00	13.47
	2/5/98	0.00	13.47
	3/6/98	0.00	13.47
	4/2/98	0.00	13.47

TABLE 2
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Date	Product Removed by Hand Bailing (gallons)	Cumulative Product Removed by Hand Bailing (gallons)
MW-1 (cont.)	4/29/98	0.00	13.47
	6/3/98	0.00	13.47
	7/9/98	0.00	13.47
	8/4/98	trace	13.47
	8/26/98	trace	13.47
	11/2/98	trace	13.47
	12/4/98	0.01	13.48
	1/5/99	0.03	13.51
	2/8/99	0.25	13.76
	3/24/99	0.01	13.77
	4/30/99	0.00	13.77
	7/1/99	0.01	13.78

TABLE 2
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Date	Product Removed by Hand Bailing (gallons)	Cumulative Product Removed by Hand Bailing (gallons)
MW-4	12/23/91	2.50	2.50
	12/26/91	6.00	8.50
	1/10/92	5.00	13.50
	2/28/92	4.00	17.50
	3/11/92	3.50	21.00
	3/13/92	3.50	24.50
	3/17/92	2.25	26.75
	3/18/92	2.50	29.25
	3/19/92	1.50	30.75
	3/23/92	4.00	34.75
	3/24/92	1.50	36.25
	3/25/92	1.00	37.25
	3/26/92	1.00	38.25
	3/27/92	0.50	38.75
	3/31/92	0.50	39.25
	4/1/92	0.25	39.50
	4/2/92	0.13	39.63
	4/6/92	0.13	39.76
	4/10/92	0.25	40.01
	4/13/92	0.25	40.26
	4/20/92	0.13	40.39
	5/4/92	0.13	40.52
	5/18/92	0.13	40.65
	5/26/92	0.13	40.78
	6/1/92	0.06	40.84
	6/29/92	0.25	41.09
	7/29/92	1.11	42.20
	8/28/92	1.68	43.88
	4/3/93	0.13	44.01
	11/9/93	0.03	44.04
	8/30/95	1.75	45.79
	10/2/95	0.50	46.29
	11/3/95	0.25	46.54
	11/30/95	0.25	46.79

TABLE 2
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Date	Product Removed by Hand Bailing (gallons)	Cumulative Product Removed by Hand Bailing (gallons)
MW-4	1/3/96	0.05	46.84
(cont.)	2/2/96	0.10	46.94
	3/1/96	0.20	47.14
	4/4/96	0.20	47.34
	5/2/96	0.20	47.54
	6/5/96	0.15	47.59
	7/9/96	0.16	47.75
	8/8/96	0.00	47.75
	9/10/96	0.05	47.80
	10/1/96	0.05	47.85
	11/4/96	0.02	47.87
	12/2/96	0.02	47.89
	1/3/97	0.02	47.91
	2/6/97	0.01	47.92
	none removed	2/97-4/99; checked on a monthly basis	
	4/30/99	trace	47.92
	7/1/99	0.00	47.92

TABLE 2
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Date	Product Removed by Hand Bailing (gallons)	Cumulative Product Removed by Hand Bailing (gallons)
MW-6	12/23/91	7.50	7.50
	12/26/91	2.00	9.50
	1/10/92	1.00	10.50
	2/4/92	2.00	12.50
	2/28/92	3.00	15.50
	3/10/92	2.75	18.25
	3/12/92	2.00	20.25
	3/23/92	1.00	21.25
	3/30/92	0.50	21.75
	4/10/92	0.25	22.00
	4/13/92	0.13	22.13
	4/20/92	0.13	22.26
	5/4/92	0.13	22.39
	5/8/92	0.06	22.45
	5/26/92	0.13	22.58
	6/1/92	0.06	22.64
	6/29/92	0.19	22.83
	7/29/92	0.60	23.43
	8/28/92	2.40	25.83
	12/2/92	(obstruction in well)	--
	4/3/93	1.75	27.58
	11/9/93	0.83	28.41
	8/30/95	4.50	32.91
	10/2/95	4.00	36.91
	11/3/95	3.00	39.91
	11/30/95	2.50	42.41
	1/3/96	2.50	44.91
	2/2/95	5.00	49.90
	3/1/96	4.00	53.90
	4/4/96	5.00	58.90
	5/2/96	4.50	63.40
	6/5/96	4.00	67.40
	7/9/96	4.50	71.90
	8/8/96	4.00	75.90

TABLE 2
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Date	Product Removed by Hand Bailing (gallons)	Cumulative Product Removed by Hand Bailing (gallons)
MW-6	9/10/96	3.50	79.40
(cont.)	10/1/96	4.00	83.40
	11/4/96	*NM	83.40
	12/2/96	*NM	83.40
	1/3/97	*NM	83.40
	2/6/97	*NM	83.40
	3/5/97	*NM	83.40
	4/1/97	*NM	83.40
	5/8/97	0.40	83.80
	6/6/97	0.03	83.83
	7/8/97	0.00	83.83
	8/7/97	0.00	83.83
	9/10/97	0.00	83.83
	10/1/97	0.00	83.83
	11/4/97	0.02	83.85
	12/4/97	0.05	83.90
	1/8/98	0.66	84.56
	2/5/98	*NM	84.56
	3/6/98	0.04	84.60
	4/2/98	0.10	84.70
	4/29/98	0.09	84.79
	6/3/98	0.03	84.82
	7/9/98	0.05	84.87
	8/4/98	0.04	84.91
	8/26/98	0.01	84.92
	11/2/98	0.02	84.94
	12/4/98	0.01	84.95
	1/5/99	0.03	84.98
	2/8/99	0.13	85.11
	3/24/99	0.03	85.14
	4/30/99	0.10	85.24
	7/1/99	0.06	85.30
	7/27/99	0.06	85.36
	8/19/99	0.06	85.42

TABLE 2
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Date	Product Removed by Hand Bailing (gallons)	Cumulative Product Removed by Hand Bailing (gallons)
MW-9	8/8/96	0.10	0.10
	none removed since 8/96; checked on a monthly basis		
MW-14	12/4/98	0.01	0.01
	1/5/99	0.01	0.02
	2/8/99	0.01	0.03
	3/24/99	trace	0.03
	4/30/99	trace	0.03
	7/1/99	trace	0.03
Total Product (gallons) removed by bailing			147.25
Total Product (gallons) removed by Soil Vapor Extraction (as of 3/31/98)			223.0
Cumulative Total of Product (gallons) Removed			370.25

*NM, product was being removed by vapor extraction at time of measurement.

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-1	10/5/90	68.08	620,000	<500	33,000	50,000	7,900	41,000	2,900	--	ND
	3/1/91	67.02	FP	--	--	--	--	--	--	**	--
	10/12/92	68.04	490,000	--	51,000	59,000	5,000	27,000	1,300	--	--
	11/24/92	67.85	320,000	4,600	35,000	43,000	4,200	22,000	1,600	--	ND
	4/5/93	70.71	270,000	25,000	50,000	58,000	4,600	25,000	1,800	--	ND
	7/21/93	69.97	FP	--	--	--	--	--	--	--	--
	11/9/93	68.42	FP	--	--	--	--	--	--	--	--
	8/30/95	72.75	FP	--	--	--	--	--	--	--	--
	12/4/95	72.54	FP	--	--	--	--	--	--	<200	--
	5/2/96	73.83	340,000	32,000	57,000	73,000	7,200	38,000	1,200	--	--
	11/5/96	70.19	270,000	--	43,000	56,000	4,500	34,000	--	--	--
	5/9/97	71.69	240,000	28,000[1,2]	36,000	45,000	3,300	17,900	930	--	--
	11/5/97	69.42	240,000	28,000[1,2]	42,000	48,000	3,600	18,800	1,200	<1,000	--
	2/9/98	71.84	220,000	27,000[1,2]	47,000	60,000	5,200	29,800	1,500	<1,000	ND
	5/1/98	74.53	160,000	29,000[1,2]	35,000	42,000	2,800	16,000	1,100	<1,000	ND
	11/3/98	71.19	200,000	37,000[1,2]	39,000	49,000	4,400	26,000	1,200	<500	ND
	3/24/99	72.18	FP	--	--	--	--	--	--	--	--
	7/1/99	3/11/00	FP	--	--	--	--	--	--	--	--

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-2	3/1/91	66.95	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	11/24/92	66.90	<50	<50	<0.5	1.1	<0.5	1.5	<1.0	--	ND
	4/5/93	68.86	<50	870	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	7/21/93	69.22	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	11/10/93	68.09	<50	240	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	8/30/95	69.06	<50	150*	<0.5	<0.5	<0.5	<0.5	<1.0	--	--
	5/3/96	71.53	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	5/8/97	70.23	<50	<50	<0.5	0.7	<0.5	<0.5	<1.0	--	--
	4/29/98	72.63	<50	<47	<0.5	<0.5	<0.5	<0.5	<1.0	<2	ND
MW-3	3/1/91	66.91	<50	<50	<50	0.6	<0.5	<0.5	<1.0	--	ND
	11/25/92	67.07	50	160	<0.5	0.9	<0.5	2	<1.0	--	ND
	4/5/93	67.97	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	7/21/93	66.15	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	11/10/93	66.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	8/30/95	69.47	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	--
	5/3/96	71.65	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	5/8/97	70.31	<50	<50	<0.5	0.7	<0.5	<0.5	<1.0	--	--
	4/29/98	72.16	<50	<47	<0.5	<0.5	<0.5	<0.5	<1.0	<2	ND

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-4	3/1/91	65.05	150,000	<500	20,000	38,000	2,800	14,000	610	**	ND
	10/12/92	66.36	230,000	--	15,000	32,000	2,500	14,000	430	--	--
	11/24/92	66.24	210,000	1,600	14,000	31,000	2,500	14,000	500	--	ND
	4/2/93	68.73	FP	--	--	--	--	--	--	--	--
	7/21/93	68.36	FP	--	--	--	--	--	--	--	--
	11/9/93	67.13	FP	--	--	--	--	--	--	--	--
	8/30/95	68.94	FP	--	--	--	--	--	--	--	--
	12/1/95	69.44	FP	--	--	--	--	--	--	--	--
	5/2/96	71.34	140,000	9,200	24,000	50,000	3,000	15,100	420	--	ND
	11/4/96	68.71	160,000	4,700 [1,2]	16,000	38,000	2,700	14,000	380	--	ND
	5/8/97	70.21	170,000	5,100 [1,2]	16,000	37,000	2,400	15,900	290	--	--
	11/5/97	68.65	190,000	3,700 [1,2]	15,000	31,000	2,200	14,600	290	<400	--
	2/9/98	70.56	110,000	4,800 [1,2]	19,000	42,000	2,500	18,300	300	<500	--
	5/1/98	72.73	130,000	5,000 [1,2]	15,000	31,000	2,000	13,400	260	<1,000	ND
	8/4/98	71.30	130,000	3,500 [1,2]	16,000	34,000	2,400	15,700	240	<400	ND
	11/2/98	69.63	140,000	7,200 [1,2]	16,000	32,000	2,300	15,500	230	<400	ND
	3/26/99	71.33	110,000	14,000 [1,2]	15,000	30,000	1,600	15,000	210	450 [6]	[4]
	7/1/99	70.04	110,000	17,000 [1,2]	13,000	23,000	1,600	12,000	170	<83	[4]

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-5	3/15/91	58.53	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	11/10/92	58.01	<50	50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	4/2/93	58.22	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	7/21/93	58.24	<50	190	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	11/9/93	57.60	<50	170	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	8/30/95	57.38	<50	180*	<0.5	<0.5	<0.5	<0.5	<1.0	--	--
	5/3/96	58.82	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	5/8/97	58.08	<50	<50	<0.5	0.5	<0.5	<0.5	<1.0	--	--
	4/29/98	59.49	<50	<47	<0.5	0.5	<0.5	<0.5	<1.0	<2	ND
MW-6	3/15/91	59.80	80,000	<50	12,000	13,000	1,100	5,400	1,400	--	Dibromochloromethane (160)
	10/12/92	60.60	19,000	--	3,200	1,400	200	560	840	--	--
	12/1/92	56.75	FP	--	--	--	--	--	--	--	--
	4/2/93	58.66	FP	--	--	--	--	--	--	--	--
	7/21/93	59.45	FP	--	--	--	--	--	--	--	--
	11/9/93	58.11	FP	--	--	--	--	--	--	--	--
	8/30/95	57.62	FP	--	--	--	--	--	--	--	--
	12/1/95	58.04	FP	--	--	--	--	--	71	<8,000,000	--
	5/3/96	58.79	130,000	9,000	37,000	50,000	3,200	14,200	2,400	--	ND
	5/9/97	60.40	1,700,000	53,000[1,2]	14,000	27,000	4,000	28,200	1,200	--	--
	11/5/97	60.78	160,000	65,000 [1,2]	13,000	19,000	1,900	14,300	790	<200	--
	5/1/98	62.86	130,000	25,000 [1,2]	15,000	23,000	1,700	13,200	1,100	<500	ND
	11/3/98	61.47	110,000	30,000 [1,2]	17,000	21,000	1,800	10,700	990	<200	ND
	3/26/99	62.00	FP	--	--	--	--	--	--	--	--
	7/1/99	61.37	FP	--	--	--	--	--	--	--	--

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-7	3/15/91	63.78	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	11/24/92	63.89	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	4/2/93	65.33	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	7/21/93	65.82	<50	150	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	11/9/93	64.76	<50	200	<0.5	1	<0.5	1.7	<1.0	--	ND
	8/30/95	66.63	<50	170*	<0.5	<0.5	<0.5	<0.5	<1.0	--	--
	12/1/95	65.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	5/2/96	68.26	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	8/8/96	66.93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	<2	ND
	11/4/96	66.72	<50	<50	<1	<1	<1	<1	<1.0	--	ND
	2/6/97	67.97	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	<2	ND
	5/8/97	67.69	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	--
	8/7/97	66.92	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	<2	ND
	11/5/97	66.55	<50	<50	<0.5	<0.5	<0.5	<0.5	1	<2	--
	2/9/98	67.85	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	<2	--
	4/29/98	69.18	<50	<47	<0.5	<0.5	<0.5	<0.5	<1.0	<2	ND
	8/4/98	68.17	<50	<50	<0.5	<0.5	<0.5	<0.5	1.1	<2	ND
	11/2/98	67.50	<50	<50	<0.5	<0.5	<0.5	<0.5	1.2	<2	ND
	3/26/99	68.99	<50	<50	<0.5	<0.5	<0.5	<0.5	ND	<2	ND
	7/1/99	67.51	85	<50	<0.5	1.1	0.55	2.5	1.0	<0.5	--

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-8	10/12/92	57.80	70	--	20	1	1	3	210	--	--
	11/25/92	57.88	<50	170	<0.5	<0.5	<0.5	<0.5	200	--	ND
	4/8/93	58.86	490	100	15	45	5.1	73	210	--	ND
	7/21/93	58.90	180	90	2.5	3	<0.5	1.9	350	--	ND
	11/11/93	58.32	310	170	23	<0.5	<0.5	<0.5	240	--	ND
	8/30/95	59.15	660	240*	360	6.8	13	2.8	130	--	--
	12/4/95	58.78	250	<50	46	0.9	4.9	<0.5	94	--	ND
	5/3/96	60.03	69	94	110	<0.5	<0.5	1.5	100	--	ND
	8/8/96	59.09	120	250 [1,2]	11	<0.5	<0.5	<0.5	93	<2	ND
	11/5/96	58.73	110	<50	20	<1	1	<1	98	--	ND
	2/6/97	59.66	67 [1,2]	130	51	<0.5	0.56	<0.5	81	<2	ND
	5/9/97	59.11	110 [1,2]	120 [1,2]	59	<0.5	<0.5	<0.5	76	--	--
	8/7/97	58.78	<50	150 [2]	12 [3]	<0.5	<0.5	<0.5	79	<2	ND
	11/5/97	58.68	<50	110 [1,2]	9.4	<0.5	<0.5	<0.5	84	<2	--
	2/9/98	59.93	<50	75 [1,2]	6	<0.5	<0.5	<0.5	85	<2	--
	5/1/98	59.86	430	210 [1,2]	490	7.1	27	26	85	<10	ND
	8/5/98	59.54	140	260 [1,2]	19	<0.5	5.2	5.3	69	<2	ND
	11/3/98	59.23	150	190 [1,2]	110	1.1	4.3	4.5	67	<2	ND
	3/31/99	64.57	54 [5]	200 [1,5]	170	1.5	4.1	1.9	5.9	4.4 [6]	1,1 DCA (0.7)
	7/1/99	58.91	140	170 [1,5]	58	0.9	3	2.3	55	<0.5	[4]

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-9	11/24/92	66.86	19,000	320	180	590	23	2000	340	--	Chloroform (15)
	4/5/93	69.23	2,300	920	48	4	0.6	13	600	--	Chloroform (2)
	7/21/93	68.83	2,300	450	170	8.1	15	<0.5	1100	--	ND
	11/10/93	62.84	4,400	450	69	7.3	21	9.7	900	--	ND
	8/30/95	70.78	3,200	680	3,900	49	80	22.8	960	--	--
	12/4/95	69.72	--	--	--	--	--	--	--	<2	--
	5/2/96	71.74	<1300	710	2,600	<13	200	<13	550	--	ND
	11/5/96	69.68	1,800	420	280	<5	65	<5	770	--	ND
	5/9/97	70.41	1,100	490 [1,2]	160	<0.5	42	<0.5	690	--	--
	8/8/97	69.53	570 [1,2]	480 [2]	<0.5	<0.5	<0.5	0.78 [3]	680	<2	ND
	11/5/97	68.82	490 [1]	370 [1,2]	<0.5	<0.5	6	<0.5	500	<2	--
	2/9/98	70.16	270 [1]	410 [1,2]	48	17	5.8	<0.5	520	<2	--
	5/1/98	71.10	550	450 [1,2]	70	<0.5	22	2.2	390	<2	ND
	8/5/98	71.02	550 [1]	630 [1,2]	88	<0.5	13	1.9 [3]	420	<2	ND
	11/2/98	69.94	580	500 [1,2]	<0.5	<0.5	7.5 [3]	1.6 [3]	430	<2	ND
	3/25/99	71.91	1100	630 [1,2]	160	<0.5	21	2.1 [3]	550	5.7 [6]	ND
	7/1/99	70.42	540	570 [1,2]	100	7.4	26	16.9	400	<1.3	*

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-10	10/12/92	67.05	28,000	--	2,700	3,800	210	1,300	150	--	--
	11/24/92	66.74	130,000	1,300	9,700	19,000	1,400	8,400	370	--	ND
	4/5/93	69.46	63,000	5,000	6,300	14,000	1,100	7,500	70	--	ND
	7/21/93	68.81	140,000	20,000	16,000	31,000	2,200	13,000	700	--	ND
	8/30/95	70.61	92,000	5,900	13,000	24,000	1,800	9,100	300	--	--
	5/3/96	71.56	81,000	5,600	17,000	29,000	2,100	8,500	320	--	ND
	5/9/97	70.24	63,000	2,500 [1,2]	7,400	13,000	940	4,100	150	--	--
	5/1/98	72.76	60,000	2,000 [1,2]	7,100	14,000	1100	5,300	120	<250	ND
MW-11	11/24/92	68.41	<50	220	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	12/8/92***	68.69	<50	140	<0.1	<0.1	<0.1	<0.1	--	--	--
	12/8/92	68.69	<50	120	<0.5	<0.5	<0.5	<0.5	--	--	--
	4/5/93	71.03	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	7/21/93	70.16	160	150	<0.5	1.8	<0.5	<0.5	<1.0	--	ND
	11/9/93	69.46	80	60	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	8/30/95	73.14	<50	240*	<0.5	<0.5	<0.5	<0.5	<1.0	--	--
	5/3/96	74.06	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	5/8/97	72.13	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	--
	4/29/98	74.84	<50	<47	<0.5	<0.5	<0.5	<0.5	<1.0	<2	ND

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-13	11/24/92	58.01	<50	3,600	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	12/8/92***	58.98	<50	210	<0.1	<0.1	<0.1	<0.1	--	--	--
	12/8/92	58.98	<50	100	<0.5	<0.5	<0.5	<0.5	--	--	--
	4/5/93	59.42	<50	<50	<0.5	0.9	<0.5	<0.5	<1.0	--	ND
	7/21/93	59.77	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	11/9/93	59.83	<50	160	<0.5	<0.5	<0.5	<0.5	<1.0	--	ND
	8/30/95	60.76	<50	<50	49	<0.5	<0.5	<0.5	3.6	--	--
	12/1/95	60.26	<50	<50	<0.5	<0.5	<0.5	<0.5	4.1	--	ND
	5/3/96	60.87	<50	<50	<0.5	<0.5	<0.5	<0.5	4	--	ND
	8/8/96	60.62	<50	<50	32	<0.5	<0.5	<0.5	6.4	<2	ND
	11/5/96	60.02	<50	<50	<1	<1	<1	<1	5.7	--	ND
	2/6/97	60.82	<50	<50	<0.5	<0.5	<0.5	<0.5	3.5	<2	ND
	5/8/97	60.60	<50	<50	81	<0.5	<0.5	<0.5	5.5	--	--
	8/8/97	60.14	<50	<50	<0.5	<0.5	<0.5	<0.5	6.8	<2	ND
	11/5/97	59.79	<50	<50	<0.5	<0.5	<0.5	<0.5	5.5	<2	--
	2/9/98	61.17	<50	<50	<0.5	<0.5	<0.5	<0.5	2.9	<2	--
	4/29/98	61.79	<50	<47	24	<0.5	<0.5	<0.5	5.7	<2	ND
	8/4/98	61.31	120	78 [1,2]	200	<1	<1	<1	6.2	<4	ND
	11/3/98	60.16	59 [1]	<50	33	<0.5	<0.5	<0.5	6.1	<2	ND
	3/31/99	60.95	130	<48	0.56	<0.5	<0.5	<0.5	1.4	<2	ND
	7/1/99	60.66	160	100 [1,4]	370	19	12	3.5	4.2	<1	[4]

TABLE 3
SUMMARY OF PETROLEUM HYDROCARBON AND VOC CONCENTRATIONS IN GROUNDWATER FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Groundwater Elevation (feet)	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA µg/l	MtBE µg/l	Other VOC's µg/l
MW-14	5/26/98	72.99	41,000	7,700 [1,2]	7,100	11,000	720	3,900	440	<1000	ND
	7/1/99	71.71	FP	--	--	--	--	--	--	--	--
MW-15	5/26/98	72.89	130,000	1,700 [1,2]	30,000	38,000	2,500	12,600	1,200	<1000	ND
	7/1/99	72.51	FP	--	--	--	--	--	--	--	--

NOTES:

µg/l = micrograms per liter = parts per billion = ppb
TVH = Total Volatile Hydrocarbons
TEH = Total Extractable Hydrocarbons
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
1,2-DCA = 1,2-Dichloroethane
MtBE = Methyl tertiary butyl ether
* = Suspect laboratory contamination contributing to test result.
** = Fuel fingerprint analysis indicates MTBE is not present in the free product sample collected from this well.
*** = Duplicate sample sent to a different chemical laboratory.

<0.5 = Chemical not present at a concentration in excess of detection limit shown
ND = None detected, chemicals not present at concentrations above detection limits reported on laboratory test reports
MW-1 was initially referred to as Sample 5
-- = Test not requested
FP = Free product encountered in well
1 = Sample exhibits fuel pattern which does not resemble standard
2 = Lighter hydrocarbons than indicated standard
3 = Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor of two
4 = Other substances found: Acetone, 1,2-Dibromoethane, Ethylbenzene, Styrene, Isopropylbenzene, Propylbenzene, 1,3,5-Trimethylbenzene, 2-Chlorotoluene, 1,2,4-Trimethylbenzene, n-Butylbenzene, and Naphthalene. See laboratory results for details.
5 = sample exhibits unknown single peak or peaks
6 = detection may potentially be a false positive, to be checked during the next event.

TABLE 4
SUMMARY OF SEMI-VOLATILE ORGANIC COMPOUNDS AND OIL & GREASE IN GROUNDWATER FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Oil & Grease (mg/l)	2,4-Dichloro-phenol (µg/l)	2,4-Dimethyl-phenol (µg/l)	2-methyl naphthalene (µg/l)	2-methyl-phenol (µg/l)	3,4-methyl phenol (µg/l)	Benzoic Acid (µg/l)	bis (2-ethyl hexyl) phthalate (µg/l)	Naphthalene (µg/l)	Phenol (µg/l)	Other SVOC's Compounds
MW-1	8/30/95	10	1,700	<240	630	<240	NI	<1,200	240	1,200	<240	ND
	5/2/96	<5	<47	<47	250	<47	NI	<240	<47	640	<47	ND
	11/5/96	9,8	--	--	--	--	--	--	--	--	--	--
	5/9/97	20	<47	<47	280	<47	NI	570	<47	650	93	ND
	11/5/97	<5	<190	<190	720	<190	<190	<940	<190	1,500	<190	ND
	2/9/98	<5	<47	<47	160	<47	52	700	<47	570	92	ND
	5/27/98	5.7	<200	110J	120J	210	200J	<1,000	<200	630	480	ND
	11/3/98	63	<94	<9.4	500	<94	59J	500	<94	1,100	130	ND
MW-4	7/1/99	--	<48	<48	370	<48	<48	<240	<48	860	<48	ND
MW-7	7/1/99	--	<10	<10	<10	<10	<10	<51	<10	<10	<10	ND
MW-8	7/1/99	--	<9.6	<9.6	<9.6	<9.6	<9.6	<48	<9.6	<9.6	<9.6	ND
MW-9	7/1/99	--	<9.5	<9.5	<9.5	<9.5	<9.5	<48	<9.5	<9.5	<9.5	ND
MW-13	7/1/99	--	<9.6	<9.6	<9.6	<9.6	<9.6	<48	<9.6	<9.6	<9.6	ND

NOTES:
<5 = Analyte not detected above laboratory reporting limit stated.
ND = Analytes not detected above their laboratory reporting limits.
NI = Not included in laboratory analyte list.
-- = Test not requested.
J = Estimated value below the laboratory reporting list
SVOC = Semi-volatile Organic Compounds

TABLE 5
SUMMARY OF METALS
IN GROUNDWATER FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Sampling Date	Cadmium (ug/L)	Chromium (ug/L)	Lead (ug/L)	Nickel (ug/L)	Zinc (ug/L)
MW-4	7/1/99	<5	<10	59	<20	<20
MW-7	7/1/99	<5	<10	<3	<20	<20
MW-8	7/1/99	<5	<10	<3	<20	<20
MW-9	7/1/99	<5	<10	<3	34	<20
MW-13	7/1/99	<5	<10	<3	<20	<20

NOTES:

<5 = Analyte not detected above laboratory reporting limit stated.

ND = Analytes not detected above their laboratory reporting limits.

NI = Not included in laboratory analyte list.

-- = Test not requested.

J = Estimated value below the laboratory reporting list

SVOC = Semi- volatile organics

GROUNDWATER DEPTHS

Project Name: Connell Oldsmobile Oakland, Ca

Job No.: 4117.055

Measured by: SW / Steve

TOC elevation	Well	Date	Time	Groundwater Depth (feet)	Comments / hydrocarbon odor/color / free Product amt
94.76	MW-15	7/1/99	7:04	22.25	no odor/slight odor .01 trace
94.48	MW-1	"	7:10	22.70 ✓	Strong/odor .025 trace
94.66	MW-14	"	7:17	22.95 ✓	Strong odor .04 trace
90.37	MW-9	"	7:30	19.95 ✓	No odor clear
88.94	MW-4	"	7:47	18.8 ✓	mild odor / clear
85.62	MW-6	"	7:55	24.45 ✓	Strong very strong odor / 5 inches product
85.50	MW-8	"	8:05	26.59 ✓	No odor to MW-8 / clear
85.41	MW-7	"	8:10	17.90 ✓	No odor / clear
84.06	MW-13	"	8:15	23.40 ✓	No odor / clear

GROUNDWATER DEPTHS

Project Name: Cowell Oldsmobile, Oakland Co.
Job No.: 477.055
Measured by: Stewart A. Dalke IV

Well	Date	Time	Groundwater Depth (feet)	Comments
MW-1	7/27/99	6:50	23.05	strong odor Tape/paste no product
MW-15	7/27/99	7:05	22.95	" " " " no product
MW-14	7/27/99	7:15	23.15	" " " " no product
MW-9	7/27	7:30	20.05	no strong odor / no product
MW-4	7/27/99	7:45	19.25	" " no product
MW-5	7/27/99	7:49	18.65	no product no odor
MW-7	7/27/99	7:55	18.05	" " " "
MW-8	7/27/99	8:00	26.75	" " " "
MW-13	7/27/99	8:10	24.01	" " " "
* MW-6	7/27/99	8:15	25.35	product est gallonage ≤ 1/8 gal
MW-11	7/27/99	8:30	22.99	no odor no product
MW-2	7/27/99	9:00	21.05	" "
MW-3	7/27/99	9:10	20.89	" "
				all wells Tape/paste sounded
				MW-6 ≥ 5.6' free phase in bailer. 5/5 MWs less MW-1, no free floating

WELL SAMPLING FORM

Project Name: Cowell Oldsmobile
Well Number: MW-1
Job No.: 447.055
Well Casing Diameter: _____ inch
Sampled By: Stewart / Gene
Date: 7/1/99
TOC Elevation: _____
Weather: Clear / Warm

Depth to Casing Bottom (below TOC) _____ feet
Depth to Groundwater (below TOC) 22.70 feet
Feet of Water in Well _____ feet
Depth to Groundwater When 80% Recovered _____ feet
Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) _____ gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product Trace .015 in free Product NO Sampling
Purge Method _____

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments

Total Gallons Purged _____ gallons
Depth to Groundwater Before Sampling (below TOC) _____ feet
Sampling Method _____
Containers Used _____ 40 ml _____ liter _____ pint

Subsurface Consultants

JOB NUMBER 447.055 DATE 7/1/99 APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Cowell Oldsmobile
Well Number: MW-4
Job No.: 447.055
Well Casing Diameter: 2 inch
Sampled By: Stewart / Gene
Date: 7/1/99
TOC Elevation:
Weather: Clear / warm

Depth to Casing Bottom (below TOC) 24.50 feet
Depth to Groundwater (below TOC) 18.80 feet
Feet of Water in Well 5.70 feet
Depth to Groundwater When 80% Recovered 19.99 feet
Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 2.79 gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product none
Purge Method disp bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
0	6.61	13.7	541		clear, odor, slight sheen
1	7.19	13.5	544		clear, odor, slight sheen
2	7.43		~~540~~ 510		clear, odor, slight sheen
3	7.25	20.1	516		clear

Total Gallons Purged 3 gallons
Depth to Groundwater Before Sampling (below TOC) 17.50 instant recharge feet
Sampling Method bailer
Containers Used 6 VOA HCl (40 ml) 2 1LA (liter) 1 poly ~~pint~~

Subsurface Consultants

JOB NUMBER 447.055 DATE 7/1/99 APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Connell Oldsmobile
Well Number: MW-6
Job No.: 447.055
Well Casing Diameter: _____ inch
Sampled By: Stewart / Gene
Date: 7/1/99
TOC Elevation: _____
Weather: Clear / Warm

Depth to Casing Bottom (below TOC) _____ feet
Depth to Groundwater (below TOC) 24.45 feet
Feet of Water in Well _____ feet
Depth to Groundwater When 80% Recovered _____ feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) _____ gallons
Depth Measurement Method (Tape & Paste) / (Electronic Sounder) / Other _____
Free Product 5" Free Product NO SAMPLE
Purge Method _____

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments

Total Gallons Purged _____ gallons
Depth to Groundwater Before Sampling (below TOC) _____ feet
Sampling Method _____
Containers Used _____ 40 ml _____ liter _____ pint

Subsurface Consultants

JOB NUMBER 447.055 DATE 7/1/99 APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Cowell Oldsmobile
Well Number: MW-7
Job No.: 447.055
Well Casing Diameter: 2 inch
Sampled By: Stewart / Gene
Date: 7/1/99
TOC Elevation: _____
Weather: Clear / warm

Depth to Casing Bottom (below TOC) 30.00 feet
Depth to Groundwater (below TOC) 17.90 feet
Feet of Water in Well 12.1 feet
Depth to Groundwater When 80% Recovered 20.32 feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) 5.92 gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product none
Purge Method disp. bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
0	6.65	21.1	396		Turbid brown, no odor
2	7.26	21.6	510		slight turbid / brown, no odor
4	6.45	20.9	690		turbid, no odor
6	6.58	>20	705		

Total Gallons Purged 6 gallons
Depth to Groundwater Before Sampling (below TOC) 19.95 @ 15 min. recharge feet
Sampling Method bailer
Containers Used 7 x 40 ml vials (40 ml) 3 1 L (liter) 3 plastic pint

Subsurface Consultants	JOB NUMBER 447.055	DATE 7/1/99	APPROVED	PLATE

WELL SAMPLING FORM

Project Name: Connell Oldsmobile
Well Number: MW-8
Job No.: 447.055
Well Casing Diameter: 6 inch
Sampled By: Stewart / Gene
Date: 7/1/99
TOC Elevation:
Weather: Clear / warm

Depth to Casing Bottom (below TOC) 34.50 feet
Depth to Groundwater (below TOC) 26.59 feet
Feet of Water in Well 12.91 feet
Depth to Groundwater When 80% Recovered 29.18 feet
Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 56.88 gallons
Depth Measurement Method (Tape & Paste) / (Electronic Sounder) / Other
Free Product none
Purge Method grundfos water pump drawtube @ 335 Hz
Stable @ 140 Hz

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
0	6.38	16.25	975		clear No odor
10	6.42	16.25	895		
20	6.43	17.25	890		
30	6.47	18.00	900		
40	6.45	16.50	1010		clear Slight odor
50	6.48	18.00	425		
60	6.54	17.25			

Total Gallons Purged 60.0 gal gallons
Depth to Groundwater Before Sampling (below TOC) 29.18 - 1/2 recovery feet
Sampling Method disposable bailer
Containers Used 7 VOA HCl (40 ml) 3 1L (liter) - 3 plastic ~~pint~~

Subsurface Consultants	JOB NUMBER 447.055	DATE 7/1/99	APPROVED	PLATE

WELL SAMPLING FORM

Project Name: Connell Oldsmobile
Well Number: MW-9
Job No.: 447.055
Well Casing Diameter: 2 inch
Sampled By: Stewart / Gene
Date: 7/1/99
TOC Elevation: ~
Weather: Clear / warm

Depth to Casing Bottom (below TOC) - 30.50 feet
Depth to Groundwater (below TOC) 19.95 feet
Feet of Water in Well 10.55 feet
Depth to Groundwater When 80% Recovered 22.06 feet
Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 5.16 gal gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product none
Purge Method disp. bailer

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
0	7.17	21	791		slight HC odor, slight
1	7.19	12.6	790		slight odor, turbid
3	7.24	12.5	795		slightly turbid, very fine
5	8.24	12.8	795		

Total Gallons Purged 5 gallons
Depth to Groundwater Before Sampling (below TOC) 21.75 feet
Sampling Method bailer
Containers Used 6 VOA HCl (40 ml) 2 1L A (liter) - 1 Poly pint

Subsurface Consultants	JOB NUMBER 447.055	DATE 7/1/99	APPROVED	PLATE

WELL SAMPLING FORM

Project Name: Cowell Oldsmobile
Well Number: MW-13
Job No.: 447.055
Well Casing Diameter: 2 inch
Sampled By: Stewart / Gene
Date: 7/1/99
TOC Elevation:
Weather: Clear / warm

Depth to Casing Bottom (below TOC) 40.0 feet
Depth to Groundwater (below TOC) 23.40 feet
Feet of Water in Well 16.6 feet
Depth to Groundwater When 80% Recovered 26.72 feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) 8.12 gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product None
Purge Method bailer disposable

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
0	6.32	16.25	710		Clear / no odor
2	7.30	20.1	680		clear / no odor
4	6.42	22.0	710		slightly turbid light brown / clear
6	6.61	20.1	695		"
8	6.61	20.0	625		"

Total Gallons Purged 8 gallons
Depth to Groundwater Before Sampling (below TOC) 26.65 10 min recharge / instant feet
Sampling Method bailer disposable
Containers Used 7 VOA HCl (40 ml) 3 1LA (liter) 3 plastic (pint)

Subsurface Consultants

JOB NUMBER 447.055 DATE 7/1/99 APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Cowell Oldsmobile
Well Number: MW-4
Job No.: 447.055
Well Casing Diameter: _____ inch
Sampled By: Stewart / Gene
Date: 7/1/99
TOC Elevation: _____
Weather: Clear / Warm

Depth to Casing Bottom (below TOC) _____ feet
Depth to Groundwater (below TOC) 22.95 feet
Feet of Water in Well _____ feet
Depth to Groundwater When 80% Recovered _____ feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) _____ gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product Trace .04[redacted] Free Product NO Sample
Purge Method _____

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments

Total Gallons Purged _____ gallons
Depth to Groundwater Before Sampling (below TOC) _____ feet
Sampling Method _____
Containers Used _____ 40 ml _____ liter _____ pint

Subsurface Consultants

JOB NUMBER 447.055 DATE 7/1/99 APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Cowell Oldsmobile

Job No.: 447.055

Sampled By: Stewart / Gene

TOC Elevation:

Well Number: MW-15

Well Casing Diameter: ______ inch

Date: 7/1/99

Weather: Clear / Warm

Depth to Casing Bottom (below TOC) ______ feet

Depth to Groundwater (below TOC) 22.25 feet

Feet of Water in Well ______ feet

Depth to Groundwater When 80% Recovered ______ feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) ______ gallons

Depth Measurement Method: Tape & Paste (circled) / Electronic Sounder (circled) / Other

Free Product: NO SAMPLING (free product, .01 in) trace

Purge Method ______

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments

Total Gallons Purged ______ gallons

Depth to Groundwater Before Sampling (below TOC) ______ feet

Sampling Method ______

Containers Used ______ 40 ml ______ liter ______ pint

Subsurface Consultants

JOB NUMBER: 447.055 DATE: 7/1/99 APPROVED: PLATE:

CHAIN OF CUSTODY FORM

PAGE 1 OF 1

PROJECT NAME: Concord Circuit City

JOB NUMBER: 967.005 LAB: CET

PROJECT CONTACT: Scott Alexander TURNAROUND: Standard

SAMPLED BY: Shelgren REQUESTED BY: Shelgren

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX						CONTAINERS					METHOD PRESERVED					SAMPLING DATE					NOTES	ANALYSIS REQUESTED
		WATER	SOIL	WASTE	AIR			VOA	LITER	PINT	TUBE	plastic	HCL	H_2SO_4	HNO_3	ICE	NONE	MONTH	DAY	YEAR	TIME			TPH-g / BTEX / MTBE / TBA / DIPE / ETBE / TAME
	MW-4	X						6	2			1	X			X		7	1	99	1	6	30	X
	MW-9	X						6	2			1	X			X		7	1	99	1	1	00	X
	MW-7	X						7	3			3	X			X		7	0	1	99	1	2	1	3	X
	MW-13	X						7	3			3	X			X		7	0	1	99	1	3	3	0	X
	MW-8	X						7	3			3	X			X		7	0	1	99	1	5	1	5	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
	7/1/99 16:40		
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
			7/1/99

COMMENTS & NOTES:

* Please filter for metals
Please archive extra H2O samples

Subsurface Consultants, Inc.
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(510) 268-0461 - FAX: (510) 268-0137
3736 Mt. Diablo Blvd., Ste. 200, Lafayette, CA 94549
(925) 299-7960 - (925) 299-7970

GROUNDWATER DEPTHS

Project Name: Cavell Oldsmobile H20 levels & Free Product Removal (Aug 99)

Job No.:

Measured by: Stuart Dalie (SCI)

Well	Date	Time	Groundwater Depth (feet)	Comments
MW-11	8/19/99	09:45	30.91'	no product no oder
MW-2	8/19/99	09:55	21.85'	no product no oder
MW-3	8/19/99	10:11	19.25'	no product no oder under pressure
MW-4	8/19/99	10:20	19.65'	no product slight oder
MW-9	8/19/99	10:30	20.89'	trace Stny oder <1/10'
MW-14	8/19/99	10:45	23.99'	no prduct very stny oder
MW-15	8/19/99	11:00	24.29'	no product very stny oder
MW-1	8/19/99	11:15	24.55'	no product, very stny oder
MW-6	8/19/99	12:20	24.87'	product
MW-8	8/19/99	11:30	26.89'	no prduct ~~slight~~ oder
MW-7	8/19/99	11:40	18.59'	no product no oder
MW-5	8/19/99	11:55	26.70'	no product no oder, under pressure
MW-13	8/19/99	12:08	23.95'	no product no oder

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants
3736 Mt. Diablo Blvd.
Suite 200
Lafayette, CA 94549

Date: 27-JUL-99
Lab Job Number: 140241
Project ID: 447.055
Location: Connell Olds

Reviewed by:

Reviewed by:

Laboratory Number: **140241**
Client: **Subsurface Consultants**
Project Name: **Connell Oldsmobile**

Receipt Date: **07/01/99**

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for five water samples received from the above referenced project. The samples were received cold and intact.

Total Volatile Hydrocarbons/BTXE: The matrix spike recoveries for MTBE and o-xylene of batch number 49128 were outside acceptance limits. The associated laboratory control sample recoveries were acceptable for all target compounds. No other analytical problems were encountered.

Total Extractable Hydrocarbons: No analytical problems were encountered.

Volatile Organic Compounds: No analytical problems were encountered.

Semi-Volatile Organic Compounds: No analytical problems were encountered.

Metals: The matrix spike recovery for lead was outside acceptance limits. The associated blank spike recoveries were acceptable. No other analytical problems were encountered.

140241

PAGE 1 OF 1

CHAIN OF CUSTODY FORM

PROJECT NAME: Connell Oldsmobile

JOB NUMBER: 447.055

LAB: C&T

PROJECT CONTACT: Seri Alexander

TURNAROUND: Standard

SAMPLED BY: SW/gene

REQUESTED BY: SW/gene

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	Plastic	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: TPH/BTEX	SVOCs 8270	[illegible]	TEL	PNA	HVOCs	MTBE
1	mw-4	X				6	2			1	X			X		7	01	99	1030	*	X	X	X	X	X	X	X
2	mw-9	X				6	2			1	X			X		7	01	99	1100		X	X	X	X	X	X	X
3	mw-7	X				7	3			3	X			X		7	01	99	1213		X	X	X	X	X	X	X
4	mw-13	X				7	3			3	X			X		7	01	95	1330		X	X	X	X	X	X	X
5	mw-8	X				7	3			3	X			X		7	01	99	1515		X	X	X	X	X	X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
[signature]	7/1/99 16:40		
		[signature]	7/1/99

COMMENTS & NOTES:

* Please field filter for metals.
Please archive extra H_2O samples

SCI Subsurface Consultants, Inc.
171 - 12th Street, Suite 202, Oakland, CA 94607
(510) 268-0461 - FAX: (510) 268-0137
3736 Mt. Diablo Blvd., Ste. 200, Lafayette, CA 94549
(925) 299-7960 - (925) 299-7970

identified by the laboratory when samples of the free product were analyzed in 1991. To confirm that these detections are false positives, samples from the wells will be analyzed for MtBE using EPA Method 8260 during the next event. MtBE was not detected in wells MW-7 and MW-13.

ONGOING ACTIVITIES

The ACHCSA recently approved the scope of ongoing groundwater monitoring for the site as proposed in the SCI Work Plan dated April 15, 1999, with the exception that additional analytical testing be conducted to provide further site characterization data. The new plan 1) expands the testing program to include waste oil constituents, 2) increases the frequency of sampling to quarterly for all wells which do not contain free floating product or petroleum sheen, and 3) eliminates the requirement for ongoing sampling of wells MW-2, MW-3, MW-5, MW-10 and MW-11. The modified analysis program includes the tests listed below.

Groundwater Analysis Program

Revised May 1999

Analysis	Sample Preparation Method	Analysis Method
Total Volatile Hydrocarbons (TVH)	EPA 5030	EPA 8015 Mod.
Total Extractable Hydrocarbons (TEH) diesel and motor oil ranges	EPA 3520	EPA 8015 Mod.
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	EPA 5030	EPA 8021
Methyl Tertiary Butyl Ether (MtBE)	EPA 5030	EPA 8021/8260
1,2 Dichloroethane (1,2-DCA)	EPA 5030	EPA 8260
Halogenated Volatile Organic Compounds (HVOC)	EPA 5030	EPA 8010
Semi-volatile Organic Compounds (SVOC)	EPA 3520	EPA 8270
Cadmium, Chromium, Lead, Nickel and Zinc	EPA 6010	ICP

SCI will continue to check for free product and record water level measurements for all wells on a monthly basis. Free product will also be removed by hand bailing.

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140241-001	MW-4	49128	07/01/99	07/07/99	07/07/99	
140241-002	MW-9	49084	07/01/99	07/03/99	07/03/99	
140241-003	MW-7	49084	07/01/99	07/03/99	07/03/99	
140241-004	MW-13	49084	07/01/99	07/03/99	07/03/99	

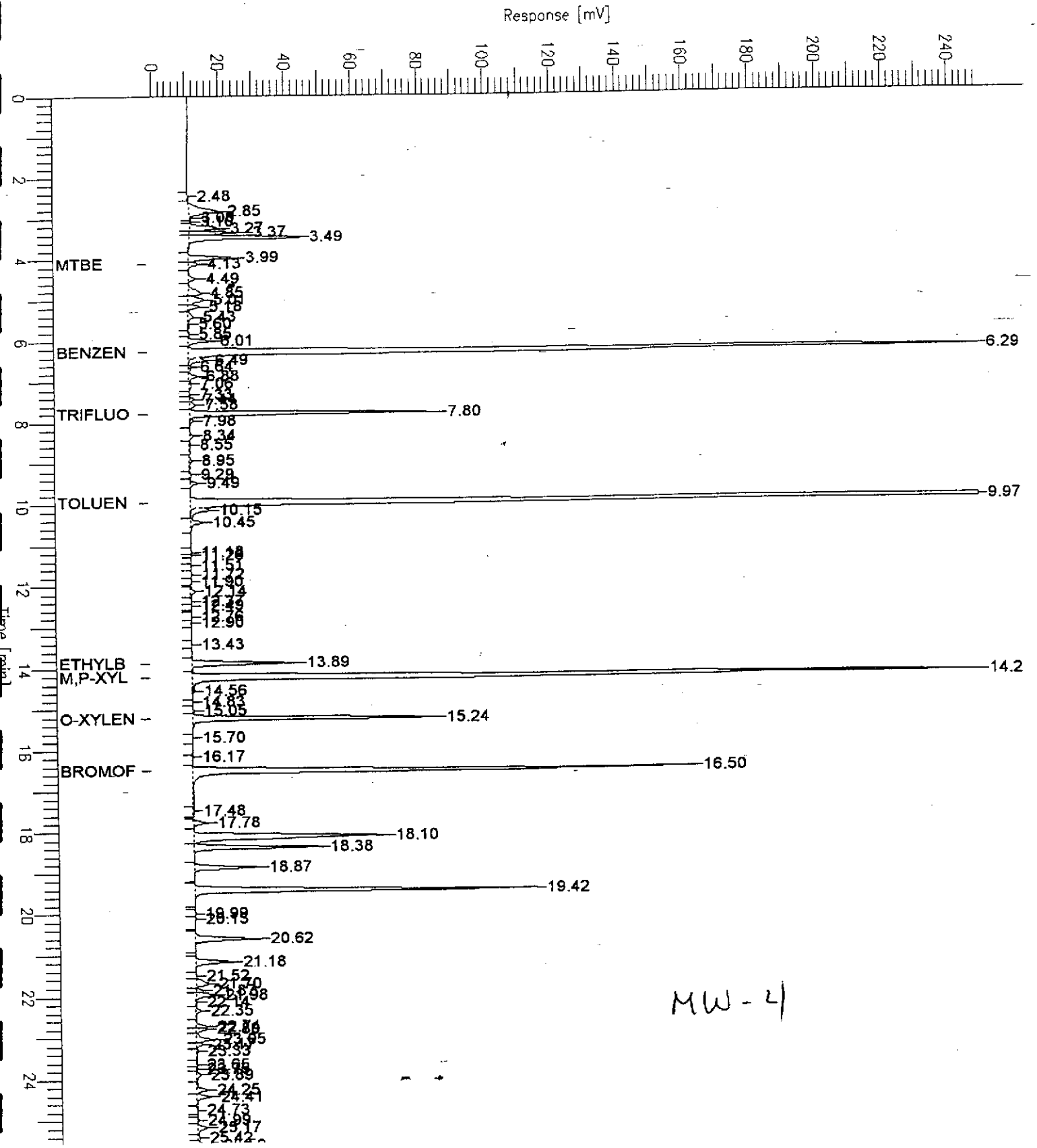
Matrix: Water

Analyte	Units	140241-001	140241-002	140241-003	140241-004
Diln Fac:		100	1	1	1
Gasoline C7-C12	ug/L	110000	540	85	160
Surrogate					
Trifluorotoluene	%REC	101	114	107	106
Bromofluorobenzene	%REC	111	136	112	114

GC19 _TVHBTXE 'Y' BTXE QUANT.

Sample Name : 140241-001,49128
FileName : G:\GC19\DATA\187Y023.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: -2 mV

Sample #:
Date : 7/7/99 09:17 AM
Time of Injection: 7/7/99 08:50 AM
Low Point : -1.75 mV High Point : 248.25 mV
Plot Scale: 250.0 mV

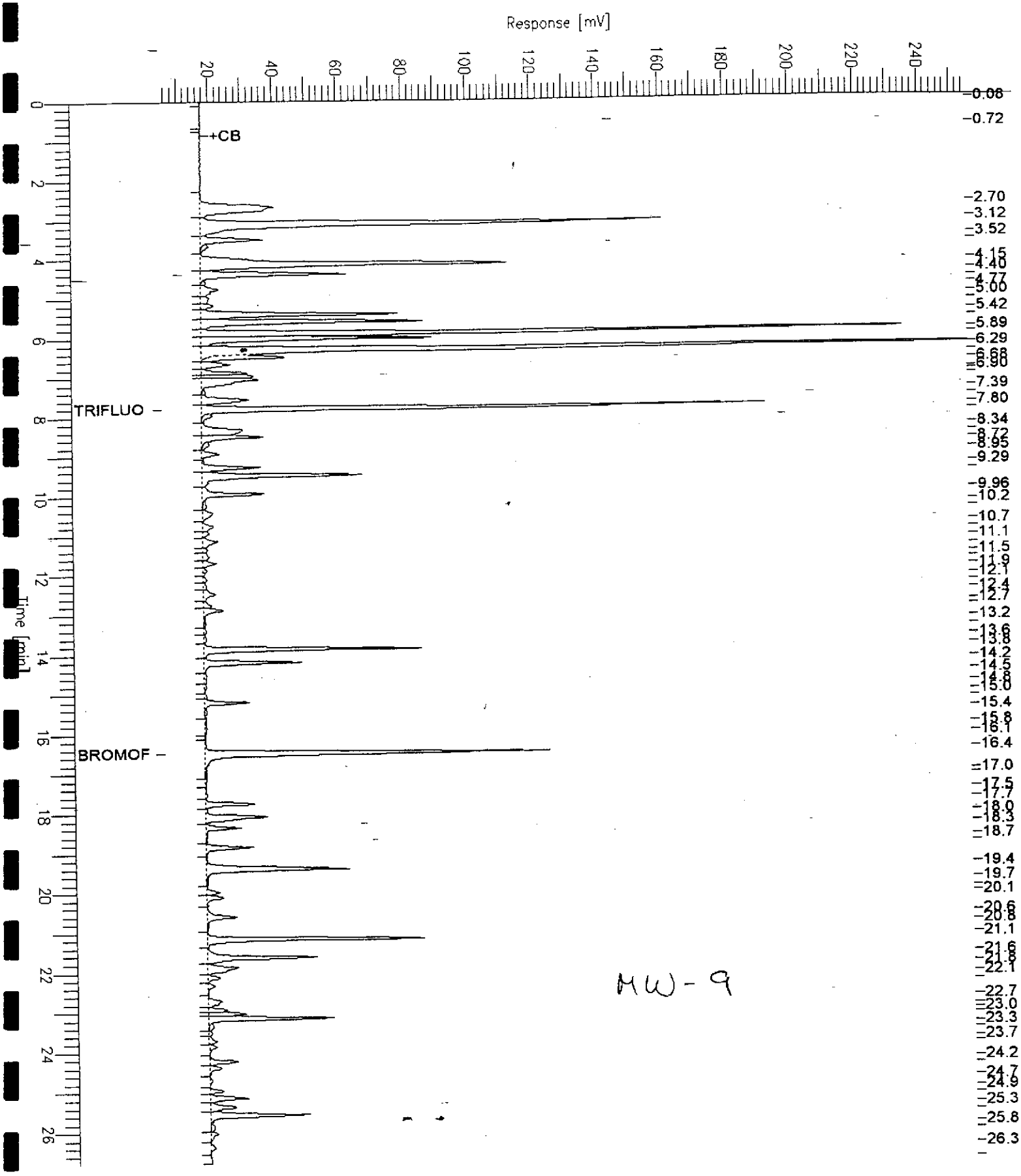


MW-4

GC19 TVH 'X' Data File (FID)

Sample Name : 140241-002,49084
leName : G:\GC19\DATA\183X027.raw
thod : TVHBTXE
tart Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 5 mV

Sample #:
Date : 7/3/99 03:09 AM
Time of Injection: 7/3/99 02:42 AM
Low Point : 4.90 mV High Point : 254.90 mV
Plot Scale: 250.0 mV

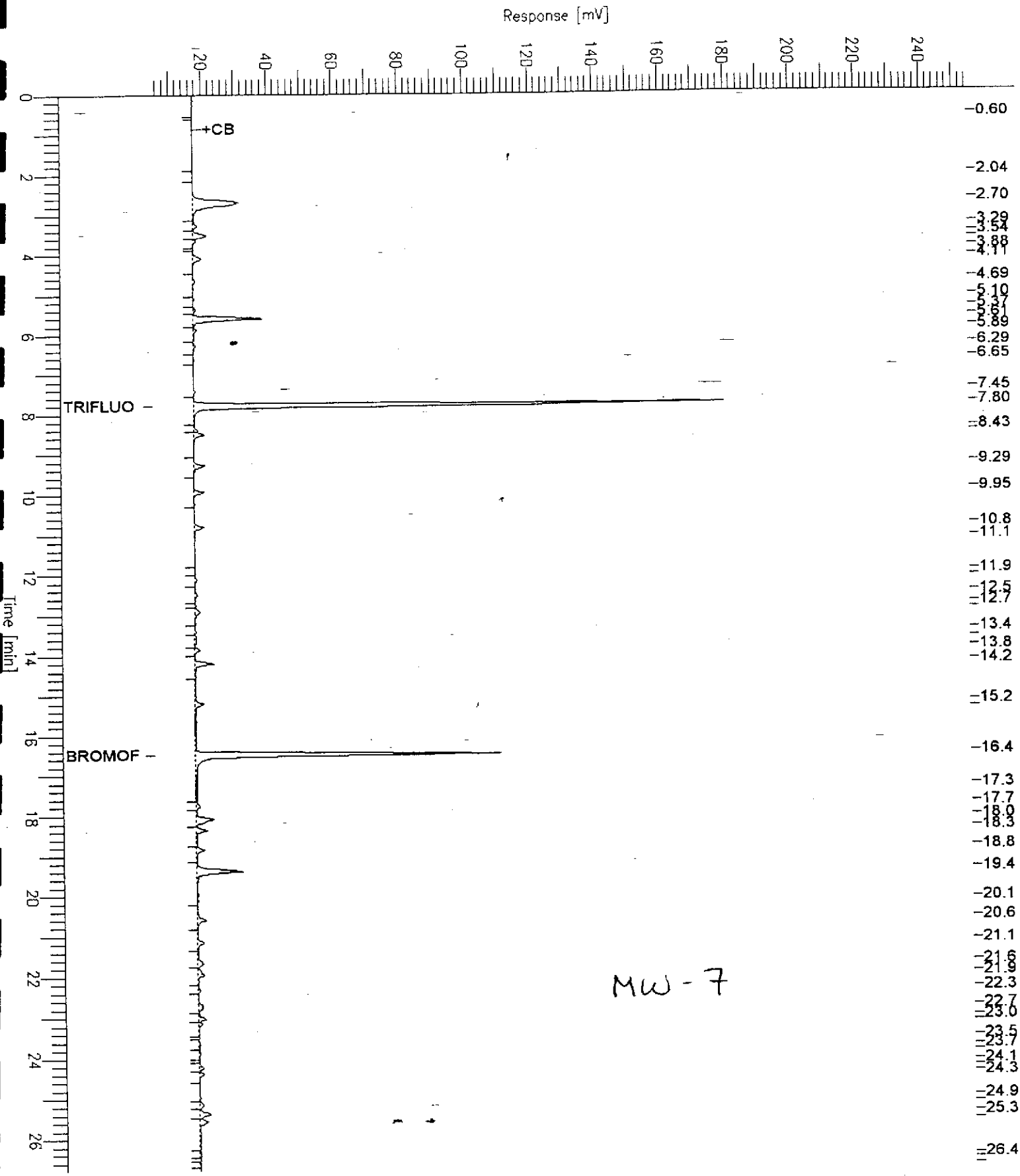


MW-9

GC19 TVH 'X' Data File (FID)

Sample Name : 140241-003,49084
FileName : G:\GC19\DATA\183X028.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 5 mV

Sample #:
Date : 7/3/99 03:49 AM
Time of Injection: 7/3/99 03:21 AM
Low Point : 4.64 mV High Point : 254.64 mV
Plot Scale: 250.0 mV

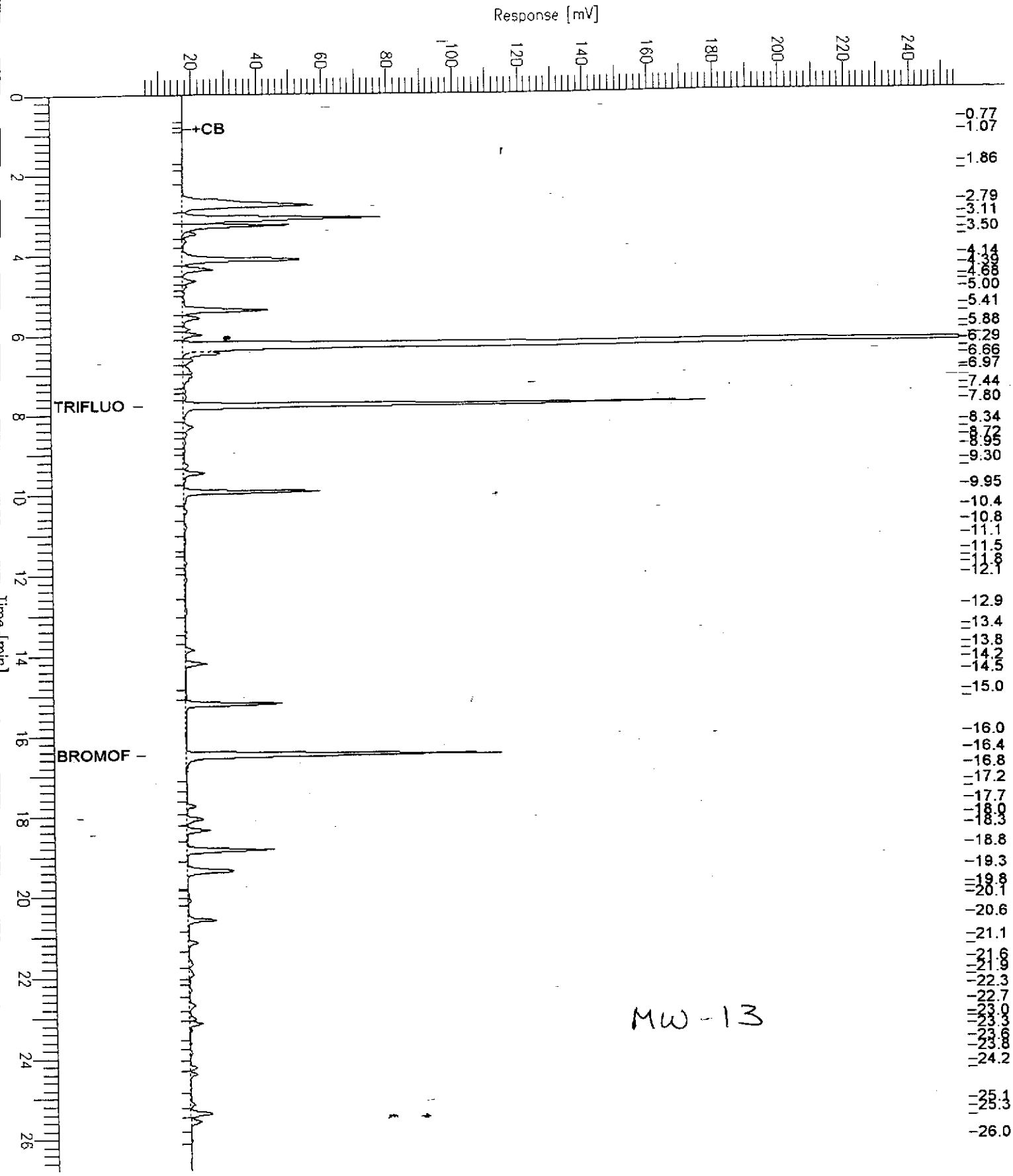


MW-7

GC19 TVH 'X' Data File (FID)

mple Name : 140241-004,49084
leName : G:\GC19\DATA\183X029.raw
thod : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 5 mV

Sample #:
Date : 7/3/99 04:28 AM
Time of Injection: 7/3/99 04:01 AM
Low Point : 4.59 mV High Point : 254.59 mV
Plot Scale: 250.0 mV



MW-13

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140241-005	MW-8	49084	07/01/99	07/03/99	07/03/99	

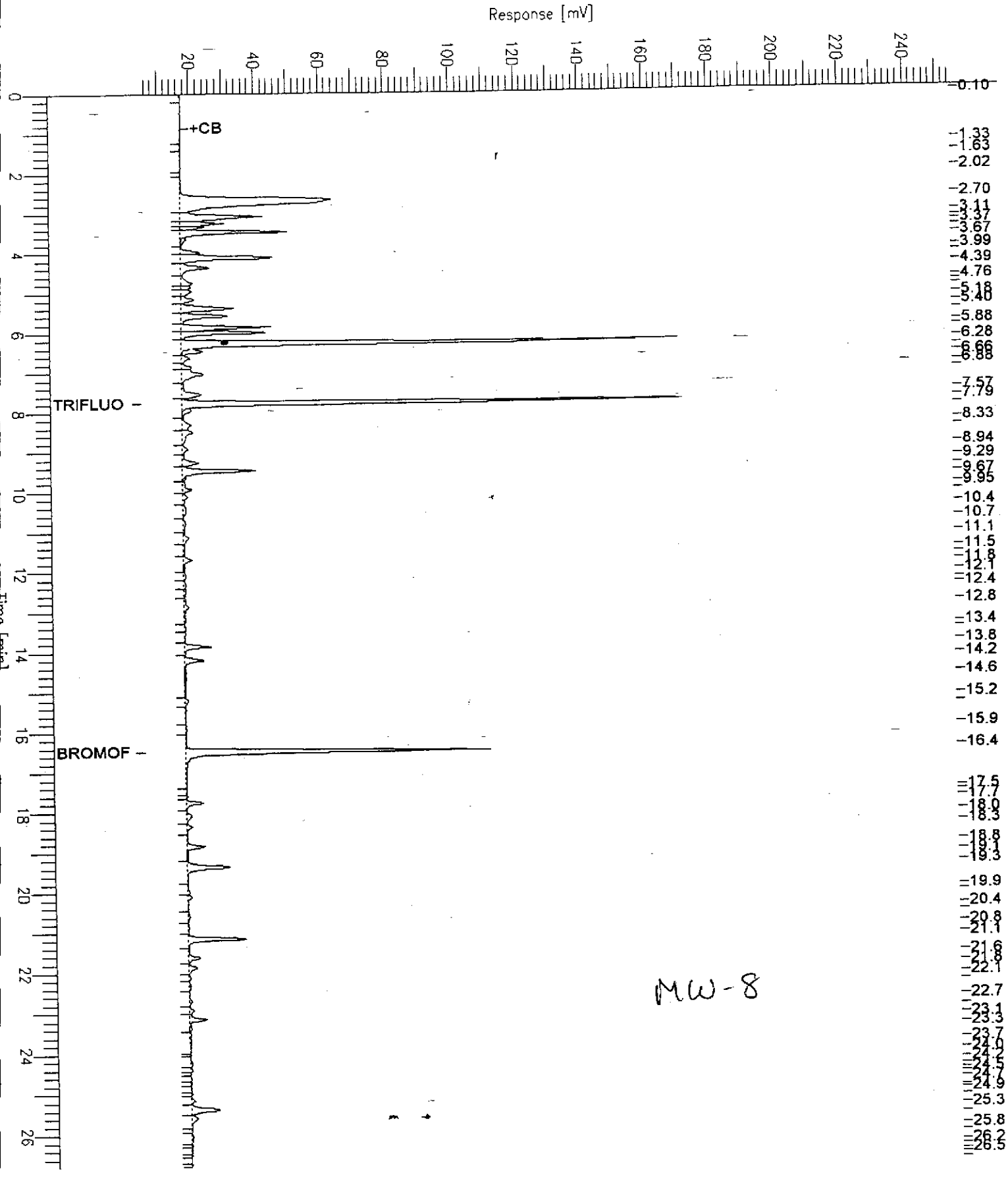
Matrix: Water

Analyte	Units	140241-005
Diln Fac:		1
Gasoline C7-C12	ug/L	140
Surrogate		
Trifluorotoluene	%REC	104
Bromofluorobenzene	%REC	114

GC19 TVH 'X' Data File (FID)

Sample Name : 140241-005,49084
FileName : G:\GC19\DATA\183X032.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 5 mV

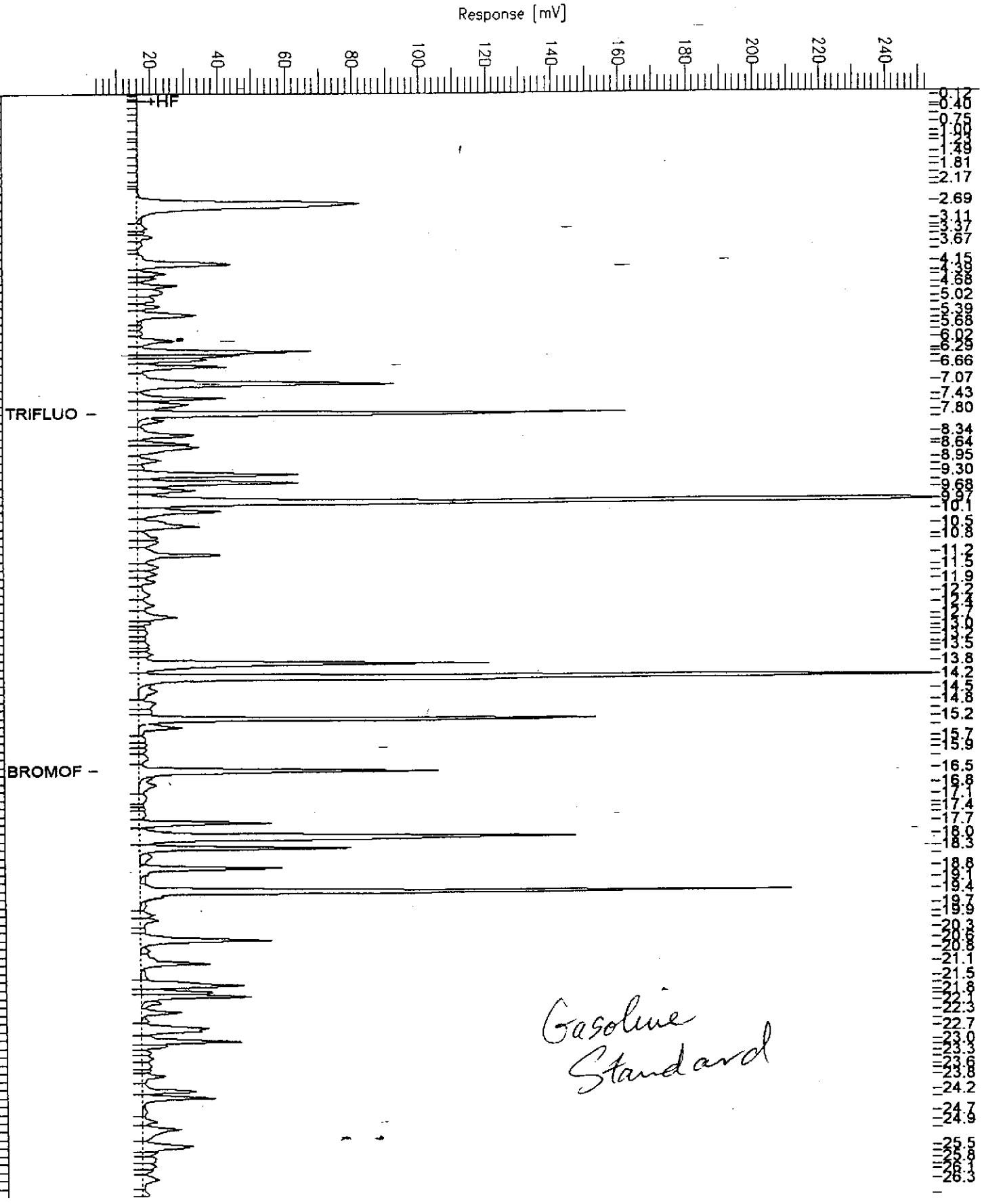
Sample #:
Date : 7/3/99 06:27 AM
Time of Injection: 7/3/99 06:00 AM
Low Point : 4.58 mV High Point : 254.58 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : CCV/LCS,QC01912,99WS7570,49128
FileName : G:\GC19\DATA\187X002.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 4 mV

Sample #: GAS
Date : 7/7/99 10:00 AM
Time of Injection: 7/6/99 06:58 PM
Low Point : 3.54 mV High Point : 253.54 mV
Plot Scale: 250.0 mV



Gasoline Standard

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 49084
Units: ug/L
Diln Fac: 1

Prep Date: 07/02/99
Analysis Date: 07/02/99

MB Lab ID: QC01739

Analyte	Result
Gasoline C7-C12	<50

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	97	53-150
Bromofluorobenzene	98	53-149

Lab #: 140241 BATCH QC REPORT Page

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 49128
Units: ug/L
Diln Fac: 1

Prep Date: 07/06/99
Analysis Date: 07/06/99

MB Lab ID: QC01914

Analyte	Result
Gasoline C7-C12	<50

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	92	53-150
Bromofluorobenzene	96	53-149

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 49084
Units: ug/L
Diln Fac: 1

Prep Date: 07/02/99
Analysis Date: 07/02/99

LCS Lab ID: QC01737

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	1811	2000	91	77-117

Surrogate	%Rec	Limits
Trifluorotoluene	106	53-150
Bromofluorobenzene	125	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Lab #: 140241 BATCH QC REPORT Page

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 49128
Units: ug/L
Diln Fac: 1

Prep Date: 07/06/99
Analysis Date: 07/06/99

LCS Lab ID: QC01912

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	1716	2000	86	77-117

Surrogate	%Rec	Limits
Trifluorotoluene	99	53-150
Bromofluorobenzene	118	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

BTXE

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140241-001	MW-4	49128	07/01/99	07/07/99	07/07/99	
140241-002	MW-9	49084	07/01/99	07/03/99	07/03/99	
140241-003	MW-7	49084	07/01/99	07/03/99	07/03/99	
140241-004	MW-13	49128	07/01/99	07/07/99	07/07/99	

Matrix: Water

Analyte	Units	140241-001	140241-002	140241-003	140241-004
Diln Fac:		200	1	1	5
MTBE	ug/L	630	11	3	11 C
Benzene	ug/L	13000	100	<0.5	370
Toluene	ug/L	23000	6.5	1.1	17
Ethylbenzene	ug/L	1600	26	0.55	<2.5
m,p-Xylenes	ug/L	12000	12	2.2	3.5
o-Xylene	ug/L	3700	5.2	0.92	13
Surrogate					
Trifluorotoluene	%REC	116	129	117	117
Bromofluorobenzene	%REC	120	142	123	122

C: Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor of two

BTXE

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140241-005	MW-8	49084	07/01/99	07/03/99	07/03/99	

Matrix: Water

Analyte	Units	140241-005
Diln Fac:		1
MTBE	ug/L	5.7
Benzene	ug/L	58
Toluene	ug/L	0.89
Ethylbenzene	ug/L	3
m,p-Xylenes	ug/L	2.3
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	116
Bromofluorobenzene	%REC	123

BTXE

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8021B
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 49084
Units: ug/L
Diln Fac: 1

Prep Date: 07/02/99
Analysis Date: 07/02/99

MB Lab ID: QC01739

Analyte	Result
MTBE	<2.0
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
m,p-Xylenes	<0.5
o-Xylene	<0.5

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	105	51-143
Bromofluorobenzene	108	37-146

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8021B
Project#: 447.055	Prep Method: EPA 5030
Location: Connell Olds	

METHOD BLANK	
Matrix: Water	Prep Date: 07/06/99
Batch#: 49128	Analysis Date: 07/06/99
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC01914

Analyte	Result
MTBE	<2.0
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
m,p-Xylenes	<0.5
o-Xylene	<0.5

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	100	51-143
Bromofluorobenzene	104	37-146

BTXE

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8021B
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 49084
Units: ug/L
Diln Fac: 1

Prep Date: 07/02/99
Analysis Date: 07/02/99

LCS Lab ID: QC01738

Analyte	Result	Spike Added	%Rec #	Limits
MTBE	18.17	20	91	66-126
Benzene	19.49	20	97	65-111
Toluene	19.95	20	100	76-117
Ethylbenzene	19.78	20	99	71-121
m,p-Xylenes	40.25	40	101	80-123
o-Xylene	20.19	20	101	75-127

Surrogate	%Rec	Limits
Trifluorotoluene	109	51-143
Bromofluorobenzene	112	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 6 outside limits

BTXE

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8021B
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 49128
Units: ug/L
Diln Fac: 1

Prep Date: 07/06/99
Analysis Date: 07/06/99

LCS Lab ID: QC01913

Analyte	Result	Spike Added	%Rec #	Limits
MTBE	17.97	20	90	66-126
Benzene	19.43	20	97	65-111
Toluene	19.78	20	99	76-117
Ethylbenzene	19.91	20	100	71-121
m,p-Xylenes	40.49	40	101	80-123
o-Xylene	20.37	20	102	75-127

Surrogate	%Rec	Limits
Trifluorotoluene	105	51-143
Bromofluorobenzene	108	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 6 outside limits

Lab #: 140241 BATCH QC REPORT Page

BTXE

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8021B
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 140177-002
Matrix: Water
Batch#: 49084
Units: ug/L
Diln Fac: 1

Sample Date: 06/28/99
Received Date: 06/28/99
Prep Date: 07/02/99
Analysis Date: 07/02/99

MS Lab ID: QC01740

Analyte	Spike Added	Sample	MS	%Rec #	Limits
MTBE	20	358.1	369.8	59	49-136
Benzene	20	<0.5	21.34	107	55-122
Toluene	20	<0.5	21.77	109	63-139
Ethylbenzene	20	1.43	22.13	104	61-137
m,p-Xylenes	40	0.6	42.35	104	57-148
o-Xylene	20	<0.5	21.41	107	70-141

Surrogate	%Rec	Limits
Trifluorotoluene	122	51-143
Bromofluorobenzene	127	37-146

MSD Lab ID: QC01741

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
MTBE	20	379.1	105	49-136	2	11
Benzene	20	22.38	112	55-122	5	10
Toluene	20	23	115	63-139	5	10
Ethylbenzene	20	23.23	109	61-137	5	10
m,p-Xylenes	40	44.5	110	57-148	5	10
o-Xylene	20	22.57	113	70-141	5	10

Surrogate	%Rec	Limits
Trifluorotoluene	121	51-143
Bromofluorobenzene	126	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

Lab #: 140241 BATCH QC REPORT Page

BTXE

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8021B
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 140249-019
Matrix: Water
Batch#: 49128
Units: ug/L
Diln Fac: 1

Sample Date: 07/01/99
Received Date: 07/01/99
Prep Date: 07/07/99
Analysis Date: 07/07/99

MS Lab ID: QC01915

Analyte	Spike Added	Sample	MS	%Rec #	Limits
MTBE	20	4564	4498	-326 *	49-136
Benzene	20	21.26	40.85	98	55-122
Toluene	20	8.05	28.39	102	63-139
Ethylbenzene	20	40.05	58.56	93	61-137
m,p-Xylenes	40	136.2	166.3	75	57-148
o-Xylene	20	216.2	217.7	8 *	70-141

Surrogate	%Rec	Limits
Trifluorotoluene	110	51-143
Bromofluorobenzene	130	37-146

MSD Lab ID: QC01916

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
MTBE	20	4457	-532 *	49-136	1	11
Benzene	20	39.53	91	55-122	3	10
Toluene	20	28.36	102	63-139	0	10
Ethylbenzene	20	57.77	89	61-137	1	10
m,p-Xylenes	40	163.4	68	57-148	2	10
o-Xylene	20	212.4	-19 *	70-141	3	10

Surrogate	%Rec	Limits
Trifluorotoluene	111	51-143
Bromofluorobenzene	133	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 6 outside limits
Spike Recovery: 4 out of 12 outside limits

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140241-001	MW-4	49101	07/01/99	07/02/99	07/13/99	
140241-002	MW-9	49101	07/01/99	07/02/99	07/08/99	
140241-003	MW-7	49101	07/01/99	07/02/99	07/08/99	
140241-004	MW-13	49101	07/01/99	07/02/99	07/08/99	

Matrix: Water

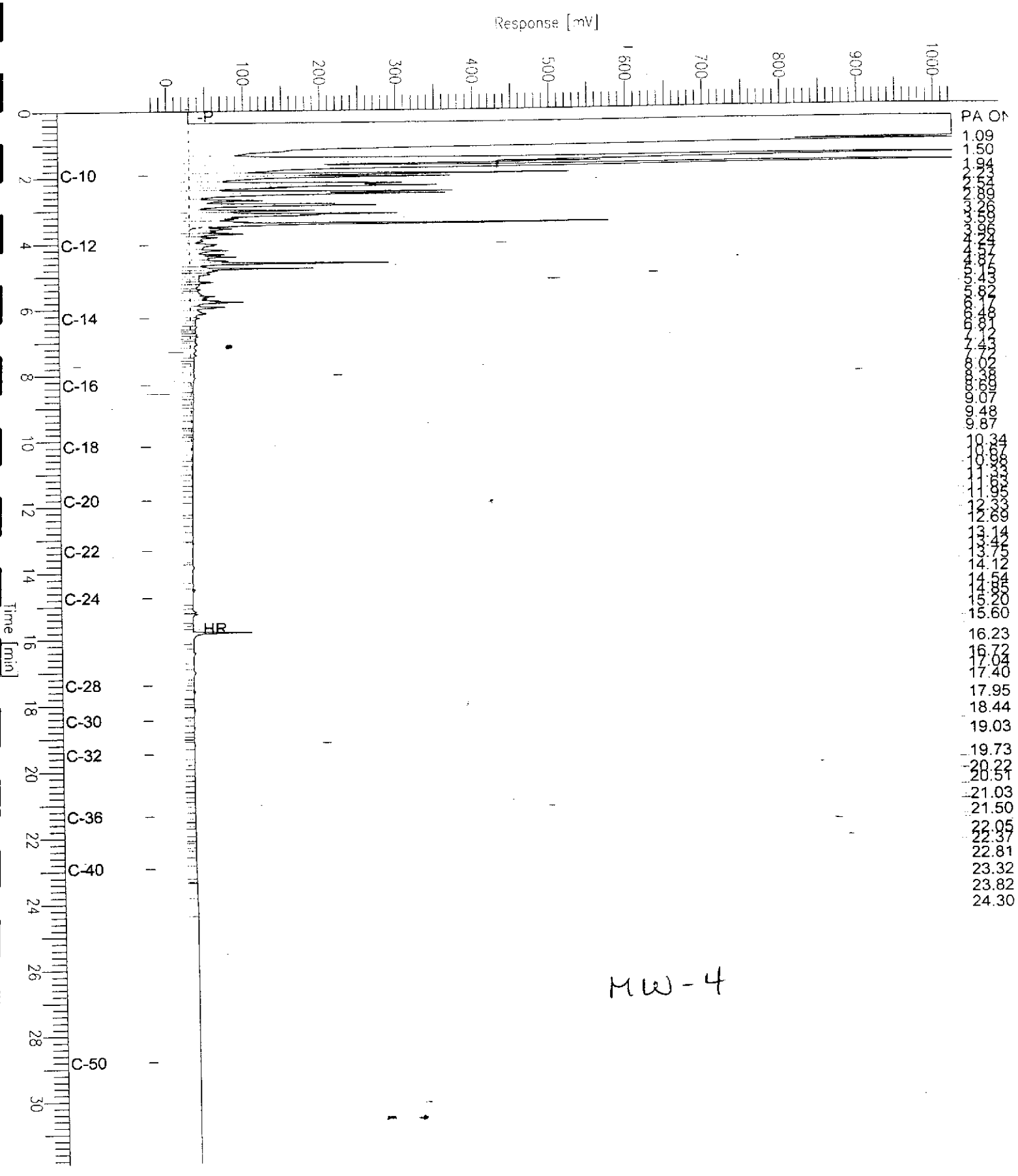
Analyte	Units	140241-001		140241-002		140241-003	140241-004	
Diln Fac:		10		1		1	1	
Diesel C10-C24	ug/L	17000	L	570	L	<50	100	L
Motor Oil C24-C36	ug/L	<3000		<300		<300	<300	
Surrogate								
Hexacosane	%REC		DO	76		85	91	

DO: Surrogate diluted out
L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 140241-001,49101
FileName : G:\GC13\CHB\193B026.RAW
Method : BTEH151.MTH
Start Time : 0.00 min End Time : 31.90 min
Scale Factor: 0.0 Plot Offset: -24 mV

Sample #: 49101
Date : 7/13/99 12:44 PM
Time of Injection: 7/13/99 12:08 PM
Low Point : -23.63 mV High Point : 1024.00 mV
Plot Scale: 1047.6 mV

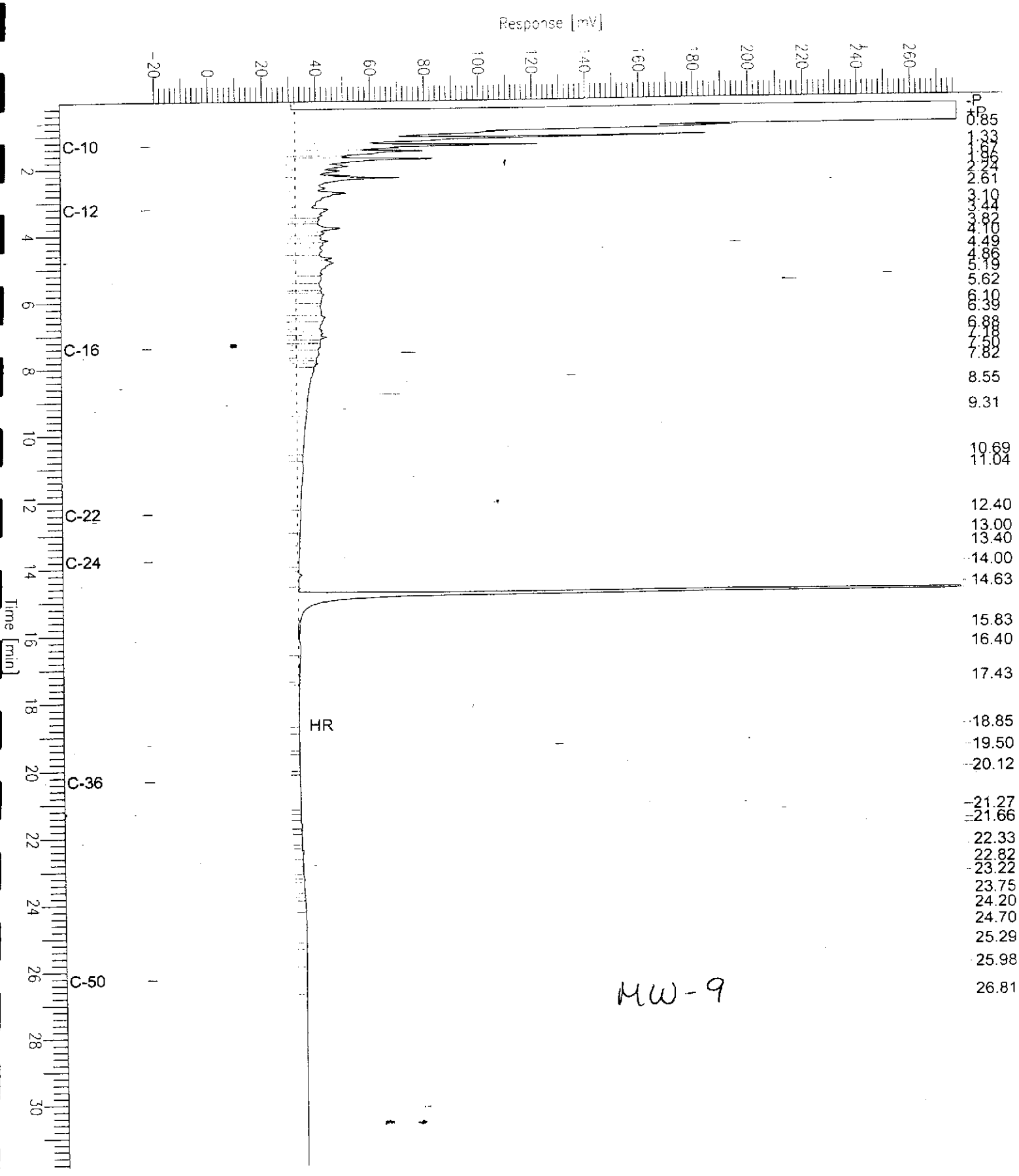


MW-4

Chromatogram

Sample Name : 140241-002,49101
FileName : G:\GC11\CHA\187A045.RAW
Method : ATEH166.MTH
Start Time : 0.01 min End Time : 31.87 min
Scale Factor: 0.0 Plot Offset: -21 mV

Sample #: 49101
Date : 7/8/99 11:26 AM
Time of Injection: 7/8/99 01:05 AM
Low Point : -21.44 mV High Point : 277.31 mV
Plot Scale: 298.7 mV

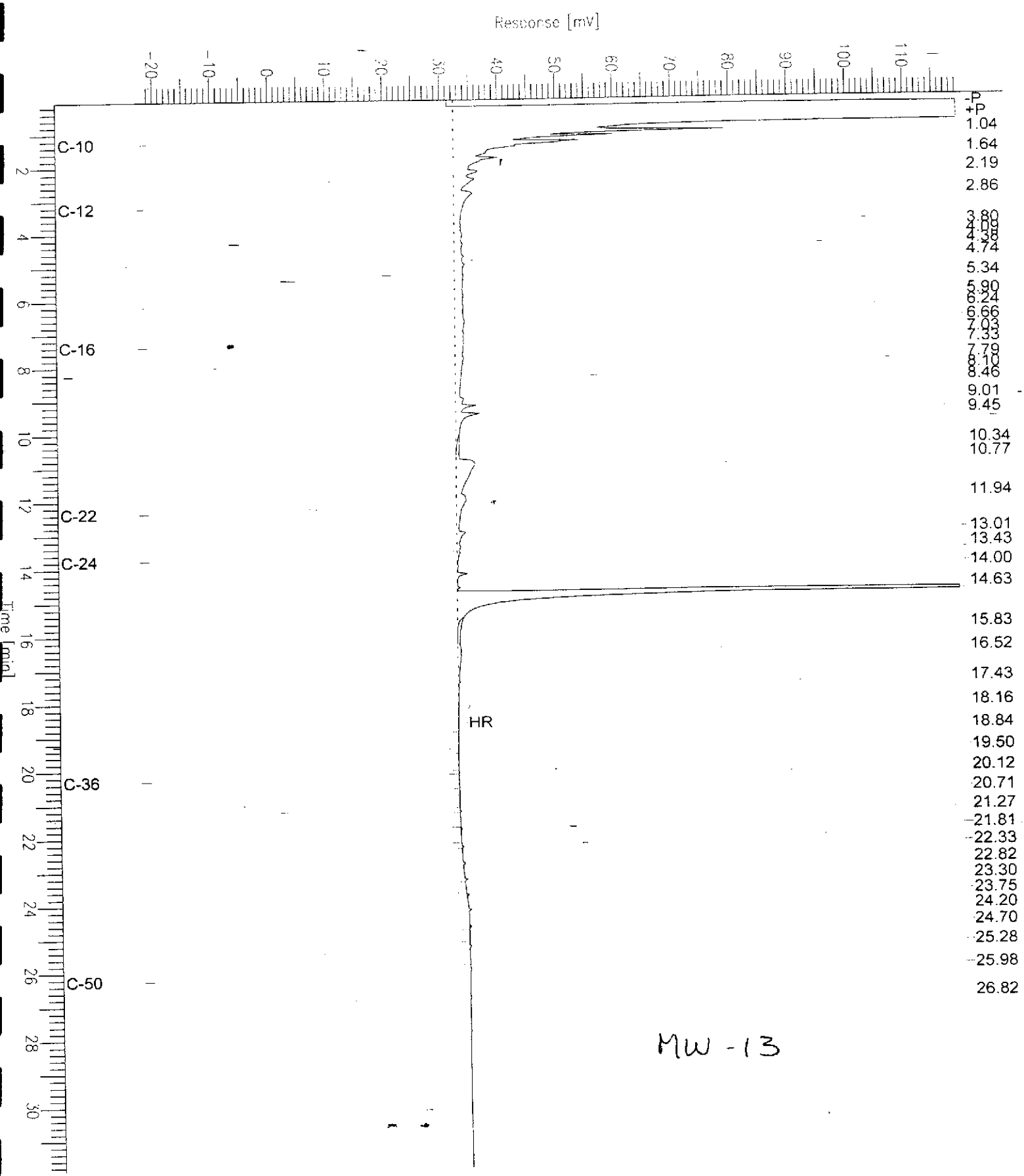


MW-9

Chromatogram

Sample Name : 140241-004,49101
leName : G:\GC11\CHA\187A047.RAW
thod : ATEH166.MTH
art Time : 0.05 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -21 mV

Sample #: 49101
Date : 7/8/99 11:51 AM
Time of Injection: 7/8/99 02:26 AM
Low Point : -21.02 mV High Point : 119.22 mV
Plot Scale: 140.2 mV



MW-13

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
140241-005	MW-8	49101	07/01/99	07/02/99	07/08/99	

Matrix: Water

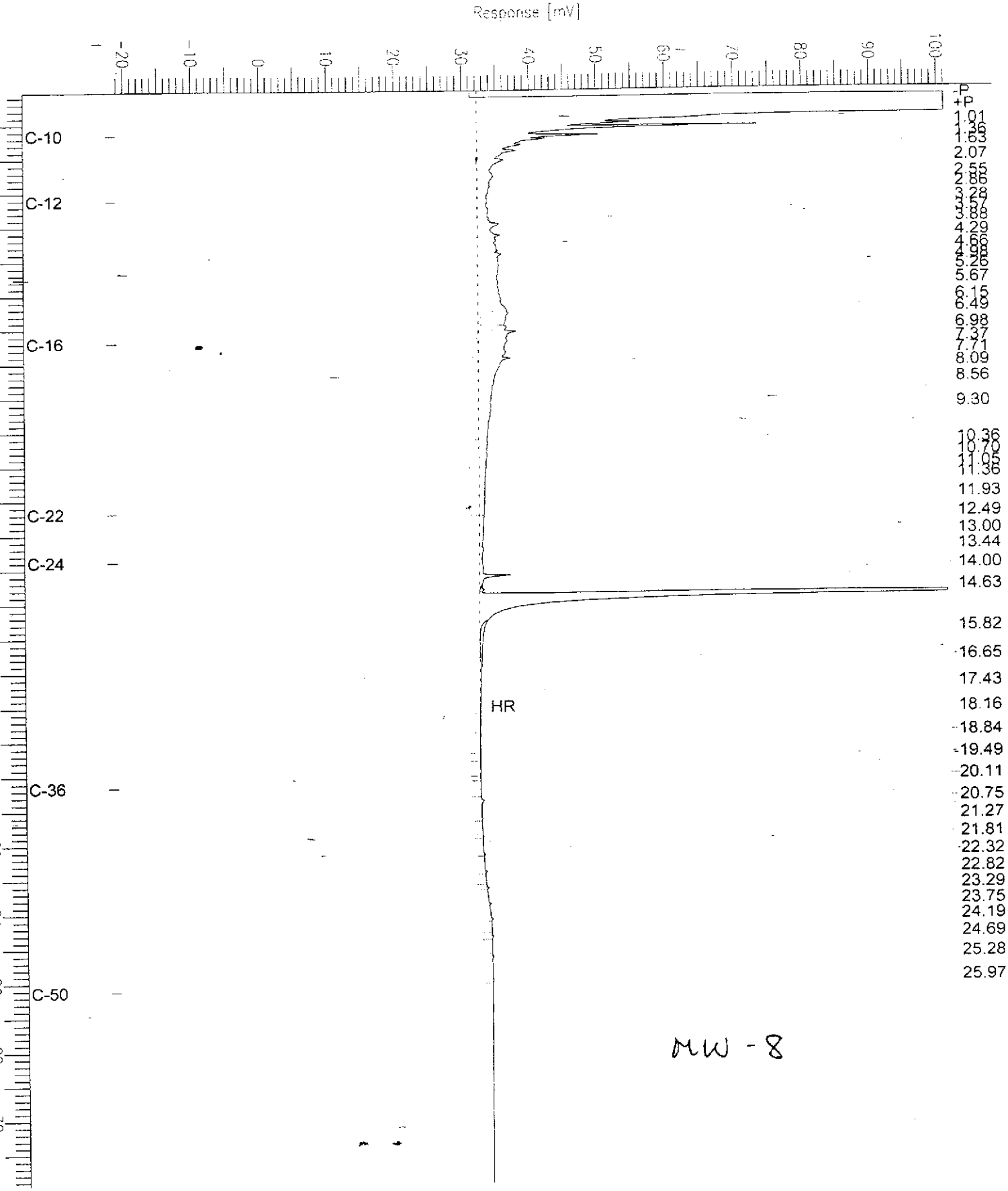
Analyte	Units	140241-005	
Diln Fac:		1	
Diesel C10-C24	ug/L	170	L
Motor Oil C24-C36	ug/L	<300	
Surrogate			
Hexacosane	%REC	79	

L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 140241-005,49101
FileName : G:\GC11\CHA\187A048.RAW
Method : ATEH166.MTH
Start Time : 0.05 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -21 mV

Sample #: 49101
Date : 7/8/99 11:53 AM
Time of Injection: 7/8/99 03:06 AM
Low Point : -21.05 mV High Point : 101.07 mV
Plot Scale: 122.1 mV



MW-8

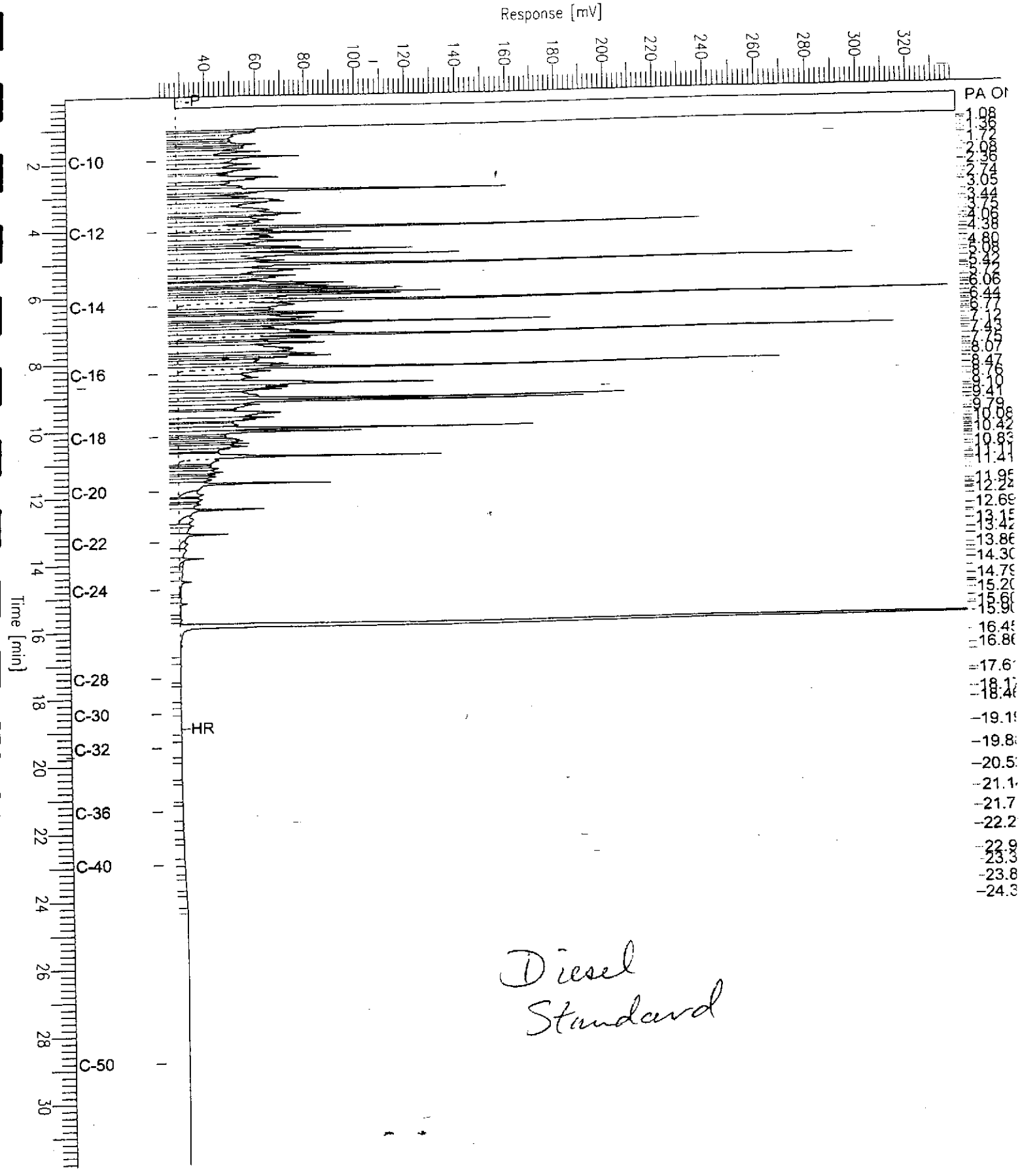
Chromatogram

Sample Name : ccv,99ws7711,dsl
FileName : G:\GC13\CHB\191B002.RAW
Method : BTEH151.MTH
Start Time : 0.05 min
Scale Factor: 0.0

End Time : 31.87 min
Plot Offset: 20 mV

Sample #: 500mg/l
Date : 7/9/99 10:11 PM
Time of Injection: 7/9/99 07:47 PM
Low Point : 20.31 mV
Plot Scale: 319.7 mV

High Point : 339.96 mV

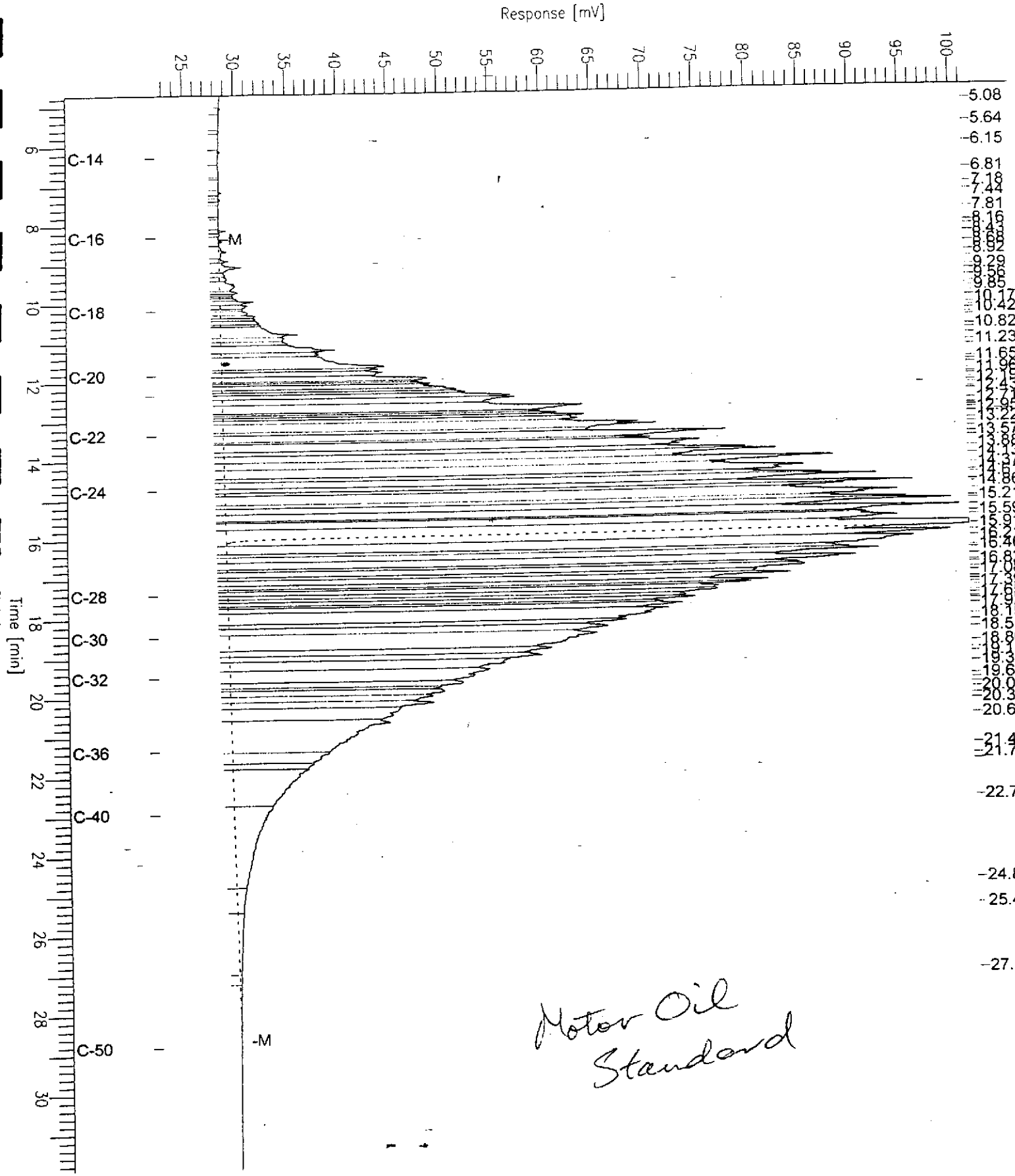


Diesel Standard

Chromatogram

Sample Name : ccv,99ws7712,mo
FileName : G:\GC13\CHB\191B003.RAW
Method : BTEH151.MTH
Start Time : 4.73 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 22 mV

Sample #: 500mg/l
Date : 7/9/99 10:12 PM
Time of Injection: 7/9/99 08:29 PM
Low Point : 22.40 mV High Point : 101.16 mV
Plot Scale: 78.8 mV



Motor Oil Standard

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 49101
Units: ug/L
Diln Fac: 1

Prep Date: 07/02/99
Analysis Date: 07/09/99

MB Lab ID: QC01816

Analyte	Result
Diesel C10-C24	<50
Motor Oil C24-C36	<300

Surrogate	%Rec	Recovery Limits
Hexacosane	87	58-128

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 49101
Units: ug/L
Diln Fac: 1

Prep Date: 07/02/99
Analysis Date: 07/10/99

BS Lab ID: QC01817

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C10-C24	2475	1971	80	50-114

Surrogate	%Rec	Limits
Hexacosane	84	58-128

BSD Lab ID: QC01818

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C10-C24	2475	1900	77	50-114	4	25

Surrogate	%Rec	Limits
Hexacosane	84	58-128

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MW-4
Lab ID: 140241-001
Matrix: Water
Batch#: 49154
Units: ug/L
Diln Fac: 166.7

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/07/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
Freon 12	ND	170
Chloromethane	ND	170
Vinyl Chloride	ND	83
Bromomethane	ND	170
Chloroethane	ND	170
Trichlorofluoromethane	ND	83
Acetone	ND	1700
Freon 113	ND	830
1,1-Dichloroethene	ND	83
Methylene Chloride	ND	1700
Carbon Disulfide	ND	83
MTBE	ND	83
trans-1,2-Dichloroethene	ND	83
Vinyl Acetate	ND	1700
1,1-Dichloroethane	ND	83
2-Butanone	ND	1700
cis-1,2-Dichloroethene	ND	83
2,2-Dichloropropane	ND	83
Chloroform	ND	83
Bromochloromethane	ND	83
1,1,1-Trichloroethane	ND	83
1,1-Dichloropropene	ND	83
Carbon Tetrachloride	ND	83
1,2-Dichloroethane	170	83
Benzene	11000	83
Trichloroethene	ND	83
1,2-Dichloropropane	ND	83
Bromodichloromethane	ND	83
Dibromomethane	ND	83
4-Methyl-2-Pentanone	ND	1700
cis-1,3-Dichloropropene	ND	83
Toluene	19000	83
trans-1,3-Dichloropropene	ND	83
1,1,2-Trichloroethane	ND	83
2-Hexanone	ND	1700
1,3-Dichloropropane	ND	83
Tetrachloroethene	ND	83
Dibromochloromethane	ND	83

Volatile Organics by GC/MS

Field ID: MW-4
Lab ID: 140241-001
Matrix: Water
Batch#: 49154
Units: ug/L
Diln Fac: 166.7

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/07/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
1,2-Dibromoethane	320	83
Chlorobenzene	ND	83
1,1,1,2-Tetrachloroethane	ND	83
Ethylbenzene	1400	83
m,p-Xylenes	10000	83
o-Xylene	3500	83
Styrene	ND	83
Bromoform	ND	170
Isopropylbenzene	87	83
1,1,2,2-Tetrachloroethane	ND	83
1,2,3-Trichloropropane	ND	83
Propylbenzene	210	83
Bromobenzene	ND	83
1,3,5-Trimethylbenzene	1300	83
2-Chlorotoluene	ND	83
4-Chlorotoluene	ND	83
tert-Butylbenzene	ND	83
1,2,4-Trimethylbenzene	4700	83
sec-Butylbenzene	ND	83
para-Isopropyl Toluene	ND	83
1,3-Dichlorobenzene	ND	83
1,4-Dichlorobenzene	ND	83
n-Butylbenzene	110	83
1,2-Dichlorobenzene	ND	83
1,2-Dibromo-3-Chloropropane	ND	83
1,2,4-Trichlorobenzene	ND	83
Hexachlorobutadiene	ND	83
Naphthalene	1300	83
1,2,3-Trichlorobenzene	ND	83

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	102	81-121
1,2-Dichloroethane-d4	102	76-127
Toluene-d8	103	90-109
Bromofluorobenzene	98	82-118

Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MW-9
Lab ID: 140241-002
Matrix: Water
Batch#: 49154
Units: ug/L
Diln Fac: 2.5

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/07/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
Freon 12	ND	2.5
Chloromethane	ND	2.5
Vinyl Chloride	ND	1.3
Bromomethane	ND	2.5
Chloroethane	ND	2.5
Trichlorofluoromethane	ND	1.3
Acetone	33	25
Freon 113	ND	13
1,1-Dichloroethene	ND	1.3
Methylene Chloride	ND	25
Carbon Disulfide	ND	1.3
MTBE	ND	1.3
trans-1,2-Dichloroethene	ND	1.3
Vinyl Acetate	ND	25
1,1-Dichloroethane	ND	1.3
2-Butanone	ND	25
cis-1,2-Dichloroethene	ND	1.3
2,2-Dichloropropane	ND	1.3
Chloroform	ND	1.3
Bromochloromethane	ND	1.3
1,1,1-Trichloroethane	ND	1.3
1,1-Dichloropropene	ND	1.3
Carbon Tetrachloride	ND	1.3
1,2-Dichloroethane	400	1.3
Benzene	97	1.3
Trichloroethene	ND	1.3
1,2-Dichloropropane	ND	1.3
Bromodichloromethane	ND	1.3
Dibromomethane	ND	1.3
4-Methyl-2-Pentanone	ND	25
cis-1,3-Dichloropropene	ND	1.3
Toluene	7.4	1.3
trans-1,3-Dichloropropene	ND	1.3
1,1,2-Trichloroethane	ND	1.3
2-Hexanone	ND	25
1,3-Dichloropropane	ND	1.3
Tetrachloroethene	ND	1.3
Dibromochloromethane	ND	1.3

Volatile Organics by GC/MS

Field ID:	MW-9	Sampled:	07/01/99
Lab ID:	140241-002	Received:	07/01/99
Matrix:	Water	Extracted:	07/07/99
Batch#:	49154	Analyzed:	07/07/99
Units:	ug/L		
Diln Fac:	2.5		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	1.3
Chlorobenzene	ND	1.3
1,1,1,2-Tetrachloroethane	ND	1.3
Ethylbenzene	24	1.3
m,p-Xylenes	12	1.3
o-Xylene	4.9	1.3
Styrene	ND	1.3
Bromoform	ND	2.5
Isopropylbenzene	4.7	1.3
1,1,2,2-Tetrachloroethane	ND	1.3
1,2,3-Trichloropropane	ND	1.3
Propylbenzene	5.3	1.3
Bromobenzene	ND	1.3
1,3,5-Trimethylbenzene	4.2	1.3
2-Chlorotoluene	ND	1.3
4-Chlorotoluene	ND	1.3
tert-Butylbenzene	ND	1.3
1,2,4-Trimethylbenzene	14	1.3
sec-Butylbenzene	1.6	1.3
para-Isopropyl Toluene	ND	1.3
1,3-Dichlorobenzene	ND	1.3
1,4-Dichlorobenzene	ND	1.3
n-Butylbenzene	2.1	1.3
1,2-Dichlorobenzene	ND	1.3
1,2-Dibromo-3-Chloropropane	ND	1.3
1,2,4-Trichlorobenzene	ND	1.3
Hexachlorobutadiene	ND	1.3
Naphthalene	3.0	1.3
1,2,3-Trichlorobenzene	ND	1.3

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	100	81-121
1,2-Dichloroethane-d4	99	76-127
Toluene-d8	103	90-109
Bromofluorobenzene	99	82-118

Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MW-7
Lab ID: 140241-003
Matrix: Water
Batch#: 49154
Units: ug/L
Diln Fac: 1

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/07/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	1.0	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	0.9	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5

Volatile Organics by GC/MS

Field ID: MW-7
Lab ID: 140241-003
Matrix: Water
Batch#: 49154
Units: ug/L
Diln Fac: 1

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/07/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	1.9	0.5
o-Xylene	0.6	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	1.1	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	3.5	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	0.5
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	101	81-121
1,2-Dichloroethane-d4	100	76-127
Toluene-d8	102	90-109
Bromofluorobenzene	97	82-118

Volatile Organics by GC/MS

Client:	Subsurface Consultants	Analysis Method:	EPA 8260
Project#:	447.055	Prep Method:	EPA 5030
Location:	Connell Olds		

Field ID:	MW-13	Sampled:	07/01/99
Lab ID:	140241-004	Received:	07/01/99
Matrix:	Water	Extracted:	07/07/99
Batch#:	49121	Analyzed:	07/07/99
Units:	ug/L		
Diln Fac:	2		

Analyte	Result	Reporting Limit
Freon 12	ND	2.0
Chloromethane	ND	2.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	20
Freon 113	ND	10
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	1.0
MTBE	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Vinyl Acetate	ND	20
1,1-Dichloroethane	ND	1.0
2-Butanone	ND	20
cis-1,2-Dichloroethene	ND	1.0
2,2-Dichloropropane	ND	1.0
Chloroform	ND	1.0
Bromochloromethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
1,1-Dichloropropene	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	4.2	1.0
Benzene	350	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
Dibromomethane	ND	1.0
4-Methyl-2-Pentanone	ND	20
cis-1,3-Dichloropropene	ND	1.0
Toluene	19	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
2-Hexanone	ND	20
1,3-Dichloropropane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0

Volatile Organics by GC/MS

Field ID:	MW-13	Sampled:	07/01/99
Lab ID:	140241-004	Received:	07/01/99
Matrix:	Water	Extracted:	07/07/99
Batch#:	49121	Analyzed:	07/07/99
Units:	ug/L		
Diln Fac:	2		

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	1.0
Chlorobenzene	ND	1.0
1,1,1,2-Tetrachloroethane	ND	1.0
Ethylbenzene	1.2	1.0
m,p-Xylenes	2.8	1.0
o-Xylene	15	1.0
Styrene	ND	1.0
Bromoform	ND	2.0
Isopropylbenzene	2.1	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,2,3-Trichloropropane	ND	1.0
Propylbenzene	1.2	1.0
Bromobenzene	ND	1.0
1,3,5-Trimethylbenzene	3.4	1.0
2-Chlorotoluene	ND	1.0
4-Chlorotoluene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	2.3	1.0
sec-Butylbenzene	ND	1.0
para-Isopropyl Toluene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
n-Butylbenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,2-Dibromo-3-Chloropropane	ND	1.0
1,2,4-Trichlorobenzene	ND	1.0
Hexachlorobutadiene	ND	1.0
Naphthalene	11	1.0
1,2,3-Trichlorobenzene	ND	1.0

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	100	81-121
1,2-Dichloroethane-d4	100	76-127
Toluene-d8	102	90-109
Bromofluorobenzene	99	82-118

Volatile Organics by GC/MS

Client:	Subsurface Consultants	Analysis Method:	EPA 8260
Project#:	447.055	Prep Method:	EPA 5030
Location:	Connell Olds		

Field ID:	MW-8	Sampled:	07/01/99
Lab ID:	140241-005	Received:	07/01/99
Matrix:	Water	Extracted:	07/07/99
Batch#:	49121	Analyzed:	07/07/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	55	0.5
Benzene	53	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	0.9	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5

Volatile Organics by GC/MS

Field ID: MW-8
Lab ID: 140241-005
Matrix: Water
Batch#: 49121
Units: ug/L
Diln Fac: 1

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/07/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	2.9	0.5
m,p-Xylenes	2.2	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	1.3	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	1.8	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	0.6	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	1.1	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	1.8	0.5
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%Recovery	Recovery Limits
Dibromofluoromethane	102	81-121
1,2-Dichloroethane-d4	103	76-127
Toluene-d8	99	90-109
Bromofluorobenzene	98	82-118

EPA 8260 Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 49121
Units: ug/L
Diln Fac: 1

Prep Date: 07/06/99
Analysis Date: 07/06/99

MB Lab ID: QC01888

Analyte	Result	Reporting Limit
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5

EPA 8260 Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 49121
Units: ug/L
Diln Fac: 1

Prep Date: 07/06/99
Analysis Date: 07/06/99

MB Lab ID: QC01888

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	0.5
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%Rec	Recovery Limits
Dibromofluoromethane	105	81-121
1,2-Dichloroethane-d4	99	76-127
Toluene-d8	98	90-109
Bromofluorobenzene	101	82-118

EPA 8260 Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 49154
Units: ug/L
Diln Fac: 1

Prep Date: 07/07/99
Analysis Date: 07/07/99

MB Lab ID: QC02023

Analyte	Result	Reporting Limit
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5

EPA 8260 Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 49154
Units: ug/L
Diln Fac: 1

Prep Date: 07/07/99
Analysis Date: 07/07/99

MB Lab ID: QC02023

Analyte	Result	Reporting Limit
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	0.5
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%Rec	Recovery Limits
Dibromofluoromethane	103	81-121
1,2-Dichloroethane-d4	99	76-127
Toluene-d8	100	90-109
Bromofluorobenzene	98	82-118

EPA 8260 Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8260
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 49121
Units: ug/L
Diln Fac: 1

Prep Date: 07/06/99
Analysis Date: 07/06/99

BS Lab ID: QC01885

Analyte	Spike Added	BS	%Rec #	Limits
1,1-Dichloroethene	50	45.86	92	64-139
Benzene	50	46.42	93	71-127
Trichloroethene	50	46.04	92	72-129
Toluene	50	48.28	97	73-129
Chlorobenzene	50	48.34	97	77-126

Surrogate	%Rec	Limits
Dibromofluoromethane	103	81-121
1,2-Dichloroethane-d4	99	76-127
Toluene-d8	100	90-109
Bromofluorobenzene	99	82-118

BSD Lab ID: QC01886

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	46.61	93	64-139	2	13
Benzene	50	46.78	94	71-127	1	10
Trichloroethene	50	46.84	94	72-129	2	10
Toluene	50	49.51	99	73-129	3	10
Chlorobenzene	50	48.94	98	77-126	1	10

Surrogate	%Rec	Limits
Dibromofluoromethane	102	81-121
1,2-Dichloroethane-d4	100	76-127
Toluene-d8	102	90-109
Bromofluorobenzene	98	82-118

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

EPA 8260 Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8260
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 49154
Units: ug/L
Diln Fac: 1

Prep Date: 07/07/99
Analysis Date: 07/07/99

BS Lab ID: QC02020

Analyte	Spike Added	BS	%Rec	#	Limits
1,1-Dichloroethene	50	48.23	96		64-139
Benzene	50	47.57	95		71-127
Trichloroethene	50	46.17	92		72-129
Toluene	50	50.64	101		73-129
Chlorobenzene	50	49.42	99		77-126

Surrogate	%Rec	Limits
Dibromofluoromethane	100	81-121
1,2-Dichloroethane-d4	98	76-127
Toluene-d8	103	90-109
Bromofluorobenzene	100	82-118

BSD Lab ID: QC02021

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD	#	Limit
1,1-Dichloroethene	50	48.46	97		64-139	0		13
Benzene	50	48.46	97		71-127	2		10
Trichloroethene	50	47.2	94		72-129	2		10
Toluene	50	52.6	105		73-129	4		10
Chlorobenzene	50	49.73	99		77-126	1		10

Surrogate	%Rec	Limits
Dibromofluoromethane	97	81-121
1,2-Dichloroethane-d4	97	76-127
Toluene-d8	104	90-109
Bromofluorobenzene	98	82-118

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Semivolatile Organics by GC/MS

Client: Subsurface Consultants	Analysis Method: EPA 8270B
Project#: 447.055	Prep Method: EPA 3520
Location: Connell Olds	
Field ID: MW-4	Sampled: 07/01/99
Lab ID: 140241-001	Received: 07/01/99
Matrix: Water	Extracted: 07/03/99
Batch#: 49107	Analyzed: 07/09/99
Units: ug/L	
Diln Fac: 5	

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	48
Phenol	ND	48
bis(2-Chloroethyl)ether	ND	48
2-Chlorophenol	ND	48
1,3-Dichlorobenzene	ND	48
1,4-Dichlorobenzene	ND	48
Benzyl alcohol	ND	48
1,2-Dichlorobenzene	ND	48
2-Methylphenol	ND	48
bis(2-Chloroisopropyl) ether	ND	48
3-,4-Methylphenol	ND	48
N-Nitroso-di-n-propylamine	ND	48
Hexachloroethane	ND	48
Nitrobenzene	ND	48
Isophorone	ND	48
2-Nitrophenol	ND	240
2,4-Dimethylphenol	ND	48
Benzoic acid	ND	240
bis(2-Chloroethoxy)methane	ND	48
2,4-Dichlorophenol	ND	48
1,2,4-Trichlorobenzene	ND	48
Naphthalene	860	48
4-Chloroaniline	ND	48
Hexachlorobutadiene	ND	48
4-Chloro-3-methylphenol	ND	48
2-Methylnaphthalene	370	48
Hexachlorocyclopentadiene	ND	240
2,4,6-Trichlorophenol	ND	48
2,4,5-Trichlorophenol	ND	48
2-Chloronaphthalene	ND	48
2-Nitroaniline	ND	240
Dimethylphthalate	ND	48
Acenaphthylene	ND	48
2,6-Dinitrotoluene	ND	48
3-Nitroaniline	ND	240
Acenaphthene	ND	48
2,4-Dinitrophenol	ND	240
4-Nitrophenol	ND	240

Semivolatile Organics by GC/MS

Field ID:	MW-4	Sampled:	07/01/99
Lab ID:	140241-001	Received:	07/01/99
Matrix:	Water	Extracted:	07/03/99
Batch#:	49107	Analyzed:	07/09/99
Units:	ug/L		
Diln Fac:	5		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	48
2,4-Dinitrotoluene	ND	48
Diethylphthalate	ND	48
Fluorene	ND	48
4-Chlorophenyl-phenylether	ND	48
4-Nitroaniline	ND	240
4,6-Dinitro-2-methylphenol	ND	240
N-Nitrosodiphenylamine	ND	48
Azobenzene	ND	48
4-Bromophenyl-phenylether	ND	48
Hexachlorobenzene	ND	48
Pentachlorophenol	ND	240
Phenanthrene	ND	48
Anthracene	ND	48
Di-n-butylphthalate	ND	48
Fluoranthene	ND	48
Pyrene	ND	48
Butylbenzylphthalate	ND	48
3,3'-Dichlorobenzidine	ND	240
Benzo(a)anthracene	ND	48
Chrysene	ND	48
bis(2-Ethylhexyl)phthalate	ND	48
Di-n-octylphthalate	ND	48
Benzo(b,k)fluoranthene	ND	48
Benzo(a)pyrene	ND	48
Indeno(1,2,3-cd)pyrene	ND	48
Dibenz(a,h)anthracene	ND	48
Benzo(g,h,i)perylene	ND	48

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	47	30-136
Phenol-d5	72	33-140
2,4,6-Tribromophenol	77	31-140
Nitrobenzene-d5	74	24-128
2-Fluorobiphenyl	62	35-116
Terphenyl-d14	54	16-139

Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: MW-9
Lab ID: 140241-002
Matrix: Water
Batch#: 49107
Units: ug/L
Diln Fac: 1

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/03/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	9.5
Phenol	ND	9.5
bis(2-Chloroethyl)ether	ND	9.5
2-Chlorophenol	ND	9.5
1,3-Dichlorobenzene	ND	9.5
1,4-Dichlorobenzene	ND	9.5
Benzyl alcohol	ND	9.5
1,2-Dichlorobenzene	ND	9.5
2-Methylphenol	ND	9.5
bis(2-Chloroisopropyl) ether	ND	9.5
3-,4-Methylphenol	ND	9.5
N-Nitroso-di-n-propylamine	ND	9.5
Hexachloroethane	ND	9.5
Nitrobenzene	ND	9.5
Isophorone	ND	9.5
2-Nitrophenol	ND	48
2,4-Dimethylphenol	ND	9.5
Benzoic acid	ND	48
bis(2-Chloroethoxy)methane	ND	9.5
2,4-Dichlorophenol	ND	9.5
1,2,4-Trichlorobenzene	ND	9.5
Naphthalene	ND	9.5
4-Chloroaniline	ND	9.5
Hexachlorobutadiene	ND	9.5
4-Chloro-3-methylphenol	ND	9.5
2-Methylnaphthalene	ND	9.5
Hexachlorocyclopentadiene	ND	48
2,4,6-Trichlorophenol	ND	9.5
2,4,5-Trichlorophenol	ND	9.5
2-Chloronaphthalene	ND	9.5
2-Nitroaniline	ND	48
Dimethylphthalate	ND	9.5
Acenaphthylene	ND	9.5
2,6-Dinitrotoluene	ND	9.5
3-Nitroaniline	ND	48
Acenaphthene	ND	9.5
2,4-Dinitrophenol	ND	48
4-Nitrophenol	ND	48

Semivolatile Organics by GC/MS

Field ID:	MW-9	Sampled:	07/01/99
Lab ID:	140241-002	Received:	07/01/99
Matrix:	Water	Extracted:	07/03/99
Batch#:	49107	Analyzed:	07/07/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	9.5
2,4-Dinitrotoluene	ND	9.5
Diethylphthalate	ND	9.5
Fluorene	ND	9.5
4-Chlorophenyl-phenylether	ND	9.5
4-Nitroaniline	ND	48
4,6-Dinitro-2-methylphenol	ND	48
N-Nitrosodiphenylamine	ND	9.5
Azobenzene	ND	9.5
4-Bromophenyl-phenylether	ND	9.5
Hexachlorobenzene	ND	9.5
Pentachlorophenol	ND	48
Phenanthrene	ND	9.5
Anthracene	ND	9.5
Di-n-butylphthalate	ND	9.5
Fluoranthene	ND	9.5
Pyrene	ND	9.5
Butylbenzylphthalate	ND	9.5
3,3'-Dichlorobenzidine	ND	48
Benzo(a)anthracene	ND	9.5
Chrysene	ND	9.5
bis(2-Ethylhexyl)phthalate	ND	9.5
Di-n-octylphthalate	ND	9.5
Benzo(b,k)fluoranthene	ND	9.5
Benzo(a)pyrene	ND	9.5
Indeno(1,2,3-cd)pyrene	ND	9.5
Dibenz(a,h)anthracene	ND	9.5
Benzo(g,h,i)perylene	ND	9.5

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	74	30-136
Phenol-d5	77	33-140
2,4,6-Tribromophenol	72	31-140
Nitrobenzene-d5	71	24-128
2-Fluorobiphenyl	69	35-116
Terphenyl-d14	39	16-139

Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: MW-7
Lab ID: 140241-003
Matrix: Water
Batch#: 49107
Units: ug/L
Diln Fac: 1

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/03/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
3-,4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	51
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	51
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	51
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	51
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	51
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	51
4-Nitrophenol	ND	51

Semivolatile Organics by GC/MS

Field ID:	MW-7	Sampled:	07/01/99
Lab ID:	140241-003	Received:	07/01/99
Matrix:	Water	Extracted:	07/03/99
Batch#:	49107	Analyzed:	07/07/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	51
4,6-Dinitro-2-methylphenol	ND	51
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	51
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	51
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b,k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	43	30-136
Phenol-d5	49	33-140
2,4,6-Tribromophenol	50	31-140
Nitrobenzene-d5	50	24-128
2-Fluorobiphenyl	54	35-116
Terphenyl-d14	62	16-139

Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: MW-13
Lab ID: 140241-004
Matrix: Water
Batch#: 49107
Units: ug/L
Diln Fac: 1

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/03/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	9.6
Phenol	ND	9.6
bis(2-Chloroethyl)ether	ND	9.6
2-Chlorophenol	ND	9.6
1,3-Dichlorobenzene	ND	9.6
1,4-Dichlorobenzene	ND	9.6
Benzyl alcohol	ND	9.6
1,2-Dichlorobenzene	ND	9.6
2-Methylphenol	ND	9.6
bis(2-Chloroisopropyl) ether	ND	9.6
3-,4-Methylphenol	ND	9.6
N-Nitroso-di-n-propylamine	ND	9.6
Hexachloroethane	ND	9.6
Nitrobenzene	ND	9.6
Isophorone	ND	9.6
2-Nitrophenol	ND	48
2,4-Dimethylphenol	ND	9.6
Benzoic acid	ND	48
bis(2-Chloroethoxy)methane	ND	9.6
2,4-Dichlorophenol	ND	9.6
1,2,4-Trichlorobenzene	ND	9.6
Naphthalene	ND	9.6
4-Chloroaniline	ND	9.6
Hexachlorobutadiene	ND	9.6
4-Chloro-3-methylphenol	ND	9.6
2-Methylnaphthalene	ND	9.6
Hexachlorocyclopentadiene	ND	48
2,4,6-Trichlorophenol	ND	9.6
2,4,5-Trichlorophenol	ND	9.6
2-Chloronaphthalene	ND	9.6
2-Nitroaniline	ND	48
Dimethylphthalate	ND	9.6
Acenaphthylene	ND	9.6
2,6-Dinitrotoluene	ND	9.6
3-Nitroaniline	ND	48
Acenaphthene	ND	9.6
2,4-Dinitrophenol	ND	48
4-Nitrophenol	ND	48

Semivolatile Organics by GC/MS

Field ID:	MW-13	Sampled:	07/01/99
Lab ID:	140241-004	Received:	07/01/99
Matrix:	Water	Extracted:	07/03/99
Batch#:	49107	Analyzed:	07/07/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	9.6
2,4-Dinitrotoluene	ND	9.6
Diethylphthalate	ND	9.6
Fluorene	ND	9.6
4-Chlorophenyl-phenylether	ND	9.6
4-Nitroaniline	ND	48
4,6-Dinitro-2-methylphenol	ND	48
N-Nitrosodiphenylamine	ND	9.6
Azobenzene	ND	9.6
4-Bromophenyl-phenylether	ND	9.6
Hexachlorobenzene	ND	9.6
Pentachlorophenol	ND	48
Phenanthrene	ND	9.6
Anthracene	ND	9.6
Di-n-butylphthalate	ND	9.6
Fluoranthene	ND	9.6
Pyrene	ND	9.6
Butylbenzylphthalate	ND	9.6
3,3'-Dichlorobenzidine	ND	48
Benzo(a)anthracene	ND	9.6
Chrysene	ND	9.6
bis(2-Ethylhexyl)phthalate	ND	9.6
Di-n-octylphthalate	ND	9.6
Benzo(b,k)fluoranthene	ND	9.6
Benzo(a)pyrene	ND	9.6
Indeno(1,2,3-cd)pyrene	ND	9.6
Dibenz(a,h)anthracene	ND	9.6
Benzo(g,h,i)perylene	ND	9.6

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	42	30-136
Phenol-d5	47	33-140
2,4,6-Tribromophenol	46	31-140
Nitrobenzene-d5	56	24-128
2-Fluorobiphenyl	58	35-116
Terphenyl-d14	40	16-139

Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: MW-8
Lab ID: 140241-005
Matrix: Water
Batch#: 49107
Units: ug/L
Diln Fac: 1

Sampled: 07/01/99
Received: 07/01/99
Extracted: 07/03/99
Analyzed: 07/07/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	9.6
Phenol	ND	9.6
bis(2-Chloroethyl)ether	ND	9.6
2-Chlorophenol	ND	9.6
1,3-Dichlorobenzene	ND	9.6
1,4-Dichlorobenzene	ND	9.6
Benzyl alcohol	ND	9.6
1,2-Dichlorobenzene	ND	9.6
2-Methylphenol	ND	9.6
bis(2-Chloroisopropyl) ether	ND	9.6
3-,4-Methylphenol	ND	9.6
N-Nitroso-di-n-propylamine	ND	9.6
Hexachloroethane	ND	9.6
Nitrobenzene	ND	9.6
Isophorone	ND	9.6
2-Nitrophenol	ND	48
2,4-Dimethylphenol	ND	9.6
Benzoic acid	ND	48
bis(2-Chloroethoxy)methane	ND	9.6
2,4-Dichlorophenol	ND	9.6
1,2,4-Trichlorobenzene	ND	9.6
Naphthalene	ND	9.6
4-Chloroaniline	ND	9.6
Hexachlorobutadiene	ND	9.6
4-Chloro-3-methylphenol	ND	9.6
2-Methylnaphthalene	ND	9.6
Hexachlorocyclopentadiene	ND	48
2,4,6-Trichlorophenol	ND	9.6
2,4,5-Trichlorophenol	ND	9.6
2-Chloronaphthalene	ND	9.6
2-Nitroaniline	ND	48
Dimethylphthalate	ND	9.6
Acenaphthylene	ND	9.6
2,6-Dinitrotoluene	ND	9.6
3-Nitroaniline	ND	48
Acenaphthene	ND	9.6
2,4-Dinitrophenol	ND	48
4-Nitrophenol	ND	48

Semivolatile Organics by GC/MS

Field ID:	MW-8	Sampled:	07/01/99
Lab ID:	140241-005	Received:	07/01/99
Matrix:	Water	Extracted:	07/03/99
Batch#:	49107	Analyzed:	07/07/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	9.6
2,4-Dinitrotoluene	ND	9.6
Diethylphthalate	ND	9.6
Fluorene	ND	9.6
4-Chlorophenyl-phenylether	ND	9.6
4-Nitroaniline	ND	48
4,6-Dinitro-2-methylphenol	ND	48
N-Nitrosodiphenylamine	ND	9.6
Azobenzene	ND	9.6
4-Bromophenyl-phenylether	ND	9.6
Hexachlorobenzene	ND	9.6
Pentachlorophenol	ND	48
Phenanthrene	ND	9.6
Anthracene	ND	9.6
Di-n-butylphthalate	ND	9.6
Fluoranthene	ND	9.6
Pyrene	ND	9.6
Butylbenzylphthalate	ND	9.6
3,3'-Dichlorobenzidine	ND	48
Benzo(a)anthracene	ND	9.6
Chrysene	ND	9.6
bis(2-Ethylhexyl)phthalate	ND	9.6
Di-n-octylphthalate	ND	9.6
Benzo(b,k)fluoranthene	ND	9.6
Benzo(a)pyrene	ND	9.6
Indeno(1,2,3-cd)pyrene	ND	9.6
Dibenz(a,h)anthracene	ND	9.6
Benzo(g,h,i)perylene	ND	9.6

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	70	30-136
Phenol-d5	73	33-140
2,4,6-Tribromophenol	68	31-140
Nitrobenzene-d5	71	24-128
2-Fluorobiphenyl	71	35-116
Terphenyl-d14	55	16-139

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8270B
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 49107
Units: ug/L
Diln Fac: 1

Prep Date: 07/03/99
Analysis Date: 07/06/99

MB Lab ID: QC01843

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
3-,4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	50
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	50
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8270B
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 49107
Units: ug/L
Diln Fac: 1

Prep Date: 07/03/99
Analysis Date: 07/06/99

MB Lab ID: QC01843

Analyte	Result	Reporting Limit
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	50
4,6-Dinitro-2-methylphenol	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	50
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	50
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b,k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%Rec	Recovery Limits
2-Fluorophenol	63	30-136
Phenol-d5	64	33-140
2,4,6-Tribromophenol	59	31-140
Nitrobenzene-d5	66	24-128
2-Fluorobiphenyl	63	35-116
Terphenyl-d14	63	16-139

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8270B
Prep Method: EPA 3520

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 49107
Units: ug/L
Diln Fac: 1

Prep Date: 07/03/99
Analysis Date: 07/07/99

LCS Lab ID: QC01844

Analyte	Result	Spike Added	%Rec #	Limits
Phenol	61.46	100	61	41-110
2-Chlorophenol	66.83	100	67	38-110
1,4-Dichlorobenzene	20.78	50	42	36-110
N-Nitroso-di-n-propylamine	36.4	50	73	22-112
1,2,4-Trichlorobenzene	25.97	50	52	36-110
4-Chloro-3-methylphenol	77.15	100	77	44-110
Acenaphthene	35.96	50	72	43-110
4-Nitrophenol	65.91	100	66	25-110
2,4-Dinitrotoluene	35.82	50	72	40-110
Pentachlorophenol	49.33	100	49	17-137
Pyrene	40.35	50	81	35-107

Surrogate	%Rec	Limits
2-Fluorophenol	59	30-136
Phenol-d5	65	33-140
2,4,6-Tribromophenol	76	31-140
Nitrobenzene-d5	69	24-128
2-Fluorobiphenyl	71	35-116
Terphenyl-d14	79	16-139

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 11 outside limits

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8270B
Prep Method: EPA 3520

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 140208-003
Matrix: Water
Batch#: 49107
Units: ug/L
Diln Fac: 1

Sample Date: 06/29/99
Received Date: 06/30/99
Prep Date: 07/03/99
Analysis Date: 07/06/99

MS Lab ID: QC01845

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Phenol	104.2	<10	57.36	55	31-111
2-Chlorophenol	104.2	<10	61.46	59	35-110
1,4-Dichlorobenzene	52.08	<10	19.25	37	33-110
N-Nitroso-di-n-propylamine	52.08	<10	34.28	66	37-110
1,2,4-Trichlorobenzene	52.08	<10	25.33	49	32-110
4-Chloro-3-methylphenol	104.2	<10	73	70	45-110
Acenaphthene	52.08	<10	32.67	63	44-110
4-Nitrophenol	104.2	<50	70.48	68	17-113
2,4-Dinitrotoluene	52.08	<10	34.8	67	47-110
Pentachlorophenol	104.2	<50	54.45	52	32-118
Pyrene	52.08	<10	31.82	61	16-110

Surrogate	%Rec	Limits
2-Fluorophenol	50	30-136
Phenol-d5	59	33-140
2,4,6-Tribromophenol	72	31-140
Nitrobenzene-d5	63	24-128
2-Fluorobiphenyl	63	35-116
Terphenyl-d14	18	16-139

MSD Lab ID: QC01846

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Phenol	104.2	62.58	60	31-111	9	21
2-Chlorophenol	104.2	67.85	65	35-110	10	25
1,4-Dichlorobenzene	52.08	21.24	41	33-110	10	30
N-Nitroso-di-n-propylamine	52.08	36.19	69	37-110	5	20
1,2,4-Trichlorobenzene	52.08	26.67	51	32-110	5	18
4-Chloro-3-methylphenol	104.2	76.07	73	45-110	4	15
Acenaphthene	52.08	33.92	65	44-110	4	15
4-Nitrophenol	104.2	73.87	71	17-113	5	56
2,4-Dinitrotoluene	52.08	35.49	68	47-110	2	17
Pentachlorophenol	104.2	57.3	55	32-118	5	19
Pyrene	52.08	32.27	62	16-110	1	18

Surrogate	%Rec	Limits
2-Fluorophenol	58	30-136
Phenol-d5	64	33-140
2,4,6-Tribromophenol	75	31-140
Nitrobenzene-d5	67	24-128
2-Fluorobiphenyl	66	35-116
Terphenyl-d14	18	-16-139

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

SAMPLE ID: MW-4
LAB ID: 140241-001
CLIENT: Subsurface Consultants
PROJECT ID: 447.055
LOCATION: Connell Olds
MATRIX: Filtrate

DATE SAMPLED: 07/01/99
DATE RECEIVED: 07/01/99
DATE REPORTED: 07/20/99

Metals Analytical Report

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Cadmium	ND	5.0	1	49138	EPA 6010B	07/08/99
Chromium (total)	ND	10	1	49138	EPA 6010B	07/08/99
Lead	59	3.0	1	49138	EPA 6010B	07/08/99
Nickel	ND	20	1	49138	EPA 6010B	07/08/99
Zinc	ND	20	1	49138	EPA 6010B	07/08/99

ND = Not detected at or above reporting limit

SAMPLE ID: MW-9
LAB ID: 140241-002
CLIENT: Subsurface Consultants
PROJECT ID: 447.055
LOCATION: Connell Olds
MATRIX: Filtrate

DATE SAMPLED: 07/01/99
DATE RECEIVED: 07/01/99
DATE REPORTED: 07/20/99

Metals Analytical Report

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Cadmium	ND	5.0	1	49138	EPA 6010B	07/08/99
Chromium (total)	ND	10	1	49138	EPA 6010B	07/08/99
Lead	ND	3.0	1	49138	EPA 6010B	07/08/99
Nickel	34	20	1	49138	EPA 6010B	07/08/99
Zinc	ND	20	1	49138	EPA 6010B	07/08/99

ND = Not detected at or above reporting limit

SAMPLE ID: MW-7
LAB ID: 140241-003
CLIENT: Subsurface Consultants
PROJECT ID: 447.055
LOCATION: Connell Olds
MATRIX: Filtrate

DATE SAMPLED: 07/01/99
DATE RECEIVED: 07/01/99
DATE REPORTED: 07/20/99

Metals Analytical Report

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Cadmium	ND	5.0	1	49138	EPA 6010B	07/08/99
Chromium (total)	ND	10	1	49138	EPA 6010B	07/08/99
Lead	ND	3.0	1	49138	EPA 6010B	07/08/99
Nickel	ND	20	1	49138	EPA 6010B	07/08/99
Zinc	ND	20	1	49138	EPA 6010B	07/08/99

ND = Not detected at or above reporting limit

SAMPLE ID: MW-13
LAB ID: 140241-004
CLIENT: Subsurface Consultants
PROJECT ID: 447.055
LOCATION: Connell Olds
MATRIX: Filtrate

DATE SAMPLED: 07/01/99
DATE RECEIVED: 07/01/99
DATE REPORTED: 07/20/99

Metals Analytical Report

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Cadmium	ND	5.0	1	49138	EPA 6010B	07/08/99
Chromium (total)	ND	10	1	49138	EPA 6010B	07/08/99
Lead	ND	3.0	1	49138	EPA 6010B	07/08/99
Nickel	ND	20	1	49138	EPA 6010B	07/08/99
Zinc	ND	20	1	49138	EPA 6010B	07/08/99

ND = Not detected at or above reporting limit

SAMPLE ID: MW-8
LAB ID: 140241-005
CLIENT: Subsurface Consultants
PROJECT ID: 447.055
LOCATION: Connell Olds
MATRIX: Filtrate

DATE SAMPLED: 07/01/99
DATE RECEIVED: 07/01/99
DATE REPORTED: 07/20/99

Metals Analytical Report

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Cadmium	ND	5.0	1	49138	EPA 6010B	07/08/99
Chromium (total)	ND	10	1	49138	EPA 6010B	07/08/99
Lead	ND	3.0	1	49138	EPA 6010B	07/08/99
Nickel	ND	20	1	49138	EPA 6010B	07/08/99
Zinc	ND	20	1	49138	EPA 6010B	07/08/99

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
JOB NUMBER: 140241

DATE REPORTED: 07/20/99

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Cadmium	ND	5	ug/L	1	49138	EPA 6010B	07/08/99
Chromium (total)	ND	10	ug/L	1	49138	EPA 6010B	07/08/99
Lead	ND	3	ug/L	1	49138	EPA 6010B	07/08/99
Nickel	ND	20	ug/L	1	49138	EPA 6010B	07/08/99
Zinc	ND	20	ug/L	1	49138	EPA 6010B	07/08/99

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
JOB NUMBER: 140241

DATE REPORTED: 07/20/99

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Cadmium	50	56.4	56.5	ug/L	113	113	80-120	0	20	49138	EPA 6010B	07/08/99
Chromium (total)	200	203	205	ug/L	102	103	80-120	1	20	49138	EPA 6010B	07/08/99
Lead	500	509	504	ug/L	102	101	80-120	1	20	49138	EPA 6010B	07/08/99
Nickel	500	521	527	ug/L	104	105	80-120	1	20	49138	EPA 6010B	07/08/99
Zinc	500	489	494	ug/L	98	99	80-120	1	20	49138	EPA 6010B	07/08/99

CLIENT: Subsurface Consultants
JOB NUMBER: 140241

DATE REPORTED: 07/20/99

BATCH QC REPORT
SAMPLE DUPLICATE

Compound	Sample	Sample Result	Duplicate Result	Units	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Cadmium	140129-001	<5.000	<5.000	ug/L	NC	20	49138	EPA 6010B	07/08/99
Chromium (total)	140129-001	<10.000	<10.000	ug/L	NC	20	49138	EPA 6010B	07/08/99
Lead	140129-001	4.61	4.67	ug/L	1	20	49138	EPA 6010B	07/08/99
Nickel	140129-001	20.2	20.5	ug/L	1	20	49138	EPA 6010B	07/08/99
Zinc	140129-001	1200	1200	ug/L	0	20	49138	EPA 6010B	07/08/99

NC = Not Calculable

CLIENT: Subsurface Consultants
JOB NUMBER: 140241

DATE REPORTED: 07/20/99

BATCH QC REPORT
SAMPLE SPIKE

Compound	Spike Amount	Sample	Sample Result	Spike Result	Units	Percent Rec.	Rec. Limit	QC Batch	Method	Analysis Date
Cadmium	50	140129-001	<5.000	58.7	ug/L	117	65-135	49138	EPA 6010B	07/08/99
Chromium (total)	200	140129-001	<10.000	194	ug/L	97	65-135	49138	EPA 6010B	07/08/99
Lead	500	140129-001	4.61	146	ug/L	28*	65-135	49138	EPA 6010B	07/08/99
Nickel	500	140129-001	20.2	526	ug/L	101	65-135	49138	EPA 6010B	07/08/99
Zinc	600	140129-001	1200	1700	ug/L	100	65-135	49138	EPA 6010B	07/08/99

* = Out of Limits