



Subsurface Consultants, Inc.

December 30, 1998
SCI 447.055

Mr. George Hill
305 Sheridan Avenue
Piedmont, California 94611

Mr. Gordon Linden
101 Gleneden Avenue
Oakland, California 94611

**Groundwater Monitoring
November 1998 Quarterly Event
Connell Automobile Dealership
3093 Broadway
Oakland, California**

Dear Messrs. Hill & Linden:

This letter records the results of the November 1998 groundwater monitoring event, as well as the September, November and December 1998 free product recovery 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.

Groundwater monitoring is performed in accordance with the program outlined in the Alameda County Health Care Services Agency (ACHCSA) letter dated January 26, 1998. Table 1 outlines the current groundwater monitoring plan for the site. The plan includes periodic sampling of the wells and monthly product level measurements and removal.

BACKGROUND

On December 18, 1989, three underground storage tanks (USTs), which previously contained gasoline, diesel fuel, and waste oil, were removed from a sidewalk area located adjacent to the existing Connell facility. A fuel dispenser island located within the existing building was also

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PROTECTION
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Mr. George Hill
Mr. Gordon Linden
December 30, 1998
SCI 447.055
Page 2

removed at the time. SCI understands that the pipelines connecting the fuel dispenser island with the USTs remained in-place.

Twelve wells have been periodically sampled at the site since 1990 to evaluate impacts to groundwater due to previous UST releases. Two additional wells were installed inside the facility at the site during field activities performed by SCI in May 1998. These wells were installed to assist in the preparation of the Corrective Action Plan.

Since 1991, free product recovery has been conducted on a monthly basis by hand-bailing product from site wells. In October 1996, an internal combustion engine was installed to remove product from MW-6 by soil vapor extraction (SVE). 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.

MONITORING ACTIVITIES

Monthly Free Product Removal

SCI currently measures separate-phase product thickness and depth-to-water in all wells on a monthly basis. Data from the September, November, and December 1998 monthly measurements are summarized in this report. Field forms for these events are attached. Future reporting of the monthly measurements will continue on a quarterly basis.

Groundwater Monitoring

On November 2, 1998, depth-to-water and free product thickness were measured in the site wells. 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 Plate 2.

On November 2 and 3, 1998, wells MW-1, MW-4, MW-6, MW-7, MW-8, MW-9, and MW-13, were purged by removing water with new disposable bailers. 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. Purge water was placed in 55-gallon drums and remain on-site pending later disposal.

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.

Mr. George Hill
Mr. Gordon Linden
December 30, 1998
SCI 447.055
Page 3

ANALYTICAL TESTING

Chemical analyses of samples obtained were performed by Curtis & Tompkins, Ltd., a state-certified chemical testing laboratory. A summary of sample preparation and test methods is presented below.

Analysis	Sample Preparation Method	Analysis Method
Total Volatile Hydrocarbons (TVH)	EPA 5030	EPA 8015 Mod.
Total Extractable Hydrocarbons	EPA 3520	EPA 8015 Mod.
Benzene, Toluene, Ethylbenzene, Xylenes	EPA 5030	EPA 8020
Methyl Tertiary Butyl Ether (MTBE)	EPA 5030	EPA 8020
1,2 Dichloroethane (1,2-DCA)	EPA 5030	EPA 8260

Groundwater analytical test results are summarized in Table 3. Field sampling forms, analytical test reports, and chain-of-custody documents are attached.

DISCUSSION AND CONCLUSIONS

Groundwater Gradient

The groundwater gradient is relatively steep trending from the northwest to southeast, with elevations varying approximately 12 feet across the site. However, a relatively flat area exists in the western portion of the site. This pattern is generally typical of what has been shown throughout the study.

Free Product

Free product is intermittently present in four of the site wells (MW-1, MW-4, MW-6, and MW-14). Between September and December 1998, the free product thickness in MW-1 ranged from 0.10 to 0.39 feet. Free product was not detected in well MW-4 during this quarter, nor has it been detected in well MW-4 during the past 12 months. Between September and December 1998, the free product thickness in MW-6 ranged from 0.31 to 0.43 feet. During the December monthly event, free product was detected for the first time in monitoring well MW-14. Well MW-14 was installed in May 1998 and is located in the center of the plume. A summary of free product removed from site wells by hand-bailing is presented in Table 5.

Mr. George Hill
Mr. Gordon Linden
December 30, 1998
SCI 447.055
Page 4

Monitoring Well Test Results

The concentrations of dissolved hydrocarbons in site wells MW-1, MW-4, MW-6, MW-8, and MW-9 during this quarterly event (Table 3) appear to be similar to previous monitoring events. Dissolved hydrocarbons were not detected in MW-7 with the exception of 1,2-DCA at 1.2 µg/l which is consistent with previous events. Concentrations of dissolved hydrocarbons in well MW-13 decreased slightly from the previous event.

MTBE has not been detected in any of the wells sampled to date.

ONGOING ACTIVITIES

SCI will continue to remove product by hand bailing and record water level measurements on a monthly basis in accordance with the approved monitoring plan. The next sampling event will occur in February 1999.

We trust that this provides the required information. If you have any questions, please call.

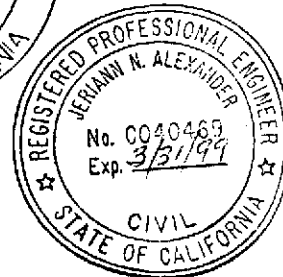
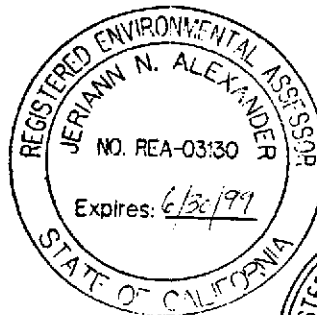
Yours very truly,

Subsurface Consultants, Inc.

Margaret Mendoza
Project Engineer

Jeriann N. Alexander, PE, REA
Civil Engineer 40469 (expires 3/31/99)
Registered Environmental Assessor 03130 (exp. 6/30/99)

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Mr. George Hill
Mr. Gordon Linden
December 30, 1998
SCI 447.055
Page 5

Attachments: Table 1 - Groundwater Monitoring Plan
Table 2 - Groundwater and Free Product Elevation Data
Table 3 - Summary of Chemical Concentrations in Groundwater
Table 4 - Summary of Semi-Volatile Organic Compounds and Oil and Grease
Table 5 - Free Product Recovery by Hand Bailing
Plate 1 - Site Plan
Plate 2 - Groundwater Elevation Contours
Field Forms- September 1998 through December 1998
Analytical Test Reports
Chain-of-Custody Documents

cc: ✓ Ms. Susan Hugo
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TABLE 1
GROUNDWATER MONITORING PROGRAM
CONNELL OLDSMOBILE
3093 BROADWAY
OAKLAND, CALIFORNIA

Well ID	TVH/BTEX/ MTBE	TEH	1,2-DCA	O&G	SVOCs
MW-1	Q*	Q*	Q*	Q*	Q*
MW-2	A	A	A	--	--
MW-3	A	A	A	--	--
MW-4	Q*	Q*	Q*	--	--
MW-5	A	A	A	--	--
MW-6	SA	SA	SA	--	--
MW-7	Q	Q	Q	--	--
MW-8	Q	Q	Q	--	--
MW-9	Q*	Q*	Q*	--	--
MW-10	A	A	A	--	--
MW-11	A	A	A	--	--
MW-13	Q	Q	Q	--	--

Notes:

TVH = Total volatile hydrocarbons

BTEX = Benzene, toluene, ethylbenzene and total xylenes

MTBE = Methyl tertiary butyl ether

TEH = Total extractable hydrocarbons

1,2-DCA = 1,2-Dichloroethane

O&G = Oil & grease

SVOCs = Semi-volatile organic compounds

Q* = These wells are sampled quarterly (February, May, August, and November events) if no free product is present, or semi-annually (May and November) if free product is present

Q = Quarterly; these wells are sampled in February, May, August, and November

SA = Semi-annually, these wells are sampled in May and November

A = Annually, these wells are sampled in May

Groundwater monitoring is performed in accordance with the program outlined in the

Alameda County Health Care Services Agency (ACHCSA) letter dated January 26, 1998.

Water and free product levels in all wells are checked monthly and free product, if encountered, is removed by bailing as required by the ACHCSA

**TABLE 2
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
		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

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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.)	94.48	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		
		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	--				

TABLE 2
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	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	--
		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	--		
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	--

TABLE 2
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 (cont.)	90.08	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	--
		10/1/97	20.73	69.35	0	--
		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	--		
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	--

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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	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		
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		

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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	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	--		
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	--		

TABLE 2
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	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	--
		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	--		

TABLE 2
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		
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		

TABLE 2
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*	86.94	11/4/96	NM	NM	NM	NM		
		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		
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	--		

TABLE 2
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	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	--
		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	--		
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	--

TABLE 2
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	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	--		
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	--		
MW-9	90.37	10/28/92	23.37	67.00	0	--
		11/24/92	23.51	66.86	0	--

TABLE 2
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	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	--
		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	--		

TABLE 2
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	--
		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	--		

TABLE 2
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	8/26/98	17.74	70.86	0	--
		11/2/98	18.75	69.85	0	--
		12/4/98	18.89	69.71	0	--
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		
		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 2
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	--
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	--		

TABLE 2
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	3/6/98	22.51	61.55	0	--
		4/2/98	22.54	61.52	0	--
		4/29/98	22.27	61.79	0	--
		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	--
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
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	--

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.

TABLE 3
SUMMARY OF CHEMICAL CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Event Date	Groundwater Elevation (feet)	TVH $\mu\text{g/l}$	TEH $\mu\text{g/l}$	B $\mu\text{g/l}$	T $\mu\text{g/l}$	E $\mu\text{g/l}$	X $\mu\text{g/l}$	1,2-DCA $\mu\text{g/l}$	Other Purgeable Halocarbons $\mu\text{g/l}$	MTBE $\mu\text{g/l}$
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	ND	<1,000
	5/1/98	74.53	160,000	29,000 ^{1,2}	35,000	42,000	2,800	16,000	1,100	ND	<1,000
11/3/98	71.19	200,000	37,000 ^{1,2}	39,000	49,000	4,400	26,000	1,200	ND	<500	
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	--

TABLE 3
 SUMMARY OF CHEMICAL CONCENTRATIONS IN GROUNDWATER
 FROM MONITORING WELLS
 3093 BROADWAY
 OAKLAND, CALIFORNIA

Well	Event Date	Groundwater Elevation (feet)	TVH $\mu\text{g/l}$	TEH $\mu\text{g/l}$	B $\mu\text{g/l}$	T $\mu\text{g/l}$	E $\mu\text{g/l}$	X $\mu\text{g/l}$	1,2-DCA $\mu\text{g/l}$	Other Purgeable Halocarbons $\mu\text{g/l}$	MTBE $\mu\text{g/l}$
MW-2 (cont.)	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	ND	<2
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	ND	<2
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	

TABLE 3
 SUMMARY OF CHEMICAL CONCENTRATIONS IN GROUNDWATER
 FROM MONITORING WELLS
 3093 BROADWAY
 OAKLAND, CALIFORNIA

Well	Event Date	Groundwater	TVH µg/l	TEH µg/l	B µg/l	T µg/l	E µg/l	X µg/l	1,2-DCA	Other Purgeable Halocarbons	MTBE
		Elevation (feet)							µg/l	µg/l	µg/l
MW-4 (cont.)	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	ND	<1,000
	8/4/98	71.30	130,000	3,500 ^{1,2}	16,000	34,000	2,400	15,700	240	ND	<400
	11/2/98	69.63	140,000	7,200 ^{1,2}	16,000	32,000	2,300	15,500	230	ND	<400
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	ND	<2
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	--	--

TABLE 3
SUMMARY OF CHEMICAL CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Event Date</u>	<u>Groundwater Elevation (feet)</u>	<u>TVH $\mu\text{g/l}$</u>	<u>TEH $\mu\text{g/l}$</u>	<u>B $\mu\text{g/l}$</u>	<u>T $\mu\text{g/l}$</u>	<u>E $\mu\text{g/l}$</u>	<u>X $\mu\text{g/l}$</u>	<u>1,2-DCA $\mu\text{g/l}$</u>	<u>Other Purgeable Halocarbons $\mu\text{g/l}$</u>	<u>MTBE $\mu\text{g/l}$</u>
MW-6	11/5/97	60.78	160,000	65,000 ^{1,2}	13,000	19,000	1,900	14,300	790	--	<200
(cont.)	5/1/98	62.86	130,000	25,000 ^{1,2}	15,000	23,000	1,700	13,200	1,100	ND	<500
	11/3/98	61.47	110,000	30,000 ^{1,2}	17,000	21,000	1,800	10,700	990	ND	<200
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	ND	<2
	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	ND	<2
	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	ND	<2
	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	ND	<2
	8/4/98	68.17	<50	<50	<0.5	<0.5	<0.5	<0.5	1.1	ND	<2
	11/2/98	67.50	<50	<50	<0.5	<0.5	<0.5	<0.5	1.2	ND	<2

TABLE 3
SUMMARY OF CHEMICAL CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Event Date	Groundwater Elevation (feet)	TVH $\mu\text{g/l}$	TEH $\mu\text{g/l}$	B $\mu\text{g/l}$	T $\mu\text{g/l}$	E $\mu\text{g/l}$	X $\mu\text{g/l}$	1,2-DCA $\mu\text{g/l}$	Other Purgeable	MTBE
										Halocarbons $\mu\text{g/l}$	$\mu\text{g/l}$
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	ND	<2
	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	ND	<2
	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	ND	<2
	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	ND	<10	
8/5/98	59.54	140	260 ^{1,2}	19	<0.5	5.2	5.3	69	ND	<2	
11/3/98	59.23	150	190 ^{1,2}	110	1.1	4.3	4.5	67	ND	<2	
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	--	--

TABLE 3
SUMMARY OF CHEMICAL CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Event Date	Groundwater	TVH μg/l	TEH μg/l	B μg/l	T μg/l	E μg/l	X μg/l	1,2-	Other Purgeable	MTBE μg/l
		Elevation (feet)							DCA μg/l	Halocarbons μg/l	
MW-9 (cont.)	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	ND	<2
	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	ND	<2
	8/5/98	71.02	550 ¹	630 ^{1,2}	88	<0.5	13	1.9 ³	420	ND	<2
	11/2/98	69.94	580	500 ^{1,2}	<0.5	<0.5	7.5 ³	1.6 ³	430	ND	<2
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	ND	<250
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	--

TABLE 3
SUMMARY OF CHEMICAL CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Event Date	Groundwater Elevation (feet)	TVH $\mu\text{g/l}$	TEH $\mu\text{g/l}$	B $\mu\text{g/l}$	T $\mu\text{g/l}$	E $\mu\text{g/l}$	X $\mu\text{g/l}$	1,2-DCA $\mu\text{g/l}$	Other Purgeable Halocarbons $\mu\text{g/l}$	MTBE $\mu\text{g/l}$
MW-11 (cont.)	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	ND	<2
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	ND	<2
	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	ND	<2
	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	ND	<2
	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	ND	<2	

TABLE 3
SUMMARY OF CHEMICAL CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Event Date	Groundwater Elevation (feet)	TVH $\mu\text{g/l}$	TEH $\mu\text{g/l}$	B $\mu\text{g/l}$	T $\mu\text{g/l}$	E $\mu\text{g/l}$	X $\mu\text{g/l}$	1,2-DCA $\mu\text{g/l}$	Other Purgeable Halocarbons $\mu\text{g/l}$	MTBE $\mu\text{g/l}$
MW-13	8/4/98	61.31	120	78 ^{1,2}	200	<1	<1	<1	6.2	ND	<4
(cont.)	11/3/98	60.16	59 ¹	<50	33	<0.5	<0.5	<0.5	6.1	ND	<2
MW-14	5/26/98	72.99	41,000	7,700 ^{1,2}	7,100	11,000	720	3,900	440	ND	<1000
MW-15	5/26/98	72.89	130,000	1,700 ^{1,2}	30,000	38,000	2,500	12,600	1,200	ND	<1000

NOTES:

$\mu\text{g/l}$ = 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.

Elevation dates taken near the time of sampling; see Table 2

<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

TABLE 4
 SUMMARY OF SEMI-VOLATILE ORGANIC COMPOUNDS AND OIL & GREASE
 IN GROUNDWATER FROM MONITORING WELL MW-1
 3093 BROADWAY
 OAKLAND, CALIFORNIA

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 8270 Compounds
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	<94	500	<94	59J	500	<94	1,100	130	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

TABLE 5
FREE PRODUCT RECOVERY BY HAND BAILING
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Date</u>	<u>Product Removed by Hand Bailing (gallons)</u>	<u>Cumulative Product Removed by Hand Bailing (gallons)</u>
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
	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

TABLE 5
FREE PRODUCT RECOVERY BY HAND BAILING
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Date</u>	<u>Product Removed by Hand Bailing (gallons)</u>	<u>Cumulative Product Removed by Hand Bailing (gallons)</u>
MW-1	11/2/98	trace	13.47
(cont.)	12/4/98	0.01	13.48
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
	1/3/96	0.05	46.84
	2/2/96	0.10	46.94
	3/1/96	0.20	47.14

TABLE 5
FREE PRODUCT RECOVERY BY HAND BAILING
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Date</u>	<u>Product Removed by Hand Bailing (gallons)</u>	<u>Cumulative Product Removed by Hand Bailing (gallons)</u>
MW-4	4/4/96	0.20	47.34
(cont.)	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 detected since 2/97; checked on a monthly basis		
	12/4/98	0.00	47.92
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

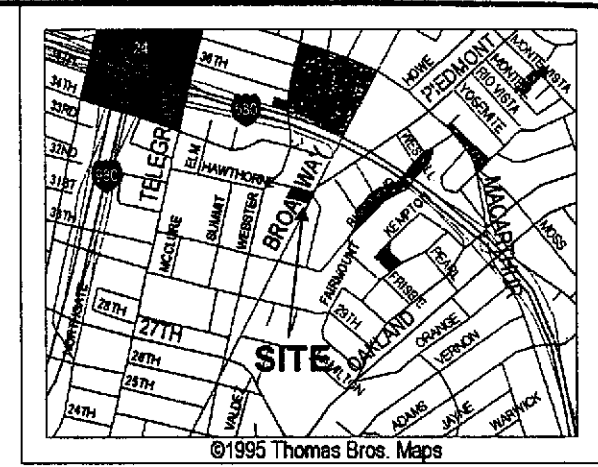
TABLE 5
FREE PRODUCT RECOVERY BY HAND BAILING
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Date</u>	<u>Product Removed by Hand Bailing (gallons)</u>	<u>Cumulative Product Removed by Hand Bailing (gallons)</u>
MW-6	11/30/95	2.50	42.41
(cont.)	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
	9/10/96	3.50	79.40
	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

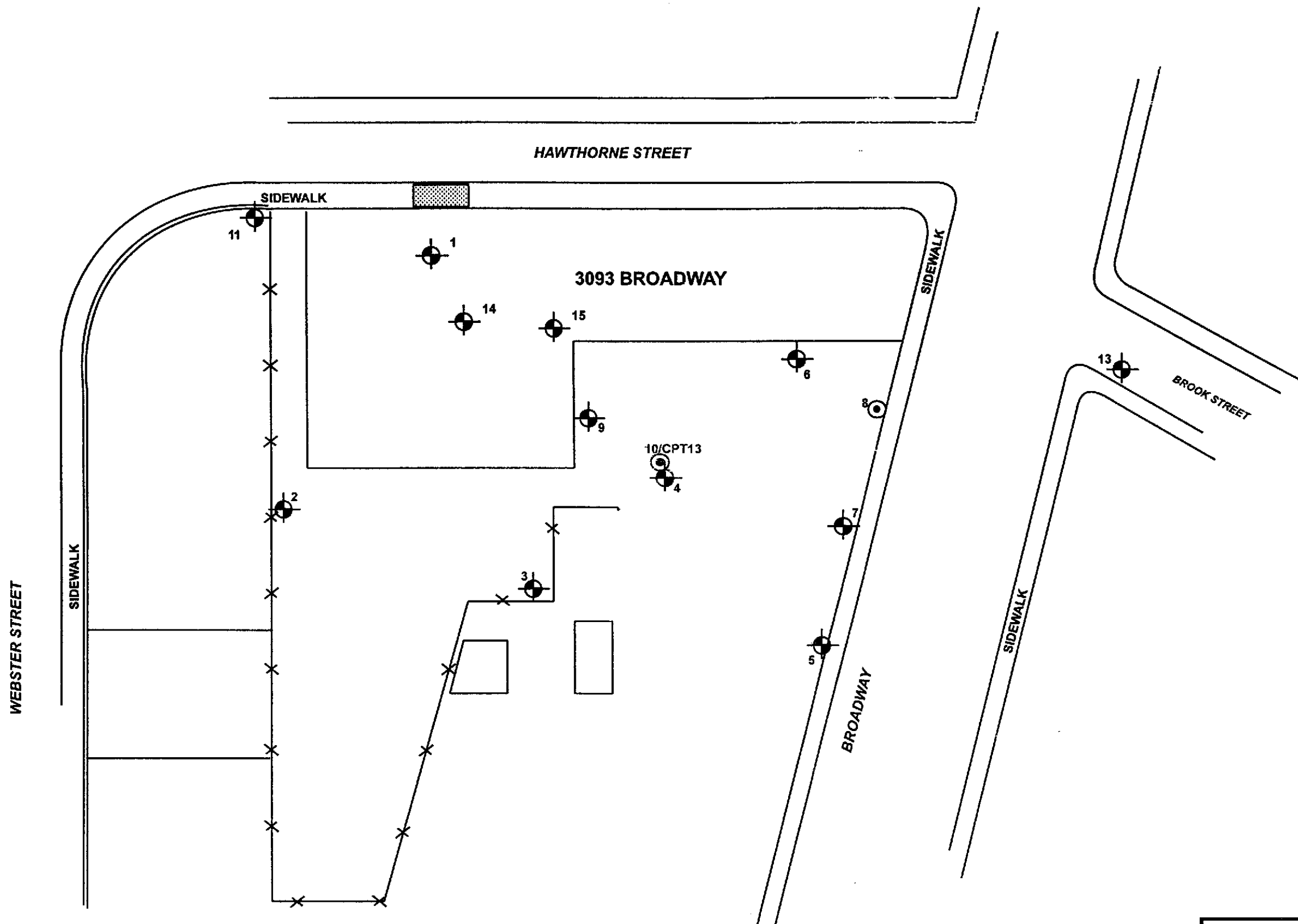
TABLE 5
FREE PRODUCT RECOVERY BY HAND BAILING
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Date</u>	<u>Product Removed by Hand Bailing (gallons)</u>	<u>Cumulative Product Removed by Hand Bailing (gallons)</u>
MW-9	8/8/96	0.10	0.10
	none detected since 8/96; checked on a monthly basis		
	12/4/98	0.00	0.10
MW-14	12/4/98	trace	0.00
Total Product (gallons) removed by bailing			146.45
Total Product (gallons) removed by Soil Vapor Extraction (as of 3/31/98)			223.0
Cumulative Total of Product (gallons) Removed			369.45

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

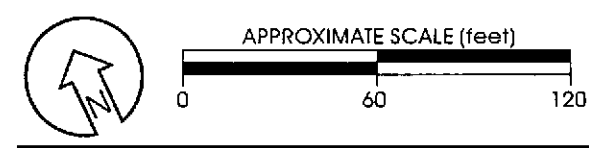


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VICINITY MAP



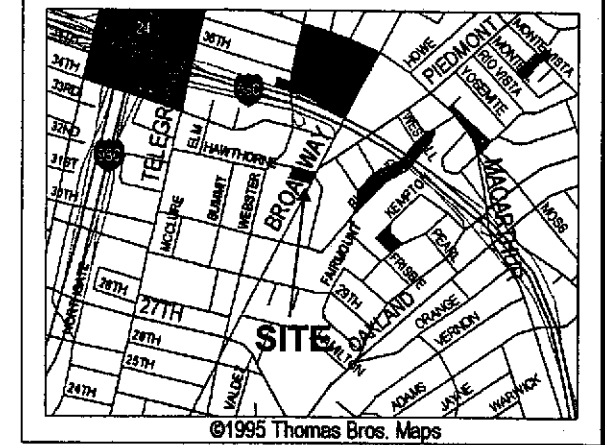
EXPLANATION

- SCI MONITORING WELL
- EXTRACTION WELL
- FENCE
- RETAINING WALL
- FORMER TANK LOCATION

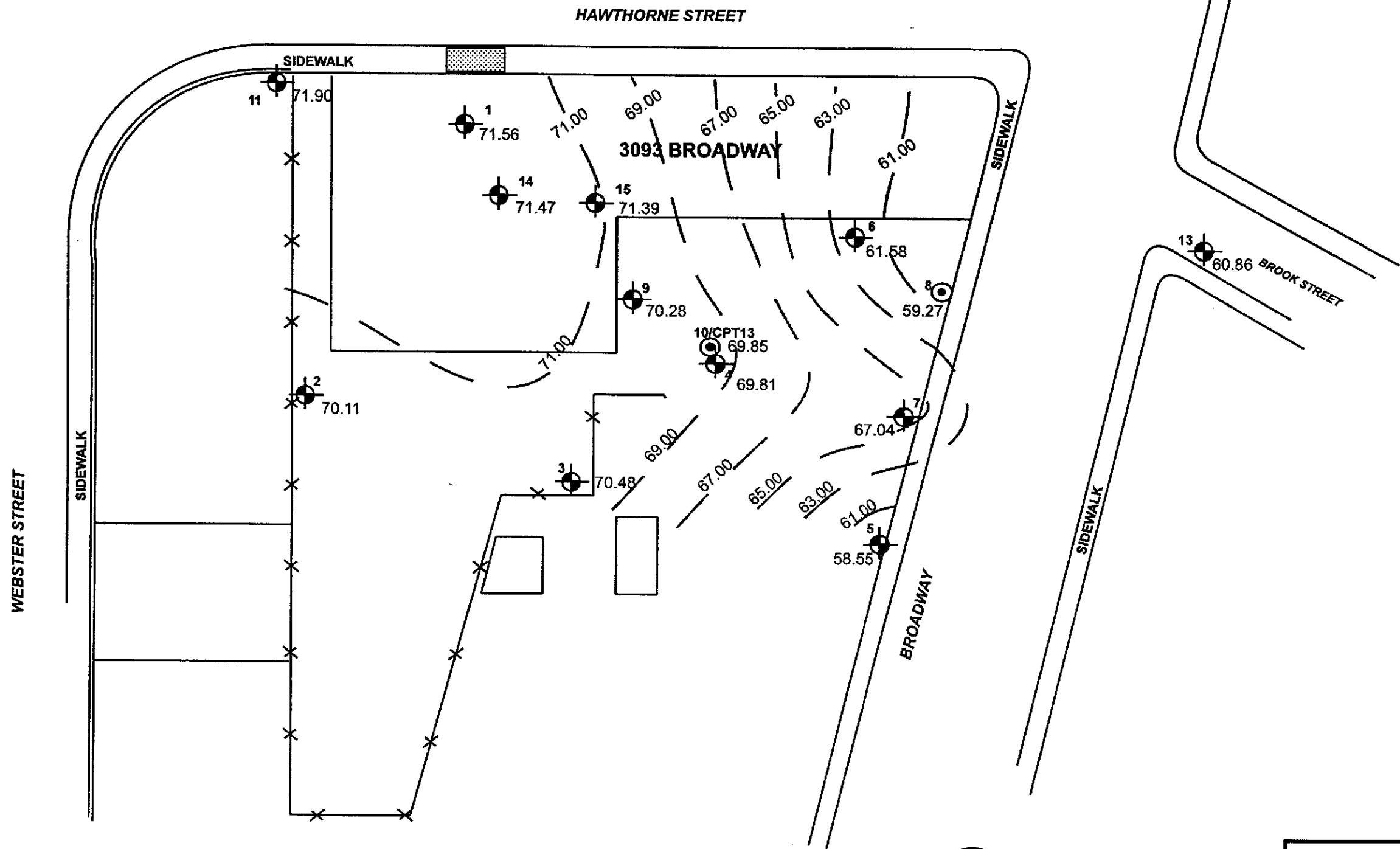


SITE PLAN			1
CONNELL OLDSMOBILE - OAKLAND, CA			
JOB NUMBER 447.055	DATE 12/21/98	APPROVED 	

SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers

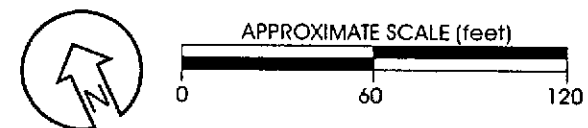


VICINITY MAP



EXPLANATION

- SCI MONITORING WELL
- EXTRACTION WELL
- 71.84 GROUNDWATER ELEVATION (feet)
- FENCE
- RETAINING WALL
- FORMER TANK LOCATION
- APPROXIMATE GROUNDWATER ELEVATION CONTOURS 11/2/98



GROUNDWATER ELEVATION CONTOURS NOVEMBER 1998		
CONNELL OLDSMOBILE - OAKLAND, CA		PLATE
JOB NUMBER 447.055	DATE 12/9/98	APPROVED <i>[Signature]</i>
		2

SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

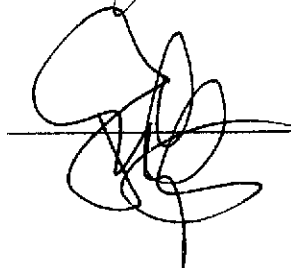
Subsurface Consultants
3736 Mt. Diablo Blvd.
Suite 200
Lafayette, CA 94549

Date: 25-NOV-98
Lab Job Number: 136384
Project ID: 447.055
Location: Connell Olds

Reviewed by:



Reviewed by:



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LABORATORY NUMBER: 136384
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 447.055
 LOCATION: CONNELL OLDS

db
 DATE SAMPLED & TOXICITY: 11/02/98
 DATE RECEIVED: 11/03/98
 DATE ANALYZED: 11/13/98
 DATE REPORTED: 11/25/98
 BATCH NO: 44590

EPA 8260

LAB ID	CLIENT ID	1,1-DCA (ug/L)	1,2-DCA (ug/L)	REPORTING LIMIT (ug/L)	SURROGATE RECOVERIES		
					1	2	3
136384-001	MW-1	ND	1,200	31	107%	105%	98%
136384-002	MW-4	ND	230	31	106%	101%	101%
136384-003	MW-6	ND	990	31	105%	102%	101%
136384-004	MW-7	ND	1.2	0.50	104%	97%	98%
136384-006	MW-9	ND	430	1.3	103%	101%	99%
136384-007	MW-13	ND	6.1	0.50	105%	98%	100%
METHOD BLANK	N/A	ND	ND	0.50	103%	101%	100%

1= 1,2-Dichloroethane-d4
 2=Toluene-d8
 3=Bromofluorobenzene

Limits
 85-121
 92-110
 84-115

ND = Not detected at or above reporting limit.

LABORATORY NUMBER: 136384
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 447.055
 LOCATION: CONNELL OLDS

ct
 DATE SAMPLED & TOPK: 11/03/98
 DATE RECEIVED: 11/03/98
 DATE ANALYZED: 11/11/98
 DATE REPORTED: 11/25/98
 BATCH NO: 44562

EPA 8260

LAB ID	CLIENT ID	1,1-DCA (ug/L)	1,2-DCA (ug/L)	REPORTING LIMIT (ug/L)	SURROGATE RECOVERIES		
					1	2	3
136384-005	MW-8	ND	67	0.50	95%	105%	94%
METHOD BLANK	N/A	ND	ND	0.50	98%	98%	97%

1= 1,2-Dichloroethane-d4
 2=Toluene-d8
 3=Bromofluorobenzene

Limits
 85-121
 92-110
 84-115

ND = Not detected at or above reporting limit.

Halogenated 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#: 44562
 Units: ug/L
 Diln Fac: 1

Prep Date: 11/11/98
 Analysis Date: 11/11/98

BS Lab ID: QC84398

Analyte	Spike Added	BS	%Rec #	Limits
1,1-Dichloroethene	50	57.33	115	69-137
Trichloroethene	50	51.81	104	83-116
Chlorobenzene	50	51.81	104	87-117
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	101	85-121		
Toluene-d8	103	92-110		
Bromofluorobenzene	95	84-115		

BSD Lab ID: QC84399

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	61.72	123	69-137	7	14
Trichloroethene	50	54.08	108	83-116	4	10
Chlorobenzene	50	55.57	111	87-117	7	10
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	94	85-121				
Toluene-d8	102	92-110				
Bromofluorobenzene	97	84-115				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 3 outside limits

Spike Recovery: 0 out of 6 outside limits

Lab #: 136384

BATCH QC REPORT



Curtis & Tompkins Ltd.
Page 1 of 1

Halogenated 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#: 44590
Units: ug/L
Diln Fac: 1

Prep Date: 11/12/98
Analysis Date: 11/12/98

BS Lab ID: QC84417

Analyte	Spike Added	BS	%Rec #	Limits
1,1-Dichloroethene	50	58.2	116	69-137
Trichloroethene	50	53.92	108	83-116
Chlorobenzene	50	53.22	106	87-117
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	100	85-121		
Toluene-d8	101	92-110		
Bromofluorobenzene	102	84-115		

BSD Lab ID: QC84418

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	55.55	111	69-137	5	14
Trichloroethene	50	51.48	103	83-116	5	10
Chlorobenzene	50	51.54	103	87-117	3	10
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	100	85-121				
Toluene-d8	100	92-110				
Bromofluorobenzene	102	84-115				

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 3 outside limits
Spike Recovery: 0 out of 6 outside limits



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
136384-001	MW-1	44663	11/03/98	11/17/98	11/17/98	
136384-002	MW-4	44663	11/02/98	11/17/98	11/17/98	
136384-003	MW-6	44663	11/03/98	11/17/98	11/17/98	
136384-004	MW-7	44663	11/02/98	11/16/98	11/16/98	

Matrix: Water

Analyte	Units	136384-001	136384-002	136384-003	136384-004
Diln Fac:		25	100	100	1
Gasoline C7-C12	ug/L	200000	140000	110000	<50
Surrogate					
Trifluorotoluene	%REC	144	105	104	105
Bromofluorobenzene	%REC	152	123	119	113

GC05 'G' File TVH

Sample Name : D.136384-001.44663,

Sample #:

Page 1 of 1

FileName : G:\GC05\DATA\320G027.raw

Date : 11/17/98 05:20 AM

Method : TVHBTXE

Time of Injection: 11/17/98 04:53 AM

Start Time : 0.00 min

End Time : 26.80 min

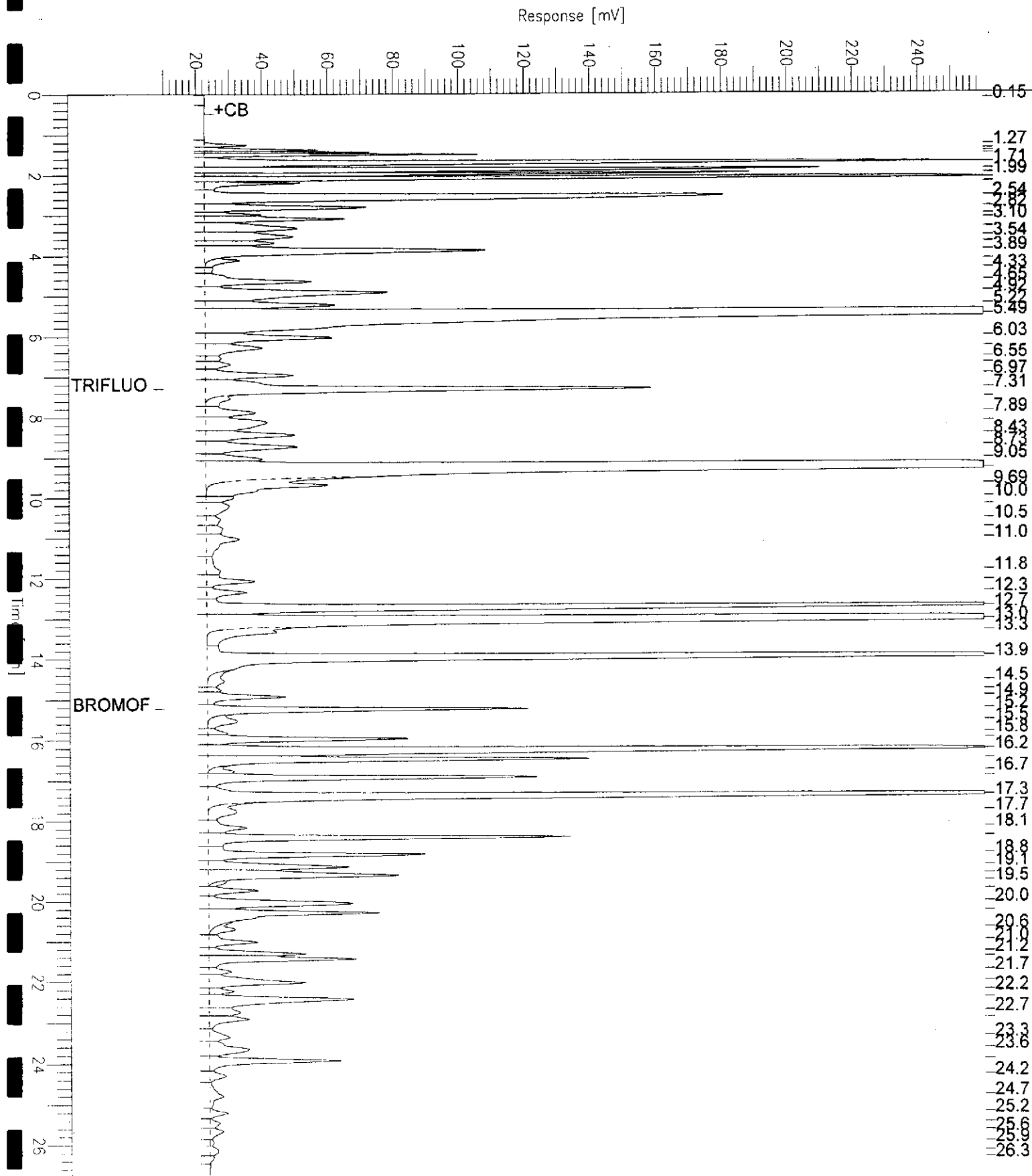
Low Point : 9.90 mV

High Point : 259.90 mV

Scale Factor: -1.0

Plot Offset: 10 mV

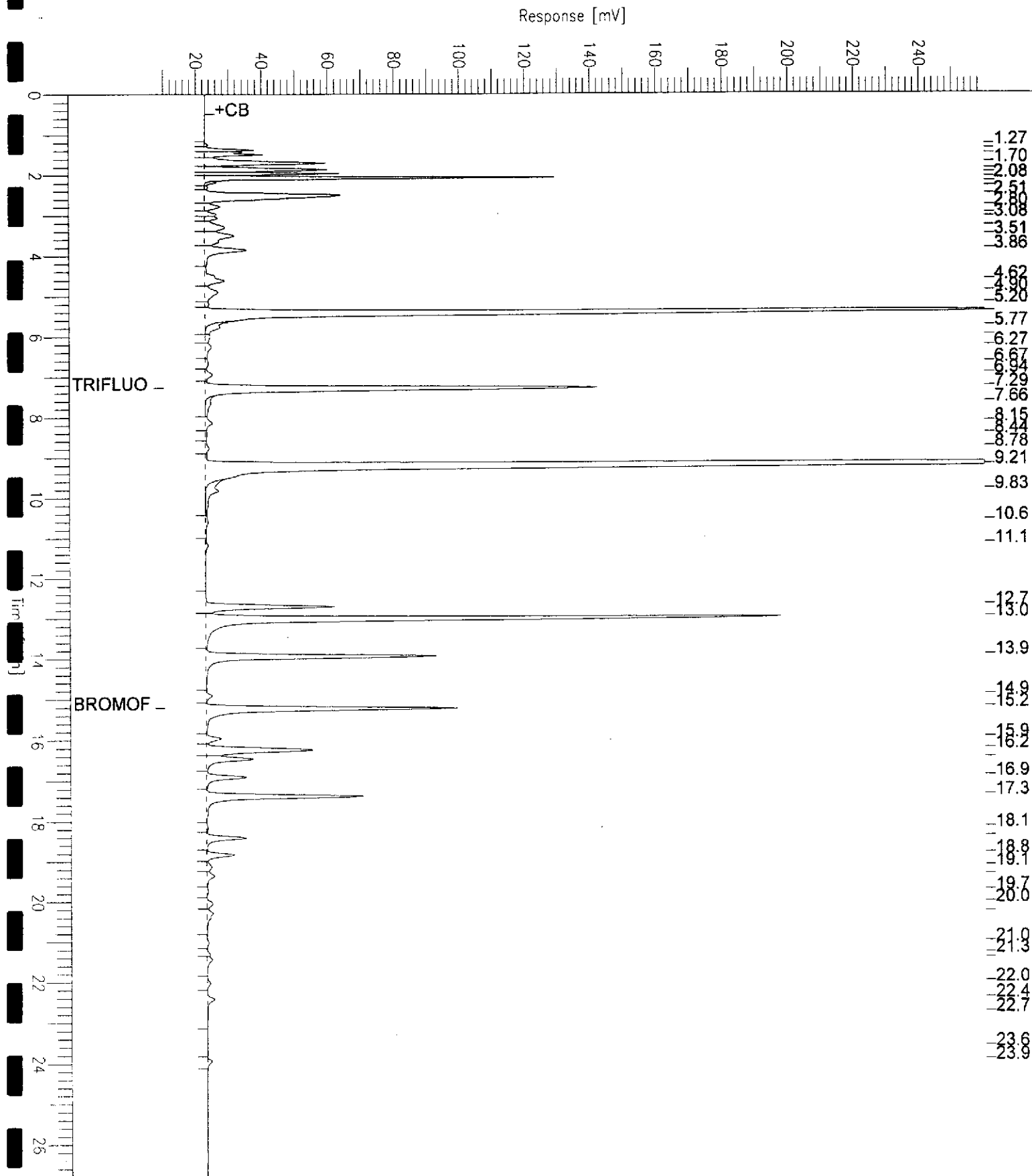
Plot Scale: 250.0 mV



GC05 'G' File TVH

Sample Name : RR,D,136384-002,44663,
 FileName : G:\GC05\DATA\320G040.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: -1.0

Sample #: Page 1 of 1
 Date : 11/17/98 02:05 PM
 Time of Injection: 11/17/98 01:38 PM
 Low Point : 9.98 mV High Point : 259.98 mV
 Plot Offset: 10 mV Plot Scale: 250.0 mV

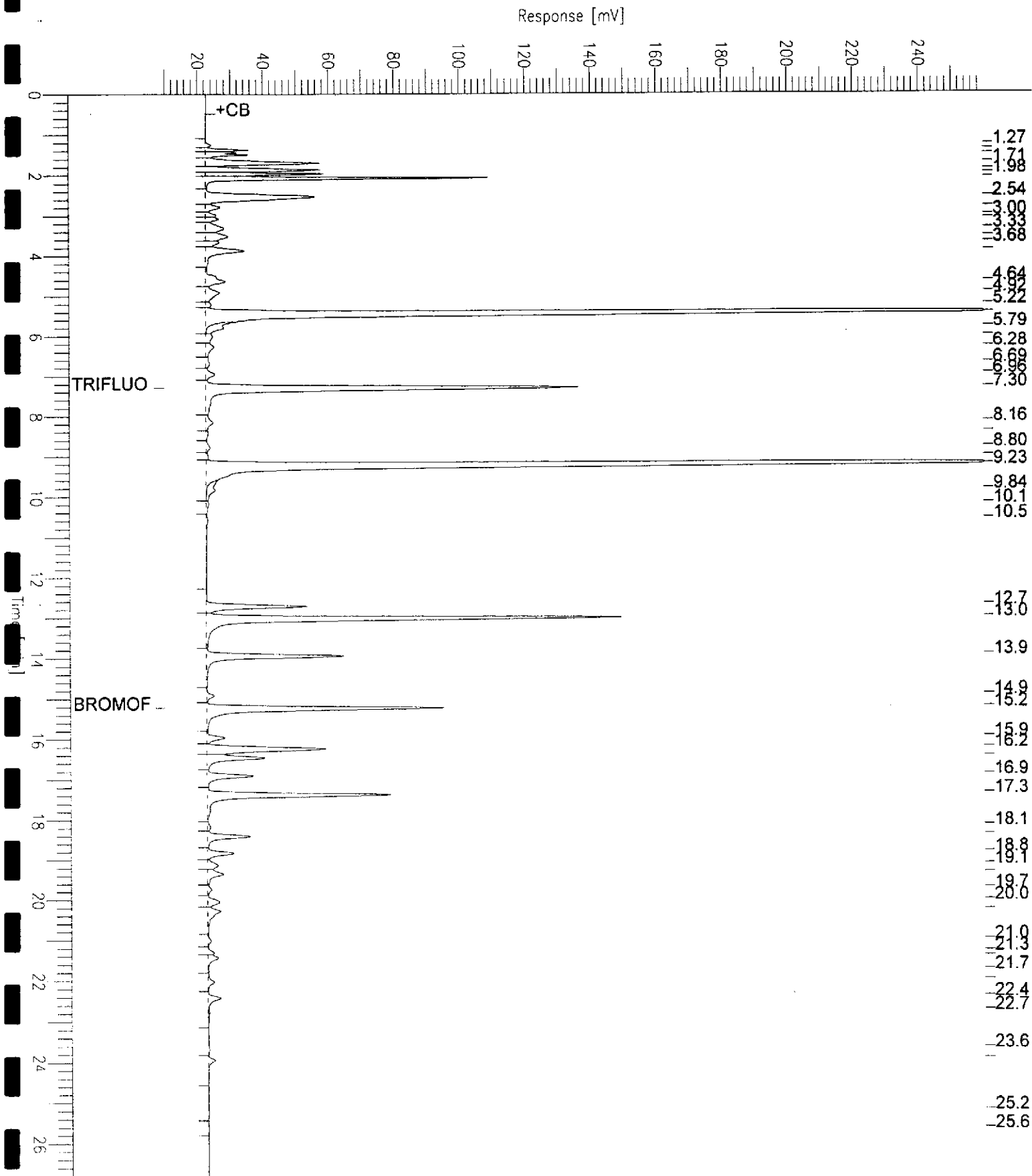


GC05 'G' File TVH

Sample Name : RR,D,136384-003,44663,
 File Name : G:\GC05\DATA\320G041.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: -1.0

End Time : 26.80 min
 Plot Offset: 10 mV

Sample #: Page 1 of 1
 Date : 11/17/98 02:44 PM
 Time of Injection: 11/17/98 02:17 PM
 Low Point : 9.64 mV
 High Point : 259.64 mV
 Plot Scale: 250.0 mV





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
136384-005	MW-8	44663	11/03/98	11/17/98	11/17/98	
136384-006	MW-9	44663	11/03/98	11/17/98	11/17/98	
136384-007	MW-13	44663	11/03/98	11/17/98	11/17/98	

Matrix: Water

Analyte	Units	136384-005	136384-006	136384-007
Diln Fac:		1	1	1
Gasoline C7-C12	ug/L	150	580	59 Y
Surrogate				
Trifluorotoluene	%REC	103	113	104
Bromofluorobenzene	%REC	119	134	117

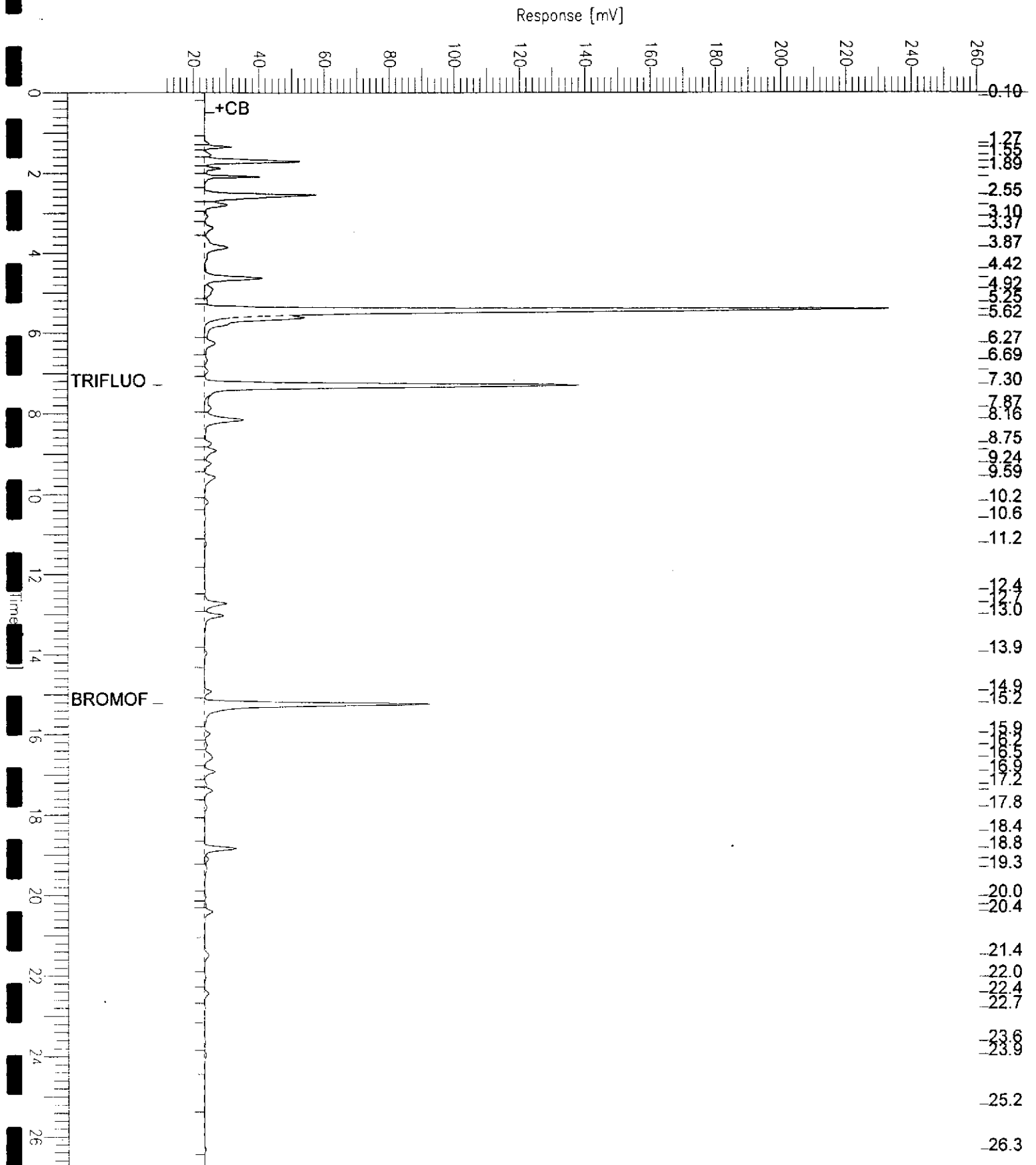
Y: Sample exhibits fuel pattern which does not resemble standard

GC05 'G' File TVH

Sample Name : S,136384-005,44663,
 File Name : G:\GC05\DATA\320G024.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: -1.0

End Time : 26.80 min
 Plot Offset: 10 mV

Sample #: Page 1 of 1
 Date : 11/17/98 03:24 AM
 Time of Injection: 11/17/98 02:56 AM
 Low Point : 10.47 mV
 High Point : 260.47 mV
 Plot Scale: 250.0 mV

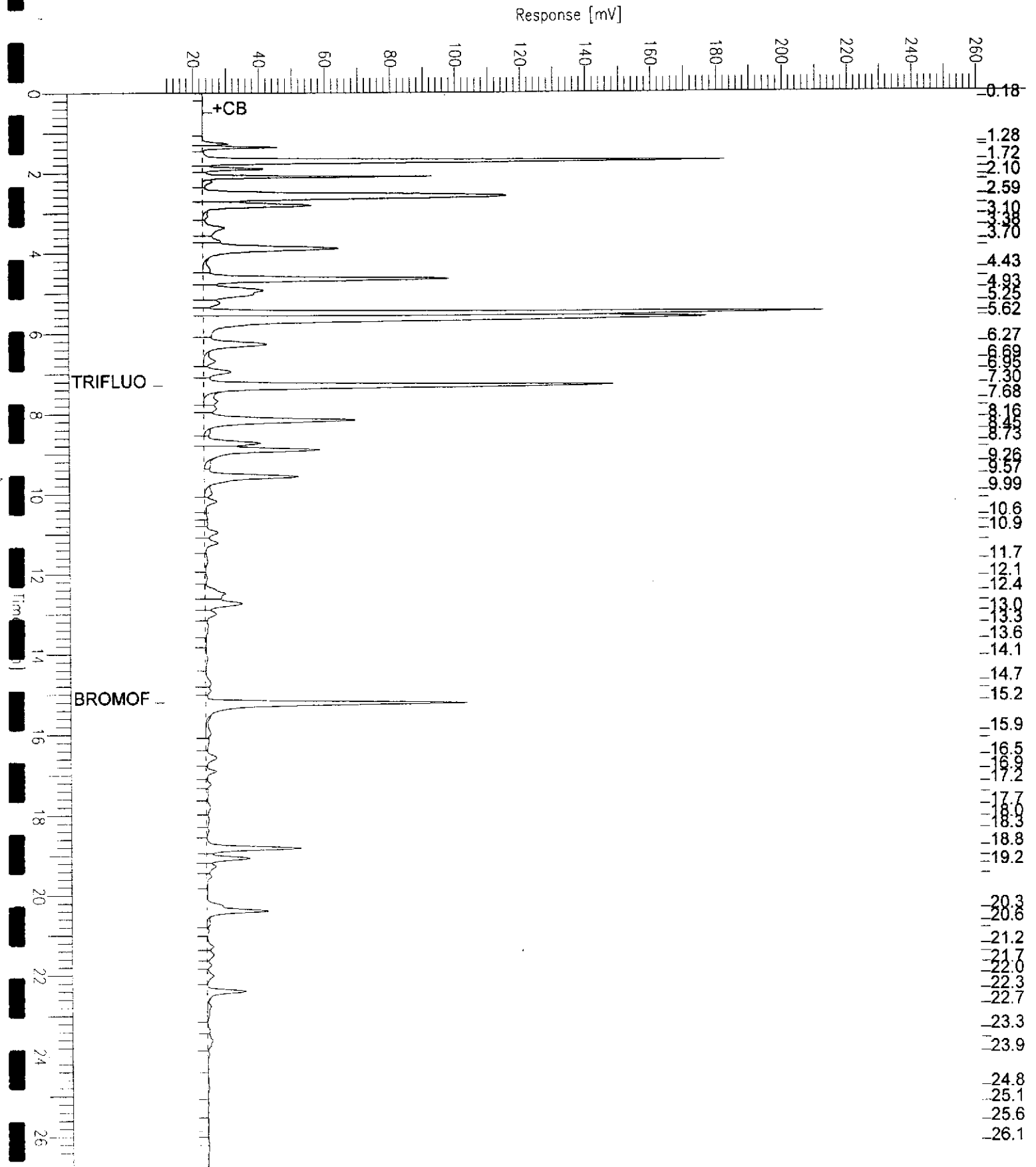


GC05 'G' File TVH

Sample Name : S,136384-006,44663,
FileName : G:\GC05\DATA\320G025.raw
Method : TVHBTXE
Start Time : 0.00 min
Scale Factor: -1.0

End Time : 26.80 min
Plot Offset: 10 mV

Sample #:
Date : 11/17/98 04:03 AM
Time of Injection: 11/17/98 03:35 AM
Low Point : 10.26 mV
Plot Scale: 250.0 mV
High Point : 260.26 mV

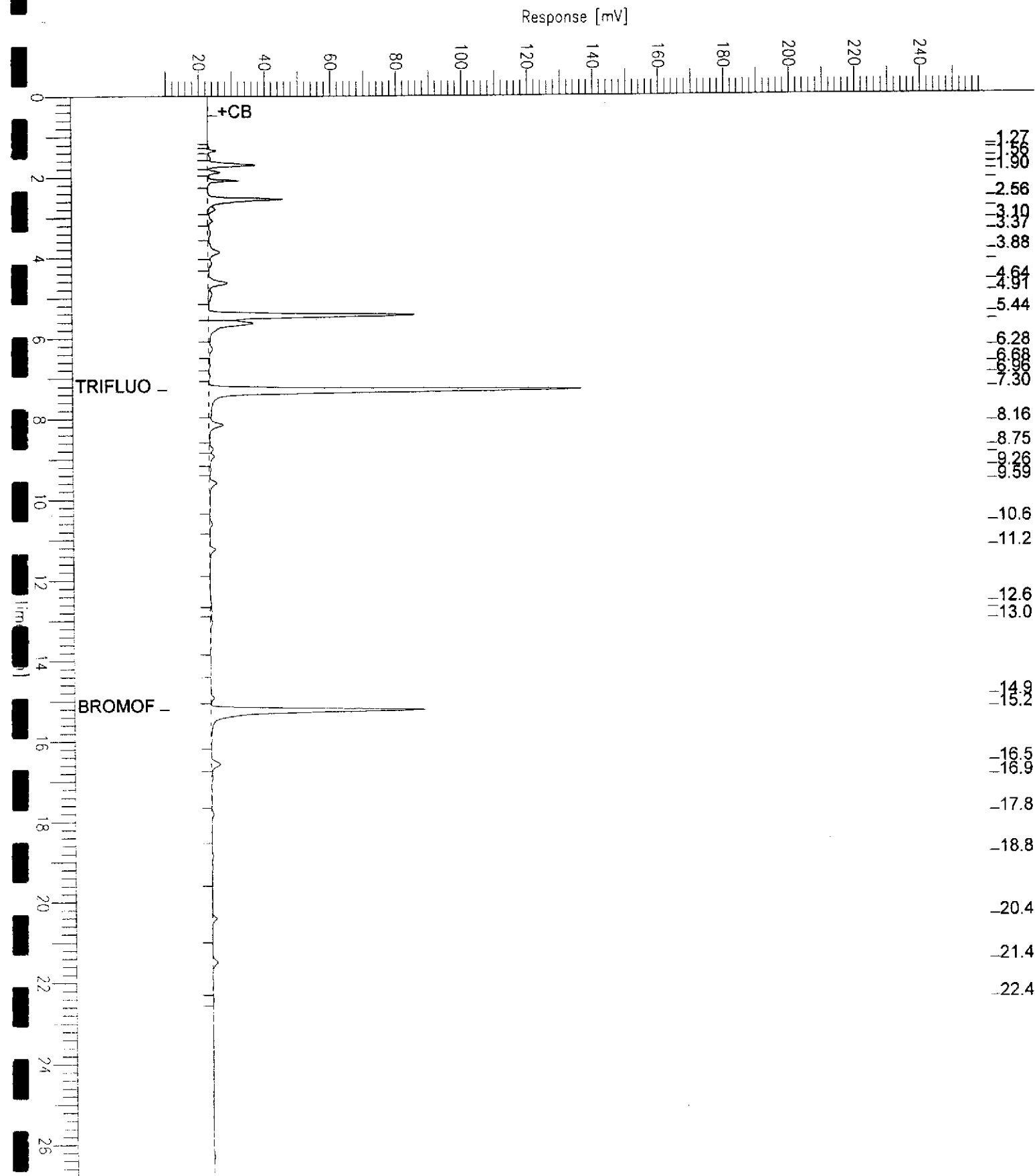


GC05 'G' File TVH

Sample Name : S.136384-007,44663,
 FileName : G:\GC05\DATA\320G026.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Scale Factor: -1.0

End Time : 26.80 min
 Plot Offset: 10 mV

Sample #: Page 1 of 1
 Date : 11/17/98 04:41 AM
 Time of Injection: 11/17/98 04:14 AM
 Low Point : 9.96 mV
 High Point : 259.96 mV
 Plot Scale: 250.0 mV



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
136384-001	MW-1	44663	11/03/98	11/17/98	11/17/98	
136384-002	MW-4	44663	11/02/98	11/17/98	11/17/98	
136384-003	MW-6	44663	11/03/98	11/17/98	11/17/98	
136384-004	MW-7	44663	11/02/98	11/17/98	11/17/98	

Matrix: Water

Analyte	Units	136384-001	136384-002	136384-003	136384-004
Diln Fac:		250	200	100	1
MTBE	ug/L	<500	<400	<200	<2
Benzene	ug/L	39000	16000	17000	<0.5
Toluene	ug/L	49000	32000	21000	<0.5
Ethylbenzene	ug/L	4400	2300	1800	<0.5
m,p-Xylenes	ug/L	18000	11000	8000	<0.5
o-Xylene	ug/L	8000	4500	2700	<0.5
Surrogate					
Trifluorotoluene	%REC	106	112	102	114
Bromofluorobenzene	%REC	128	133	127	131



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
136384-005	MW-8	44663	11/03/98	11/17/98	11/17/98	
136384-006	MW-9	44663	11/03/98	11/17/98	11/17/98	
136384-007	MW-13	44663	11/03/98	11/17/98	11/17/98	

Matrix: Water

Analyte	Units	136384-005	136384-006	136384-007
Diln Fac:		1	1	1
MTBE	ug/L	<2	<2	<2
Benzene	ug/L	110	<0.5	33
Toluene	ug/L	1.1	<0.5	<0.5
Ethylbenzene	ug/L	4.3	7.5C	<0.5
m,p-Xylenes	ug/L	3.9	1.6C	<0.5
o-Xylene	ug/L	0.55	<0.5	<0.5
Surrogate				
Trifluorotoluene	%REC	104	109	105
Bromofluorobenzene	%REC	125	140	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

Lab #: 136384

BATCH QC REPORT



Curtis & Jenkins Ltd.

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#: 44663
Units: ug/L
Diln Fac: 1

Prep Date: 11/16/98
Analysis Date: 11/16/98

MB Lab ID: QC84689

Analyte	Result	
Gasoline C7-C12	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	103	59-162
Bromofluorobenzene	108	59-162

Lab #: 136384

BATCH QC REPORT



Curtis & Jenkins Ltd.
Page 1 of 1

BTXE

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

Analysis Method: EPA 8021B
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 44663
Units: ug/L
Diln Fac: 1

Prep Date: 11/16/98
Analysis Date: 11/16/98

MB Lab ID: QC84689

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	103	53-124
Bromofluorobenzene	113	41-142

Lab #: 136384

BATCH QC REPORT



Curtis & Tompkins, Ltd. Page 1 of 1

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#: 44663
Units: ug/L
Diln Fac: 1

Prep Date: 11/16/98
Analysis Date: 11/16/98

LCS Lab ID: QC84687

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	1944	2000	97	80-119
Surrogate	%Rec	Limits		
Trifluorotoluene	129	59-162		
Bromofluorobenzene	120	59-162		

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 #: 136384

BATCH QC REPORT



Page 1 of 1

BTXE

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

Analysis Method: EPA 8021B
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 44663
Units: ug/L
Diln Fac: 1

Prep Date: 11/16/98
Analysis Date: 11/16/98

LCS Lab ID: QC84688

Analyte	Result	Spike Added	%Rec #	Limits
MTBE	21.43	20	107	65-135
Benzene	19.39	20	97	69-109
Toluene	21.79	20	109	72-116
Ethylbenzene	21.77	20	109	67-120
m,p-Xylenes	45.07	40	113	69-117
o-Xylene	22.95	20	115	75-122

Surrogate	%Rec	Limits
Trifluorotoluene	105	53-124
Bromofluorobenzene	117	41-142

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

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: MW-7
 Lab ID: 136384-004
 Matrix: Water
 Batch#: 44663
 Units: ug/L
 Diln Fac: 1

Sample Date: 11/02/98
 Received Date: 11/03/98
 Prep Date: 11/16/98
 Analysis Date: 11/16/98

MS Lab ID: QC84690

Analyte	Spike Added	Sample	MS	%Rec #	Limits
MTBE	20	<2	20.78	104	65-135
Benzene	20	<0.5	17.62	88	55-125
Toluene	20	<0.5	20.24	101	65-126
Ethylbenzene	20	<0.5	19.7	99	60-129
m,p-Xylenes	40	<0.5	42.68	107	68-116
o-Xylene	20	<0.5	21.39	107	69-129
Surrogate	%Rec	Limits			
Trifluorotoluene	96	53-124			
Bromofluorobenzene	119	41-142			

MSD Lab ID: QC84691

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
MTBE	20	20.86	104	65-135	0	20
Benzene	20	17.86	89	55-125	1	11
Toluene	20	20.88	104	65-126	3	11
Ethylbenzene	20	20.31	102	60-129	3	12
m,p-Xylenes	40	44.43	111	68-116	4	11
o-Xylene	20	22.37	112	69-129	4	12
Surrogate	%Rec	Limits				
Trifluorotoluene	98	53-124				
Bromofluorobenzene	121	41-142				

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

GC05 'G' File TVH

Sample Name : CCV/LCS,QCB4687,98WS6477,44663,

Sample #: GAS

Page 1 of 1

FileName : G:\GC05\DATA\320G002.raw

Date : 11/16/98 12:19 PM

Method : TVHBTXE

Time of Injection: 11/16/98 11:52 AM

Start Time : 0.00 min End Time : 26.80 min

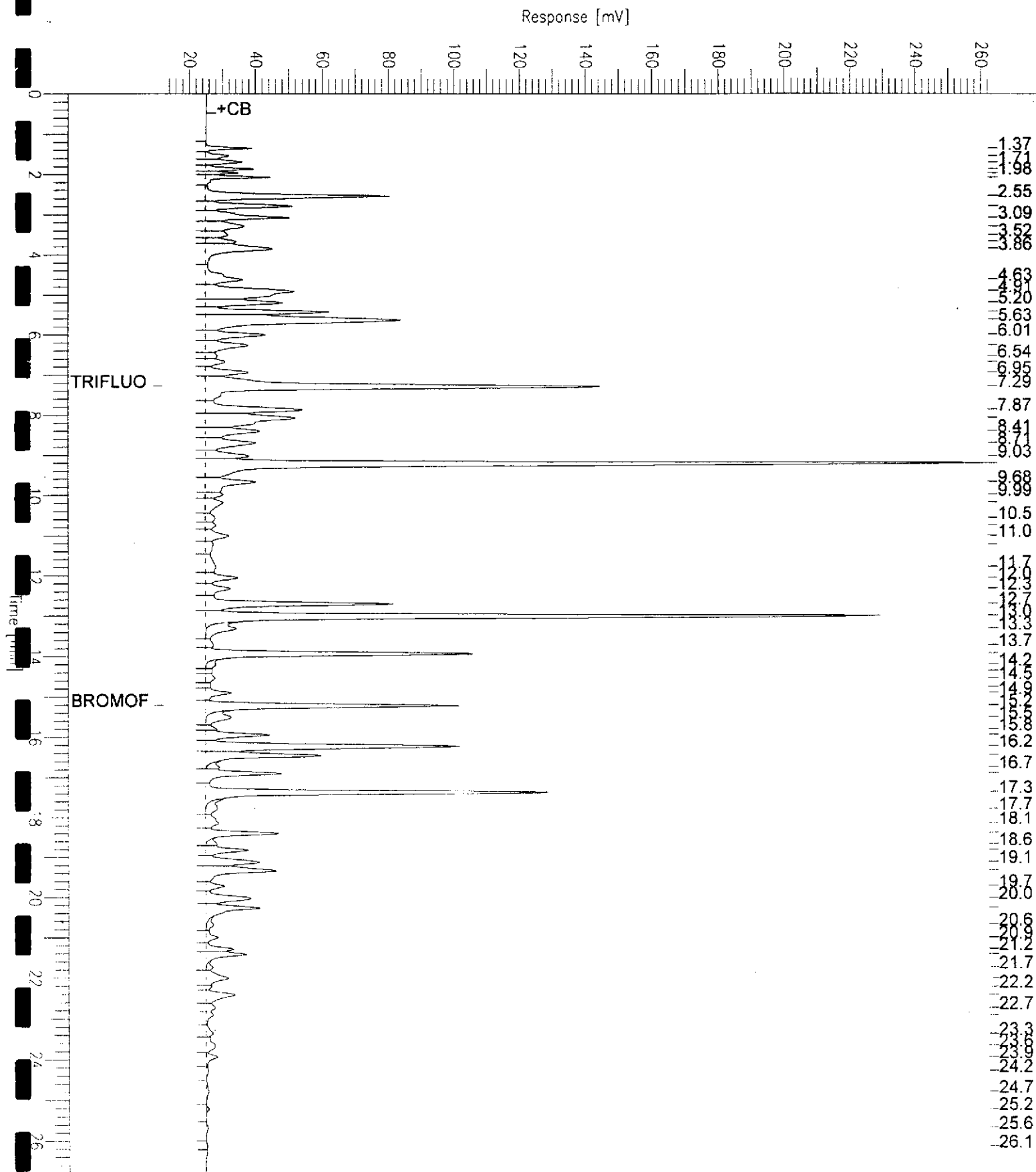
Low Point : 12.05 mV

High Point : 262.05 mV

Scale Factor: -1.0

Plot Offset: 12 mV

Plot Scale: 250.0 mV





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
136384-001	MW-1	44525	11/03/98	11/09/98	11/15/98	
136384-002	MW-4	44525	11/02/98	11/09/98	11/15/98	
136384-003	MW-6	44525	11/03/98	11/09/98	11/20/98	
136384-004	MW-7	44525	11/02/98	11/09/98	11/15/98	

Matrix: Water

Analyte	Units	136384-001	136384-002	136384-003	136384-004
Diln Fac:		10	1	5	1
Diesel C10-C24	ug/L	37000 YL	7200 YL	30000 YL	<50
Surrogate					
Hexacosane	%REC	56	69	73	64

Y: Sample exhibits fuel pattern which does not resemble standard

L: Lighter hydrocarbons than indicated standard

Sample Name : 136384-001,10X,44525
FileName : G:\GC11\CHA\318a037.raw

Sample #: 44525

Page 1 of 1

Date : 11/17/98 09:40:51 AM

Method : Ateh309.mth

Time of Injection: 11/15/98 01:09:43 AM

Start Time : 0.00 min

End Time : 31.90 min

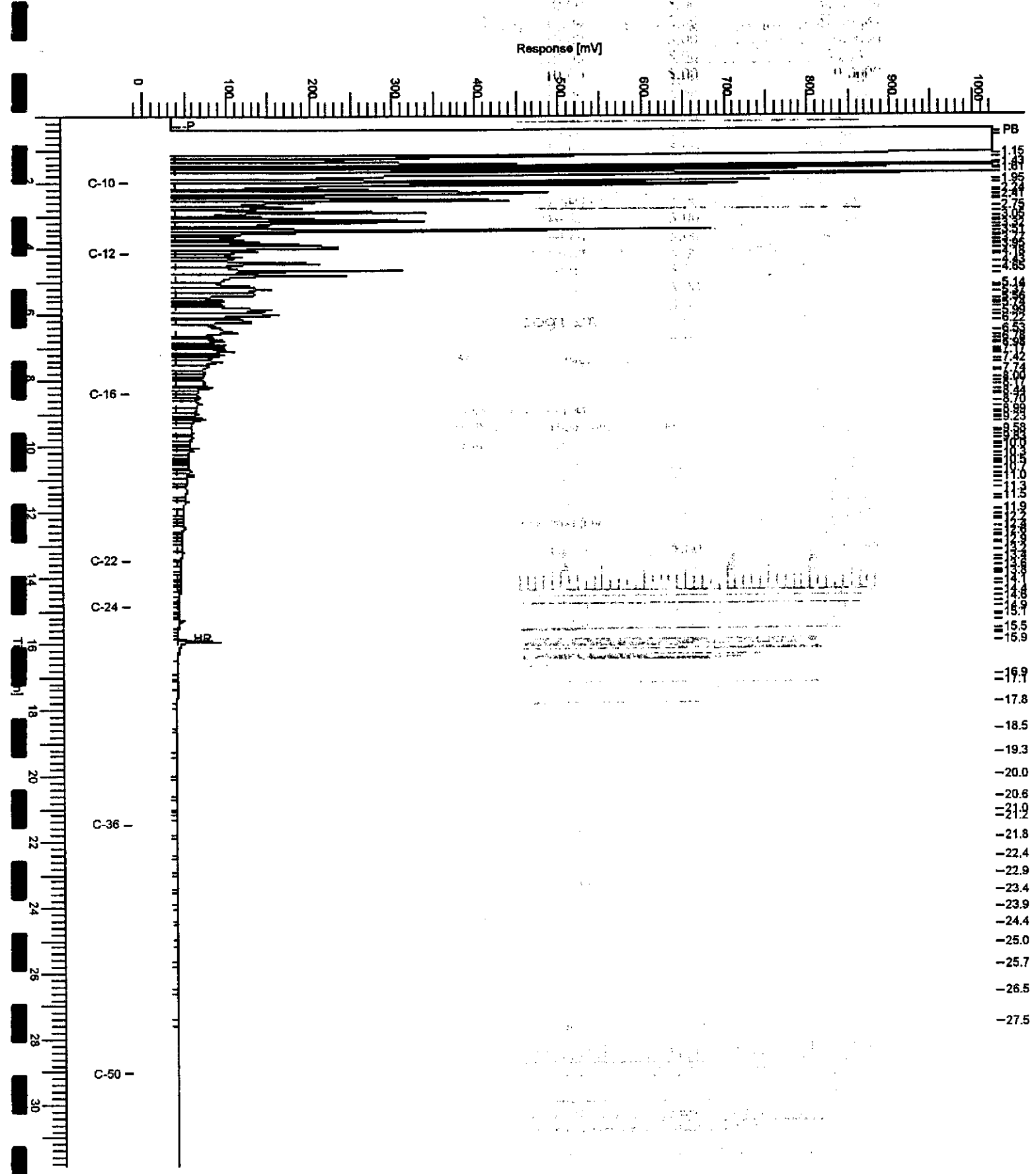
Low Point : -18.08 mV

High Point : 1024.00 mV

Scale Factor: 0.0

Plot Offset: -18.08 mV

Plot Scale: 1042.1 mV



Chromatogram

Sample Name : 136384-002,44525
FileName : G:\GC11\CHA\318a038.raw
Date : 11/17/98 09:41:27 AM

Sample #: 44525

Page 1 of 1

Method : Ateh309.mth

Time of Injection: 11/15/98 01:49:54 AM

Start Time : 0.00 min End Time : 31.90 min

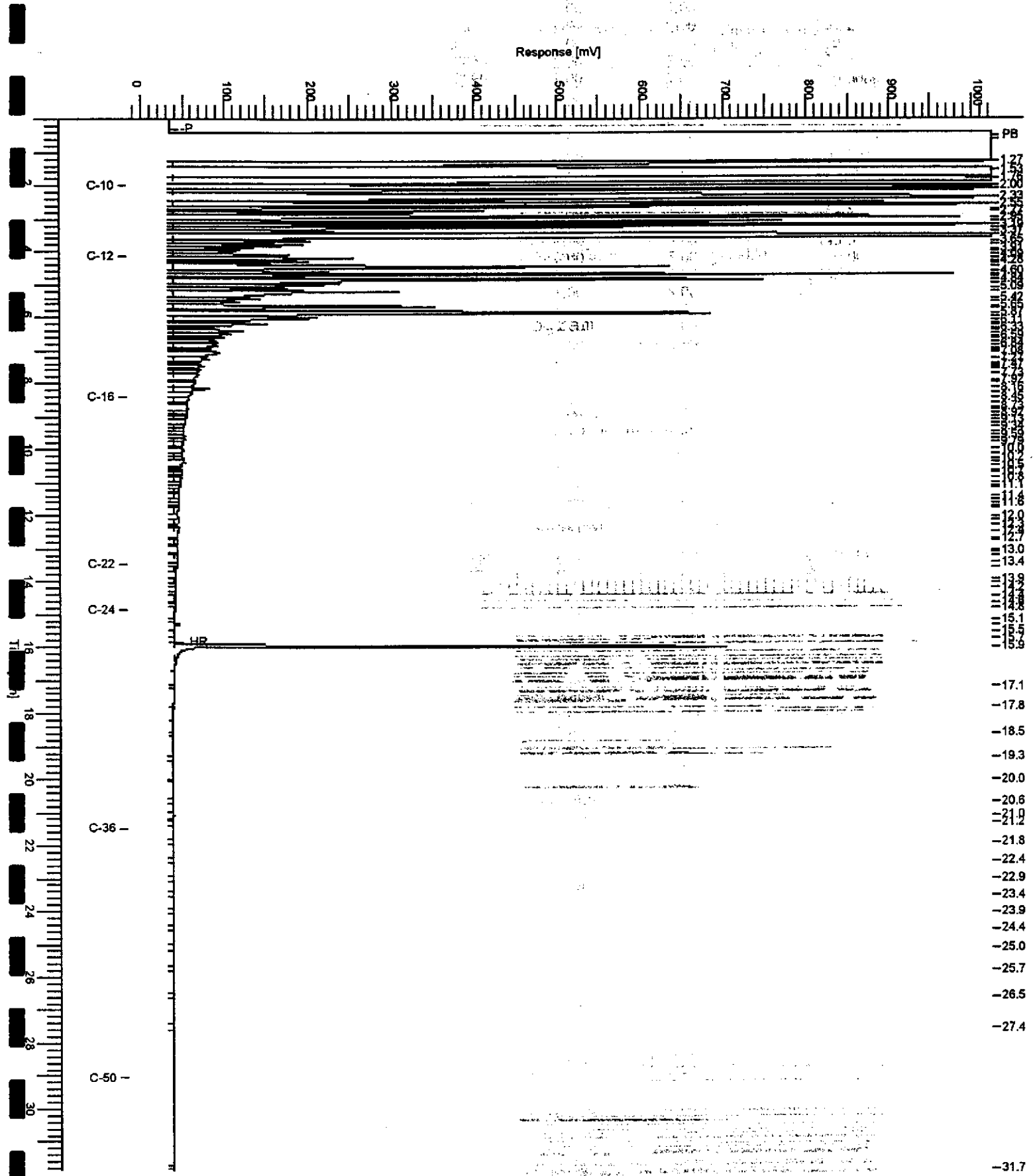
Low Point : -18.21 mV

High Point : 1024.00 mV

Scale Factor: 0.0

Plot Offset: -18.21 mV

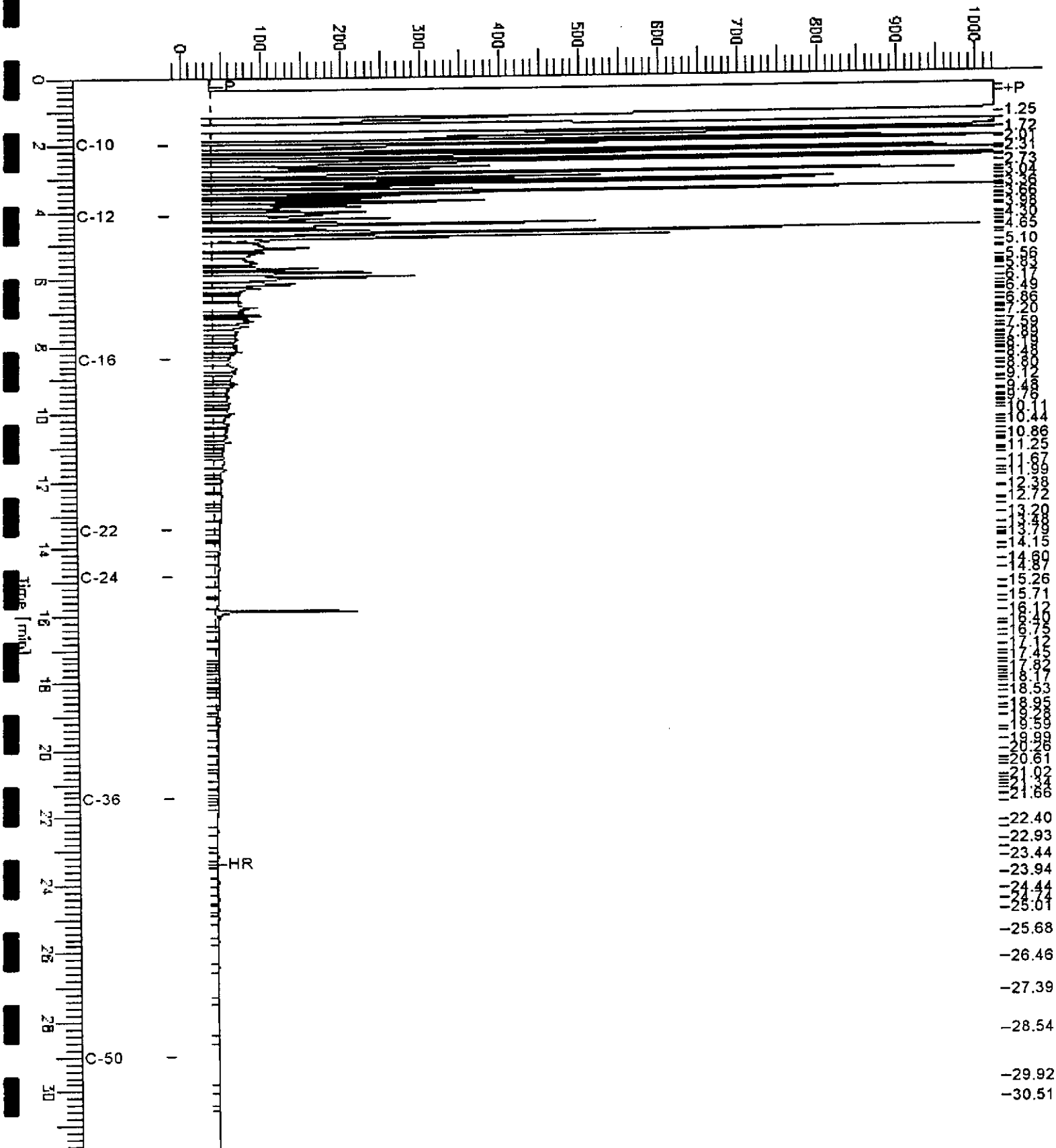
Plot Scale: 1042.2 mV



Chromatogram

Sample Name : 136384-003,44525
 FileName : G:\GC11\CHA\324A022.RAW
 Method : ATEH309.MTH
 Start Time : 0.00 min
 Scale Factor : 0.0

Sample #: 44525
 Date : 11/23/98 04:22 AM
 Time of Injection: 11/20/98 05:21 PM
 Low Point : -16.95 mV
 High Point : 1024.00 mV
 End Time : 31.90 min
 Plot Offset: -17 mV
 Plot Scale: 1040.9 mV





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
136384-005	MW-8	44525	11/03/98	11/09/98	11/15/98	
136384-006	MW-9	44525	11/03/98	11/09/98	11/15/98	
136384-007	MW-13	44525	11/03/98	11/09/98	11/15/98	

Matrix: Water

Analyte	Units	136384-005	136384-006	136384-007
Diln Fac:		1	1	1
Diesel C10-C24	ug/L	190 YL	500 YL	<50
Surrogate				
Hexacosane	%REC	62	67	57

Y: Sample exhibits fuel pattern which does not resemble standard
L: Lighter hydrocarbons than indicated standard

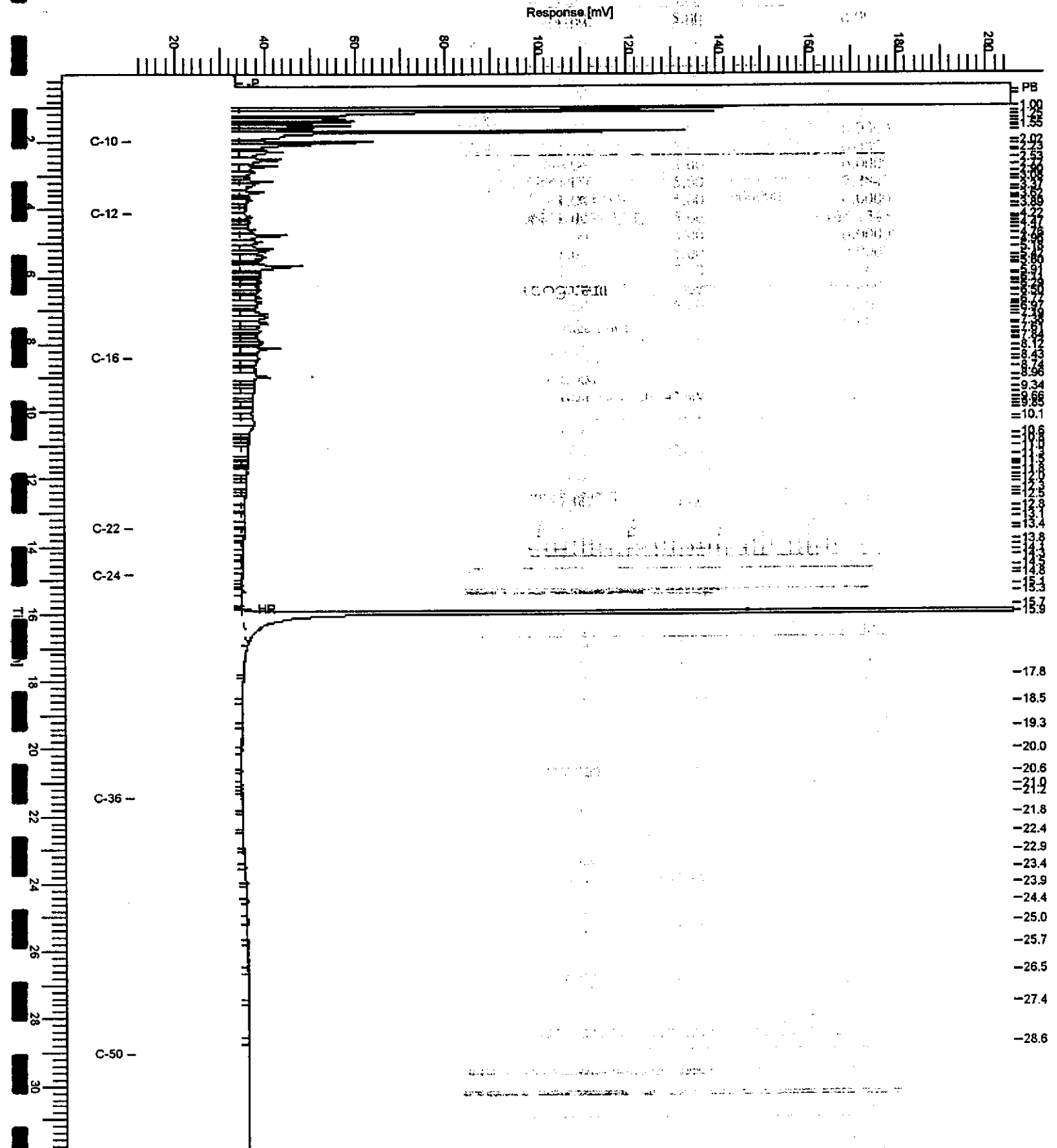
Chromatogram

Sample Name : 136384-005,44525
FileName : G:\GC11\CHA\318a041.raw
Date : 11/17/98 09:57:07 AM
Method : Ateh309.mth
Start Time : 0.01 min
Scale Factor: 0.0

Sample #: 44525

Page 1 of 1

Time of Injection: 11/15/98 03:50:32 AM
Low Point : 10.23 mV
High Point : 205.47 mV
End Time : 31.91 min
Plot Offset: 10.23 mV
Plot Scale: 195.2 mV

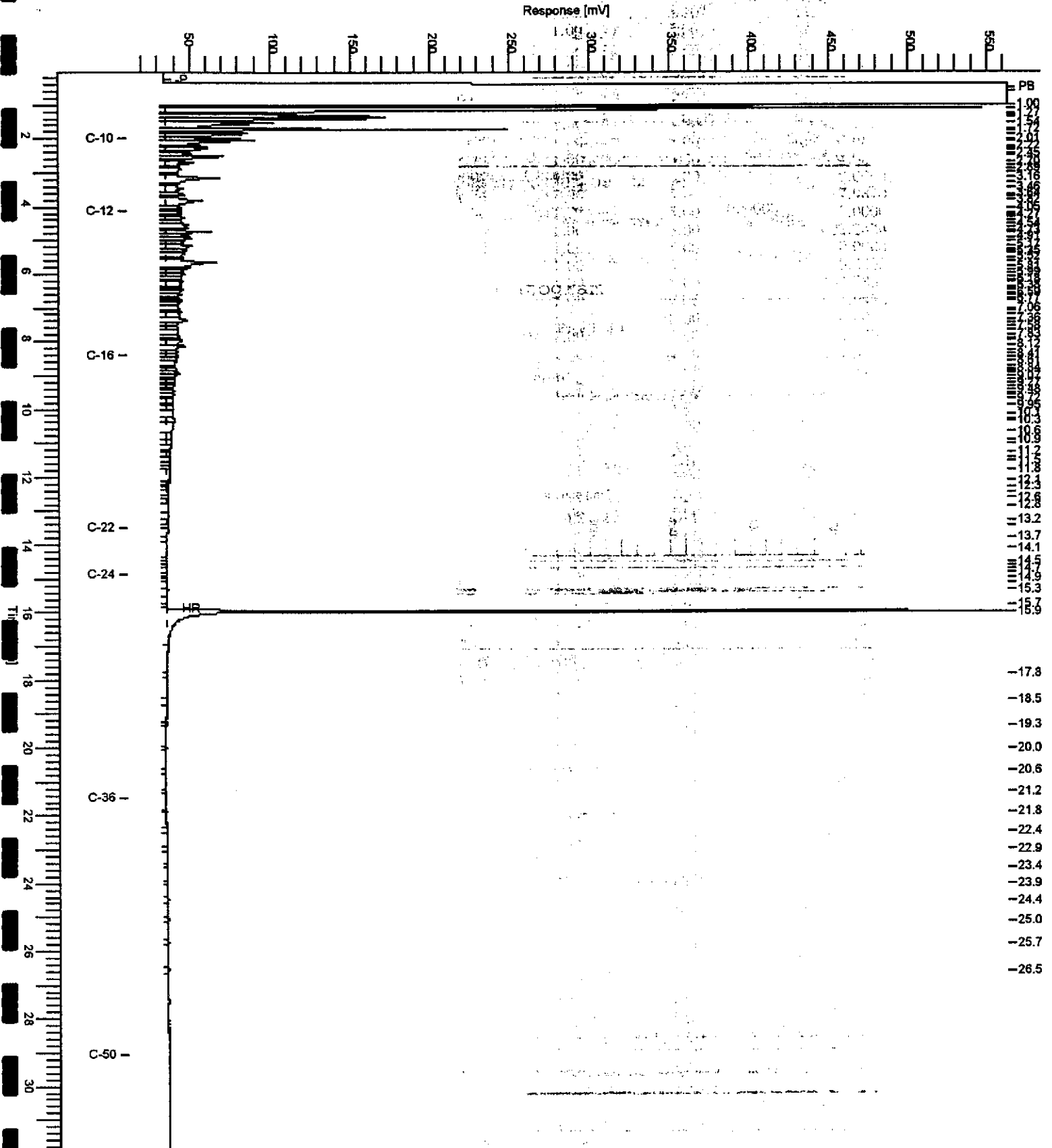


Sample Name : 136384-006,44525
FileName : G:\GC11\CHA\318a042.raw
Date : 11/17/98 09:58:33 AM
Method : Atch309.mth
Start Time : 0.05 min
Scale Factor: 0.0

Sample #: 44525

Page 1 of 1

Time of Injection: 11/15/98 04:30:50 AM
Low Point : 10.29 mV
High Point : 562.78 mV
Plot Offset: 10.29 mV
Plot Scale: 552.5 mV



Lab #: 136384

BATCH QC REPORT



Curtis & Jenkins Ltd

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#: 44525
Units: ug/L
Diln Fac: 1

Prep Date: 11/09/98
Analysis Date: 11/14/98

MB Lab ID: QC84184

Analyte	Result	
Diesel C10-C24	<50	
Surrogate	%Rec	Recovery Limits
Hexacosane	66	53-136

Lab #: 136384

BATCH QC REPORT



Curtis & Associates, Ltd.

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#: 44525
Units: ug/L
Diln Fac: 1

Prep Date: 11/09/98
Analysis Date: 11/14/98

BS Lab ID: QC84185

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C10-C24	2475	1718	69	58-110
Surrogate	%Rec	Limits		
Hexacosane	68	53-136		

BSD Lab ID: QC84186

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C10-C24	2475	1843	74	58-110	7	21
Surrogate	%Rec	Limits				
Hexacosane	72	53-136				

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

Chromatogram

Sample Name : CCV,98WS6586.jp5

Sample #: 250MG/L

Page 1 of 1

FileName : G:\GC11\CHA\316a001.raw

Date : 11/13/98 10:26:22 AM

Time of Injection: 11/12/98 05:16:46 AM

Method : Ateh309.mth

Start Time : 0.15 min

End Time : 31.91 min

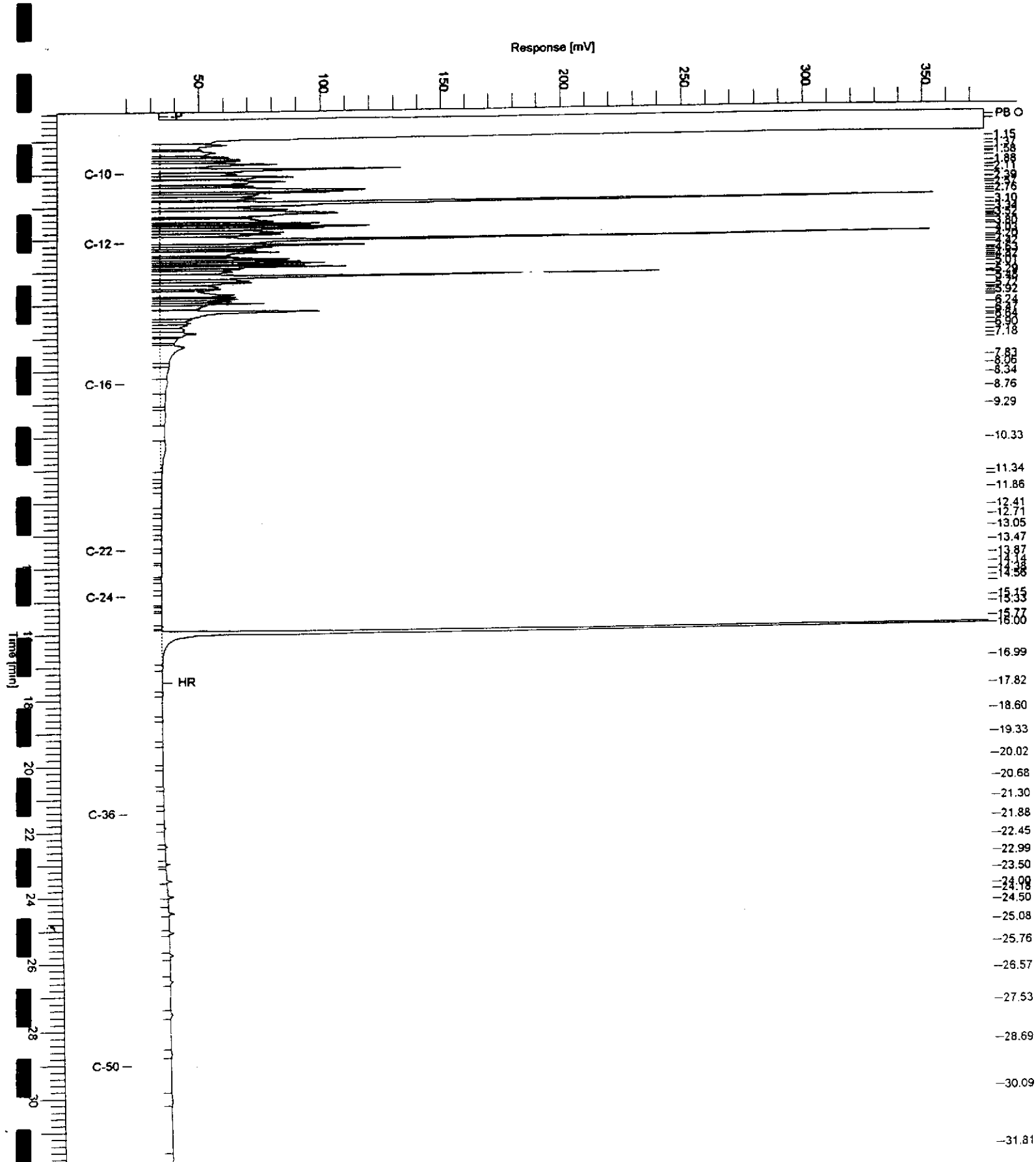
Low Point : 18.65 mV

High Point : 375.86 mV

Scale Factor: 0.0

Plot Offset: 18.65 mV

Plot Scale: 357.2 mV

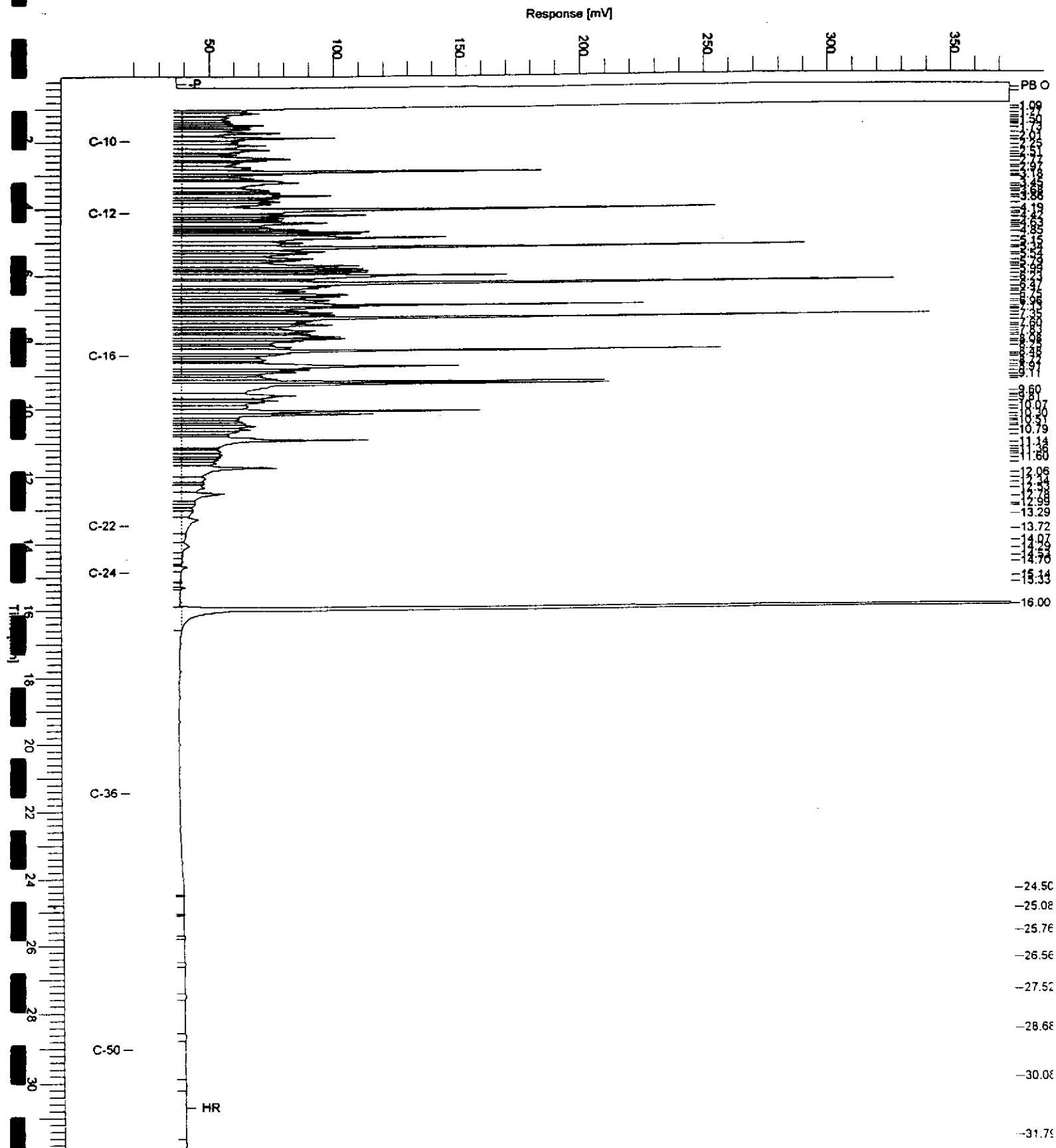


Chromatogram

Sample Name : CCV,98WS6585,DS
FileName : G:\GC11\CHA\316a015.raw
Date : 11/13/98 11:30:04 AM
Method : Ateh309.mth
Scale Factor: 0.0

Sample #: 500MG/L Page 1 of 1

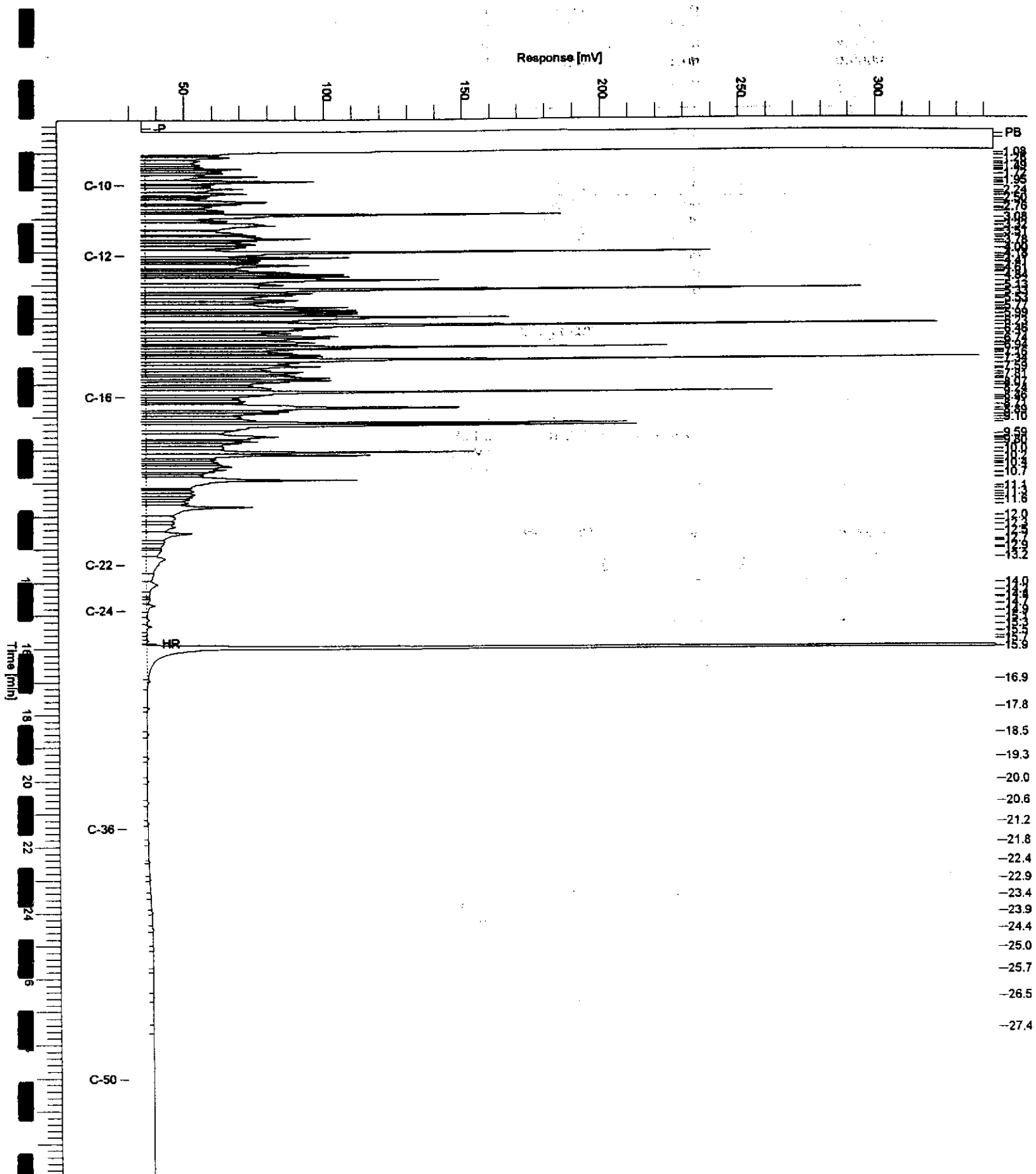
Time of Injection: 11/12/98 02:37:35 PM
Start Time : 0.05 min End Time : 31.91 min Low Point : 17.97 mV High Point : 374.05 mV
Plot Offset: 17.97 mV Plot Scale: 356.1 mV



Sample Name : CCV,98WS6585,DSL
FileName : G:\GC1\CHA\318a017.raw
Date : 11/16/98 11:29:50 AM

Sample #: 500MG/L Page 1 of 1

Method : Ateh309.mth Time of Injection: 11/14/98 11:46:33 AM
Start Time : 0.01 min End Time : 31.91 min Low Point : 28.21 mV High Point : 343.43 mV
Scale Factor: 0.0 Plot Offset: 28.21 mV Plot Scale: 315.2 mV



Chromatogram

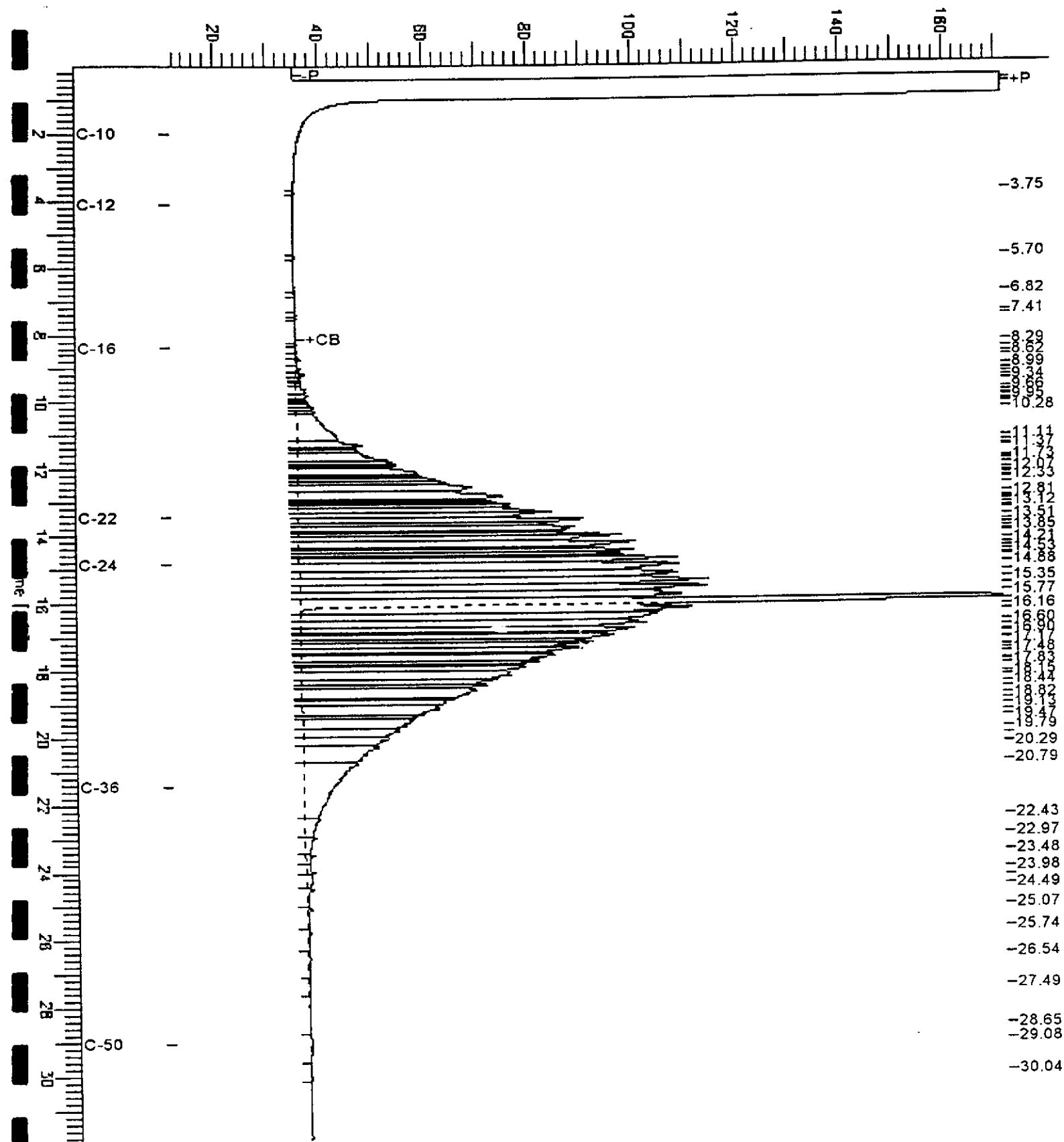
Sample Name : CCV, 98WS6334, MO
 File Name : G:\GC11\CHA\318A003.RAW
 Method : ATEH309.MTH
 Start Time : 0.01 min
 Scale Factor : 0.0

End Time : 31.91 min
 Plot Offset: 11 mV

Sample #: 500MG/L
 Date : 11/15/98 11:15 PM
 Time of Injection: 11/14/98 02:24 AM
 Low Point : 11.45 mV
 Plot Scale: 160.2 mV

Page 1 of 1

High Point : 171.61 mV





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-1
Lab ID: 136384-001
Matrix: Water
Batch#: 44541
Units: ug/L
Diln Fac: 10

Sampled: 11/03/98
Received: 11/03/98
Extracted: 11/10/98
Analyzed: 11/11/98

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	94
Phenol	130	94
Aniline	ND	94
bis(2-Chloroethyl) ether	ND	94
2-Chlorophenol	ND	94
1,3-Dichlorobenzene	ND	94
1,4-Dichlorobenzene	ND	94
Benzyl alcohol	ND	94
1,2-Dichlorobenzene	ND	94
2-Methylphenol	ND	94
bis(2-Chloroisopropyl) ether	ND	94
3,4-Methylphenol	59 J	94
N-Nitroso-di-n-propylamine	ND	94
Hexachloroethane	ND	94
Nitrobenzene	ND	94
Isophorone	ND	470
2-Nitrophenol	ND	94
2,4-Dimethylphenol	ND	470
Benzoic acid	500	94
bis(2-Chloroethoxy)methane	ND	94
2,4-Dichlorophenol	ND	94
1,2,4-Trichlorobenzene	ND	94
Naphthalene	1100	94
4-Chloroaniline	ND	94
Hexachlorobutadiene	ND	94
4-Chloro-3-methylphenol	ND	94
2-Methylnaphthalene	500	94
Hexachlorocyclopentadiene	ND	470
2,4,6-Trichlorophenol	ND	94
2,4,5-Trichlorophenol	ND	94
2-Chloronaphthalene	ND	94
2-Nitroaniline	ND	470
Dimethylphthalate	ND	94
Acenaphthylene	ND	94
2,6-Dinitrotoluene	ND	94
3-Nitroaniline	ND	470
Acenaphthene	ND	94
2,4-Dinitrophenol	ND	470



Semivolatile Organics by GC/MS

Field ID: MW-1	Sampled: 11/03/98
Lab ID: 136384-001	Received: 11/03/98
Matrix: Water	Extracted: 11/10/98
Batch#: 44541	Analyzed: 11/11/98
Units: ug/L	
Diln Fac: 10	

Analyte	Result	Reporting Limit
4-Nitrophenol	ND	470
Dibenzofuran	ND	94
2,4-Dinitrotoluene	ND	94
Diethylphthalate	ND	94
Fluorene	ND	94
4-Chlorophenyl-phenylether	ND	94
4-Nitroaniline	ND	470
4,6-Dinitro-2-methylphenol	ND	470
N-Nitrosodiphenylamine	ND	94
Azobenzene	ND	94
4-Bromophenyl-phenylether	ND	94
Hexachlorobenzene	ND	94
Pentachlorophenol	ND	470
Phenanthrene	ND	94
Anthracene	ND	94
Di-n-butylphthalate	ND	94
Fluoranthene	ND	94
Pyrene	ND	94
Butylbenzylphthalate	ND	94
3,3'-Dichlorobenzidine	ND	470
Benzo(a)anthracene	ND	94
Chrysene	ND	94
bis(2-Ethylhexyl)phthalate	ND	94
Di-n-octylphthalate	ND	94
Benzo(b,k)fluoranthene	ND	94
Benzo(a)pyrene	ND	94
Indeno(1,2,3-cd)pyrene	ND	94
Dibenz(a,h)anthracene	ND	94
Benzo(g,h,i)perylene	ND	94

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	78	17-107
Phenol-d5	23	18-115
2,4,6-Tribromophenol	91	14-121
Nitrobenzene-d5	110	36-115
2-Fluorobiphenyl	75	36-113
Terphenyl-d14	46	17-115

J: Estimated Value

Lab #: 136384

BATCH QC REPORT

Curtis & Tompkins Ltd.
Page 1 of 2

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#: 44541
 Units: ug/L
 Diln Fac: 1

Prep Date: 11/10/98
 Analysis Date: 11/11/98

MB Lab ID: QC84239

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
Aniline	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

Lab #: 136384

BATCH QC REPORT



Curtis & Tompkins Ltd.
Page 2 of 2

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#: 44541
Units: ug/L
Diln Fac: 1

Prep Date: 11/10/98
Analysis Date: 11/11/98

MB Lab ID: QC84239

Analyte	Result	Reporting Limit
2,4-Dinitrotoluene	ND	10
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	76	17-107
Phenol-d5	80	18-115
2,4,6-Tribromophenol	75	14-121
Nitrobenzene-d5	86	36-115
2-Fluorobiphenyl	89	36-113
Terphenyl-d14	101	17-115

Lab #: 136384

BATCH QC REPORT



Curtis & Tompkins Ltd.

EPA 8270 Semi-Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8270B
Project#: 447.055	Prep Method: EPA 3520
Location: Connell Olds	
BLANK SPIKE/BLANK SPIKE DUPLICATE	
Matrix: Water	Prep Date: 11/10/98
Batch#: 44541	Analysis Date: 11/11/98
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC84240

Analyte	Spike Added	BS	%Rec #	Limits
Phenol	100	82.71	83	45-110
2-Chlorophenol	100	78.2	78	50-110
1,4-Dichlorobenzene	50	34.15	68	38-110
N-Nitroso-di-n-propylamine	50	43.69	87	29-110
1,2,4-Trichlorobenzene	50	36.23	72	41-110
4-Chloro-3-methylphenol	100	85.89	86	48-110
Acenaphthene	50	41.75	83	50-110
4-Nitrophenol	100	81.88	82	30-110
2,4-Dinitrotoluene	50	39.77	80	40-110
Pentachlorophenol	100	94.17	94	10-110
Pyrene	50	47.32	95	43-110
Surrogate	%Rec	Limits		
2-Fluorophenol	80	17-107		
Phenol-d5	86	18-115		
2,4,6-Tribromophenol	88	14-121		
Nitrobenzene-d5	90	36-115		
2-Fluorobiphenyl	91	36-113		
Terphenyl-d14	100	17-115		

BSD Lab ID: QC84241

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Phenol	100	83.87	84	45-110	1	23
2-Chlorophenol	100	79.72	80	50-110	2	23
1,4-Dichlorobenzene	50	33.72	67	38-110	1	21
N-Nitroso-di-n-propylamine	50	44.88	90	29-110	3	22
1,2,4-Trichlorobenzene	50	36.93	74	41-110	2	21
4-Chloro-3-methylphenol	100	88.31	88	48-110	3	20
Acenaphthene	50	42.88	86	50-110	3	18
4-Nitrophenol	100	82.82	83	30-110	1	26
2,4-Dinitrotoluene	50	40.67	81	40-110	2	19
Pentachlorophenol	100	99.29	99	10-110	5	44
Pyrene	50	49.04	98	43-110	4	19
Surrogate	%Rec	Limits				
2-Fluorophenol	79	17-107				
Phenol-d5	87	18-115				
2,4,6-Tribromophenol	90	14-121				
Nitrobenzene-d5	91	36-115				
2-Fluorobiphenyl	93	36-113				
Terphenyl-d14	104	17-115				

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



Hydrocarbon Oil & Grease

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

Analysis Method: SMWW 17:5520BF
Prep Method: SMWW 17:5520BF

Sample #	Client ID	Batch#	Sampled	Analyzed	Moisture
136384-001	MW-1	44697	03-NOV-98	17-NOV-98	-
QC84799	Method Blank	44697	-	17-NOV-98	-

Analyte: Petroleum Hydrocarbons

Matrix: Water

Units: mg/L

Sample #	Client ID	Result	Reporting Limit	Dilution Factor
136384-001	MW-1	63	5.0	1
QC84799	Method Blank	ND	5.0	1

ND = None Detected at or above Reporting Limit



Hydrocarbon Oil & Grease

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

Analysis Method: SMWW 17:5520BF
 Prep Method: SMWW 17:5520BF

Sample #	Client ID	Batch#	Sampled	Analyzed	Moisture
QC84800	Blank Spike	44697	-	17-NOV-98	-
QC84801	Blank Spike Duplicate	44697	-	17-NOV-98	-

Analyte: Petroleum Hydrocarbons

Matrix: Water

Units: mg/L

Sample #	Sample Type	Spike Amt.	Result	%Rec	Limits	%RPD	Limit
QC84800	Blank Spike	146.9	139.5	95	80-120		
QC84801	Blank Spike Duplicate	177.4	163.2	92	80-120	3	20

WELL SAMPLING FORM

Project Name: Connell Olds Well Number: MW-1
 Job No.: 447.055 Well Casing Diameter: 2 inches
 Sampled By: DWA Date: 11/3/98
 TOC Elevation: _____ Weather: partly cloudy

Depth to Casing Bottom (below TOC) 35.00 feet
 Depth to Groundwater Before Purging (below TOC) 22.90 feet
 Feet of Water in Well 12.10 feet
 Depth to Groundwater When 80% Recovered 25.32 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 2.0 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other _____
 Free Product 4 5/8" thick (1/4" visible in bailer)
 Purge Method disposable bailer

FIELD MEASUREMENTS

moderate recharge

Gallons Removed	Time	pH	Temp (°C) / (°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
2		6.64	20.5	1200		<i>Semi-clear / strong odor w/ spotty sugar</i> ↓
4		6.57	20.5	1200		
6		6.51	20.5	1200		
8						

Total Gallons Purged 6 gallons
 Depth to Groundwater Before Sampling (below TOC) 25.30 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml 3 liter _____ pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Connell olds Well Number: MW-4
 Job No.: 447.055 Well Casing Diameter: 2 inches
 Sampled By: DWA Date: 11/2/98
 TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 24.50 feet
 Depth to Groundwater Before Purging (below TOC) 19.03 feet
 Feet of Water in Well 5.47 feet
 Depth to Groundwater When 80% Recovered 70.12 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) .90 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other _____
 Free Product none
 Purge Method disposable bailer

FIELD MEASUREMENTS

immediate recharge

Gallons Removed	Time	pH	Temp (°C/°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>1</u>		<u>6.65</u>	<u>23.0</u>	<u>500</u>		<u>clear/stony odor</u> ↓
<u>2</u>		<u>6.71</u>	<u>23.0</u>	<u>495</u>		
<u>3</u>		<u>6.76</u>	<u>23.0</u>	<u>500</u>		
<u>4</u>		<u>6.77</u>	<u>22.9</u>	<u>495</u>		
<u>5</u>						

Total Gallons Purged 4 gallons
 Depth to Groundwater Before Sampling (below TOC) 19.03 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml _____ liter _____ pint _____

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Connell olds Well Number: MW-6
 Job No.: 447.055 Well Casing Diameter: 2 inches
 Sampled By: DWA Date: 4/3/98
 TOC Elevation: _____ Weather: cloudy

Depth to Casing Bottom (below TOC) ~~34.50~~ 34.50 feet
 Depth to Groundwater Before Purging (below TOC) ~~24.8~~ 24.24 feet
 Feet of Water in Well ~~#0.~~ 10.26 feet
 Depth to Groundwater When 80% Recovered _____ feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 17 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other _____
 Free Product 5/8" thick (1/4" visible in bailer)
 Purge Method disposable bailer

FIELD MEASUREMENTS

immediate recharge

Gallons Removed	Time	pH	Temp (°C / °F)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>2</u>		<u>6.57</u>	<u>21.5</u>	<u>925</u>		<u>mucky / strong odor</u>
<u>4</u>		<u>6.58</u>	<u>21.5</u>	<u>875</u>		
<u>6</u>		<u>6.58</u>	<u>21.5</u>	<u>900</u>		<u>decreasing turbidity</u>
<u>8</u>		<u>6.59</u>	<u>21.5</u>	<u>875</u>		

Total Gallons Purged 8 gallons
 Depth to Groundwater Before Sampling (below TOC) 24.24 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml 1 liter _____ pint

Subsurface Consultants

JOB NUMBER _____ DATE _____ APPROVED _____

PLATE

WELL SAMPLING FORM

Project Name: Connell oil&g Well Number: MW-7
Job No.: 447.055 Well Casing Diameter: 2 inches
Sampled By: DWA Date: 11/2/98
TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 30.00 feet
Depth to Groundwater Before Purging (below TOC) 18.37 feet
Feet of Water in Well 11.63 feet
Depth to Groundwater When 80% Recovered 20.70 feet
Casing Volume (feet of water x Casing DIA² x 0.0408) 1.9 gallons
Depth Measurement Method Tape & Paste / Electronic Sounder / Other
Free Product none
Purge Method disposable bailer

FIELD MEASUREMENTS

moderate recharge

Gallons Removed	Time	pH	Temp (°C/°F)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>0</u>		<u>7.03</u>	<u>20.0</u>	<u>375</u>		<u>clear/no odor</u>
<u>2</u>		<u>6.82</u>	<u>20.0</u>	<u>480</u>		<u>muddy</u>
<u>4</u>		<u>6.68</u>	<u>19.5</u>	<u>800</u>		
<u>6</u>		<u>6.65</u>	<u>19.5</u>	<u>825</u>		

Total Gallons Purged 6 gallons
Depth to Groundwater Before Sampling (below TOC) 20.67 feet
Sampling Method disposable bailer
Containers Used 7 40 ml _____ liter _____ pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Connell olds Well Number: MW-8
 Job No.: 447.055 Well Casing Diameter: 6 inches
 Sampled By: DWA Date: 11/3/98
 TOC Elevation: _____ Weather: partly cloudy

Depth to Casing Bottom (below TOC) 39.50 feet
 Depth to Groundwater Before Purging (below TOC) 26.23 feet
 Feet of Water in Well 13.27 feet
 Depth to Groundwater When 80% Recovered 28.88 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 19.5 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other
 Free Product none
 Purge Method disposable bailer

FIELD MEASUREMENTS

moderate recharge

Gallons Removed	Time	pH	Temp (°C °F)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>20</u>		<u>6.44</u>	<u>21.0</u>	<u>800</u>		<u>clear/wooden</u>
<u>30</u>		<u>6.40</u>	<u>21.0</u>	<u>850</u>		
<u>40</u>		<u>6.41</u>	<u>21.0</u>	<u>900</u>		
<u>50</u>		<u>6.39</u>	<u>21.5</u>	<u>900</u>		<u>Semi-clear</u>
<u>60</u>		<u>6.39</u>	<u>21.5</u>	<u>925</u>		

Total Gallons Purged 60 gallons
 Depth to Groundwater Before Sampling (below TOC) 28.80 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml 1 liter _____ pint _____

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Connell Olds Well Number: MW-9
 Job No.: 447.055 Well Casing Diameter: 2 inches
 Sampled By: DWA Date: 11/2/98
 TOC Elevation: _____ Weather: sunny

Depth to Casing Bottom (below TOC) 30.50 feet
 Depth to Groundwater Before Purging (below TOC) 20.09 feet
 Feet of Water in Well 10.41 feet
 Depth to Groundwater When 80% Recovered 22.17 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 1.7 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other
 Free Product none
 Purge Method disposable bailer

FIELD MEASUREMENTS

*slow recharge
(overnight)*

Gallons Removed	Time	pH	Temp (°C °F)	Conductivity (micromhos/cm)	Salinity S%	Comments
1		6.90	22.5	700		<i>semi-clear/moderate odor</i>
3		6.03	22.0	800		<i>murky/stronger odor</i>
5		6.34	23.0	800		<i>dry @ 3.5 gallons dry @ 5 gallons</i>

Total Gallons Purged 5 gallons
 Depth to Groundwater Before Sampling (below TOC) 20.33 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml 1 liter pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Connell Olds Well Number: MW-13
 Job No.: 447.055 Well Casing Diameter: 2 inches
 Sampled By: DWA Date: 11/3/98
 TOC Elevation: _____ Weather: sunny

Depth to Casing Bottom (below TOC) 40.00 feet
 Depth to Groundwater Before Purging (below TOC) 23.20 feet
 Feet of Water in Well 16.80 feet
 Depth to Groundwater When 80% Recovered 26.56 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 2.7 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other
 Free Product none
 Purge Method disposable bailer

FIELD MEASUREMENTS

moderate recharge

Gallons Removed	Time	pH	Temp (°C) °F	Conductivity (micromhos/cm)	Salinity S%	Comments
1		6.85	18.5	625		clean/no odor
3		6.74	19.0	625		
5		6.73	19.0	625		
7		6.71	18.5	600		increasing turbidity
9		6.73	19.0	600		semi-clear

Total Gallons Purged 9 gallons
 Depth to Groundwater Before Sampling (below TOC) 26.50 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml 1 liter _____ pint _____

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

