Subsurface Consultants, Inc.

November 5, 1998
SCI 609.004

Ms. Marianne Robison
Buttner Properties
600 West Grand Avenue
Oakland, California 94612

Quarterly Groundwater Monitoring
August 1998 Event
2250 Telegraph Avenue
Oakland, California

Dear Ms. Robison:

This letter records the results of the August 1998 groundwater monitoring event for the referenced site. The groundwater monitoring program has been implemented in accordance with Regional Water Quality Control Board and the Alameda County Health Care Services Agency (ACHCSA) guidelines due to past releases from underground storage tanks (UST). The USTs were removed from the site in 1990. In accordance with the current plan, the six site wells are monitored on a semi-annual basis. The locations of the wells and former USTs are presented on the Site Plan, Plate 1.

BACKGROUND

In August 1990, two 10,000-gallon underground gasoline storage tanks and one 280-gallon waste oil tank were removed from the site. Approximately 500 cubic yards of gasoline-impacted soil were aerated onsite in 1990 and 1991 and disposed at a Class III sanitary landfill. In February 1994, SCI observed the excavation of contaminated soils near the former waste oil tank and installed four groundwater monitoring wells at the site. SCI has conducted groundwater monitoring at the site since March 1994.

In a letter dated November 8, 1995, ACHCSA indicated that the extent of groundwater impacts had not been sufficiently defined downgradient of monitoring well MW-3. The ACHCSA required an investigation to better define the area of contamination. In May 1996, SCI installed five temporary well points and collected grab groundwater samples as part of a

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supplemental investigation to assist in determining locations for the installation of new permanent groundwater monitoring wells. Results of this investigation were summarized in the Supplemental Groundwater Investigation report that was submitted to ACHCSA on October 4, 1996.

In June 1997, SCI installed two monitoring wells (MW-5 and MW-6) at offsite locations downgradient from the former tank excavations. Results of SCI's well installation and groundwater sampling are contained in SCI's report dated August 8, 1997. In a June 16, 1998 letter, ACHCSA requested that all groundwater monitoring wells (MW-1 through MW-6) be monitored and sampled on a semi-annual schedule.

GROUNDWATER SAMPLING

On August 21, 1998, the six existing wells (MW-1 through MW-6) were sampled. In general, the event consisted of (1) measuring groundwater levels using an electric well sounder, (2) checking for free product, (3) purging water from each well until pH, conductivity, and temperature had stabilized, and (4) after the wells had recovered to at least 80 percent of their initial level, sampling the wells with new disposable bailers. The samples were retained in glass containers pre-cleaned by the supplier in accordance with EPA protocol. The containers were placed in an ice filled cooler and remained iced until delivery to the analytical laboratory. Chain-of-custody documents accompanied the samples to the laboratory. In addition, **the depth to water was re-measured on October 6, 1998.**

Analytical testing was performed by Curtis & Tompkins, Ltd., a laboratory certified by the State of California Department of Health Services for hazardous waste and water testing. A sample from each well was analyzed for the following:

1. Total volatile hydrocarbons, EPA Methods 5030/8015,
2. Total extractable hydrocarbons, EPA Methods 3550/8015, and
3. Benzene, toluene, ethylbenzene and xylene (BTEX) and methyl tertiary butyl ether (MTBE), EPA Methods 5030/8020/8260.

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

CONCLUSIONS

Based on the groundwater data presented in Table 1, the groundwater gradient remains generally consistent with previous measurements. The gradient is relatively flat and tends toward the southeast. The groundwater flow direction for this event is shown on Plate 1.

No free product was observed during the sampling event in August, or when the groundwater measurements were taken in October. The petroleum constituents measured in the water samples for this event are similar in concentration to those measured during previous events. Hence, it appears that the plume is relatively stabilized.

The onsite plume is characteristic of a weathered gasoline release because it contains measurable total volatile hydrocarbons and the volatile constituents of gasoline, i.e., BTEX. The plume also contains uncategorized heavier range hydrocarbons. No MTBE, a gasoline additive, was detected in the onsite wells.

The plume does not appear to be migrating significantly offsite. No petroleum hydrocarbon constituents were detected in water from well MW-5 located downgradient of the site during this event. Only low concentrations of total volatile hydrocarbons have been detected previously in this well.

Total volatile hydrocarbons and low concentrations of toluene, ethylbenzene, xylene, and MTBE were detected in the sample from well MW-6 located cross gradient from the site. The plume which has been detected by well MW-6 does not have the same chemical constituents as observed to date by the onsite wells. Hence, it is our opinion that well MW-6 may be impacted by another area source.

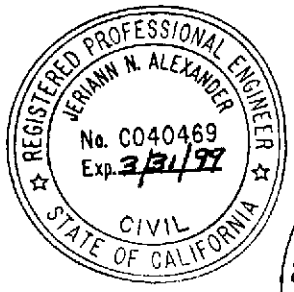
ONGOING MONITORING

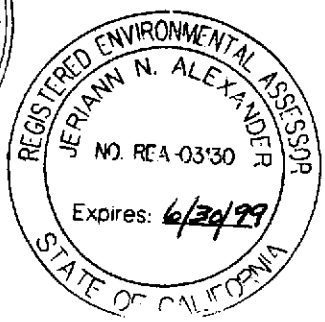
In accordance with the monitoring program, the next semi-annual event will be conducted during the month of February 1999.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.





Jeriann N. Alexander
Civil Engineer 40469 (exp. 3/31/99)
Registered Environmental Assessor No. 03130 (exp. 6/99)

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Attachments: Table 1 - Groundwater Elevation Data
Table 2 - Summary of Contaminants in Groundwater
Plate 1 - Site Plan
Analytical Test Report
Chain-of-Custody Form
Well Sampling Forms

cc: Ms. Marianne Robison
Buttner Properties
600 West Grand Avenue
Oakland, California 94612

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

Table 1
Groundwater Elevation Data

Monitoring Well	Date	TOC Elevation (feet) MSL	Depth (feet)	Elevation (feet) MSL
MW-4	5/30/96		10.97	8.91
(cont.)	7/9/97		12.08	7.80
	8/21/98		11.86	8.02
	10/6/98		12.84	7.04
MW-5	6/26/97	16.02	8.44	7.58
	7/9/97		8.48	7.54
	8/21/98		8.32	7.70
	10/6/98		8.51	7.51
MW-6	6/26/97	18.36	10.89	7.47
	7/9/97		10.98	7.38
	8/21/98		11.00	7.36
	10/6/98		10.79	7.57

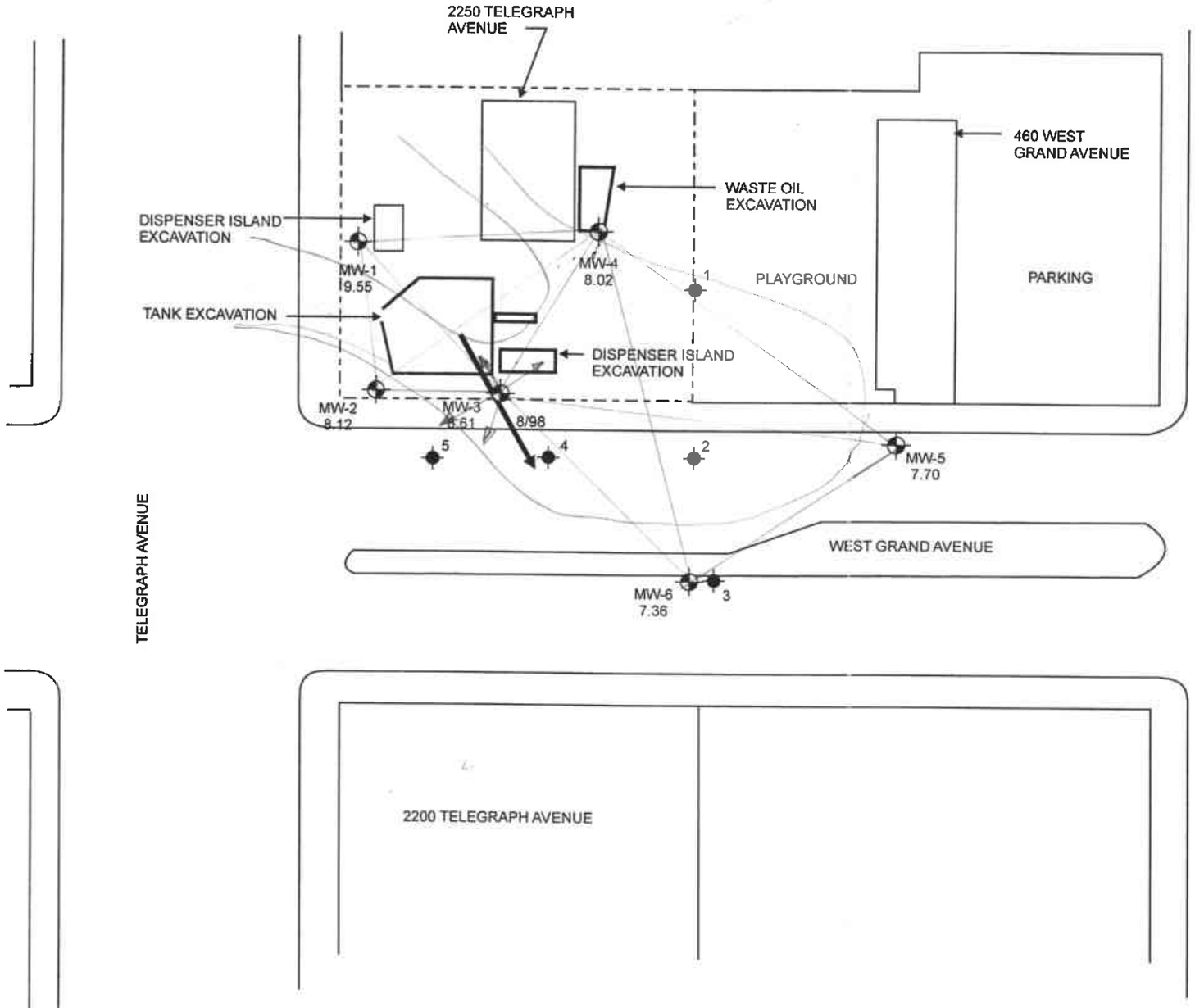
TOC = Top of Casing
Elevation Reference: USGS benchmark W1197, 1969 with a reported elevation of +21.06 feet MSL datum.

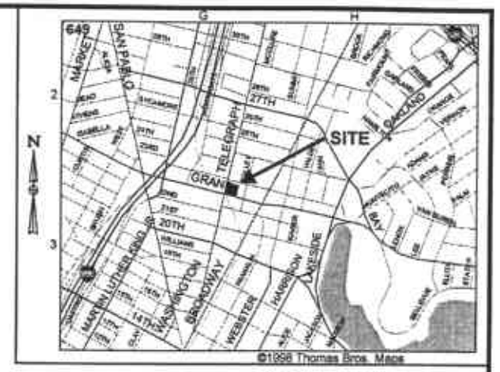
Table 2
Summary of Contaminants in Groundwater

			Petroleum Hydrocarbons					Volatile Organics									Metals
Well	Date	Groundwater Elevation MSL (feet)	TVH as Gasoline µg/l	TEH as Kerosene µg/l	TEH as Diesel µg/l	TEH as Motor Oil mg/l	Oil & Grease mg/l	Benzene µg/l	Toluene µg/l	Ethyl-benzene µg/l	Xylenes µg/l	MTBE µg/l	1,1,1-TCA µg/l	1,2-DCA µg/l	PCE µg/l	Chloro-Benzene µg/l	Lead mg/l
MW-1	3/3/94		300	<50	<50	<0.5	<1	1.3	<0.5	2.7	3.1	-	<0.5	5.5	<0.5	<0.5	<0.01
	6/6/94		430	180+	<50	0.5	-	10	2.2	6.1	7.6	-	<0.5	<0.5	<0.5	<0.5	-
	9/7/94		410	<50	<50	<0.5	-	6.4	0.8	2.6	3.8	-	<0.5	3.8	<0.5	<0.5	-
	12/22/94		130	<50	<50	<0.5	-	0.7	<0.5	0.6	0.8	-	<0.5	3.4	<0.5	<0.5	-
	3/17/95		1,600	170	<50	<0.5	-	29	<0.5	9.1	6.9	-	<0.5	<0.5	<0.5	<0.5	-
	6/27/95		1,100	<50	<50	<0.5	-	14	<0.5	7.1	5	-	<0.5	3.3	<0.5	<0.5	-
	9/18/95		370	NR	110+	NR	-	4.4	0.6	2	1.4	-	<0.5	2.4	<0.5	<0.5	-
	8/21/98		170	NR	62+	NR	-	<0.5	0.76	0.79	<0.5	<2	-	-	-	-	-
MW-2	3/3/94		110	<50	<50	<0.5	<1	<0.5	1.7	0.58	2.7	-	<0.5	<0.5	<0.5	<0.5	<0.01
	6/6/94		100	<50	<50	<0.5	-	11	<0.5	0.7	1.1	-	<0.5	<0.5	<0.5	<0.5	-
	9/7/94		<50	<50	<50	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
	12/22/94		<50	<50	<50	<0.5	-	0.8	<0.5	<0.5	0.8	-	<0.5	<0.5	<0.5	<0.5	-
	3/17/95		180	100	<50	<0.5	-	31	<0.5	1	1.8	-	<0.5	<0.5	<0.5	<0.5	-
	6/27/95		80	<50	<50	<0.5	-	6	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
	9/18/95		<50	NR	<50	NR	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
	8/21/98		51	NR	<50	NR	-	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-
MW-3	3/3/94		85	<50	<50	<0.5	<1	<0.5	0.77	<0.5	3.7	-	<0.5	<0.5	<0.5	<0.5	<0.01
	6/6/94		100	110+	<50	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	2.5	0.8	2.1	<0.5	-
	9/7/94		220	<50	<50	<0.5	-	11	1.8	2.6	3.5	-	<0.5	<0.5	0.6	<0.5	-
	12/22/94		130	95+	<50	<0.5	-	3.8	0.5	0.6	1.2	-	<0.5	<0.5	<0.5	<0.5	-
	3/17/95		1,500	270	<50	<0.5	-	83	6	10	15	-	<0.5	<0.5	<0.5	<0.5	-
	6/27/95		2,500	<50	<50	<0.5	-	330	8.9	8.1	20	-	<0.5	<0.5	<0.5	<0.5	-
	9/18/95		1,500	NR	770+	NR	-	400	11	2.2	33	-	<0.5	<0.5	<0.5	<0.5	-
	8/21/98		2,300	NR	600+	NR	-	400	9.3	36	25	<10	-	-	-	-	-
MW-4	3/3/94		4,300	<50	240	<0.5	1.3	220	20	7.5	17	-	<0.5	5.9	<0.5	4.4	<0.01
	6/6/94		4,400	<50	800+	<0.5	1.7	140	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
	9/7/94		10,000	490+	280+	<0.5	<1	84	<0.5	42	69	-	<0.5	4.4	0.5	4.3	-
	12/22/94		2,400	450+	54+	<0.5	<1	11	<0.5	7.1	11	-	<0.5	3.6	3.6	<0.5	-
	3/17/95		2,200	380	160+	<0.5	<1	<0.5	<0.5	7.9	10	-	<0.5	1.7	<0.5	4.5	-
	6/27/95		3,100	<50	82	<0.5	<1	<0.5	<0.5	13	19	-	<0.5	2.3	<0.5	4.8	-
	9/18/95		3,000	NR	1,231+	NR	-	12	<0.7	6.9	8.3	-	<0.5	1.9	<0.5	4.0	-
	8/21/98		1,700	NR	600+	NR	-	82	12	13	5.2	<2	-	-	-	-	-
MW-5	6/26/97		120	NR	<50	NR	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	1.6	<0.5	-
	8/21/98		<50	NR	<50	NR	-	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	-	-
MW-6	6/26/97		1,500+	NR	450+	NR	-	<0.5	<0.5	11	<0.5	-	<0.5	<0.5	<0.5	1.7	-
	8/21/98		1400	NR	540+	NR	-	<0.5	3.6	5.6	0.4	5.7*3.2*	-	-	-	-	-

DCA = Dichloroethane
TCA = Trichloroethane
PCE = Tetrachloroethene
- = Chemical not tested for

+ = Uncategorized hydrocarbons quantified in ranges specified
mg/l = milligrams per liter = parts per million
µg/l = micrograms per liter = parts per billion
<1 = Chemical not present at a concentration greater than the laboratory detection limit shown or stated on test reports.
* = Water sample analyzed for MTBE using EPA Methods 5030/8020 and 5030/8260
NR = Hydrocarbon range not reported by laboratory





VICINITY MAP

EXPLANATION

- STRUCTURE
- LIMITS OF EXCAVATION
- MONITORING WELL LOCATION
- (10.05) GROUNDWATER ELEVATION (FT. MSL) MEASURED 8/21/98
- TEMPORARY WELL INSTALLATION
- APPROXIMATE GROUNDWATER FLOW DIRECTION

SITE PLAN

Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers

2250 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

JOB NUMBER	DATE	APPROVED
609.004	10/16/98	

PLATE 1

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: 17-SEP-98
Lab Job Number: 135215
Project ID: 609.004
Location: 2250 Telgraph Av. Oakland

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
135215-001	MW-1	42914	08/21/98	08/25/98	08/25/98	
135215-002	MW-2	42914	08/21/98	08/25/98	08/25/98	
135215-003	MW-3	42914	08/21/98	08/26/98	08/26/98	
135215-004	MW-4	42914	08/21/98	08/26/98	08/26/98	

Matrix: Water

Analyte	Units	135215-001	135215-002	135215-003	135215-004
Diln Fac:		1	1	1	1
Gasoline C7-C12	ug/L	170	51	2300	1700
Surrogate					
Trifluorotoluene	%REC	78	76	91	80
Bromofluorobenzene	%REC	112	107	188 *	177 *

* Values outside of QC limits

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
135215-005	MW-5	42914	08/21/98	08/26/98	08/26/98	
135215-006	MW-6	42914	08/21/98	08/26/98	08/26/98	

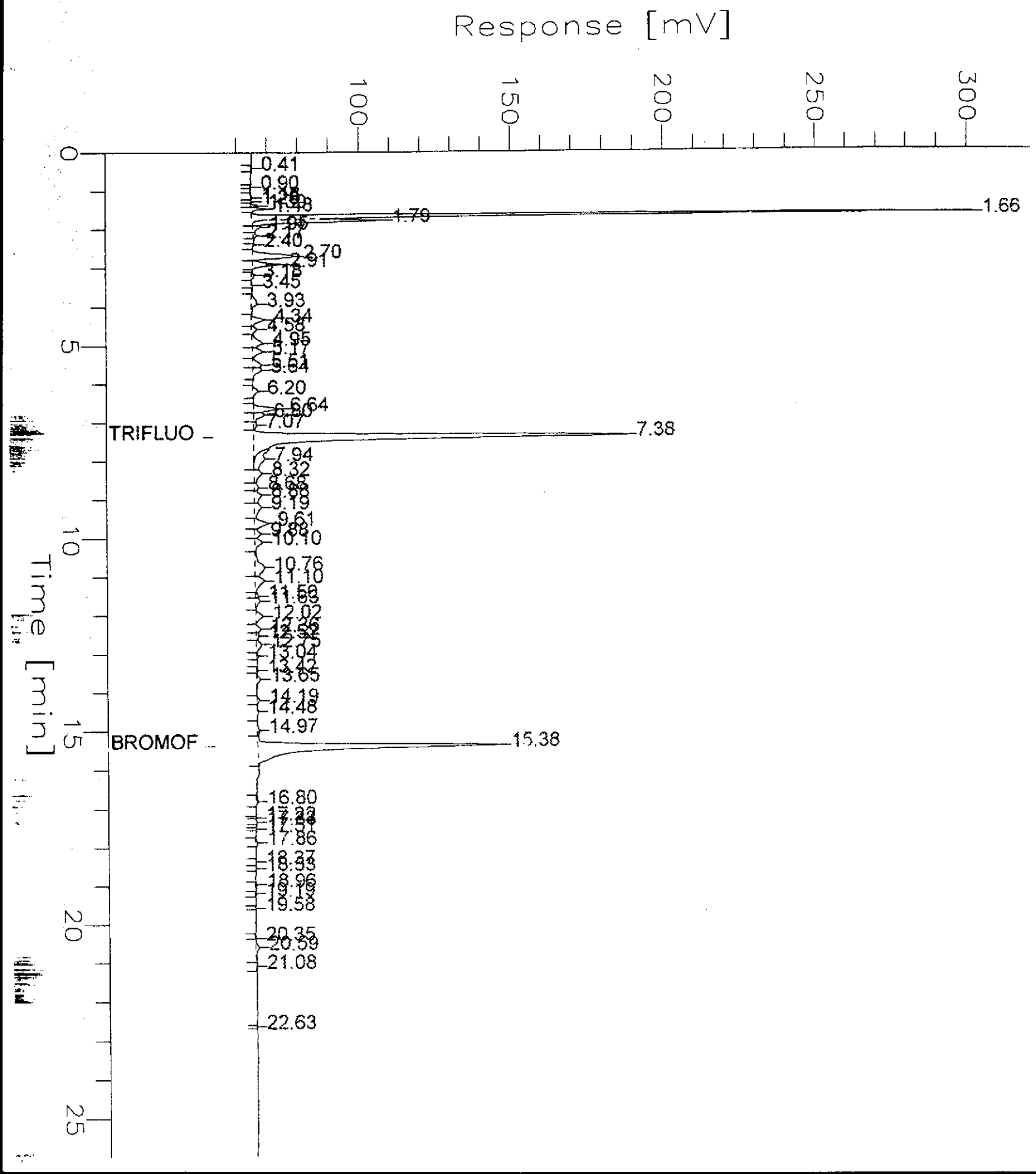
Matrix: Water

Analyte	Units	135215-005	135215-006
Diln Fac:		1	1
Gasoline C7-C12	ug/L	<50	1400
Surrogate			
Trifluorotoluene	%REC	77	80
Bromofluorobenzene	%REC	107	152

GC04 TVH 'J' Data File Rtx1FID

Sample Name : r,135215-001,42979
FileName : G:\GC04\DATA\239J025.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: -1.0 Plot Offset: 52 mV

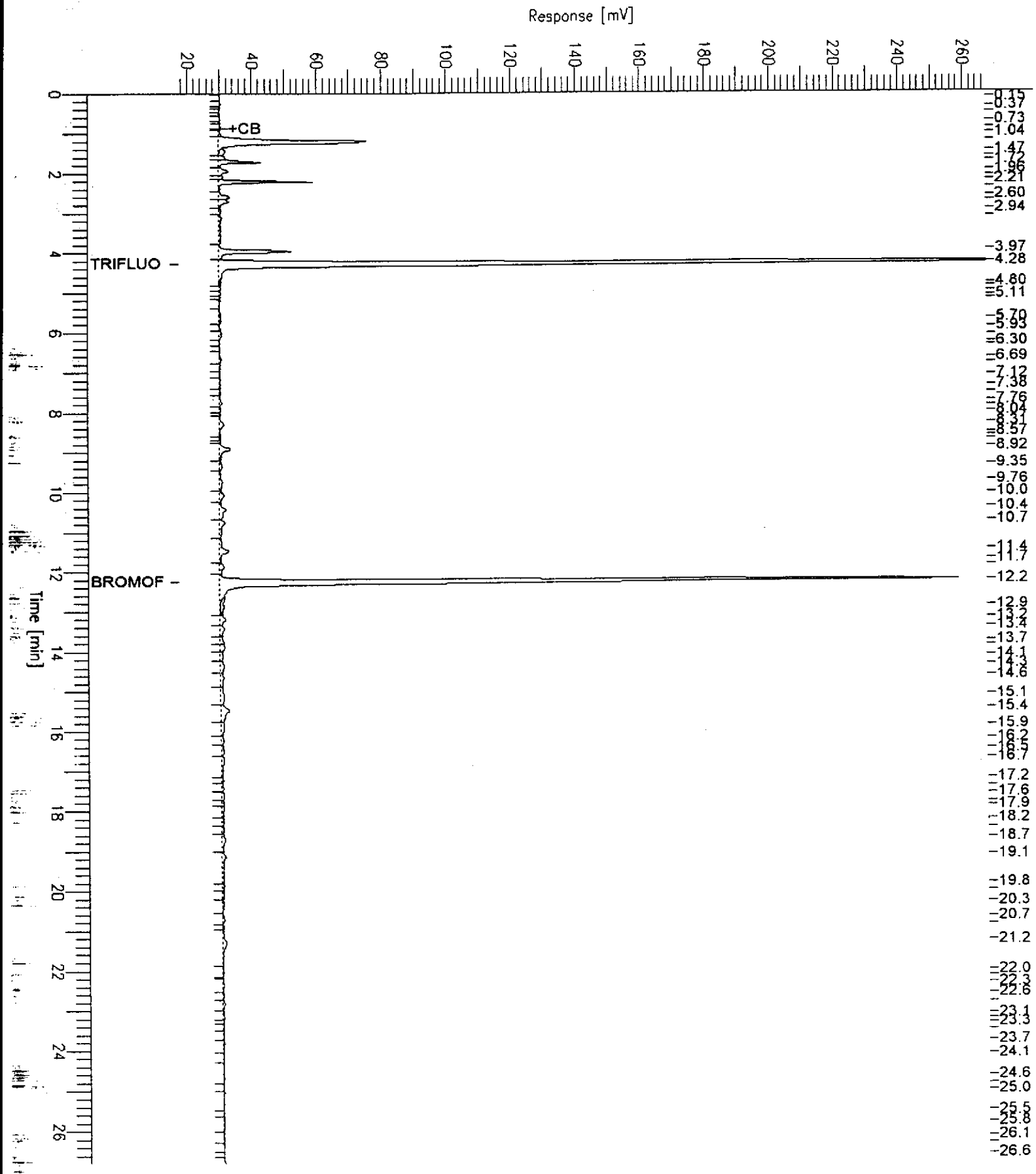
Sample #:
Date : 8/28/98 04:23 AM
Time of Injection: 8/28/98 03:56 AM
Low Point : 52.28 mV High Point : 302.28 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : S,135215-002,42914,
FileName : C:\GC19_BAK\DATA\237X011.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 17 mV

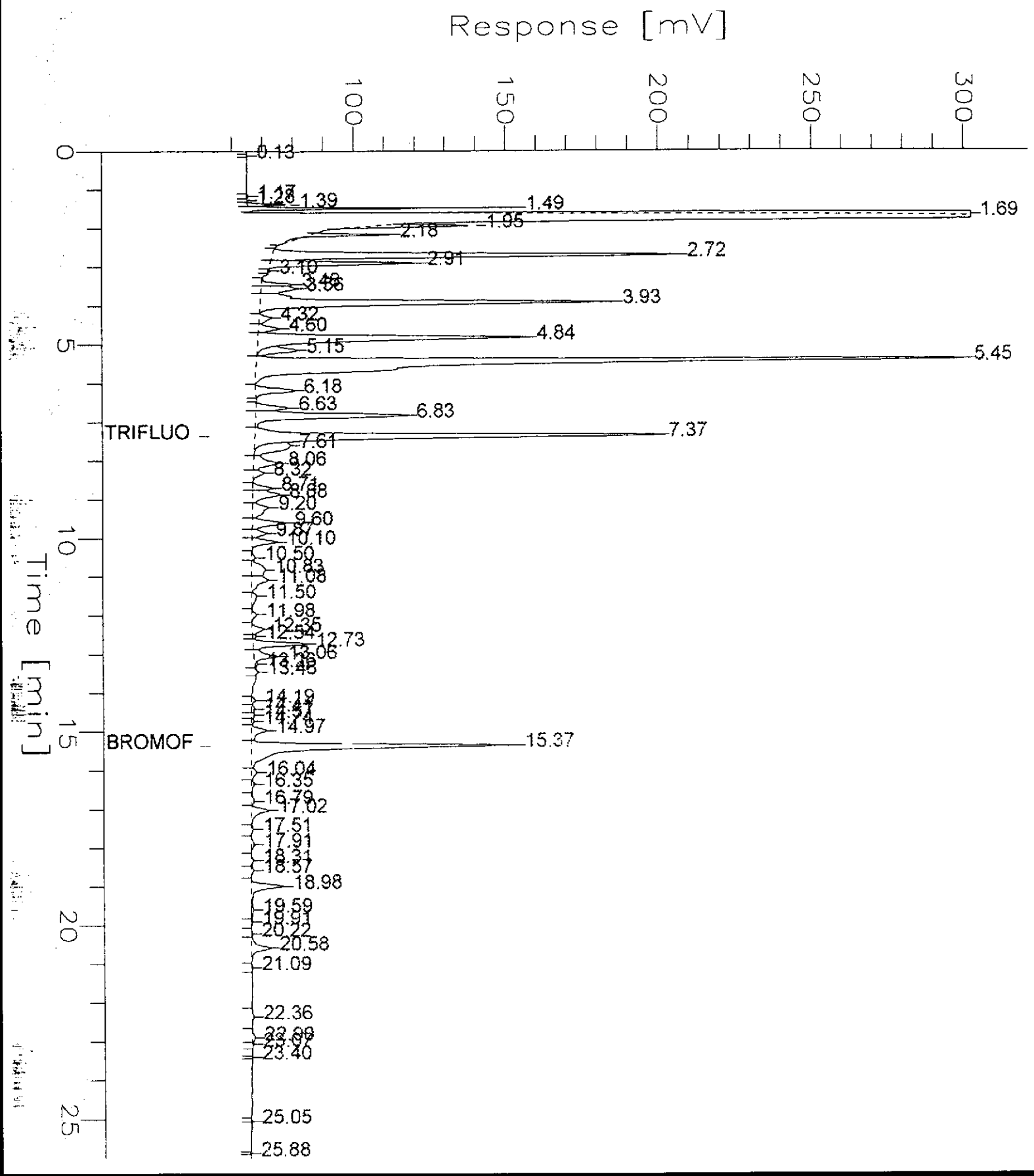
Sample #: Page 1 of 1
Date : 8/26/98 12:03 AM
Time of Injection: 8/25/98 11:36 PM
Low Point : 17.24 mV High Point : 267.24 mV
Plot Scale: 250.0 mV



GC04 TVH 'J' Data File Rtx1FID

Sample Name : r,d,135215-003,42979
FileName : G:\GC04\DATA\239J026.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: -1.0 Plot Offset: 52 mV

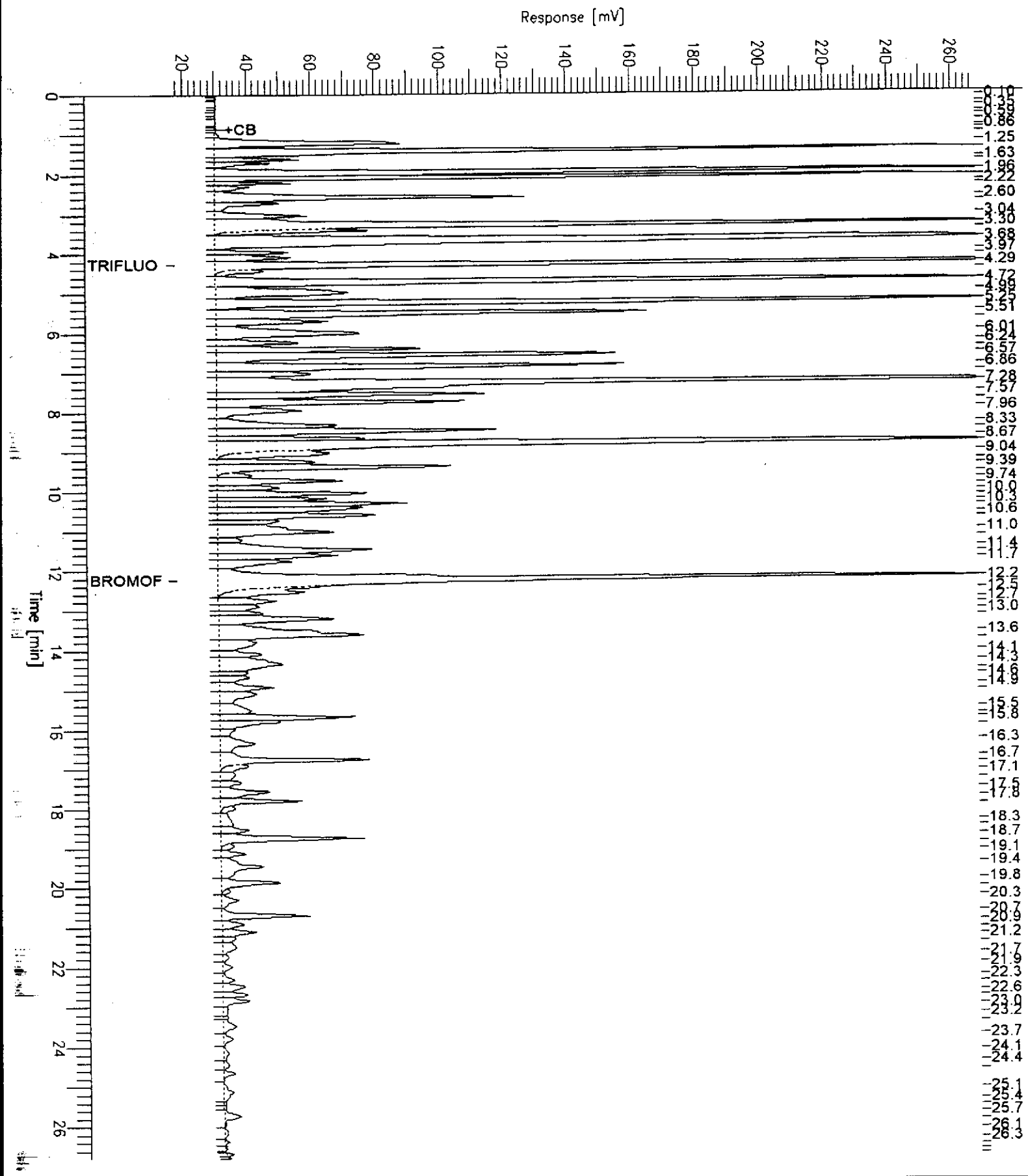
Sample #: 1:5 Page 1 of 1
Date : 8/28/98 04:59 AM
Time of Injection: 8/28/98 04:33 AM
Low Point : 52.42 mV High Point : 302.42 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : S,135215-004,42914,
FileName : C:\GC19_BAK\DATA\237X013.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 18 mV

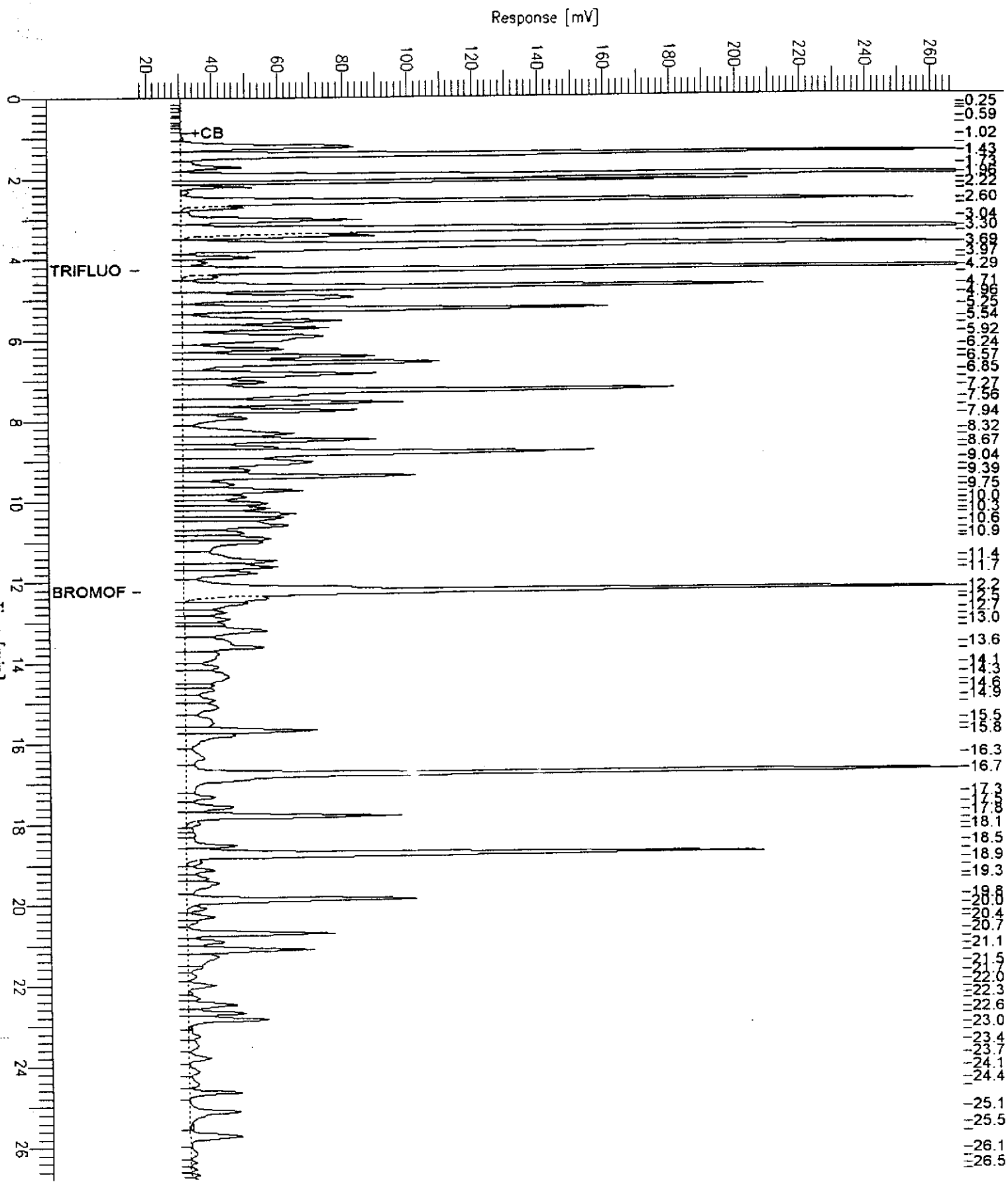
Sample #:
Date : 8/26/98 01:15 AM
Time of Injection: 8/26/98 12:48 AM
Low Point : 17.68 mV High Point : 267.68 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : S,135215-006,42914,
FileName : C:\GC19_BAK\DATA\237X015.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 18 mV

Sample #:
Date : 8/26/98 02:27 AM
Time of Injection: 8/26/98 02:00 AM
Low Point : 17.83 mV High Point : 267.83 mV
Plot Scale: 250.0 mV



Lab #: 135215

BATCH QC REPORT

Curtis & Tompkins Ltd.

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: EPA 8015M
Project#: 609.004	Prep Method: EPA 5030
Location: 2250 Telgraph Av. Oakland	

METHOD BLANK

Matrix: Water	Prep Date: 08/25/98
Batch#: 42914	Analysis Date: 08/25/98
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC78223

Analyte	Result	
Gasoline C7-C12	<50	
Surrogate	**%Rec**	**Recovery Limits**
Trifluorotoluene	71	59-162
Bromofluorobenzene	97	59-162

Lab #: 135215

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 42914
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/98
Analysis Date: 08/25/98

LCS Lab ID: QC78221

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	1740	2000	87	80-119

Surrogate	%Rec	Limits
Trifluorotoluene	78	59-162
Bromofluorobenzene	118	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 #: 135215 BATCH QC REPORT Curtis & Tompkins, Ltd.

TVH-Total Volatile Hydrocarbons

Client:	Subsurface Consultants	Analysis Method:	EPA 8015M
Project#:	609.004	Prep Method:	EPA 5030
Location:	2250 Telgraph Av. Oakland		

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID:	ZZZZZZ	Sample Date:	08/21/98
Lab ID:	135244-005	Received Date:	08/24/98
Matrix:	Water	Prep Date:	08/26/98
Batch#:	42914	Analysis Date:	08/26/98
Units:	ug/L		
Diln Fac:	1		

MS Lab ID: QC78224

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	2000	<50	1752	88	71-131

Surrogate	%Rec	Limits
Trifluorotoluene	78	59-162
Bromofluorobenzene	118	59-162

MSD Lab ID: QC78225

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	2000	1673	84	71-131	5	26

Surrogate	%Rec	Limits
Trifluorotoluene	78	59-162
Bromofluorobenzene	118	59-162

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

Curtis & Tompkins, Ltd.

BTXE

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8020A
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
135215-001	MW-1	42979	08/21/98	08/28/98	08/28/98	
135215-002	MW-2	42914	08/21/98	08/25/98	08/25/98	
135215-003	MW-3	42979	08/21/98	08/28/98	08/28/98	
135215-004	MW-4	42979	08/21/98	08/28/98	08/28/98	

Matrix: Water

Analyte	Units	135215-001	135215-002	135215-003	135215-004
Diln Fac:		1	1	5	1
MTBE	ug/L	<2	<2	<10	<2
Benzene	ug/L	<0.5	<0.5	410	8.2C
Toluene	ug/L	0.76C	<0.5	9.3C	12 C
Ethylbenzene	ug/L	0.79C	<0.5	36	13
m,p-Xylenes	ug/L	<0.5	<0.5	25 C	3.6
o-Xylene	ug/L	<0.5	<0.5	<2.5	1.6
Surrogate					
Trifluorotoluene	%REC	77	82	73	93
Bromofluorobenzene	%REC	87	123	91	107

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

Curtis & Tompkins, Ltd.

BTXE

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8020A
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
135215-005	MW-5	42914	08/21/98	08/26/98	08/26/98	
135215-006	MW-6	42979	08/21/98	08/28/98	08/28/98	

Matrix: Water

Analyte	Units	135215-005	135215-006
Diln Fac:		1	1
MTBE	ug/L	<2	5.7C
Benzene	ug/L	<0.5	<0.5
Toluene	ug/L	<0.5	3.6
Ethylbenzene	ug/L	<0.5	5.6
m,p-Xylenes	ug/L	<0.5	2
o-Xylene	ug/L	<0.5	2
Surrogate			
Trifluorotoluene	%REC	83	84
Bromofluorobenzene	%REC	123	105

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 #: 135215

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client:	Subsurface Consultants	Analysis Method:	EPA 8020A
Project#:	609.004	Prep Method:	EPA 5030
Location:	2250 Telgraph Av. Oakland		

METHOD BLANK

Matrix:	Water	Prep Date:	08/25/98
Batch#:	42914	Analysis Date:	08/25/98
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC78223

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	76	53-124
Bromofluorobenzene	111	41-142

Lab #: 135215

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8020A
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 42979
Units: ug/L
Diln Fac: 1

Prep Date: 08/27/98
Analysis Date: 08/27/98

MB Lab ID: QC78463

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	78	53-124
Bromofluorobenzene	90	41-142

Lab #: 135215 BATCH QC REPORT Curtis & Tompkins, Ltd.

BTXE

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8020A
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 42914
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/98
Analysis Date: 08/25/98

LCS Lab ID: QC78222

Analyte	Result	Spike Added	%Rec #	Limits
MTBE	16.48	20	82	65-135
Benzene	17.16	20	86	69-109
Toluene	17.82	20	89	72-116
Ethylbenzene	18.45	20	92	67-120
m,p-Xylenes	41.11	40	103	69-117
o-Xylene	17.81	20	89	75-122

Surrogate	%Rec	Limits
Trifluorotoluene	75	53-124
Bromofluorobenzene	110	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

Lab #: 135215

BATCH QC REPORT

Curtis & Tompkins, Ltd.

BTXE

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8020A
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 42979
Units: ug/L
Diln Fac: 1

Prep Date: 08/27/98
Analysis Date: 08/27/98

BS Lab ID: QC78466

Analyte	Spike Added	BS	%Rec	#	Limits
MTBE	20	16.96	85		65-135
Benzene	20	17.38	87		69-109
Toluene	20	19.39	97		72-116
Ethylbenzene	20	17.03	85		67-120
m,p-Xylenes	40	39.53	99		69-117
o-Xylene	20	19.07	95		75-122

Surrogate	%Rec	Limits
Trifluorotoluene	86	53-124
Bromofluorobenzene	95	41-142

BSD Lab ID: QC78467

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD	#	Limit
MTBE	20	18.81	94		65-135	10		20
Benzene	20	18.99	95		69-109	9		11
Toluene	20	21.86	109		72-116	12	*	11
Ethylbenzene	20	19.96	100		67-120	16	*	12
m,p-Xylenes	40	45.99	115		69-117	15	*	11
o-Xylene	20	22.46	112		75-122	16	*	12

Surrogate	%Rec	Limits
Trifluorotoluene	89	53-124
Bromofluorobenzene	108	41-142

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

Curtis & Tompkins Ltd.

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
135215-001	MW-1	42938	08/21/98	08/25/98	09/01/98	
135215-002	MW-2	42938	08/21/98	08/25/98	09/01/98	
135215-003	MW-3	42938	08/21/98	08/25/98	09/01/98	
135215-004	MW-4	42938	08/21/98	08/25/98	09/01/98	

Matrix: Water

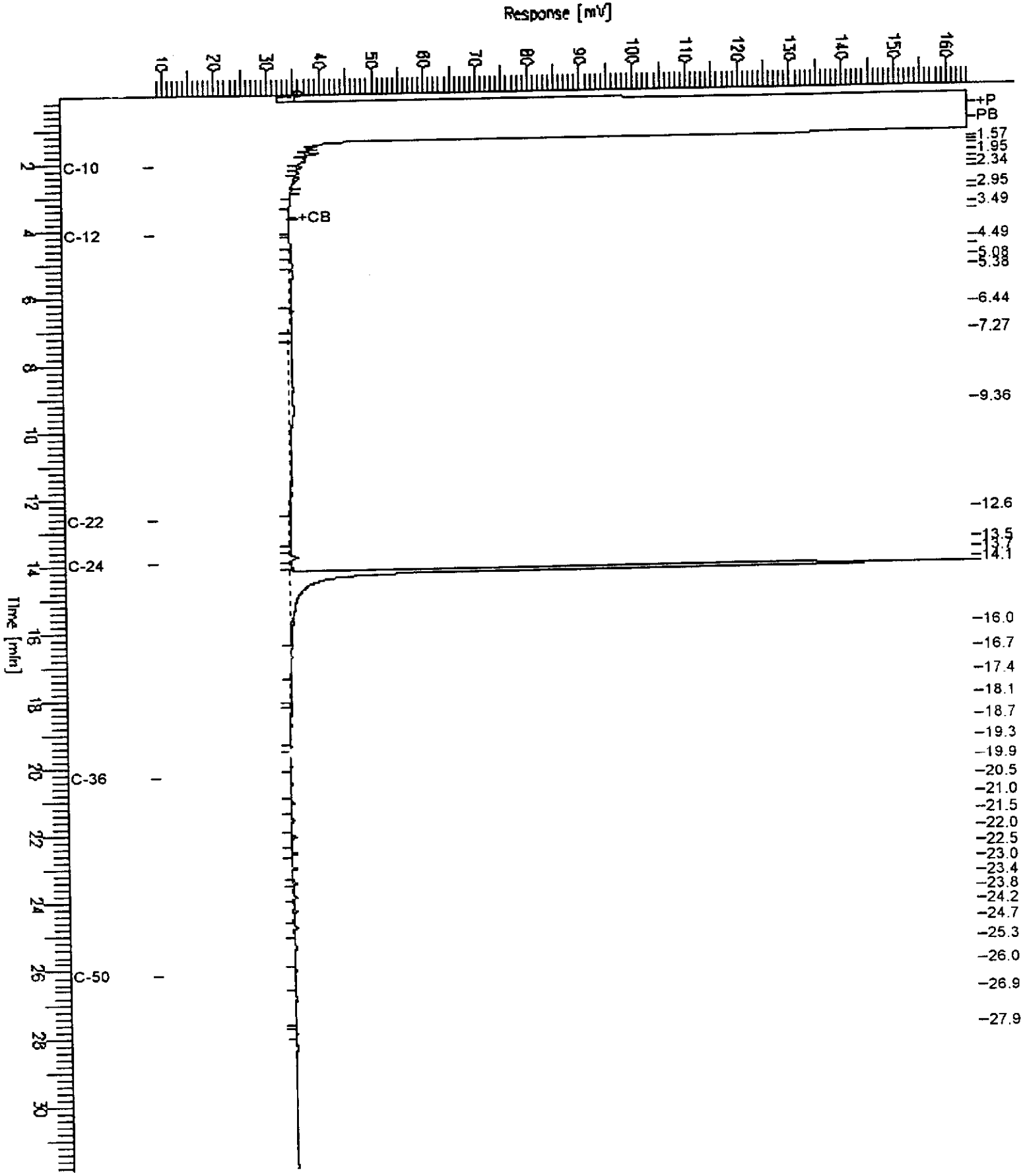
Analyte Diln Fac:	Units	135215-001 1	135215-002 1	135215-003 1	135215-004 1
Diesel C12-C22	ug/L	62 Y	<50	600 YL	600 YLH
Surrogate					
Hexacosane	%REC	74	79	72	66

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

GC15 Channel B TEH

Sample Name : 135215-001,42938
FileName : C:\GC15\CHB\243B028.RAW
Method : B180TEH.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 8 mV

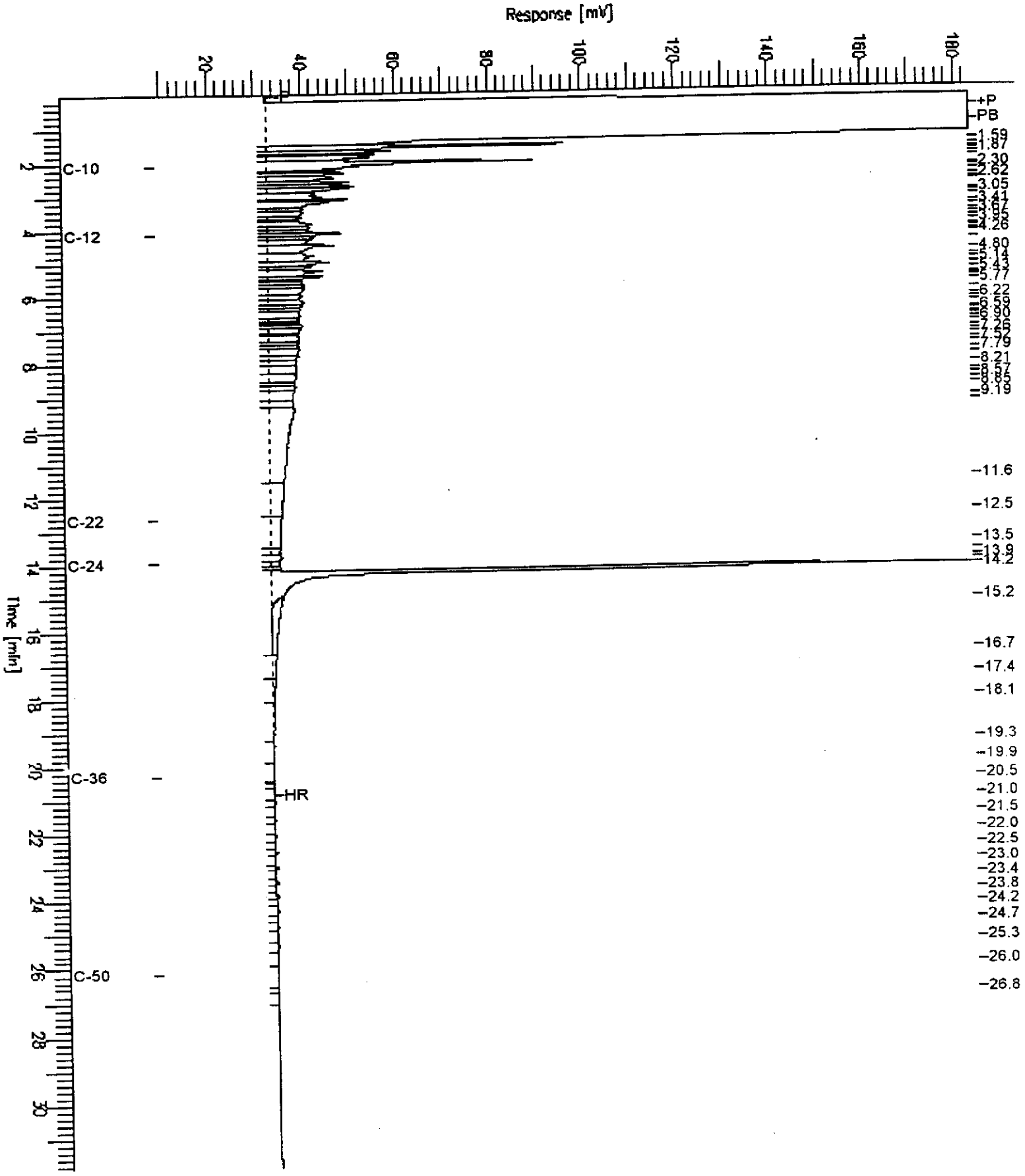
Sample #: 42938 Page 1 of 1
Date : 9/3/98 04:45 PM
Time of Injection: 9/1/98 08:37 PM
Low Point : 8.14 mV High Point : 164.04 mV
Plot Scale: 155.9 mV



GC15 Channel B TEH

Sample Name : 135215-003,42938
FileName : C:\GC15\CHB\243B030.RAW
Method : B180TEH.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 9 mV

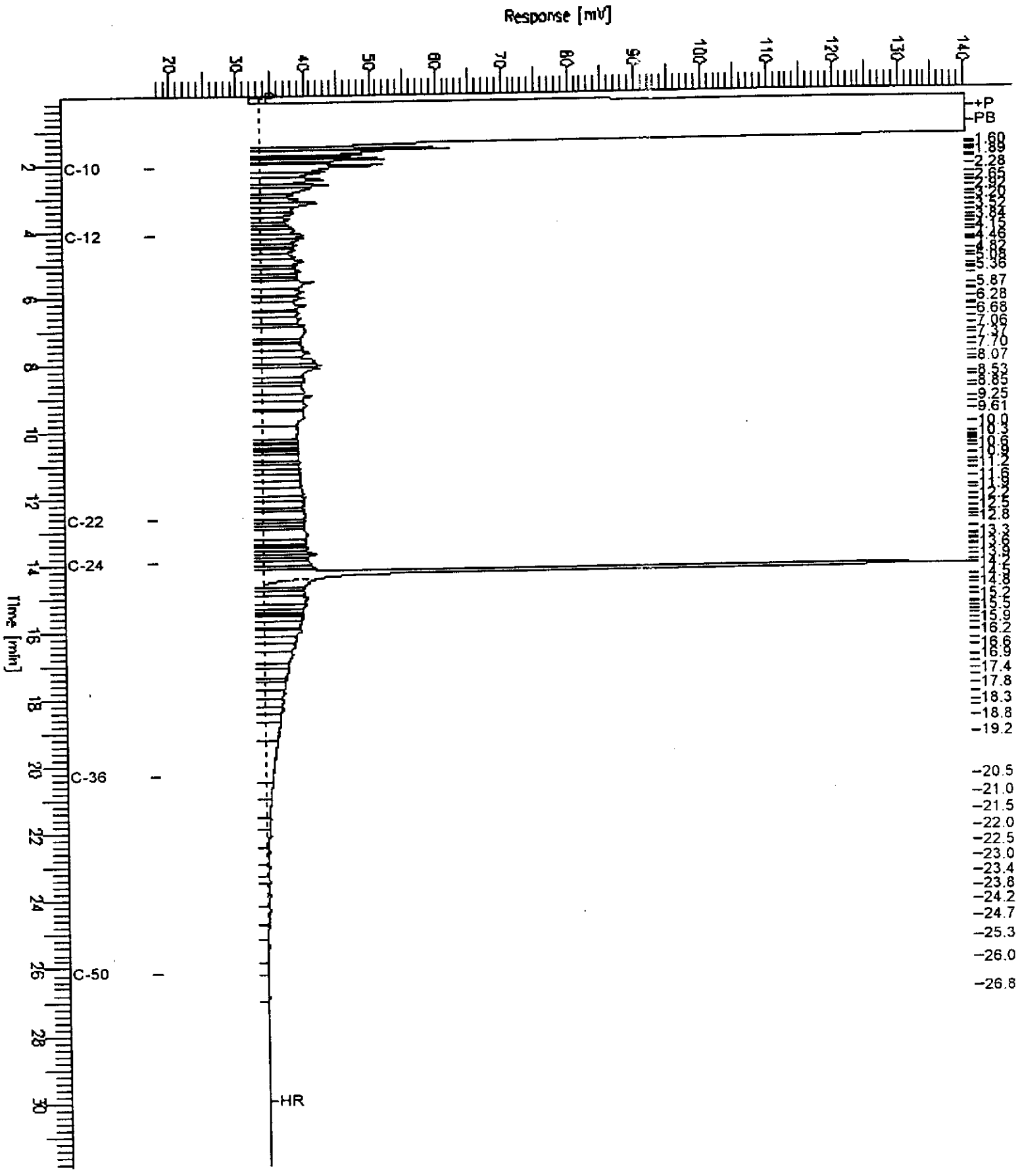
Sample #: 42938 Page 1 of 1
Date : 9/3/98 04:46 PM
Time of Injection: 9/1/98 10:02 PM
Low Point : 8.68 mV High Point : 183.37 mV
Plot Scale: 174.7 mV



GC15 Channel B TEH

Sample Name : 135215-004,42938
FileName : C:\GC15\CHB\243B031.RAW
Method : B1B0TEH.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 42938 Page 1 of 1
Date : 9/3/98 04:47 PM
Time of Injection: 9/1/98 10:45 PM
Low Point : 17.54 mV High Point : 140.31 mV
Plot Scale: 122.8 mV



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
135215-005	MW-5	42938	08/21/98	08/25/98	09/01/98	
135215-006	MW-6	42938	08/21/98	08/25/98	09/02/98	

Matrix: Water

Analyte	Units	135215-005	135215-006
Diln Fac:		1	1
Diesel C12-C22	ug/L	<50	540 YLH
Surrogate			
Hexacosane	%REC	70	67

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

Lab #: 135215

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 42938
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/98
Analysis Date: 09/01/98

MB Lab ID: QC78314

Analyte	Result	
Diesel C12-C22	<50	
Surrogate	**%Rec**	**Recovery Limits**
Hexacosane	87	53-136

Lab #: 135215

BATCH QC REPORT

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 609.004
Location: 2250 Telgraph Av. Oakland

Analysis Method: EPA 8015M
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 42938
Units: ug/L
Diln Fac: 1

Prep Date: 08/25/98
Analysis Date: 09/02/98

BS Lab ID: QC78315

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	1728	70	58-110
Surrogate	**%Rec**	**Limits**		
Hexacosane	80	53-136		

BSD Lab ID: QC78316

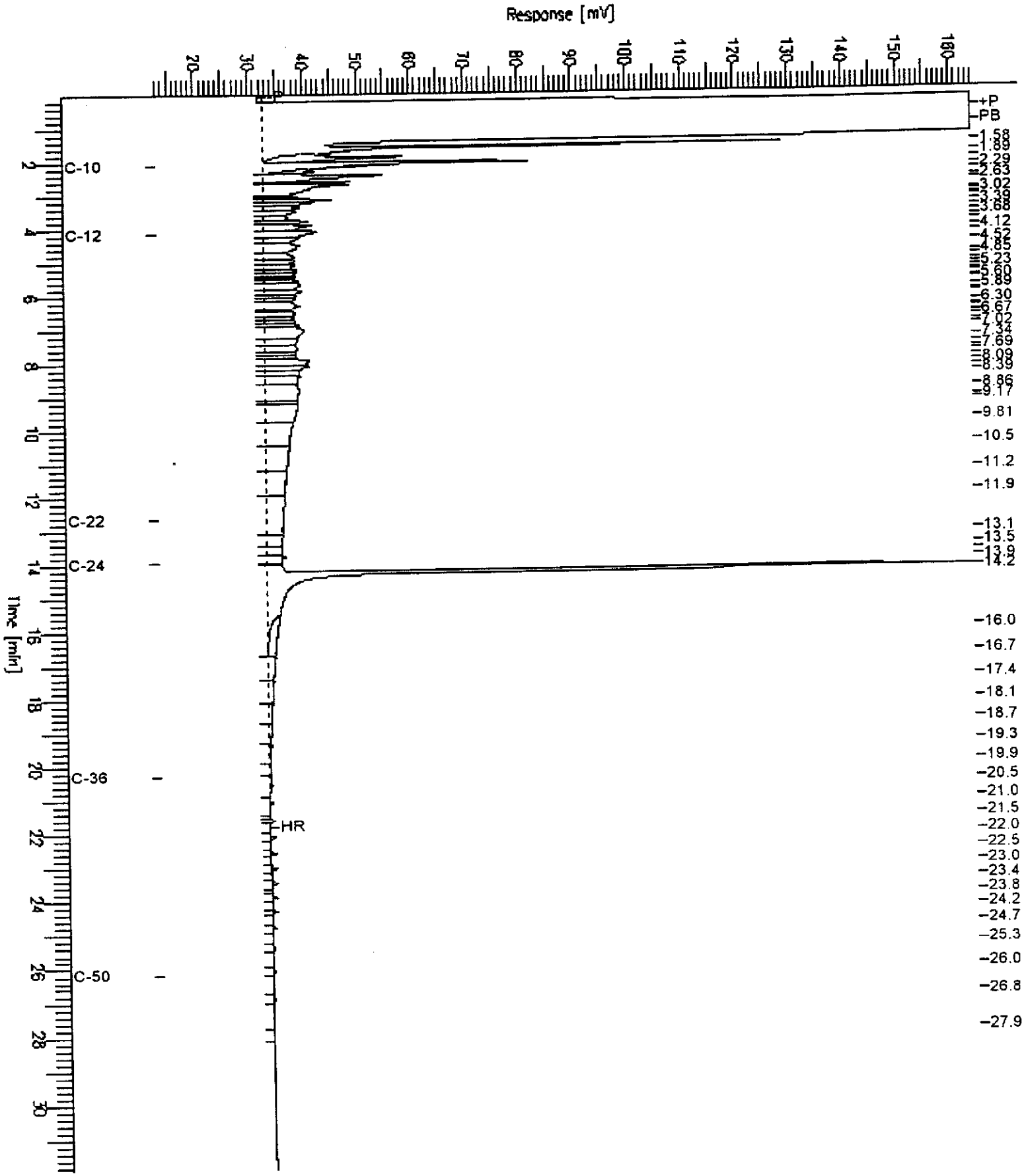
Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	1727	70	58-110	0	21
Surrogate	**%Rec**	**Limits**				
Hexacosane	80	53-136				

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

GC15 Channel B TEH

Sample Name : 135215-006,42938
FileName : C:\GC15\CHB\243B033.RAW
Method : B180TEH.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 13 mV

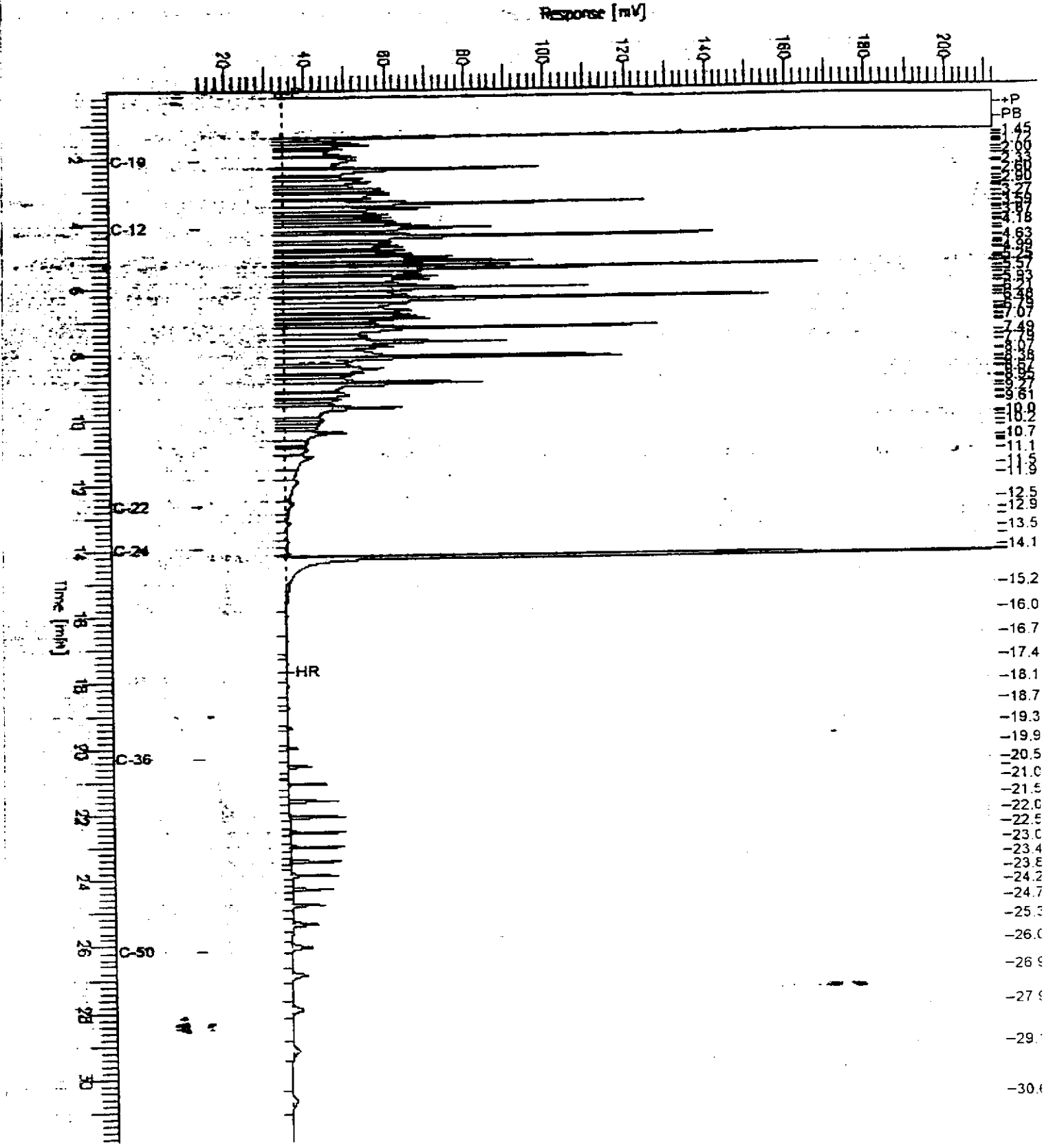
Sample #: 42938 Page 1 of 1
Date : 9/3/98 04:48 PM
Time of Injection: 9/2/98 12:10 AM
Low Point : 12.86 mV High Point : 164.03 mV
Plot Scale: 151.2 mV



GC15 Channel B TEH

Sample Name : CCV,98WS6167,DS
FileName : C:\GC15\CHB\243B066.RAW
Method : B180TEH.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: 14 mV

Sample #: 500MG/L
Date : 9/3/98 10:51 AM
Time of Injection: 9/3/98 01:04 AM
Low Point : 13.76 mV High Point : 212.11 mV
Plot Scale: 198.4 mV



13525

CHAIN OF CUSTODY FORM

PROJECT NAME: 2250 Telegraph Ave.
JOB NUMBER: 609004
PROJECT CONTACT: Jeri Alexander / Glenn Young
SAMPLED BY: Dennis Alexander

LAB: Curtis & Tompkins
TURNAROUND: Normal
REQUESTED BY: Jeri Alexander / Glenn Young

PAGE OF

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: TEH 8015 mod.	TVH 8015 mod.	BDE 8020	MTBE 8020
1	MW-1	X				7	1			X			X		08	21	98	1115	*	X	X	X	X
2	MW-2	X				7	1			X			X					0945	*	X	X	X	X
3	MW-3	X				7	1			X			X					1300	*	X	X	X	X
4	MW-4	X				7	1			X			X					1230	*	X	X	X	X
5	MW-5	X				7	1			X			X					0845	*	X	X	X	X
6	MW-6	X				7	1			X			X		08	21	98	0745	*	X	X	X	X
	~~MW-7~~																						

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Jeri Alexander	8/21/98 1340	Carol Worthen	8/21/98 1340
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

COMMENTS & NOTES: * Hold all additional sample for possible future 8260 analysis

Bill to: Marianne Robison
Buttner Properties
600 West Grand Ave.
Oakland, Ca. 94612

Subsurface Consultants, Inc.
171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
(510) 268-0461 · FAX: 510-268-0137

GROUNDWATER DEPTHS

Project Name: 2250 Telegraph Ave.

Job No.: 609.004

Measured by: DWA

Well	Date	Time	Groundwater Depth (feet)	Comments
MW-1	10/6/98	0750	11.84	
MW-2	↓	0800	11.57	
MW-3	↓	0805	10.64	
MW-4	↓	0810	12.83	
MW-5	↓	0745	8.81	
MW-6	↓	0735	10.79	

WELL SAMPLING FORM

Project Name: 2250 Telegraph Ave. Well Number: MW-1

Job No.: 609.004 Well Casing Diameter: 2 inches

Sampled By: DWA Date: 8/21/98

TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 18.50 feet

Depth to Groundwater Before Purging (below TOC) 11.00 feet

Feet of Water in Well 7.50 feet

Depth to Groundwater When 80% Recovered 12.50 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.2 gallons

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

Free Product none

Purge Method disposable bailer

FIELD MEASUREMENTS

~~moderate~~ recharge slow

Gallons Removed	Time	pH	Temp (°C / °F)	Conductivity (micromhos/cm)	Salinity S%	Comments
1		6.09	22.0	950		clear/slight odor
2		6.04	21.5	975		"
3		6.03	21.5	925		semi-clear
4		6.16	22.0	950		murky/dry @ 4 gals...

Total Gallons Purged 4 gallons

Depth to Groundwater Before Sampling (below TOC) 12.47 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: 2250 Telegraph Ave. Well Number: MW-2

Job No.: 609.004 Well Casing Diameter: 2 inches

Sampled By: DWA Date: 8/21/98

TOC Elevation: _____ Weather: foggy

Depth to Casing Bottom (below TOC) 17.00 feet

Depth to Groundwater Before Purging (below TOC) 11.91 feet

Feet of Water in Well 5.09 feet

Depth to Groundwater When 80% Recovered 12.93 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) .82 gallons

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

Free Product none

Purge Method disposable bailer

fast recharge

FIELD MEASUREMENTS

Gallons Removed	Time	pH	Temp (°C / °F)	Conductivity (micromhos/cm)	Salinity S%	Comments
1		6.15	20.0	465		Semi-clear/no odor
2		6.16	19.5	490		↓
3		6.21	19.5	465		murky

Total Gallons Purged 3 gallons

Depth to Groundwater Before Sampling (below TOC) 12.90 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: 2250 Telegraph Ave.
Well Number: MW-3
Job No.: 609.004
Well Casing Diameter: 2 inches
Sampled By: DWA
Date: 8/21/98
TOC Elevation:
Weather: Sunny

Depth to Casing Bottom (below TOC) 18.50 feet
Depth to Groundwater Before Purging (below TOC) 10.36 feet
Feet of Water in Well 8.14 feet
Depth to Groundwater When 80% Recovered 11.99 feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) 1.3 gallons
Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other
Free Product none
Purge Method disposable bailer slow recharge

FIELD MEASUREMENTS

Gallons Removed	Time	pH	Temp (°C) °F	Conductivity (micromhos/cm)	Salinity S%	Comments
1		6.08	21.5	975		clear/moderate odor
2		6.12	21.0	975		↓
3		6.18	21.5	975		semi-clear murky
4		6.30	21.5	900		dry @ 4 gals.

Total Gallons Purged 4 gallons
Depth to Groundwater Before Sampling (below TOC) 12.10 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: 2250 Telegraph Ave. Well Number: MW-4

Job No.: 609.004 Well Casing Diameter: 2 inches

Sampled By: DWA Date: 8/21/98

TOC Elevation: _____ Weather: sunny

Depth to Casing Bottom (below TOC) 18.50 feet

Depth to Groundwater Before Purging (below TOC) 11.86 feet

Feet of Water in Well 6.64 feet

Depth to Groundwater When 80% Recovered 13.19 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.1 gallons

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

Free Product none (crankcase oil from car parked over well on top of seal)

Purge Method disposable bailer integrity of well not compromised moderate recharge

FIELD MEASUREMENTS

Gallons Removed	Time	pH	Temp (°C / °F)	Conductivity (micromhos/cm)	Salinity S%	Comments
1		6.25	24.0	925		clear/slight odor/sheen
2		6.27	22.5	975		↓
3		6.31	22.0	925		murky
4		6.36	22.0	950		drawn down near bottom

Total Gallons Purged 4 gallons

Depth to Groundwater Before Sampling (below TOC) 13.08 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: 2290 Telegraph Ave. Well Number: MW-5

Job No.: 609.004 Well Casing Diameter: 2 inches

Sampled By: DWA Date: 8/21/98

TOC Elevation: _____ Weather: foggy

Depth to Casing Bottom (below TOC) 18.00 feet

Depth to Groundwater Before Purging (below TOC) 8.32 feet

Feet of Water in Well 9.68 feet

Depth to Groundwater When 80% Recovered 10.26 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) ~~##~~1.5 gallons

Depth Measurement Method Tape & Paste / Electronic Sounder / Other

Free Product none

Purge Method disposable bailer

FIELD MEASUREMENTS

fast recharge

Gallons Removed	Time	pH	Temp (°C / °F)	Conductivity (micromhos/cm)	Salinity S%	Comments
1		6.21	19.0	315		murky/no odor
2		6.09	19.0	335		
3		6.03	19.0	335		
4		6.01	19.0	335		
5		5.98	19.0	335		

Total Gallons Purged 5 gallons

Depth to Groundwater Before Sampling (below TOC) 8.40 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: 2250 Telegraph Ave. Well Number: MW-6

Job No.: 609.004 Well Casing Diameter: 2 inches

Sampled By: DwA Date: 8/21/98

TOC Elevation: _____ Weather: foggy

Depth to Casing Bottom (below TOC) 19.00 feet

Depth to Groundwater Before Purging (below TOC) 10.81 feet

Feet of Water in Well 8.19 feet

Depth to Groundwater When 80% Recovered 12.45 feet

Casing Volume (feet of water x Casing DIA ^{2} x 0.0408) 1.3 gallons

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

Free Product none

Purge Method disposable bailer

FIELD MEASUREMENTS

fast recharge

Gallons Removed	Time	pH	Temp (°C) / °F	Conductivity (micromhos/cm)	Salinity S%	Comments
1		6.71	20.5	1100		murky/moderate odor
2		6.60	20.5	1025		
3		6.58	20.5	1000		
4		6.56	20.5	1100		

Total Gallons Purged 4 gallons

Depth to Groundwater Before Sampling (below TOC) 10.83 feet

Sampling Method disposable bailer

Containers Used 7 (40 ml) _____ (liter) _____ (pint) _____

Subsurface Consultants

JOB NUMBER DATE APPROVED

PLATE