

THIRD INTERIM REPORT
SITE CHARACTERIZATION
NINTH AVENUE TERMINAL STUDY AREA
PORT OF OAKLAND
OAKLAND, CALIFORNIA
SCI 133.004

VOLUME III OF VI

APPENDIX F - ANALYTICAL TEST REPORTS, CHROMATOGRAPHS,
AND CHAIN-OF-CUSTODY FORMS FOR SCI'S
JANUARY/FEBRUARY 1997 DATA GAP STUDY (PART 1)

JULY 25, 1997

Subsurface Consultants, Inc.

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**APPENDIX F - ANALYTICAL TEST REPORTS, CHROMATOGRAPHS, AND
CHAIN-OF-CUSTODY FORMS FOR SCI'S
JANUARY/FEBRUARY 1997 DATA GAP STUDY (PART 1)**



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

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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
Layfayette, CA 94549

Date: 24-JAN-97
Lab Job Number: 128016
Project ID: 133.005
Location: KOT

Reviewed by:

Teresa K Morris

Reviewed by:

Troy Bobz

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TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128016-001	SCI MW-2	31911	01/17/97	01/20/97	01/20/97	
128016-002	MW-7	31911	01/17/97	01/20/97	01/20/97	
128016-003	SCI MW-11	31911	01/17/97	01/20/97	01/20/97	
128016-004	SCI MW-12	31911	01/17/97	01/20/97	01/20/97	

Matrix: Water

Analyte	Units	128016-001	128016-002	128016-003	128016-004
Diln Fac:		1	1	1	1
Gasoline	ug/L	95 Y	<50	<50	<50
Surrogate					
Trifluorotoluene	%REC	96	96	96	96
Bromobenzene	%REC	91	90	94	93

Y: Sample exhibits fuel pattern which does not resemble standard

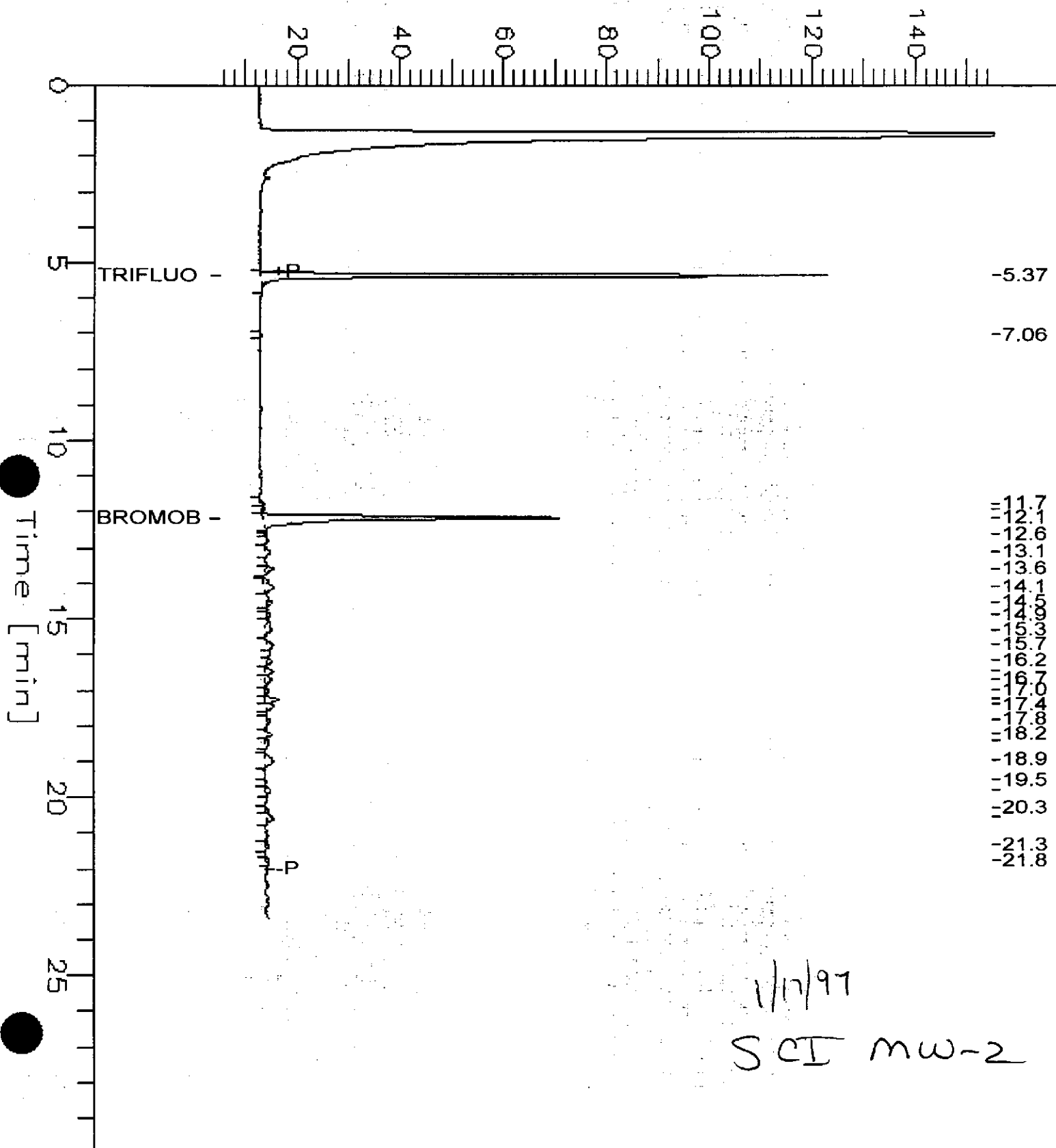
GC05 RTX1 TVH Chromatogram

Sample Name : S_128016-001_31911
FileName : G:\GC05\DATA\020H010.raw
Method : TVHBTXE
Time : 0.00 min
Factor : -1.0

End Time : 30.00 min
Plot Offset : 5 mV

Sample # :
Date : 1/20/97 09:49 AM
Time of Injection : 1/20/97 07:28 AM
Low Point : 5.23 mV
High Point : 155.23 mV
Plot Scale : 150.0 mV

Response [mV]



1/17/97
SCI MW-2

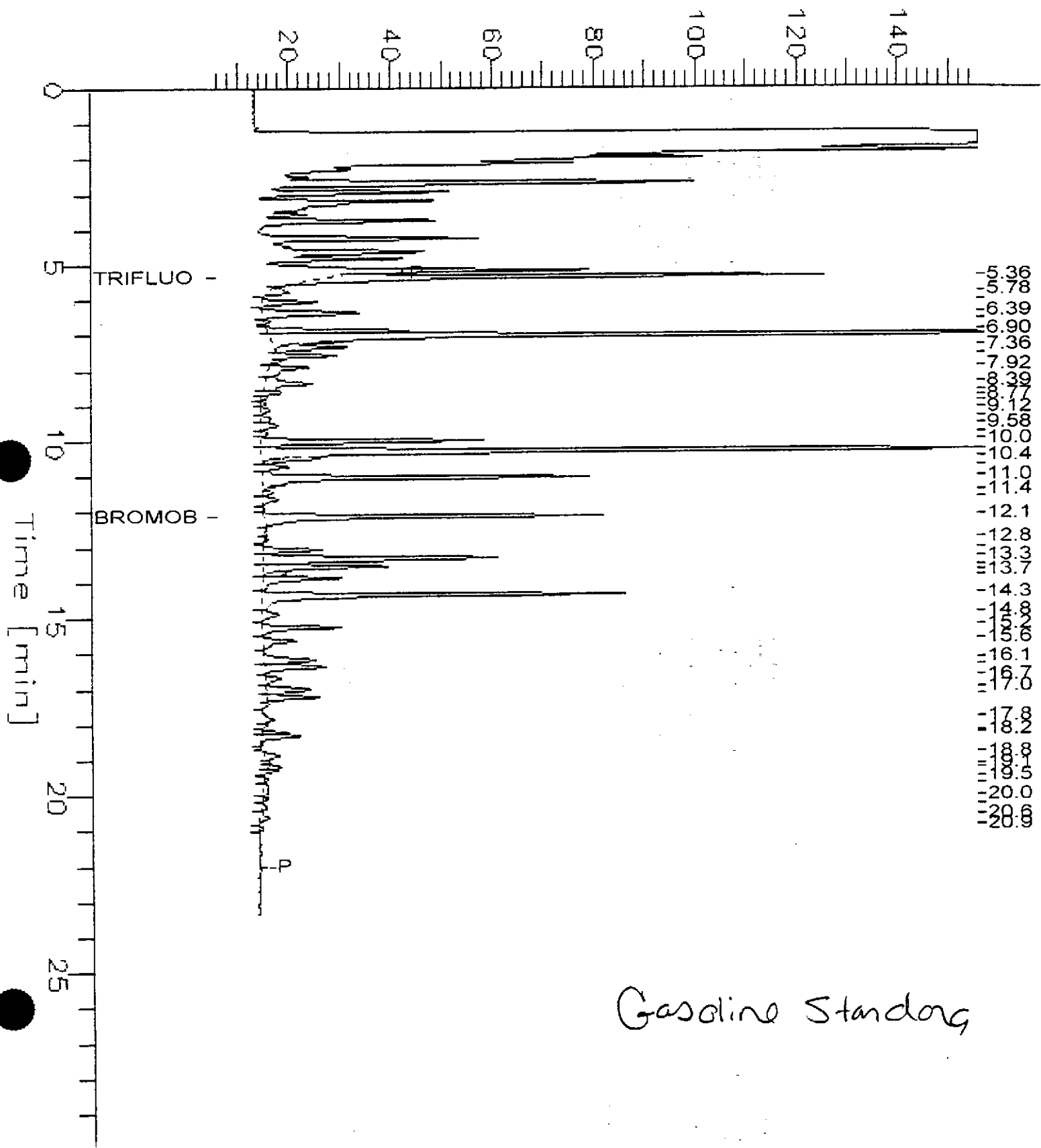
GC05 RTX1 TVH Chromatogram

Sample Name : GCV/LCS, QC38311, 31911
FileName : G:\GC05\DATA\020H002.raw
Method : TVHBTXE
Start Time : 0.00 min
Gain Factor : -1.0

End Time : 30.00 min
Plot Offset : 6 mV

Sample #: 96WS3521
Date : 1/20/97 09:42 AM
Time of Injection: 1/20/97 02:45 AM
Low Point : 5.68 mV
High Point : 135.68 mV
Plot Scale: 150.0 mV

Response [mV]



Gasoline Standard



TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128016-005	SCI MW-15	31911	01/17/97	01/20/97	01/20/97	

Matrix: Water

Analyte	Units	128016-005
Diln Fac:		1
Gasoline	ug/L	<50
Surrogate		
Trifluorotoluene	%REC	95
Bromobenzene	%REC	91



Lab #: 128016

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 31911
Units: ug/L
Diln Fac: 1

Prep Date: 01/20/97
Analysis Date: 01/20/97

MB Lab ID: QC38313

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	92	65-135
Bromobenzene	84	65-135



Lab #: 128016

BATCH QC REPORT

Page 1 of 1

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31911
Units: ug/L
Diln Fac: 1

Prep Date: 01/20/97
Analysis Date: 01/20/97

LCS Lab ID: QC38311

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2206	2000	110	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	94	65-135		
Bromobenzene	97	65-135		

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 #: 128016

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: SCI MW-12
 Lab ID: 128016-004
 Matrix: Water
 Batch#: 31911
 Units: ug/L
 Diln Fac: 1

Sample Date: 01/17/97
 Received Date: 01/17/97
 Prep Date: 01/20/97
 Analysis Date: 01/20/97

MS Lab ID: QC38314

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	2121	106	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	99	65-135			
Bromobenzene	104	65-135			

MSD Lab ID: QC38315

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2156	108	75-125	2	35
Surrogate	%Rec	Limits				
Trifluorotoluene	98	65-135				
Bromobenzene	107	65-135				

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



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128016-001	SCI MW-2	31987	01/17/97	01/22/97	01/24/97	
128016-002	MW-7	31987	01/17/97	01/22/97	01/24/97	
128016-003	SCI MW-11	31987	01/17/97	01/22/97	01/24/97	
128016-004	SCI MW-12	31987	01/17/97	01/22/97	01/24/97	

Matrix: Water

Analyte	Units	128016-001	128016-002	128016-003	128016-004
Diln Fac:		1	1	1	1
Diesel C12-C22	ug/L	13000 L	200	180	<50
Motor Oil C22-C50	ug/L	2400 YL	<250	<250	<250
Surrogate					
Hexacosane	%REC	106	95	87	93

Y: Sample exhibits fuel pattern which does not resemble standard

L: Lighter hydrocarbons than indicated standard



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128016-005	SCI MW-15	31987	01/17/97	01/22/97	01/24/97	

Matrix: Water

Analyte	Units	128016-005
Diln Fac:		1
Diesel C12-C22	ug/L	2500 H
Motor Oil C22-C50	ug/L	1600 YL
Surrogate		
Hexacosane	%REC	108

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

Chromatogram

Sample Name : 128016-001,31987

FileName : G:\GC11\CHBA\023B029.RAW

Method : BTEH006.MTH

Start Time : 0.00 min

End Time : 31.90 min

Factor: 0.0

Plot Offset: -15 mV

Sample #: 31987

Date : 1/24/97 09:37 AM

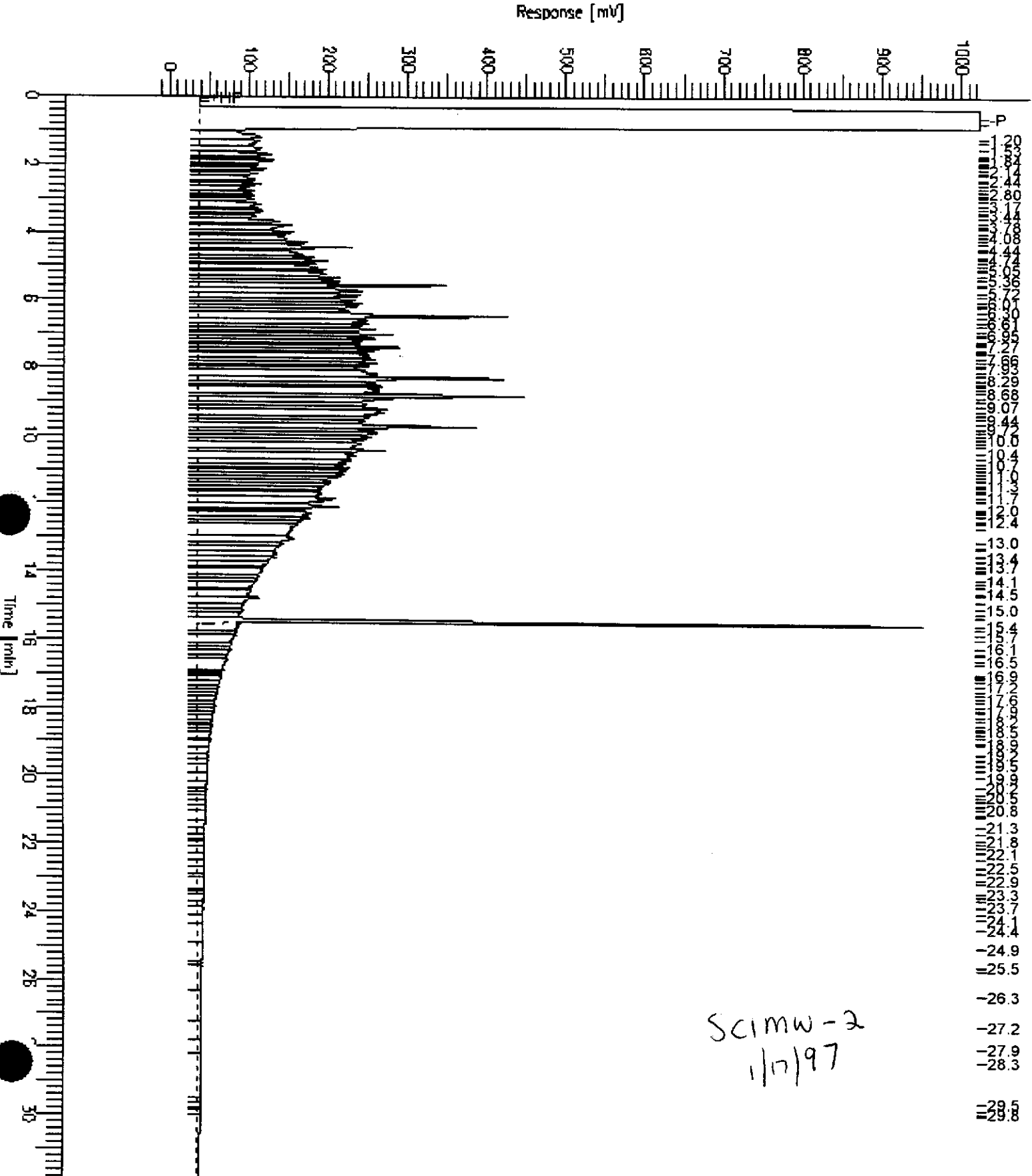
Time of Injection: 1/24/97 12:41 AM

Low Point : -14.58 mV

High Point : 1024.00 mV

Plot Scale: 1038.6 mV

Page 1 of 1



Chromatogram

Sample Name : 128016-002,31987

FileName : G:\GC11\CHB\023B030.RAW

Method : BTEH006.MTH

Start Time : 0.01 min

Factor : 0.0

Sample #: 31987

Date : 1/24/97 09:38 AM

Time of Injection: 1/24/97 01:24 AM

Low Point : -14.91 mV

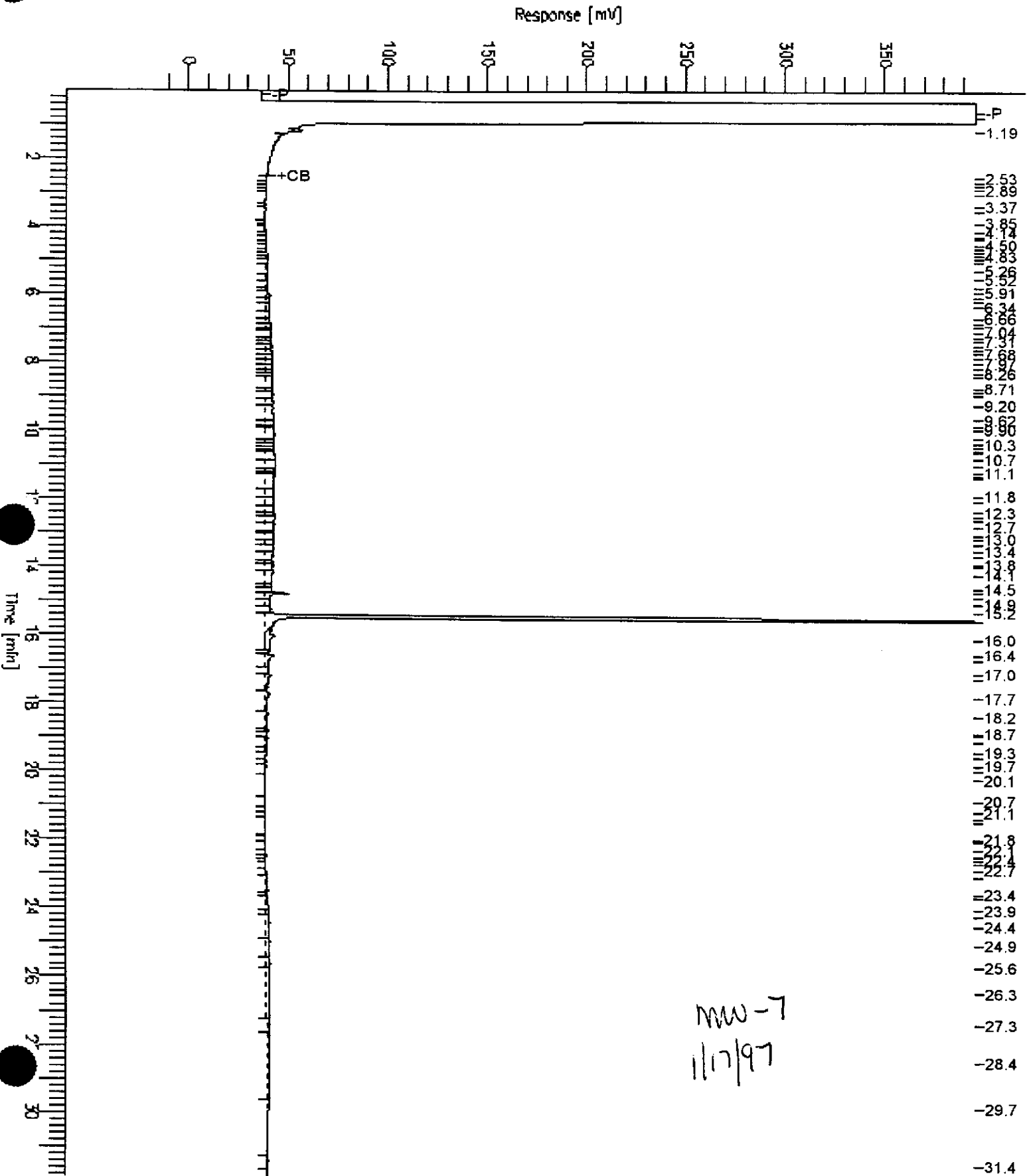
Plot Scale: 410.9 mV

Page 1 of 1

End Time : 31.91 min

Plot Offset: -15 mV

High Point : 395.99 mV



Chromatogram

Sample Name : 128016-003,31987

FileName : G:\GC11\CHB\023B031.RAW

Method : BTEH006.MTH

Start Time : 0.01 min

End Time : 31.91 min

Plot Offset: -15 mV

Sample #: 31987

Page 1 of 1

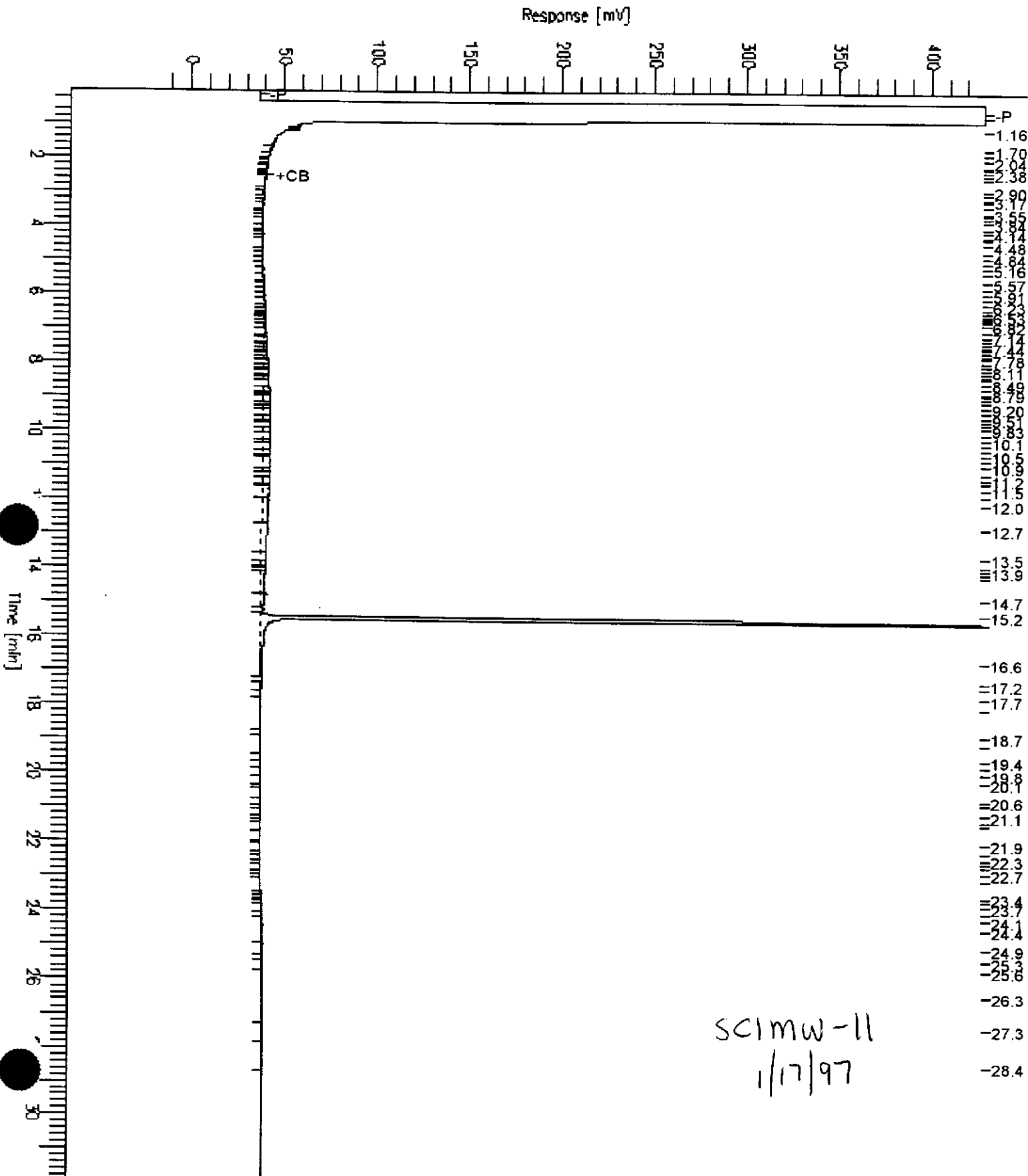
Date : 1/24/97 09:38 AM

Time of Injection: 1/24/97 02:08 AM

Low Point : -15.19 mV

High Point : 428.89 mV

Plot Scale: 444.1 mV



SCIMW-11
1/17/97

Chromatogram

Sample Name : 128016-005,31987

File Name : G:\GC11\CHB\023B033.RAW

Method : BTEH006.MTH

Start Time : 0.00 min

Factor : 0.0

End Time : 31.90 min

Plot Offset : -16 mV

Sample #: 31987

Date : 1/24/97 01:38 PM

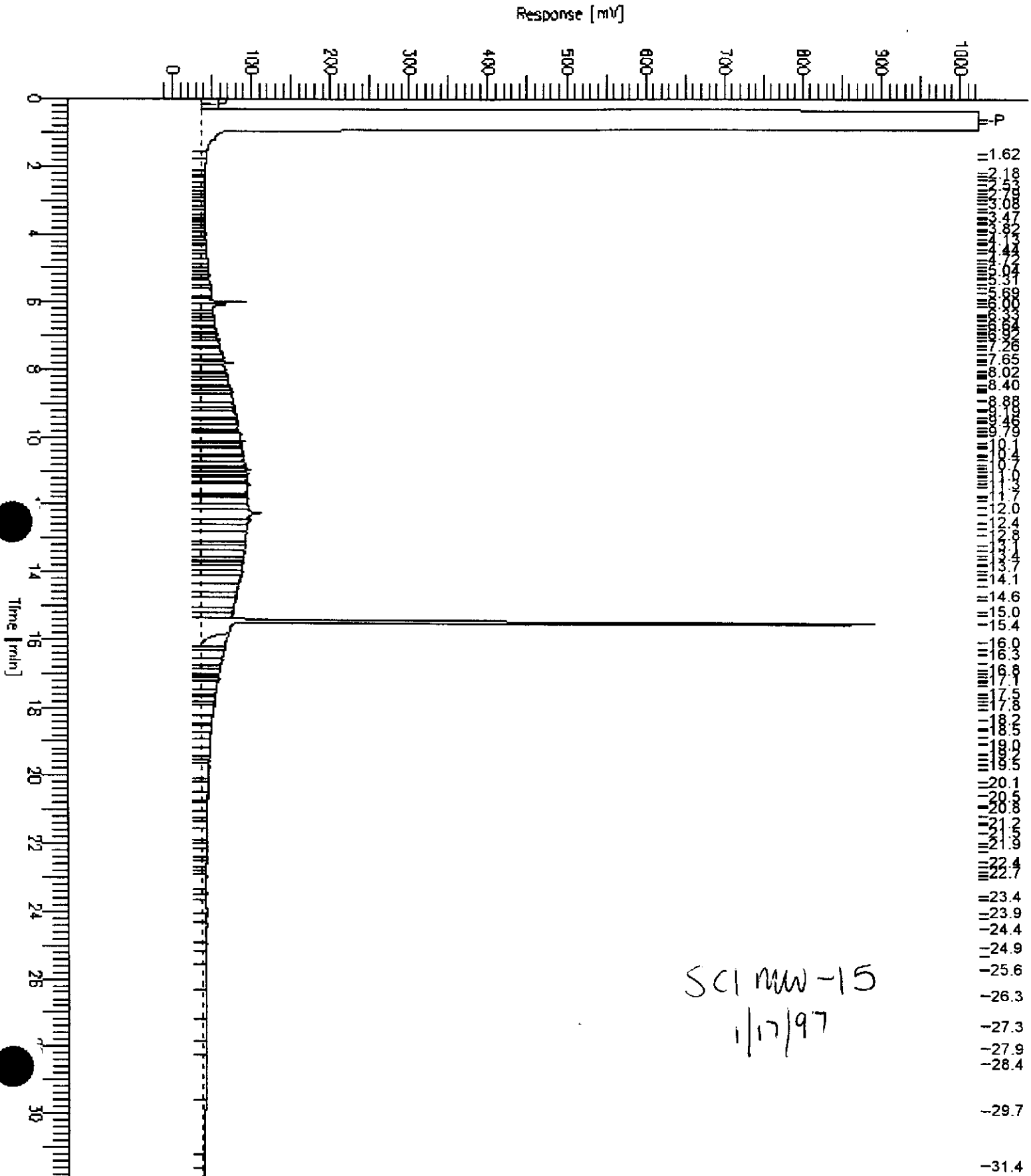
Time of Injection: 1/24/97 03:34 AM

Low Point : -15.55 mV

Plot Scale: 1039.6 mV

Page 1 of 1

High Point : 1024.00 mV



SCI MW-15
1/17/97

Chromatogram

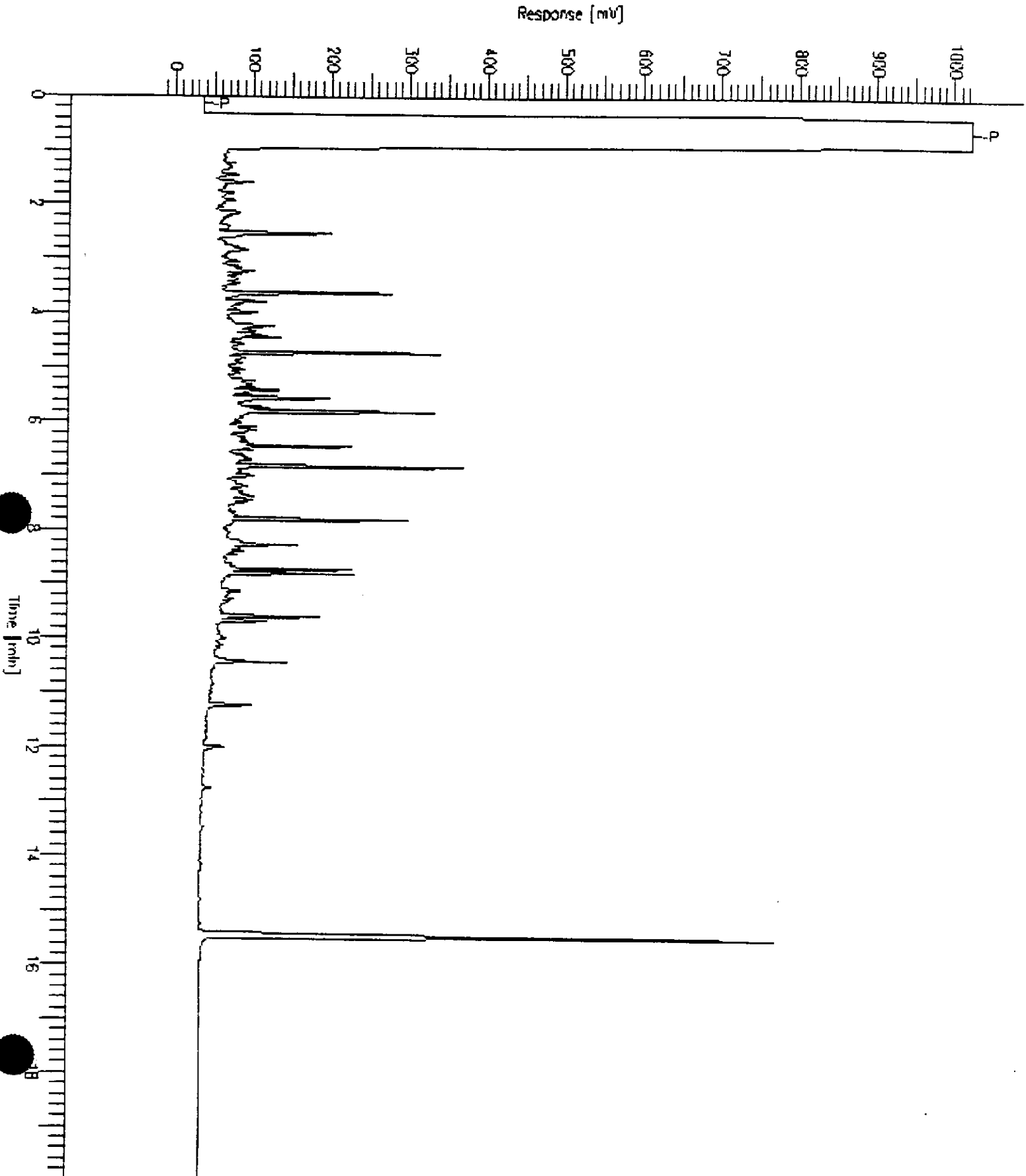
MESEL STANDARD

Sample Name : CCV,96WS3611,DS
FileName : G:\GC11\CHB\023B021.RAW
Method : BTEH006.MTH
Start Time : 0.00 min
Gain Factor : 0.0

End Time : 19.99 min
Plot Offset : -17 mV

Sample #: 500MG/L
Date : 1/24/97 10:52 AM
Time of Injection: 1/23/97 07:23 PM
Low Point : -16.84 mV
High Point : 1024.00 mV
Plot Scale: 1040.8 mV

Page 1 of 1



Chromatogram

MOTOR OIL STANDARD

Sample Name : CCV,96WS3096,MO

FileName : G:\GC11\CHB\023B042.RAW

Method : BTEH006.MTH

Time : 0.01 min

Factor: 0.0

Sample #: 500MG/L

Date : 1/24/97 01:52 PM

Time of Injection: 1/24/97 10:04 AM

Low Point : -17.20 mV

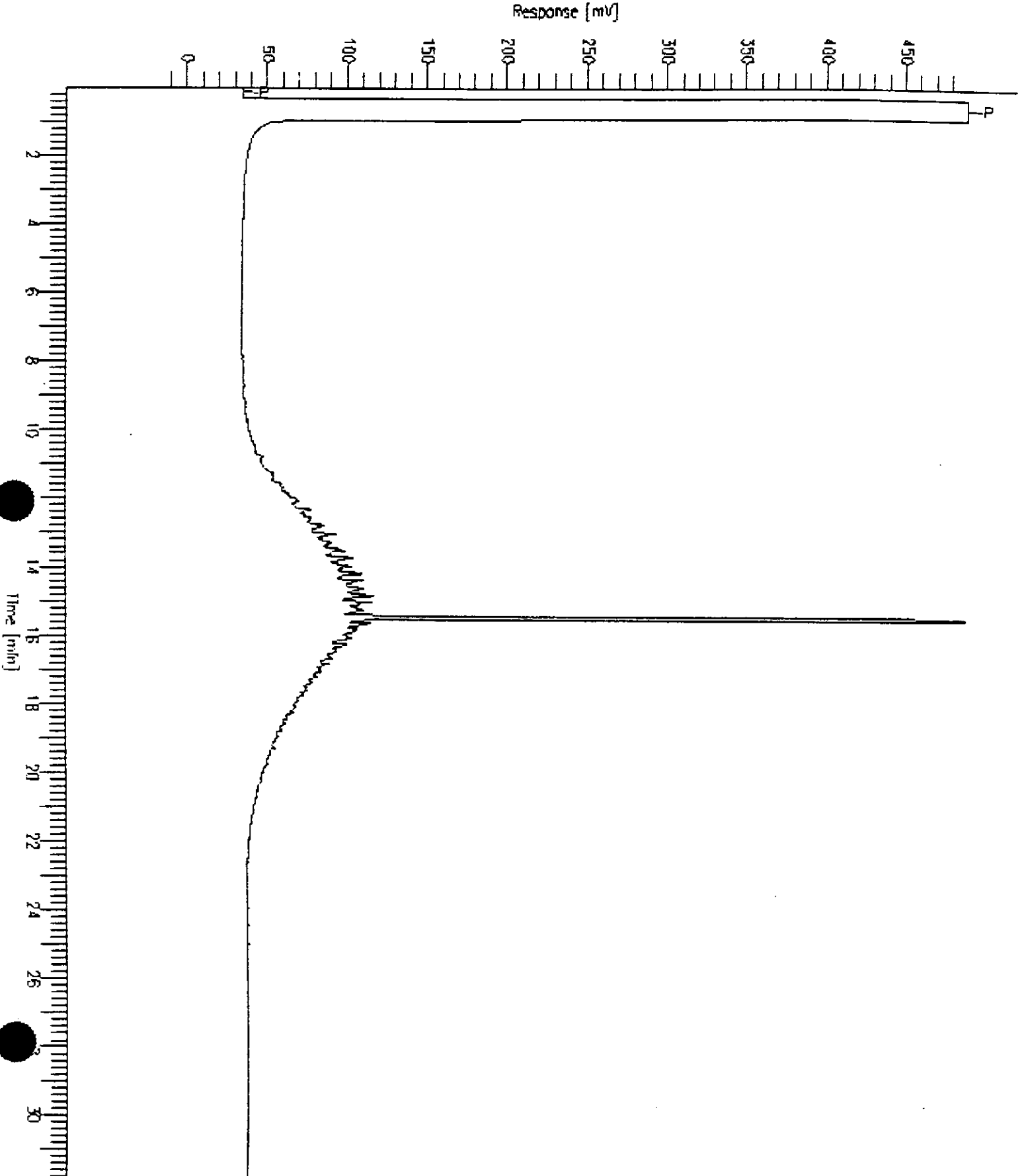
Plot Scale: 506.4 mV

Page 1 of 1

End Time : 31.85 min

Plot Offset: -17 mV

High Point : 489.20 mV



Lab #: 128016

BATCH QC REPORT

Page 1 of 1

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

METHOD BLANK

Matrix: Water	Prep Date: 01/22/97
Batch#: 31987	Analysis Date: 01/23/97
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC38635

Analyte	Result	
Diesel C12-C22	<50	
Motor Oil C22-C50	<250	
Surrogate	%Rec	Recovery Limits
Hexacosane	100	60-140



Lab #: 128016

BATCH QC REPORT

Page 1 of 1

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water	Prep Date: 01/22/97
Batch#: 31987	Analysis Date: 01/23/97
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC38636

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2418	98	60-140
Surrogate	%Rec	Limits		
Hexacosane	92	60-140		

BSD Lab ID: QC38637

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2648	107	60-140	9	35
Surrogate	%Rec	Limits				
Hexacosane	100	60-140				

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



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128016-001	SCI MW-2	31911	01/17/97	01/20/97	01/20/97	
128016-002	MW-7	31911	01/17/97	01/20/97	01/20/97	
128016-003	SCI MW-11	31911	01/17/97	01/20/97	01/20/97	
128016-004	SCI MW-12	31911	01/17/97	01/20/97	01/20/97	

Matrix: Water

Analyte	Units	128016-001	128016-002	128016-003	128016-004
Diln Fac:		1	1	1	1
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5	<0.5
Surrogate					
Trifluorotoluene	%REC	96	96	97	96
Bromobenzene	%REC	96	97	98	99



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128016-005	SCI MW-15	31911	01/17/97	01/20/97	01/20/97	

Matrix: Water

Analyte	Units	128016-005
Diln Fac:		1
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	96
Bromobenzene	%REC	98



Lab #: 128016

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 31911
Units: ug/L
Diln Fac: 1

Prep Date: 01/20/97
Analysis Date: 01/20/97

MB Lab ID: QC38313

Analyte	Result		
Benzene	<0.5		
Toluene	<0.5		
Ethylbenzene	<0.5		
m,p-Xylenes	<0.5		
o-Xylene	<0.5		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	92		58-130
Bromobenzene	89		62-131



Lab #: 128016

BATCH QC REPORT

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
LABORATORY CONTROL SAMPLE	
Matrix: Water	Prep Date: 01/20/97
Batch#: 31911	Analysis Date: 01/20/97
Units: ug/L	
Diln Fac: 1	

LCS Lab ID: QC38312

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.7	20	94	80-120
Toluene	19	20	95	80-120
Ethylbenzene	19	20	95	80-120
m,p-Xylenes	37.3	40	93	80-120
o-Xylene	19.2	20	96	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	92	58-130		
Bromobenzene	93	62-131		

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

: Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

NM: Not meaningful

Volatile Organics by GC/MS

Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

Field ID: SCI MW-2	Sampled: 01/17/97
Lab ID: 128016-001	Received: 01/17/97
Matrix: Water	Extracted: 01/20/97
Batch#: 31913	Analyzed: 01/20/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	110	79-122



Volatile Organics by GC/MS		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
Field ID: MW-7	Sampled: 01/17/97	
Lab ID: 128016-002	Received: 01/17/97	
Matrix: Water	Extracted: 01/20/97	
Batch#: 31913	Analyzed: 01/20/97	
Units: ug/L		
Diln Fac: 1		
Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	113	79-122



Volatile Organics by GC/MS		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
Field ID: SCI MW-11	Sampled: 01/17/97	
Lab ID: 128016-003	Received: 01/17/97	
Matrix: Water	Extracted: 01/20/97	
Batch#: 31913	Analyzed: 01/20/97	
Units: ug/L		
Diln Fac: 1		
Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	104	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	109	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCI MW-12
Lab ID: 128016-004
Matrix: Water
Batch#: 31913
Units: ug/L
Diln Fac: 1

Sampled: 01/17/97
Received: 01/17/97
Extracted: 01/20/97
Analyzed: 01/20/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	105	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	111	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCI MW-15
Lab ID: 128016-005
Matrix: Water
Batch#: 31913
Units: ug/L
Diln Fac: 1

Sampled: 01/17/97
Received: 01/17/97
Extracted: 01/20/97
Analyzed: 01/20/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	104	68-126
Toluene-d8	95	87-125
Bromofluorobenzene	109	79-122

Lab #: 128016

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
METHOD BLANK		
Matrix: Water	Prep Date: 01/20/97	
Batch#: 31913	Analysis Date: 01/20/97	
Units: ug/L		
Diln Fac: 1		

MB Lab ID: QC38322

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	101	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	112	79-122



Lab #: 128016

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics

Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

METHOD BLANK

Matrix: Water	Prep Date: 01/20/97
Batch#: 31913	Analysis Date: 01/20/97
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC38359

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	95	87-125
Bromofluorobenzene	111	79-122



Lab #: 128016

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 31913
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/20/97
 Analysis Date: 01/20/97

LCS Lab ID: QC38321

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	59.7	50	119	51-180
Trichloroethene	51.72	50	103	73-141
Benzene	52.8	50	106	78-142
Toluene	49.09	50	98	76-150
Chlorobenzene	51.49	50	103	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	103	68-126		
Toluene-d8	97	87-125		
Bromofluorobenzene	113	79-122		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Lab #: 128016

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
 Lab ID: 127922-001
 Matrix: Miscell.
 Batch#: 31913
 Units: ug/Kg
 Diln Fac: 16666.67

Sample Date: 01/08/97
 Received Date: 01/08/97
 Prep Date: 01/20/97
 Analysis Date: 01/20/97

MS Lab ID: QC38356

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	833300	<83330	950800	114	51-180
Trichloroethene	833300	<83330	839000	101	73-141
Benzene	833300	<83330	837500	101	78-142
Toluene	833300	631700	1412000	94	76-150
Chlorobenzene	833300	<83330	892800	96	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	102	68-126			
Toluene-d8	95	87-125			
Bromofluorobenzene	120	79-122			

MSD Lab ID: QC38357

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	833300	946400	114	51-180	0	14
Trichloroethene	833300	840700	101	73-141	0	14
Benzene	833300	837800	101	78-142	0	11
Toluene	833300	1416000	94	76-150	0	13
Chlorobenzene	833300	906900	97	83-129	2	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	101	68-126				
Toluene-d8	95	87-125				
Bromofluorobenzene	121	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCI MW-2
Lab ID: 128016-001
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/17/97
Received: 01/17/97
Extracted: 01/22/97
Analyzed: 01/23/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCI MW-2	Sampled: 01/17/97
Lab ID: 128016-001	Received: 01/17/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/23/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	57	21-110
Phenol-d5	62	10-110
2,4,6-Tribromophenol	39	10-123
Nitrobenzene-d5	74	35-114
2-Fluorobiphenyl	23*	43-116
Terphenyl-d14	7*	33-141

* Values outside of QC limits



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW-7
Lab ID: 128016-002
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/17/97
Received: 01/17/97
Extracted: 01/22/97
Analyzed: 01/23/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: MW-7	Sampled: 01/17/97
Lab ID: 128016-002	Received: 01/17/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/23/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	57	21-110
Phenol-d5	65	10-110
2,4,6-Tribromophenol	61	10-123
Nitrobenzene-d5	77	35-114
2-Fluorobiphenyl	66	43-116
Terphenyl-d14	39	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCI MW-11
Lab ID: 128016-003
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/17/97
Received: 01/17/97
Extracted: 01/22/97
Analyzed: 01/23/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCI MW-11	Sampled: 01/17/97
Lab ID: 128016-003	Received: 01/17/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/23/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	53	21-110
Phenol-d5	62	10-110
2,4,6-Tribromophenol	60	10-123
Nitrobenzene-d5	74	35-114
2-Fluorobiphenyl	65	43-116
Terphenyl-d14	33	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCI MW-12
Lab ID: 128016-004
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/17/97
Received: 01/17/97
Extracted: 01/22/97
Analyzed: 01/23/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCI MW-12	Sampled: 01/17/97
Lab ID: 128016-004	Received: 01/17/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/23/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	50	21-110
Phenol-d5	53	10-110
2,4,6-Tribromophenol	42	10-123
Nitrobenzene-d5	75	35-114
2-Fluorobiphenyl	63	43-116
Terphenyl-d14	19*	33-141

* Values outside of QC limits



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCI MW-15
Lab ID: 128016-005
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/17/97
Received: 01/17/97
Extracted: 01/22/97
Analyzed: 01/23/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCI MW-15	Sampled: 01/17/97
Lab ID: 128016-005	Received: 01/17/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/23/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	57	21-110
Phenol-d5	63	10-110
2,4,6-Tribromophenol	57	10-123
Nitrobenzene-d5	76	35-114
2-Fluorobiphenyl	60	43-116
Terphenyl-d14	15*	33-141

* Values outside of QC limits



Lab #: 128016

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Prep Date: 01/22/97
Analysis Date: 01/23/97

MB Lab ID: QC38614

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



Lab #: 128016

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
 Batch#: 31984
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/22/97
 Analysis Date: 01/23/97

MB Lab ID: QC38614

Analyte	Result	Reporting Limit
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
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)fluoranthene	ND	10
Benzo(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	60	21-110
Phenol-d5	64	10-110
2,4,6-Tribromophenol	54	10-123
Nitrobenzene-d5	77	35-114
2-Fluorobiphenyl	68	43-116
Terphenyl-d14	68	33-141



Lab #: 128016

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
 Batch#: 31984
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/22/97
 Analysis Date: 01/23/97

BS Lab ID: QC38615

Analyte	Spike Added	BS	%Rec	#	Limits
Phenol	100	62.04	62		12-110
2-Chlorophenol	100	64.43	64		27-123
4-Chloro-3-methylphenol	100	63.52	64		23-97
4-Nitrophenol	100	66.68	67		10-80
Pentachlorophenol	100	42.46	42		9-103
1,4-Dichlorobenzene	50	26.78	54		36-97
N-Nitroso-di-n-propylamine	50	34.05	68		41-116
1,2,4-Trichlorobenzene	50	25.08	50		39-98
Acenaphthene	50	29.55	59		46-118
2,4-Dinitrotoluene	50	26.42	53		24-96
Pyrene	50	29.06	58		26-127
Surrogate	%Rec	Limits			
2-Fluorophenol	55	21-110			
Phenol-d5	59	10-110			
2,4,6-Tribromophenol	56	10-123			
Nitrobenzene-d5	72	35-114			
2-Fluorobiphenyl	63	43-116			
Terphenyl-d14	65	33-141			

BSD Lab ID: QC38616

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD #	Limit
Phenol	100	67.34	67		12-110	8	42
2-Chlorophenol	100	70.36	70		27-123	9	40
4-Chloro-3-methylphenol	100	69.42	69		23-97	8	42
4-Nitrophenol	100	69.44	69		10-80	3	50
Pentachlorophenol	100	44.02	44		9-103	5	50
1,4-Dichlorobenzene	50	29.15	58		36-97	7	28
N-Nitroso-di-n-propylamine	50	36.12	72		41-116	6	38
1,2,4-Trichlorobenzene	50	27.14	54		39-98	8	28
Acenaphthene	50	30.79	62		46-118	5	31
2,4-Dinitrotoluene	50	27.22	54		24-96	2	38
Pyrene	50	29.82	60		26-127	3	31
Surrogate	%Rec	Limits					
2-Fluorophenol	60	21-110					
Phenol-d5	64	10-110					
2,4,6-Tribromophenol	57	10-123					
Nitrobenzene-d5	77	35-114					
2-Fluorobiphenyl	66	43-116					
Terphenyl-d14	66	33-141					

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

DO: Surrogate diluted out



Curtis & Tompkins, Ltd.

SAMPLE ID: SCI MW-2
 LAB ID: 128016-001
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/17/97
 DATE RECEIVED: 01/17/97
 DATE REPORTED: 01/24/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/23/97
Arsenic	6.6	5.0	1	31953	EPA 6010A	01/23/97
Barium	340	10	1	31953	EPA 6010A	01/23/97
Beryllium	ND	2.0	1	31953	EPA 6010A	01/23/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/23/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/23/97
Cobalt	ND	20	1	31953	EPA 6010A	01/23/97
Copper	ND	10	1	31953	EPA 6010A	01/23/97
Lead	ND	3.0	1	31953	EPA 6010A	01/23/97
Mercury	ND	0.20	1	31998	EPA 7470	01/23/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/23/97
Nickel	ND	20	1	31953	EPA 6010A	01/23/97
Selenium	ND	5.0	1	31953	EPA 6010A	01/23/97
Silver	ND	5.0	1	31953	EPA 6010A	01/23/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/23/97
Vanadium	ND	10	1	31953	EPA 6010A	01/23/97
Zinc	ND	20	1	31953	EPA 6010A	01/23/97

ND = Not detected at or above reporting limit



Curtis & Tompkins, Ltd.

SAMPLE ID: MW-7
LAB ID: 128016-002
CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Filtrate

DATE SAMPLED: 01/17/97
DATE RECEIVED: 01/17/97
DATE REPORTED: 01/24/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/23/97
Arsenic	12	5.0	1	31953	EPA 6010A	01/23/97
Barium	44	10	1	31953	EPA 6010A	01/23/97
Beryllium	ND	2.0	1	31953	EPA 6010A	01/23/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/23/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/23/97
Cobalt	ND	20	1	31953	EPA 6010A	01/23/97
Copper	ND	10	1	31953	EPA 6010A	01/23/97
Lead	ND	3.0	1	31953	EPA 6010A	01/23/97
Mercury	ND	0.20	1	31998	EPA 7470	01/23/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/23/97
Nickel	ND	20	1	31953	EPA 6010A	01/23/97
Selenium	23	5.0	1	31953	EPA 6010A	01/23/97
Silver	ND	5.0	1	31953	EPA 6010A	01/23/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/23/97
Vanadium	ND	10	1	31953	EPA 6010A	01/23/97
Zinc	ND	20	1	31953	EPA 6010A	01/23/97

ND = Not detected at or above reporting limit



Curtis & Tompkins, Ltd.

SAMPLE ID: SCI MW-11
LAB ID: 128016-003
CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Filtrate

DATE SAMPLED: 01/17/97
DATE RECEIVED: 01/17/97
DATE REPORTED: 01/24/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/23/97
Arsenic	6.2	5.0	1	31953	EPA 6010A	01/23/97
Barium	300	10	1	31953	EPA 6010A	01/23/97
Beryllium	ND	2.0	1	31953	EPA 6010A	01/23/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/23/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/23/97
Cobalt	ND	20	1	31953	EPA 6010A	01/23/97
Copper	ND	10	1	31953	EPA 6010A	01/23/97
Lead	ND	3.0	1	31953	EPA 6010A	01/23/97
Mercury	ND	0.20	1	31998	EPA 7470	01/23/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/23/97
Nickel	ND	20	1	31953	EPA 6010A	01/23/97
Selenium	6.6	5.0	1	31953	EPA 6010A	01/23/97
Silver	ND	5.0	1	31953	EPA 6010A	01/23/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/23/97
Vanadium	ND	10	1	31953	EPA 6010A	01/23/97
Zinc	ND	20	1	31953	EPA 6010A	01/23/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCI MW-12
 LAB ID: 128016-004
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/17/97
 DATE RECEIVED: 01/17/97
 DATE REPORTED: 01/24/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/23/97
Arsenic	ND	5.0	1	31953	EPA 6010A	01/23/97
Barium	28	10	1	31953	EPA 6010A	01/23/97
Beryllium	2.7	2.0	1	31953	EPA 6010A	01/23/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/23/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/23/97
Cobalt	ND	20	1	31953	EPA 6010A	01/23/97
Copper	ND	10	1	31953	EPA 6010A	01/23/97
Lead	ND	3.0	1	31953	EPA 6010A	01/23/97
Mercury	ND	0.20	1	31998	EPA 7470	01/23/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/23/97
Nickel	ND	20	1	31953	EPA 6010A	01/23/97
Selenium	ND	5.0	1	31953	EPA 6010A	01/23/97
Silver	ND	5.0	1	31953	EPA 6010A	01/23/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/23/97
Vanadium	ND	10	1	31953	EPA 6010A	01/23/97
Zinc	ND	20	1	31953	EPA 6010A	01/23/97

ND = Not detected at or above reporting limit



Curtis & Tompkins, Ltd.

SAMPLE ID: SCI MW-15
 LAB ID: 128016-005
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/17/97
 DATE RECEIVED: 01/17/97
 DATE REPORTED: 01/24/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/23/97
Arsenic	13	5.0	1	31953	EPA 6010A	01/23/97
Barium	550	10	1	31953	EPA 6010A	01/23/97
Beryllium	ND	2.0	1	31953	EPA 6010A	01/23/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/23/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/23/97
Cobalt	ND	20	1	31953	EPA 6010A	01/23/97
Copper	ND	10	1	31953	EPA 6010A	01/23/97
Lead	5.5	3.0	1	31953	EPA 6010A	01/23/97
Mercury	ND	0.20	1	31998	EPA 7470	01/23/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/23/97
Nickel	ND	20	1	31953	EPA 6010A	01/23/97
Selenium	33	5.0	1	31953	EPA 6010A	01/23/97
Silver	ND	5.0	1	31953	EPA 6010A	01/23/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/23/97
Vanadium	ND	10	1	31953	EPA 6010A	01/23/97
Zinc	ND	20	1	31953	EPA 6010A	01/23/97

ND = Not detected at or above reporting limit



CLIENT: Subsurface Consultants
JOB NUMBER: 128016

DATE REPORTED: 01/24/97

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	ug/L	1	31953	EPA 6010A	01/23/97
Arsenic	ND	5	ug/L	1	31953	EPA 6010A	01/23/97
Barium	ND	10	ug/L	1	31953	EPA 6010A	01/23/97
Beryllium	ND	2	ug/L	1	31953	EPA 6010A	01/23/97
Cadmium	ND	2	ug/L	1	31953	EPA 6010A	01/23/97
Chromium (total)	ND	10	ug/L	1	31953	EPA 6010A	01/23/97
Cobalt	ND	20	ug/L	1	31953	EPA 6010A	01/23/97
Copper	ND	10	ug/L	1	31953	EPA 6010A	01/23/97
Lead	ND	3	ug/L	1	31953	EPA 6010A	01/23/97
Mercury	ND	0.2	ug/L	1	31998	EPA 7470	01/23/97
Molybdenum	ND	20	ug/L	1	31953	EPA 6010A	01/23/97
Nickel	ND	20	ug/L	1	31953	EPA 6010A	01/23/97
Selenium	ND	5	ug/L	1	31953	EPA 6010A	01/23/97
Silver	ND	5	ug/L	1	31953	EPA 6010A	01/23/97
Thallium	ND	5	ug/L	1	31953	EPA 6010A	01/23/97
Vanadium	ND	10	ug/L	1	31953	EPA 6010A	01/23/97
Zinc	ND	20	ug/L	1	31953	EPA 6010A	01/23/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128016

DATE REPORTED: 01/24/97

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	500	480	514	ug/L	96	103	80-120	7	35	31953	EPA 6010A	01/23/97
Arsenic	2000	1910	1940	ug/L	96	97	80-120	2	35	31953	EPA 6010A	01/23/97
Barium	2000	2100	2110	ug/L	105	106	80-120	1	35	31953	EPA 6010A	01/23/97
Beryllium	50	50.5	52	ug/L	101	104	80-120	3	35	31953	EPA 6010A	01/23/97
Cadmium	50	54.1	55.7	ug/L	108	111	80-120	3	35	31953	EPA 6010A	01/23/97
Chromium (total)	200	198	203	ug/L	99	102	80-120	3	35	31953	EPA 6010A	01/23/97
Cobalt	500	496	511	ug/L	99	102	80-120	3	35	31953	EPA 6010A	01/23/97
Copper	250	255	256	ug/L	102	102	80-120	0	35	31953	EPA 6010A	01/23/97
Lead	500	500	511	ug/L	100	102	80-120	2	35	31953	EPA 6010A	01/23/97
Mercury	5	4.357	4.59	ug/L	87	92	80-120	5	35	31998	EPA 7470	01/23/97
Molybdenum	400	395	406	ug/L	99	102	80-120	3	35	31953	EPA 6010A	01/23/97
Nickel	500	516	529	ug/L	103	106	80-120	3	35	31953	EPA 6010A	01/23/97
Selenium	2000	1900	1930	ug/L	95	97	80-120	2	35	31953	EPA 6010A	01/23/97
Silver	100	100	102	ug/L	100	102	80-120	2	35	31953	EPA 6010A	01/23/97
Thallium	2000	1960	2000	ug/L	98	100	80-120	2	35	31953	EPA 6010A	01/23/97
Vanadium	500	505	514	ug/L	101	103	80-120	2	35	31953	EPA 6010A	01/23/97
Zinc	500	501	514	ug/L	100	103	80-120	3	35	31953	EPA 6010A	01/23/97

CHAIN OF CUSTODY FORM

1280016

PROJECT NAME: KOT
 JOB NUMBER: 133.005 LAB: Curtis & Tompkins
 PROJECT CONTACT: Jeri Alexander / Jerome DeVecker TURNAROUND: Normal
 SAMPLED BY: Dennis Alexander REQUESTED BY: Jerome DeVecker

ANALYSIS REQUESTED	
TVH/BTEX	
TEH	
8240	
8270	
Heavy Metals	

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS				METHOD PRESERVED					SAMPLING DATE				NOTES		
		WATER	SOIL	WASTE	AIR	VOA	LITER	PINT	TUBE	HCL	H ₂ SO ₄	HNO ₃	ICE	NONE	MONTH	DAY	YEAR	TIME			
1	SC1MW-2	X				6	3			X			X		0	1	7	97	13	30	*XXXXX
2	MW-7	X				6	3			X			X		0	1	7	97	11	15	*XXXXX
3	SC1MW-11	X				6	3			X			X		0	1	7	97	10	15	*XXXXX
4	SC1MW-12	X				6	3			X			X		0	1	7	97	09	15	*XXXXX
5	SC1MW-15	X				6	3			X			X		0	1	7	97	08	15	*XXXXX

CHAIN OF CUSTODY RECORD				COMMENTS & NOTES: * Please filter & fix before metals analysis
RELEASED BY: (Signature) <i>Dennis Alexander</i>	DATE / TIME 1/17/97 2:35 PM	RECEIVED BY: (Signature) <i>[Signature]</i>	DATE / TIME 1/17/97 14:32	
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	

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



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
Layfayette, CA 94549

Date: 24-JAN-97
Lab Job Number: 128029
Project ID: 133.005
Location: KOT

Reviewed by: _____

Reviewed by: _____

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TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128029-001	SCIMW-3	31935	01/20/97	01/21/97	01/21/97	
128029-002	SCIMW-5	31935	01/20/97	01/21/97	01/21/97	
128029-003	MW-5	31935	01/20/97	01/21/97	01/21/97	
128029-004	SCIMW-7	31935	01/20/97	01/21/97	01/21/97	

Matrix: Water

Analyte	Units	128029-001	128029-002	128029-003	128029-004
Diln Fac:		1	1	1	50
Gasoline	ug/L	<50	<50	<50	6900 Z
Surrogate					
Trifluorotoluene	%REC	95	98	96	91
Bromobenzene	%REC	90	93	90	89

Z: Sample exhibits unknown single peak or peaks

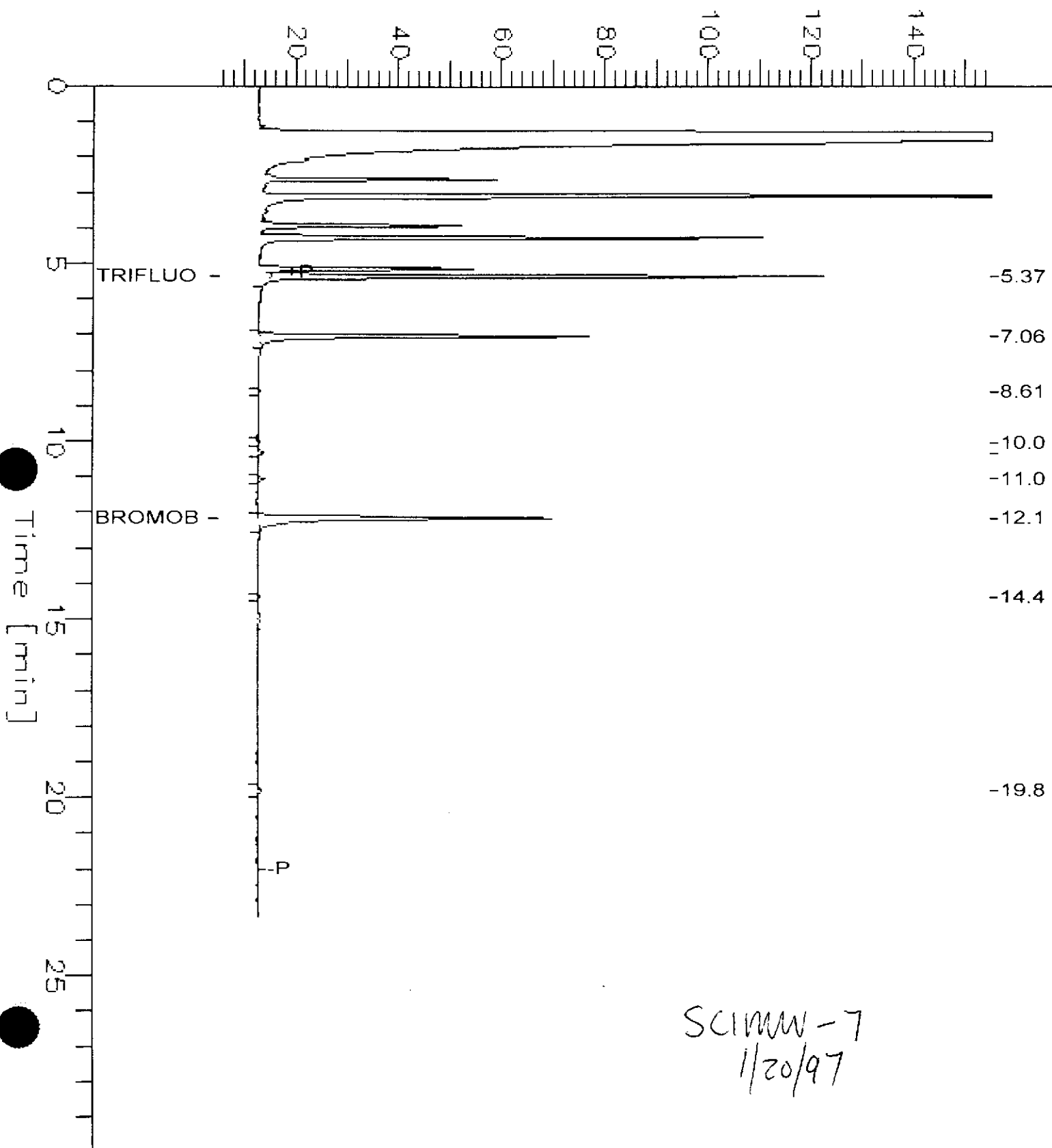
GC05 RTX1 TVH Chromatogram

Sample Name : DL128029-004, J1935, 5C, W
FileName : G:\GC05\DATA\0211022.raw
Method : TVHBTXE
Start Time : 0.00 min
Factor : -1.0

Sample #:
Date : 1/21/97 03:15 PM
Time of Injection: 1/21/97 01:16 PM
Low Point : 5.22 mV
High Point : 155.22 mV
Plot Offset: 5 mV
Plot Scale: 150.0 mV

Page 1 of 1

Response [mV]



SCIMM-7
1/20/97



TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128029-005	SCIMW-18	31935	01/20/97	01/21/97	01/21/97	
128029-006	SCIMW-20	31935	01/20/97	01/21/97	01/21/97	

Matrix: Water

Analyte	Units	128029-005	128029-006
Diln Fac:		1	1
Gasoline	ug/L	<50	<50
Surrogate			
Trifluorotoluene	%REC	96	97
Bromobenzene	%REC	91	92



Lab #: 128029

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

METHOD BLANK

Matrix: Water	Prep Date: 01/21/97
Batch#: 31935	Analysis Date: 01/21/97
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC38421

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	94	65-135
Bromobenzene	86	65-135



Lab #: 128029

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 31935
Units: ug/L
Diln Fac: 1

Prep Date: 01/21/97
Analysis Date: 01/21/97

LCS Lab ID: QC38419

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2055	2000	103	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	96	65-135		
Bromobenzene	97	65-135		

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 #: 128029

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ	Sample Date: 01/20/97
Lab ID: 128033-004	Received Date: 01/20/97
Matrix: Water	Prep Date: 01/21/97
Batch#: 31935	Analysis Date: 01/21/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC38422

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	2130	107	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	98	65-135			
Bromobenzene	102	65-135			

MSD Lab ID: QC38423

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2127	106	75-125	0	35
Surrogate	%Rec	Limits				
Trifluorotoluene	100	65-135				
Bromobenzene	102	65-135				

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



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128029-001	SCIMW-3	32009	01/20/97	01/23/97	01/29/97	
128029-002	SCIMW-5	32009	01/20/97	01/23/97	01/29/97	
128029-003	MW-5	32009	01/20/97	01/23/97	01/30/97	
128029-004	SCIMW-7	32009	01/20/97	01/23/97	01/30/97	

Matrix: Water

Analyte	Units	128029-001	128029-002	128029-003	128029-004
Diln Fac:		1	1	1	1
Diesel C12-C22	ug/L	7500 YH	<50	9400	11000 Y
Motor Oil C22-C50	ug/L	5200 Y	<250	1500 YL	7500 YL
Surrogate					
Hexacosane	%REC	130	135	142 *	253 *

* Values outside of QC limits

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

L: Lighter hydrocarbons than indicated standard



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128029-005	SCIMW-18	32009	01/20/97	01/23/97	01/30/97	
128029-006	SCIMW-20	32009	01/20/97	01/23/97	01/30/97	

Matrix: Water

Analyte	Units	128029-005	128029-006
Diln Fac:		1	1
Diesel C12-C22	ug/L	1900 YH	340 YH
Motor Oil C22-C50	ug/L	1900 Y	290 Y
Surrogate			
Hexacosane	%REC	125	143 *

* Values outside of QC limits

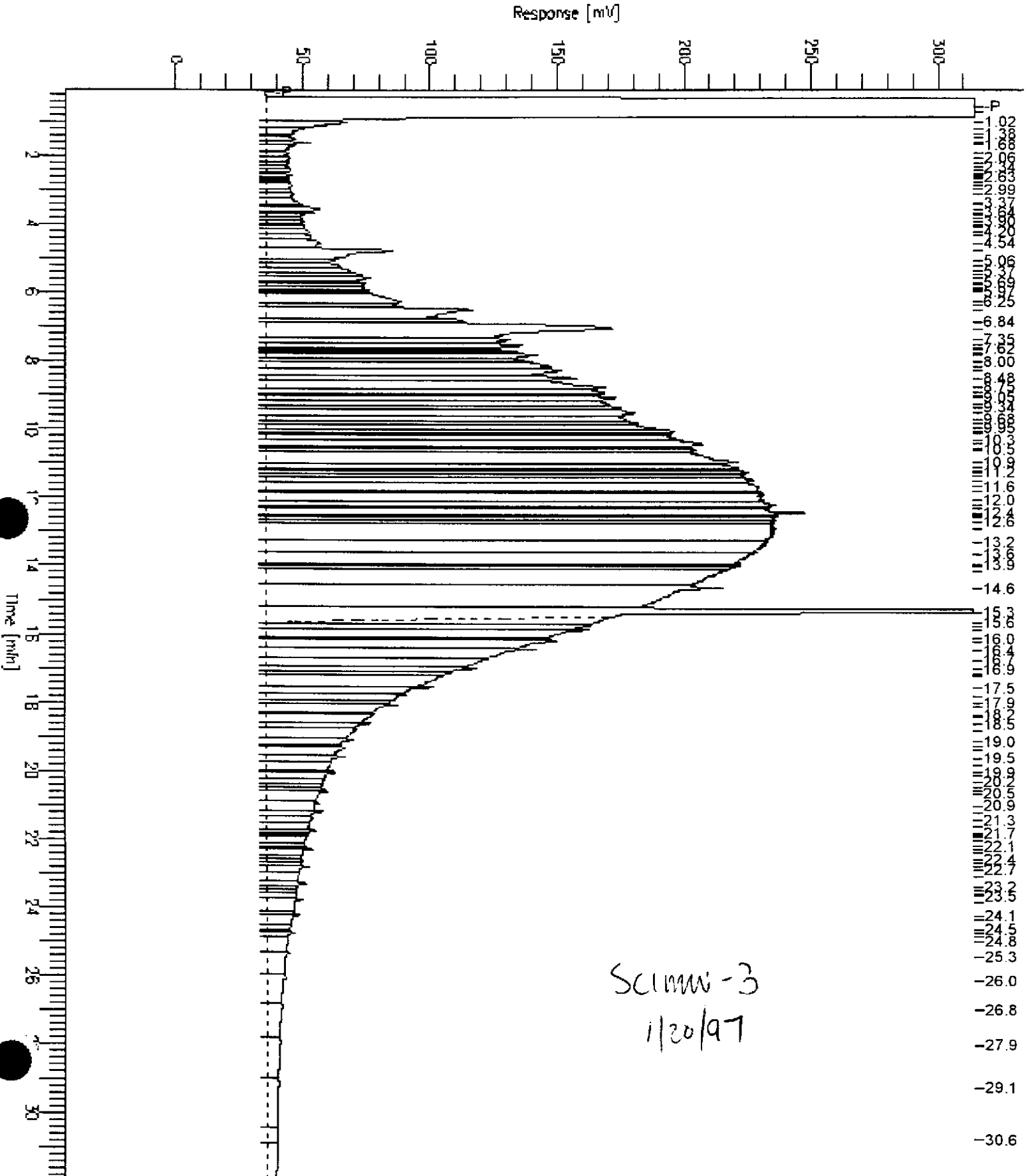
Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

Chromatogram

Sample Name : 129029-001, 32009
File Name : G:\GC013\CHEN\029B\14.RAW
Method : BTEH.METHOD
Start Time : 11.47 min
End Time : 31.91 min
Plot Offset : -7 mV

Sample #: 32009
Date : 1/20/97 09:47 AM
Time of Injection: 129029 08:50 PM
Low Point : -7.14 mV
High Point : 314.49 mV
Plot Scale: 321.0 mV

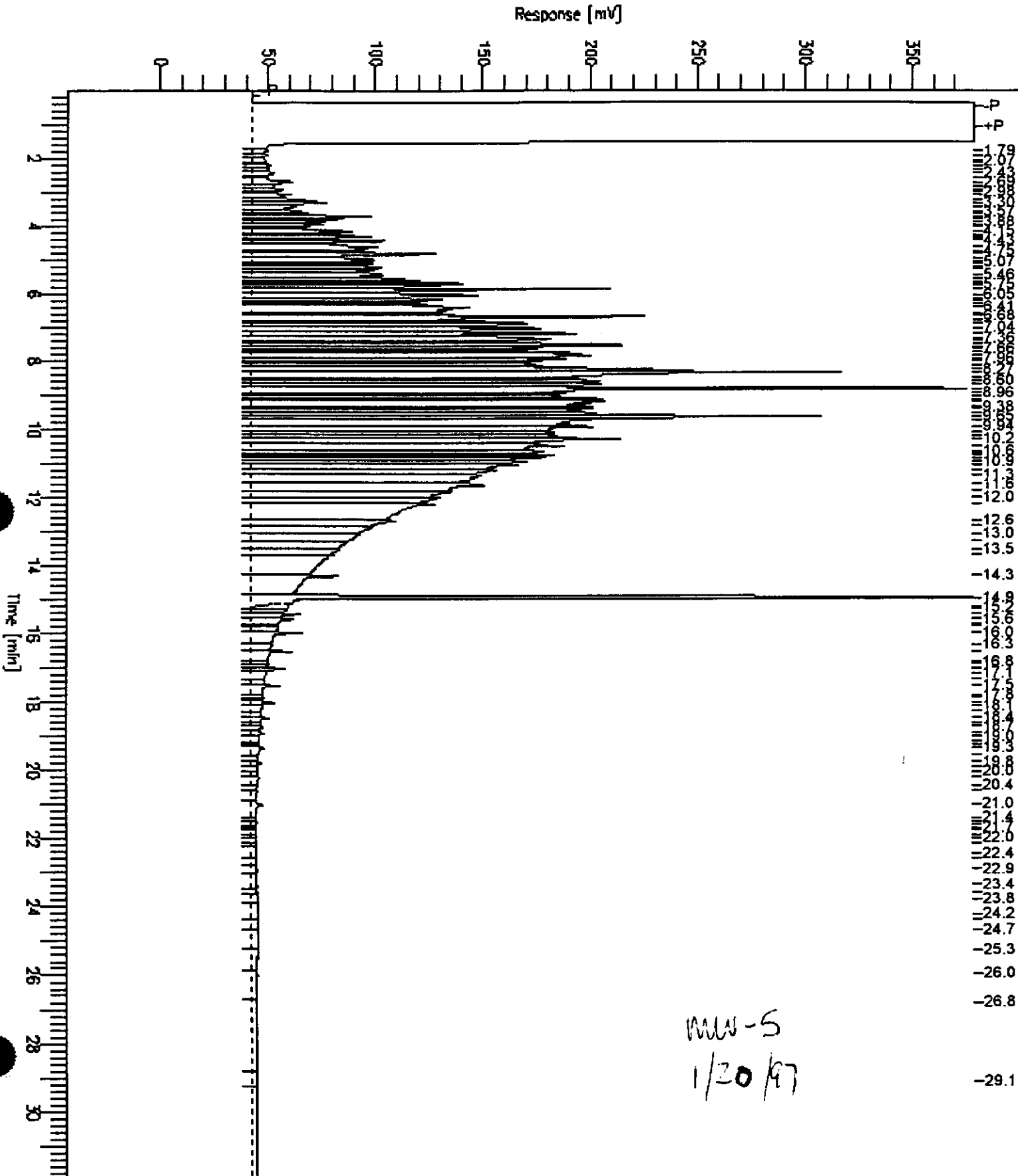


GC15 Channel B TEH

Sample Name : 128029-003,32009
FileName : G:\GC15\CHB\030B019.RAW
Method : B030TEH.MTH
Start Time : 0.01 min
File Factor : 0.0

End Time : 31.91 min
Plot Offset : -0 mV

Sample #: 32009
Date : 1/31/97 09:35 AM
Time of Injection: 1/30/97 10:50 PM
Low Point : -0.12 mV
Plot Scale : 379.4 mV
High Point : 379.29 mV

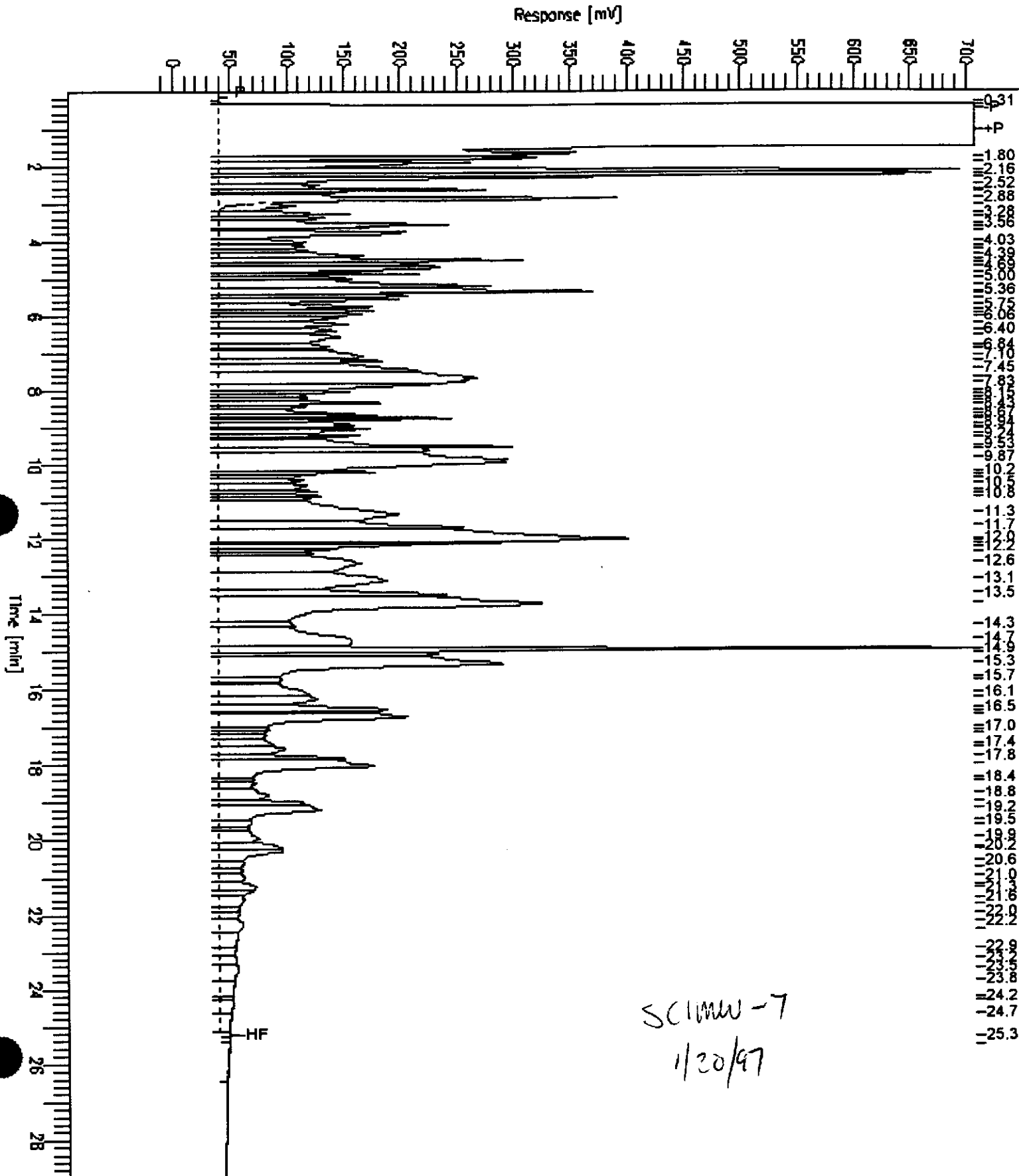


GC15 Channel B TEH

Sample Name : 128029-004,32009
 FileName : G:\GC15\CHB\030B015.RAW
 Method : B030TEH.MTH
 Inj Time : 0.01 min
 Inj Volume Factor: 0.0

End Time : 29.00 min
 Plot Offset: -11 mV

Sample #: 32009
 Date : 1/31/97 09:28 AM
 Time of Injection: 1/30/97 07:59 PM
 Low Point : -10.86 mV
 High Point : 708.11 mV
 Plot Scale: 719.0 mV



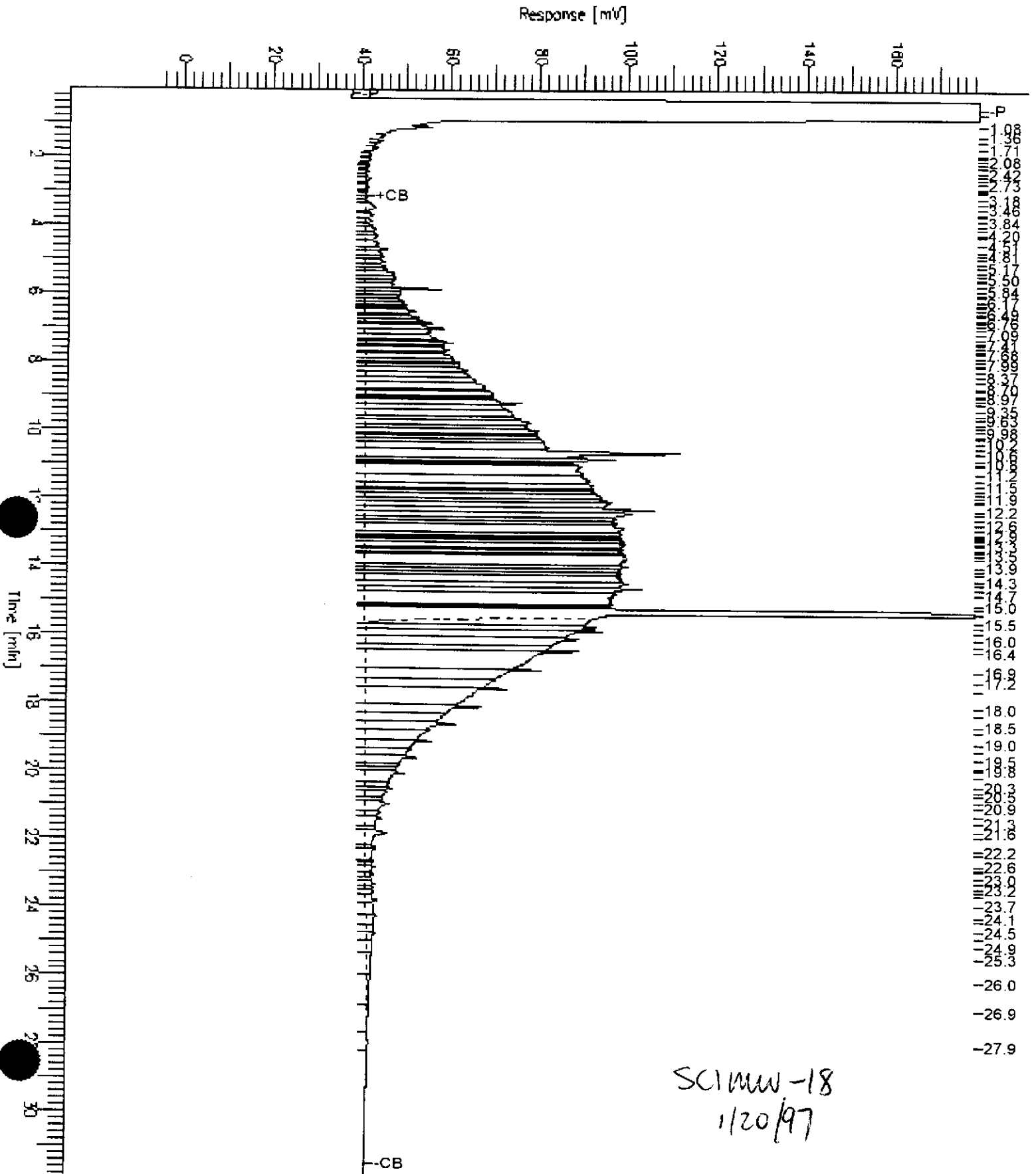
SCIMW-7
 1/30/97

Chromatogram

Sample Name : 128029-005, 32009
File Name : G:\SC11\ACHBA029B020.RAW
Method : RTEH000.LMTW
Start Time : 0.00 min
End Time : 31.93 min
Plot Offset : -5 mV

Sample #: 32009
Date : 1/30/97 09:59 AM
Time of Injection: 1730/97 00:30 AM
Low Point : -5.00 mV
High Point : 175.00 mV
Plot Scale: 100.00 mV

Page 1 of 1



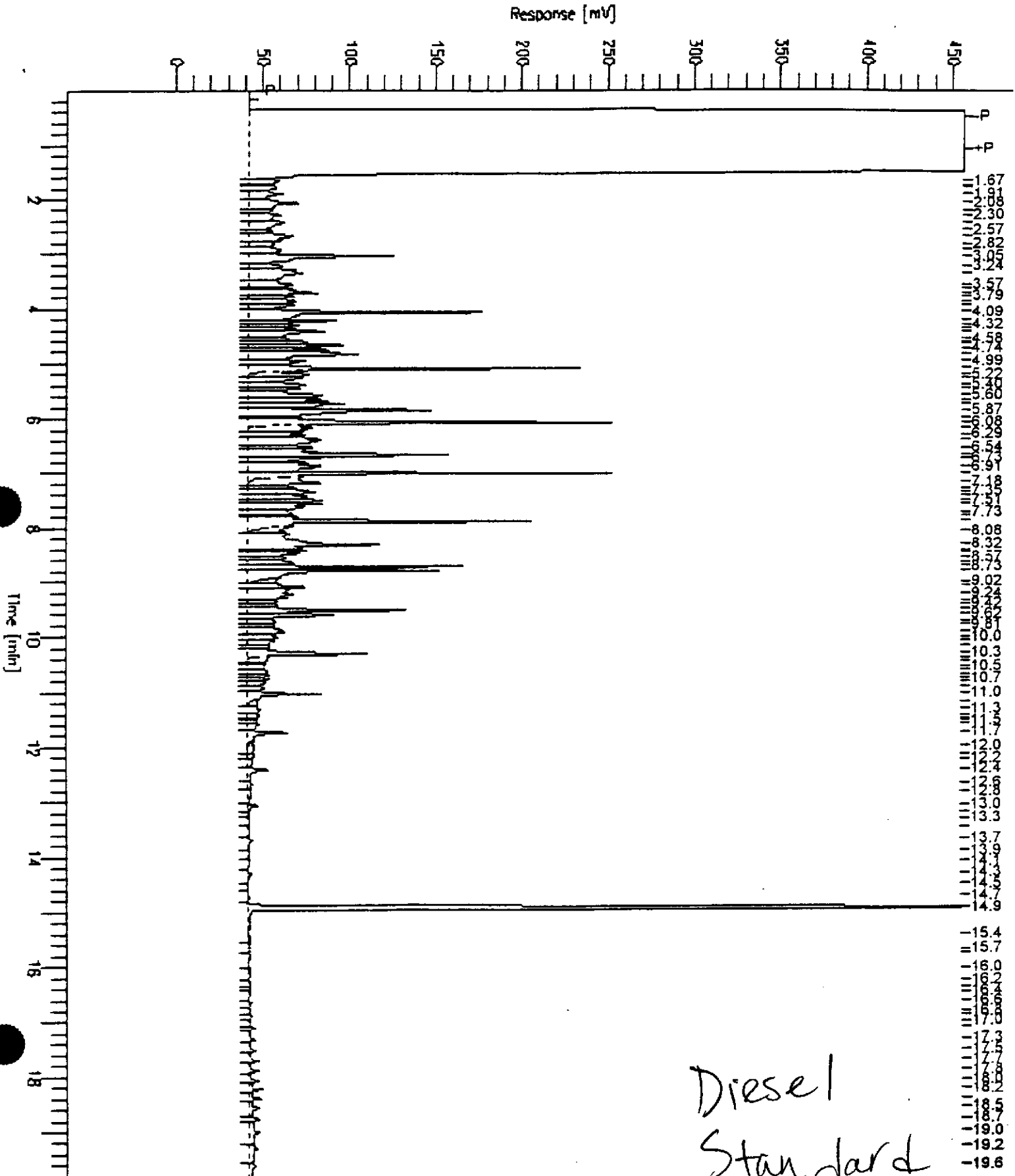
SC11M11-18
1/20/97

GC15 Channel B TEH

Sample Name : CCV,96MS3659,DS
FileName : G:\GC15\CHB\030B002.RAW
Method : B030TEH.MTH
Start Time : 0.01 min
File Factor: 0.0

Sample #: 500MG/L
Date : 1/30/97 11:55 AM
Time of Injection: 1/30/97 11:30 AM
Low Point : -9.66 mV
Plot Scale: 466.5 mV
High Point : 456.89 mV

Page 1 of 1



Chromatogram

Sample Name : C07, 96WG3096, MO
FileName : G:\GC11\CHBA\029B006.RAW
Method : 9T2H006.MTH
Start Time : 0.07 min
Factor : 0.0

End Time : 31.91 min
Plot Offset : 29 mV

Sample #: 500MG/L

Page 1 of 1

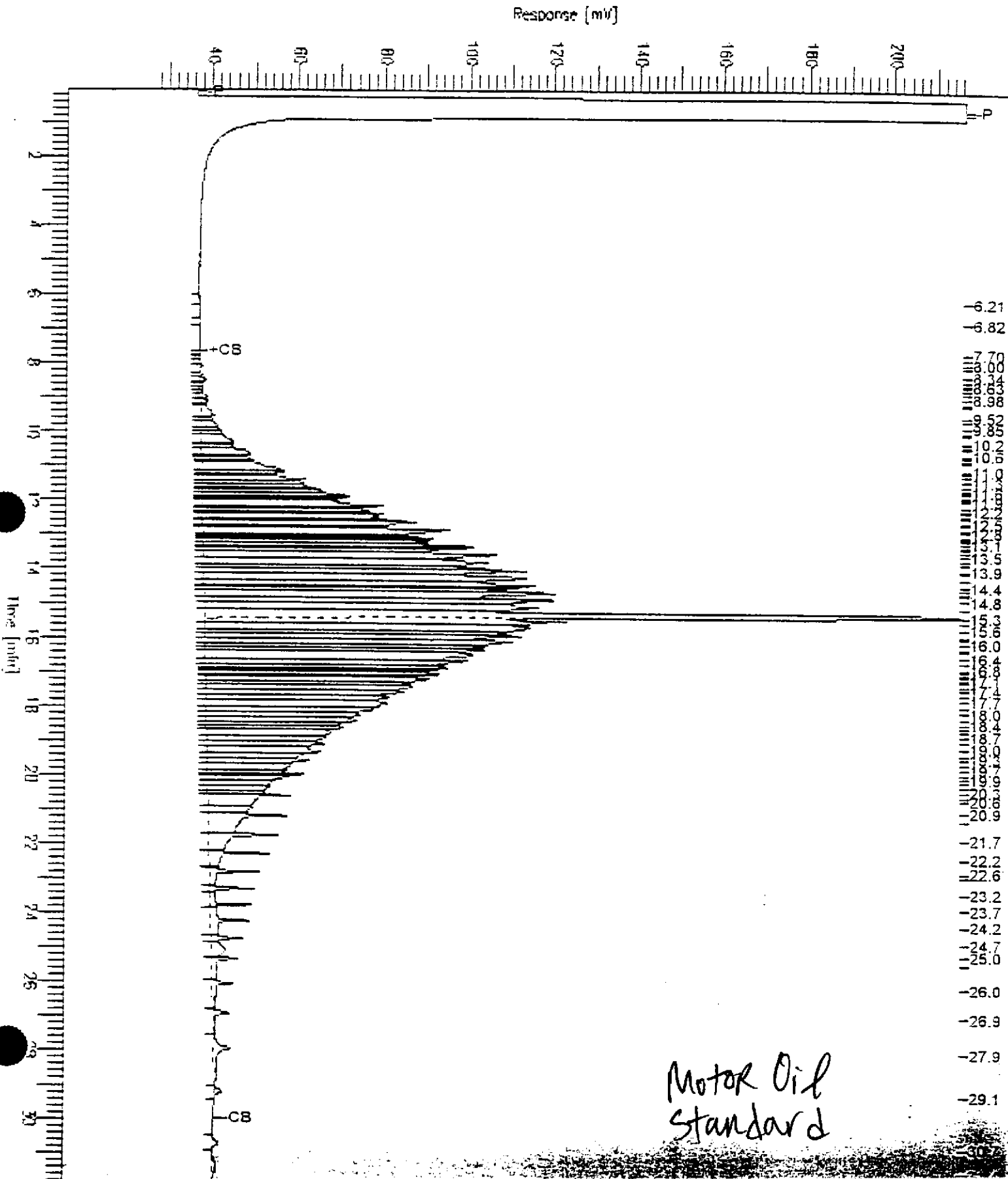
Date : 1/30/97 09:33 AM

Time of Injection: 1/29/97 01:10 PM

Low Point : 27.61 mV

High Point : 216.44 mV

Plot Scale: 188.8 mV





Lab #: 128029

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32009
Units: ug/L
Diln Fac: 1

Prep Date: 01/23/97
Analysis Date: 01/29/97

MB Lab ID: QC38732

Analyte	Result	
Diesel C12-C22	<50	
Motor Oil C22-C50	<250	
Surrogate	%Rec	Recovery Limits
Hexacosane	117	60-140



Lab #: 128029

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water	Prep Date: 01/23/97
Batch#: 32009	Analysis Date: 01/29/97
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC38733

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2678	108	60-140
Surrogate	%Rec	Limits		
Hexacosane	121	60-140		

BSD Lab ID: QC38734

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2422	98	60-140	10	35
Surrogate	%Rec	Limits				
Hexacosane	109	60-140				

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



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128029-001	SCIMW-3	31935	01/20/97	01/21/97	01/21/97	
128029-002	SCIMW-5	31935	01/20/97	01/21/97	01/21/97	
128029-003	MW-5	31935	01/20/97	01/21/97	01/21/97	
128029-004	SCIMW-7	31935	01/20/97	01/21/97	01/21/97	

Matrix: Water

Analyte	Units	128029-001	128029-002	128029-003	128029-004
Diln Fac:		1	1	1	50
Benzene	ug/L	<0.5	<0.5	<0.5	3200
Toluene	ug/L	<0.5	<0.5	<0.5	2400
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	<25
m,p-Xylenes	ug/L	<0.5	<0.5	<0.5	50
o-Xylene	ug/L	<0.5	<0.5	<0.5	53
Surrogate					
Trifluorotoluene	%REC	96	98	97	102
Bromobenzene	%REC	97	100	98	95



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128029-005	SCIMW-18	31935	01/20/97	01/21/97	01/21/97	
128029-006	SCIMW-20	31935	01/20/97	01/21/97	01/21/97	

Matrix: Water

Analyte	Units	128029-005	128029-006
Diln Fac:		1	1
Benzene	ug/L	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5
Surrogate			
Trifluorotoluene	%REC	96	97
Bromobenzene	%REC	98	99



Lab #: 128029

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 31935
Units: ug/L
Diln Fac: 1

Prep Date: 01/21/97
Analysis Date: 01/21/97

MB Lab ID: QC38421

Analyte	Result	
Benzene	<0.5	
Toluene	<0.5	
Ethylbenzene	<0.5	
m,p-Xylenes	<0.5	
o-Xylene	<0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	94	58-130
Bromobenzene	92	62-131



Lab #: 128029

BATCH QC REPORT

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
LABORATORY CONTROL SAMPLE	
Matrix: Water	Prep Date: 01/21/97
Batch#: 31935	Analysis Date: 01/21/97
Units: ug/L	
Diln Fac: 1	

LCS Lab ID: QC38420

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	19	20	95	80-120
Toluene	19.3	20	97	80-120
Ethylbenzene	19.5	20	98	80-120
m,p-Xylenes	38.4	40	96	80-120
o-Xylene	19.5	20	98	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	96	58-130		
Bromobenzene	94	62-131		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCIMW-3
 Lab ID: 128029-001
 Matrix: Water
 Batch#: 31938
 Units: ug/L
 Diln Fac: 1

Sampled: 01/20/97
 Received: 01/20/97
 Extracted: 01/22/97
 Analyzed: 01/22/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	99	68-126
Toluene-d8	100	87-125
Bromofluorobenzene	97	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCIMW-5
 Lab ID: 128029-002
 Matrix: Water
 Batch#: 31938
 Units: ug/L
 Diln Fac: 1

Sampled: 01/20/97
 Received: 01/20/97
 Extracted: 01/22/97
 Analyzed: 01/22/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	101	68-126
Toluene-d8	100	87-125
Bromofluorobenzene	97	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: MW-5
 Lab ID: 128029-003
 Matrix: Water
 Batch#: 31938
 Units: ug/L
 Diln Fac: 1

Sampled: 01/20/97
 Received: 01/20/97
 Extracted: 01/22/97
 Analyzed: 01/22/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	99	68-126
Toluene-d8	100	87-125
Bromofluorobenzene	97	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCIMW-7
 Lab ID: 128029-004
 Matrix: Water
 Batch#: 31990
 Units: ug/L
 Diln Fac: 625

Sampled: 01/20/97
 Received: 01/20/97
 Extracted: 01/24/97
 Analyzed: 01/24/97

Analyte	Result	Reporting Limit
Chloromethane	ND	6300
Bromomethane	ND	6300
Vinyl Chloride	5600 J	6300
Chloroethane	6300	6300
Methylene Chloride	ND	13000
Acetone	ND	13000
Carbon Disulfide	ND	3100
Trichlorofluoromethane	ND	3100
1,1-Dichloroethene	ND	3100
1,1-Dichloroethane	13000	3100
trans-1,2-Dichloroethene	ND	3100
cis-1,2-Dichloroethene	91000	3100
Chloroform	ND	3100
Freon 113	ND	3100
1,2-Dichloroethane	ND	3100
2-Butanone	ND	6300
1,1,1-Trichloroethane	53000	3100
Carbon Tetrachloride	ND	3100
Vinyl Acetate	ND	31000
Bromodichloromethane	ND	3100
1,2-Dichloropropane	ND	3100
cis-1,3-Dichloropropene	ND	3100
Trichloroethene	32000	3100
Dibromochloromethane	ND	3100
1,1,2-Trichloroethane	ND	3100
Benzene	8600	3100
trans-1,3-Dichloropropene	ND	3100
Bromoform	ND	3100
2-Hexanone	ND	6300
4-Methyl-2-Pentanone	ND	6300
1,1,2,2-Tetrachloroethane	ND	3100
Tetrachloroethene	ND	3100
Toluene	7200	3100
Chlorobenzene	ND	3100
Ethylbenzene	ND	3100
Styrene	ND	3100
m,p-Xylenes	ND	3100
o-Xylene	ND	3100
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	102	68-126
Toluene-d8	97	87-125
Bromofluorobenzene	111	79-122

J: Estimated Value



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCIMW-18
 Lab ID: 128029-005
 Matrix: Water
 Batch#: 31938
 Units: ug/L
 Diln Fac: 1

Sampled: 01/20/97
 Received: 01/20/97
 Extracted: 01/22/97
 Analyzed: 01/22/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	101	87-125
Bromofluorobenzene	96	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
Field ID: SCIMW-20	Sampled: 01/20/97	
Lab ID: 128029-006	Received: 01/20/97	
Matrix: Water	Extracted: 01/22/97	
Batch#: 31938	Analyzed: 01/22/97	
Units: ug/L		
Diln Fac: 1		
Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	100	87-125
Bromofluorobenzene	98	79-122



Lab #: 128029

BATCH QC REPORT

EPA 8240 Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
METHOD BLANK		
Matrix: Water	Prep Date: 01/21/97	
Batch#: 31938	Analysis Date: 01/21/97	
Units: ug/L		
Diln Fac: 1		

MB Lab ID: QC38435

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	89	68-126
Toluene-d8	97	87-125
Bromofluorobenzene	93	79-122



Lab #: 128029

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 31990
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/23/97
 Analysis Date: 01/23/97

MB Lab ID: QC38646

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	105	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	113	79-122



Lab #: 128029

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 31990
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/23/97
 Analysis Date: 01/23/97

MB Lab ID: QC38671

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	106	68-126
Toluene-d8	95	87-125
Bromofluorobenzene	112	79-122

Lab #: 128029

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/14/97
Lab ID: 128002-012	Received Date: 01/15/97
Matrix: Water	Prep Date: 01/21/97
Batch#: 31938	Analysis Date: 01/21/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC38436

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<5	42.63	85	51-180
Trichloroethene	50	<5	44.61	89	73-141
Benzene	50	<5	46	92	78-142
Toluene	50	<5	46.29	93	76-150
Chlorobenzene	50	<5	47.56	95	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	95	68-126			
Toluene-d8	99	87-125			
Bromofluorobenzene	95	79-122			

MSD Lab ID: QC38437

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	42.54	85	51-180	0	14
Trichloroethene	50	45.09	90	73-141	1	14
Benzene	50	46.3	93	78-142	1	11
Toluene	50	46.79	94	76-150	1	13
Chlorobenzene	50	48.44	97	83-129	2	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	96	68-126				
Toluene-d8	99	87-125				
Bromofluorobenzene	94	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

Lab #: 128029

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics			
Client: Subsurface Consultants	Analysis Method: EPA 8260		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
MATRIX SPIKE/MATRIX SPIKE DUPLICATE			
Field ID: ZZZZZZ	Sample Date:	01/22/97	
Lab ID: 128069-001	Received Date:	01/22/97	
Matrix: Water	Prep Date:	01/23/97	
Batch#: 31990	Analysis Date:	01/23/97	
Units: ug/L			
Diln Fac: 1			

MS Lab ID: QC38668

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	1.759	59.85	116	51-180
Trichloroethene	50	<5	47.42	94	73-141
Benzene	50	0	48.76	98	78-142
Toluene	50	0	46.65	93	76-150
Chlorobenzene	50	<5	50.01	100	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	105	68-126			
Toluene-d8	98	87-125			
Bromofluorobenzene	113	79-122			

MSD Lab ID: QC38669

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	58.68	114	51-180	2	14
Trichloroethene	50	47.5	94	73-141	0	14
Benzene	50	48.79	98	78-142	0	11
Toluene	50	46.49	93	76-150	0	13
Chlorobenzene	50	50.33	101	83-129	1	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	105	68-126				
Toluene-d8	98	87-125				
Bromofluorobenzene	115	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Lab #: 128029

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Subsurface Consultants Project#: 133.005 Location: KOT	Analysis Method: EPA 8260 Prep Method: EPA 5030
LABORATORY CONTROL SAMPLE	
Matrix: Water Batch#: 31938 Units: ug/L Diln Fac: 1	Prep Date: 01/21/97 Analysis Date: 01/21/97

LCS Lab ID: QC38433

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	43.28	50	87	51-180
Trichloroethene	46.89	50	94	73-141
Benzene	49.08	50	98	78-142
Toluene	48.48	50	97	76-150
Chlorobenzene	50.57	50	101	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	89	68-126		
Toluene-d8	98	87-125		
Bromofluorobenzene	92	79-122		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

Lab #: 128029

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics

 Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

 Analysis Method: EPA 8260
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

 Matrix: Water
 Batch#: 31990
 Units: ug/L
 Diln Fac: 1

 Prep Date: 01/23/97
 Analysis Date: 01/23/97

LCS Lab ID: QC38645

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	61.99	50	124	51-180
Trichloroethene	49.96	50	100	73-141
Benzene	51.11	50	102	78-142
Toluene	49.4	50	99	76-150
Chlorobenzene	51.76	50	104	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	104	68-126		
Toluene-d8	98	87-125		
Bromofluorobenzene	112	79-122		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-3
Lab ID: 128029-001
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/20/97
Received: 01/20/97
Extracted: 01/22/97
Analyzed: 01/23/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS

Field ID: SCIMW-3	Sampled: 01/20/97
Lab ID: 128029-001	Received: 01/20/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/23/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	61	21-110
Phenol-d5	69	10-110
2,4,6-Tribromophenol	64	10-123
Nitrobenzene-d5	81	35-114
2-Fluorobiphenyl	70	43-116
Terphenyl-d14	52	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-5
Lab ID: 128029-002
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/20/97
Received: 01/20/97
Extracted: 01/22/97
Analyzed: 01/23/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCIMW-5	Sampled: 01/20/97
Lab ID: 128029-002	Received: 01/20/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/23/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	53	21-110
Phenol-d5	58	10-110
2,4,6-Tribromophenol	53	10-123
Nitrobenzene-d5	72	35-114
2-Fluorobiphenyl	60	43-116
Terphenyl-d14	56	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants Analysis Method: EPA 8270
Project#: 133.005 Prep Method: EPA 3520
Location: KOT

Field ID: MW-5 Sampled: 01/20/97
Lab ID: 128029-003 Received: 01/20/97
Matrix: Water Extracted: 01/22/97
Batch#: 31984 Analyzed: 01/23/97
Units: ug/L
Diln Fac: 1

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS

Field ID: MW-5	Sampled: 01/20/97
Lab ID: 128029-003	Received: 01/20/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/23/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	55	21-110
Phenol-d5	63	10-110
2,4,6-Tribromophenol	63	10-123
Nitrobenzene-d5	77	35-114
2-Fluorobiphenyl	61	43-116
Terphenyl-d14	38	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-7
Lab ID: 128029-004
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 2

Sampled: 01/20/97
Received: 01/20/97
Extracted: 01/22/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Phenol	27	19
2-Chlorophenol	ND	19
Benzyl alcohol	11 J	19
2-Methylphenol	55	19
4-Methylphenol	110	19
2-Nitrophenol	ND	94
2,4-Dimethylphenol	40	19
Benzoic acid	280	94
2,4-Dichlorophenol	ND	19
4-Chloro-3-methylphenol	ND	19
2,4,6-Trichlorophenol	ND	19
2,4,5-Trichlorophenol	ND	94
2,4-Dinitrophenol	ND	94
4-Nitrophenol	ND	94
4,6-Dinitro-2-methylphenol	ND	94
Pentachlorophenol	ND	94
N-Nitrosodimethylamine	ND	19
Aniline	ND	19
bis(2-Chloroethyl)ether	ND	19
1,3-Dichlorobenzene	ND	19
1,4-Dichlorobenzene	ND	19
1,2-Dichlorobenzene	ND	19
bis(2-Chloroisopropyl) ether	ND	19
N-Nitroso-di-n-propylamine	ND	19
Hexachloroethane	ND	19
Nitrobenzene	ND	19
Isophorone	ND	19
bis(2-Chloroethoxy)methane	ND	19
1,2,4-Trichlorobenzene	ND	19
Naphthalene	28	19
4-Chloroaniline	ND	19
Hexachlorobutadiene	ND	19
2-Methylnaphthalene	ND	19
Hexachlorocyclopentadiene	ND	19
2-Chloronaphthalene	ND	19
2-Nitroaniline	ND	94
Dimethylphthalate	ND	19
Acenaphthylene	ND	19

Semivolatile Organics by GC/MS

Field ID: SCIMW-7	Sampled: 01/20/97
Lab ID: 128029-004	Received: 01/20/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/30/97
Units: ug/L	
Diln Fac: 2	

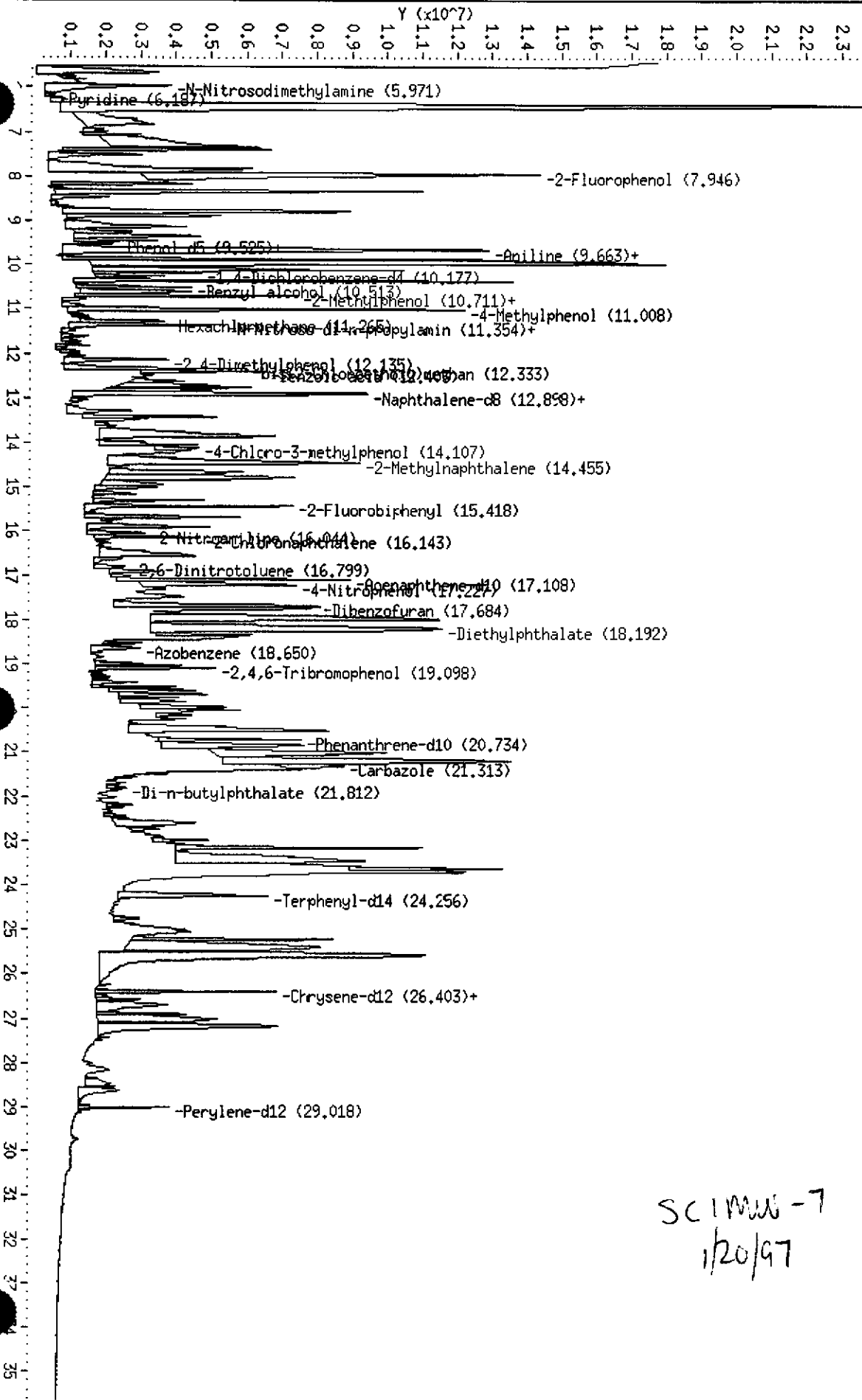
Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	19
3-Nitroaniline	ND	94
Acenaphthene	ND	19
Dibenzofuran	ND	19
2,4-Dinitrotoluene	ND	19
Diethylphthalate	ND	19
4-Chlorophenyl-phenylether	ND	19
Fluorene	ND	19
4-Nitroaniline	ND	94
N-Nitrosodiphenylamine	ND	19
Azobenzene	ND	19
4-Bromophenyl-phenylether	ND	19
Hexachlorobenzene	ND	19
Phenanthrene	ND	19
Anthracene	ND	19
Di-n-butylphthalate	ND	19
Fluoranthene	ND	19
Pyrene	ND	19
Butylbenzylphthalate	ND	19
3,3'-Dichlorobenzidine	ND	94
Benzo(a)anthracene	ND	19
Chrysene	ND	19
bis(2-Ethylhexyl)phthalate	ND	19
Di-n-octylphthalate	ND	19
Benzo(b)fluoranthene	ND	19
Benzo(k)fluoranthene	ND	19
Benzo(a)pyrene	ND	19
Indeno(1,2,3-cd)pyrene	ND	19
Dibenz(a,h)anthracene	ND	19
Benzo(g,h,i)perylene	ND	19
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	68	21-110
Phenol-d5	64	10-110
2,4,6-Tribromophenol	79	10-123
Nitrobenzene-d5	85	35-114
2-Fluorobiphenyl	86	43-116
Terphenyl-d14	46	33-141

J: Estimated Value

Data File: /chem/bna02.i/012397x.b/16_8029-004.d
Date : 24-JAN-1997 00:28
Client ID: CURTIS&TOMPKINS,LTD
Sample Info:
Volume Injected (uL): 1.0
Column phase: Xci 5 x .5 u

Instrument: bna02.1
Operator: dsh
Column diameter: 0.25

/chem/bna02.i/012397x.b/16_8029-004.d



SCIMM-7
1/20/97



Semivolatiles Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-18
Lab ID: 128029-005
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/20/97
Received: 01/20/97
Extracted: 01/22/97
Analyzed: 01/29/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS

Field ID: SCIMW-18	Sampled:	01/20/97
Lab ID: 128029-005	Received:	01/20/97
Matrix: Water	Extracted:	01/22/97
Batch#: 31984	Analyzed:	01/29/97
Units: ug/L		
Diln Fac: 1		

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	60	21-110
Phenol-d5	66	10-110
2,4,6-Tribromophenol	77	10-123
Nitrobenzene-d5	77	35-114
2-Fluorobiphenyl	83	43-116
Terphenyl-d14	47	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-20
Lab ID: 128029-006
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/20/97
Received: 01/20/97
Extracted: 01/22/97
Analyzed: 01/29/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl) ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS

Field ID: SCIMW-20	Sampled: 01/20/97
Lab ID: 128029-006	Received: 01/20/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/29/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	66	21-110
Phenol-d5	68	10-110
2,4,6-Tribromophenol	73	10-123
Nitrobenzene-d5	82	35-114
2-Fluorobiphenyl	87	43-116
Terphenyl-d14	45	33-141

Lab #: 128029

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8270	
Project#: 133.005	Prep Method: EPA 3520	
Location: KOT		
METHOD BLANK		
Matrix: Water	Prep Date:	01/22/97
Batch#: 31984	Analysis Date:	01/23/97
Units: ug/L		
Diln Fac: 1		

MB Lab ID: QC38614

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



Lab #: 128029

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
 Batch#: 31984
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/22/97
 Analysis Date: 01/23/97

MB Lab ID: QC38614

Analyte	Result	Reporting Limit
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
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)fluoranthene	ND	10
Benzo(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	60	21-110
Phenol-d5	64	10-110
2,4,6-Tribromophenol	54	10-123
Nitrobenzene-d5	77	35-114
2-Fluorobiphenyl	68	43-116
Terphenyl-d14	68	33-141

Lab #: 128029

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

 Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

 Analysis Method: EPA 8270
 Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

 Matrix: Water
 Batch#: 31984
 Units: ug/L
 Diln Fac: 1

 Prep Date: 01/22/97
 Analysis Date: 01/23/97

BS Lab ID: QC38615

Analyte	Spike Added	BS	%Rec #	Limits
Phenol	100	62.04	62	12-110
2-Chlorophenol	100	64.43	64	27-123
4-Chloro-3-methylphenol	100	63.52	64	23-97
4-Nitrophenol	100	66.68	67	10-80
Pentachlorophenol	100	42.46	42	9-103
1,4-Dichlorobenzene	50	26.78	54	36-97
N-Nitroso-di-n-propylamine	50	34.05	68	41-116
1,2,4-Trichlorobenzene	50	25.08	50	39-98
Acenaphthene	50	29.55	59	46-118
2,4-Dinitrotoluene	50	26.42	53	24-96
Pyrene	50	29.06	58	26-127
Surrogate	%Rec	Limits		
2-Fluorophenol	55	21-110		
Phenol-d5	59	10-110		
2,4,6-Tribromophenol	56	10-123		
Nitrobenzene-d5	72	35-114		
2-Fluorobiphenyl	63	43-116		
Terphenyl-d14	65	33-141		

BSD Lab ID: QC38616

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Phenol	100	67.34	67	12-110	8	42
2-Chlorophenol	100	70.36	70	27-123	9	40
4-Chloro-3-methylphenol	100	69.42	69	23-97	8	42
4-Nitrophenol	100	69.44	69	10-80	3	50
Pentachlorophenol	100	44.02	44	9-103	5	50
1,4-Dichlorobenzene	50	29.15	58	36-97	7	28
N-Nitroso-di-n-propylamine	50	36.12	72	41-116	6	38
1,2,4-Trichlorobenzene	50	27.14	54	39-98	8	28
Acenaphthene	50	30.79	62	46-118	5	31
2,4-Dinitrotoluene	50	27.22	54	24-96	2	38
Pyrene	50	29.82	60	26-127	3	31
Surrogate	%Rec	Limits				
2-Fluorophenol	60	21-110				
Phenol-d5	64	10-110				
2,4,6-Tribromophenol	57	10-123				
Nitrobenzene-d5	77	35-114				
2-Fluorobiphenyl	66	43-116				
Terphenyl-d14	66	33-141				

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

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

SAMPLE ID: SCIMW-3
 LAB ID: 128029-001
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/20/97
 DATE RECEIVED: 01/20/97
 DATE REPORTED: 02/04/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/24/97
Arsenic	23	5.0	1	31953	EPA 6010A	01/24/97
Barium	110	10	1	31953	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	31953	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/24/97
Cobalt	ND	20	1	31953	EPA 6010A	01/24/97
Copper	ND	10	1	31953	EPA 6010A	01/24/97
Lead	ND	3.0	1	31953	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/24/97
Nickel	ND	20	1	31953	EPA 6010A	01/24/97
Selenium	31	5.0	1	31953	EPA 6010A	01/24/97
Silver	ND	5.0	1	31953	EPA 6010A	01/24/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/24/97
Vanadium	ND	10	1	31953	EPA 6010A	01/24/97
Zinc	ND	20	1	31953	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-5
 LAB ID: 128029-002
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/20/97
 DATE RECEIVED: 01/20/97
 DATE REPORTED: 02/04/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/23/97
Arsenic	ND	5.0	1	31953	EPA 6010A	01/23/97
Barium	62	10	1	31953	EPA 6010A	01/23/97
Beryllium	2.7	2.0	1	31953	EPA 6010A	01/23/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/23/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/23/97
Cobalt	ND	20	1	31953	EPA 6010A	01/23/97
Copper	ND	10	1	31953	EPA 6010A	01/23/97
Lead	ND	3.0	1	31953	EPA 6010A	01/23/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/23/97
Nickel	ND	20	1	31953	EPA 6010A	01/23/97
Selenium	ND	5.0	1	31953	EPA 6010A	01/23/97
Silver	ND	5.0	1	31953	EPA 6010A	01/23/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/23/97
Vanadium	ND	10	1	31953	EPA 6010A	01/23/97
Zinc	25	20	1	31953	EPA 6010A	01/23/97

ND = Not detected at or above reporting limit

SAMPLE ID: MW-5
 LAB ID: 128029-003
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/20/97
 DATE RECEIVED: 01/20/97
 DATE REPORTED: 02/04/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/24/97
Arsenic	10	5.0	1	31953	EPA 6010A	01/24/97
Barium	49	10	1	31953	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	31953	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/24/97
Cobalt	ND	20	1	31953	EPA 6010A	01/24/97
Copper	ND	10	1	31953	EPA 6010A	01/24/97
Lead	ND	3.0	1	31953	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/24/97
Nickel	ND	20	1	31953	EPA 6010A	01/24/97
Selenium	6.5	5.0	1	31953	EPA 6010A	01/24/97
Silver	ND	5.0	1	31953	EPA 6010A	01/24/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/24/97
Vanadium	ND	10	1	31953	EPA 6010A	01/24/97
Zinc	26	20	1	31953	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-7
 LAB ID: 128029-004
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/20/97
 DATE RECEIVED: 01/20/97
 DATE REPORTED: 02/04/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/24/97
Arsenic	19	5.0	1	31953	EPA 6010A	01/24/97
Barium	430	10	1	31953	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	31953	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/24/97
Cobalt	ND	20	1	31953	EPA 6010A	01/24/97
Copper	ND	10	1	31953	EPA 6010A	01/24/97
Lead	ND	3.0	1	31953	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/24/97
Nickel	83	20	1	31953	EPA 6010A	01/24/97
Selenium	18	5.0	1	31953	EPA 6010A	01/24/97
Silver	ND	5.0	1	31953	EPA 6010A	01/24/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/24/97
Vanadium	ND	10	1	31953	EPA 6010A	01/24/97
Zinc	ND	20	1	31953	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-18
 LAB ID: 128029-005
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/20/97
 DATE RECEIVED: 01/20/97
 DATE REPORTED: 02/04/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/24/97
Arsenic	21	5.0	1	31953	EPA 6010A	01/24/97
Barium	250	10	1	31953	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	31953	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/24/97
Cobalt	ND	20	1	31953	EPA 6010A	01/24/97
Copper	ND	10	1	31953	EPA 6010A	01/24/97
Lead	ND	3.0	1	31953	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/24/97
Nickel	ND	20	1	31953	EPA 6010A	01/24/97
Selenium	38	5.0	1	31953	EPA 6010A	01/24/97
Silver	ND	5.0	1	31953	EPA 6010A	01/24/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/24/97
Vanadium	ND	10	1	31953	EPA 6010A	01/24/97
Zinc	ND	20	1	31953	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-20
 LAB ID: 128029-006
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/20/97
 DATE RECEIVED: 01/20/97
 DATE REPORTED: 02/04/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	31953	EPA 6010A	01/24/97
Arsenic	6.8	5.0	1	31953	EPA 6010A	01/24/97
Barium	1600	10	1	31953	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	31953	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	31953	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	31953	EPA 6010A	01/24/97
Cobalt	ND	20	1	31953	EPA 6010A	01/24/97
Copper	ND	10	1	31953	EPA 6010A	01/24/97
Lead	ND	3.0	1	31953	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	31953	EPA 6010A	01/24/97
Nickel	ND	20	1	31953	EPA 6010A	01/24/97
Selenium	18	5.0	1	31953	EPA 6010A	01/24/97
Silver	ND	5.0	1	31953	EPA 6010A	01/24/97
Thallium	ND	5.0	1	31953	EPA 6010A	01/24/97
Vanadium	ND	10	1	31953	EPA 6010A	01/24/97
Zinc	41	20	1	31953	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128029

DATE REPORTED: 02/04/97

 BATCH QC REPORT
 PREP BLANK

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	ug/L	1	31953	EPA 6010A	01/23/97
Arsenic	ND	5	ug/L	1	31953	EPA 6010A	01/23/97
Barium	ND	10	ug/L	1	31953	EPA 6010A	01/23/97
Beryllium	ND	2	ug/L	1	31953	EPA 6010A	01/23/97
Cadmium	ND	2	ug/L	1	31953	EPA 6010A	01/23/97
Chromium (total)	ND	10	ug/L	1	31953	EPA 6010A	01/23/97
Cobalt	ND	20	ug/L	1	31953	EPA 6010A	01/23/97
Copper	ND	10	ug/L	1	31953	EPA 6010A	01/23/97
Lead	ND	3	ug/L	1	31953	EPA 6010A	01/23/97
Mercury	ND	0.2	ug/L	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	ug/L	1	31953	EPA 6010A	01/23/97
Nickel	ND	20	ug/L	1	31953	EPA 6010A	01/23/97
Selenium	ND	5	ug/L	1	31953	EPA 6010A	01/23/97
Silver	ND	5	ug/L	1	31953	EPA 6010A	01/23/97
Thallium	ND	5	ug/L	1	31953	EPA 6010A	01/23/97
Vanadium	ND	10	ug/L	1	31953	EPA 6010A	01/23/97
Zinc	ND	20	ug/L	1	31953	EPA 6010A	01/23/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128029

DATE REPORTED: 02/04/97

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	500	480	514	ug/L	96	103	80-120	7	35	31953	EPA 6010A	01/23/97
Arsenic	2000	1910	1940	ug/L	96	97	80-120	2	35	31953	EPA 6010A	01/23/97
Barium	2000	2100	2110	ug/L	105	106	80-120	1	35	31953	EPA 6010A	01/23/97
Beryllium	50	50.5	52	ug/L	101	104	80-120	3	35	31953	EPA 6010A	01/23/97
Cadmium	50	54.1	55.7	ug/L	108	111	80-120	3	35	31953	EPA 6010A	01/23/97
Chromium (total)	200	198	203	ug/L	99	102	80-120	3	35	31953	EPA 6010A	01/23/97
Cobalt	500	496	511	ug/L	99	102	80-120	3	35	31953	EPA 6010A	01/23/97
Copper	250	255	256	ug/L	102	102	80-120	0	35	31953	EPA 6010A	01/23/97
Lead	500	500	511	ug/L	100	102	80-120	2	35	31953	EPA 6010A	01/23/97
Mercury	5	4.99	5.055	ug/L	100	101	80-120	1	35	32020	EPA 7470	01/24/97
Molybdenum	400	395	406	ug/L	99	102	80-120	3	35	31953	EPA 6010A	01/23/97
Nickel	500	516	529	ug/L	103	106	80-120	3	35	31953	EPA 6010A	01/23/97
Selenium	2000	1900	1930	ug/L	95	97	80-120	2	35	31953	EPA 6010A	01/23/97
Silver	100	100	102	ug/L	100	102	80-120	2	35	31953	EPA 6010A	01/23/97
Thallium	2000	1960	2000	ug/L	98	100	80-120	2	35	31953	EPA 6010A	01/23/97
Vanadium	500	505	514	ug/L	101	103	80-120	2	35	31953	EPA 6010A	01/23/97
Zinc	500	501	514	ug/L	100	103	80-120	3	35	31953	EPA 6010A	01/23/97



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
Layfayette, CA 94549

Date: 29-JAN-97
Lab Job Number: 128040
Project ID: 133.005
Location: KOT

Reviewed by: _____

Teresa Morris

Reviewed by: _____

Troy B. S. K.

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TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128040-001	SCIMW-8	32032	01/21/97	01/24/97	01/24/97	
128040-002	SCIMW-14	32032	01/21/97	01/24/97	01/24/97	
128040-003	SCIMW-19	32032	01/21/97	01/24/97	01/24/97	

Matrix: Water

Analyte	Units	128040-001	128040-002	128040-003
Diln Fac:		1	1	1
Gasoline	ug/L	<50	<50	<50
Surrogate				
Trifluorotoluene	%REC	97	97	97
Bromobenzene	%REC	90	91	93



Lab #: 128040

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32032
Units: ug/L
Diln Fac: 1

Prep Date: 01/24/97
Analysis Date: 01/24/97

MB Lab ID: QC38814

Analyte	Result		
Gasoline	<50		
Surrogate	%Rec	Recovery Limits	
Trifluorotoluene	91	65-135	
Bromobenzene	83	65-135	



Lab #: 128040

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 32032
Units: ug/L
Diln Fac: 1

Prep Date: 01/24/97
Analysis Date: 01/24/97

LCS Lab ID: QC38812

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2024	2000	101	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	96	65-135		
Bromobenzene	97	65-135		

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 #: 128040

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: SCIMW-8
 Lab ID: 128040-001
 Matrix: Water
 Batch#: 32032
 Units: ug/L
 Diln Fac: 1

Sample Date: 01/21/97
 Received Date: 01/21/97
 Prep Date: 01/24/97
 Analysis Date: 01/24/97

MS Lab ID: QC38815

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	1940	97	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	96	65-135			
Bromobenzene	106	65-135			

MSD Lab ID: QC38816

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	1862	96	75-125	4	35
Surrogate	%Rec	Limits				
Trifluorotoluene	97	65-135				
Bromobenzene	106	65-135				

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



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128040-001	SCIMW-8	31987	01/21/97	01/22/97	01/24/97	
128040-002	SCIMW-14	31987	01/21/97	01/22/97	01/24/97	
128040-003	SCIMW-19	31987	01/21/97	01/22/97	01/24/97	

Matrix: Water

Analyte	Units	128040-001	128040-002	128040-003
Diln Fac:		1	1	1
Diesel C12-C22	ug/L	860 YH	570 YH	150 YH
Motor Oil C22-C50	ug/L	830 YL	420 YL	<250
Surrogate				
Hexacosane	%REC	106	99	103

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

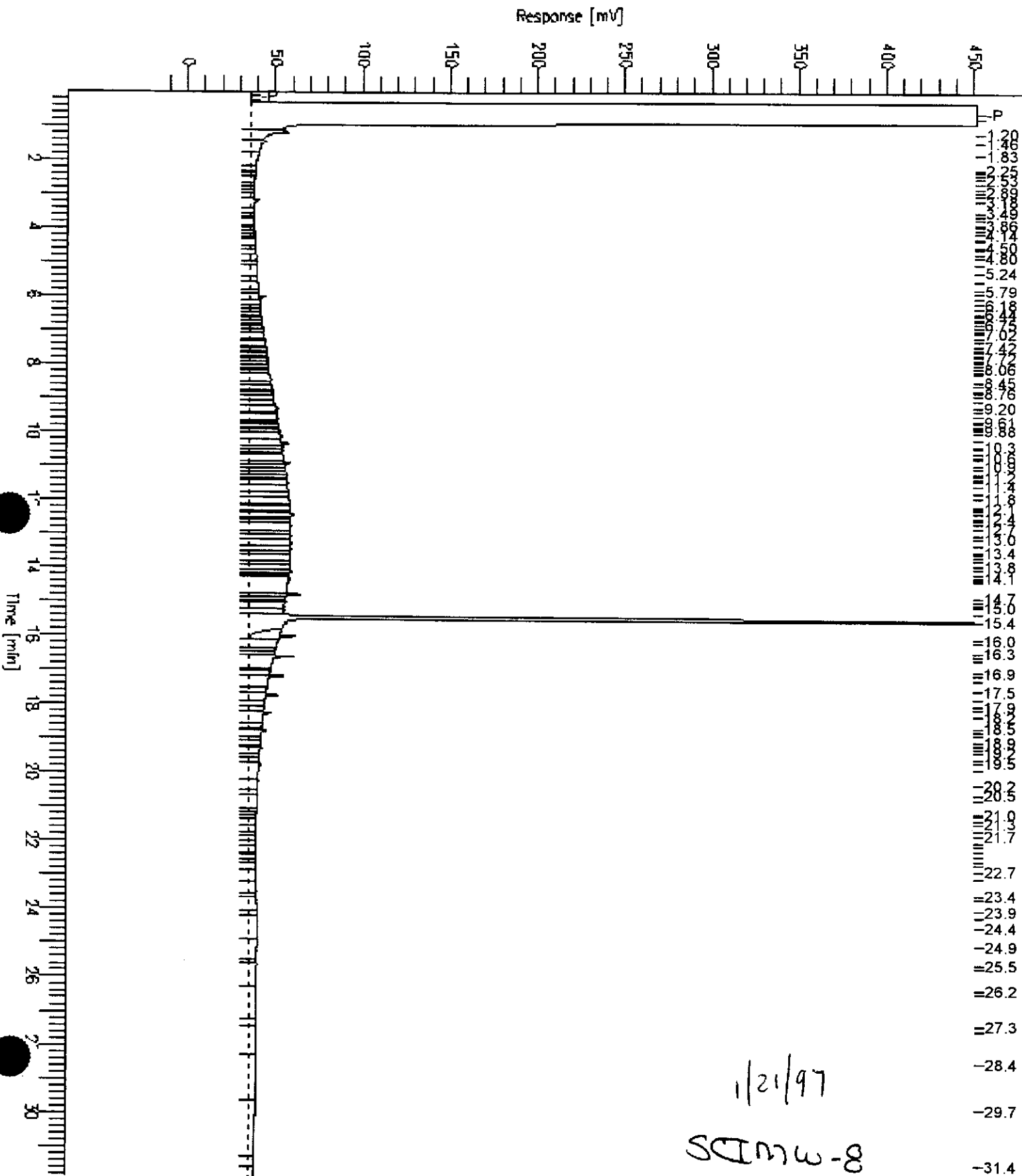
L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 128040-001,31987
 File Name : G:\GC11\CHB\023B034.RAW
 Method : BTEH006.MTH
 Start Time : 0.01 min
 Factor : 0.0

End Time : 31.93 min
 Plot Offset : -16 mV

Sample #: 31987
 Date : 1/24/97 09:40 AM
 Time of Injection: 1/24/97 04:17 AM
 Low Point : -15.99 mV
 High Point : 451.93 mV
 Plot Scale: 467.9 mV



Chromatogram

Sample Name : 128040-002,31987

Sample #: 31987

Page 1 of 1

FileName : G:\GC11\CHB\023B035.RAW

Date : 1/24/97 09:40 AM

Method : BTEH006.MTH

Time of Injection: 1/24/97 05:01 AM

Start Time : 0.01 min

End Time : 31.91 min

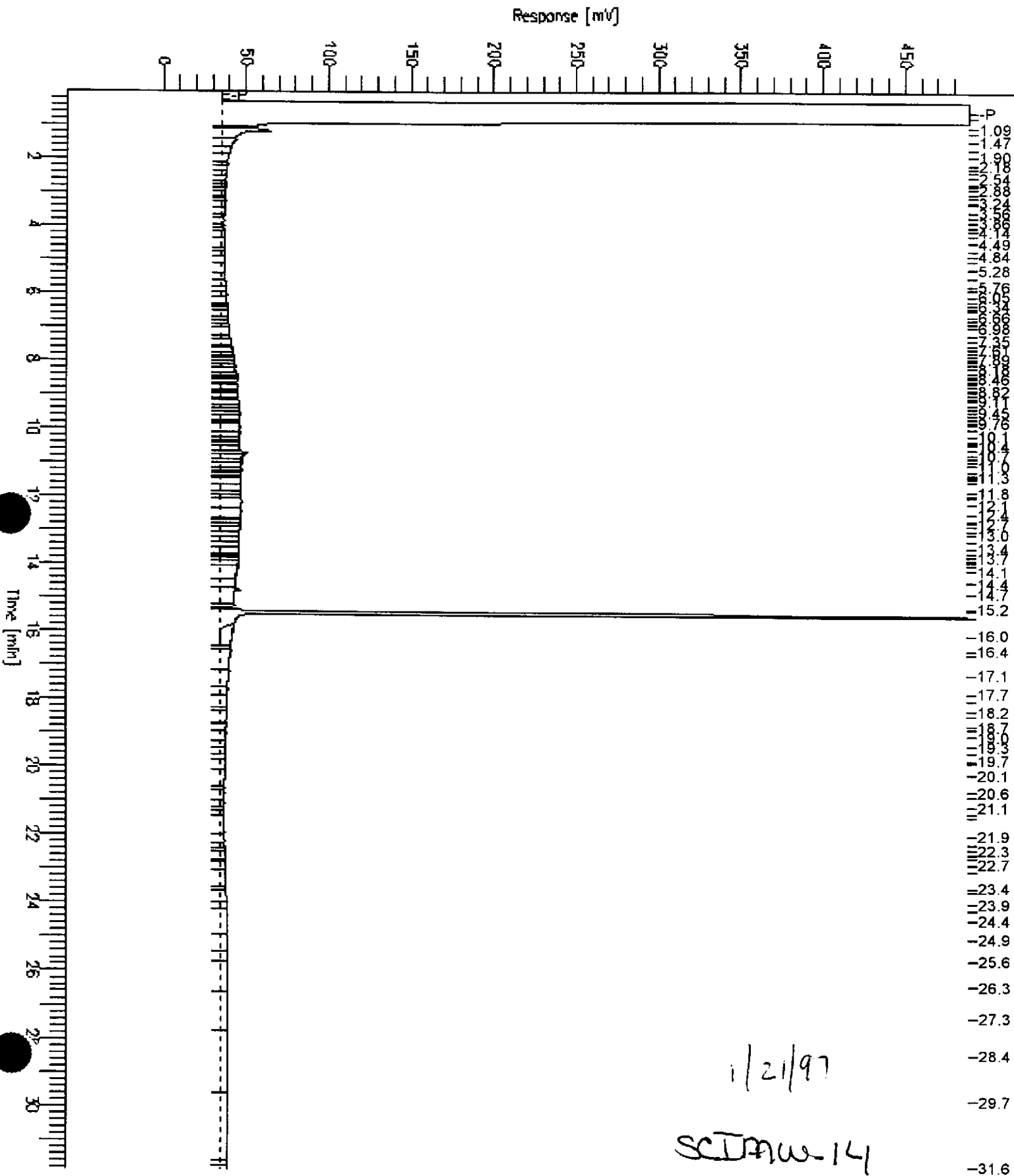
Low Point : -2.73 mV

High Point : 489.33 mV

Gain Factor: 0.0

Plot Offset: -3 mV

Plot Scale: 492.1 mV



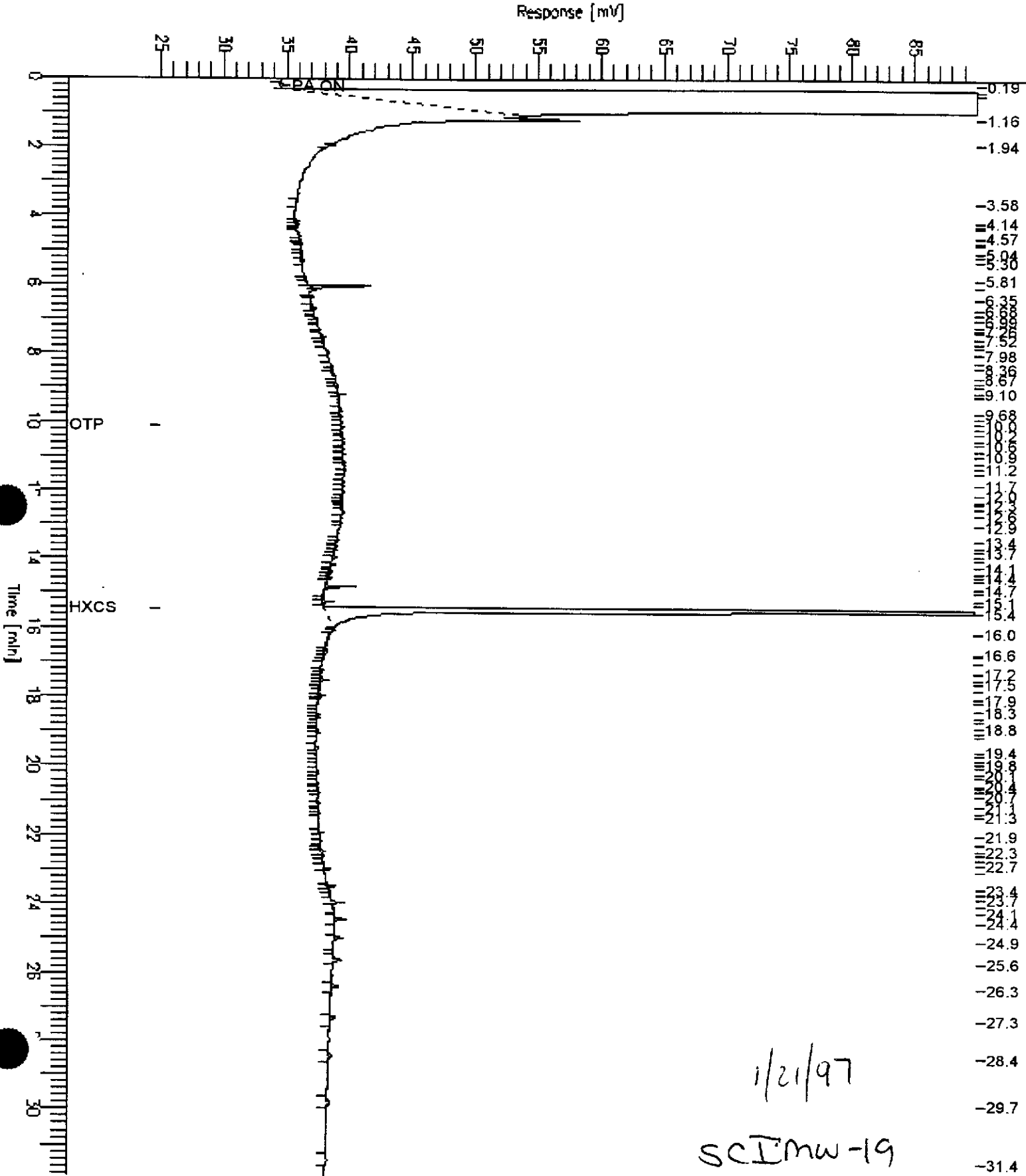
Chromatogram

Sample Name : 128040-003,31987
FileName : G:\GC11\CHBA\023B039.raw
Method : SINGB
Time : 0.00 min
Factor : 0.0

End Time : 31.90 min
Plot Offset: 25 mV

Sample #: 31987
Date : 1/24/97 08:26 AM
Time of Injection: 1/24/97 07:54 AM
Low Point : 25.00 mV
High Point : 90.00 mV
Plot Scale: 65.0 mV

Page 1 of 1



1/21/97

SCIMW-19

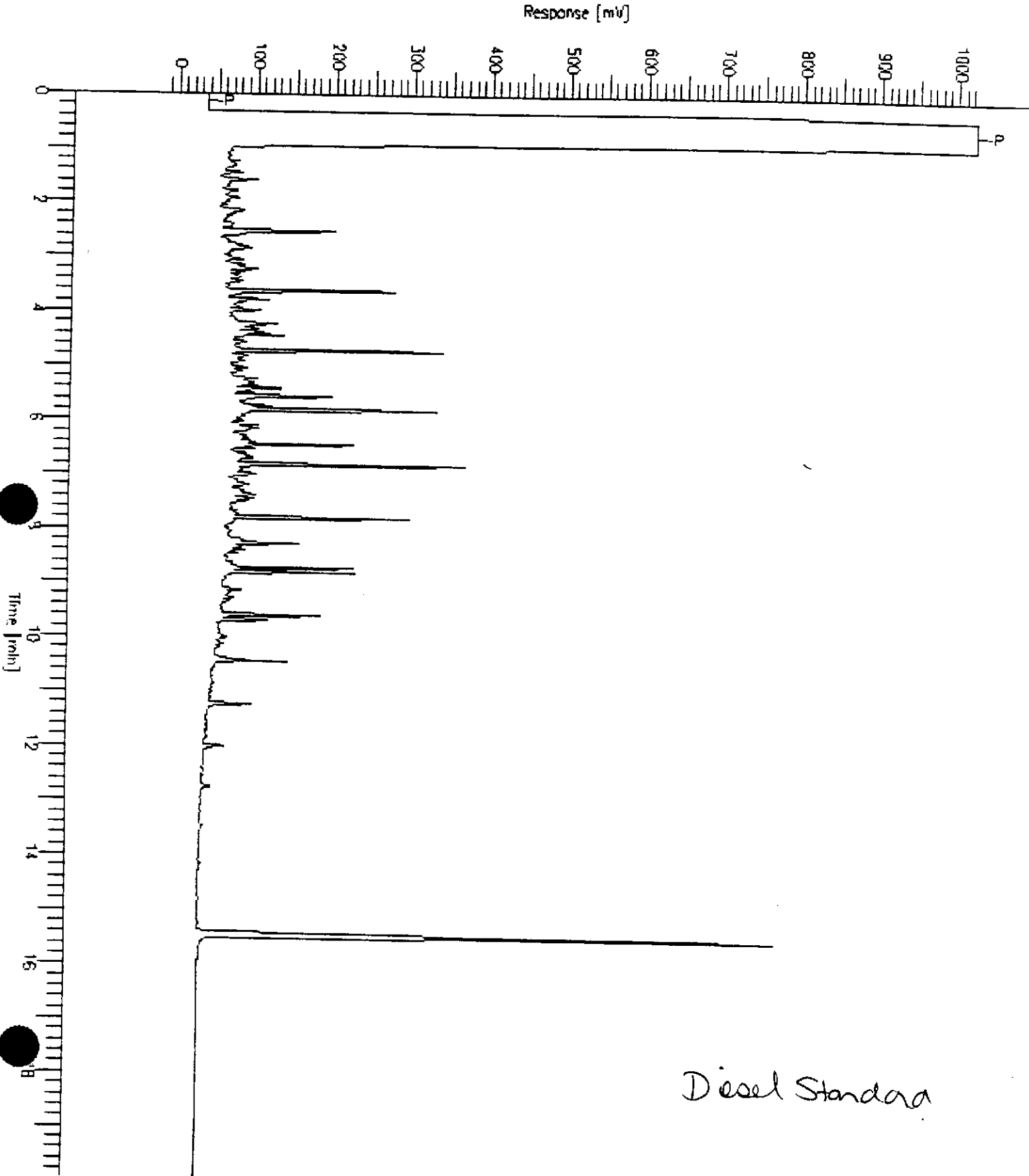
Chromatogram

Sample Name : CCV,96WS3611,DS
FileName : G:\GC11\CHBA\023B021.RAW
Method : BSTH006.MTH
Start Time : 0.00 min
Factor : 0.0

End Time : 19.99 min
Plot Offset: -17 mV

Sample #: 500MG/L
Date : 1/24/97 10:52 AM
Time of Injection: 1/23/97 07:23 PM
Low Point : -16.84 mV
High Point : 1024.00 mV
Plot Scale: 1040.8 mV

Page 1 of 1



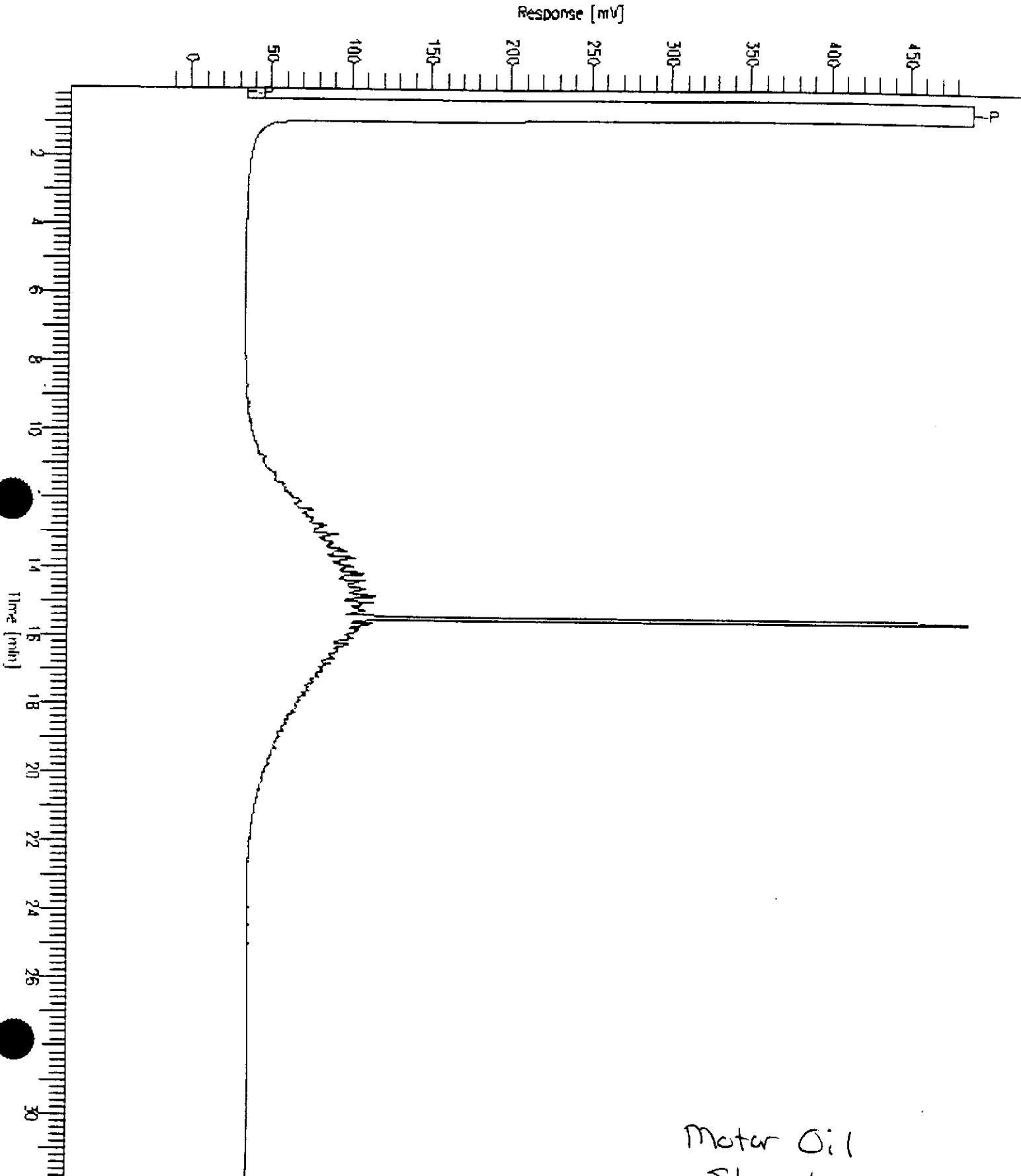
Chromatogram

Sample Name : CCV,96WS3096,MO
FileName : G:\GC11\CHBA\023B042.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Factor : 0.0

End Time : 31.85 min
Plot Offset : -17 mV

Sample #: 500MG/L
Date : 1/24/97 01:52 PM
Time of Injection: 1/24/97 10:04 AM
Low Point : -17.20 mV
High Point : 489.20 mV
Plot Scale: 506.4 mV

Page 1 of 1





Lab #: 128040

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 31987
Units: ug/L
Diln Fac: 1

Prep Date: 01/22/97
Analysis Date: 01/23/97

MB Lab ID: QC38635

Analyte	Result	
Diesel C12-C22	<50	
Motor Oil C22-C50	<250	
Surrogate	%Rec	Recovery Limits
Hexacosane	100	60-140

Lab #: 128040

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water	Prep Date: 01/22/97
Batch#: 31987	Analysis Date: 01/23/97
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC38636

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2418	98	60-140
Surrogate	%Rec	Limits		
Hexacosane	92	60-140		

BSD Lab ID: QC38637

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2648	107	60-140	9	35
Surrogate	%Rec	Limits				
Hexacosane	100	60-140				

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



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128040-001	SCIMW-8	32032	01/21/97	01/24/97	01/24/97	
128040-002	SCIMW-14	32032	01/21/97	01/24/97	01/24/97	
128040-003	SCIMW-19	32032	01/21/97	01/24/97	01/24/97	

Matrix: Water

Analyte	Units	128040-001	128040-002	128040-003
Diln Fac:		1	1	1
Benzene	ug/L	<0.5	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5
Surrogate				
Trifluorotoluene	%REC	97	97	96
Bromobenzene	%REC	97	98	99

Lab #: 128040

BATCH QC REPORT

BTXE			
Client:	Subsurface Consultants	Analysis Method:	EPA 8020
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/24/97
Batch#:	32032	Analysis Date:	01/24/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC38814

Analyte	Result	
Benzene	<0.5	
Toluene	<0.5	
Ethylbenzene	<0.5	
m,p-Xylenes	<0.5	
o-Xylene	<0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	92	58-130
Bromobenzene	89	62-131

Lab #: 128040

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 01/24/97		
Batch#: 32032	Analysis Date: 01/24/97		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC38813

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.96	20	95	80-120
Toluene	19.42	20	97	80-120
Ethylbenzene	19.26	20	96	80-120
m,p-Xylenes	38.16	40	95	80-120
o-Xylene	19.36	20	97	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	94	58-130		
Bromobenzene	92	62-131		

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



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCIMW-8
Lab ID: 128040-001
Matrix: Water
Batch#: 32015
Units: ug/L
Diln Fac: 1

Sampled: 01/21/97
Received: 01/21/97
Extracted: 01/24/97
Analyzed: 01/24/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	105	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	114	79-122

Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCIMW-14
Lab ID: 128040-002
Matrix: Water
Batch#: 32015
Units: ug/L
Diln Fac: 1

Sampled: 01/21/97
Received: 01/21/97
Extracted: 01/25/97
Analyzed: 01/25/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	104	68-126
Toluene-d8	97	87-125
Bromofluorobenzene	115	79-122

Volatile Organics by GC/MS

Client: Subsurface Consultants Analysis Method: EPA 8260
 Project#: 133.005 Prep Method: EPA 5030
 Location: KOT

Field ID: SCIMW-19 Sampled: 01/21/97
 Lab ID: 128040-003 Received: 01/21/97
 Matrix: Water Extracted: 01/25/97
 Batch#: 32015 Analyzed: 01/25/97
 Units: ug/L
 Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	117	79-122



Lab #: 128040

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32015
Units: ug/L
Diln Fac: 1

Prep Date: 01/24/97
Analysis Date: 01/24/97

MB Lab ID: QC38756

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	104	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	111	79-122



Lab #: 128040

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 32015
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/24/97
 Analysis Date: 01/24/97

MB Lab ID: QC38769

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	104	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	114	79-122



Lab #: 128040

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 32015
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/24/97
 Analysis Date: 01/24/97

LCS Lab ID: QC38755

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	63.12	50	126	51-180
Trichloroethene	51.74	50	103	73-141
Benzene	52.52	50	105	78-142
Toluene	50.77	50	102	76-150
Chlorobenzene	53.31	50	107	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	101	68-126		
Toluene-d8	98	87-125		
Bromofluorobenzene	115	79-122		

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

Lab #: 128040

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: SCIMW-8	Sample Date: 01/21/97
Lab ID: 128040-001	Received Date: 01/21/97
Matrix: Water	Prep Date: 01/24/97
Batch#: 32015	Analysis Date: 01/24/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC38766

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<5	57	114	51-180
Trichloroethene	50	<5	46.45	93	73-141
Benzene	50	<5	47.78	96	78-142
Toluene	50	<5	46.38	93	76-150
Chlorobenzene	50	<5	48.46	97	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	103	68-126			
Toluene-d8	98	87-125			
Bromofluorobenzene	115	79-122			

MSD Lab ID: QC38767

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	54.96	110	51-180	4	14
Trichloroethene	50	45.21	90	73-141	3	14
Benzene	50	46.78	94	78-142	2	11
Toluene	50	45.87	92	76-150	1	13
Chlorobenzene	50	48	96	83-129	1	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	102	68-126				
Toluene-d8	98	87-125				
Bromofluorobenzene	115	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Semivolatiles Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-8
Lab ID: 128040-001
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/21/97
Received: 01/21/97
Extracted: 01/22/97
Analyzed: 01/28/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS

Field ID: SCIMW-8	Sampled: 01/21/97
Lab ID: 128040-001	Received: 01/21/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/28/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	61	21-110
Phenol-d5	68	10-110
2,4,6-Tribromophenol	76	10-123
Nitrobenzene-d5	83	35-114
2-Fluorobiphenyl	84	43-116
Terphenyl-d14	66	33-141

Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-14
Lab ID: 128040-002
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Sampled: 01/21/97
Received: 01/21/97
Extracted: 01/22/97
Analyzed: 01/28/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS

Field ID: SCIMW-14	Sampled: 01/21/97
Lab ID: 128040-002	Received: 01/21/97
Matrix: Water	Extracted: 01/22/97
Batch#: 31984	Analyzed: 01/28/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	62	21-110
Phenol-d5	68	10-110
2,4,6-Tribromophenol	72	10-123
Nitrobenzene-d5	83	35-114
2-Fluorobiphenyl	81	43-116
Terphenyl-d14	54	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-19
Lab ID: 128040-003
Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

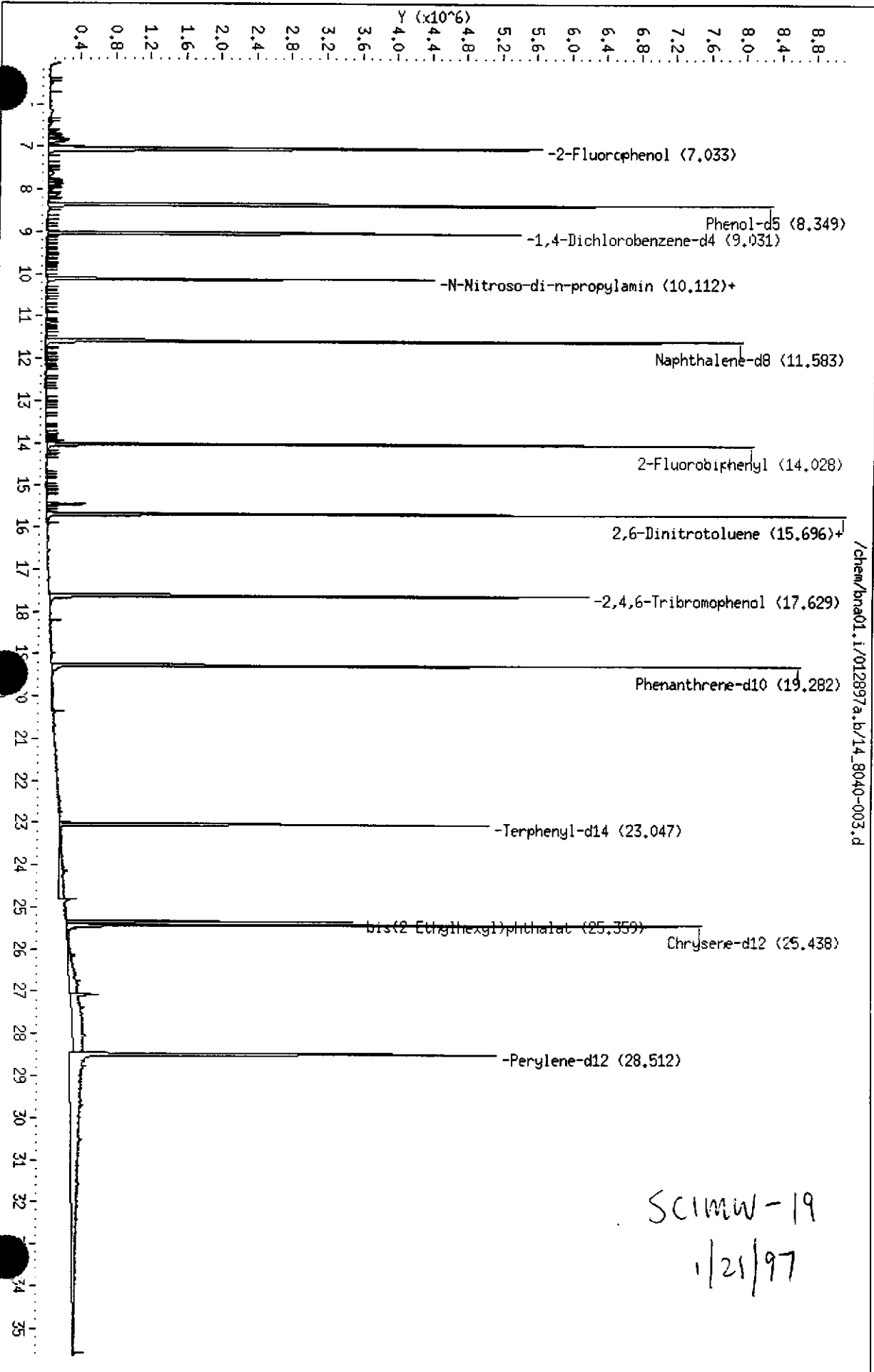
Sampled: 01/21/97
Received: 01/21/97
Extracted: 01/22/97
Analyzed: 01/28/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS		
Field ID: SCIMW-19	Sampled:	01/21/97
Lab ID: 128040-003	Received:	01/21/97
Matrix: Water	Extracted:	01/22/97
Batch#: 31984	Analyzed:	01/28/97
Units: ug/L		
Diln Fac: 1		
Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	11	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	67	21-110
Phenol-d5	73	10-110
2,4,6-Tribromophenol	77	10-123
Nitrobenzene-d5	91	35-114
2-Fluorobiphenyl	89	43-116
Terphenyl-d14	49	33-141

Data File: /chem/bna01.i/012897a.b/14_8040-003.d
Date: 28-JAN-97 22:42
Client ID: CURTIS&TOMPKINS,LTD
Sample Info:
Volume Injected (uL): 1.0
Column phase: Xti 5 x .5 u

Instrument: bna01.i
Operator: dsh
Column diameter: 0.25



SCIMW-19
1/21/97

Lab #: 128040

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

 Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

 Analysis Method: EPA 8270
 Prep Method: EPA 3520

METHOD BLANK

 Matrix: Water
 Batch#: 31984
 Units: ug/L
 Diln Fac: 1

 Prep Date: 01/22/97
 Analysis Date: 01/23/97

MB Lab ID: QC38614

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



Lab #: 128040

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 31984
Units: ug/L
Diln Fac: 1

Prep Date: 01/22/97
Analysis Date: 01/23/97

MB Lab ID: QC38614

Analyte	Result	Reporting Limit
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
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)fluoranthene	ND	10
Benzo(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	60	21-110
Phenol-d5	64	10-110
2,4,6-Tribromophenol	54	10-123
Nitrobenzene-d5	77	35-114
2-Fluorobiphenyl	68	43-116
Terphenyl-d14	68	33-141



Lab #: 128040

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
 Batch#: 31984
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/22/97
 Analysis Date: 01/23/97

BS Lab ID: QC38615

Analyte	Spike Added	BS	%Rec	#	Limits
Phenol	100	62.04	62		12-110
2-Chlorophenol	100	64.43	64		27-123
4-Chloro-3-methylphenol	100	63.52	64		23-97
4-Nitrophenol	100	66.68	67		10-80
Pentachlorophenol	100	42.46	42		9-103
1,4-Dichlorobenzene	50	26.78	54		36-97
N-Nitroso-di-n-propylamine	50	34.05	68		41-116
1,2,4-Trichlorobenzene	50	25.08	50		39-98
Acenaphthene	50	29.55	59		46-118
2,4-Dinitrotoluene	50	26.42	53		24-96
Pyrene	50	29.06	58		26-127
Surrogate	%Rec	Limits			
2-Fluorophenol	55	21-110			
Phenol-d5	59	10-110			
2,4,6-Tribromophenol	56	10-123			
Nitrobenzene-d5	72	35-114			
2-Fluorobiphenyl	63	43-116			
Terphenyl-d14	65	33-141			

BSD Lab ID: QC38616

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD #	Limit
Phenol	100	67.34	67		12-110	8	42
2-Chlorophenol	100	70.36	70		27-123	9	40
4-Chloro-3-methylphenol	100	69.42	69		23-97	8	42
4-Nitrophenol	100	69.44	69		10-80	3	50
Pentachlorophenol	100	44.02	44		9-103	5	50
1,4-Dichlorobenzene	50	29.15	58		36-97	7	28
N-Nitroso-di-n-propylamine	50	36.12	72		41-116	6	38
1,2,4-Trichlorobenzene	50	27.14	54		39-98	8	28
Acenaphthene	50	30.79	62		46-118	5	31
2,4-Dinitrotoluene	50	27.22	54		24-96	2	38
Pyrene	50	29.82	60		26-127	3	31
Surrogate	%Rec	Limits					
2-Fluorophenol	60	21-110					
Phenol-d5	64	10-110					
2,4,6-Tribromophenol	57	10-123					
Nitrobenzene-d5	77	35-114					
2-Fluorobiphenyl	66	43-116					
Terphenyl-d14	66	33-141					

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

DO: Surrogate diluted out

SAMPLE ID: SCIMW-8
 LAB ID: 128040-001
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/21/97
 DATE RECEIVED: 01/21/97
 DATE REPORTED: 01/29/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32004	EPA 6010A	01/27/97
Arsenic	23	5.0	1	32004	EPA 6010A	01/24/97
Barium	57	10	1	32004	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	1	32004	EPA 6010A	01/24/97
Copper	ND	10	1	32004	EPA 6010A	01/24/97
Lead	ND	3.0	1	32004	EPA 6010A	01/27/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	32004	EPA 6010A	01/27/97
Nickel	ND	20	1	32004	EPA 6010A	01/24/97
Selenium	10	5.0	1	32004	EPA 6010A	01/27/97
Silver	ND	5.0	1	32004	EPA 6010A	01/24/97
Thallium	ND	5.0	1	32004	EPA 6010A	01/24/97
Vanadium	ND	10	1	32004	EPA 6010A	01/24/97
Zinc	22	20	1	32004	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-14
 LAB ID: 128040-002
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/21/97
 DATE RECEIVED: 01/21/97
 DATE REPORTED: 01/29/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32004	EPA 6010A	01/24/97
Arsenic	ND	5.0	1	32004	EPA 6010A	01/24/97
Barium	15	10	1	32004	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	1	32004	EPA 6010A	01/24/97
Copper	ND	10	1	32004	EPA 6010A	01/24/97
Lead	ND	3.0	1	32004	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	32004	EPA 6010A	01/24/97
Nickel	ND	20	1	32004	EPA 6010A	01/24/97
Selenium	ND	5.0	1	32004	EPA 6010A	01/27/97
Silver	ND	5.0	1	32004	EPA 6010A	01/24/97
Thallium	ND	5.0	1	32004	EPA 6010A	01/24/97
Vanadium	ND	10	1	32004	EPA 6010A	01/24/97
Zinc	ND	20	1	32004	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit



Curtis & Tompkins, Ltd.

SAMPLE ID: SCIMW-19
LAB ID: 128040-003
CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Filtrate

DATE SAMPLED: 01/21/97
DATE RECEIVED: 01/21/97
DATE REPORTED: 01/29/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32004	EPA 6010A	01/24/97
Arsenic	23	5.0	1	32004	EPA 6010A	01/24/97
Barium	150	10	1	32004	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	1	32004	EPA 6010A	01/24/97
Copper	ND	10	1	32004	EPA 6010A	01/24/97
Lead	ND	3.0	1	32004	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	32004	EPA 6010A	01/24/97
Nickel	22	20	1	32004	EPA 6010A	01/24/97
Selenium	24	5.0	1	32004	EPA 6010A	01/24/97
Silver	ND	5.0	1	32004	EPA 6010A	01/24/97
Thallium	ND	5.0	1	32004	EPA 6010A	01/24/97
Vanadium	ND	10	1	32004	EPA 6010A	01/24/97
Zinc	ND	20	1	32004	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128040

DATE REPORTED: 01/29/97

 BATCH QC REPORT
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Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	ug/L	1	32004	EPA 6010A	01/24/97
Arsenic	ND	5	ug/L	1	32004	EPA 6010A	01/24/97
Barium	ND	10	ug/L	1	32004	EPA 6010A	01/24/97
Beryllium	ND	2	ug/L	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2	ug/L	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	ug/L	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	ug/L	1	32004	EPA 6010A	01/24/97
Copper	ND	10	ug/L	1	32004	EPA 6010A	01/24/97
Lead	ND	3	ug/L	1	32004	EPA 6010A	01/24/97
Mercury	ND	0.2	ug/L	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	ug/L	1	32004	EPA 6010A	01/24/97
Nickel	ND	20	ug/L	1	32004	EPA 6010A	01/24/97
Selenium	ND	5	ug/L	1	32004	EPA 6010A	01/24/97
Silver	ND	5	ug/L	1	32004	EPA 6010A	01/24/97
Thallium	ND	5	ug/L	1	32004	EPA 6010A	01/24/97
Vanadium	ND	10	ug/L	1	32004	EPA 6010A	01/24/97
Zinc	ND	20	ug/L	1	32004	EPA 6010A	01/24/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128040

DATE REPORTED: 01/29/97

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	500	501	517	ug/L	100	103	80-120	3	35	32004	EPA 6010A	01/27/97
Arsenic	2000	1950	1960	ug/L	98	98	80-120	1	35	32004	EPA 6010A	01/27/97
Barium	2000	2090	2090	ug/L	105	105	80-120	0	35	32004	EPA 6010A	01/27/97
Beryllium	50	50.9	51.7	ug/L	102	103	80-120	2	35	32004	EPA 6010A	01/27/97
Cadmium	50	53.6	53.7	ug/L	107	107	80-120	0	35	32004	EPA 6010A	01/27/97
Chromium (total)	200	204	206	ug/L	102	103	80-120	1	35	32004	EPA 6010A	01/27/97
Cobalt	500	507	511	ug/L	101	102	80-120	1	35	32004	EPA 6010A	01/27/97
Copper	250	258	259	ug/L	103	104	80-120	0	35	32004	EPA 6010A	01/27/97
Lead	500	508	515	ug/L	102	103	80-120	1	35	32004	EPA 6010A	01/27/97
Mercury	5	4.99	5.055	ug/L	100	101	80-120	1	35	32020	EPA 7470	01/24/97
Molybdenum	400	416	415	ug/L	104	104	80-120	0	35	32004	EPA 6010A	01/27/97
Nickel	500	532	538	ug/L	106	108	80-120	1	35	32004	EPA 6010A	01/27/97
Selenium	2000	1920	1940	ug/L	96	97	80-120	1	35	32004	EPA 6010A	01/27/97
Silver	100	103	103	ug/L	103	103	80-120	0	35	32004	EPA 6010A	01/27/97
Thallium	2000	1960	1970	ug/L	98	99	80-120	1	35	32004	EPA 6010A	01/27/97
Vanadium	500	511	515	ug/L	102	103	80-120	1	35	32004	EPA 6010A	01/27/97
Zinc	500	508	513	ug/L	102	103	80-120	1	35	32004	EPA 6010A	01/27/97



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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
Layfayette, CA 94549

Date: 30-JAN-97
Lab Job Number: 128064
Project ID: 133.005
Location: KOT

Reviewed by: _____

Reviewed by: _____

Tracy Bobb, C

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TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128064-001	SCIMW-1	32032	01/22/97	01/24/97	01/24/97	
128064-002	SCIMW-4	32032	01/22/97	01/25/97	01/25/97	
128064-003	SCIMW-6	32032	01/22/97	01/25/97	01/25/97	
128064-004	SCIMW-16	32032	01/22/97	01/25/97	01/25/97	

Matrix: Water

Analyte	Units	128064-001	128064-002	128064-003	128064-004
Diln Fac:		1	1	1	1
Gasoline	ug/L	<50	<50	<50	<50
Surrogate					
Trifluorotoluene	%REC	97	96	97	97
Bromobenzene	%REC	95	92	93	95



TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128064-005	SCIMW-17	32032	01/22/97	01/25/97	01/25/97	

Matrix: Water

Analyte	Units	128064-005
Diln Fac:		1
Gasoline	ug/L	<50
Surrogate		
Trifluorotoluene	%REC	97
Bromobenzene	%REC	93

Lab #: 128064

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/24/97
Batch#:	32032	Analysis Date:	01/24/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC38814

Analyte	Result		
Gasoline	<50		
Surrogate	%Rec	Recovery Limits	
Trifluorotoluene	91	65-135	
Bromobenzene	83	65-135	



Lab #: 128064

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date:	01/24/97	
Batch#: 32032	Analysis Date:	01/24/97	
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC38812

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2024	2000	101	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	96	65-135		
Bromobenzene	97	65-135		

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 #: 128064

BATCH QC REPORT

Page 1 of 1

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ	Sample Date: 01/21/97
Lab ID: 128040-001	Received Date: 01/21/97
Matrix: Water	Prep Date: 01/24/97
Batch#: 32032	Analysis Date: 01/24/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC38815

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	1940	97	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	96	65-135			
Bromobenzene	106	65-135			

MSD Lab ID: QC38816

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	1862	96	75-125	4	35
Surrogate	%Rec	Limits				
Trifluorotoluene	97	65-135				
Bromobenzene	106	65-135				

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



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128064-001	SCIMW-1	32040	01/22/97	01/24/97	01/31/97	
128064-002	SCIMW-4	32040	01/22/97	01/24/97	01/31/97	
128064-003	SCIMW-6	32040	01/22/97	01/24/97	01/31/97	
128064-004	SCIMW-16	32040	01/22/97	01/24/97	01/31/97	

Matrix: Water

Analyte	Units	128064-001	128064-002	128064-003	128064-004
Diln Fac:		1	1	1	1
Diesel C12-C22	ug/L	520 YH	530 YH	<50	290 YH
Motor Oil C22-C50	ug/L	<250	990 YL	<250	<250
Surrogate					
Hexacosane	%REC	110	101	104	106

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



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128064-005	SCIMW-17	32040	01/22/97	01/24/97	01/31/97	

Matrix: Water

Analyte	Units	128064-005
Diln Fac:		1
Diesel C12-C22	ug/L	330 YH
Motor Oil C22-C50	ug/L	500 YL
Surrogate		
Hexacosane	%REC	107

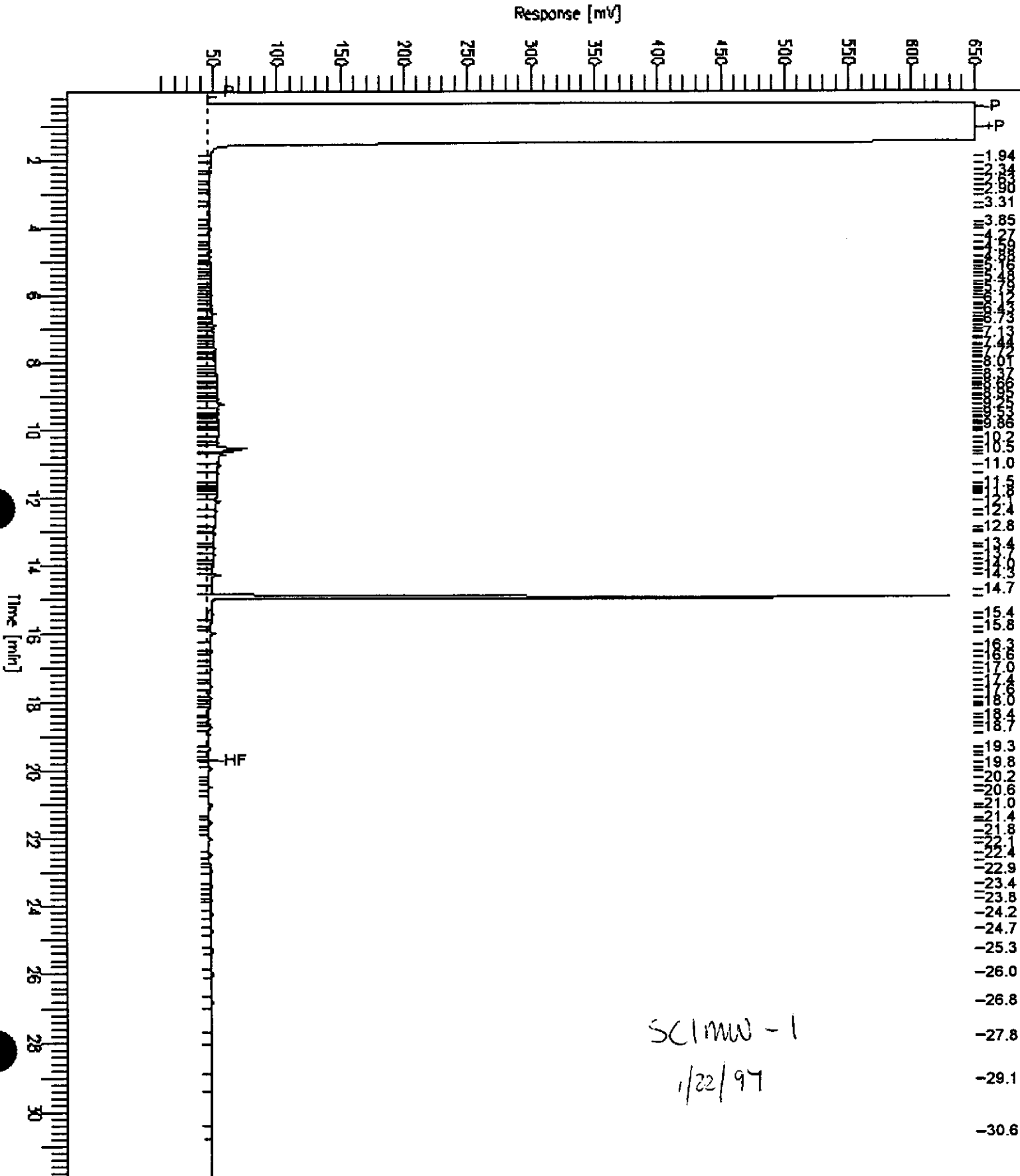
Y: Sample exhibits fuel pattern which does not resemble standard
 H: Heavier hydrocarbons than indicated standard
 L: Lighter hydrocarbons than indicated standard

GC15 Channel B TEH

Sample Name : 128064-001,32040
 FileName : G:\GC15\CHB\030B024.RAW
 Method : B030TEH.MTH
 Start Time : 0.01 min
 Scale Factor: 0.0

End Time : 31.91 min
 Plot Offset: 8 mV

Sample #: 32040
 Date : 1/31/97 09:39 AM
 Time of Injection: 1/31/97 02:26 AM
 Low Point : 8.13 mV
 Plot Scale: 642.4 mV
 High Point : 650.50 mV



SCIMW - 1
 1/22/97

GC15 Channel B TEH

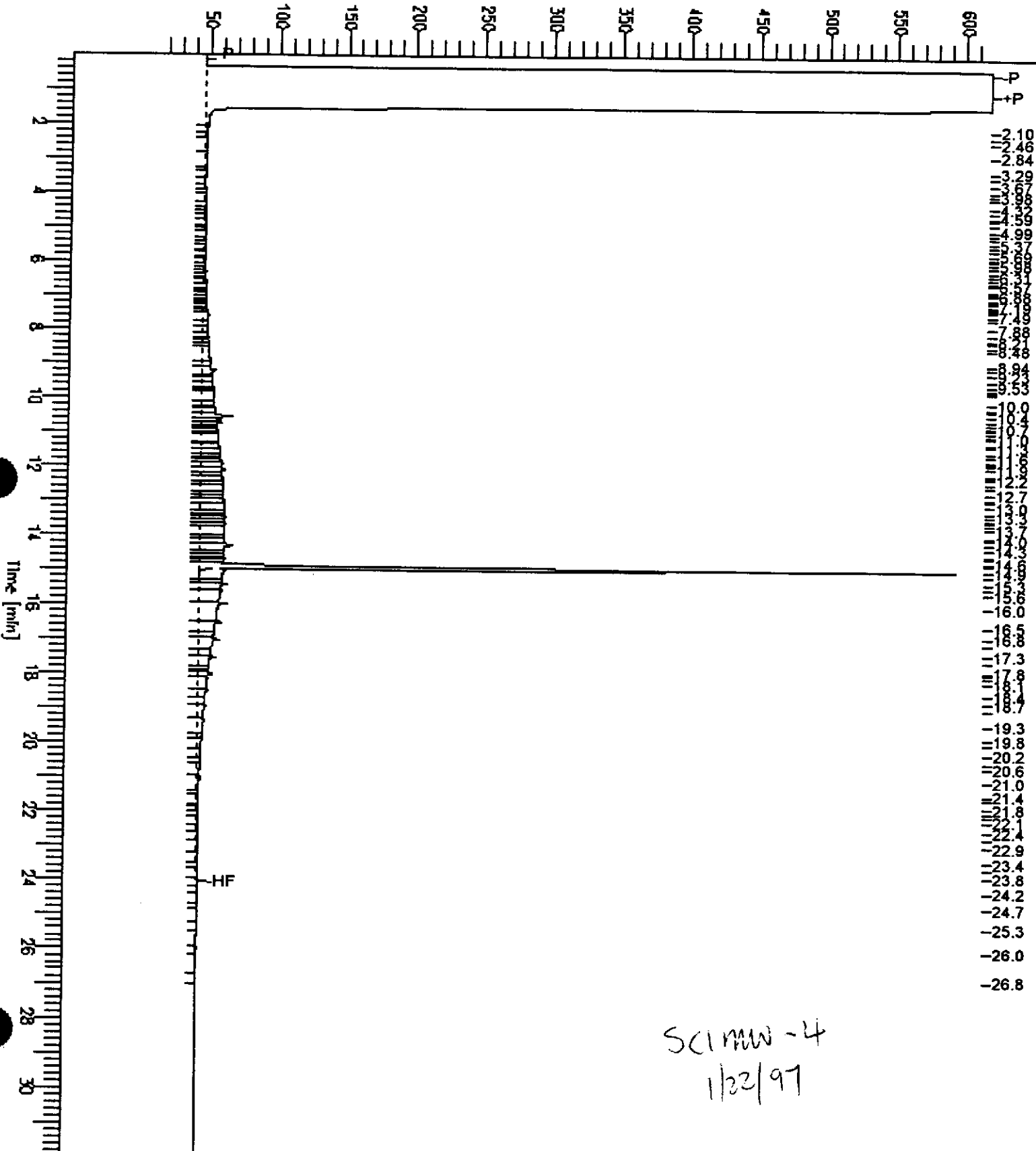
Sample Name : 128064-002,32040
FileName : G:\GC15\CHB\030B025.RAW
Method : B030TEH.MTH
Start Time : 0.01 min
Inlet Factor: 0.0

End Time : 31.91 min
Plot Offset: 17 mV

Sample #: 32040
Date : 1/31/97 09:40 AM
Time of Injection: 1/31/97 03:09 AM
Low Point : 17.42 mV
High Point : 618.66 mV
Plot Scale: 601.2 mV

Page 1 of 1

Response [mV]



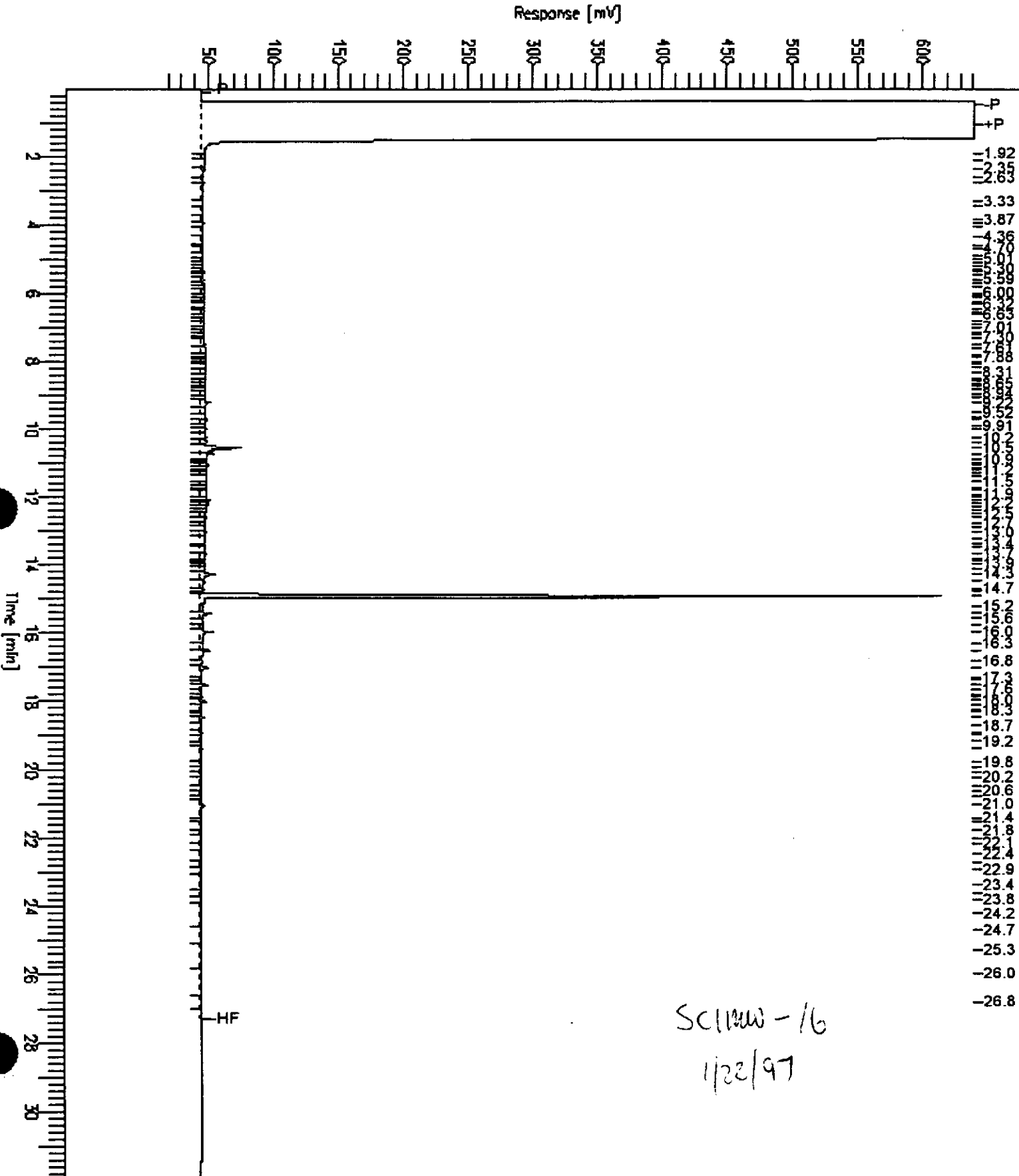
SCIMW-4
1/22/97

GC15 Channel B TEH

Sample Name : 128064-004,32040
FileName : G:\GC15\CHB\030B030.RAW
Method : B030TEH.MTH
Start Time : 0.01 min
Gain Factor : 0.0

End Time : 31.91 min
Plot Offset: 12 mV

Sample #: 32040
Date : 1/31/97 09:45 AM
Time of Injection: 1/31/97 06:44 AM
Low Point : 12.21 mV
High Point : 641.19 mV
Plot Scale: 629.0 mV



SC1111W-16
1/22/97

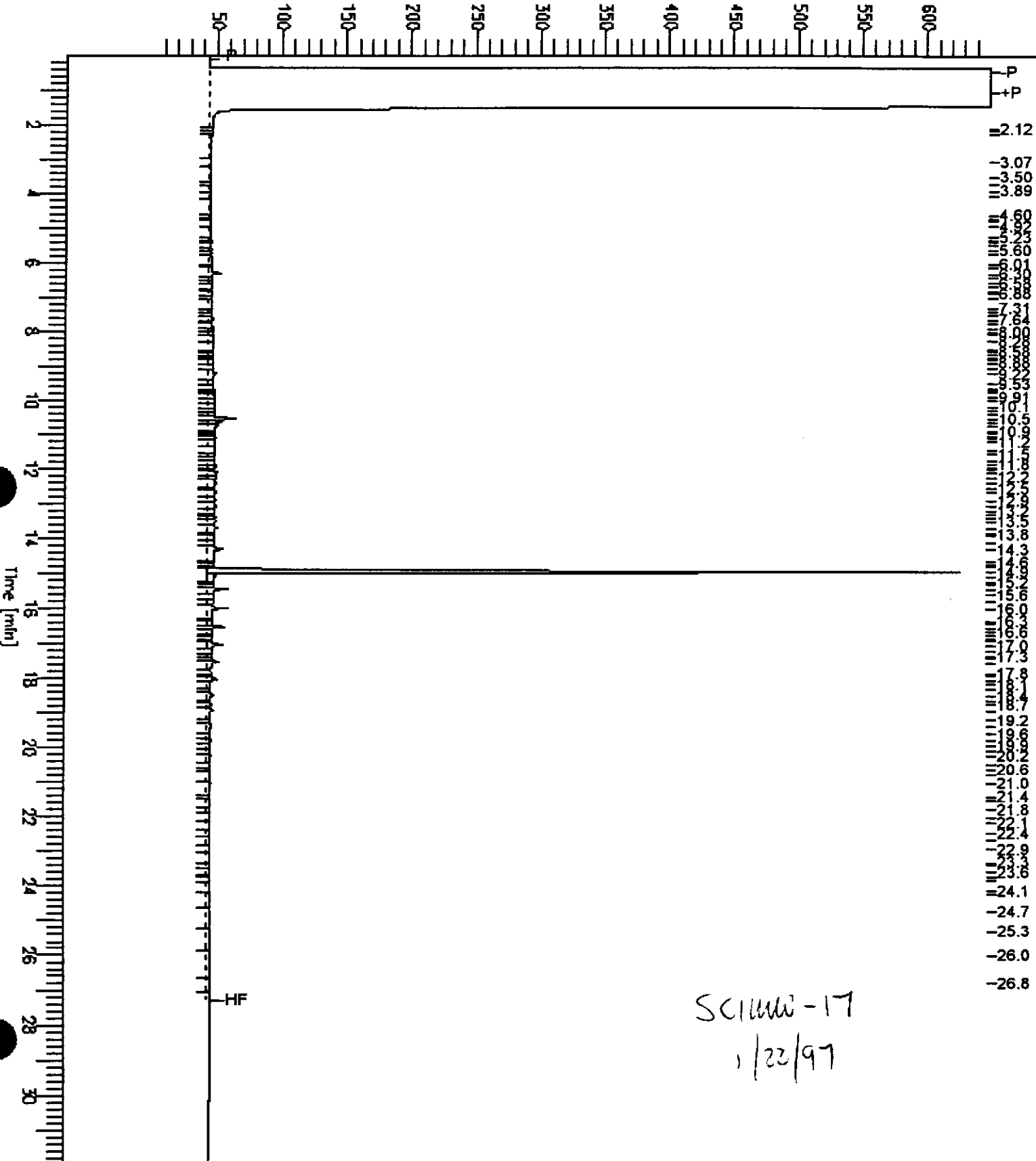
GC15 Channel B TEH

Sample Name : 128064-005, 32040
FileName : G:\GC15\CHB\030B031.RAW
Method : B030TEH.MTH
Start Time : 0.01 min
Gain Factor: 0.0

End Time : 31.91 min
Plot Offset: 6 mV

Sample #: 32040
Date : 1/31/97 09:46 AM
Time of Injection: 1/31/97 07:27 AM
Low Point : 5.89 mV
High Point : 649.64 mV
Plot Scale: 643.7 mV

Response [mV]



SC11111-17
1/22/97



Lab #: 128064

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32040
Units: ug/L
Diln Fac: 1

Prep Date: 01/24/97
Analysis Date: 01/31/97

MB Lab ID: QC38852

Analyte	Result		
Diesel C12-C22	<50		
Motor Oil C22-C50	<250		
Surrogate	%Rec		Recovery Limits
Hexacosane	108		60-140



Lab #: 128064

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
 Batch#: 32040
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/24/97
 Analysis Date: 01/31/97

BS Lab ID: QC38853

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	1800	73	60-140
Surrogate	%Rec	Limits		
Hexacosane	103	60-140		

BSD Lab ID: QC38854

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	1955	79	60-140	8	35
Surrogate	%Rec	Limits				
Hexacosane	108	60-140				

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



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128064-001	SCIMW-1	32032	01/22/97	01/24/97	01/24/97	
128064-002	SCIMW-4	32032	01/22/97	01/25/97	01/25/97	
128064-003	SCIMW-6	32032	01/22/97	01/25/97	01/25/97	
128064-004	SCIMW-16	32032	01/22/97	01/25/97	01/25/97	

Matrix: Water

Analyte	Units	128064-001	128064-002	128064-003	128064-004
Diln Fac:		1	1	1	1
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5	<0.5
Surrogate					
Trifluorotoluene	%REC	96	97	97	97
Bromobenzene	%REC	98	98	99	101



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128064-005	SCIMW-17	32032	01/22/97	01/25/97	01/25/97	

Matrix: Water

Analyte	Units	128064-005
Diln Fac:		1
Benzene	ug/L	<0.5
Toluene	ug/L	<0.5
Ethylbenzene	ug/L	<0.5
m,p-Xylenes	ug/L	<0.5
o-Xylene	ug/L	<0.5
Surrogate		
Trifluorotoluene	%REC	97
Bromobenzene	%REC	99



Lab #: 128064

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
METHOD BLANK			
Matrix: Water	Prep Date: 01/24/97		
Batch#: 32032	Analysis Date: 01/24/97		
Units: ug/L			
Diln Fac: 1			

MB Lab ID: QC38814

Analyte	Result		
Benzene	<0.5		
Toluene	<0.5		
Ethylbenzene	<0.5		
m,p-Xylenes	<0.5		
o-Xylene	<0.5		
Surrogate	%Rec	Recovery Limits	
Trifluorotoluene	92	58-130	
Bromobenzene	89	62-131	



Lab #: 128064

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 32032
Units: ug/L
Diln Fac: 1

Prep Date: 01/24/97
Analysis Date: 01/24/97

LCS Lab ID: QC38813

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.96	20	95	80-120
Toluene	19.42	20	97	80-120
Ethylbenzene	19.26	20	96	80-120
m,p-Xylenes	38.16	40	95	80-120
o-Xylene	19.36	20	97	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	94	58-130		
Bromobenzene	92	62-131		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCIMW-1
Lab ID: 128064-001
Matrix: Water
Batch#: 32052
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/27/97
Analyzed: 01/27/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	101	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	97	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCIMW-4
Lab ID: 128064-002
Matrix: Water
Batch#: 32052
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/27/97
Analyzed: 01/27/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	100	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	88	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCIMW-6
Lab ID: 128064-003
Matrix: Water
Batch#: 32052
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/27/97
Analyzed: 01/27/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	101	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	89	79-122

Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCIMW-16
Lab ID: 128064-004
Matrix: Water
Batch#: 32052
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/27/97
Analyzed: 01/27/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	100	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	91	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCIMW-17
Lab ID: 128064-005
Matrix: Water
Batch#: 32052
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/27/97
Analyzed: 01/27/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	100	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	91	79-122

Lab #: 128064

BATCH QC REPORT

EPA 8240 Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
METHOD BLANK		
Matrix: Water	Prep Date: 01/27/97	
Batch#: 32052	Analysis Date: 01/27/97	
Units: ug/L		
Diln Fac: 1		

MB Lab ID: QC38884

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	92	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	89	79-122



Lab #: 128064

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32052
Units: ug/L
Diln Fac: 1

Prep Date: 01/27/97
Analysis Date: 01/27/97

MB Lab ID: QC38886

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	96	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	90	79-122



Lab #: 128064

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 32052
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/27/97
 Analysis Date: 01/27/97

LCS Lab ID: QC38883

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	53.15	50	106	51-180
Trichloroethene	49.43	50	99	73-141
Benzene	48.66	50	97	78-142
Toluene	49.79	50	100	76-150
Chlorobenzene	53.55	50	107	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	93	68-126		
Toluene-d8	98	87-125		
Bromofluorobenzene	88	79-122		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

Lab #: 128064

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: SCIMW-1	Sample Date: 01/22/97
Lab ID: 128064-001	Received Date: 01/22/97
Matrix: Water	Prep Date: 01/27/97
Batch#: 32052	Analysis Date: 01/27/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC38917

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<5	45.2	90	51-180
Trichloroethene	50	<5	46.75	94	73-141
Benzene	50	<5	46.58	93	78-142
Toluene	50	<5	47.94	95	76-150
Chlorobenzene	50	<5	50.7	101	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	98	68-126			
Toluene-d8	100	87-125			
Bromofluorobenzene	89	79-122			

MSD Lab ID: QC38918

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	48.92	98	51-180	8	14
Trichloroethene	50	48.02	96	73-141	3	14
Benzene	50	47.12	94	78-142	1	11
Toluene	50	48.22	96	76-150	1	13
Chlorobenzene	50	51.1	102	83-129	1	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	100	68-126				
Toluene-d8	100	87-125				
Bromofluorobenzene	89	79-122				

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



Semivolatiles Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-1
Lab ID: 128064-001
Matrix: Water
Batch#: 32039
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/24/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCIMW-1	Sampled: 01/22/97
Lab ID: 128064-001	Received: 01/22/97
Matrix: Water	Extracted: 01/24/97
Batch#: 32039	Analyzed: 01/30/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	68	21-110
Phenol-d5	78	10-110
2,4,6-Tribromophenol	75	10-123
Nitrobenzene-d5	86	35-114
2-Fluorobiphenyl	76	43-116
Terphenyl-d14	38	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-4
Lab ID: 128064-002
Matrix: Water
Batch#: 32039
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/24/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCIMW-4	Sampled: 01/22/97
Lab ID: 128064-002	Received: 01/22/97
Matrix: Water	Extracted: 01/24/97
Batch#: 32039	Analyzed: 01/30/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	64	21-110
Phenol-d5	73	10-110
2,4,6-Tribromophenol	71	10-123
Nitrobenzene-d5	82	35-114
2-Fluorobiphenyl	73	43-116
Terphenyl-d14	50	33-141

Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-6
Lab ID: 128064-003
Matrix: Water
Batch#: 32039
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/24/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl) ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS		
Field ID: SCIMW-6	Sampled:	01/22/97
Lab ID: 128064-003	Received:	01/22/97
Matrix: Water	Extracted:	01/24/97
Batch#: 32039	Analyzed:	01/30/97
Units: ug/L		
Diln Fac: 1		
Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	75	21-110
Phenol-d5	83	10-110
2,4,6-Tribromophenol	77	10-123
Nitrobenzene-d5	94	35-114
2-Fluorobiphenyl	81	43-116
Terphenyl-d14	33	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-16
Lab ID: 128064-004
Matrix: Water
Batch#: 32039
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/24/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCIMW-16	Sampled: 01/22/97
Lab ID: 128064-004	Received: 01/22/97
Matrix: Water	Extracted: 01/24/97
Batch#: 32039	Analyzed: 01/30/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	59	21-110
Phenol-d5	69	10-110
2,4,6-Tribromophenol	65	10-123
Nitrobenzene-d5	78	35-114
2-Fluorobiphenyl	68	43-116
Terphenyl-d14	38	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-17
Lab ID: 128064-005
Matrix: Water
Batch#: 32039
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/24/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl) ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS

Field ID: SCIMW-17	Sampled: 01/22/97
Lab ID: 128064-005	Received: 01/22/97
Matrix: Water	Extracted: 01/24/97
Batch#: 32039	Analyzed: 01/30/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	73	21-110
Phenol-d5	83	10-110
2,4,6-Tribromophenol	82	10-123
Nitrobenzene-d5	95	35-114
2-Fluorobiphenyl	84	43-116
Terphenyl-d14	52	33-141

Lab #: 128064

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics			
Client:	Subsurface Consultants	Analysis Method:	EPA 8270
Project#:	133.005	Prep Method:	EPA 3520
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/24/97
Batch#:	32039	Analysis Date:	01/30/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC38849

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

Lab #: 128064

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

 Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

 Analysis Method: EPA 8270
 Prep Method: EPA 3520

METHOD BLANK

 Matrix: Water
 Batch#: 32039
 Units: ug/L
 Diln Fac: 1

 Prep Date: 01/24/97
 Analysis Date: 01/30/97

MB Lab ID: QC38849

Analyte	Result	Reporting Limit
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
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)fluoranthene	ND	10
Benzo(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	67	21-110
Phenol-d5	77	10-110
2,4,6-Tribromophenol	71	10-123
Nitrobenzene-d5	92	35-114
2-Fluorobiphenyl	79	43-116
Terphenyl-d14	79	33-141

Lab #: 128064

BATCH QC REPORT

Page 1 of 1

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants	Analysis Method: EPA 8270
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water	Prep Date: 01/24/97
Batch#: 32039	Analysis Date: 01/30/97
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC38850

Analyte	Spike Added	BS	%Rec	#	Limits
Phenol	100	79.44	79		12-110
2-Chlorophenol	100	80.45	80		27-123
4-Chloro-3-methylphenol	100	81.9	82		23-97
4-Nitrophenol	100	94.46	94	*	10-80
Pentachlorophenol	100	58.16	58		9-103
1,4-Dichlorobenzene	50	33.75	68		36-97
N-Nitroso-di-n-propylamine	50	35.48	71		41-116
1,2,4-Trichlorobenzene	50	34.09	68		39-98
Acenaphthene	50	35.6	71		46-118
2,4-Dinitrotoluene	50	34.84	70		24-96
Pyrene	50	35.95	72		26-127
Surrogate	%Rec	Limits			
2-Fluorophenol	66	21-110			
Phenol-d5	77	10-110			
2,4,6-Tribromophenol	77	10-123			
Nitrobenzene-d5	92	35-114			
2-Fluorobiphenyl	79	43-116			
Terphenyl-d14	79	33-141			

BSD Lab ID: QC38851

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD #	Limit
Phenol	100	81.3	81		12-110	3	42
2-Chlorophenol	100	81.6	82		27-123	2	40
4-Chloro-3-methylphenol	100	86.51	87		23-97	6	42
4-Nitrophenol	100	97.77	98	*	10-80	4	50
Pentachlorophenol	100	64.58	65		9-103	11	50
1,4-Dichlorobenzene	50	34.33	69		36-97	1	28
N-Nitroso-di-n-propylamine	50	36.81	74		41-116	4	38
1,2,4-Trichlorobenzene	50	34.46	69		39-98	1	28
Acenaphthene	50	37.49	75		46-118	5	31
2,4-Dinitrotoluene	50	35.59	71		24-96	1	38
Pyrene	50	38.86	78		26-127	8	31
Surrogate	%Rec	Limits					
2-Fluorophenol	68	21-110					
Phenol-d5	79	10-110					
2,4,6-Tribromophenol	79	10-123					
Nitrobenzene-d5	94	35-114					
2-Fluorobiphenyl	82	43-116					
Terphenyl-d14	86	33-141					

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: 2 out of 22 outside limits



Organochlorine Pesticides and PCBs

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8080
Prep Method: EPA 3520

Field ID: SCIMW-6
Lab ID: 128064-003
Matrix: Water
Batch#: 32041
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/22/97
Extracted: 01/24/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide B	ND	0.05
Heptachlor epoxide A	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.09
4,4'-DDE	ND	0.09
Endrin	ND	0.09
Endosulfan II	ND	0.09
Endosulfan sulfate	ND	0.09
4,4'-DDD	ND	0.09
Endrin aldehyde	ND	0.09
4,4'-DDT	ND	0.09
Chlordane	ND	0.5
Methoxychlor	ND	0.5
Toxaphene	ND	0.9
Aroclor-1016	ND	0.5
Aroclor-1221	ND	0.9
Aroclor-1232	ND	0.5
Aroclor-1242	ND	0.5
Aroclor-1248	ND	0.5
Aroclor-1254	ND	0.5
Aroclor-1260	ND	0.5
Surrogate	%Recovery	Recovery Limits
TCMX	73	34-128
Decachlorobiphenyl	42*	50-150

* Values outside of QC limits



Lab #: 128064

BATCH QC REPORT

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8080
 Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
 Batch#: 32041
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/24/97
 Analysis Date: 01/30/97

MB Lab ID: QC38855

Analyte	Result	Reporting Limit
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide B	ND	0.05
Heptachlor epoxide A	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
Endosulfan sulfate	ND	0.1
4,4'-DDD	ND	0.1
Endrin aldehyde	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	0.5
Methoxychlor	ND	0.5
Toxaphene	ND	1.0
Aroclor-1016	ND	0.5
Aroclor-1221	ND	1.0
Aroclor-1232	ND	0.5
Aroclor-1242	ND	0.5
Aroclor-1248	ND	0.5
Aroclor-1254	ND	0.5
Aroclor-1260	ND	0.5
Surrogate	%Rec	Recovery Limits
TCMX	88	34-128
Decachlorobiphenyl	98	50-150



Lab #: 128064

BATCH QC REPORT

EPA 8080 Pesticides & PCBs	
Client: Subsurface Consultants	Analysis Method: EPA 8080
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	
BLANK SPIKE/BLANK SPIKE DUPLICATE	
Matrix: Water	Prep Date: 01/24/97
Batch#: 32041	Analysis Date: 01/30/97
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC38856

Analyte	Spike Added	BS	%Rec #	Limits
gamma-BHC	0.5	0.51	102	57-120
Heptachlor	0.5	0.48	96	51-109
Aldrin	0.5	0.47	94	57-105
Dieldrin	0.5	0.49	98	62-122
Endrin	0.5	0.48	96	70-128
4,4'-DDT	0.5	0.45	90	67-128
Surrogate	%Rec	Limits		
TCMX	90	34-128		
Decachlorobiphenyl	93	50-150		

BSD Lab ID: QC38857

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
gamma-BHC	0.5	0.49	98	57-120	4	20
Heptachlor	0.5	0.47	94	51-109	2	20
Aldrin	0.5	0.45	90	57-105	4	20
Dieldrin	0.5	0.47	94	62-122	4	20
Endrin	0.5	0.46	92	70-128	4	20
4,4'-DDT	0.5	0.43	86	67-128	5	20
Surrogate	%Rec	Limits				
TCMX	86	34-128				
Decachlorobiphenyl	88	50-150				

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

SAMPLE ID: SCIMW-1
 LAB ID: 128064-001
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/22/97
 DATE RECEIVED: 01/22/97
 DATE REPORTED: 01/30/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32004	EPA 6010A	01/24/97
Arsenic	ND	5.0	1	32004	EPA 6010A	01/24/97
Barium	170	10	1	32004	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	1	32004	EPA 6010A	01/24/97
Copper	ND	10	1	32004	EPA 6010A	01/24/97
Lead	ND	3.0	1	32004	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	32004	EPA 6010A	01/24/97
Nickel	33	20	1	32004	EPA 6010A	01/24/97
Selenium	7.7	5.0	1	32004	EPA 6010A	01/24/97
Silver	ND	5.0	1	32004	EPA 6010A	01/24/97
Thallium	ND	5.0	1	32004	EPA 6010A	01/24/97
Vanadium	ND	10	1	32004	EPA 6010A	01/24/97
Zinc	210	20	1	32004	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-4
 LAB ID: 128064-002
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/22/97
 DATE RECEIVED: 01/22/97
 DATE REPORTED: 01/30/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32004	EPA 6010A	01/24/97
Arsenic	6.6	5.0	1	32004	EPA 6010A	01/27/97
Barium	16	10	1	32004	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	1	32004	EPA 6010A	01/24/97
Copper	ND	10	1	32004	EPA 6010A	01/24/97
Lead	ND	3.0	1	32004	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	32004	EPA 6010A	01/24/97
Nickel	ND	20	1	32004	EPA 6010A	01/24/97
Selenium	25	5.0	1	32004	EPA 6010A	01/24/97
Silver	ND	5.0	1	32004	EPA 6010A	01/24/97
Thallium	ND	5.0	1	32004	EPA 6010A	01/24/97
Vanadium	ND	10	1	32004	EPA 6010A	01/24/97
Zinc	ND	20	1	32004	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-6
 LAB ID: 128064-003
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/22/97
 DATE RECEIVED: 01/22/97
 DATE REPORTED: 01/30/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32004	EPA 6010A	01/24/97
Arsenic	ND	5.0	1	32004	EPA 6010A	01/24/97
Barium	30	10	1	32004	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	1	32004	EPA 6010A	01/24/97
Copper	20	10	1	32004	EPA 6010A	01/24/97
Lead	ND	3.0	1	32004	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	32004	EPA 6010A	01/24/97
Nickel	ND	20	1	32004	EPA 6010A	01/24/97
Selenium	ND	5.0	1	32004	EPA 6010A	01/24/97
Silver	ND	5.0	1	32004	EPA 6010A	01/24/97
Thallium	ND	5.0	1	32004	EPA 6010A	01/24/97
Vanadium	ND	10	1	32004	EPA 6010A	01/24/97
Zinc	72	20	1	32004	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-16
 LAB ID: 128064-004
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/22/97
 DATE RECEIVED: 01/22/97
 DATE REPORTED: 01/30/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32004	EPA 6010A	01/24/97
Arsenic	14	5.0	1	32004	EPA 6010A	01/27/97
Barium	220	10	1	32004	EPA 6010A	01/24/97
Beryllium	3.6	2.0	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	1	32004	EPA 6010A	01/24/97
Copper	ND	10	1	32004	EPA 6010A	01/24/97
Lead	ND	3.0	1	32004	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	32004	EPA 6010A	01/24/97
Nickel	ND	20	1	32004	EPA 6010A	01/24/97
Selenium	22	5.0	1	32004	EPA 6010A	01/24/97
Silver	ND	5.0	1	32004	EPA 6010A	01/24/97
Thallium	ND	5.0	1	32004	EPA 6010A	01/24/97
Vanadium	26	10	1	32004	EPA 6010A	01/24/97
Zinc	ND	20	1	32004	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-17
 LAB ID: 128064-005
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/22/97
 DATE RECEIVED: 01/22/97
 DATE REPORTED: 01/30/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32004	EPA 6010A	01/24/97
Arsenic	ND	5.0	1	32004	EPA 6010A	01/24/97
Barium	270	10	1	32004	EPA 6010A	01/24/97
Beryllium	ND	2.0	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2.0	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	1	32004	EPA 6010A	01/24/97
Copper	ND	10	1	32004	EPA 6010A	01/24/97
Lead	ND	3.0	1	32004	EPA 6010A	01/24/97
Mercury	ND	0.20	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	1	32004	EPA 6010A	01/24/97
Nickel	ND	20	1	32004	EPA 6010A	01/24/97
Selenium	15	5.0	1	32004	EPA 6010A	01/24/97
Silver	ND	5.0	1	32004	EPA 6010A	01/24/97
Thallium	ND	5.0	1	32004	EPA 6010A	01/24/97
Vanadium	ND	10	1	32004	EPA 6010A	01/24/97
Zinc	ND	20	1	32004	EPA 6010A	01/24/97

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
JOB NUMBER: 128064

DATE REPORTED: 01/30/97

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Units	Limit	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	ug/L	1	32004	EPA 6010A	01/24/97
Arsenic	ND	5	ug/L	1	32004	EPA 6010A	01/24/97
Barium	ND	10	ug/L	1	32004	EPA 6010A	01/24/97
Beryllium	ND	2	ug/L	1	32004	EPA 6010A	01/24/97
Cadmium	ND	2	ug/L	1	32004	EPA 6010A	01/24/97
Chromium (total)	ND	10	ug/L	1	32004	EPA 6010A	01/24/97
Cobalt	ND	20	ug/L	1	32004	EPA 6010A	01/24/97
Copper	ND	10	ug/L	1	32004	EPA 6010A	01/24/97
Lead	ND	3	ug/L	1	32004	EPA 6010A	01/24/97
Mercury	ND	0.2	ug/L	1	32020	EPA 7470	01/24/97
Molybdenum	ND	20	ug/L	1	32004	EPA 6010A	01/24/97
Nickel	ND	20	ug/L	1	32004	EPA 6010A	01/24/97
Selenium	ND	5	ug/L	1	32004	EPA 6010A	01/24/97
Silver	ND	5	ug/L	1	32004	EPA 6010A	01/24/97
Thallium	ND	5	ug/L	1	32004	EPA 6010A	01/24/97
Vanadium	ND	10	ug/L	1	32004	EPA 6010A	01/24/97
Zinc	ND	20	ug/L	1	32004	EPA 6010A	01/24/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128064

DATE REPORTED: 01/30/97

 BATCH QC REPORT
 BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	500	501	517	ug/L	100	103	80-120	3	35	32004	EPA 6010A	01/27/97
Arsenic	2000	1950	1960	ug/L	98	98	80-120	1	35	32004	EPA 6010A	01/27/97
Barium	2000	2090	2090	ug/L	105	105	80-120	0	35	32004	EPA 6010A	01/27/97
Beryllium	50	50.9	51.7	ug/L	102	103	80-120	2	35	32004	EPA 6010A	01/27/97
Cadmium	50	53.6	53.7	ug/L	107	107	80-120	0	35	32004	EPA 6010A	01/27/97
Chromium (total)	200	204	206	ug/L	102	103	80-120	1	35	32004	EPA 6010A	01/27/97
Cobalt	500	507	511	ug/L	101	102	80-120	1	35	32004	EPA 6010A	01/27/97
Copper	250	258	259	ug/L	103	104	80-120	0	35	32004	EPA 6010A	01/27/97
Lead	500	508	515	ug/L	102	103	80-120	1	35	32004	EPA 6010A	01/27/97
Mercury	5	4.99	5.055	ug/L	100	101	80-120	1	35	32020	EPA 7470	01/24/97
Molybdenum	400	416	415	ug/L	104	104	80-120	0	35	32004	EPA 6010A	01/27/97
Nickel	500	532	538	ug/L	106	108	80-120	1	35	32004	EPA 6010A	01/27/97
Selenium	2000	1920	1940	ug/L	96	97	80-120	1	35	32004	EPA 6010A	01/27/97
Silver	100	103	103	ug/L	103	103	80-120	0	35	32004	EPA 6010A	01/27/97
Thallium	2000	1960	1970	ug/L	98	99	80-120	1	35	32004	EPA 6010A	01/27/97
Vanadium	500	511	515	ug/L	102	103	80-120	1	35	32004	EPA 6010A	01/27/97
Zinc	500	508	513	ug/L	102	103	80-120	1	35	32004	EPA 6010A	01/27/97



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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
Layfayette, CA 94549

Date: 30-JAN-97
Lab Job Number: 128068
Project ID: 133.005
Location: KOT

Reviewed by:

Teresa K. Morrison

Reviewed by:

Tracy B. Be...

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Client: Subsurface Consultants

Laboratory Login Number: 128068

Project Name: KOT
Project Number: 133.005

Report Date: 30 January 97

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) METHOD: SMWW 17:5520EF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
128068-001	PH-1 @ 3.5'	Soil	20-JAN-97	20-JAN-97	24-JAN-97	1300	mg/Kg	50	DLP	32028
128068-002	PH-2 @ 4'	Soil	20-JAN-97	20-JAN-97	24-JAN-97	1500	mg/Kg	50	DLP	32028

ND = Not Detected at or above Reporting Limit (RL).

Q C B a t c h R e p o r t

 Client: Subsurface Consultants
 Project Name: KOT
 Project Number: 133.005

 Laboratory Login Number: 128068
 Report Date: 30 January 97

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 32028

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
MB	ND	50	mg/Kg	SMWW 17:5520EF	24-JAN-97

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	88%	SMWW 17:5520EF	24-JAN-97
BSD	82%	SMWW 17:5520EF	24-JAN-97

		Control Limits
Average Spike Recovery	85%	80% - 120%
Relative Percent Difference	6.6%	< 20%



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128068-001	PH-1 @ 3.5'	32019	01/20/97	01/24/97	01/30/97	
128068-002	PH-2 @ 4'	32019	01/20/97	01/24/97	01/30/97	
128068-003	PH-4 @ 4'	32019	01/20/97	01/24/97	01/30/97	
128068-004	PH-6 @ 6'	32019	01/20/97	01/24/97	01/30/97	

Matrix: Soil

Analyte	Units	128068-001	128068-002	128068-003	128068-004
Diln Fac:		50	50	1	1
Diesel C12-C22	mg/Kg	1300 YH	1800 YH	<1	1.3YH
Motor Oil C22-C50	mg/Kg	2800 Y	2100 Y	6.4YH	<5
Surrogate					
Hexacosane	%REC	DO	DO	117	117

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

GC15 Channel B TEH

Sample Name : 128068-001,32019

Sample #: 32019

Page 1 of 1

FileName : G:\GC15\CHB\030B017.RAW

Date : 1/31/97 09:31 AM

Method : B030TEH.MTH

Time of Injection: 1/30/97 09:24 PM

Start Time : 0.01 min

End Time : 31.91 min

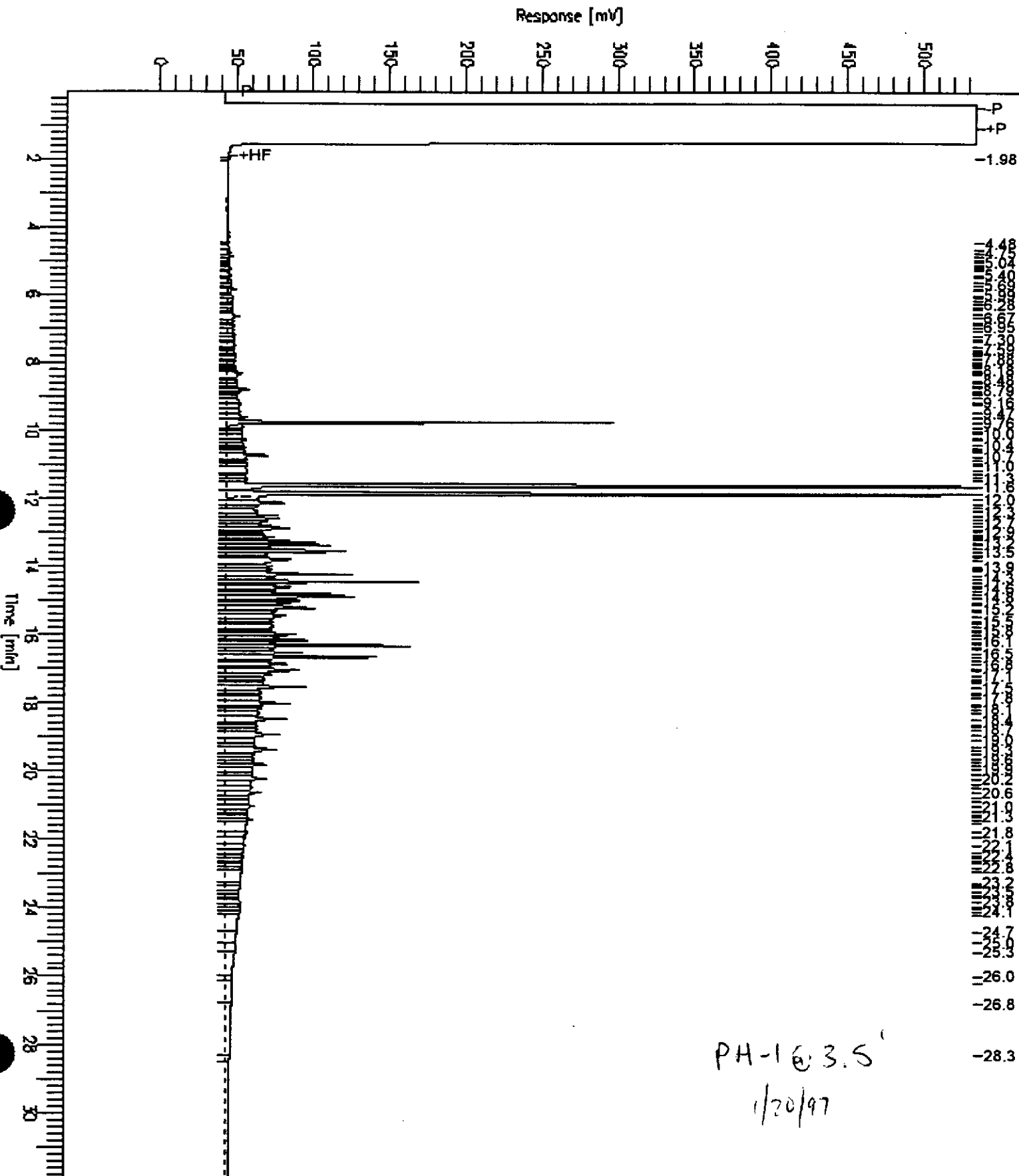
Low Point : -0.01 mV

High Point : 534.85 mV

Gain Factor: 0.0

Plot Offset: -0 mV

Plot Scale: 534.9 mV



GC15 Channel B TEH

Sample Name : 128068-002,32019

Sample #: 32019

Page 1 of 1

FileName : G:\GC15\CHB\030B018.RAW

Date : 1/31/97 09:33 AM

Method : B030TEH.MTH

Time of Injection: 1/30/97 10:07 PM

Start Time : 0.01 min

End Time : 31.91 min

Low Point : 37.07 mV

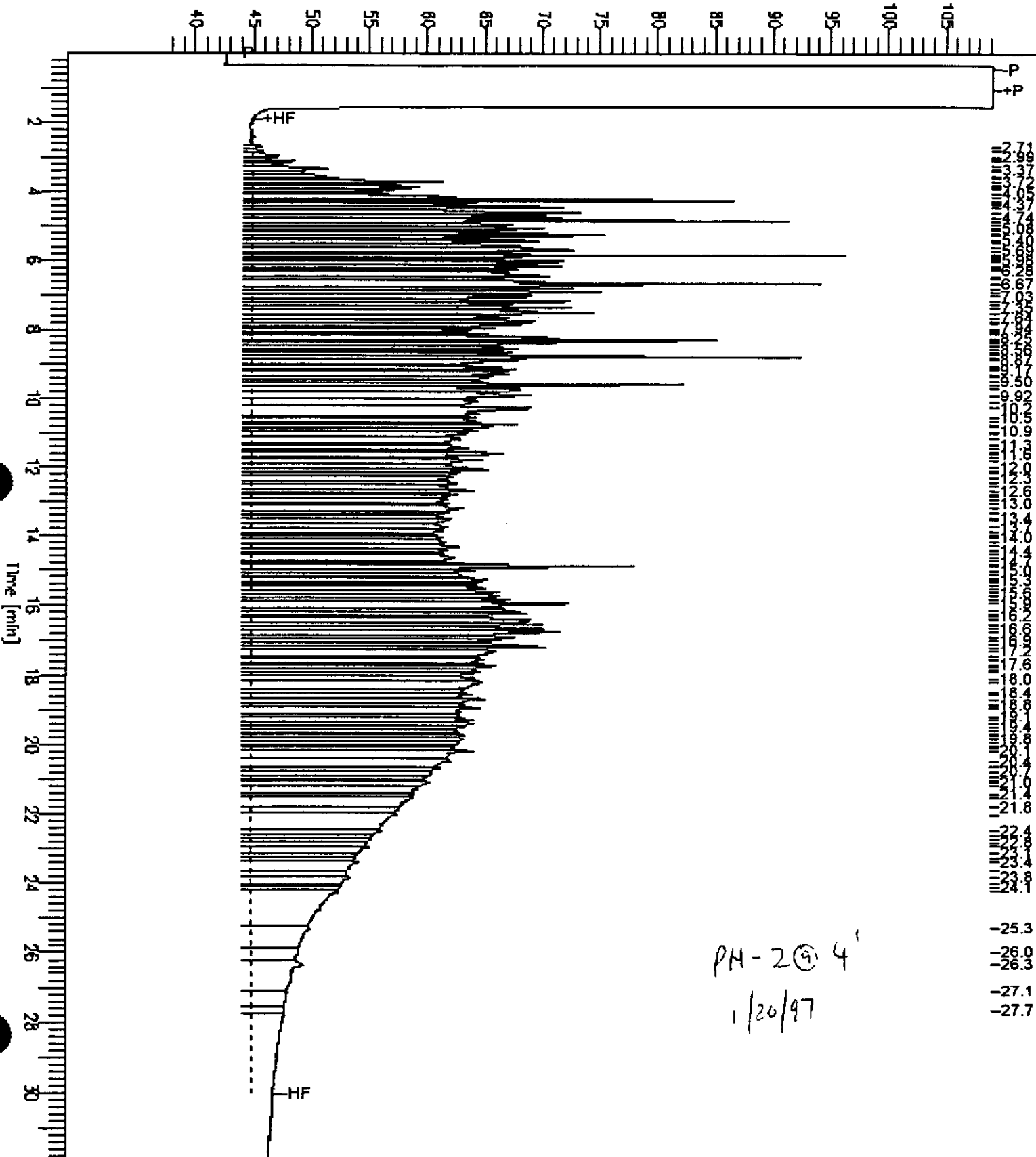
High Point : 109.15 mV

Gain Factor: 0.0

Plot Offset: 37 mV

Plot Scale: 72.1 mV

Response [mV]



PM-2 @ 4'
1/20/97

Chromatogram

File Name: 128068-003_32019

Sample #: 82019

Page: 1 of 1

File Name: G:\GC11\CHB\0298026.RAW

Date: 12/3/97 10:07 AM

Method: BTEB010.MTH

Time: 5 Injection: 1232747 10:08 AM

Flow Time: 31.07 min

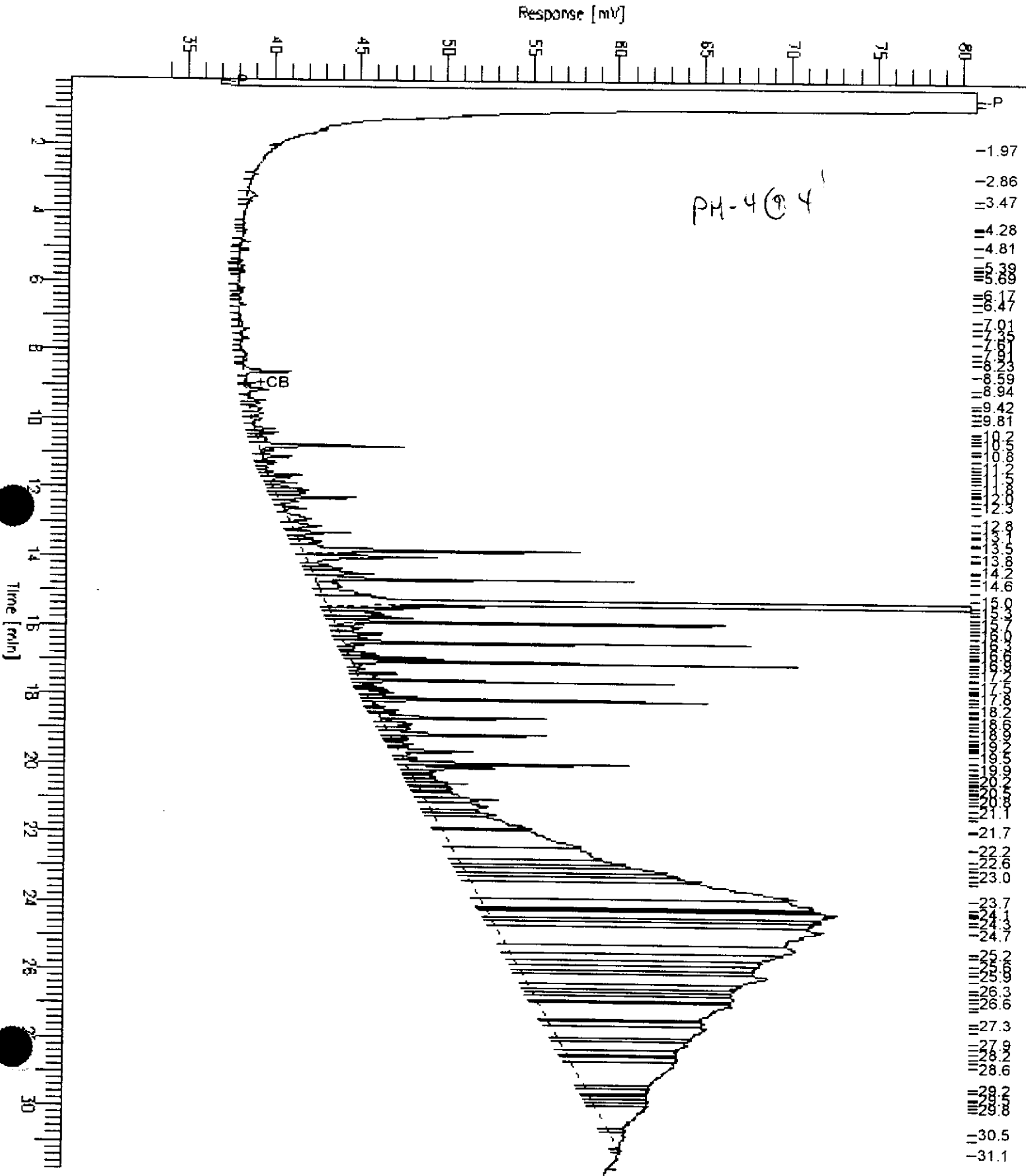
End Time: 31.86 min

Low Flow: 3.172 mL

Flow Rate: 5.170 mL

Flow Offset: 34 mV

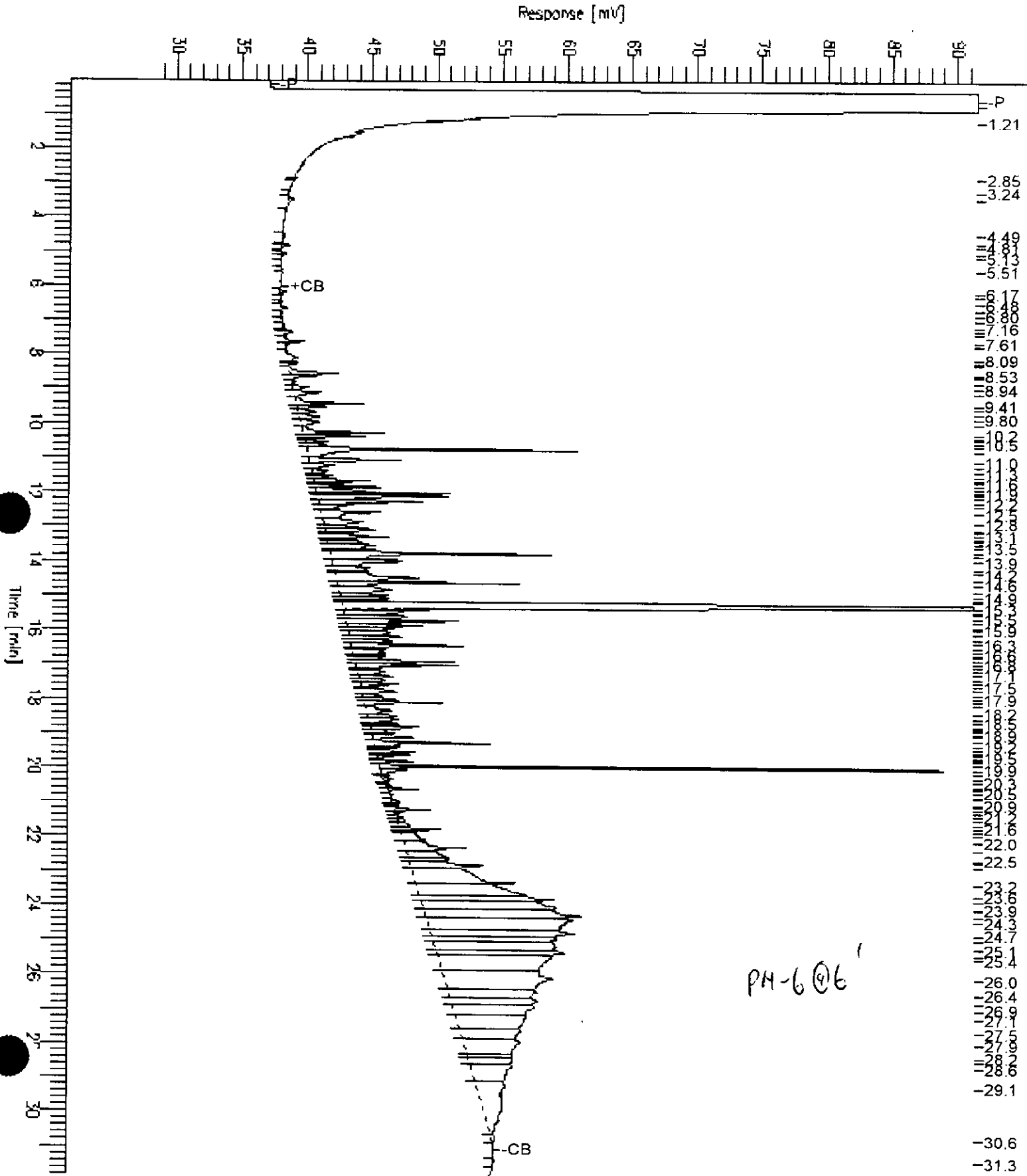
Plot Offset: 47.2 mV



Chromatogram

Sample Name : 128068-004, 32019
 File Name : G:\MGC11\CHBA\029B027.RAW
 Method : STEH005.MTH
 Start Time : 0.00 min
 End Time : 31.85 min
 Plot Offset: 29 mV

Sample #: 32019
 Date : 1/30/97 10:07 AM
 Time of Injection: 1/30/97 06:26 AM
 Low Point : 28.82 mV
 High Point : 91.79 mV
 Plot Scale: 23.8 mV



Chromatogram

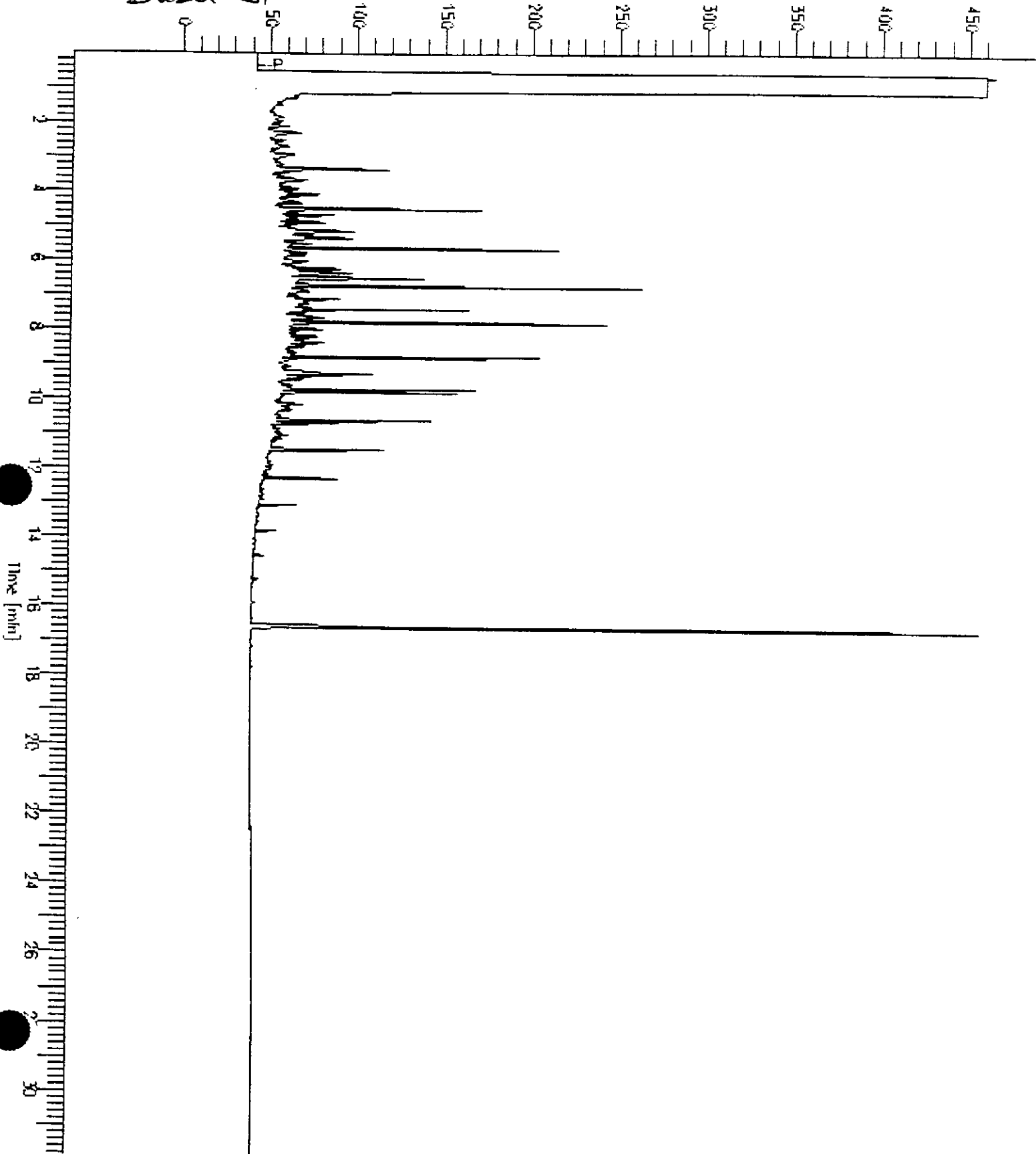
Sample Name : CCV, 96WS3659, D3
File Name : G:\GC13\CHA\028A028.RAW
Method : ATCH126.MTH
Start Time : 01:00 min
End Time : 31:00 min
High Offset: 40 mV

Sample #: 500MG/L
Date : 1/31/97 09:56 AM
Time of Injection: 1/29/97 02:11 AM
Low Point : -8.80 mV
High Point : 460.00 mV
High Scale: 469.0 mV

Page 1 of 1

Diesel Standard

Response [mV]

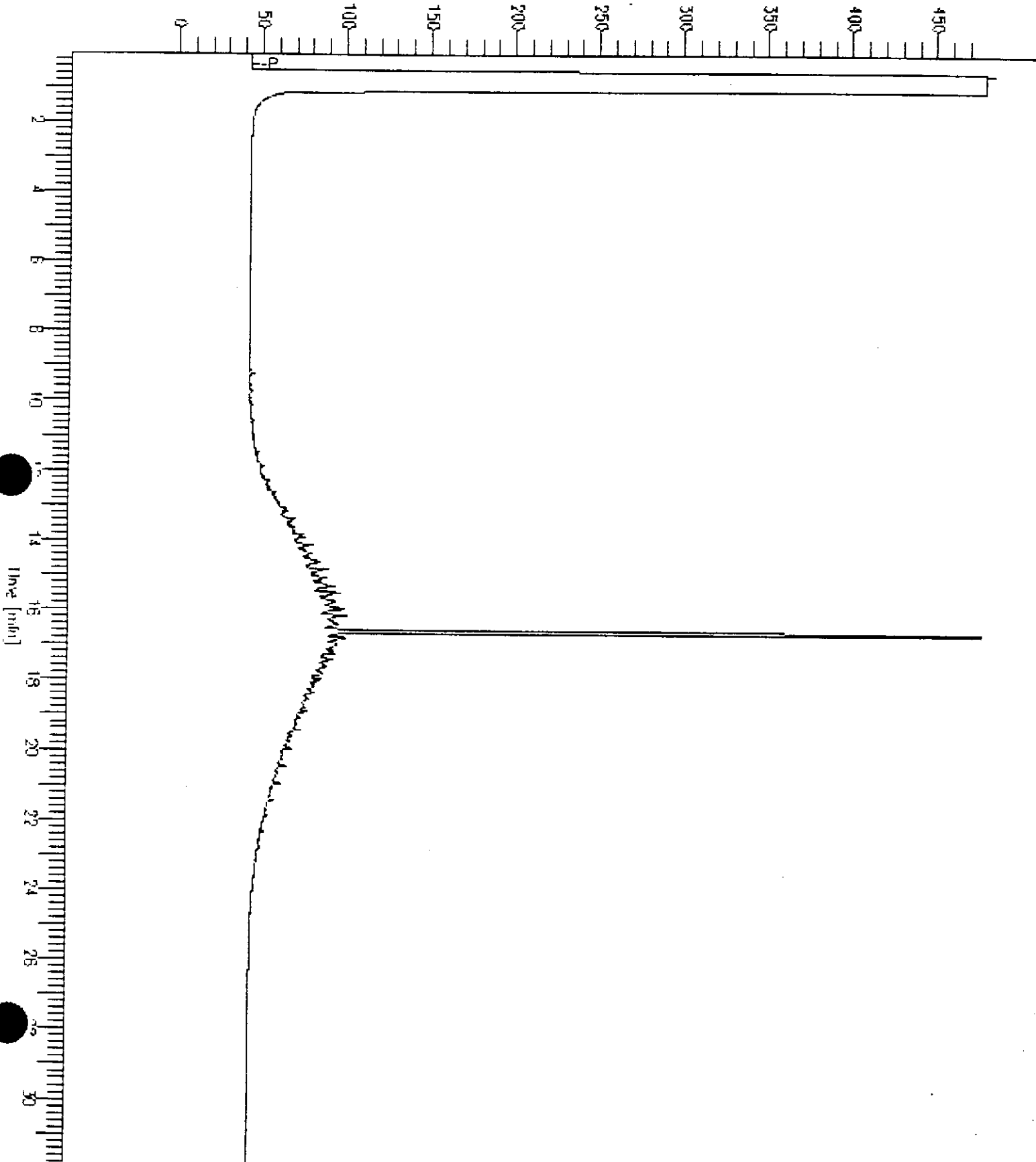


Chromatogram

File Name : 000196WS0196.M
File Name : G:\K13\CHAS\029A024.RAW
Method : ATSH028.MTH
Start Time : 11.07 min
End Time : 31.95 min
Plot Offset : -9 mV

Sample #: 500MG/L
Date : 1/31/97 11:00 AM
Time of Injection: 1/29/97 03:34 AM
Low Point : -9.24 mV
High Point : 479.22 mV
Plot Scale: 488.6 mV

Motor oil standard





Lab #: 128068

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

METHOD BLANK

Matrix: Soil
Batch#: 32019
Units: mg/Kg
Diln Fac: 1

Prep Date: 01/24/97
Analysis Date: 01/28/97

MB Lab ID: QC38773

Analyte	Result	
Diesel C12-C22	<1.0	
Motor Oil C22-C50	<5.0	
Surrogate	%Rec	Recovery Limits
Hexacosane	115	60-140



Lab #: 128068

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 32019
Units: mg/Kg
Diln Fac: 1

Prep Date: 01/24/97
Analysis Date: 01/28/97

LCS Lab ID: QC38774

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C12-C22	45.6	49.5	92	60-140
Surrogate	%Rec	Limits		
Hexacosane	127	60-140		

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 #: 128068

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: CA LUFT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
 Lab ID: 128023-003
 Matrix: Soil
 Batch#: 32019
 Units: mg/Kg
 Diln Fac: 1

Sample Date: 01/17/97
 Received Date: 01/17/97
 Prep Date: 01/24/97
 Analysis Date: 01/28/97

MS Lab ID: QC38775

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Diesel C12-C22	49.5	1.2	46.1	91	60-140
Surrogate	%Rec	Limits			
Hexacosane	137	60-140			

MSD Lab ID: QC38776

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	49.5	41.6	82	60-140	10	30
Surrogate	%Rec	Limits				
Hexacosane	116	60-140				

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

* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: PH-2 @ 4'
 Lab ID: 128068-002
 Matrix: Soil
 Batch#: 31991
 Units: ug/Kg
 Diln Fac: 1

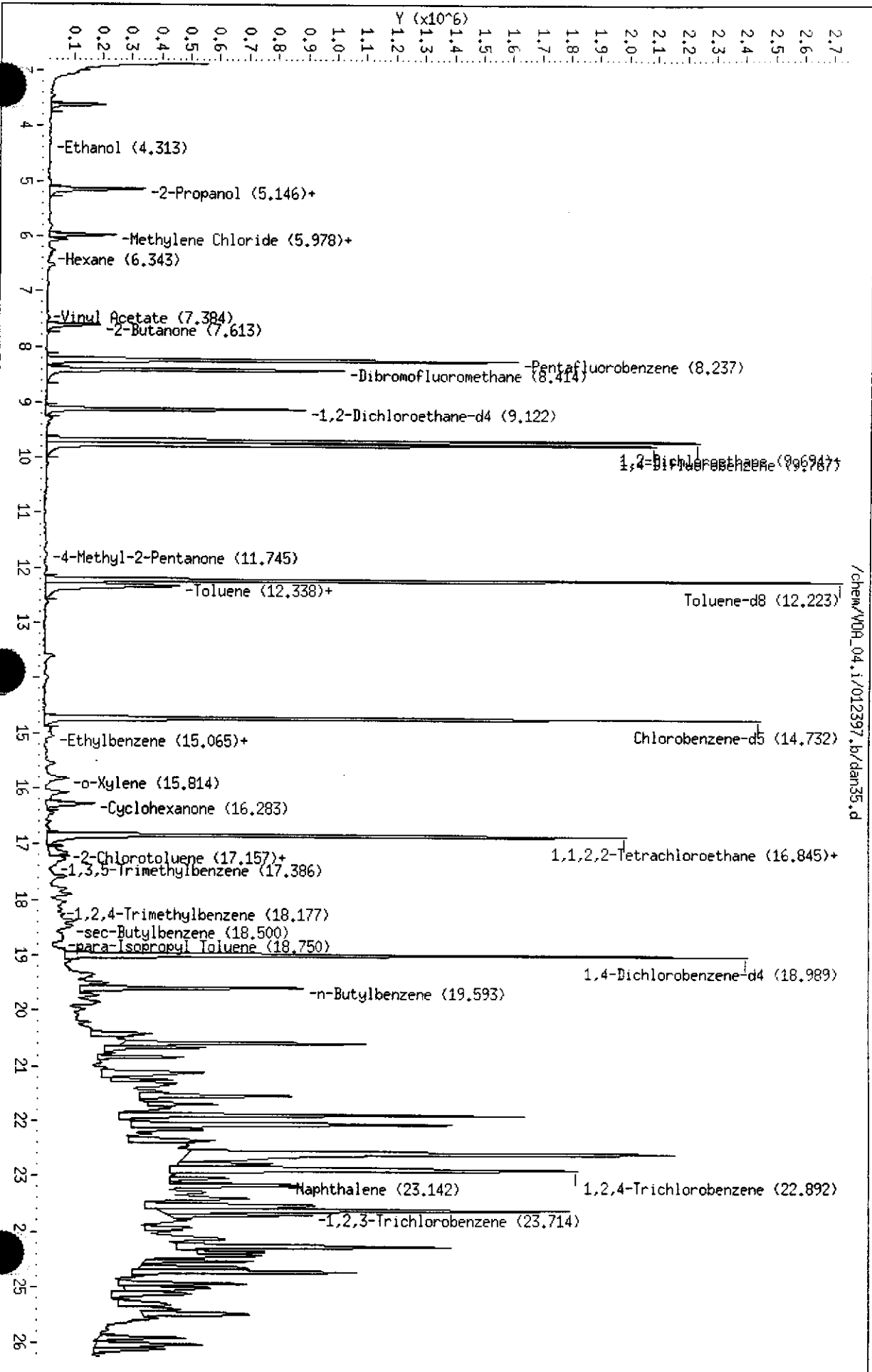
Sampled: 01/20/97
 Received: 01/20/97
 Extracted: 01/24/97
 Analyzed: 01/24/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	250	40
Carbon Disulfide	2.6 J	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	51	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	97	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	97	79-122

J: Estimated Value

Data File: /chem/M09_04,1/012397.b/dan35.d
Date: 24-JAN-97 05:07
Client ID: DYNH P&T
Sample Info: S,128068-002
Purge Volume: 5.0
Column Phase: RTX Volatiles

Instrument: M09_04.1
Operator: LLH
Column diameter: 0.32





Lab #: 128068

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 31991
Units: ug/Kg
Diln Fac: 1

Prep Date: 01/23/97
Analysis Date: 01/23/97

MB Lab ID: QC38649

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	95	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	98	79-122



Lab #: 128068

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 31991
Units: ug/Kg
Diln Fac: 1

Prep Date: 01/23/97
Analysis Date: 01/23/97

LCS Lab ID: QC38648

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	60.43	50	121	51-180
Trichloroethene	48.9	50	98	73-141
Benzene	49.79	50	100	78-142
Toluene	49.34	50	99	76-150
Chlorobenzene	52.19	50	104	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	94	68-126		
Toluene-d8	99	87-125		
Bromofluorobenzene	98	79-122		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Lab #: 128068

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
 Lab ID: 215680-015
 Matrix: Soil
 Batch#: 31991
 Units: ug/Kg
 Diln Fac: 1

Sample Date: 01/16/97
 Received Date: 01/17/97
 Prep Date: 01/23/97
 Analysis Date: 01/23/97

MS Lab ID: QC38695

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	0.4908	64.32	128	51-180
Trichloroethene	50	0	53.12	106	73-141
Benzene	50	0	52.34	105	78-142
Toluene	50	0.5872	51.94	103	76-150
Chlorobenzene	50	0	54.51	109	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	88	68-126			
Toluene-d8	99	87-125			
Bromofluorobenzene	98	79-122			

MSD Lab ID: QC38696

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	64.04	127	51-180	0	22
Trichloroethene	50	51.84	104	73-141	2	24
Benzene	50	52.07	104	78-142	1	21
Toluene	50	51.95	103	76-150	0	21
Chlorobenzene	50	54.19	108	83-129	1	21
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	86	68-126				
Toluene-d8	99	87-125				
Bromofluorobenzene	99	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Organochlorine Pesticides and PCBs

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8080
Prep Method: EPA 3550

Field ID: PH-2 @ 4'
Lab ID: 128068-002
Matrix: Soil
Batch#: 32139
Units: ug/Kg
Diln Fac: 20

Sampled: 01/20/97
Received: 01/20/97
Extracted: 01/30/97
Analyzed: 02/08/97

Analyte	Result	Reporting Limit
---------	--------	-----------------

alpha-BHC	ND	120
beta-BHC	ND	120
gamma-BHC	ND	120
delta-BHC	ND	120
Heptachlor	ND	120
Aldrin	ND	120
Heptachlor epoxide B	ND	120
Heptachlor epoxide A	ND	120
Endosulfan I	ND	120
Dieldrin	ND	240
4,4'-DDE	ND	240
Endrin	ND	240
Endosulfan II	ND	240
Endosulfan sulfate	ND	240
4,4'-DDD	ND	240
Endrin aldehyde	ND	240
4,4'-DDT	ND	240
Chlordane	ND	1200
Methoxychlor	ND	1200
Toxaphene	ND	2400
Aroclor-1016	ND	480
Aroclor-1221	ND	960
Aroclor-1232	ND	480
Aroclor-1242	ND	480
Aroclor-1248	ND	480
Aroclor-1254	ND	480
Aroclor-1260	ND	480

Surrogate	%Recovery	Recovery Limits
-----------	-----------	-----------------

TCMX	DO*	29-108
Decachlorobiphenyl	DO*	30-125

* Values outside of QC limits
DO: Surrogate diluted out



Lab #: 128068

BATCH QC REPORT

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants	Analysis Method: EPA 8080
Project#: 133.005	Prep Method: EPA 3550
Location: KOT	

METHOD BLANK

Matrix: Soil	Prep Date: 01/30/97
Batch#: 32139	Analysis Date: 02/06/97
Units: ug/Kg	
Diln Fac: 1	

MB Lab ID: QC39232

Analyte	Result	Reporting Limit
alpha-BHC	ND	3.0
beta-BHC	ND	3.0
gamma-BHC	ND	3.0
delta-BHC	ND	3.0
Heptachlor	ND	3.0
Aldrin	ND	3.0
Heptachlor epoxide B	ND	3.0
Heptachlor epoxide A	ND	3.0
Endosulfan I	ND	3.0
Dieldrin	ND	6.0
4,4'-DDE	ND	6.0
Endrin	ND	6.0
Endosulfan II	ND	6.0
Endosulfan sulfate	ND	6.0
4,4'-DDD	ND	6.0
Endrin aldehyde	ND	6.0
4,4'-DDT	ND	6.0
Chlordane	ND	30
Methoxychlor	ND	30
Toxaphene	ND	60
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Surrogate	%Rec	Recovery Limits
TCMX	93	29-108
Decachlorobiphenyl	94	30-125



Lab #: 128068

BATCH QC REPORT

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8080
 Prep Method: EPA 3550

LABORATORY CONTROL SAMPLE

Matrix: Soil
 Batch#: 32139
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 02/06/97

LCS Lab ID: QC39233

Analyte	Result	Spike Added	%Rec #	Limits
gamma-BHC	15.16	17	91	49-115
Heptachlor	15.78	17	95	51-119
Aldrin	15.15	17	91	55-112
Dieldrin	15.83	17	95	54-123
Endrin	16.67	17	100	63-128
4,4'-DDT	14.99	17	90	57-131
Surrogate	%Rec	Limits		
TCMX	95	29-108		
Decachlorobiphenyl	88	30-125		

* 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 #: 128068

BATCH QC REPORT

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8080
 Prep Method: EPA 3550

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
 Lab ID: 128112-010
 Matrix: Soil
 Batch#: 32139
 Units: ug/Kg
 Diln Fac: 1

Sample Date: 01/22/97
 Received Date: 01/24/97
 Prep Date: 01/30/97
 Analysis Date: 02/07/97

MS Lab ID: QC39234

Analyte	Spike Added	Sample	MS	%Rec #	Limits
gamma-BHC	17	<3	16.28	98	53-124
Heptachlor	17	<3	16.84	101	55-128
Aldrin	17	<3	16.29	98	49-128
Dieldrin	17	<6	15.95	96	54-128
Endrin	17	<6	16.63	100	69-131
4,4'-DDT	17	<6	17.4	104	53-144
Surrogate	%Rec	Limits			
TCMX	101	29-108			
Decachlorobiphenyl	76	30-125			

MSD Lab ID: QC39235

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
gamma-BHC	17	16.84	101	53-124	3	35
Heptachlor	17	17.61	106	55-128	4	35
Aldrin	17	16.85	101	49-128	3	35
Dieldrin	17	16.76	101	54-128	5	35
Endrin	17	17.45	105	69-131	5	35
4,4'-DDT	17	17.96	108	53-144	3	35
Surrogate	%Rec	Limits				
TCMX	105	29-108				
Decachlorobiphenyl	92	30-125				

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



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
Layfayette, CA 94549

Date: 30-JAN-97
Lab Job Number: 128090
Project ID: 133.005
Location: KOT

Reviewed by:

Reviewed by:

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TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128090-001	SCIMW-9	32032	01/23/97	01/25/97	01/25/97	
128090-002	SCIMW-10	32032	01/23/97	01/25/97	01/25/97	
128090-003	SCIMW-13	32042	01/23/97	01/25/97	01/25/97	

Matrix: Water

Analyte	Units	128090-001	128090-002	128090-003
Diln Fac:		1	1	1
Gasoline	ug/L	<50	<50	<50
Surrogate				
Trifluorotoluene	%REC	97	97	88
Bromobenzene	%REC	93	94	90



Lab #: 128090

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32032
Units: ug/L
Diln Fac: 1

Prep Date: 01/24/97
Analysis Date: 01/24/97

MB Lab ID: QC38814

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	91	65-135
Bromobenzene	83	65-135

Lab #: 128090

BATCH QC REPORT

Page 1 of 1

TVH-Total Volatile Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
LABORATORY CONTROL SAMPLE			
Matrix:	Water	Prep Date:	01/25/97
Batch#:	32042	Analysis Date:	01/25/97
Units:	ug/L		
Diln Fac:	1		

LCS Lab ID: QC38858

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2205	2000	110	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	85	65-135		
Bromobenzene	108	65-135		

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 #: 128090

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date:	01/24/97	
Batch#: 32032	Analysis Date:	01/24/97	
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC38812

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2024	2000	101	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	96	65-135		
Bromobenzene	97	65-135		

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 #: 128090

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/21/97
Lab ID: 128040-001	Received Date: 01/21/97
Matrix: Water	Prep Date: 01/24/97
Batch#: 32032	Analysis Date: 01/24/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC38815

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	1940	97	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	96	65-135			
Bromobenzene	106	65-135			

MSD Lab ID: QC38816

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	1862	96	75-125	4	35
Surrogate	%Rec	Limits				
Trifluorotoluene	97	65-135				
Bromobenzene	106	65-135				

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



Lab #: 128090

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
MATRIX SPIKE/MATRIX SPIKE DUPLICATE			
Field ID: ZZZZZZ	Sample Date:	01/21/97	
Lab ID: 128084-001	Received Date:	01/23/97	
Matrix: Water	Prep Date:	01/25/97	
Batch#: 32042	Analysis Date:	01/25/97	
Units: ug/L			
Diln Fac: 1			

MS Lab ID: QC38868

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	2446	122	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	87	65-135			
Bromobenzene	116	65-135			

MSD Lab ID: QC38869

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2161	108	75-125	12	35
Surrogate	%Rec	Limits				
Trifluorotoluene	83	65-135				
Bromobenzene	109	65-135				

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



Lab #: 128090

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32042
Units: ug/L
Diln Fac: 1

Prep Date: 01/25/97
Analysis Date: 01/25/97

MB Lab ID: QC38860

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	86	65-135
Bromobenzene	81	65-135



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128090-001	SCIMW-9	32040	01/23/97	01/24/97	01/31/97	
128090-002	SCIMW-10	32040	01/23/97	01/24/97	01/31/97	
128090-003	SCIMW-13	32040	01/23/97	01/24/97	01/31/97	

Matrix: Water

Analyte	Units	128090-001	128090-002	128090-003
Diln Fac:		1	1	1
Diesel C12-C22	ug/L	1900 YH	1400 YH	3400 YH
Motor Oil C22-C50	ug/L	2300	2500	3900
Surrogate				
Hexacosane	%REC	110	115	113

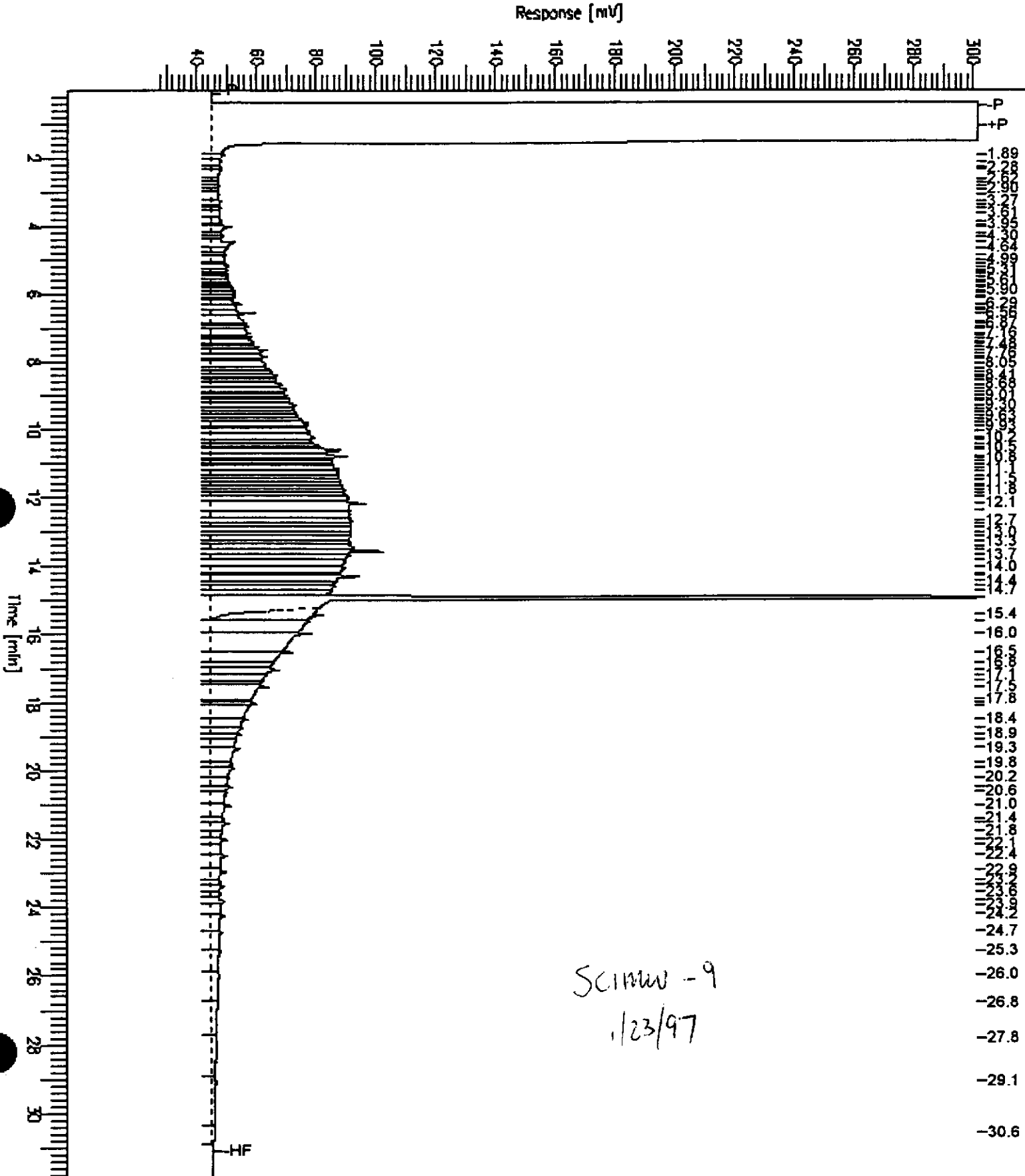
Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

GC15 Channel B TEH

Sample Name : 128090-001,32040
 FileName : G:\GC15\CHB\030B032.RAW
 Method : B030TEH.MTH
 Start Time : 0.01 min
 Scale Factor: 0.0

Sample #: 32040
 Date : 1/31/97 09:48 AM
 Time of Injection: 1/31/97 08:09 AM
 Low Point : 27.78 mV
 Plot Scale: 273.9 mV
 End Time : 31.91 min
 Plot Offset: 28 mV
 High Point : 301.71 mV



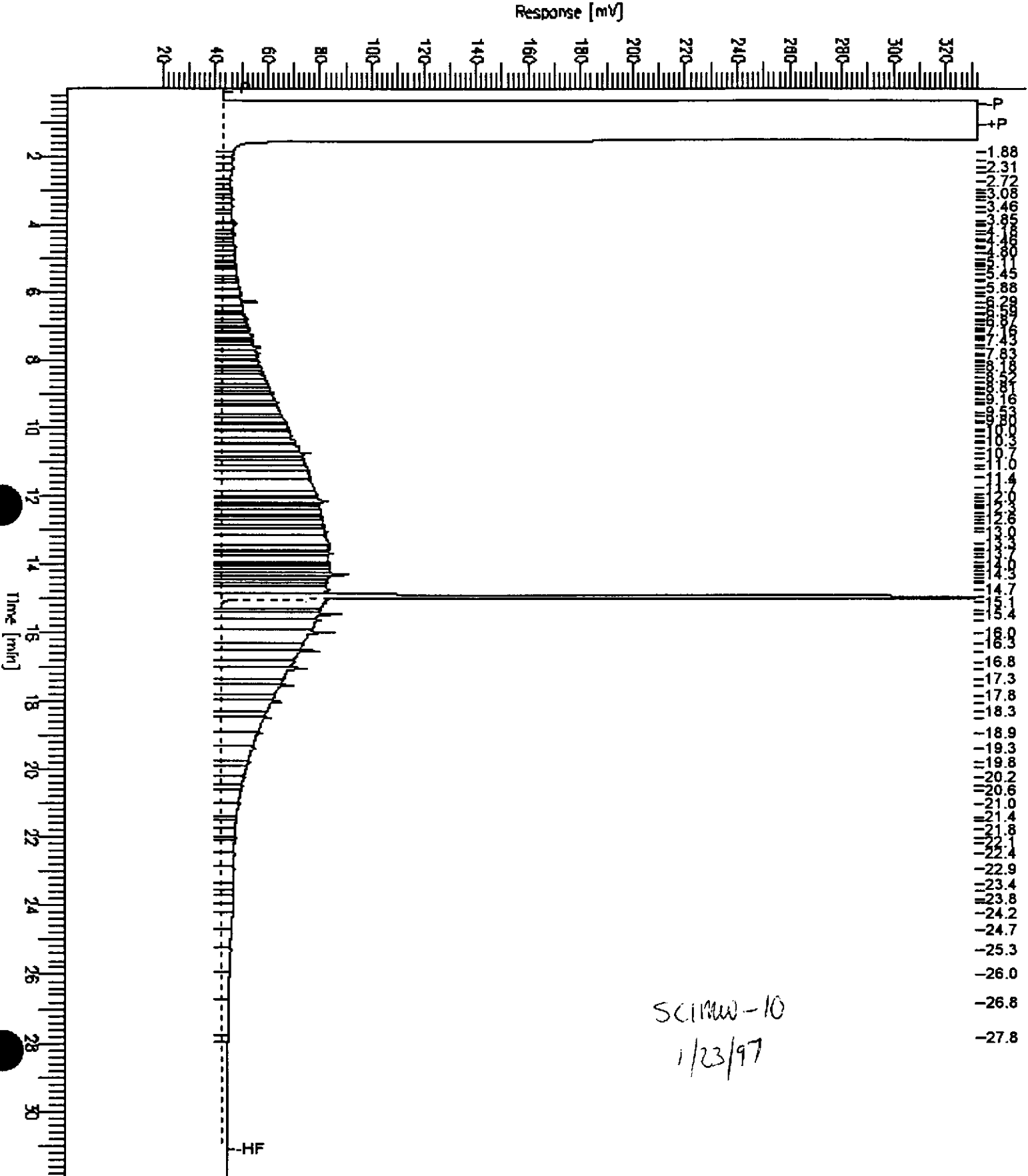
SC111111 - 9
 1/23/97

GC15 Channel B TEH

Sample Name : 128090-002,32040
FileName : G:\GC15\CHB\030B033.RAW
Method : B030TEH.MTH
Start Time : 0.01 min
Gain Factor: 0.0

End Time : 31.91 min
Plot Offset: 19 mV

Sample #: 32040
Date : 1/31/97 09:48 AM
Time of Injection: 1/31/97 08:53 AM
Low Point : 18.75 mV
High Point : 332.26 mV
Plot Scale: 313.5 mV



GC15 Channel B TEH

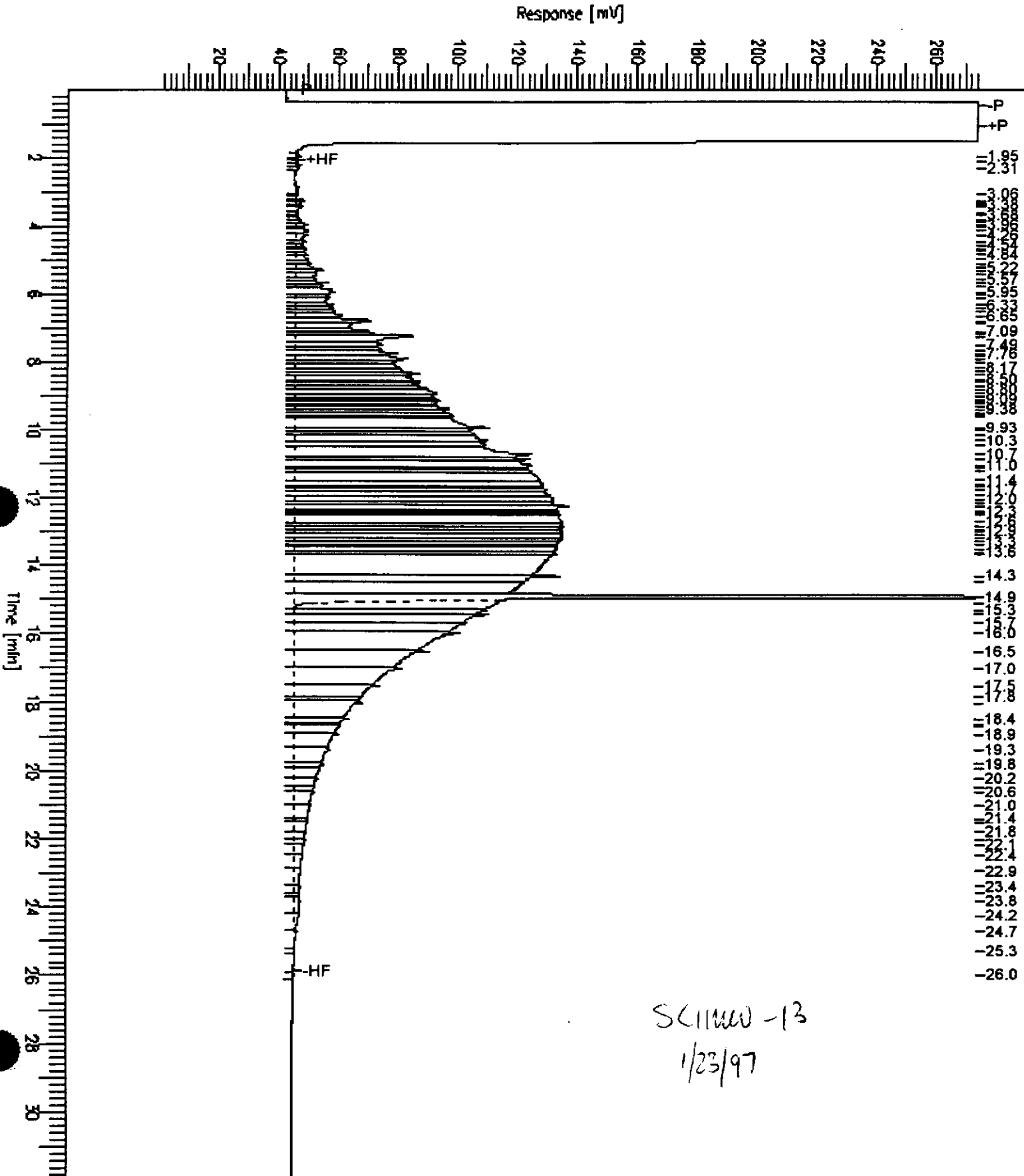
Sample Name : 128090-003,32040
 FileName : G:\GC15\CHB\030B034.RAW
 Method : B030TEH.MTH
 Start Time : 0.01 min
 Scale Factor: 0.0

End Time : 31.91 min
 Plot Offset: 1 mV

Sample #: 32040
 Date : 1/31/97 10:27 AM
 Time of Injection: 1/31/97 09:35 AM
 Low Point : 0.71 mV
 Plot Scale: 273.6 mV

Page 1 of 1

High Point : 274.33 mV



SC111111-13
 1/23/97

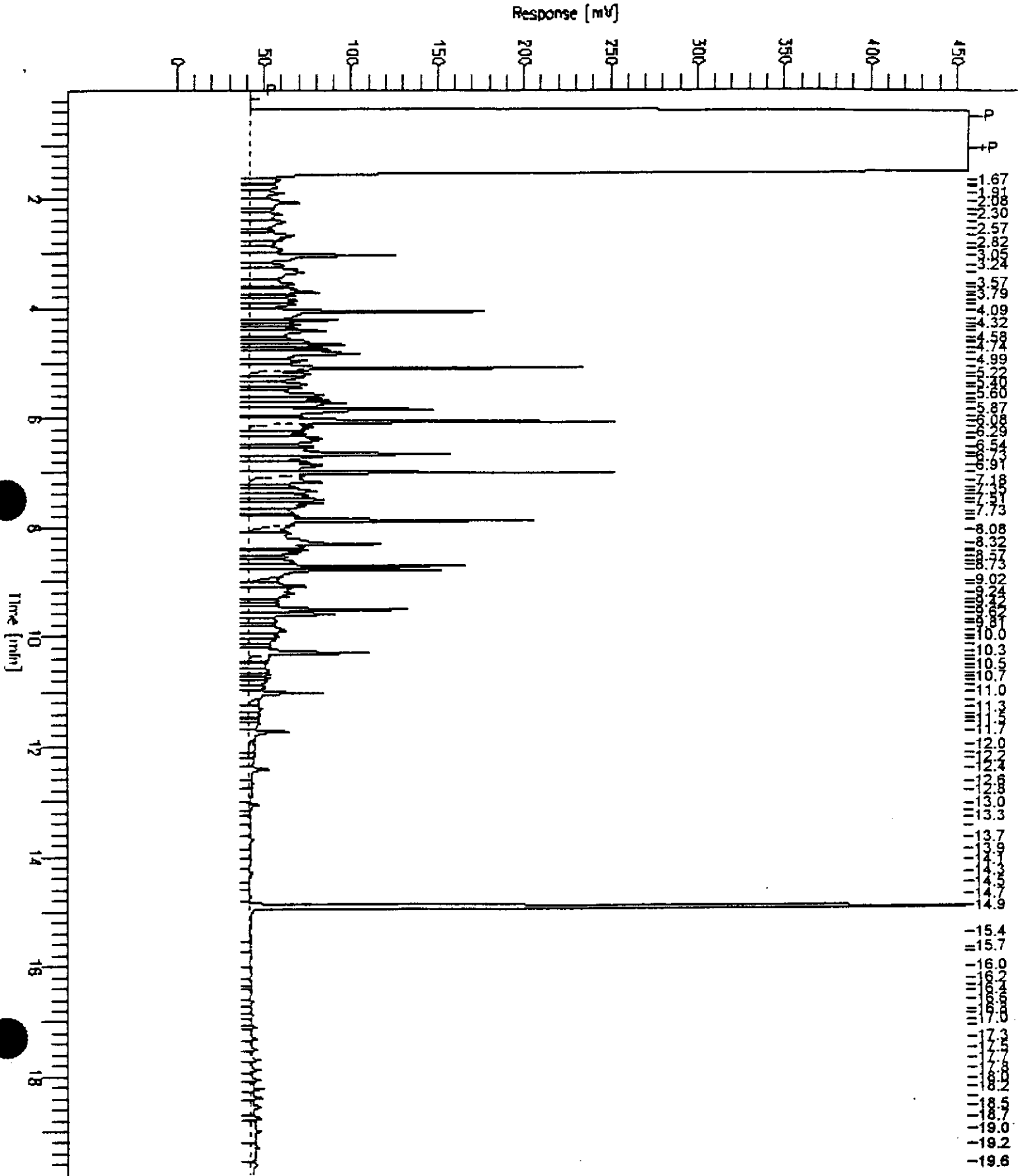
Diesel

GC15 Channel B TEH

Sample Name : CCV,96MS3659,DS
FileName : G:\GC15\CHB\030B002.RAW
Method : B030TEH.MTH
Start Time : 0.01 min
Gain Factor: 0.0

End Time : 19.80 min
Plot Offset: -10 mV

Sample #: 500MG/L
Date : 1/30/97 11:55 AM
Time of Injection: 1/30/97 11:30 AM
Low Point : -9.66 mV
High Point : 456.89 mV
Plot Scale: 466.5 mV

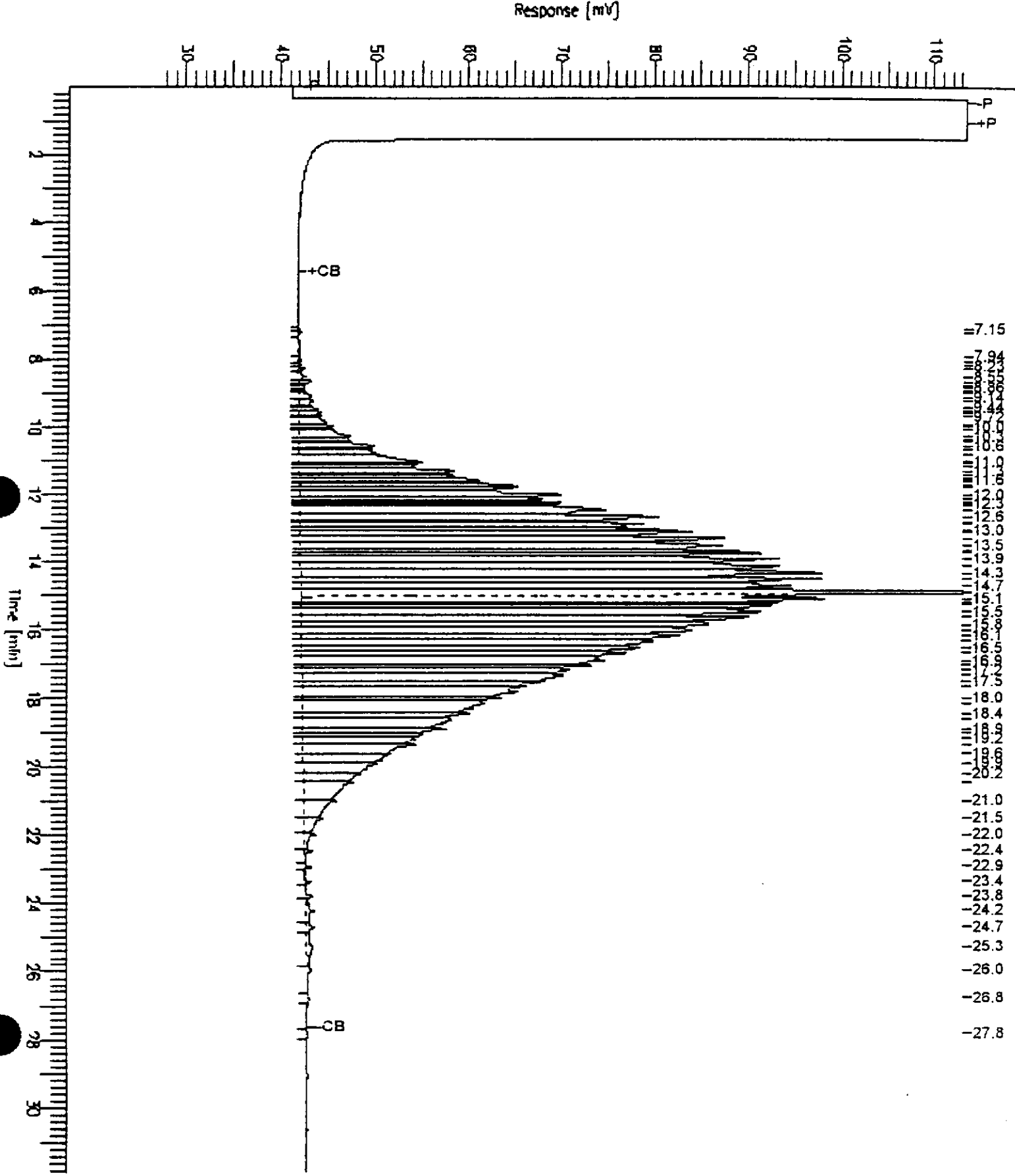


motor Oil GC15 Channel B TEH

Sample Name : CCV,96WS3096,
 FileName : G:\GC15\CHB\030B014.RAW
 Method : B030TEH.MTH
 rt Time : 0.01 min
 File Factor: 0.0

End Time : 31.91 min
 Plot Offset: 27 mV

Sample #: 500MG/L
 Date : 1/31/97 09:27 AM
 Time of Injection: 1/30/97 07:16 PM
 Low Point : 27.38 mV
 High Point : 113.53 mV
 Plot Scale: 86.2 mV





Lab #: 128090

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 3520
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/24/97
Batch#:	32040	Analysis Date:	01/31/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC38852

Analyte	Result		
Diesel C12-C22	<50		
Motor Oil C22-C50	<250		
Surrogate	%Rec		Recovery Limits
Hexacosane	108		60-140



Lab #: 128090

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 133.005	Prep Method: EPA 3520		
Location: KOT			
BLANK SPIKE/BLANK SPIKE DUPLICATE			
Matrix: Water	Prep Date: 01/24/97		
Batch#: 32040	Analysis Date: 01/31/97		
Units: ug/L			
Diln Fac: 1			

BS Lab ID: QC38853

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	1800	73	60-140
Surrogate	%Rec	Limits		
Hexacosane	103	60-140		

BSD Lab ID: QC38854

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	1955	79	60-140	8	35
Surrogate	%Rec	Limits				
Hexacosane	108	60-140				

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



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128090-001	SCIMW-9	32032	01/23/97	01/25/97	01/25/97	
128090-002	SCIMW-10	32032	01/23/97	01/25/97	01/25/97	
128090-003	SCIMW-13	32042	01/23/97	01/25/97	01/25/97	

Matrix: Water

Analyte	Units	128090-001	128090-002	128090-003
Diln Fac:		1	1	1
Benzene	ug/L	<0.5	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5
Surrogate				
Trifluorotoluene	%REC	97	97	81
Bromobenzene	%REC	99	100	86

Lab #: 128090

BATCH QC REPORT

BTXE			
Client:	Subsurface Consultants	Analysis Method:	EPA 8020
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/24/97
Batch#:	32032	Analysis Date:	01/24/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC38814

Analyte	Result		
Benzene	<0.5		
Toluene	<0.5		
Ethylbenzene	<0.5		
m,p-Xylenes	<0.5		
o-Xylene	<0.5		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	92		58-130
Bromobenzene	89		62-131

Lab #: 128090

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date:	01/25/97	
Batch#: 32042	Analysis Date:	01/25/97	
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC38859

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	19.5	20	98	80-120
Toluene	19.8	20	99	80-120
Ethylbenzene	23.1	20	116	80-120
m,p-Xylenes	42.9	40	107	80-120
o-Xylene	23.1	20	116	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	81	58-130		
Bromobenzene	84	62-131		

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



Lab #: 128090

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 01/24/97		
Batch#: 32032	Analysis Date: 01/24/97		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC38813

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.96	20	95	80-120
Toluene	19.42	20	97	80-120
Ethylbenzene	19.26	20	96	80-120
m,p-Xylenes	38.16	40	95	80-120
o-Xylene	19.36	20	97	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	94	58-130		
Bromobenzene	92	62-131		

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

Lab #: 128090

BATCH QC REPORT

BTXE			
Client:	Subsurface Consultants	Analysis Method:	EPA 8020
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/25/97
Batch#:	32042	Analysis Date:	01/25/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC38860

Analyte	Result		
Benzene	<0.5		
Toluene	<0.5		
Ethylbenzene	<0.5		
m,p-Xylenes	<0.5		
o-Xylene	<0.5		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	79		58-130
Bromobenzene	77		62-131



Volatile Organics by GC/MS

Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
Field ID: SCIMW-9	Sampled: 01/23/97
Lab ID: 128090-001	Received: 01/23/97
Matrix: Water	Extracted: 01/27/97
Batch#: 32051	Analyzed: 01/27/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	116	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCIMW-10
 Lab ID: 128090-002
 Matrix: Water
 Batch#: 32051
 Units: ug/L
 Diln Fac: 1

Sampled: 01/23/97
 Received: 01/23/97
 Extracted: 01/27/97
 Analyzed: 01/27/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	105	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	113	79-122

Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCIMW-13
Lab ID: 128090-003
Matrix: Water
Batch#: 32051
Units: ug/L
Diln Fac: 1

Sampled: 01/23/97
Received: 01/23/97
Extracted: 01/27/97
Analyzed: 01/27/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	104	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	113	79-122

Lab #: 128090

BATCH QC REPORT



Curtis & Tompkins, Ltd.

Page 1 of 1

EPA 8240 Volatile Organics			
Client: Subsurface Consultants	Analysis Method: EPA 8260		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
METHOD BLANK			
Matrix: Water	Prep Date: 01/27/97		
Batch#: 32051	Analysis Date: 01/27/97		
Units: ug/L			
Diln Fac: 1			

MB Lab ID: QC38881

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	94	87-125
Bromofluorobenzene	115	79-122



Lab #: 128090

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 32051
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/27/97
 Analysis Date: 01/27/97

MB Lab ID: QC38916

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	112	79-122



Lab #: 128090

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 32051
Units: ug/L
Diln Fac: 1

Prep Date: 01/27/97
Analysis Date: 01/27/97

LCS Lab ID: QC38880

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	58.17	50	116	51-180
Trichloroethene	49.05	50	98	73-141
Benzene	50.31	50	101	78-142
Toluene	47.95	50	96	76-150
Chlorobenzene	50.6	50	101	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	101	68-126		
Toluene-d8	97	87-125		
Bromofluorobenzene	113	79-122		

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



Lab #: 128090

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/24/97
Lab ID: 128107-001	Received Date: 01/24/97
Matrix: Water	Prep Date: 01/27/97
Batch#: 32051	Analysis Date: 01/27/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC38913

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	0.5413	55.64	110	51-180
Trichloroethene	50	<5	47.73	95	73-141
Benzene	50	<5	49.33	99	78-142
Toluene	50	<5	47.04	94	76-150
Chlorobenzene	50	<5	50.01	100	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	101	68-126			
Toluene-d8	99	87-125			
Bromofluorobenzene	118	79-122			

MSD Lab ID: QC38914

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	55.07	109	51-180	1	14
Trichloroethene	50	47.44	94	73-141	1	14
Benzene	50	48.83	98	78-142	1	11
Toluene	50	47.39	95	76-150	1	13
Chlorobenzene	50	50.15	100	83-129	0	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	101	68-126				
Toluene-d8	100	87-125				
Bromofluorobenzene	115	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-9
Lab ID: 128090-001
Matrix: Water
Batch#: 32039
Units: ug/L
Diln Fac: 1

Sampled: 01/23/97
Received: 01/23/97
Extracted: 01/24/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCIMW-9	Sampled: 01/23/97
Lab ID: 128090-001	Received: 01/23/97
Matrix: Water	Extracted: 01/24/97
Batch#: 32039	Analyzed: 01/30/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	64	21-110
Phenol-d5	75	10-110
2,4,6-Tribromophenol	74	10-123
Nitrobenzene-d5	82	35-114
2-Fluorobiphenyl	73	43-116
Terphenyl-d14	50	33-141

Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCIMW-10
Lab ID: 128090-002
Matrix: Water
Batch#: 32039
Units: ug/L
Diln Fac: 1

Sampled: 01/23/97
Received: 01/23/97
Extracted: 01/24/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCIMW-10	Sampled: 01/23/97
Lab ID: 128090-002	Received: 01/23/97
Matrix: Water	Extracted: 01/24/97
Batch#: 32039	Analyzed: 01/30/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	69	21-110
Phenol-d5	80	10-110
2,4,6-Tribromophenol	80	10-123
Nitrobenzene-d5	91	35-114
2-Fluorobiphenyl	80	43-116
Terphenyl-d14	44	33-141



Semivolatile Organics by GC/MS

Client: Subsurface Consultants Analysis Method: EPA 8270
Project#: 133.005 Prep Method: EPA 3520
Location: KOT

Field ID: SCIMW-13 Sampled: 01/23/97
Lab ID: 128090-003 Received: 01/23/97
Matrix: Water Extracted: 01/24/97
Batch#: 32039 Analyzed: 01/30/97
Units: ug/L
Diln Fac: 1

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl) ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

Field ID: SCIMW-13	Sampled: 01/23/97
Lab ID: 128090-003	Received: 01/23/97
Matrix: Water	Extracted: 01/24/97
Batch#: 32039	Analyzed: 01/30/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	74	21-110
Phenol-d5	87	10-110
2,4,6-Tribromophenol	89	10-123
Nitrobenzene-d5	99	35-114
2-Fluorobiphenyl	87	43-116
Terphenyl-d14	54	33-141



Lab #: 128090

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32039
Units: ug/L
Diln Fac: 1

Prep Date: 01/24/97
Analysis Date: 01/30/97

MB Lab ID: QC38849

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



Lab #: 128090

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
 Batch#: 32039
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/24/97
 Analysis Date: 01/30/97

MB Lab ID: QC38849

Analyte	Result	Reporting Limit
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
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)fluoranthene	ND	10
Benzo(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	67	21-110
Phenol-d5	77	10-110
2,4,6-Tribromophenol	71	10-123
Nitrobenzene-d5	92	35-114
2-Fluorobiphenyl	79	43-116
Terphenyl-d14	79	33-141



Lab #: 128090

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
 Batch#: 32039
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/24/97
 Analysis Date: 01/30/97

BS Lab ID: QC38850

Analyte	Spike Added	BS	%Rec	#	Limits
Phenol	100	79.44	79		12-110
2-Chlorophenol	100	80.45	80		27-123
4-Chloro-3-methylphenol	100	81.9	82		23-97
4-Nitrophenol	100	94.46	94	*	10-80
Pentachlorophenol	100	58.16	58		9-103
1,4-Dichlorobenzene	50	33.75	68		36-97
N-Nitroso-di-n-propylamine	50	35.48	71		41-116
1,2,4-Trichlorobenzene	50	34.09	68		39-98
Acenaphthene	50	35.6	71		46-118
2,4-Dinitrotoluene	50	34.84	70		24-96
Pyrene	50	35.95	72		26-127
Surrogate	%Rec	Limits			
2-Fluorophenol	66	21-110			
Phenol-d5	77	10-110			
2,4,6-Tribromophenol	77	10-123			
Nitrobenzene-d5	92	35-114			
2-Fluorobiphenyl	79	43-116			
Terphenyl-d14	79	33-141			

BSD Lab ID: QC38851

Analyte	Spike Added	BSD	%Rec	#	Limits	RPD #	Limit
Phenol	100	81.3	81		12-110	3	42
2-Chlorophenol	100	81.6	82		27-123	2	40
4-Chloro-3-methylphenol	100	86.51	87		23-97	6	42
4-Nitrophenol	100	97.77	98	*	10-80	4	50
Pentachlorophenol	100	64.58	65		9-103	11	50
1,4-Dichlorobenzene	50	34.33	69		36-97	1	28
N-Nitroso-di-n-propylamine	50	36.81	74		41-116	4	38
1,2,4-Trichlorobenzene	50	34.46	69		39-98	1	28
Acenaphthene	50	37.49	75		46-118	5	31
2,4-Dinitrotoluene	50	35.59	71		24-96	1	38
Pyrene	50	38.86	78		26-127	8	31
Surrogate	%Rec	Limits					
2-Fluorophenol	68	21-110					
Phenol-d5	79	10-110					
2,4,6-Tribromophenol	79	10-123					
Nitrobenzene-d5	94	35-114					
2-Fluorobiphenyl	82	43-116					
Terphenyl-d14	86	33-141					

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: 2 out of 22 outside limits



Curtis & Tompkins, Ltd.

SAMPLE ID: SCIMW-9
LAB ID: 128090-001
CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Filtrate

DATE SAMPLED: 01/23/97
DATE RECEIVED: 01/23/97
DATE REPORTED: 01/30/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32073	EPA 6010A	01/28/97
Arsenic	16	5.0	1	32073	EPA 6010A	01/28/97
Barium	89	10	1	32073	EPA 6010A	01/28/97
Beryllium	ND	2.0	1	32073	EPA 6010A	01/28/97
Cadmium	ND	2.0	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20	1	32073	EPA 6010A	01/28/97
Copper	ND	10	1	32073	EPA 6010A	01/28/97
Lead	ND	3.0	1	32073	EPA 6010A	01/28/97
Mercury	ND	0.20	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20	1	32073	EPA 6010A	01/28/97
Nickel	49	20	1	32073	EPA 6010A	01/28/97
Selenium	40	5.0	1	32073	EPA 6010A	01/28/97
Silver	ND	5.0	1	32073	EPA 6010A	01/28/97
Thallium	ND	5.0	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10	1	32073	EPA 6010A	01/28/97
Zinc	150	20	1	32073	EPA 6010A	01/28/97

ND = Not detected at or above reporting limit



SAMPLE ID: SCIMW-10
 LAB ID: 128090-002
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/23/97
 DATE RECEIVED: 01/23/97
 DATE REPORTED: 01/30/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32073	EPA 6010A	01/28/97
Arsenic	24	5.0	1	32073	EPA 6010A	01/28/97
Barium	49	10	1	32073	EPA 6010A	01/28/97
Beryllium	2.3	2.0	1	32073	EPA 6010A	01/28/97
Cadmium	ND	2.0	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20	1	32073	EPA 6010A	01/28/97
Copper	ND	10	1	32073	EPA 6010A	01/28/97
Lead	ND	3.0	1	32073	EPA 6010A	01/28/97
Mercury	ND	0.20	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20	1	32073	EPA 6010A	01/28/97
Nickel	ND	20	1	32073	EPA 6010A	01/28/97
Selenium	48	5.0	1	32073	EPA 6010A	01/28/97
Silver	ND	5.0	1	32073	EPA 6010A	01/28/97
Thallium	ND	5.0	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10	1	32073	EPA 6010A	01/28/97
Zinc	ND	20	1	32073	EPA 6010A	01/28/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCIMW-13
 LAB ID: 128090-003
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/23/97
 DATE RECEIVED: 01/23/97
 DATE REPORTED: 01/30/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32073	EPA 6010A	01/28/97
Arsenic	19	5.0	1	32073	EPA 6010A	01/28/97
Barium	21	10	1	32073	EPA 6010A	01/28/97
Beryllium	ND	2.0	1	32073	EPA 6010A	01/28/97
Cadmium	2.1	2.0	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20	1	32073	EPA 6010A	01/28/97
Copper	ND	10	1	32073	EPA 6010A	01/28/97
Lead	3.7	3.0	1	32073	EPA 6010A	01/28/97
Mercury	ND	0.20	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20	1	32073	EPA 6010A	01/28/97
Nickel	ND	20	1	32073	EPA 6010A	01/28/97
Selenium	40	5.0	1	32073	EPA 6010A	01/28/97
Silver	ND	5.0	1	32073	EPA 6010A	01/28/97
Thallium	ND	5.0	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10	1	32073	EPA 6010A	01/28/97
Zinc	ND	20	1	32073	EPA 6010A	01/28/97

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128090

DATE REPORTED: 01/30/97

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	500	457	506	ug/L	91	101	80-120	10	35	32073	EPA 6010A	01/28/97
Arsenic	2000	1940	1940	ug/L	97	97	80-120	0	35	32073	EPA 6010A	01/28/97
Barium	2000	2040	2030	ug/L	102	102	80-120	1	35	32073	EPA 6010A	01/28/97
Beryllium	50	50.3	50.6	ug/L	101	101	80-120	1	35	32073	EPA 6010A	01/28/97
Cadmium	50	51.5	51.6	ug/L	103	103	80-120	0	35	32073	EPA 6010A	01/28/97
Chromium (total)	200	201	201	ug/L	101	101	80-120	0	35	32073	EPA 6010A	01/28/97
Cobalt	500	503	504	ug/L	101	101	80-120	0	35	32073	EPA 6010A	01/28/97
Copper	250	264	264	ug/L	106	106	80-120	0	35	32073	EPA 6010A	01/28/97
Lead	500	501	500	ug/L	100	100	80-120	0	35	32073	EPA 6010A	01/28/97
Mercury	5	5.061	5.154	ug/L	101	103	80-120	2	35	32106	EPA 7470	01/29/97
Molybdenum	400	403	405	ug/L	101	101	80-120	1	35	32073	EPA 6010A	01/28/97
Nickel	500	515	513	ug/L	103	103	80-120	0	35	32073	EPA 6010A	01/28/97
Selenium	2000	1880	1890	ug/L	94	95	80-120	1	35	32073	EPA 6010A	01/28/97
Silver	100	104	104	ug/L	104	104	80-120	0	35	32073	EPA 6010A	01/28/97
Thallium	2000	1970	1990	ug/L	99	100	80-120	1	35	32073	EPA 6010A	01/28/97
Vanadium	500	509	510	ug/L	102	102	80-120	0	35	32073	EPA 6010A	01/28/97
Zinc	500	515	510	ug/L	103	102	80-120	1	35	32073	EPA 6010A	01/28/97

CLIENT: Subsurface Consultants
JOB NUMBER: 128090

DATE REPORTED: 01/30/97

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60 ug/L	1	32073	EPA 6010A	01/28/97
Arsenic	ND	5 ug/L	1	32073	EPA 6010A	01/28/97
Barium	ND	10 ug/L	1	32073	EPA 6010A	01/28/97
Beryllium	ND	2 ug/L	1	32073	EPA 6010A	01/28/97
Cadmium	ND	2 ug/L	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10 ug/L	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20 ug/L	1	32073	EPA 6010A	01/28/97
Copper	ND	10 ug/L	1	32073	EPA 6010A	01/28/97
Lead	ND	3 ug/L	1	32073	EPA 6010A	01/28/97
Mercury	ND	0.2 ug/L	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20 ug/L	1	32073	EPA 6010A	01/28/97
Nickel	ND	20 ug/L	1	32073	EPA 6010A	01/28/97
Selenium	ND	5 ug/L	1	32073	EPA 6010A	01/28/97
Silver	ND	5 ug/L	1	32073	EPA 6010A	01/28/97
Thallium	ND	5 ug/L	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10 ug/L	1	32073	EPA 6010A	01/28/97
Zinc	ND	20 ug/L	1	32073	EPA 6010A	01/28/97

ND = Not Detected at or above reporting limit



CLIENT: Subsurface Consultants
JOB NUMBER: 128090

DATE REPORTED: 01/30/97

**BATCH QC REPORT
SAMPLE DUPLICATE**

Compound	Sample	Sample Result	Duplicate Result	Units	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	128090-001	<60.000	<60.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Arsenic	128090-001	16.2	14.9	ug/L	8	20	32073	EPA 6010A	01/28/97
Barium	128090-001	89.2	85	ug/L	5	20	32073	EPA 6010A	01/28/97
Beryllium	128090-001	<2.000	<2.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Cadmium	128090-001	<2.000	<2.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Chromium (total)	128090-001	<10.000	<10.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Cobalt	128090-001	<20.000	<20.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Copper	128090-001	<10.000	<10.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Lead	128090-001	<3.000	<3.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Mercury	128090-001	<0.200	<0.200	ug/L	NC	20	32106	EPA 7470	01/29/97
Molybdenum	128090-001	<20.000	<20.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Nickel	128090-001	49	46.7	ug/L	5	20	32073	EPA 6010A	01/28/97
Selenium	128090-001	40.4	42.6	ug/L	5	20	32073	EPA 6010A	01/28/97
Silver	128090-001	<5.000	<5.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Thallium	128090-001	<5.000	<5.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Vanadium	128090-001	<10.000	<10.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Zinc	128090-001	152	143	ug/L	6	20	32073	EPA 6010A	01/28/97

NC = Not Calculable



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
Layfayette, CA 94549

Date: 11-FEB-97
Lab Job Number: 128111
Project ID: 133.005
Location: KOT

Reviewed by: _____

Tewak M...

Reviewed by: _____

Tracy B...

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TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128111-001	SCI-40@4.5'	32120	01/22/97	01/29/97	01/31/97	
128111-002	SCI-40@7'	32120	01/22/97	01/29/97	02/05/97	
128111-003	SCI-40@10.5'	32120	01/22/97	01/29/97	01/31/97	

Matrix: Soil

Analyte	Units	128111-001	128111-002	128111-003
Diln Fac:		2	1	10
Diesel C12-C22	mg/Kg	790 YH	23 YH	2100 YH
Motor Oil C22-C50	mg/Kg	670 YLH	45 YL	930 YL
Surrogate				
Hexacosane	%REC	102	109	DO

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

L: Lighter hydrocarbons than indicated standard

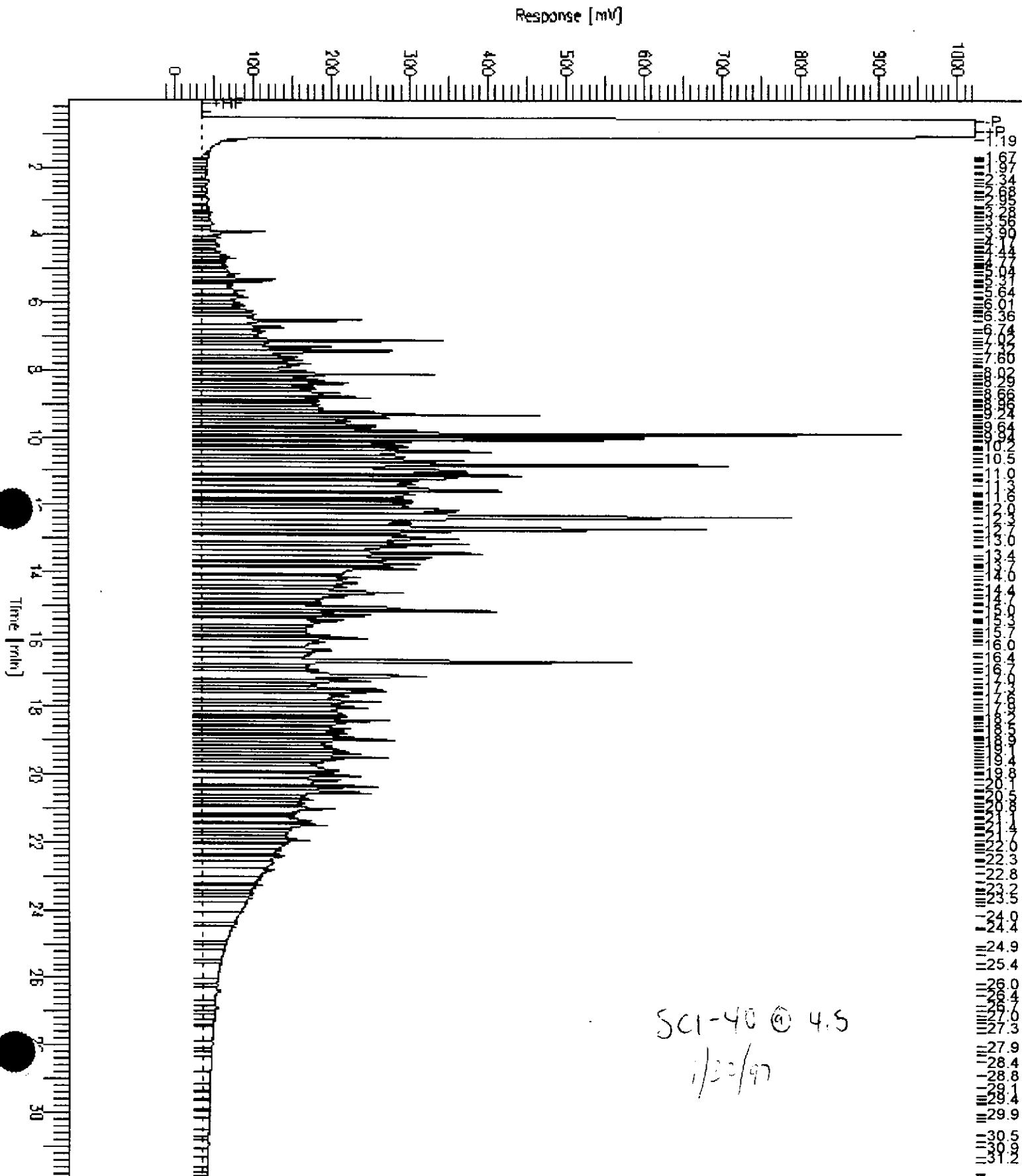
Chromatogram

Sample Name : 128111-001, 32120
File Name : G:\AGC\NACHAN\031A005.RAW
Sample : ATEHQ34.MTH
Time : 0.01 min
Factor : 0.0

End Time : 31.91 min
Plot Offset : -17 mV

Sample #: 32120
Date : 2/3/97 11:37 AM
Time of Injection: 1/31/97 08:35 PM
Low Point : -16.75 mV
Plot Scale: 1040.8 mV
High Point : 1024.00 mV

Page 1 of 1



Chromatogram

Sample Name : 128101-002, 32120

Sample #: 32120

Page 1 of 1

File Name : G:\GC11\CHBN\335B024.kaw

Date : 2/5/97 04:12 PM

Method : BT2H030.MTH

Time of Injection: 2/5/97 10:47 AM

Start Time : 0.17 min

End Time : 31.81 min

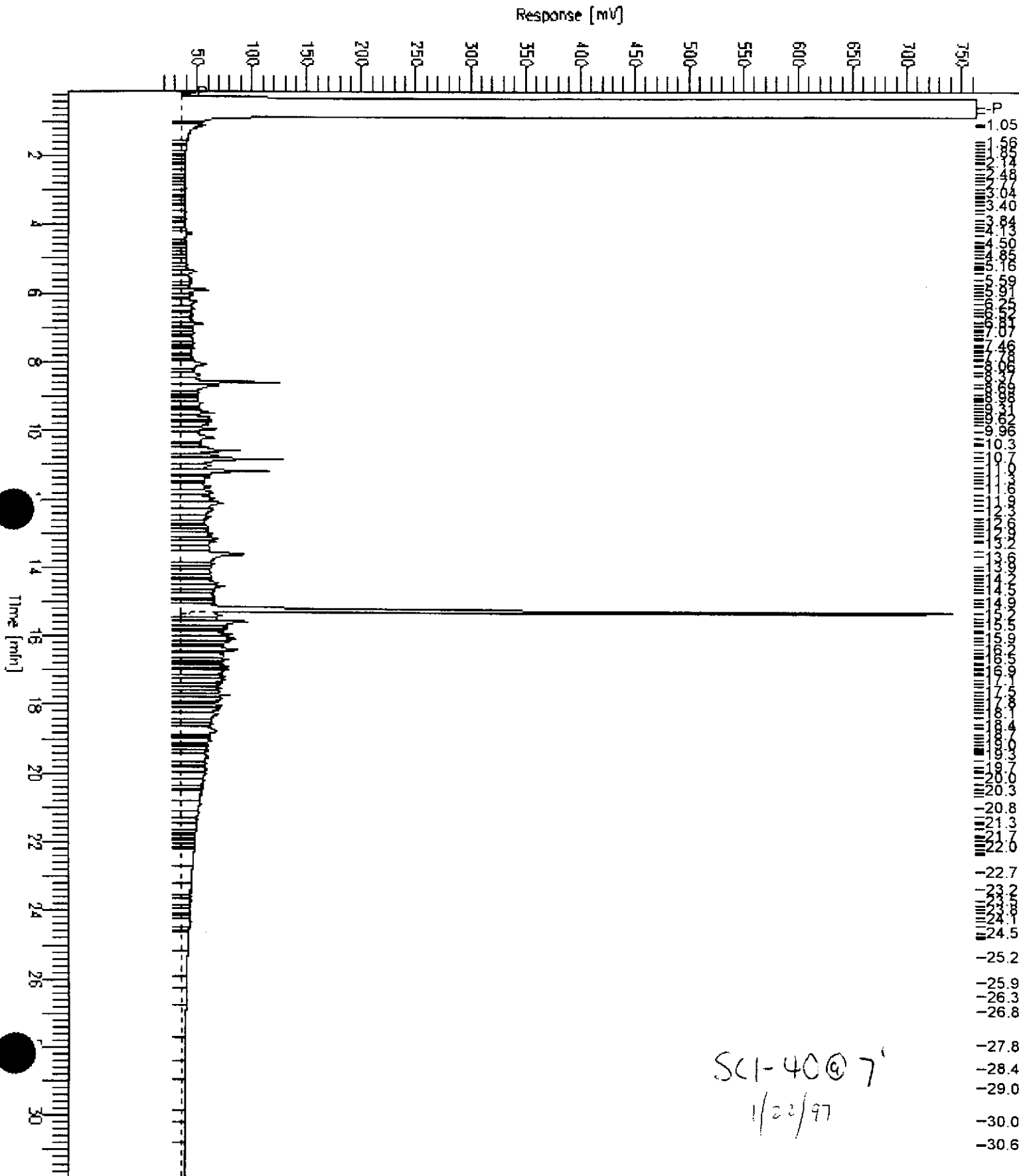
Low Point : 10.69 mV

High Point : 703.83 mV

Factor : 0.0

Plot Offset: 17 mV

Plot Scale: 147.1 mV

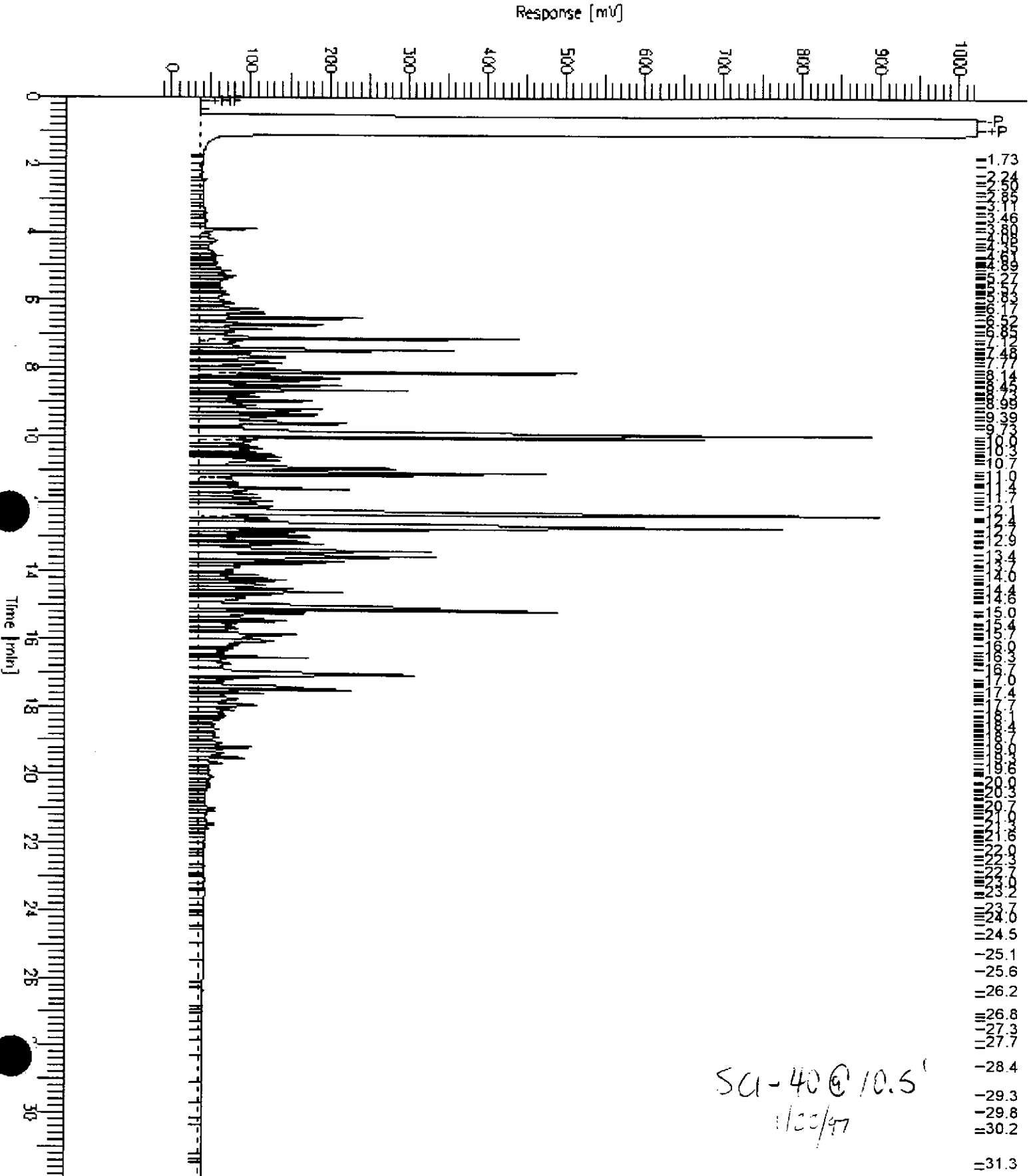


SCI-40@7'
1/22/97

Chromatogram

Sample Name : 128111-003, 32120
File Name : S:\GC13\CHAY\031A006.RAW
Method : ATEH034.MTH
Start Time : 3.00 min
End Time : 31.90 min
Filter : 0.10
Plot Offset: -10 mV

Sample #: 32120
Date : 2/3/97 11:36 AM
Time of Injection: 1/31/97 09:18 PM
Low Point : -16.43 mV
High Point : 1034.00 mV
Plot Scale: 1040.4 mV



Chromatogram

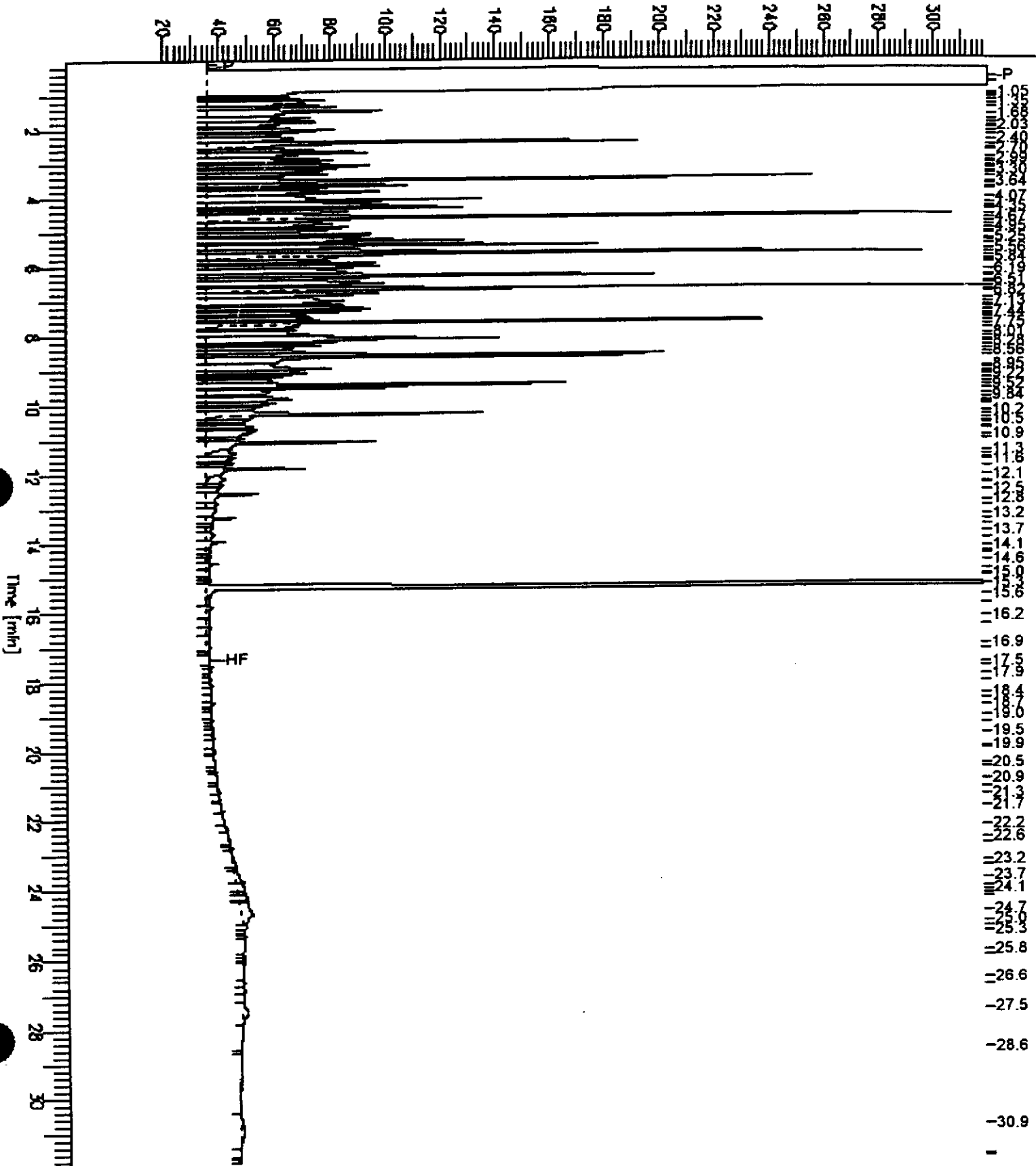
Sample Name : CCV,96NS3659,DS
FileName : G:\GC11\CHB\030B015.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: 19 mV

Sample #: 500MG/L
Date : 1/31/97 02:07 PM
Time of Injection: 1/30/97 07:09 PM
Low Point : 19.10 mV
Plot Scale: 300.9 mV
High Point : 320.00 mV

Diesel Standard

Response [mV]



Chromatogram

Sample Name : CCV,96WS3096,MO
FileName : G:\GC11\CHB\030B017.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Scale Factor: 0.0

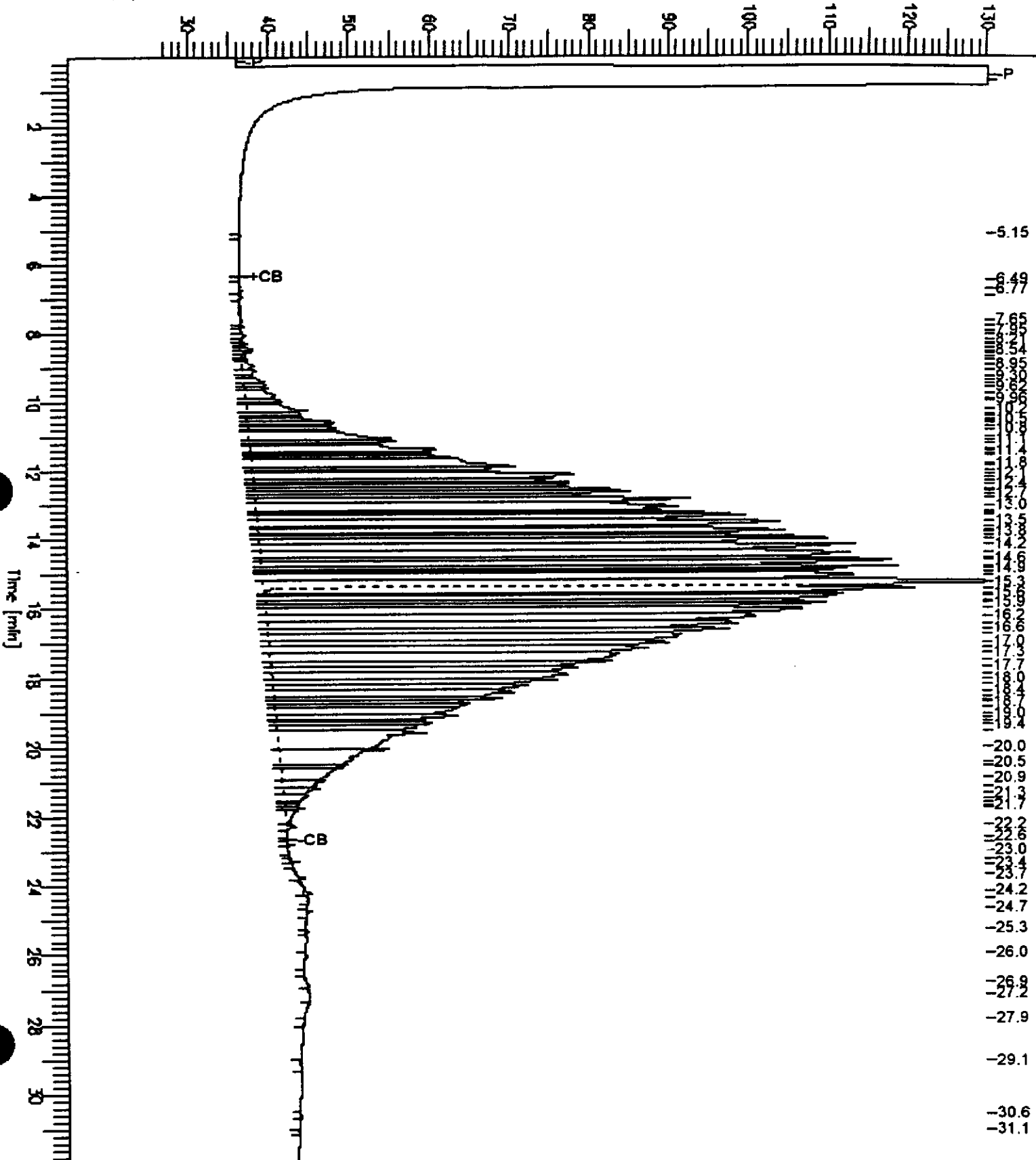
End Time : 31.91 min
Plot Offset: 27 mV

Sample #: 500MG/L
Date : 1/31/97 02:09 PM
Time of Injection: 1/30/97 08:34 PM
Low Point : 26.77 mV
Plot Scale: 103.4 mV
High Point : 130.20 mV

Page 1 of 1

Motor oil standard

Response [mV]





Lab #: 128111

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 133.005	Prep Method: CA LUFT		
Location: KOT			
METHOD BLANK			
Matrix: Soil	Prep Date:	01/29/97	
Batch#: 32120	Analysis Date:	01/30/97	
Units: mg/Kg			
Diln Fac: 1			

MB Lab ID: QC39152

Analyte	Result		
Diesel C12-C22	<1.0		
Motor Oil C22-C50	<5.0		
Surrogate	%Rec	Recovery Limits	
Hexacosane	121	60-140	

TEH-Tot Ext Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 133.005	Prep Method: CA LUFT		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Soil	Prep Date: 01/29/97		
Batch#: 32120	Analysis Date: 01/30/97		
Units: mg/Kg			
Diln Fac: 1			

LCS Lab ID: QC39153

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C12-C22	47.9	49.5	97	60-140
Surrogate	%Rec	Limits		
Hexacosane	123	60-140		

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



Semivolatiles Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3550

Field ID: SCI-40@10.5'
Lab ID: 128111-003
Matrix: Soil
Batch#: 32134
Units: ug/Kg
Diln Fac: 10

Sampled: 01/22/97
Received: 01/24/97
Extracted: 01/30/97
Analyzed: 02/05/97

Analyte	Result	Reporting Limit
Phenol	ND	3300
2-Chlorophenol	ND	3300
Benzyl alcohol	ND	3300
2-Methylphenol	ND	3300
4-Methylphenol	ND	3300
2-Nitrophenol	ND	17000
2,4-Dimethylphenol	ND	3300
Benzoic acid	ND	17000
2,4-Dichlorophenol	ND	3300
4-Chloro-3-methylphenol	ND	3300
2,4,6-Trichlorophenol	ND	3300
2,4,5-Trichlorophenol	ND	17000
2,4-Dinitrophenol	ND	17000
4-Nitrophenol	ND	17000
4,6-Dinitro-2-methylphenol	ND	17000
Pentachlorophenol	ND	17000
N-Nitrosodimethylamine	ND	3300
Aniline	ND	3300
bis(2-Chloroethyl)ether	ND	3300
1,3-Dichlorobenzene	ND	3300
1,4-Dichlorobenzene	ND	3300
1,2-Dichlorobenzene	ND	3300
bis(2-Chloroisopropyl) ether	ND	3300
N-Nitroso-di-n-propylamine	ND	3300
Hexachloroethane	ND	3300
Nitrobenzene	ND	3300
Isophorone	ND	3300
bis(2-Chloroethoxy)methane	ND	3300
1,2,4-Trichlorobenzene	ND	3300
Naphthalene	2300 J	3300
4-Chloroaniline	ND	3300
Hexachlorobutadiene	ND	3300
2-Methylnaphthalene	ND	3300
Hexachlorocyclopentadiene	ND	3300
2-Chloronaphthalene	ND	3300
2-Nitroaniline	ND	17000
Dimethylphthalate	ND	3300
Acenaphthylene	ND	3300



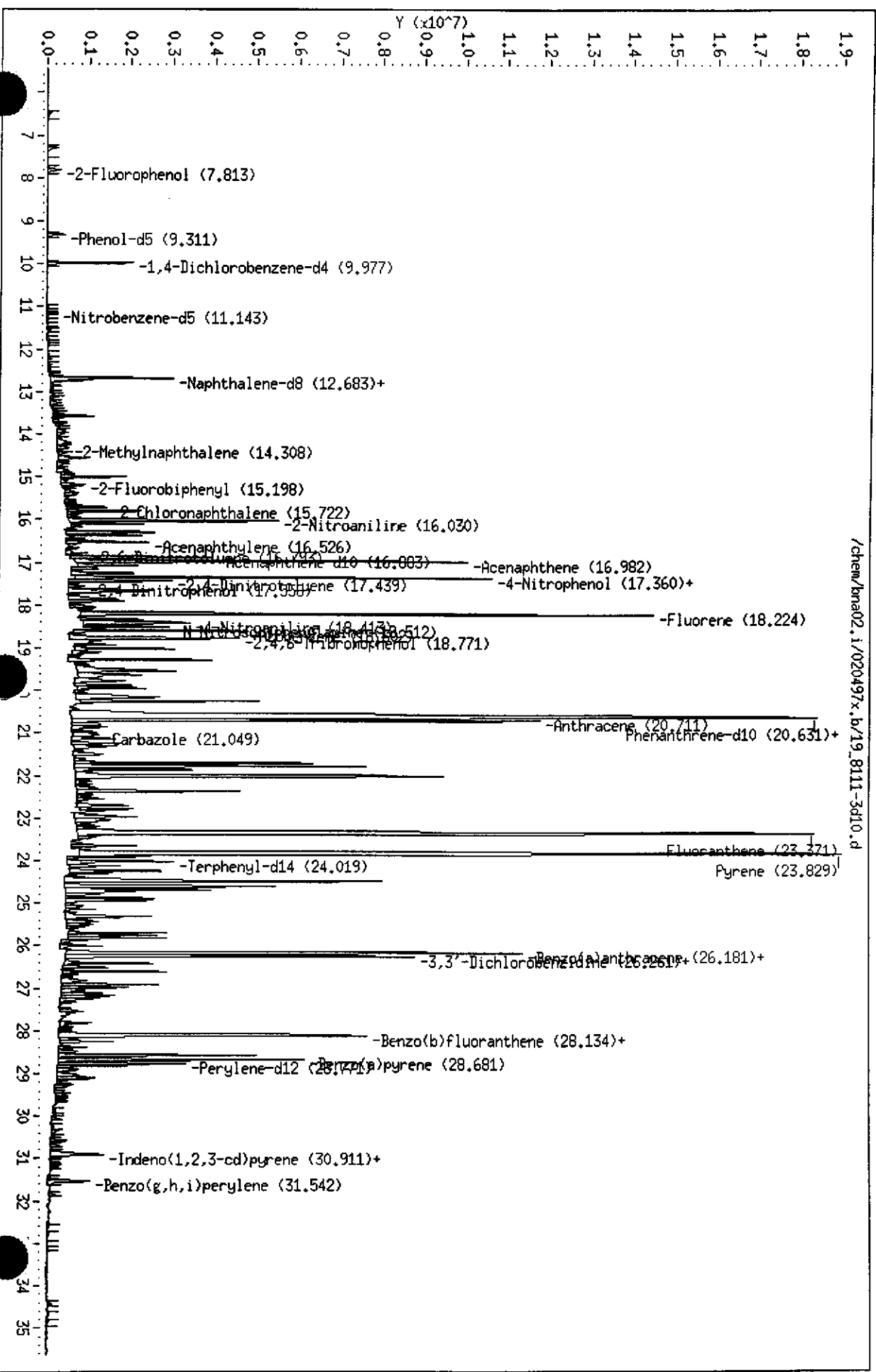
Semivolatile Organics by GC/MS		
Field ID: SCI-40@10.5'	Sampled:	01/22/97
Lab ID: 128111-003	Received:	01/24/97
Matrix: Soil	Extracted:	01/30/97
Batch#: 32134	Analyzed:	02/05/97
Units: ug/Kg		
Diln Fac: 10		
Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	3300
3-Nitroaniline	ND	17000
Acenaphthene	38000	3300
Dibenzofuran	30000	3300
2,4-Dinitrotoluene	ND	3300
Diethylphthalate	ND	3300
4-Chlorophenyl-phenylether	ND	3300
Fluorene	56000	17000
4-Nitroaniline	ND	17000
N-Nitrosodiphenylamine	ND	3300
Azobenzene	ND	3300
4-Bromophenyl-phenylether	ND	3300
Hexachlorobenzene	ND	3300
Phenanthrene	140000	17000
Anthracene	41000	3300
Di-n-butylphthalate	ND	3300
Fluoranthene	110000	17000
Benzidine	ND	3300
Pyrene	79000	17000
Butylbenzylphthalate	ND	3300
3,3'-Dichlorobenzidine	ND	17000
Benzo(a)anthracene	35000	3300
Chrysene	25000	3300
bis(2-Ethylhexyl)phthalate	ND	3300
Di-n-octylphthalate	ND	3300
Benzo(b)fluoranthene	24000	3300
Benzo(k)fluoranthene	25000	3300
Benzo(a)pyrene	24000	3300
Indeno(1,2,3-cd)pyrene	6300	3300
Dibenz(a,h)anthracene	ND	3300
Benzo(g,h,i)perylene	6600	3300
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	89	25-121
Phenol-d5	88	24-113
2,4,6-Tribromophenol	56	19-122
Nitrobenzene-d5	98	23-120
2-Fluorobiphenyl	95	30-115
Terphenyl-d14	80	18-137

J: Estimated Value

Data File: /chem/bna02.i/020497x.b/19_8111-3d10.d
 Date: 05-FEB-97 00:46
 Client ID: CURTIS&TOMPKINS.LTD
 Sample Info:
 Volume Injected (uL): 1.0
 Column phase: Xti 5 x .5 u

Instrument: bna02.i
 Operator: cw
 Column diameter: 0.25

/chem/bna02.i/020497x.b/19_8111-3d10.d



Lab #: 128111

BATCH QC REPORT

Curtis & Tompkins, Ltd.
Page 1 of 2

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
 Batch#: 32134
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 01/31/97

MB Lab ID: QC39216

Analyte	Result	Reporting Limit
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
2,4-Dichlorophenol	ND	330
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	1700
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
Pentachlorophenol	ND	1700
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
bis(2-Chloroethyl)ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
bis(2-Chloroisopropyl) ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
bis(2-Chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700

Lab #: 128111

BATCH QC REPORT



Curtis & Tompkins, Ltd.
Page 2 of 2

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants	Analysis Method: EPA 8270
Project#: 133.005	Prep Method: EPA 3550
Location: KOT	

METHOD BLANK

Matrix: Soil	Prep Date: 01/30/97
Batch#: 32134	Analysis Date: 01/31/97
Units: ug/Kg	
Diln Fac: 1	

MB Lab ID: QC39216

Analyte	Result	Reporting Limit
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330
Surrogate	%Rec	Recovery Limits
2-Fluorophenol	74	25-121
Phenol-d5	81	24-113
2,4,6-Tribromophenol	59	19-122
Nitrobenzene-d5	93	23-120
2-Fluorobiphenyl	79	30-115
Terphenyl-d14	79	18-137



Lab #: 128111

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics			
Client: Subsurface Consultants	Analysis Method: EPA 8270		
Project#: 133.005	Prep Method: EPA 3550		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Soil	Prep Date: 01/30/97		
Batch#: 32134	Analysis Date: 02/05/97		
Units: ug/Kg			
Diln Fac: 1			

LCS Lab ID: QC39217

Analyte	Result	Spike Added	%Rec #	Limits
Phenol	2596	3333	78	26-90
2-Chlorophenol	2574	3333	77	25-102
4-Chloro-3-methylphenol	2545	3333	76	26-103
4-Nitrophenol	2421	3333	73	11-114
Pentachlorophenol	884.9	3333	27	17-109
1,4-Dichlorobenzene	1045	1667	63	28-104
N-Nitroso-di-n-propylamine	1095	1667	66	41-126
1,2,4-Trichlorobenzene	1014	1667	61	38-107
Acenaphthene	1055	1667	63	31-137
2,4-Dinitrotoluene	1011	1667	61	28-89
Pyrene	1086	1667	65	35-142
Surrogate	%Rec	Limits		
2-Fluorophenol	71	25-121		
Phenol-d5	74	24-113		
2,4,6-Tribromophenol	59	19-122		
Nitrobenzene-d5	79	23-120		
2-Fluorobiphenyl	73	30-115		
Terphenyl-d14	73	18-137		

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

* Values outside of QC limits

Spike Recovery: 0 out of 11 outside limits

DO: Surrogate diluted out



Lab #: 128111

BATCH QC REPORT

Page 1 of 1

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3550

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
 Lab ID: 128131-009
 Matrix: Soil
 Batch#: 32134
 Units: ug/Kg
 Diln Fac: 1

Sample Date: 01/24/97
 Received Date: 01/27/97
 Prep Date: 01/30/97
 Analysis Date: 02/04/97

MS Lab ID: QC39218

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Phenol	3333	<333.3	3070	92 *	26-90
2-Chlorophenol	3333	<333.3	3062	92	25-102
4-Chloro-3-methylphenol	3333	<333.3	2861	86	26-103
4-Nitrophenol	3333	<1667	2621	79	11-114
Pentachlorophenol	3333	<1667	1059	32	17-109
1,4-Dichlorobenzene	1667	<333.3	1175	71	28-104
N-Nitroso-di-n-propylamine	1667	<333.3	1258	76	41-126
1,2,4-Trichlorobenzene	1667	<333.3	1175	71	38-107
Acenaphthene	1667	<333.3	1231	74	31-137
2,4-Dinitrotoluene	1667	<333.3	1094	66	28-89
Pyrene	1667	305.8	1672	100	35-142
Surrogate	%Rec	Limits			
2-Fluorophenol	87	25-121			
Phenol-d5	88	24-113			
2,4,6-Tribromophenol	66	19-122			
Nitrobenzene-d5	90	23-120			
2-Fluorobiphenyl	87	30-115			
Terphenyl-d14	90	18-137			

MSD Lab ID: QC39219

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Phenol	3333	3083	92 *	26-90	0	35
2-Chlorophenol	3333	3071	92	25-102	0	50
4-Chloro-3-methylphenol	3333	2942	88	26-103	2	33
4-Nitrophenol	3333	2719	82	11-114	4	50
Pentachlorophenol	3333	1091	33	17-109	3	47
1,4-Dichlorobenzene	1667	1088	65	28-104	7	27
N-Nitroso-di-n-propylamine	1667	1270	76	41-126	1	38
1,2,4-Trichlorobenzene	1667	1133	68	38-107	3	23
Acenaphthene	1667	1223	73	31-137	1	19
2,4-Dinitrotoluene	1667	1054	63	28-89	5	47
Pyrene	1667	1685	83	35-142	1	36
Surrogate	%Rec	Limits				
2-Fluorophenol	86	25-121				
Phenol-d5	87	24-113				
2,4,6-Tribromophenol	67	19-122				
Nitrobenzene-d5	90	23-120				
2-Fluorobiphenyl	86	30-115				
Terphenyl-d14	90	18-137				

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: 2 out of 22 outside limits

DO: Surrogate diluted out



Organochlorine Pesticides and PCBs		
Client: Subsurface Consultants	Analysis Method: EPA 8080	
Project#: 133.005	Prep Method: EPA 3550	
Location: KOT		
Field ID: SCI-40@10.5'	Sampled:	01/22/97
Lab ID: 128111-003	Received:	01/24/97
Matrix: Soil	Extracted:	01/30/97
Batch#: 32139	Analyzed:	02/08/97
Units: ug/Kg		
Diln Fac: 15		
Analyte	Result	Reporting Limit
alpha-BHC	ND	45
beta-BHC	ND	45
gamma-BHC	ND	45
delta-BHC	ND	45
Heptachlor	ND	45
Aldrin	ND	45
Heptachlor epoxide B	ND	45
Heptachlor epoxide A	ND	45
Endosulfan I	ND	45
Dieldrin	ND	90
4,4'-DDE	ND	90
Endrin	ND	90
Endosulfan II	ND	90
Endosulfan sulfate	ND	90
4,4'-DDD	ND	90
Endrin aldehyde	ND	90
4,4'-DDT	ND	90
Chlordane	ND	450
Methoxychlor	ND	450
Toxaphene	ND	900
Aroclor-1016	ND	180
Aroclor-1221	ND	360
Aroclor-1232	ND	180
Aroclor-1242	ND	180
Aroclor-1248	ND	180
Aroclor-1254	ND	180
Aroclor-1260	ND	180
Surrogate	%Recovery	Recovery Limits
TCMX	DO*	29-108
Decachlorobiphenyl	DO*	30-125

* Values outside of QC limits
DO: Surrogate diluted out



Lab #: 128111

BATCH QC REPORT

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8080
 Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
 Batch#: 32139
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 02/06/97

MB Lab ID: QC39232

Analyte	Result	Reporting Limit
alpha-BHC	ND	3.0
beta-BHC	ND	3.0
gamma-BHC	ND	3.0
delta-BHC	ND	3.0
Heptachlor	ND	3.0
Aldrin	ND	3.0
Heptachlor epoxide B	ND	3.0
Heptachlor epoxide A	ND	3.0
Endosulfan I	ND	3.0
Dieldrin	ND	6.0
4,4'-DDE	ND	6.0
Endrin	ND	6.0
Endosulfan II	ND	6.0
Endosulfan sulfate	ND	6.0
4,4'-DDD	ND	6.0
Endrin aldehyde	ND	6.0
4,4'-DDT	ND	6.0
Chlordane	ND	30
Methoxychlor	ND	30
Toxaphene	ND	60
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Surrogate	%Rec	Recovery Limits
TCMX	93	29-108
Decachlorobiphenyl	94	30-125



Lab #: 128111

BATCH QC REPORT

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8080
Prep Method: EPA 3550

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 32139
Units: ug/Kg
Diln Fac: 1

Prep Date: 01/30/97
Analysis Date: 02/06/97

LCS Lab ID: QC39233

Analyte	Result	Spike Added	%Rec #	Limits
gamma-BHC	15.16	17	91	49-115
Heptachlor	15.78	17	95	51-119
Aldrin	15.15	17	91	55-112
Dieldrin	15.83	17	95	54-123
Endrin	16.67	17	100	63-128
4,4'-DDT	14.99	17	90	57-131
Surrogate	%Rec	Limits		
TCMX	95	29-108		
Decachlorobiphenyl	88	30-125		

* 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 #: 128111

BATCH QC REPORT

EPA 8080 Pesticides & PCBs	
Client: Subsurface Consultants	Analysis Method: EPA 8080
Project#: 133.005	Prep Method: EPA 3550
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/22/97
Lab ID: 128112-010	Received Date: 01/24/97
Matrix: Soil	Prep Date: 01/30/97
Batch#: 32139	Analysis Date: 02/07/97
Units: ug/Kg	
Diln Fac: 1	

MS Lab ID: QC39234

Analyte	Spike Added	Sample	MS	%Rec #	Limits
gamma-BHC	17	<3	16.28	98	53-124
Heptachlor	17	<3	16.84	101	55-128
Aldrin	17	<3	16.29	98	49-128
Dieldrin	17	<6	15.95	96	54-128
Endrin	17	<6	16.63	100	69-131
4,4'-DDT	17	<6	17.4	104	53-144
Surrogate	%Rec	Limits			
TCMX	101	29-108			
Decachlorobiphenyl	76	30-125			

MSD Lab ID: QC39235

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
gamma-BHC	17	16.84	101	53-124	3	35
Heptachlor	17	17.61	106	55-128	4	35
Aldrin	17	16.85	101	49-128	3	35
Dieldrin	17	16.76	101	54-128	5	35
Endrin	17	17.45	105	69-131	5	35
4,4'-DDT	17	17.96	108	53-144	3	35
Surrogate	%Rec	Limits				
TCMX	105	29-108				
Decachlorobiphenyl	92	30-125				

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



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 128111
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 133.005
LOCATION: KOT

DATE SAMPLED: 01/22/97
DATE RECEIVED: 01/24/97
DATE ANALYZED: 01/30/97
DATE REPORTED: 02/03/97

=====
ANALYSIS: TOTAL PHOSPHORUS
METHOD REFERENCE: EPA 365.2
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
128111-001	SCI-40@4.5'	9.8	mg/Kg	1.0
METHOD BLANK	N/A	ND	mg/Kg	0.30

ND = Not detected at or above the reporting limit.

QA/QC SUMMARY: MS/SAMPLE DUPLICATE OF 128112-010

RPD, %	<1
RECOVERY, %	72



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 128111
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 133.005
LOCATION: KOT

DATE SAMPLED: 01/22/97
DATE RECEIVED: 01/24/97
DATE ANALYZED: 01/30/97
DATE REPORTED: 02/03/97

=====
ANALYSIS: NITRATE/NITRITE
METHOD REFERENCE: EPA 353.2
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
128111-001	SCI-40@4.5'	0.27	mg/Kg	0.20
METHOD BLANK	N/A	ND	mg/Kg	0.20

ND = Not detected at or above the reporting limit.

QA/QC SUMMARY: MS/MSD OF SAMPLE NO: 215714-002

=====
RPD, % 2
RECOVERY, % 109
=====

SAMPLE ID: SCI-40@4.5'
 LAB ID: 128111-001
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Soil

DATE SAMPLED: 01/22/97
 DATE RECEIVED: 01/24/97
 DATE REPORTED: 02/11/97

California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.9	1	32117	EPA 6010A	01/30/97
Arsenic	5.8	0.24	1	32117	EPA 6010A	01/30/97
Barium	69	0.49	1	32117	EPA 6010A	01/30/97
Beryllium	0.22	0.097	1	32117	EPA 6010A	01/30/97
Cadmium	0.63	0.097	1	32117	EPA 6010A	01/30/97
Chromium (total)	37	0.49	1	32117	EPA 6010A	01/30/97
Cobalt	8.5	0.97	1	32117	EPA 6010A	01/30/97
Copper	28	0.49	1	32117	EPA 6010A	01/30/97
Lead	40	0.15	1	32117	EPA 6010A	01/30/97
Mercury	0.11	0.10	1	32130	EPA 7471	01/30/97
Molybdenum	ND	0.97	1	32117	EPA 6010A	01/30/97
Nickel	43	0.97	1	32117	EPA 6010A	01/30/97
Selenium	1.3	0.24	1	32117	EPA 6010A	01/30/97
Silver	ND	0.49	1	32117	EPA 6010A	01/30/97
Thallium	0.50	0.24	1	32117	EPA 6010A	01/30/97
Vanadium	24	0.49	1	32117	EPA 6010A	01/30/97
Zinc	60	0.97	1	32117	EPA 6010A	01/30/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCI-40@4.5'
LAB ID: 128111-001
CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Soil

DATE SAMPLED: 01/22/97
DATE RECEIVED: 01/24/97
DATE REPORTED: 02/11/97

Metals Analytical Report

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Potassium	890	24	1	32117	EPA 6010A	01/30/97

CLIENT: Subsurface Consultants
 JOB NUMBER: 128111

DATE REPORTED: 02/11/97

**BATCH QC REPORT
 PREP BLANK**

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	3	mg/Kg	1	32117	EPA 6010A	01/30/97
Arsenic	ND	0.25	mg/Kg	1	32117	EPA 6010A	01/30/97
Barium	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97
Beryllium	ND	0.1	mg/Kg	1	32117	EPA 6010A	01/30/97
Cadmium	ND	0.1	mg/Kg	1	32117	EPA 6010A	01/30/97
Chromium (total)	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97
Cobalt	ND	1	mg/Kg	1	32117	EPA 6010A	01/30/97
Copper	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97
Lead	ND	0.15	mg/Kg	1	32117	EPA 6010A	01/30/97
Mercury	ND	0.1	mg/Kg	1	32130	EPA 7471	01/30/97
Molybdenum	ND	1	mg/Kg	1	32117	EPA 6010A	01/30/97
Nickel	ND	1	mg/Kg	1	32117	EPA 6010A	01/30/97
Potassium	ND	25	mg/Kg	1	32117	EPA 6010A	01/30/97
Selenium	ND	0.25	mg/Kg	1	32117	EPA 6010A	01/30/97
Silver	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97
Thallium	ND	0.25	mg/Kg	1	32117	EPA 6010A	01/30/97
Vanadium	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97
Zinc	ND	1	mg/Kg	1	32117	EPA 6010A	01/30/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128111

DATE REPORTED: 02/11/97

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	25	26.1	26.25	mg/Kg	104	105	80-120	1	35	32117	EPA 6010A	01/30/97
Arsenic	100	93	95.5	mg/Kg	93	96	80-120	3	35	32117	EPA 6010A	01/30/97
Barium	100	104	104.5	mg/Kg	104	105	80-120	1	35	32117	EPA 6010A	01/30/97
Beryllium	2.5	2.525	2.58	mg/Kg	101	103	80-120	2	35	32117	EPA 6010A	01/30/97
Cadmium	2.5	2.53	2.565	mg/Kg	101	103	80-120	1	35	32117	EPA 6010A	01/30/97
Chromium (total)	10	9.7	9.9	mg/Kg	97	99	80-120	2	35	32117	EPA 6010A	01/30/97
Cobalt	25	23.25	23.8	mg/Kg	93	95	80-120	2	35	32117	EPA 6010A	01/30/97
Copper	12.5	13.2	13.4	mg/Kg	106	107	80-120	2	35	32117	EPA 6010A	01/30/97
Lead	25	24.35	24.85	mg/Kg	97	99	80-120	2	35	32117	EPA 6010A	01/30/97
Mercury	5	4.746	4.951	ug/L	95	99	80-120	4	35	32130	EPA 7470	01/30/97
Molybdenum	20	19.55	19.95	mg/Kg	98	100	80-120	2	35	32117	EPA 6010A	01/30/97
Nickel	25	24.65	25.2	mg/Kg	99	101	80-120	2	35	32117	EPA 6010A	01/30/97
Potassium	1000	838	844.5	mg/Kg	84	85	80-120	1	35	32117	EPA 6010A	01/30/97
Selenium	100	92	92.5	mg/Kg	92	93	80-120	1	35	32117	EPA 6010A	01/30/97
Silver	5	5.1	5.15	mg/Kg	102	103	80-120	1	35	32117	EPA 6010A	01/30/97
Thallium	100	88.5	92	mg/Kg	89	92	80-120	4	35	32117	EPA 6010A	01/30/97
Vanadium	25	24.95	25.35	mg/Kg	100	101	80-120	2	35	32117	EPA 6010A	01/30/97
Zinc	25	24.9	25.5	mg/Kg	100	102	80-120	2	35	32117	EPA 6010A	01/30/97



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
Layfayette, CA 94549

Date: 31-JAN-97
Lab Job Number: 128112
Project ID: 133.005
Location: KOT

Reviewed by: _____

Reviewed by: _____

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TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128112-002	SCI-42 @ 4.5'	32050	01/23/97	01/27/97	01/27/97	
128112-004	SCI-43 @ 4.5'	32050	01/23/97	01/27/97	01/27/97	
128112-007	SCI-45 @ 5'	32050	01/23/97	01/27/97	01/27/97	

Matrix: Soil

Analyte	Units	128112-002	128112-004	128112-007
Diln Fac:		1	50	50
Gasoline	mg/Kg	<1	310 YH	380 YH
Surrogate				
Trifluorotoluene	%REC	93	91	90
Bromobenzene	%REC	88	101	100

Y: Sample exhibits fuel pattern which does not resemble standard

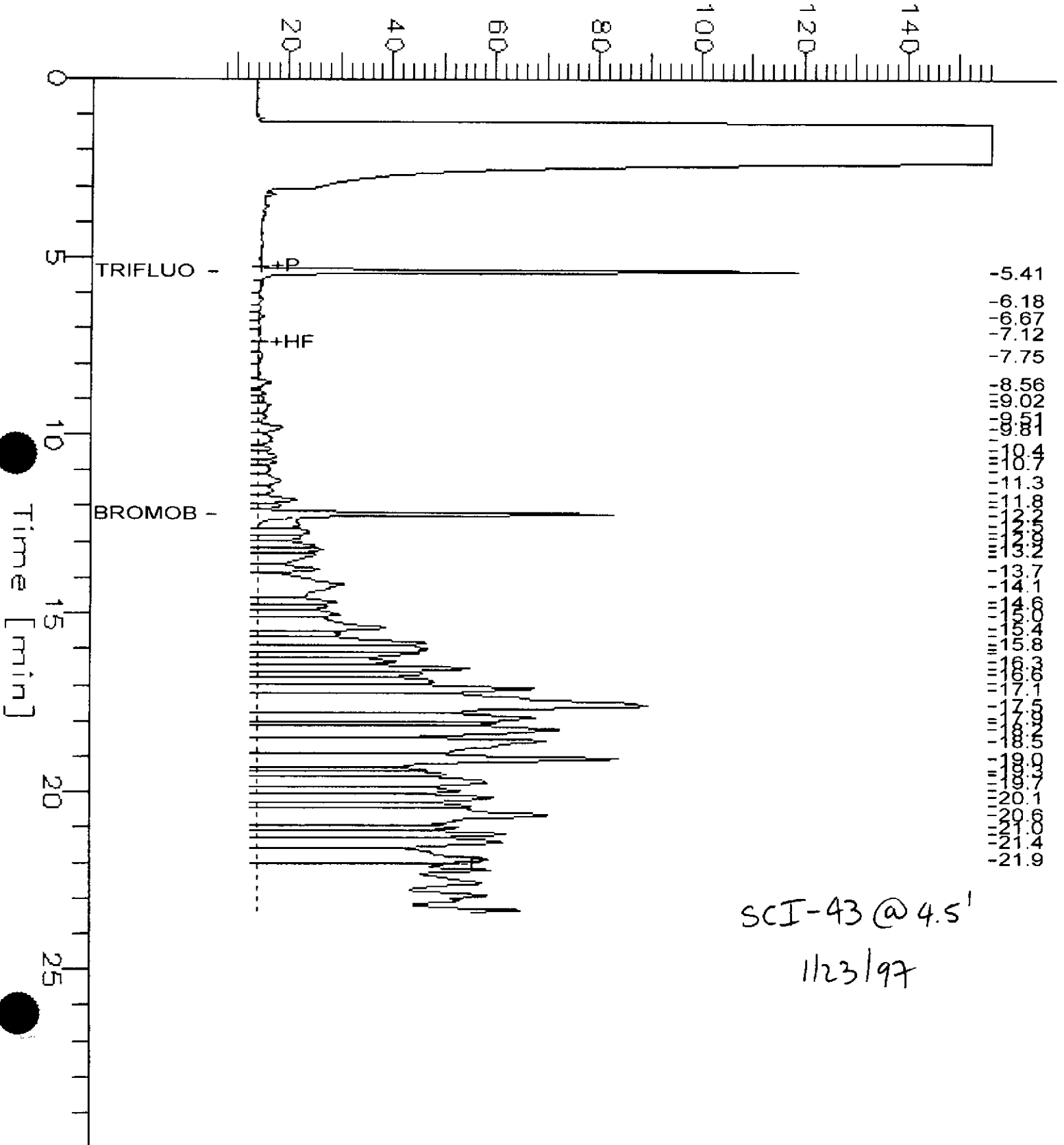
H: Heavier hydrocarbons than indicated standard

GC05 RTX1 TVH Chromatogram

Sample Name : DL,128112-004,32050,50,S,
 FileName : G:\GC05\DATA\027H020.RAW
 Method :
 Start Time : 0.00 min
 Factor: -1.0

Sample #: Page 1 of 1
 Date : 1/27/97 04:01 PM
 Time of Injection: 1/27/97 01:39 PM
 Low Point : 6.28 mV High Point : 156.28 mV
 Plot Offset: 6 mV Plot Scale: 150.0 mV

Response [mV]

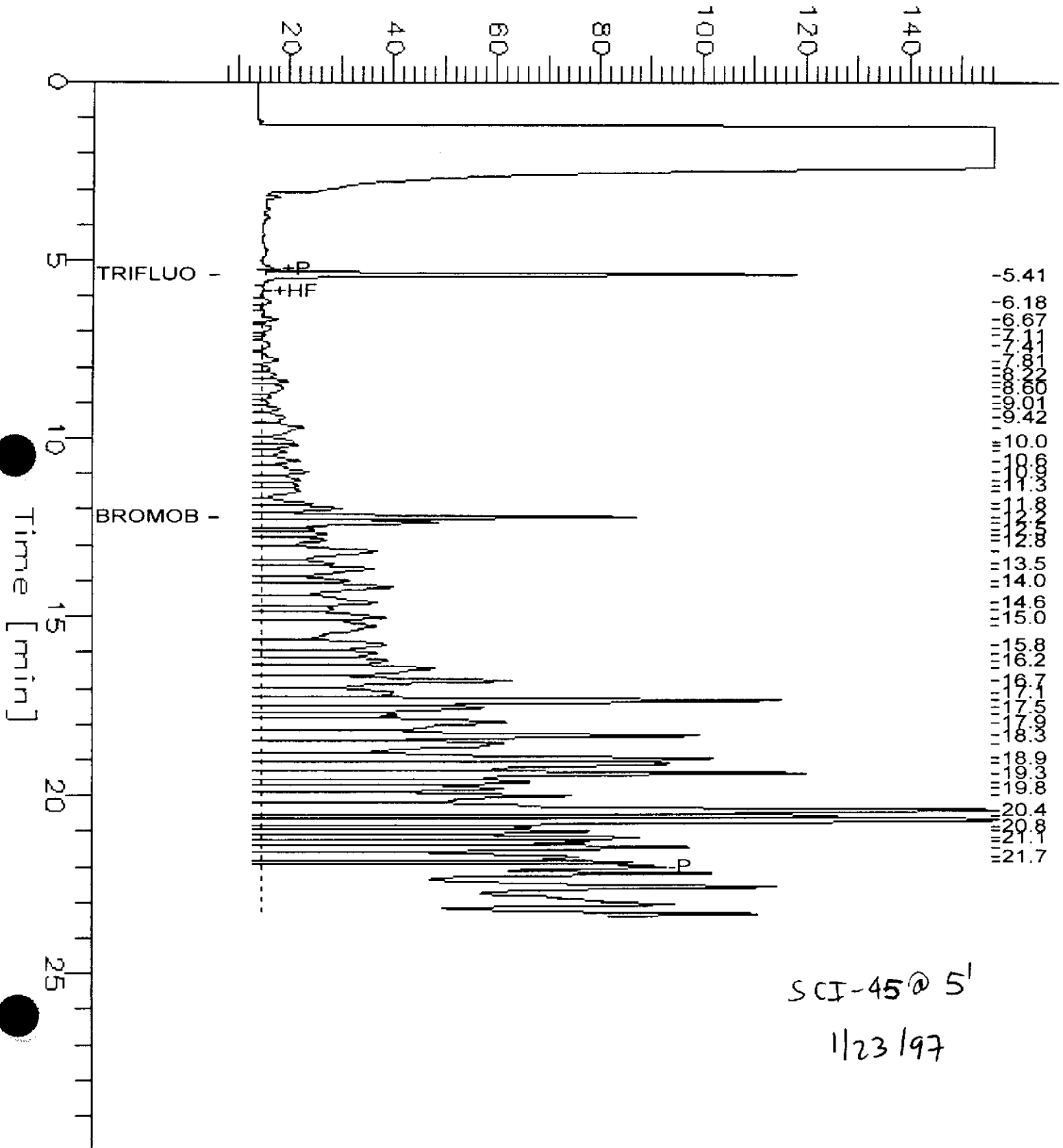


GC05 RTX1 TVH Chromatogram

Sample Name : DL128112-007,32050,50,S,
 FileName : G:\GC05\DATA\027H019.RAW
 Method :
 Start Time : 0.00 min
 Scale Factor : -1.0

Sample #: Page 1 of 1
 Date : 1/27/97 04:00 PM
 Time of Injection: 1/27/97 01:04 PM
 Low Point : 6.32 mV High Point : 156.32 mV
 Plot Scale: 150.0 mV
 End Time : 30.00 min
 Plot Offset: 6 mV

Response [mV]

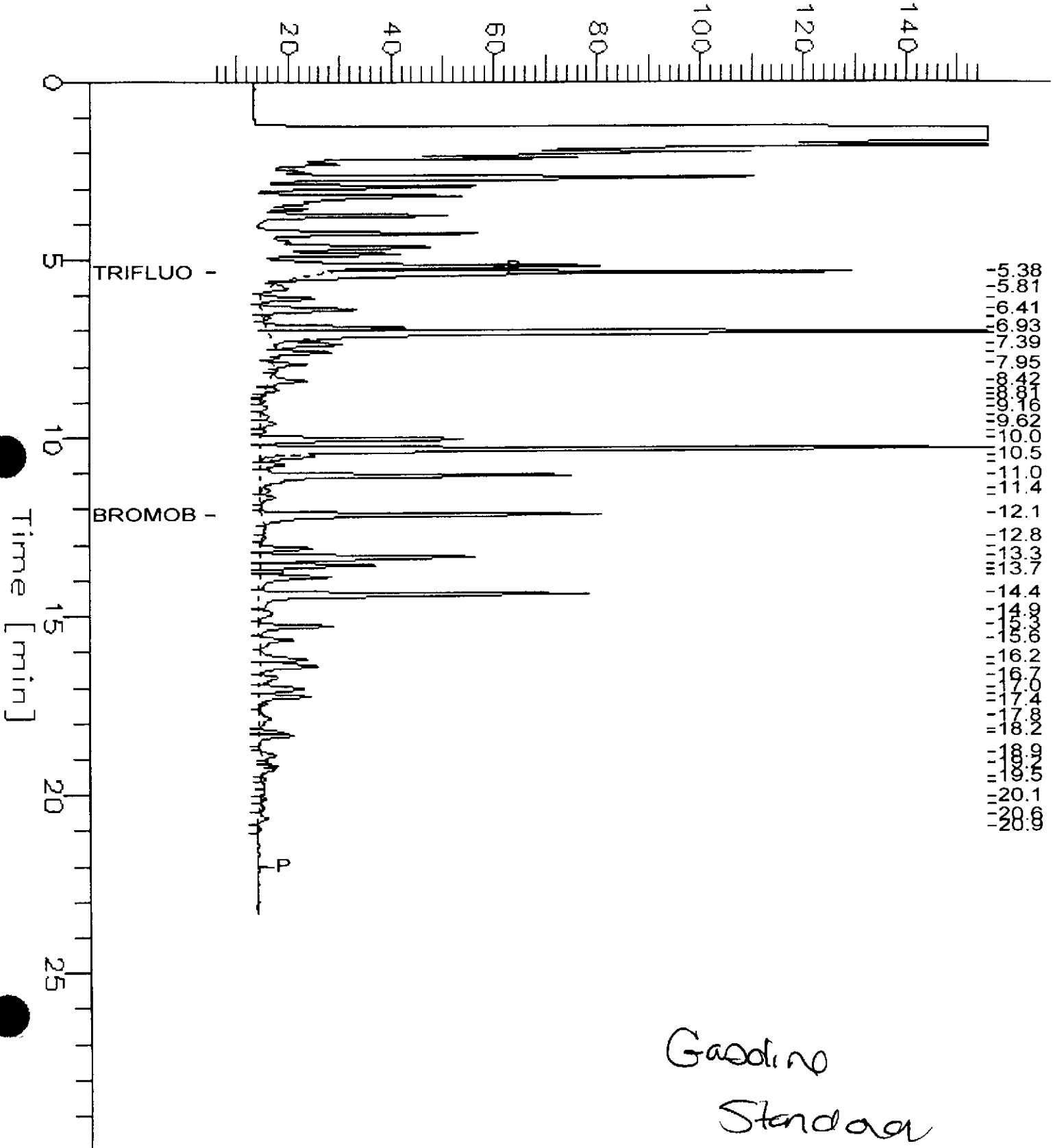


GC05 RTX1 TVH Chromatogram

Sample Name : CCV,GAS,32050,1,S
FileName : G:\GC05\DATA\027H037.raw
Method : TVHBTXE
Start Time : 0.00 min
e Factor: -1.0

Sample #: 97WS3636
Date : 1/28/97 12:30 AM
Time of Injection: 1/28/97 12:05 AM
Low Point : 5.84 mV
High Point : 155.84 mV
Plot Scale: 150.0 mV

Response [mV]





Lab #: 128112

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 32050
Units: mg/Kg
Diln Fac: 1

Prep Date: 01/27/97
Analysis Date: 01/27/97

MB Lab ID: QC38876

Analyte	Result	
Gasoline	<1.0	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	91	52-127
Bromobenzene	84	45-140



Lab #: 128112

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/16/97
Lab ID: 128104-004	Received Date: 01/24/97
Matrix: Soil	Prep Date: 01/27/97
Batch#: 32050	Analysis Date: 01/27/97
Units: mg/Kg dry weight	Moisture: 13%
Diln Fac: 1	

MS Lab ID: QC38877

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	11.49	<1.149	10.9	95	65-135
Surrogate	%Rec	Limits			
Trifluorotoluene	97	52-127			
Bromobenzene	100	45-140			

MSD Lab ID: QC38878

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	11.49	11.59	101	65-135	6	30
Surrogate	%Rec	Limits				
Trifluorotoluene	98	52-127				
Bromobenzene	101	45-140				

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



Lab #: 128112

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

LABORATORY CONTROL SAMPLE

Matrix: Soil	Prep Date: 01/27/97
Batch#: 32050	Analysis Date: 01/27/97
Units: mg/Kg	
Diln Fac: 1	

LCS Lab ID: QC38874

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	10.25	10	103	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	92	52-127		
Bromobenzene	92	45-140		

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



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128112-001	SCI-41 @ 11'	32120	01/22/97	01/29/97	01/31/97	
128112-002	SCI-42 @ 4.5'	32120	01/23/97	01/29/97	01/31/97	
128112-003	SCI-42 @ 10'	32120	01/23/97	01/29/97	01/31/97	
128112-004	SCI-43 @ 4.5'	32120	01/23/97	01/29/97	01/31/97	

Matrix: Soil

Analyte	Units	128112-001	128112-002	128112-003	128112-004
Diln Fac:		1	1	1	20
Diesel C12-C22	mg/Kg	<1	14 YH	<1	9200 L
Motor Oil C22-C50	mg/Kg	<5	130 H	<5	1600 YL
Surrogate					
Hexacosane	%REC	118	123	135	DO

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

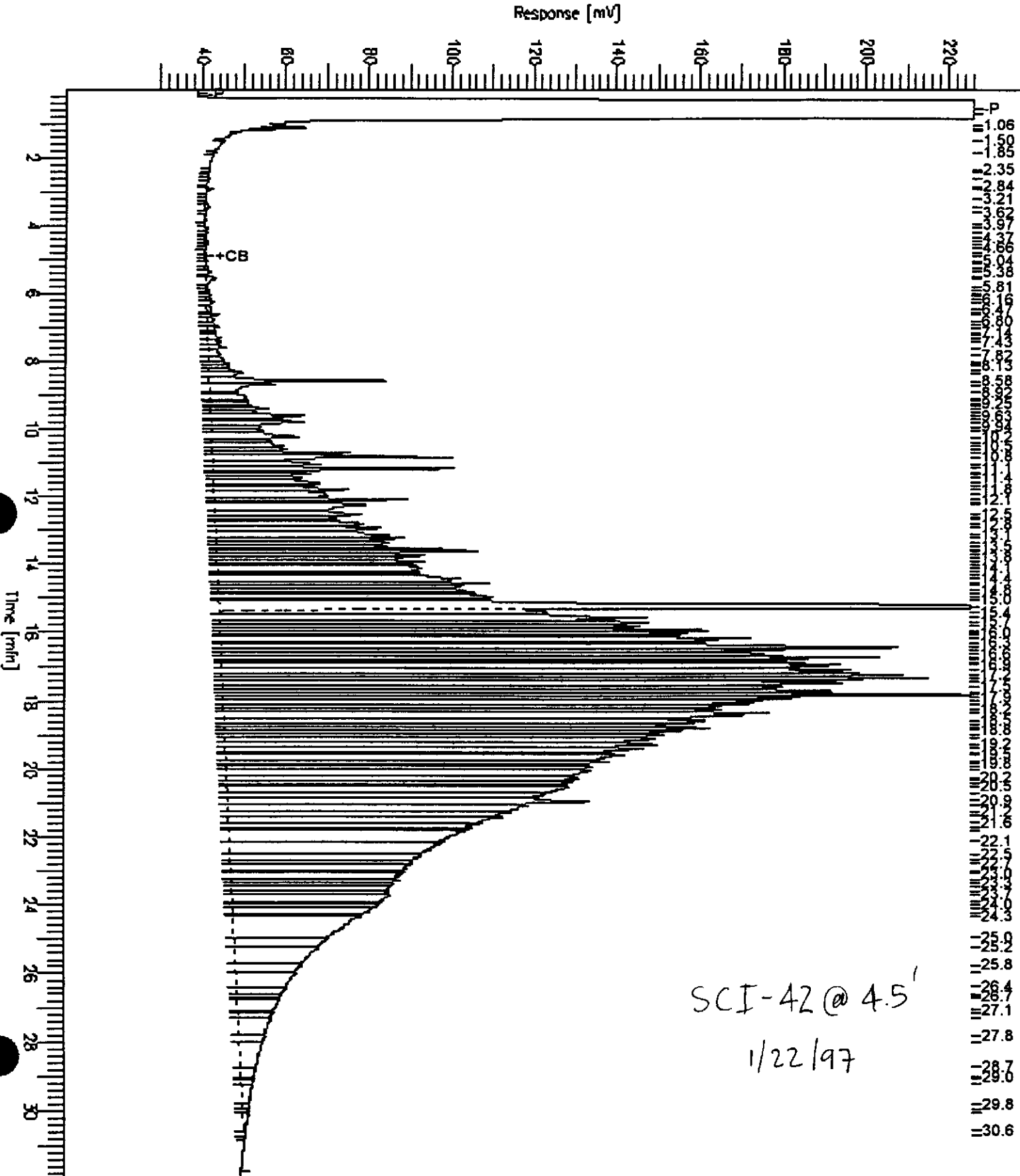
L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 128112-002,32120
File Name : G:\GC11\CHB\030B025.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Gain Factor : 0.0

End Time : 31.91 min
Plot Offset : 29 mV

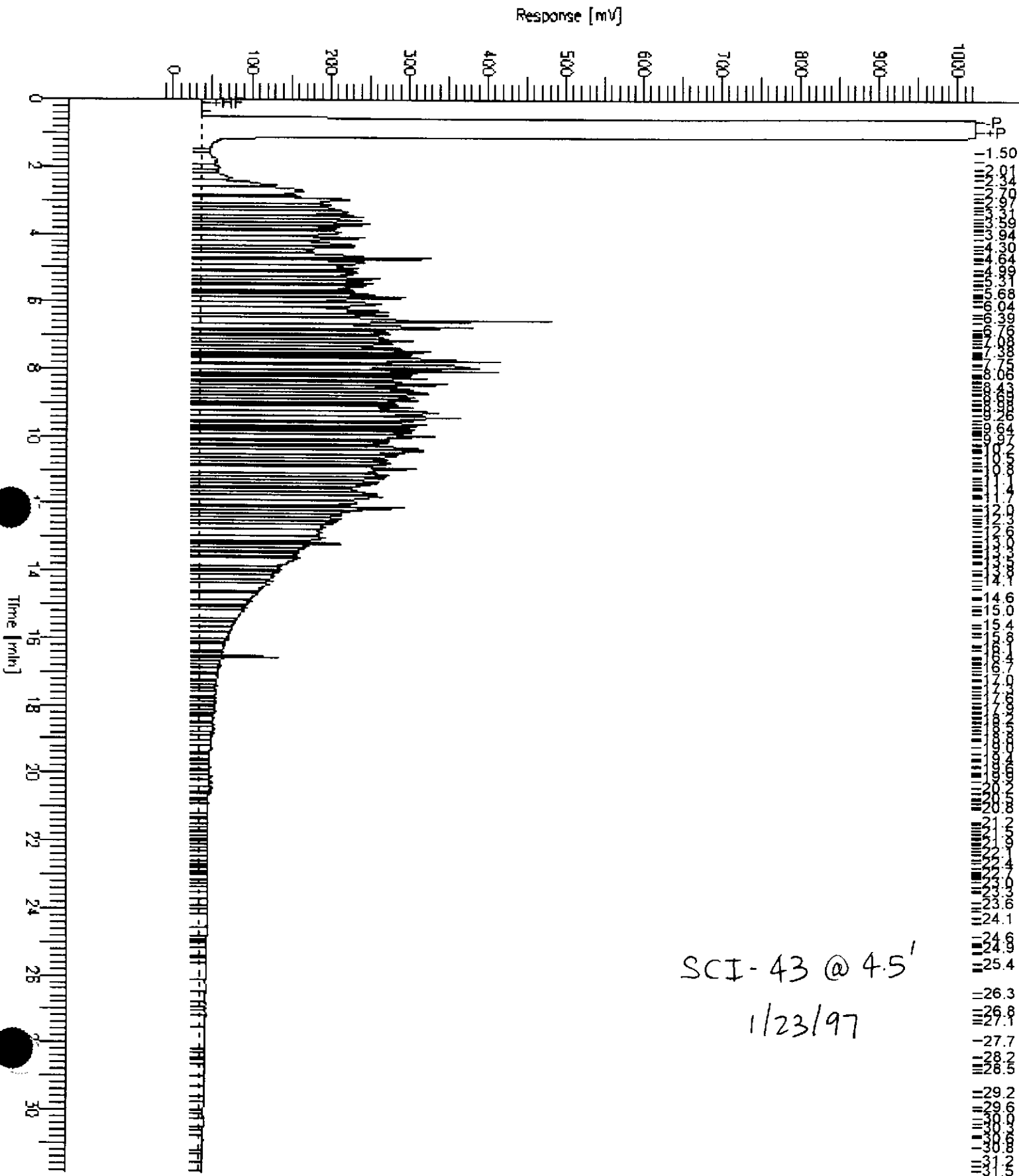
Sample #: 32120
Date : 1/31/97 02:16 PM
Time of Injection: 1/31/97 02:18 AM
Low Point : 29.34 mV
Plot Scale: 196.9 mV
High Point : 226.23 mV



Chromatogram

Sample Name : 108112-004, 32120
File Name : G:\GG13\ACHAN\321A008.RAW
Method : ATEH034.MTH
Start Time : 0.00 min
Factor : 0.10

Sample #: 32120
Date : 2/3/97 11:39 AM
Time of Injection: 12/31/97 10:44 PM
Low Point : -16.49 mV
High Point : 1024.00 mV
Plot Scale: 1040.5 mV





TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128112-005	SCI-44 @ 2'	32120	01/23/97	01/29/97	01/31/97	
128112-006	SCI-44 @ 4.5'	32120	01/23/97	01/29/97	02/01/97	
128112-007	SCI-45 @ 5'	32120	01/23/97	01/29/97	02/01/97	
128112-008	SCI-45 @ 8.5'	32120	01/23/97	01/29/97	01/31/97	

Matrix: Soil

Analyte	Units	128112-005	128112-006	128112-007	128112-008
Diln Fac:		10	20	50	1
Diesel C12-C22	mg/Kg	1300 H	6600	23000	95
Motor Oil C22-C50	mg/Kg	3200 H	1400 YL	2600 YL	56 YLH
Surrogate					
Hexacosane	%REC	DO	DO	DO	131

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

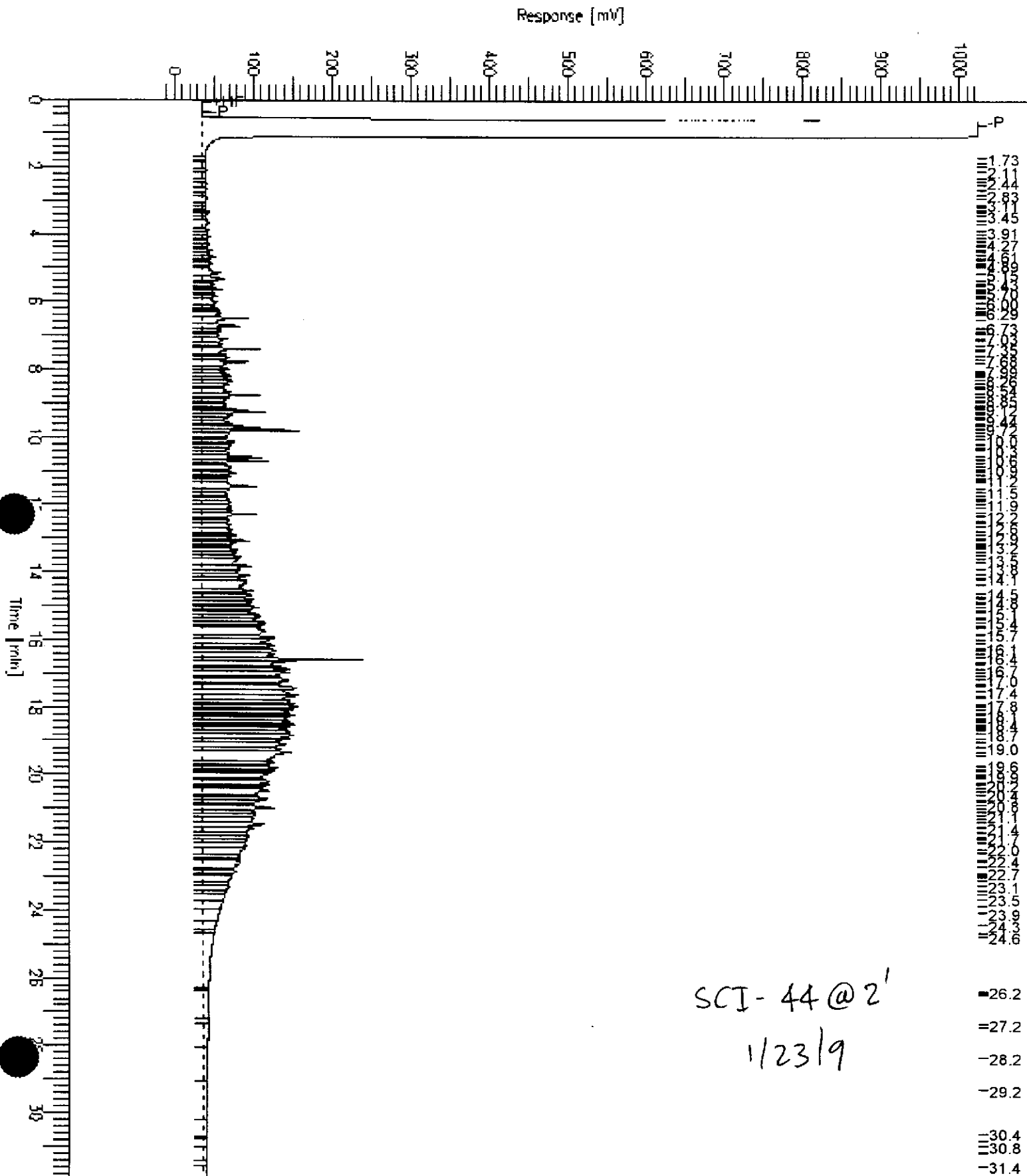
H: Heavier hydrocarbons than indicated standard

L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 128112-005, 32120
 File Name : G:\GC12\CHAI\031A005.RAW
 Method : ATEH32A.MTH
 Start Time : 0.00 min
 End Time : 31.93 min
 Plot Offset: -17 mV

Page 1 of 1
 Date : 2/4/97 12:03 PM
 Time of Injection: 1/31/97 11:27 PM
 Low Point : -16.65 mV
 High Point : 1024.01 mV
 Run Status: 1096.01 mV



SCI-44@2'
 1/23/9

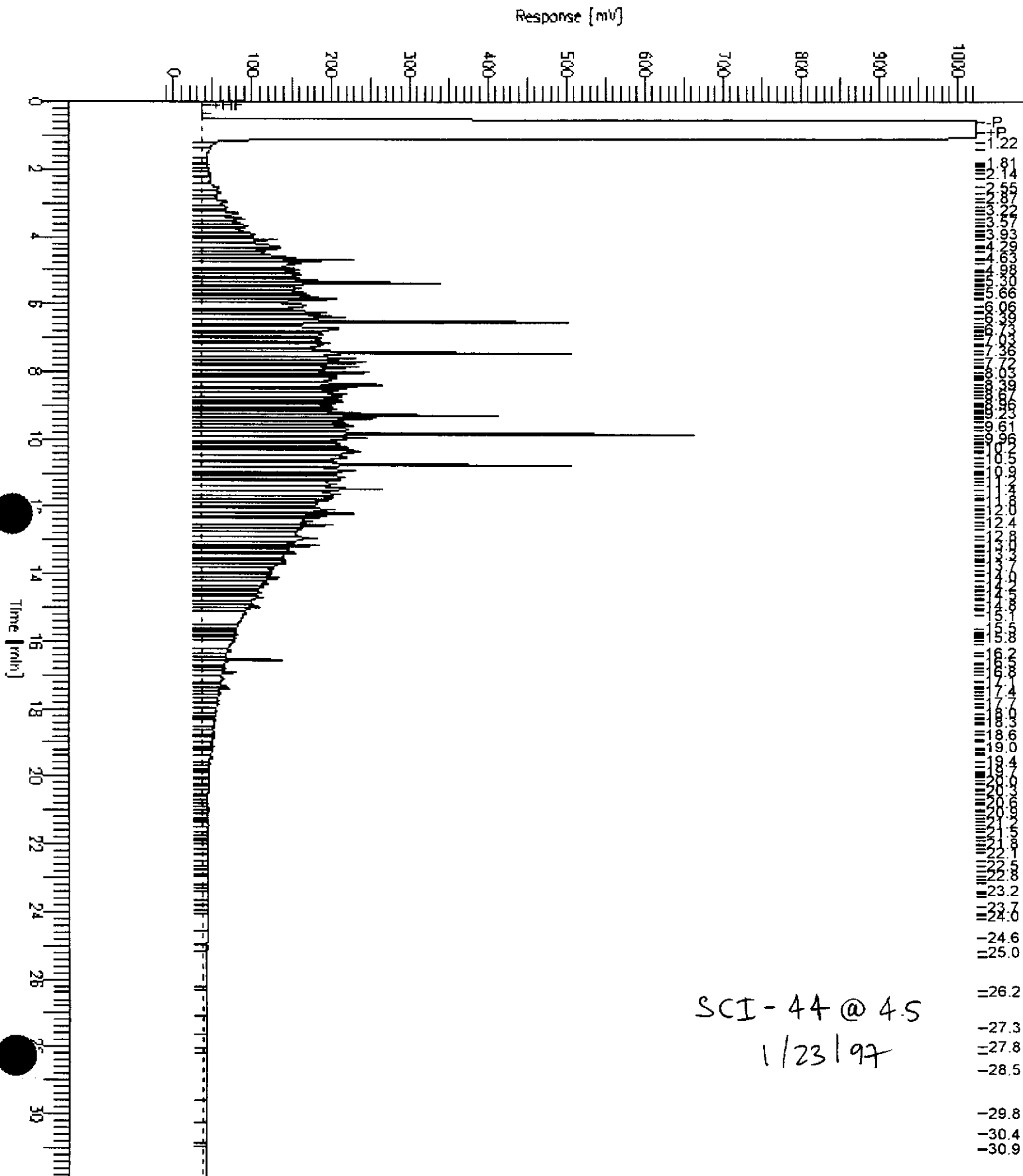
Chromatogram

Sample Name : 128112-006, 32120
File Name : G:\GC13\ACHAN\331A010.RAW
Method : ATE0044.MTH
Start Time : 0:00 min
Factor : 0.0

End Time : 31.90 min
Plot Offset : -10 mV

Sample #: 32120
Date : 2/3/97 11:40 AM
Time of Injection: 2/1/97 12:10 AM
Low Point : -16.35 mV
High Point : 1024.00 mV
Plot Scale: 1040.4 mV

Page 1 of 1



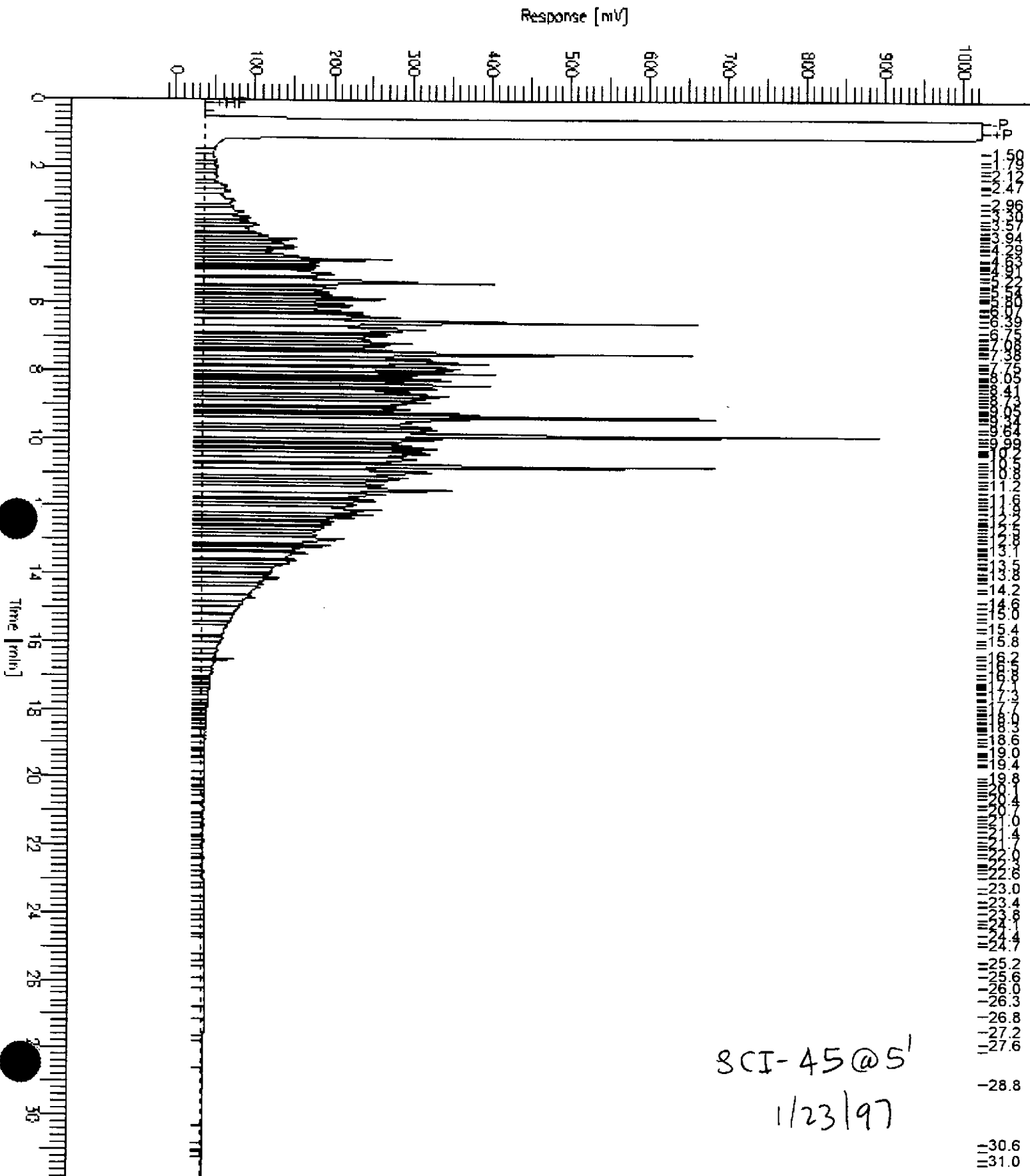
Chromatogram

Sample Name : 128112-007,32120
FileName : G:\GC13\CHAI\031A011.RAW
Method : ATEH034.MTH
Start Time : 0.00 min
Factor : 0.0

End Time : 31.90 min
Plot Offset : -16 mV

Sample #: 32120
Date : 2/3/97 11:41 AM
Time of Injection: 2/1/97 12:53 AM
Low Point : -16.27 mV
High Point : 1024.00 mV
Plot Scale: 1040.3 mV

Page 1 of 1



SCI-45@5'
1/23/97



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128112-009	SCI-46 @ 2.0'	32120	01/23/97	01/29/97	01/31/97	
128112-010	SCI-46 @ 3.0'	32120	01/23/97	01/29/97	01/31/97	
128112-011	SCI-46 @ 5.0'	32120	01/23/97	01/29/97	01/31/97	

Matrix: Soil

Analyte	Units	128112-009	128112-010	128112-011
Diln Fac:		1	1	1
Diesel C12-C22	mg/Kg	13 YH	<1	5.7YH
Motor Oil C22-C50	mg/Kg	95 H	20 H	29 H
Surrogate				
Hexacosane	%REC	129	135	123

Y: Sample exhibits fuel pattern which does not resemble standard

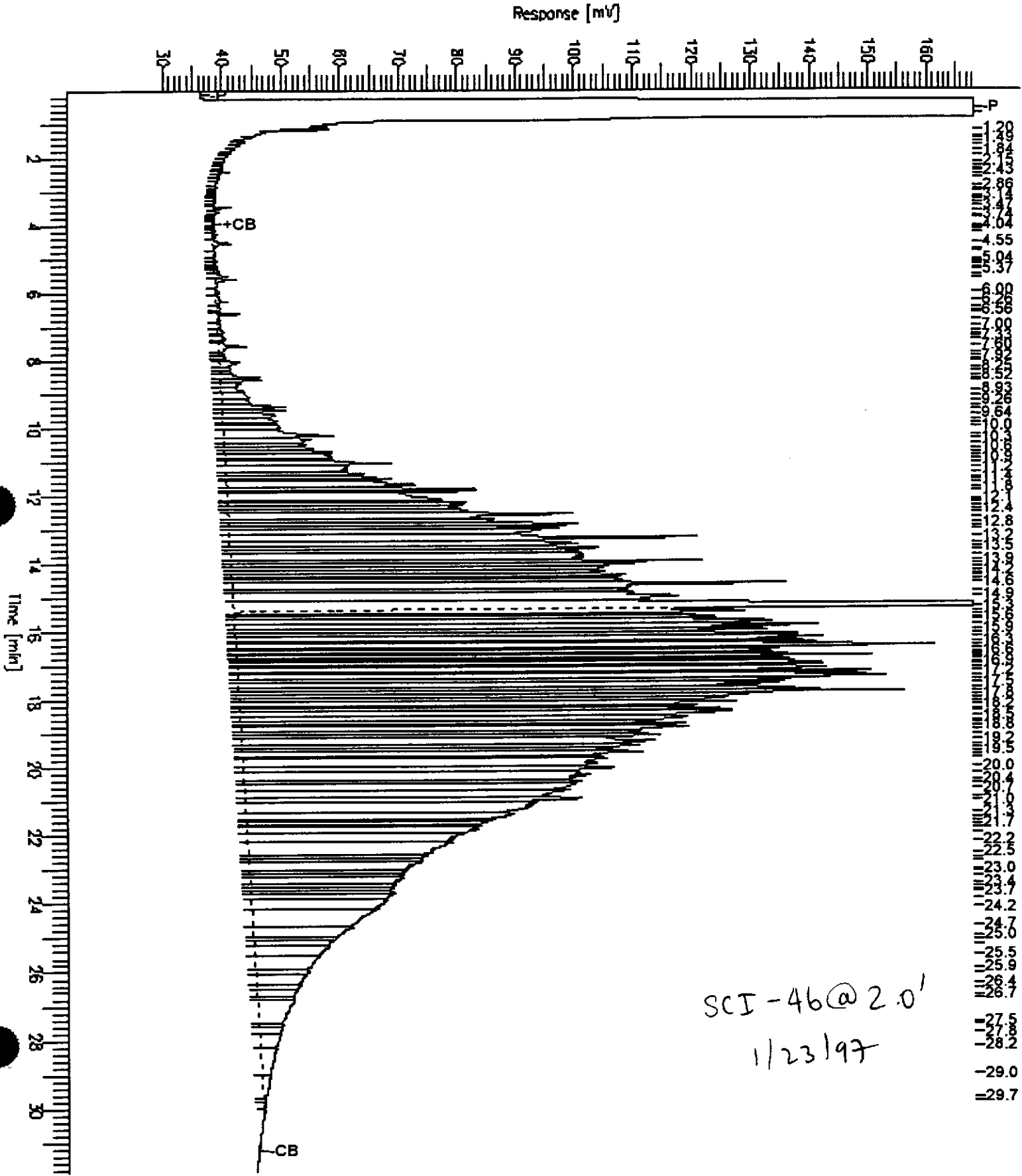
H: Heavier hydrocarbons than indicated standard

Chromatogram

Sample Name : 128112-009,32120
FileName : G:\GC11\CHB\030B035.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Gain Factor : 0.0

End Time : 31.91 min
Plot Offset : 29 mV

Sample #: 32120
Date : 1/31/97 02:25 PM
Time of Injection: 1/31/97 09:28 AM
Low Point : 29.43 mV
Plot Scale : 138.8 mV
High Point : 168.25 mV

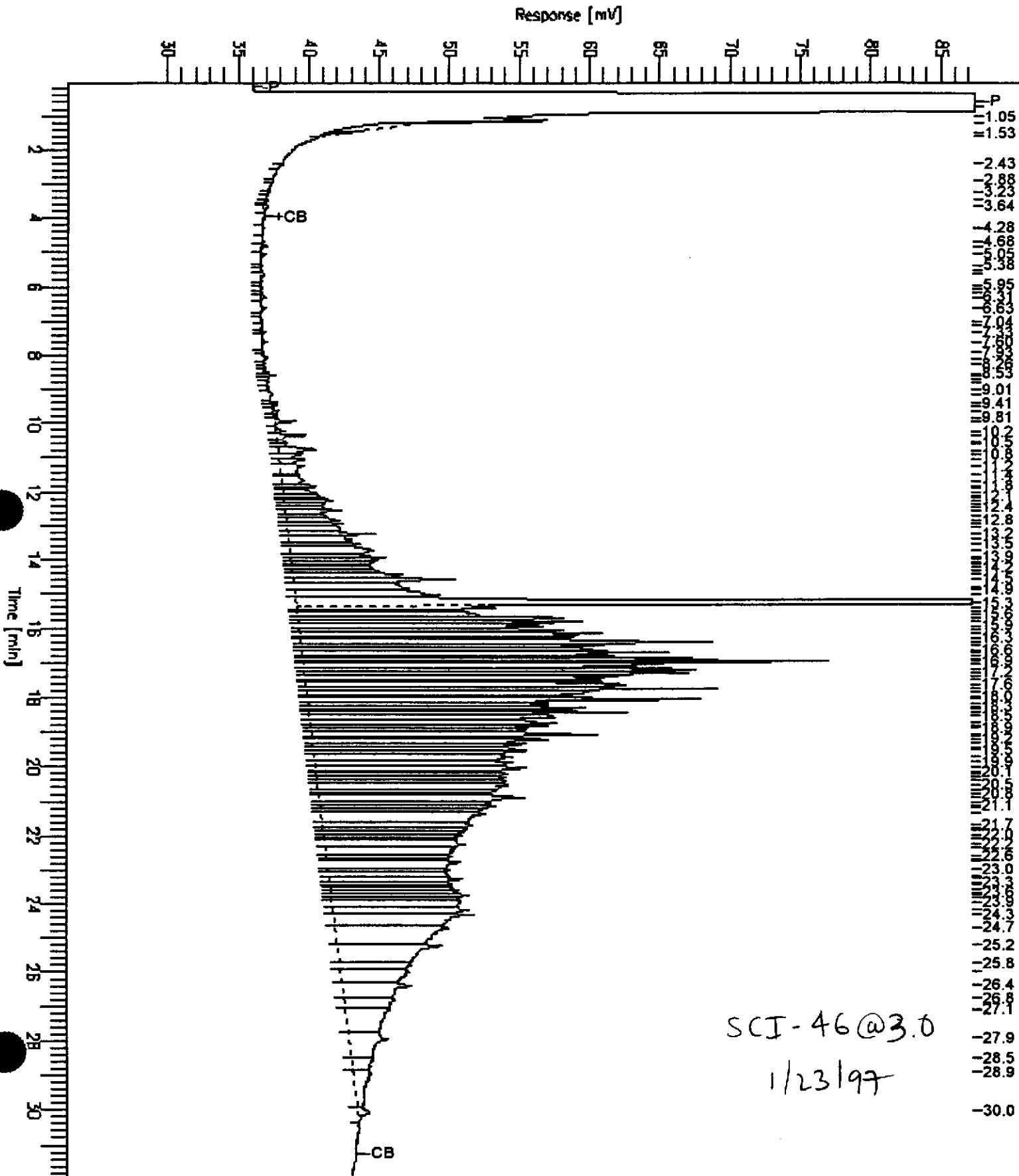


Chromatogram

Sample Name : 128112-010,32120
FileName : G:\GC11\CHB\030B036.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Gain Factor: 0.0

End Time : 31.91 min
Plot Offset: 29 mV

Sample #: 32120
Date : 1/31/97 02:25 PM
Time of Injection: 1/31/97 10:11 AM
Low Point : 29.48 mV
High Point : 87.48 mV
Plot Scale: 58.0 mV

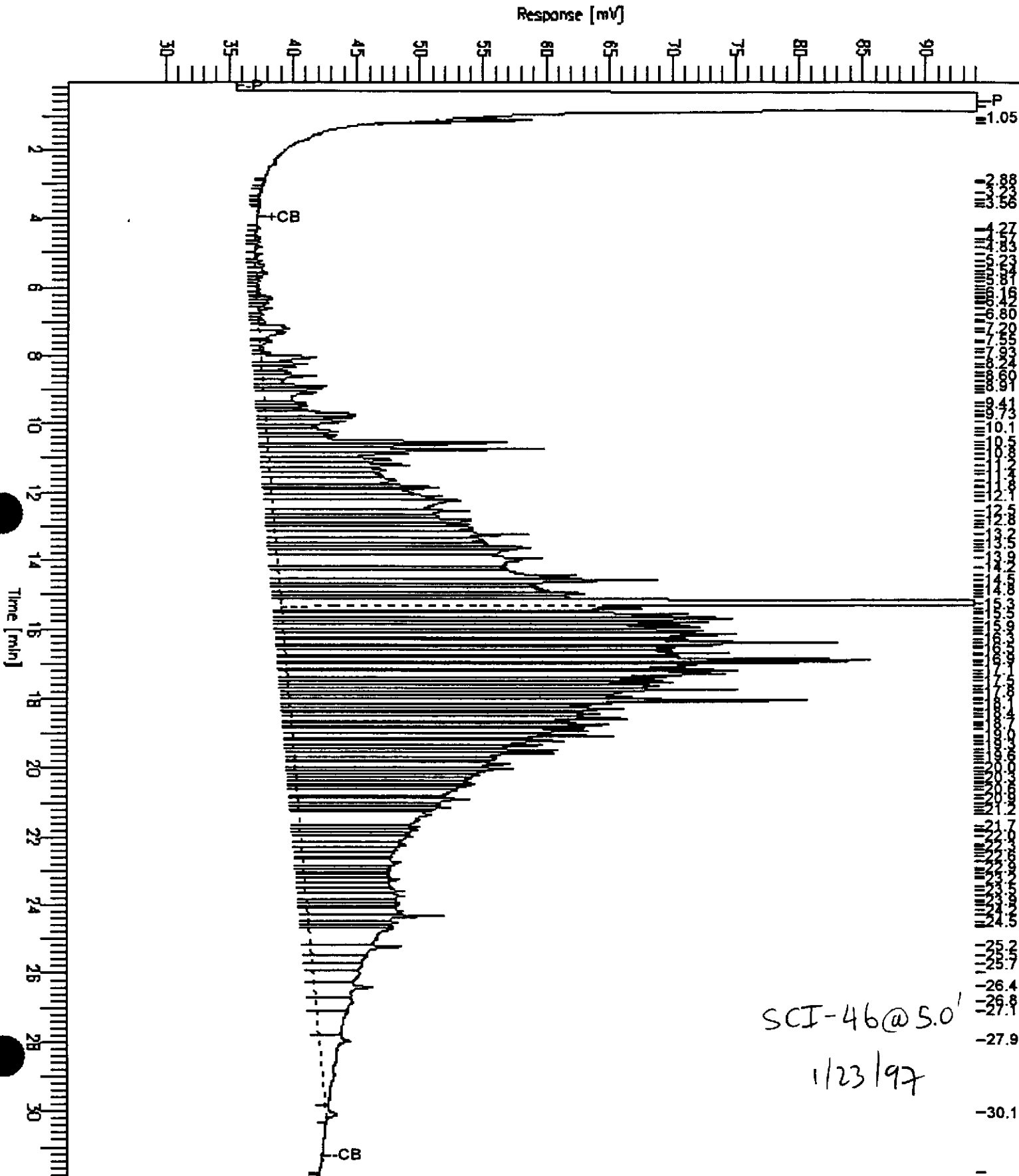


SCI-46@3.0
1/23/97

Chromatogram

Sample Name : 128112-011,32120
 FileName : G:\GC11\CHB\030B037.RAW
 Method : BTEH006.MTH
 Start Time : 0.01 min
 Scale Factor: 0.0

Sample #: 32120
 Date : 1/31/97 02:26 PM
 Time of Injection: 1/31/97 10:54 AM
 Low Point : 29.62 mV
 High Point : 94.14 mV
 Plot Scale: 64.5 mV



SCI-46@5.0'
 1/23/97

Chromatogram

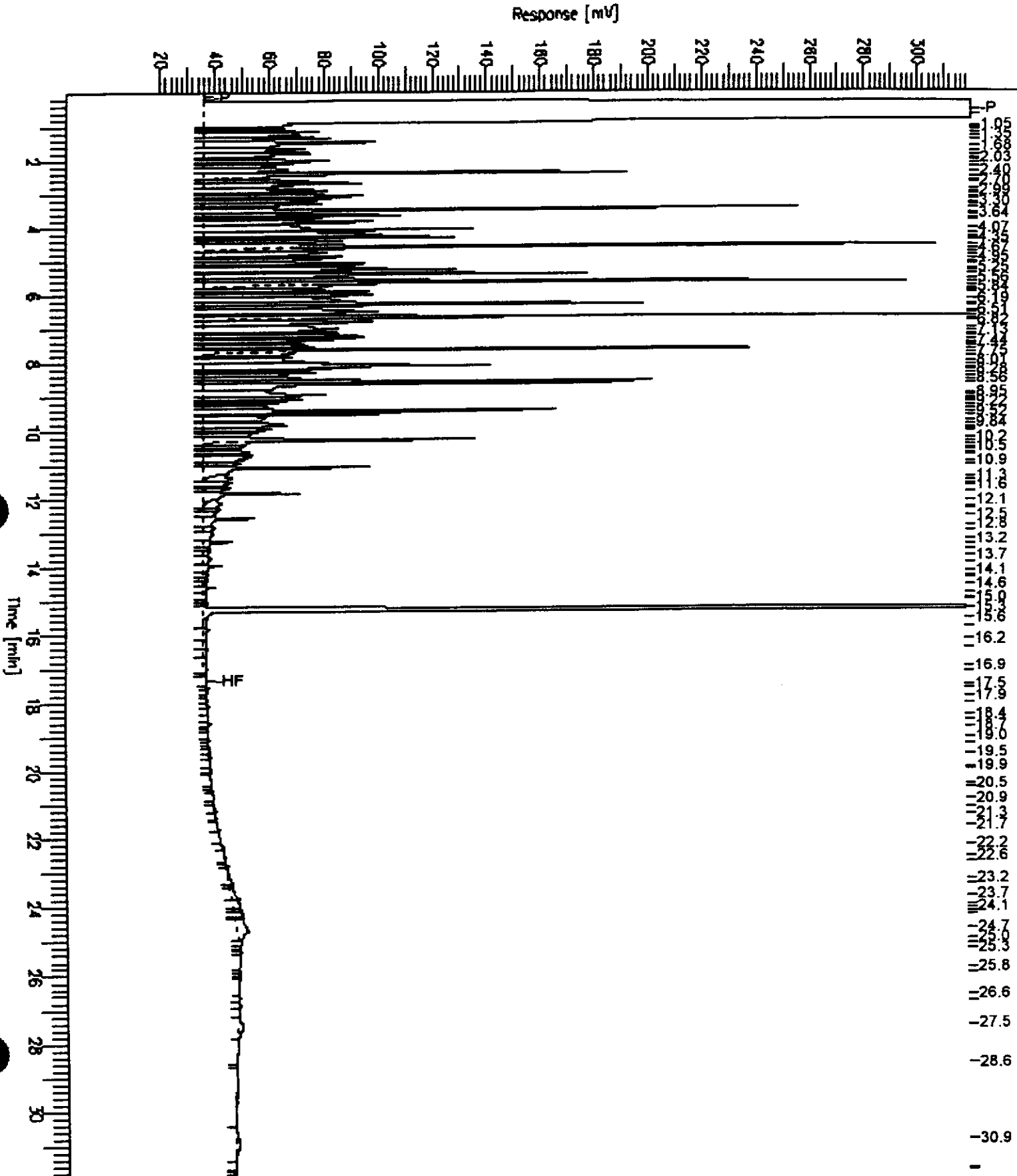
Sample Name : CCV,96MS3659,DS
FileName : G:\GC11\CHBA\0308015.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Scale Factor : 0.0

End Time : 31.91 min
Plot Offset : 19 mV

Sample #: 500MG/L
Date : 1/31/97 02:07 PM
Time of Injection: 1/30/97 07:09 PM
Low Point : 19.10 mV
Plot Scale : 300.9 mV

Page 1 of 1

High Point : 320.00 mV

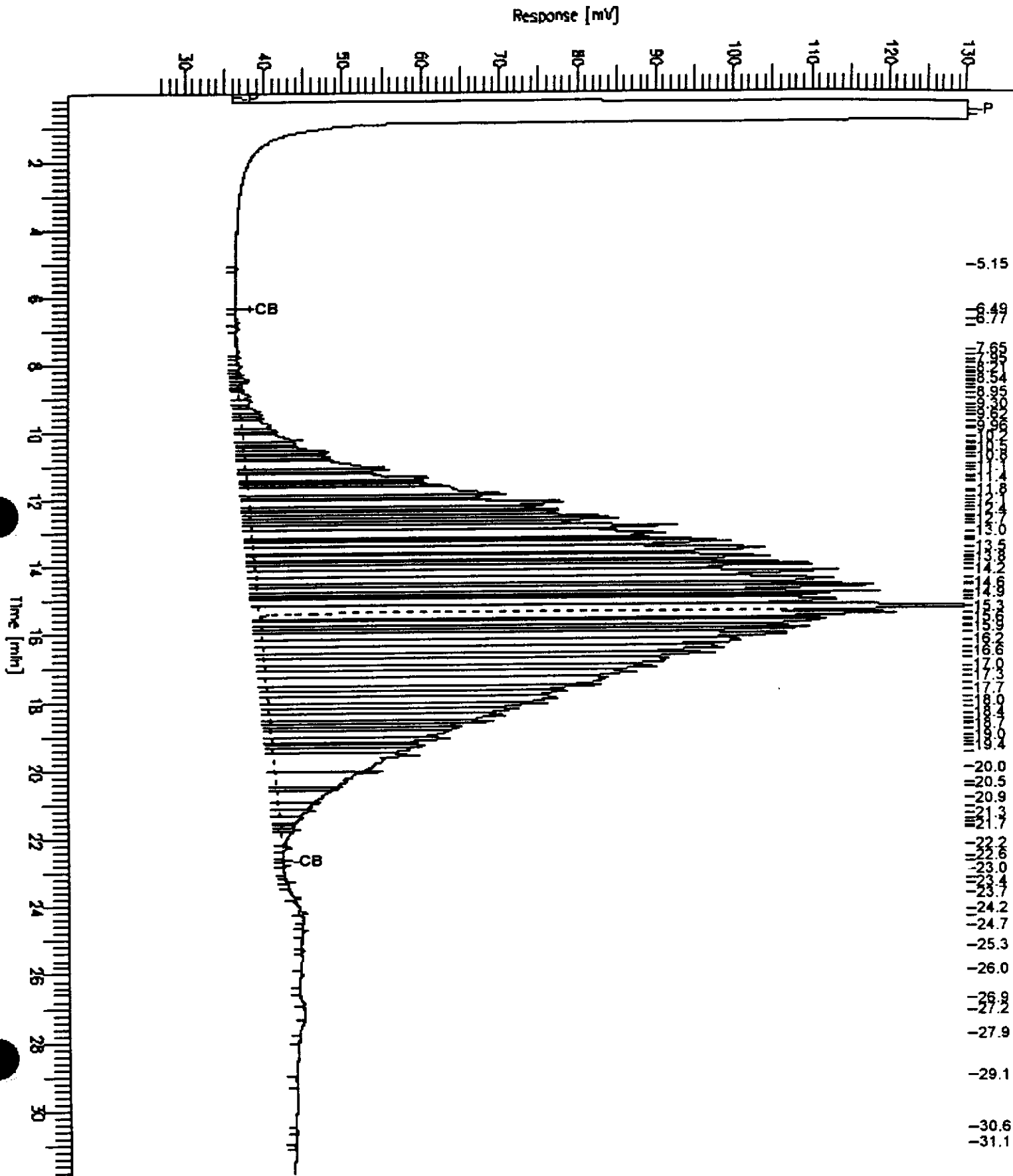


Chromatogram

Sample Name : CCV,96WS3096,MO
FileName : G:\GC11\CHB\030B017.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Gain Factor : 0.0

End Time : 31.91 min
Plot Offset : 27 mV

Sample #: 500MG/L
Date : 1/31/97 02:09 PM
Time of Injection: 1/30/97 08:34 PM
Low Point : 26.77 mV
Plot Scale : 103.4 mV
High Point : 130.20 mV





Lab #: 128112

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	CA LUFT
Location:	KOT		
METHOD BLANK			
Matrix:	Soil	Prep Date:	01/29/97
Batch#:	32120	Analysis Date:	01/30/97
Units:	mg/Kg		
Diln Fac:	1		

MB Lab ID: QC39152

Analyte	Result		
Diesel C12-C22	<1.0		
Motor Oil C22-C50	<5.0		
Surrogate	%Rec		Recovery Limits
Hexacosane	121		60-140



Lab #: 128112

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: CA LUFT
Location: KOT	
LABORATORY CONTROL SAMPLE	
Matrix: Soil	Prep Date: 01/29/97
Batch#: 32120	Analysis Date: 01/30/97
Units: mg/Kg	
Diln Fac: 1	

LCS Lab ID: QC39153

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C12-C22	47.9	49.5	97	60-140
Surrogate	%Rec	Limits		
Hexacosane	123	60-140		

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

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128112-002	SCI-42 @ 4.5'	32050	01/23/97	01/27/97	01/27/97	
128112-004	SCI-43 @ 4.5'	32050	01/23/97	01/27/97	01/27/97	
128112-007	SCI-45 @ 5'	32050	01/23/97	01/27/97	01/27/97	

Matrix: Soil

Analyte	Units	128112-002	128112-004	128112-007
Diln Fac:		1	50	50
Benzene	ug/Kg	<5	<250	<250
Toluene	ug/Kg	6	<250	<250
Ethylbenzene	ug/Kg	<5	<250	<250
m,p-Xylenes	ug/Kg	<5	<250	<250
o-Xylene	ug/Kg	<5	<250	<250
Surrogate				
Trifluorotoluene	%REC	94	92	94
Bromobenzene	%REC	95	109	119



Lab #: 128112

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
METHOD BLANK			
Matrix: Soil	Prep Date: 01/27/97		
Batch#: 32050	Analysis Date: 01/27/97		
Units: ug/Kg			
Diln Fac: 1			

MB Lab ID: QC38876

Analyte	Result		
Benzene	<5.0		
Toluene	<5.0		
Ethylbenzene	<5.0		
m,p-Xylenes	<5.0		
o-Xylene	<5.0		
Surrogate	%Rec	Recovery Limits	
Trifluorotoluene	93	52-127	
Bromobenzene	91	45-140	



Lab #: 128112

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Soil	Prep Date: 01/27/97		
Batch#: 32050	Analysis Date: 01/27/97		
Units: ug/Kg			
Diln Fac: 1			

LCS Lab ID: QC38875

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	97.72	100	98	80-120
Toluene	99.69	100	100	80-120
Ethylbenzene	99.84	100	100	80-120
m,p-Xylenes	195.8	200	98	80-120
o-Xylene	100.6	100	101	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	95	52-127		
Bromobenzene	94	45-140		

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



Organochlorine Pesticides and PCBs

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8080
Prep Method: EPA 3550

Field ID: SCI-42 @ 4.5'
Lab ID: 128112-002
Matrix: Soil
Batch#: 32139
Units: ug/Kg
Diln Fac: 20

Sampled: 01/23/97
Received: 01/24/97
Extracted: 01/30/97
Analyzed: 02/07/97

Analyte	Result	Reporting Limit
alpha-BHC	ND	
beta-BHC	ND	60
gamma-BHC	ND	60
delta-BHC	ND	60
Heptachlor	ND	60
Aldrin	ND	60
Heptachlor epoxide B	ND	60
Heptachlor epoxide A	ND	60
Endosulfan I	ND	60
Dieldrin	ND	60
4,4'-DDE	ND	120
Endrin	ND	120
Endosulfan II	ND	120
Endosulfan sulfate	ND	120
4,4'-DDD	ND	120
Endrin aldehyde	ND	120
4,4'-DDT	ND	120
Chlordane	ND	120
Methoxychlor	ND	600
Toxaphene	ND	600
Aroclor-1016	ND	1200
Aroclor-1221	ND	240
Aroclor-1232	ND	480
Aroclor-1242	ND	240
Aroclor-1248	ND	240
Aroclor-1254	ND	240
Aroclor-1260	ND	240
Surrogate	%Recovery	Recovery Limits
TCMX	DO*	
Decachlorobiphenyl	DO*	29-108
		30-125

* Values outside of QC limits
DO: Surrogate diluted out



Organochlorine Pesticides and PCBs

Client: Subsurface Consultants Analysis Method: EPA 8080
Project#: 133.005 Prep Method: EPA 3550
Location: KOT

Field ID: SCI-46 @ 2.0' Sampled: 01/23/97
Lab ID: 128112-009 Received: 01/24/97
Matrix: Soil Extracted: 01/30/97
Batch#: 32139 Analyzed: 02/07/97
Units: ug/Kg
Diln Fac: 1

Analyte	Result	Reporting Limit
alpha-BHC	ND	3.0
beta-BHC	ND	3.0
gamma-BHC	ND	3.0
delta-BHC	ND	3.0
Heptachlor	ND	3.0
Aldrin	ND	3.0
Heptachlor epoxide B	ND	3.0
Heptachlor epoxide A	ND	3.0
Endosulfan I	ND	3.0
Dieldrin	ND	6.0
4,4'-DDE	ND	6.0
Endrin	ND	6.0
Endosulfan II	ND	6.0
Endosulfan sulfate	ND	6.0
4,4'-DDD	ND	6.0
Endrin aldehyde	ND	6.0
4,4'-DDT	35	6.0
Chlordane	ND	30
Methoxychlor	ND	30
Toxaphene	ND	60
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

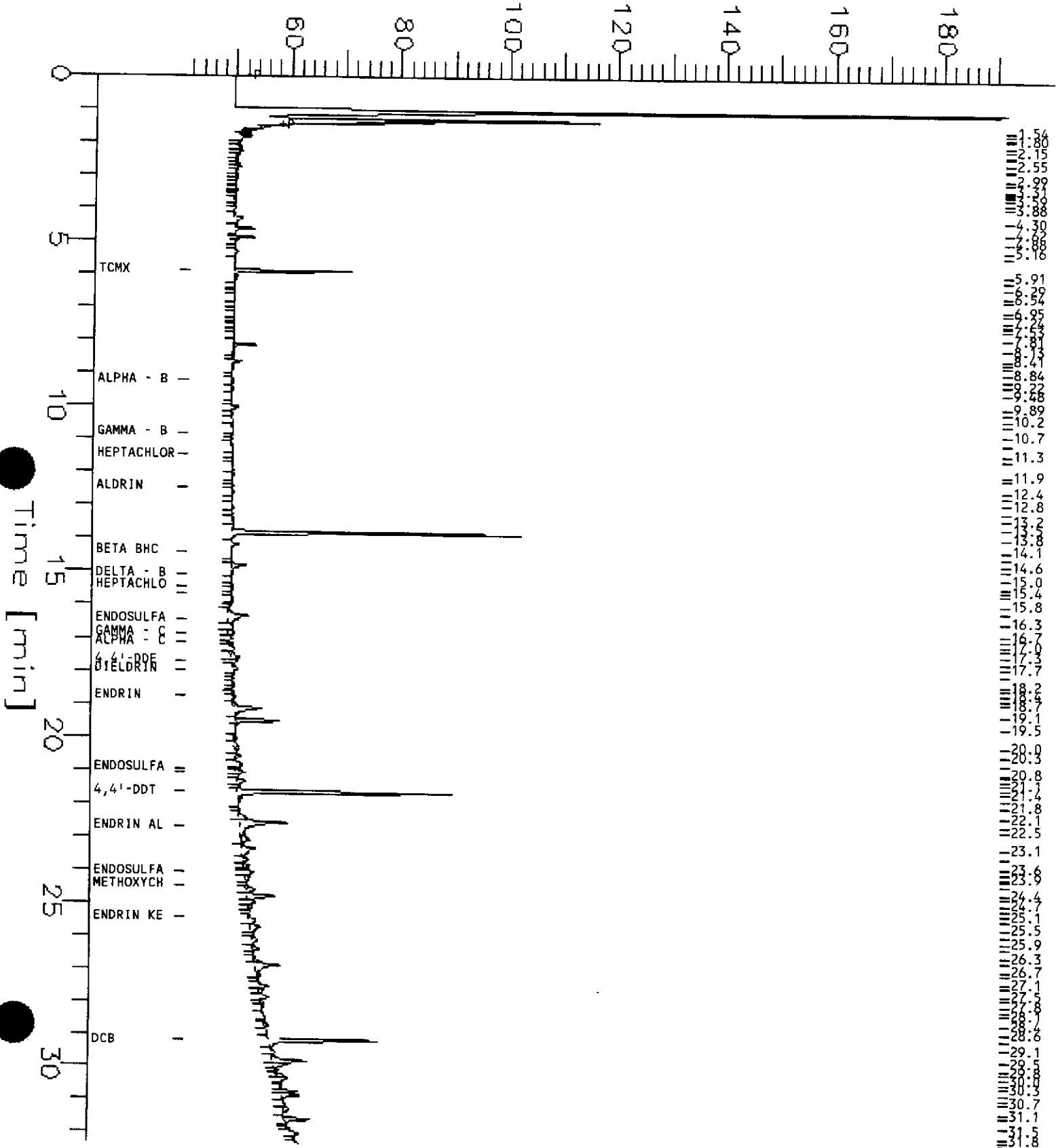
Surrogate	%Recovery	Recovery Limits
TCMX	89	29-108
Decachlorobiphenyl	79	30-125

Sample Name : 128112-009
 FileName : g:\gc14\cha\036A066.raw
 Method : PEST-CNT.ins
 Start Time : 0.00 min
 Scale Factor: -1.0

End Time : 32.35 min
 Plot Offset: 42 mV

Sample #: 32139
 Date : 2/7/97 10:32 AM
 Time of Injection: 2/7/97 10:00 AM
 Low Point : 41.58 mV
 Plot Scale: 150.0 mV
 Page 1 of 1
 High Point : 191.58 mV

Response [mV]





Organochlorine Pesticides and PCBs

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8080
Prep Method: EPA 3550

Field ID: SCI-46 @ 3.0'
Lab ID: 128112-010
Matrix: Soil
Batch#: 32139
Units: ug/Kg
Diln Fac: 1

Sampled: 01/23/97
Received: 01/24/97
Extracted: 01/30/97
Analyzed: 02/07/97

Analyte	Result	Reporting Limit
alpha-BHC	ND	3.0
beta-BHC	ND	3.0
gamma-BHC	ND	3.0
delta-BHC	ND	3.0
Heptachlor	ND	3.0
Aldrin	ND	3.0
Heptachlor epoxide B	ND	3.0
Heptachlor epoxide A	ND	3.0
Endosulfan I	ND	3.0
Dieldrin	ND	6.0
4,4'-DDE	ND	6.0
Endrin	ND	6.0
Endosulfan II	ND	6.0
Endosulfan sulfate	ND	6.0
4,4'-DDD	ND	6.0
Endrin aldehyde	ND	6.0
4,4'-DDT	ND	6.0
Chlordane	ND	30
Methoxychlor	ND	30
Toxaphene	ND	60
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Surrogate	%Recovery	Recovery Limits
TCMX	94	29-108
Decachlorobiphenyl	85	30-125

Lab #: 128112

BATCH QC REPORT

EPA 8080 Pesticides & PCBs		
Client: Subsurface Consultants	Analysis Method: EPA 8080	
Project#: 133.005	Prep Method: EPA 3550	
Location: KOT		
METHOD BLANK		
Matrix: Soil	Prep Date: 01/30/97	
Batch#: 32139	Analysis Date: 02/06/97	
Units: ug/Kg		
Diln Fac: 1		

MB Lab ID: QC39232

Analyte	Result	Reporting Limit
alpha-BHC	ND	3.0
beta-BHC	ND	3.0
gamma-BHC	ND	3.0
delta-BHC	ND	3.0
Heptachlor	ND	3.0
Aldrin	ND	3.0
Heptachlor epoxide B	ND	3.0
Heptachlor epoxide A	ND	3.0
Endosulfan I	ND	3.0
Dieldrin	ND	6.0
4,4'-DDE	ND	6.0
Endrin	ND	6.0
Endosulfan II	ND	6.0
Endosulfan sulfate	ND	6.0
4,4'-DDD	ND	6.0
Endrin aldehyde	ND	6.0
4,4'-DDT	ND	6.0
Chlordane	ND	30
Methoxychlor	ND	30
Toxaphene	ND	60
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Surrogate	%Rec	Recovery Limits
TCMX	93	29-108
Decachlorobiphenyl	94	30-125

Lab #: 128112

BATCH QC REPORT

EPA 8080 Pesticides & PCBs			
Client: Subsurface Consultants	Analysis Method: EPA 8080		
Project#: 133.005	Prep Method: EPA 3550		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Soil	Prep Date:	01/30/97	
Batch#: 32139	Analysis Date:	02/06/97	
Units: ug/Kg			
Diln Fac: 1			

LCS Lab ID: QC39233

Analyte	Result	Spike Added	%Rec #	Limits
gamma-BHC	15.16	17	91	49-115
Heptachlor	15.78	17	95	51-119
Aldrin	15.15	17	91	55-112
Dieldrin	15.83	17	95	54-123
Endrin	16.67	17	100	63-128
4,4'-DDT	14.99	17	90	57-131
Surrogate	%Rec	Limits		
TCMX	95	29-108		
Decachlorobiphenyl	88	30-125		

! 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 #: 128112

BATCH QC REPORT

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8080
Prep Method: EPA 3550

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: SCI-46 @ 3.0'
Lab ID: 128112-010
Matrix: Soil
Batch#: 32139
Units: ug/Kg
Diln Fac: 1

Sample Date: 01/23/97
Received Date: 01/24/97
Prep Date: 01/30/97
Analysis Date: 02/07/97

MS Lab ID: QC39234

Analyte	Spike Added	Sample	MS	%Rec #	Limits
gamma-BHC	17	<3	16.28	98	53-124
Heptachlor	17	<3	16.84	101	55-128
Aldrin	17	<3	16.29	98	49-128
Dieldrin	17	<6	15.95	96	54-128
Endrin	17	<6	16.63	100	69-131
4,4'-DDT	17	<6	17.4	104	53-144
Surrogate	%Rec	Limits			
TCMX	101	29-108			
Decachlorobiphenyl	76	30-125			

MSD Lab ID: QC39235

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
gamma-BHC	17	16.84	101	53-124	3	35
Heptachlor	17	17.61	106	55-128	4	35
Aldrin	17	16.85	101	49-128	3	35
Dieldrin	17	16.76	101	54-128	5	35
Endrin	17	17.45	105	69-131	5	35
4,4'-DDT	17	17.96	108	53-144	3	35
Surrogate	%Rec	Limits				
TCMX	105	29-108				
Decachlorobiphenyl	92	30-125				

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



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 128112
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 133.005
LOCATION: KOT

DATE SAMPLED: 01/23/97
DATE RECEIVED: 01/24/97
DATE ANALYZED: 01/30/97
DATE REPORTED: 02/03/97

=====
ANALYSIS: NITRATE/NITRITE
METHOD REFERENCE: EPA 353.2
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
128112-002	SCI-42@4.5'	0.70	mg/Kg	0.20
128112-009	SCI-46@2.0'	4.4	mg/Kg	0.20
128112-010	SCI-46@3.0'	10	mg/Kg	0.40
METHOD BLANK	N/A	ND	mg/Kg	0.20

ND = Not detected at or above the reporting limit.

QA/QC SUMMARY: MS/MSD OF SAMPLE NO: 215714-002

RPD, %	2
RECOVERY, %	109

LABORATORY NUMBER: 128112
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 133.005
LOCATION: KOT



Curtis & Tompkins, Ltd.

DATE SAMPLED: 01/23/9
DATE RECEIVED: 01/24/9
DATE ANALYZED: 01/30/9
DATE REPORTED: 02/03/9

=====

ANALYSIS: TOTAL PHOSPHORUS
METHOD REFERENCE: EPA 365.2

=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING
128112-002	SCI-42 @ 4.5'	2.6	mg/Kg	0.30
128112-009	SCI-46 @ 2.0'	16	mg/Kg	1.0
128112-010	SCI-46 @ 3.0'	1.1	mg/Kg	0.30
METHOD BLANK	N/A	ND	mg/Kg	0.30

ND = Not detected at or above the reporting limit.

QA/QC SUMMARY: MS/SAMPLE DUPLICATE OF 128112-010

=====

RPD, %	<1
RECOVERY, %	72

=====



Forensic Analytical
Analytical Report

San Francisco • 3777 Depot Road, Suite 409, Hayward, CA 94545 • Phone 510/887-8828 • Fax 510/887-4218
Los Angeles • 2959 Pacific Commerce Dr., Rancho Dominguez, CA 90221 • Phone 310/763-2374 • Fax 310/763-8684

Bulk Material Analysis
Method: 40 CFR 763, Subpart F, Appendix A (AHERA)

Client:
Curtis & Tompkins, Ltd.

2323 Fifth Street
Berkeley, CA 94710

Client ID: 1137
Report Number: 263589
Date Received: 01/28/97
Date Analyzed: 01/29/97

P.O. Num: 128112
Job ID: 128112
Site:

Sample Number	Lab Number	Total Asbestos	Total Fibrous Non-Asbestos	(Breakdown by type)
128112-005 Brown soil.	19705466	Non-Det.†	Trace†	Cellulose (Trace†)
128112-010 Brown soil.	19705467	Non-Det.†	Trace†	Cellulose (Trace†)

David Kahane

David Kahane, C.I.H., Laboratory Director, Hayward Laboratory

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

Project Number: 128112

Subcontract Lab:

Forensic Analytical
 3777 Depot Road Suite 409
 Hayward, CA 94545
 (510) 887-8828

Please send report to: Tracy Babjar

Turnaround Time: Normal

Sample ID	Date Sampled	Matrix	Analysis	C&T Lab #
SCI-44 @ 2'	22-JAN-97	Soil	ASBESTOS-PLM	128112-005
SCI-46 @ 3.0'	22-JAN-97	Soil	ASBESTOS-PLM	128112-010

*Please report using Sample ID instead of C&T Lab #.

Notes:	RELINQUISHED BY: <u>1/27/97</u>	RECEIVED BY:
	<u>[Signature]</u> Date/Time	Date/Time
	Date/Time	<u>[Signature]</u> Date/Time <u>1/28/97</u>

Signature on this form constitutes a firm Purchase Order for the services requested above.

SAMPLE ID: SCI-46 @ 2.0'
 LAB ID: 128112-009
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Soil

DATE SAMPLED: 01/23/97
 DATE RECEIVED: 01/24/97
 DATE REPORTED: 02/11/97

California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.9	1	32117	EPA 6010A	01/30/97
Arsenic	2.2	0.25	1	32117	EPA 6010A	01/30/97
Barium	180	0.49	1	32117	EPA 6010A	01/30/97
Beryllium	0.24	0.098	1	32117	EPA 6010A	01/30/97
Cadmium	0.58	0.098	1	32117	EPA 6010A	01/30/97
Chromium (total)	20	0.49	1	32117	EPA 6010A	01/30/97
Cobalt	6.2	0.98	1	32117	EPA 6010A	01/30/97
Copper	21	0.49	1	32117	EPA 6010A	01/30/97
Lead	18	0.15	1	32117	EPA 6010A	01/30/97
Mercury	0.12	0.10	1	32130	EPA 7471	01/30/97
Molybdenum	ND	0.98	1	32117	EPA 6010A	01/30/97
Nickel	27	0.98	1	32117	EPA 6010A	01/30/97
Selenium	0.98	0.25	1	32117	EPA 6010A	01/30/97
Silver	ND	0.49	1	32117	EPA 6010A	01/30/97
Thallium	0.89	0.25	1	32117	EPA 6010A	01/30/97
Vanadium	25	0.49	1	32117	EPA 6010A	01/30/97
Zinc	58	0.98	1	32117	EPA 6010A	01/30/97

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Soil

DATE REPORTED: 02/11/97

Metals Analytical Report

Potassium

Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
SCI-42 @ 4.5'	128112-002	01/23/97	01/24/97	1300	25	1	32117	EPA 6010A	01/30/97
SCI-46 @ 2.0'	128112-009	01/23/97	01/24/97	780	25	1	32117	EPA 6010A	01/30/97
SCI-46 @ 3.0'	128112-010	01/23/97	01/24/97	1100	24	1	32117	EPA 6010A	01/30/97

CLIENT: Subsurface Consultants
 JOB NUMBER: 128112

DATE REPORTED: 02/11/97

 BATCH QC REPORT
 PREP BLANK

Compound	Result	Reporting Units	IDF	QC Batch	Method	Analysis Date
		Limit				
Antimony	ND	3	mg/Kg	1 32117	EPA 6010A	01/30/97
Arsenic	ND	0.25	mg/Kg	1 32117	EPA 6010A	01/30/97
Barium	ND	0.5	mg/Kg	1 32117	EPA 6010A	01/30/97
Beryllium	ND	0.1	mg/Kg	1 32117	EPA 6010A	01/30/97
Cadmium	ND	0.1	mg/Kg	1 32117	EPA 6010A	01/30/97
Chromium (total)	ND	0.5	mg/Kg	1 32117	EPA 6010A	01/30/97
Cobalt	ND	1	mg/Kg	1 32117	EPA 6010A	01/30/97
Copper	ND	0.5	mg/Kg	1 32117	EPA 6010A	01/30/97
Lead	ND	0.15	mg/Kg	1 32117	EPA 6010A	01/30/97
Mercury	ND	0.1	mg/Kg	1 32130	EPA 7471	01/30/97
Molybdenum	ND	1	mg/Kg	1 32117	EPA 6010A	01/30/97
Nickel	ND	1	mg/Kg	1 32117	EPA 6010A	01/30/97
Potassium	ND	25	mg/Kg	1 32117	EPA 6010A	01/30/97
Selenium	ND	0.25	mg/Kg	1 32117	EPA 6010A	01/30/97
Silver	ND	0.5	mg/Kg	1 32117	EPA 6010A	01/30/97
Thallium	ND	0.25	mg/Kg	1 32117	EPA 6010A	01/30/97
Vanadium	ND	0.5	mg/Kg	1 32117	EPA 6010A	01/30/97
Zinc	ND	1	mg/Kg	1 32117	EPA 6010A	01/30/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128112

DATE REPORTED: 02/11/97

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	25	26.1	26.25	mg/Kg	104	105	80-120	1	35	32117	EPA 6010A	01/30/97
Arsenic	100	93	95.5	mg/Kg	93	96	80-120	3	35	32117	EPA 6010A	01/30/97
Barium	100	104	104.5	mg/Kg	104	105	80-120	1	35	32117	EPA 6010A	01/30/97
Beryllium	2.5	2.525	2.58	mg/Kg	101	103	80-120	2	35	32117	EPA 6010A	01/30/97
Cadmium	2.5	2.53	2.565	mg/Kg	101	103	80-120	1	35	32117	EPA 6010A	01/30/97
Chromium (total)	10	9.7	9.9	mg/Kg	97	99	80-120	2	35	32117	EPA 6010A	01/30/97
Cobalt	25	23.25	23.8	mg/Kg	93	95	80-120	2	35	32117	EPA 6010A	01/30/97
Copper	12.5	13.2	13.4	mg/Kg	106	107	80-120	2	35	32117	EPA 6010A	01/30/97
Lead	25	24.35	24.85	mg/Kg	97	99	80-120	2	35	32117	EPA 6010A	01/30/97
Mercury	5	4.746	4.951	ug/L	95	99	80-120	4	35	32130	EPA 7470	01/30/97
Molybdenum	20	19.55	19.95	mg/Kg	98	100	80-120	2	35	32117	EPA 6010A	01/30/97
Nickel	25	24.65	25.2	mg/Kg	99	101	80-120	2	35	32117	EPA 6010A	01/30/97
Potassium	1000	838	844.5	mg/Kg	84	85	80-120	1	35	32117	EPA 6010A	01/30/97
Selenium	100	92	92.5	mg/Kg	92	93	80-120	1	35	32117	EPA 6010A	01/30/97
Silver	5	5.1	5.15	mg/Kg	102	103	80-120	1	35	32117	EPA 6010A	01/30/97
Thallium	100	88.5	92	mg/Kg	89	92	80-120	4	35	32117	EPA 6010A	01/30/97
Vanadium	25	24.95	25.35	mg/Kg	100	101	80-120	2	35	32117	EPA 6010A	01/30/97
Zinc	25	24.9	25.5	mg/Kg	100	102	80-120	2	35	32117	EPA 6010A	01/30/97



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
Layfayette, CA 94549

Date: 31-JAN-97
Lab Job Number: 128113
Project ID: 133.005
Location: KOT

Reviewed by: _____

Reviewed by: _____

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TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128113-001	SCI-40	32080	01/22/97	01/28/97	01/28/97	
128113-002	SCI-41	32080	01/22/97	01/28/97	01/28/97	

Matrix: Water

Analyte	Units	128113-001	128113-002
Diln Fac:		1	1
Gasoline	ug/L	270 YZ	<50
Surrogate			
Trifluorotoluene	%REC	96	96
Bromobenzene	%REC	98	95

Y: Sample exhibits fuel pattern which does not resemble standard

Z: Sample exhibits unknown single peak or peaks

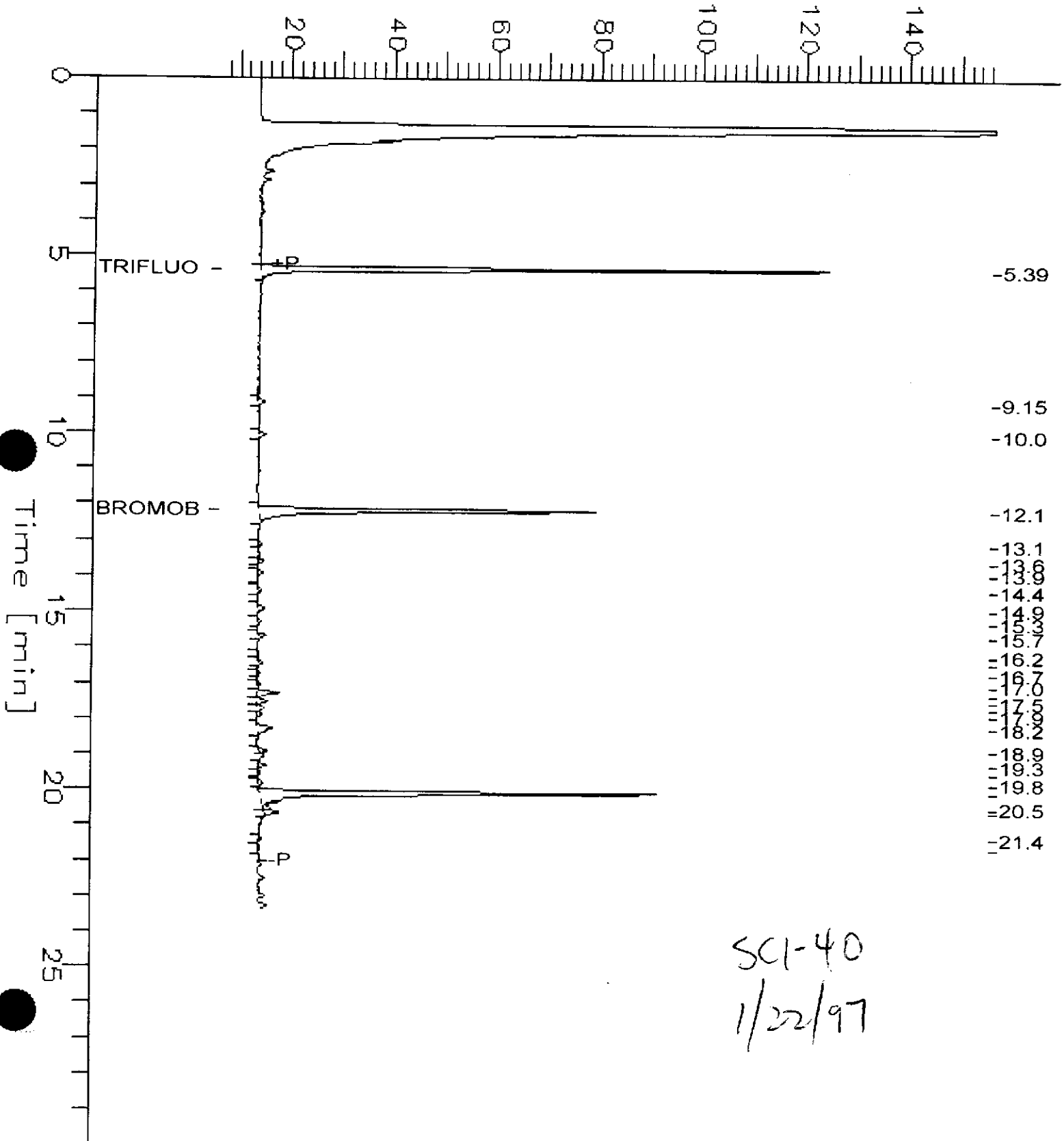
GC05 RTX1 TVH Chromatogram

Sample Name : S,128113-001,R,32080,1,W,
 FileName : G:\GC05\DATA\028H010.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Factor : -1.0

End Time : 30.00 min
 Plot Offset: 6 mV

Sample #: Page 1 of 1
 Date : 1/28/97 08:49 AM
 Time of Injection: 1/28/97 08:25 AM
 Low Point : 6.44 mV
 High Point : 156.44 mV
 Plot Scale: 150.0 mV

Response [mV]

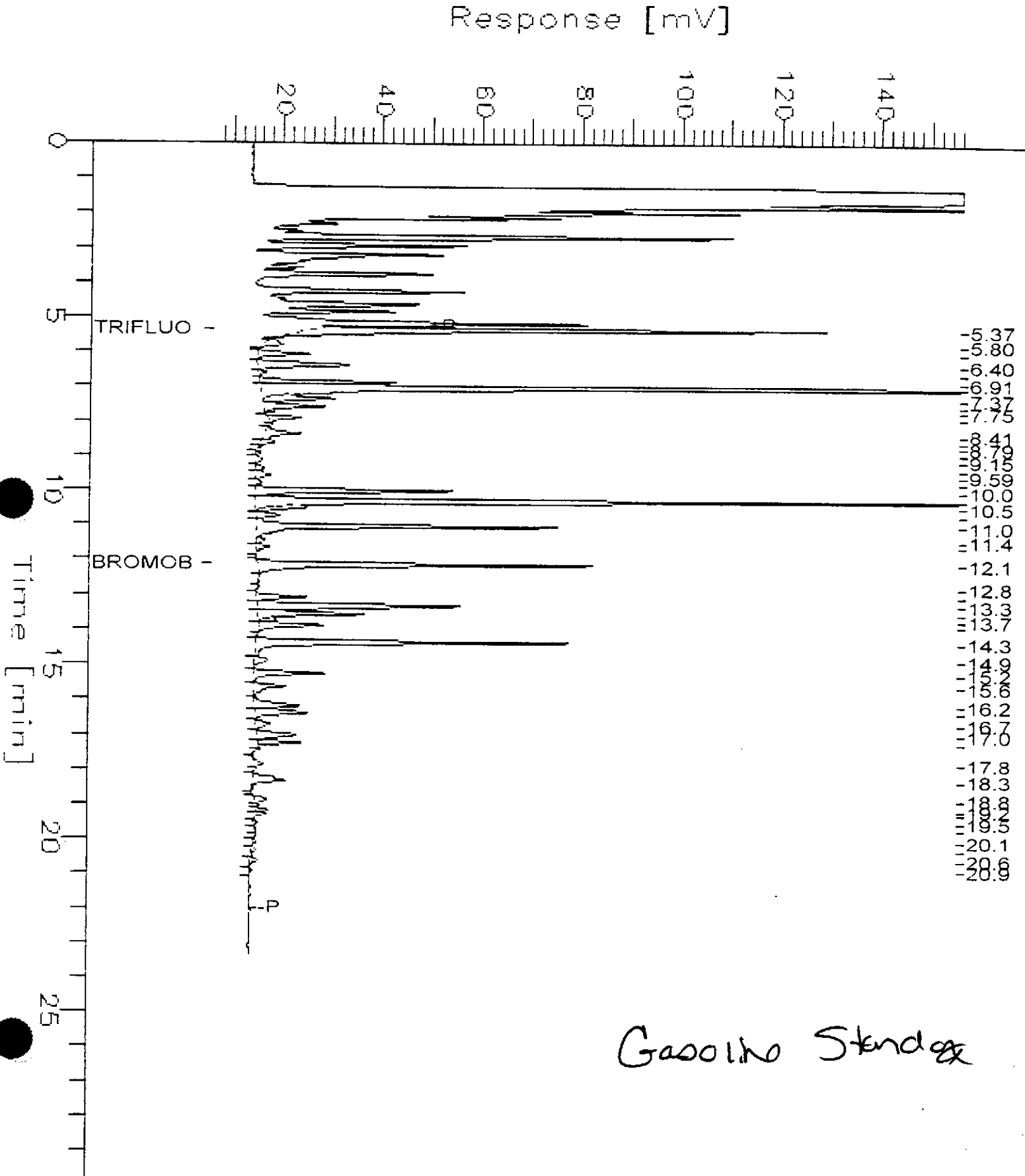


GC05 RTX1 TVH Chromatogram

Sample Name : CC7,GAS,32080,1,W,
FileName : G:\GC05\DATA\029H011.raw
Method : TVHBTXE
Start Time : 0.00 min
Gain Factor : -1.0

End Time : 30.00 min
Plot Offset : 6 mV

Sample #: _____ Page 1 of 1
Date : 1/28/97 09:15 PM
Time of Injection: 1/28/97 08:51 PM
Low Point : 6.02 mV High Point : 156.02 mV
Plot Scale: 150.0 mV



Gasoline Standard



Lab #: 128113

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 32080
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/28/97
 Analysis Date: 01/28/97

LCS Lab ID: QC38984

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2006	2000	100	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	98	65-135		
Bromobenzene	99	65-135		

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 #: 128113

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32080
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/28/97

MB Lab ID: QC38986

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	91	65-135
Bromobenzene	83	65-135

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128113-001	SCI-40	32122	01/22/97	01/29/97	02/04/97	
128113-002	SCI-41	32122	01/22/97	01/29/97	02/01/97	

Matrix: Water

Analyte	Units	128113-001	128113-002
Diln Fac:		3	1
Diesel C12-C22	ug/L	38000 H	690 YH
Motor Oil C22-C50	ug/L	9900 L	1300 YL
Surrogate			
Hexacosane	%REC	109	95

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

Chromatogram

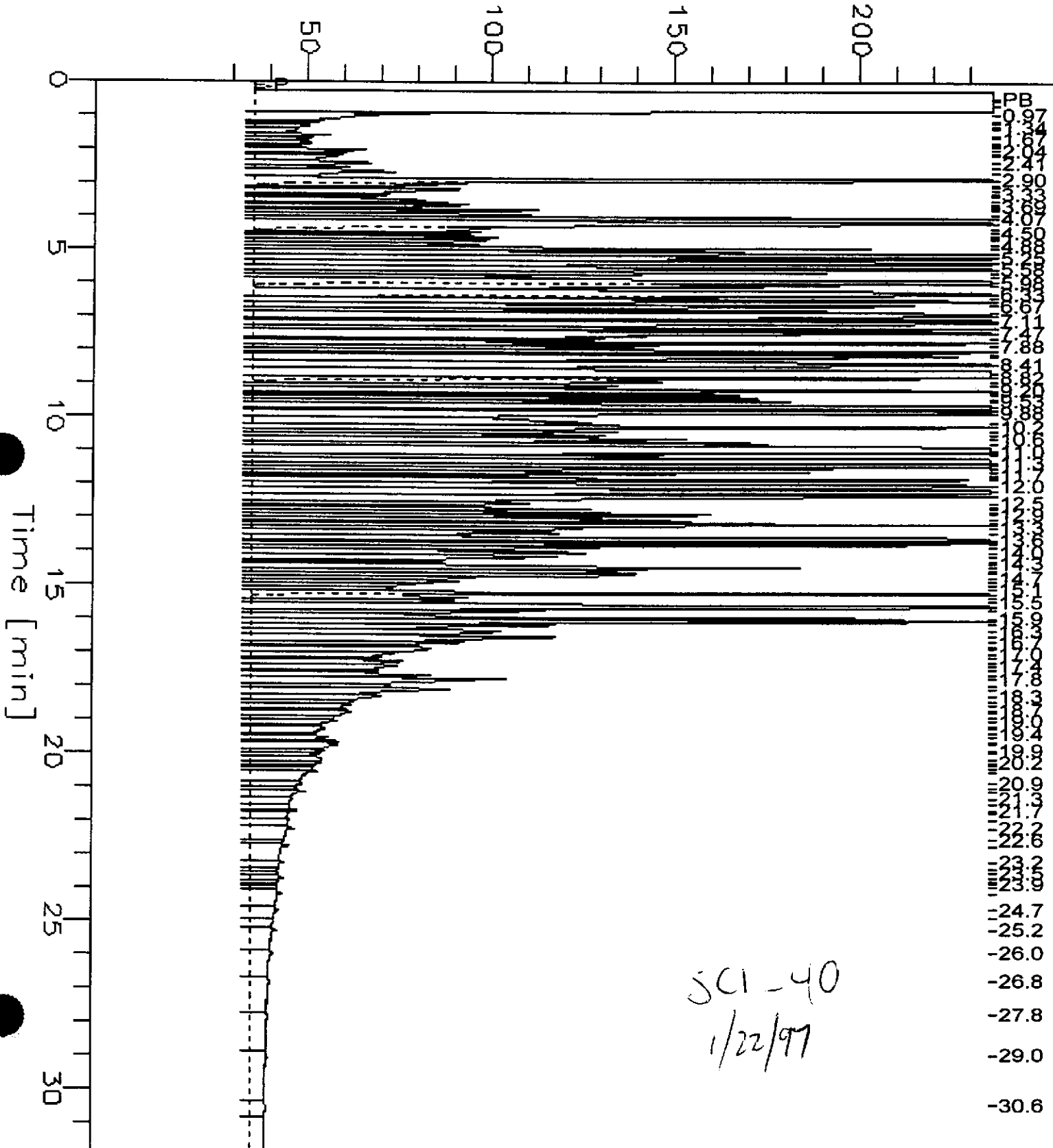
Sample Name : 128113-001,32122
FileName : G:\GC11\CHB\034B026.RAW
Method : BTEH035.MTH
Start Time : 0.00 min
Gain Factor: 0.0

End Time : 31.90 min
Plot Offset: 27 mV

Sample #: 32122
Date : 2/4/97 02:23 PM
Time of Injection: 2/4/97 04:22 AM
Low Point : 26.99 mV
Plot Scale: 209.1 mV
High Point : 236.09 mV

Page 1 of 1

Response [mV]



Chromatogram

Sample Name : 128113-002, 32122

Sample #: 32122

Page 1 of 1

File Name : G:\GC13\CHAN\031A042.raw

Date : 2/17/97 11:33 PM

Method : 03GLA30

Time of Injection: 2/17/97 11:01 PM

Start Time : 0.00 min

End Time : 31.80 min

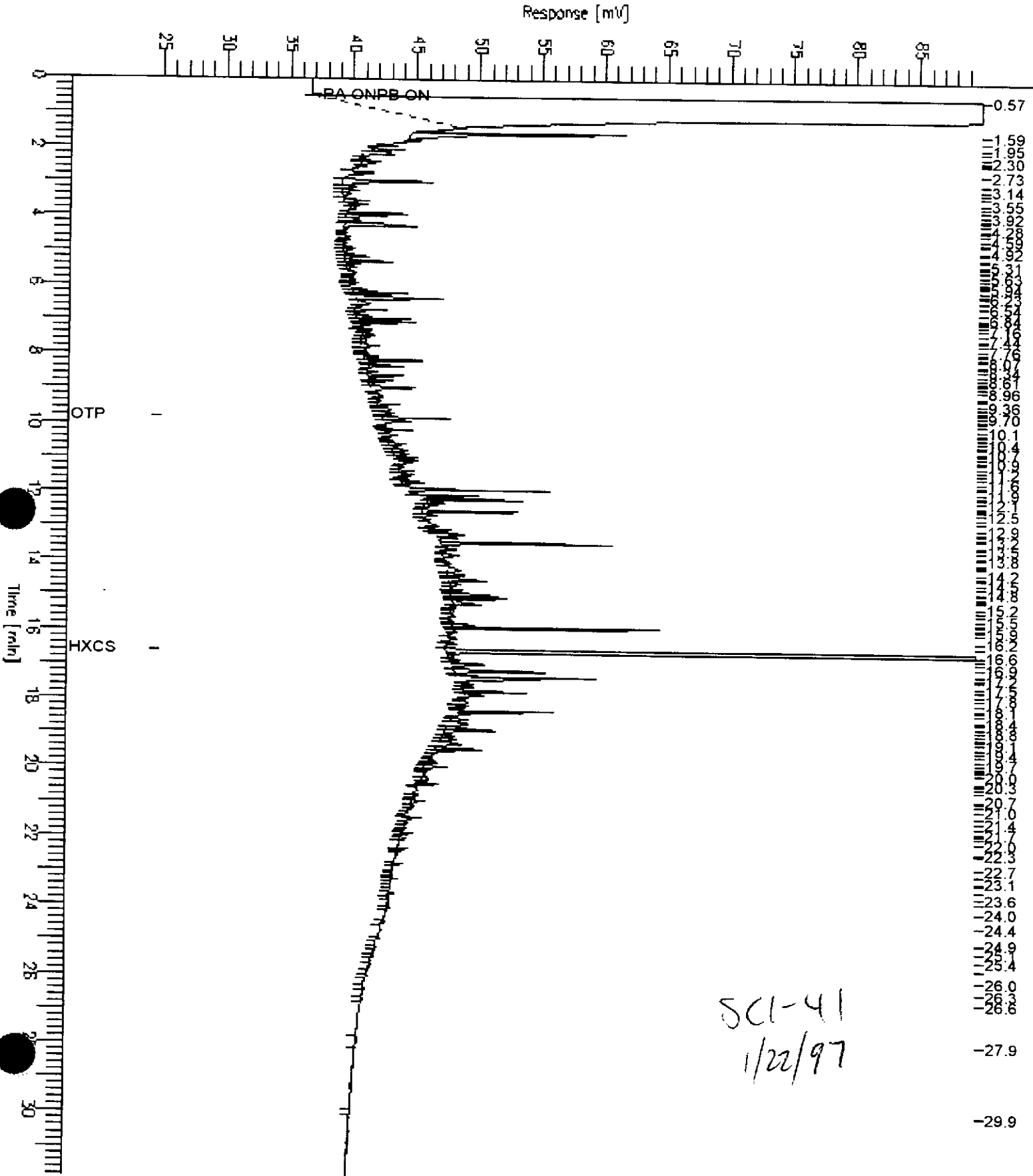
Low Point : 28.00 mV

High Point : 86.00 mV

Flow Rate : 0.0

Plot Offset: 20 mV

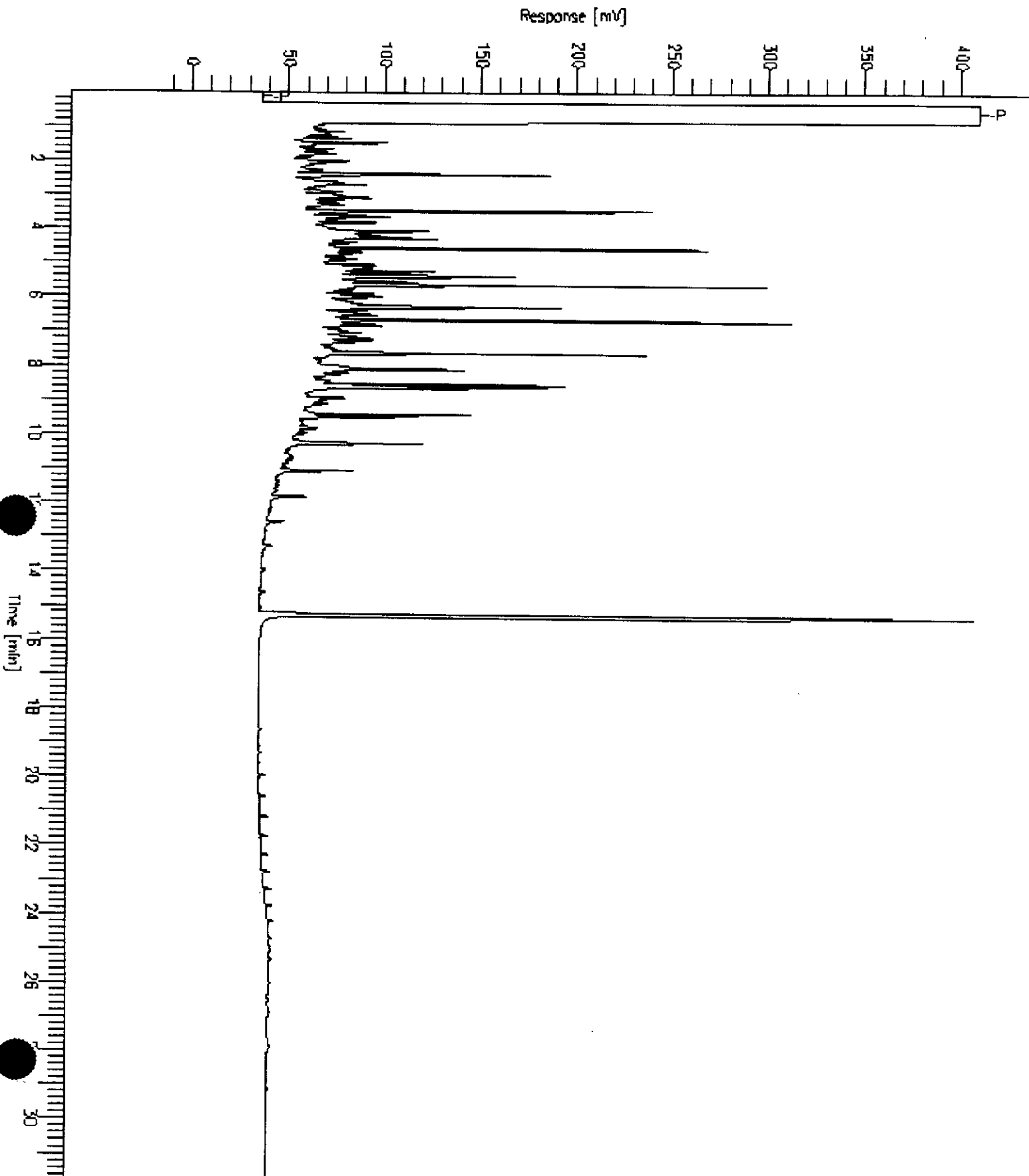
Plot Scale: 0.5 mV



Chromatogram

Sample Name : CCV,96WS3659,DS
FileName : G:\GC11\CHB\034B002.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Factor : 0.0

Sample #: 500MG/L
Date : 2/5/97 09:26 AM
Time of Injection: 2/3/97 10:14 AM
End Time : 31.76 min
Low Point : -15.15 mV
High Point : 409.98 mV
Plot Offset: -15 mV
Plot Scale: 425.1 mV



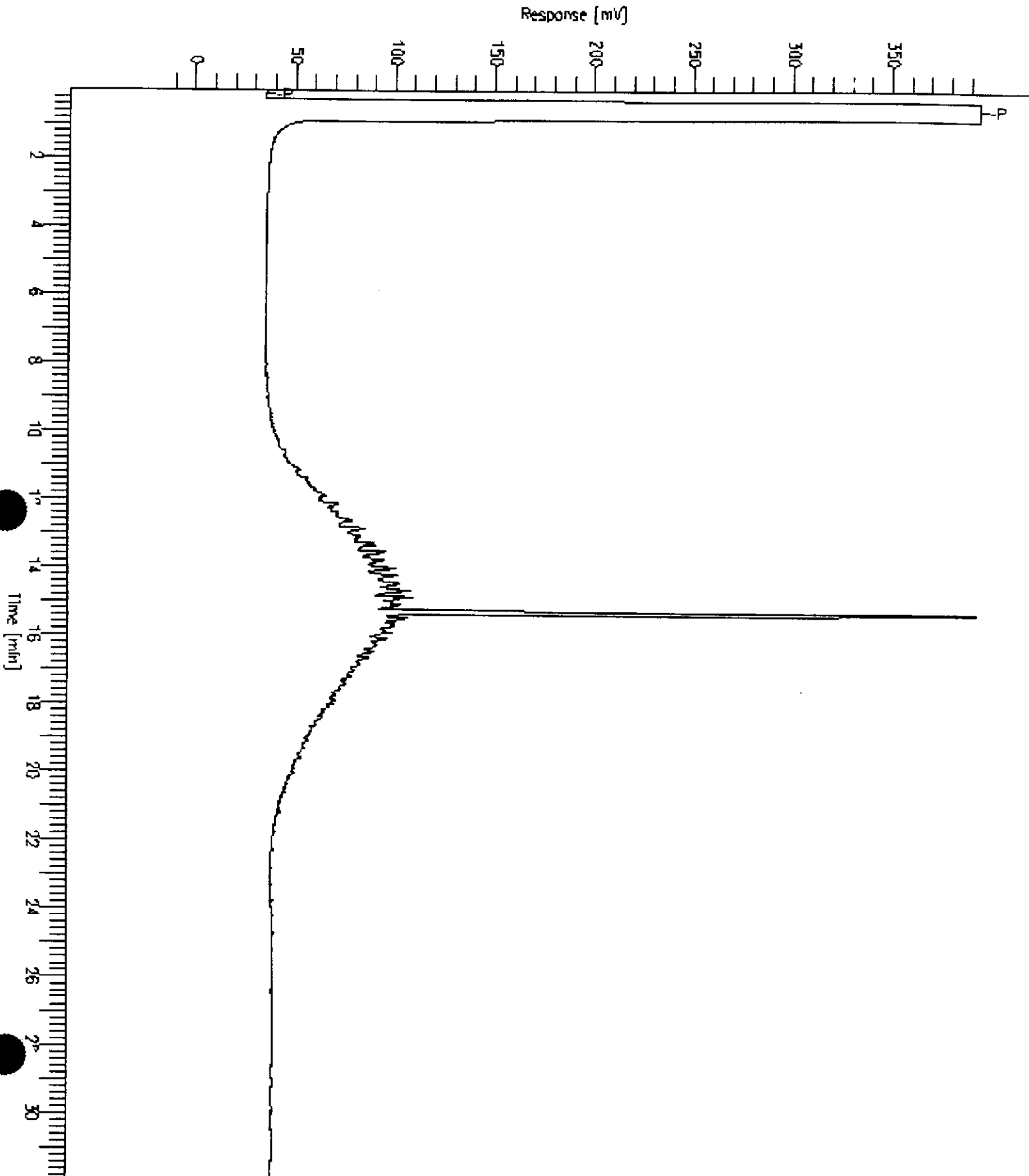
Chromatogram

Sample Name : CCV, 96WS3096.MO
FileName : G:\GC11\CHB\034B004.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Factor : 0.0

End Time : 31.91 min
Plot Offset : -17 mV

Sample #: 500MG/L
Date : 2/5/97 09:23 AM
Time of Injection: 2/3/97 11:40 AM
Low Point : -10.80 mV
High Point : 394.79 mV
Plot Scale: 411.6 mV

Page 1 of 1





Lab #: 128113

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32122
Units: ug/L
Diln Fac: 1

Prep Date: 01/29/97
Analysis Date: 02/01/97

MB Lab ID: QC39161

Analyte	Result	
Diesel C12-C22	<50	
Motor Oil C22-C50	<250	
Surrogate	%Rec	Recovery Limits
Hexacosane	106	60-140

Lab #: 128113

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water	Prep Date: 01/29/97
Batch#: 32122	Analysis Date: 02/01/97
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC39162

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2225	90	60-140
Surrogate	%Rec	Limits		
Hexacosane	102	60-140		

BSD Lab ID: QC39163

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2408	97	60-140	8	35
Surrogate	%Rec	Limits				
Hexacosane	108	60-140				

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



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128113-001	SCI-40	32080	01/22/97	01/28/97	01/28/97	
128113-002	SCI-41	32080	01/22/97	01/28/97	01/28/97	

Matrix: Water

Analyte	Units	128113-001	128113-002
Diln Fac:		1	1
Benzene	ug/L	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5
Ethylbenzene	ug/L	1	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5
Surrogate			
Trifluorotoluene	%REC	99	98
Bromobenzene	%REC	104	101



Lab #: 128113

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32080
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/28/97

MB Lab ID: QC38986

Analyte	Result	
Benzene	<0.5	
Toluene	<0.5	
Ethylbenzene	<0.5	
m,p-Xylenes	<0.5	
o-Xylene	<0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	91	58-130
Bromobenzene	90	62-131



Lab #: 128113

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 32080
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/28/97

LCS Lab ID: QC38985

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.6	20	93	80-120
Toluene	19.05	20	95	80-120
Ethylbenzene	18.85	20	94	80-120
m,p-Xylenes	37.42	40	94	80-120
o-Xylene	19.11	20	96	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	95	58-130		
Bromobenzene	93	62-131		

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

Volatile Organics by GC/MS

Client: Subsurface Consultants Analysis Method: EPA 8260
 Project#: 133.005 Prep Method: EPA 5030
 Location: KOT

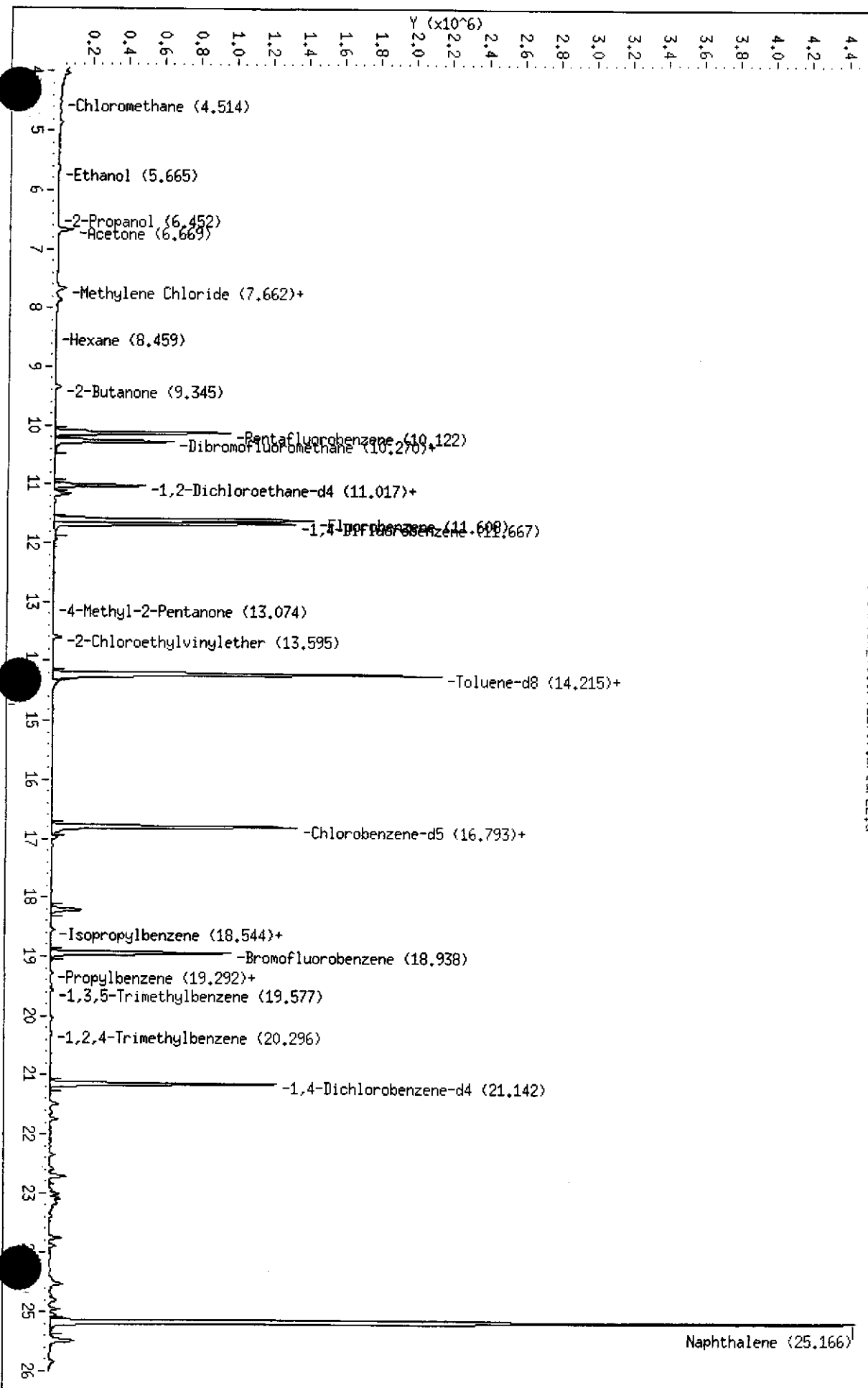
Field ID: SCI-40 Sampled: 01/22/97
 Lab ID: 128113-001 Received: 01/24/97
 Matrix: Water Extracted: 01/27/97
 Batch#: 32051 Analyzed: 01/27/97
 Units: ug/L
 Diln Fac: 1

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	73	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	9.7	5.0
2-Butanone	12	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	104	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	105	79-122

Data File: /chem/V09_05.1/012797.b/ear22.d
Date: 27-JAN-97 22:11
Client ID: DVM9 P&T
Sample Info: S.128113-001
Purge Volume: 5.0
Column phase: RTX Volatiles

Instrument: V09_05.1
Operator: DM
Column diameter: 0.32

/chem/V09_05.1/012797.b/ear22.d





Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCI-41
 Lab ID: 128113-002
 Matrix: Water
 Batch#: 32051
 Units: ug/L
 Diln Fac: 1

Sampled: 01/22/97
 Received: 01/24/97
 Extracted: 01/27/97
 Analyzed: 01/27/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	26	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	105	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	112	79-122

Data File: /chem/VD9_05.1/012797.b/ear23.d

Date: 27-JAN-97 22:43

Client ID: DYNA P&I

Sample Info: S.128113-002

Purge Volume: 5.0

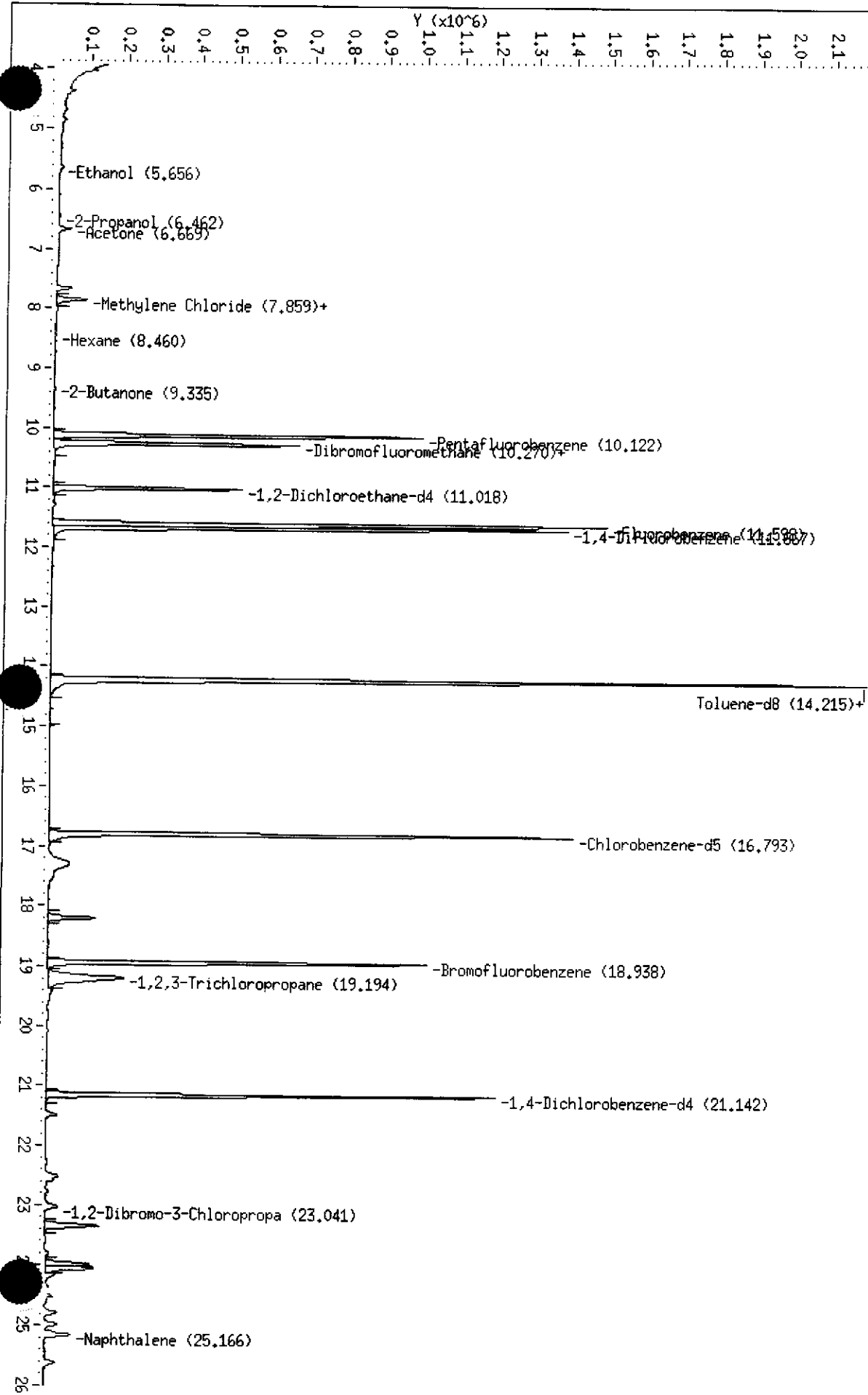
Column phase: RTX Volatiles

Instrument: VDA_05.i

Operator: DM

Column diameter: 0.32

/chem/VD9_05.1/012797.b/ear23.d





Lab #: 128113

BATCH QC REPORT

EPA 8240 Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
METHOD BLANK		
Matrix: Water	Prep Date:	01/27/97
Batch#: 32051	Analysis Date:	01/27/97
Units: ug/L		
Diln Fac: 1		

MB Lab ID: QC38881

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	94	87-125
Bromofluorobenzene	115	79-122

Lab #: 128113

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32051
Units: ug/L
Diln Fac: 1

Prep Date: 01/27/97
Analysis Date: 01/27/97

MB Lab ID: QC38916

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	112	79-122



Lab #: 128113

BATCH QC REPORT

EPA 8240 Volatile Organics			
Client: Subsurface Consultants	Analysis Method: EPA 8260		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 01/27/97		
Batch#: 32051	Analysis Date: 01/27/97		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC38880

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	58.17	50	116	51-180
Trichloroethene	49.05	50	98	73-141
Benzene	50.31	50	101	78-142
Toluene	47.95	50	96	76-150
Chlorobenzene	50.6	50	101	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	101	68-126		
Toluene-d8	97	87-125		
Bromofluorobenzene	113	79-122		

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



Lab #: 128113

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
 Lab ID: 128107-001
 Matrix: Water
 Batch#: 32051
 Units: ug/L
 Diln Fac: 1

Sample Date: 01/24/97
 Received Date: 01/24/97
 Prep Date: 01/27/97
 Analysis Date: 01/27/97

MS Lab ID: QC38913

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	0.5413	55.64	110	51-180
Trichloroethene	50	<5	47.73	95	73-141
Benzene	50	<5	49.33	99	78-142
Toluene	50	<5	47.04	94	76-150
Chlorobenzene	50	<5	50.01	100	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	101	68-126			
Toluene-d8	99	87-125			
Bromofluorobenzene	118	79-122			

MSD Lab ID: QC38914

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	55.07	109	51-180	1	14
Trichloroethene	50	47.44	94	73-141	1	14
Benzene	50	48.83	98	78-142	1	11
Toluene	50	47.39	95	76-150	1	13
Chlorobenzene	50	50.15	100	83-129	0	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	101	68-126				
Toluene-d8	100	87-125				
Bromofluorobenzene	115	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Semivolatiles Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCI-40
Lab ID: 128113-001
Matrix: Water
Batch#: 32098
Units: ug/L
Diln Fac: 5

Sampled: 01/22/97
Received: 01/24/97
Extracted: 01/28/97
Analyzed: 01/31/97

Analyte	Result	Reporting Limit
Phenol	ND	47
2-Chlorophenol	ND	47
Benzyl alcohol	ND	47
2-Methylphenol	ND	47
4-Methylphenol	ND	47
2-Nitrophenol	ND	240
2,4-Dimethylphenol	ND	47
Benzoic acid	ND	240
2,4-Dichlorophenol	ND	47
4-Chloro-3-methylphenol	ND	47
2,4,6-Trichlorophenol	ND	47
2,4,5-Trichlorophenol	ND	240
2,4-Dinitrophenol	ND	240
4-Nitrophenol	ND	240
4,6-Dinitro-2-methylphenol	ND	240
Pentachlorophenol	ND	240
N-Nitrosodimethylamine	ND	47
Aniline	ND	47
bis(2-Chloroethyl)ether	ND	47
1,3-Dichlorobenzene	ND	47
1,4-Dichlorobenzene	ND	47
1,2-Dichlorobenzene	ND	47
bis(2-Chloroisopropyl) ether	ND	47
N-Nitroso-di-n-propylamine	ND	47
Hexachloroethane	ND	47
Nitrobenzene	ND	47
Isophorone	ND	47
bis(2-Chloroethoxy)methane	ND	47
1,2,4-Trichlorobenzene	ND	47
Naphthalene	520	47
4-Chloroaniline	ND	47
Hexachlorobutadiene	ND	47
2-Methylnaphthalene	64	47
Hexachlorocyclopentadiene	ND	47
2-Chloronaphthalene	ND	47
2-Nitroaniline	ND	240
Dimethylphthalate	ND	47
Acenaphthylene	ND	47

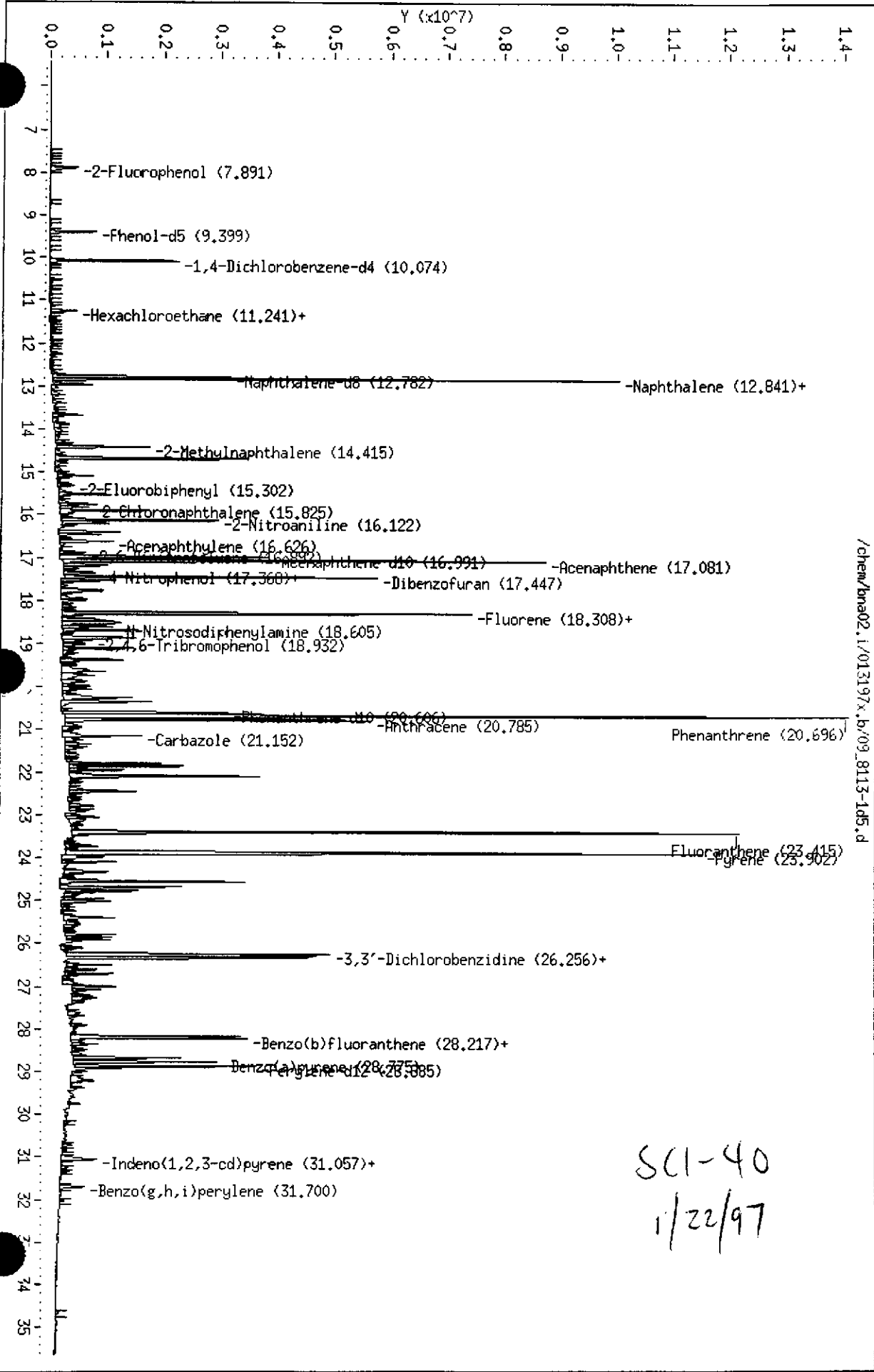
Semivolatile Organics by GC/MS		
Field ID: SCI-40	Sampled:	01/22/97
Lab ID: 128113-001	Received:	01/24/97
Matrix: Water	Extracted:	01/28/97
Batch#: 32098	Analyzed:	01/31/97
Units: ug/L		
Diln Fac: 5		
Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	47
3-Nitroaniline	ND	240
Acenaphthene	420	47
Dibenzofuran	230	47
2,4-Dinitrotoluene	ND	47
Diethylphthalate	ND	47
4-Chlorophenyl-phenylether	ND	47
Fluorene	360	47
4-Nitroaniline	ND	240
N-Nitrosodiphenylamine	ND	47
Azobenzene	ND	47
4-Bromophenyl-phenylether	ND	47
Hexachlorobenzene	ND	47
Phenanthrene	850	47
Anthracene	250	47
Di-n-butylphthalate	ND	47
Fluoranthene	660	47
Pyrene	520	47
Butylbenzylphthalate	ND	47
3,3'-Dichlorobenzidine	ND	240
Benzo(a)anthracene	170	47
Chrysene	170	47
bis(2-Ethylhexyl)phthalate	ND	47
Di-n-octylphthalate	ND	47
Benzo(b)fluoranthene	120	47
Benzo(k)fluoranthene	140	47
Benzo(a)pyrene	130	47
Indeno(1,2,3-cd)pyrene	39 J	47
Dibenz(a,h)anthracene	ND	47
Benzo(g,h,i)perylene	42 J	47
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	68	21-110
Phenol-d5	80	10-110
2,4,6-Tribromophenol	32	10-123
Nitrobenzene-d5	76	35-114
2-Fluorobiphenyl	22*	43-116
Terphenyl-d14	5*	33-141

J: Estimated Value

* Values outside of QC limits

Data File: /chem/bna02.1/013197x.b/09_8113-1d5.d
 Date: 31-JAN-97 21:04
 Client ID: CJRTIS&TOPKINS.LTD
 Sample Info:
 Volume Injected (uL): 1.0
 Column phase: Xtl 5 x .5 u

Instrument: bna02.1
 Operator: dsh
 Column diameter: 0.25



SCI-40
 1/22/97



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCI-41
Lab ID: 128113-002
Matrix: Water
Batch#: 32098
Units: ug/L
Diln Fac: 1

Sampled: 01/22/97
Received: 01/24/97
Extracted: 01/28/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl) ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy)methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4



Semivolatile Organics by GC/MS

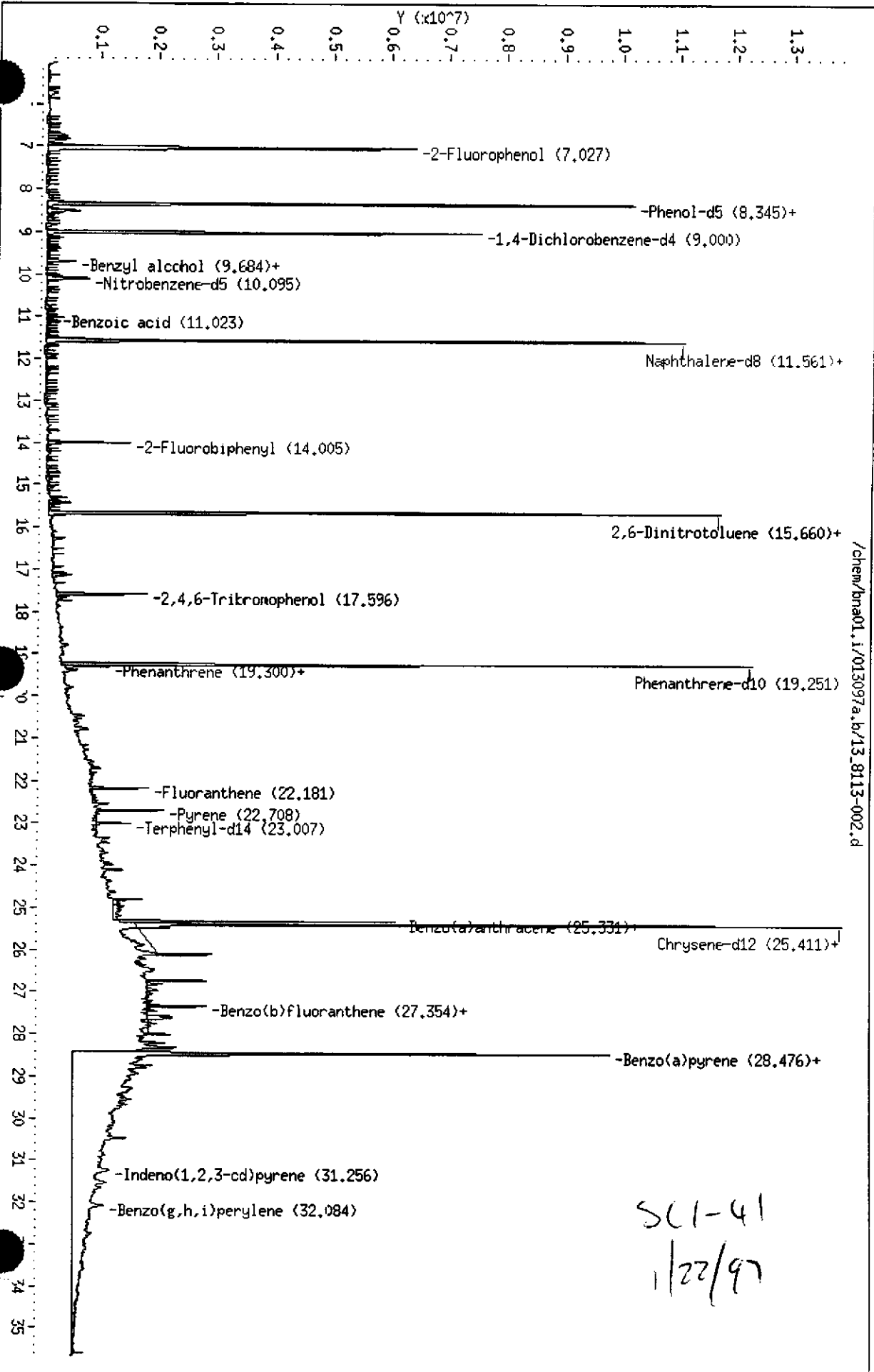
Field ID: SCI-41	Sampled: 01/22/97
Lab ID: 128113-002	Received: 01/24/97
Matrix: Water	Extracted: 01/28/97
Batch#: 32098	Analyzed: 01/30/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	10	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	57	21-110
Phenol-d5	66	10-110
2,4,6-Tribromophenol	14	10-123
Nitrobenzene-d5	10*	35-114
2-Fluorobiphenyl	11*	43-116
Terphenyl-d14	4*	33-141

* Values outside of QC limits

Data File: /chem/bna01.i/013097.a.b/13_8113_002.d
Date: 30-JAN-1997 23:30
Client ID: CURTIS&TOWPKINS,LTD
Sample Info:
Volume Injected (ul): 1.0
Column phase: Xti 5 x .5 u

Instrument: bna01.i
Operator: dsh
Column diameter: 0.25



SCI-41
1/22/97



Lab #: 128113

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32098
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/30/97

MB Lab ID: QC39058

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



Lab #: 128113

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8270	
Project#: 133.005	Prep Method: EPA 3520	
Location: KOT		
METHOD BLANK		
Matrix: Water	Prep Date: 01/28/97	
Batch#: 32098	Analysis Date: 01/30/97	
Units: ug/L		
Diln Fac: 1		

MB Lab ID: QC39058

Analyte	Result	Reporting Limit
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
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)fluoranthene	ND	10
Benzo(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	74	21-110
Phenol-d5	75	10-110
2,4,6-Tribromophenol	72	10-123
Nitrobenzene-d5	91	35-114
2-Fluorobiphenyl	87	43-116
Terphenyl-d14	90	33-141

Lab #: 128113

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants	Analysis Method: EPA 8270
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	
BLANK SPIKE/BLANK SPIKE DUPLICATE	
Matrix: Water	Prep Date: 01/28/97
Batch#: 32098	Analysis Date: 01/30/97
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC39059

Analyte	Spike Added	BS	%Rec #	Limits
Phenol	100	76.8	77	12-110
2-Chlorophenol	100	82.5	83	27-123
4-Chloro-3-methylphenol	100	83.3	83	23-97
4-Nitrophenol	100	79.03	79	10-80
Pentachlorophenol	100	62.72	63	9-103
1,4-Dichlorobenzene	50	30.72	61	36-97
N-Nitroso-di-n-propylamine	50	28.76	58	41-116
1,2,4-Trichlorobenzene	50	30.97	62	39-98
Acenaphthene	50	38.19	76	46-118
2,4-Dinitrotoluene	50	34.31	69	24-96
Pyrene	50	42.46	85	26-127
Surrogate	%Rec	Limits		
2-Fluorophenol	72	21-110		
Phenol-d5	73	10-110		
2,4,6-Tribromophenol	76	10-123		
Nitrobenzene-d5	89	35-114		
2-Fluorobiphenyl	87	43-116		
Terphenyl-d14	88	33-141		

BSD Lab ID: QC39060

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Phenol	100	74.03	74	12-110	4	42
2-Chlorophenol	100	78.65	79	27-123	5	40
4-Chloro-3-methylphenol	100	78.66	79	23-97	5	42
4-Nitrophenol	100	73.97	74	10-80	7	50
Pentachlorophenol	100	60.99	61	9-103	3	50
1,4-Dichlorobenzene	50	29.78	60	36-97	2	28
N-Nitroso-di-n-propylamine	50	27.35	55	41-116	5	38
1,2,4-Trichlorobenzene	50	29.96	60	39-98	5	28
Acenaphthene	50	36.17	72	46-118	5	31
2,4-Dinitrotoluene	50	31.34	63	24-96	9	38
Pyrene	50	40.27	81	26-127	5	31
Surrogate	%Rec	Limits				
2-Fluorophenol	67	21-110				
Phenol-d5	68	10-110				
2,4,6-Tribromophenol	69	10-123				
Nitrobenzene-d5	83	35-114				
2-Fluorobiphenyl	81	43-116				
Terphenyl-d14	80	33-141				

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

SAMPLE ID: SCI-40
 LAB ID: 128113-001
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/22/97
 DATE RECEIVED: 01/24/97
 DATE REPORTED: 01/31/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32073	EPA 6010A	01/28/97
Arsenic	ND	5.0	1	32073	EPA 6010A	01/29/97
Barium	78	10	1	32073	EPA 6010A	01/28/97
Beryllium	2.1	2.0	1	32073	EPA 6010A	01/28/97
Cadmium	ND	2.0	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20	1	32073	EPA 6010A	01/28/97
Copper	ND	10	1	32073	EPA 6010A	01/28/97
Lead	ND	3.0	1	32073	EPA 6010A	01/28/97
Mercury	0.21	0.20	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20	1	32073	EPA 6010A	01/28/97
Nickel	ND	20	1	32073	EPA 6010A	01/28/97
Selenium	ND	5.0	1	32073	EPA 6010A	01/28/97
Silver	ND	5.0	1	32073	EPA 6010A	01/28/97
Thallium	ND	5.0	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10	1	32073	EPA 6010A	01/28/97
Zinc	ND	20	1	32073	EPA 6010A	01/28/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCI-41
 LAB ID: 128113-002
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/22/97
 DATE RECEIVED: 01/24/97
 DATE REPORTED: 01/31/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	120	60	1	32073	EPA 6010A	01/28/97
Arsenic	ND	5.0	1	32073	EPA 6010A	01/28/97
Barium	140	10	1	32073	EPA 6010A	01/28/97
Beryllium	ND	2.0	1	32073	EPA 6010A	01/28/97
Cadmium	ND	2.0	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20	1	32073	EPA 6010A	01/28/97
Copper	ND	10	1	32073	EPA 6010A	01/28/97
Lead	15	3.0	1	32073	EPA 6010A	01/28/97
Mercury	0.23	0.20	1	32106	EPA 7470	01/29/97
Molybdenum	39	20	1	32073	EPA 6010A	01/28/97
Nickel	ND	20	1	32073	EPA 6010A	01/28/97
Selenium	ND	5.0	1	32073	EPA 6010A	01/28/97
Silver	ND	5.0	1	32073	EPA 6010A	01/28/97
Thallium	ND	5.0	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10	1	32073	EPA 6010A	01/28/97
Zinc	41	20	1	32073	EPA 6010A	01/28/97

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128113

DATE REPORTED: 01/31/97

 BATCH QC REPORT
 PREP BLANK

Compound	Result	Reporting Units	Limit	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	ug/L	1	32073	EPA 6010A	01/28/97
Arsenic	ND	5	ug/L	1	32073	EPA 6010A	01/28/97
Barium	ND	10	ug/L	1	32073	EPA 6010A	01/28/97
Beryllium	ND	2	ug/L	1	32073	EPA 6010A	01/28/97
Cadmium	ND	2	ug/L	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10	ug/L	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20	ug/L	1	32073	EPA 6010A	01/28/97
Copper	ND	10	ug/L	1	32073	EPA 6010A	01/28/97
Lead	ND	3	ug/L	1	32073	EPA 6010A	01/28/97
Mercury	ND	0.2	ug/L	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20	ug/L	1	32073	EPA 6010A	01/28/97
Nickel	ND	20	ug/L	1	32073	EPA 6010A	01/28/97
Selenium	ND	5	ug/L	1	32073	EPA 6010A	01/28/97
Silver	ND	5	ug/L	1	32073	EPA 6010A	01/28/97
Thallium	ND	5	ug/L	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10	ug/L	1	32073	EPA 6010A	01/28/97
Zinc	ND	20	ug/L	1	32073	EPA 6010A	01/28/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128113

DATE REPORTED: 01/31/97

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	500	457	506	ug/L	91	101	80-120	10	35	32073	EPA 6010A	01/28/97
Arsenic	2000	1940	1940	ug/L	97	97	80-120	0	35	32073	EPA 6010A	01/28/97
Barium	2000	2040	2030	ug/L	102	102	80-120	1	35	32073	EPA 6010A	01/28/97
Beryllium	50	50.3	50.6	ug/L	101	101	80-120	1	35	32073	EPA 6010A	01/28/97
Cadmium	50	51.5	51.6	ug/L	103	103	80-120	0	35	32073	EPA 6010A	01/28/97
Chromium (total)	200	201	201	ug/L	101	101	80-120	0	35	32073	EPA 6010A	01/28/97
Cobalt	500	503	504	ug/L	101	101	80-120	0	35	32073	EPA 6010A	01/28/97
Copper	250	264	264	ug/L	106	106	80-120	0	35	32073	EPA 6010A	01/28/97
Lead	500	501	500	ug/L	100	100	80-120	0	35	32073	EPA 6010A	01/28/97
Mercury	5	5.061	5.154	ug/L	101	103	80-120	2	35	32106	EPA 7470	01/29/97
Molybdenum	400	403	405	ug/L	101	101	80-120	1	35	32073	EPA 6010A	01/28/97
Nickel	500	515	513	ug/L	103	103	80-120	0	35	32073	EPA 6010A	01/28/97
Selenium	2000	1880	1890	ug/L	94	95	80-120	1	35	32073	EPA 6010A	01/28/97
Silver	100	104	104	ug/L	104	104	80-120	0	35	32073	EPA 6010A	01/28/97
Thallium	2000	1970	1990	ug/L	99	100	80-120	1	35	32073	EPA 6010A	01/28/97
Vanadium	500	509	510	ug/L	102	102	80-120	0	35	32073	EPA 6010A	01/28/97
Zinc	500	515	510	ug/L	103	102	80-120	1	35	32073	EPA 6010A	01/28/97

CLIENT: Subsurface Consultants
 JOB NUMBER: 128113

DATE REPORTED: 01/31/97

**BATCH QC REPORT
 SAMPLE DUPLICATE**

Compound	Sample	Sample Result	Duplicate Result	Units	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	128090-001	<60.000	<60.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Arsenic	128090-001	16.2	14.9	ug/L	8	20	32073	EPA 6010A	01/28/97
Barium	128090-001	89.2	85	ug/L	5	20	32073	EPA 6010A	01/28/97
Beryllium	128090-001	<2.000	<2.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Cadmium	128090-001	<2.000	<2.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Chromium (total)	128090-001	<10.000	<10.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Cobalt	128090-001	<20.000	<20.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Copper	128090-001	<10.000	<10.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Lead	128090-001	<3.000	<3.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Mercury	128090-001	<0.200	<0.200	ug/L	NC	20	32106	EPA 7470	01/29/97
Molybdenum	128090-001	<20.000	<20.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Nickel	128090-001	49	46.7	ug/L	5	20	32073	EPA 6010A	01/28/97
Selenium	128090-001	40.4	42.6	ug/L	5	20	32073	EPA 6010A	01/28/97
Silver	128090-001	<5.000	<5.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Thallium	128090-001	<5.000	<5.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Vanadium	128090-001	<10.000	<10.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Zinc	128090-001	152	143	ug/L	6	20	32073	EPA 6010A	01/28/97

NC = Not Calculable



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
Layfayette, CA 94549

Date: 31-JAN-97
Lab Job Number: 128116
Project ID: 133.005
Location: KOT

Reviewed by: _____

Reviewed by: _____

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TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128116-001	SCI-42	32121	01/23/97	01/29/97	01/29/97	
128116-002	SCI-43	32149	01/23/97	01/31/97	01/31/97	
128116-003	SCI-45	32121	01/23/97	01/29/97	01/29/97	

Matrix: Water

Analyte	Units	128116-001	128116-002	128116-003
Diln Fac:		1	5	1
Gasoline	ug/L	<50	13000 YH	25000 YH
Surrogate				
Trifluorotoluene	%REC	92	97	92
Bromobenzene	%REC	86	95	95

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

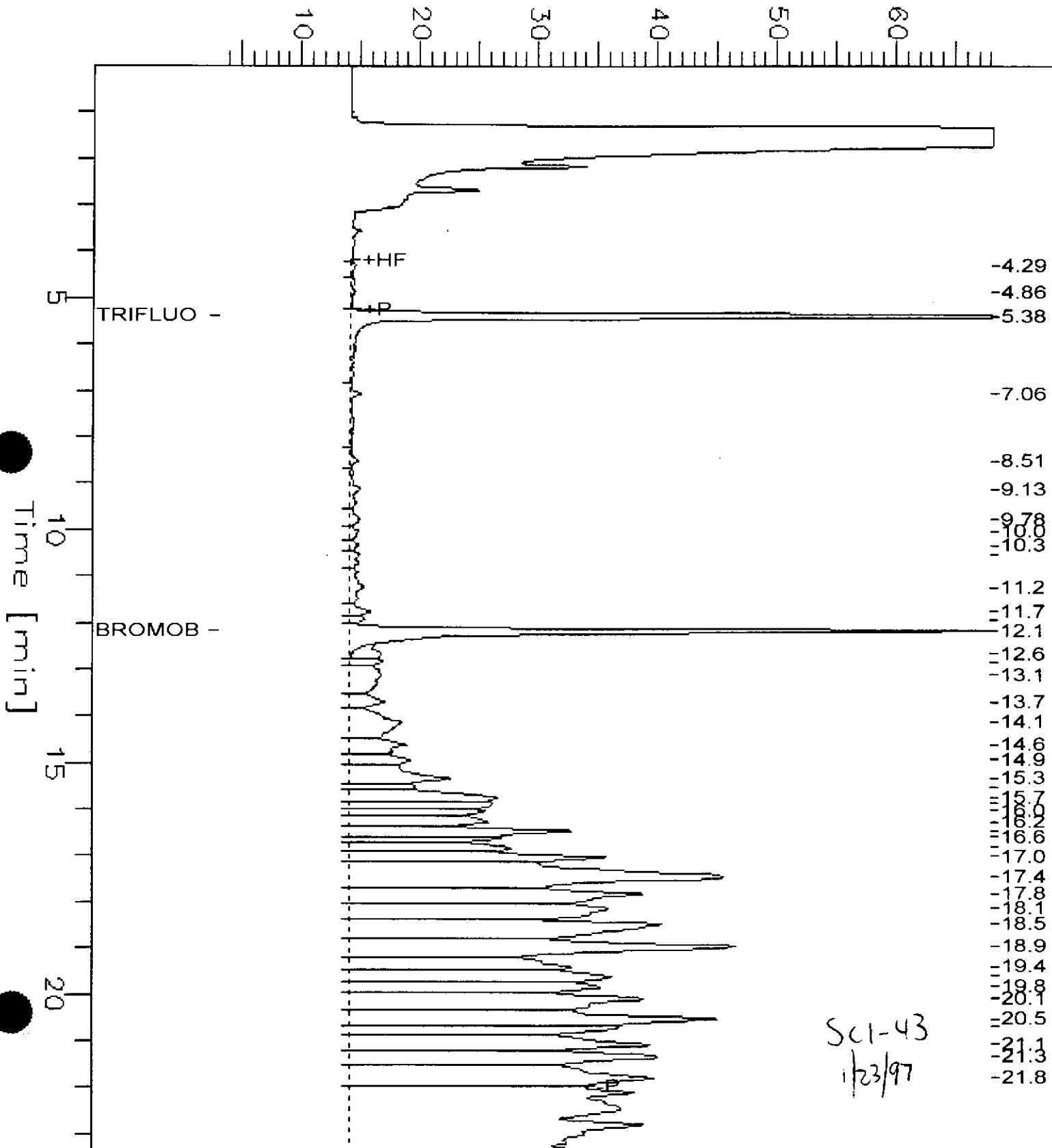
GC05 RTX1 TVH Chromatogram

Sample Name : DL,128116-002,32149,5X
 FileName : G:\GC05\DATA\030H019.RAW
 Method :

Sample #: Page 1 of 1
 Date : 2/3/97 02:46 PM
 Time of Injection: 1/31/97 01:48 AM
 Low Point : 3.21 mV High Point : 68.17 mV
 Plot Scale: 65.0 mV

Start Time : 0.02 min End Time : 23.40 min
 Factor: 0.0 Plot Offset: 3 mV

Response [mV]



SCI-43
1/23/97

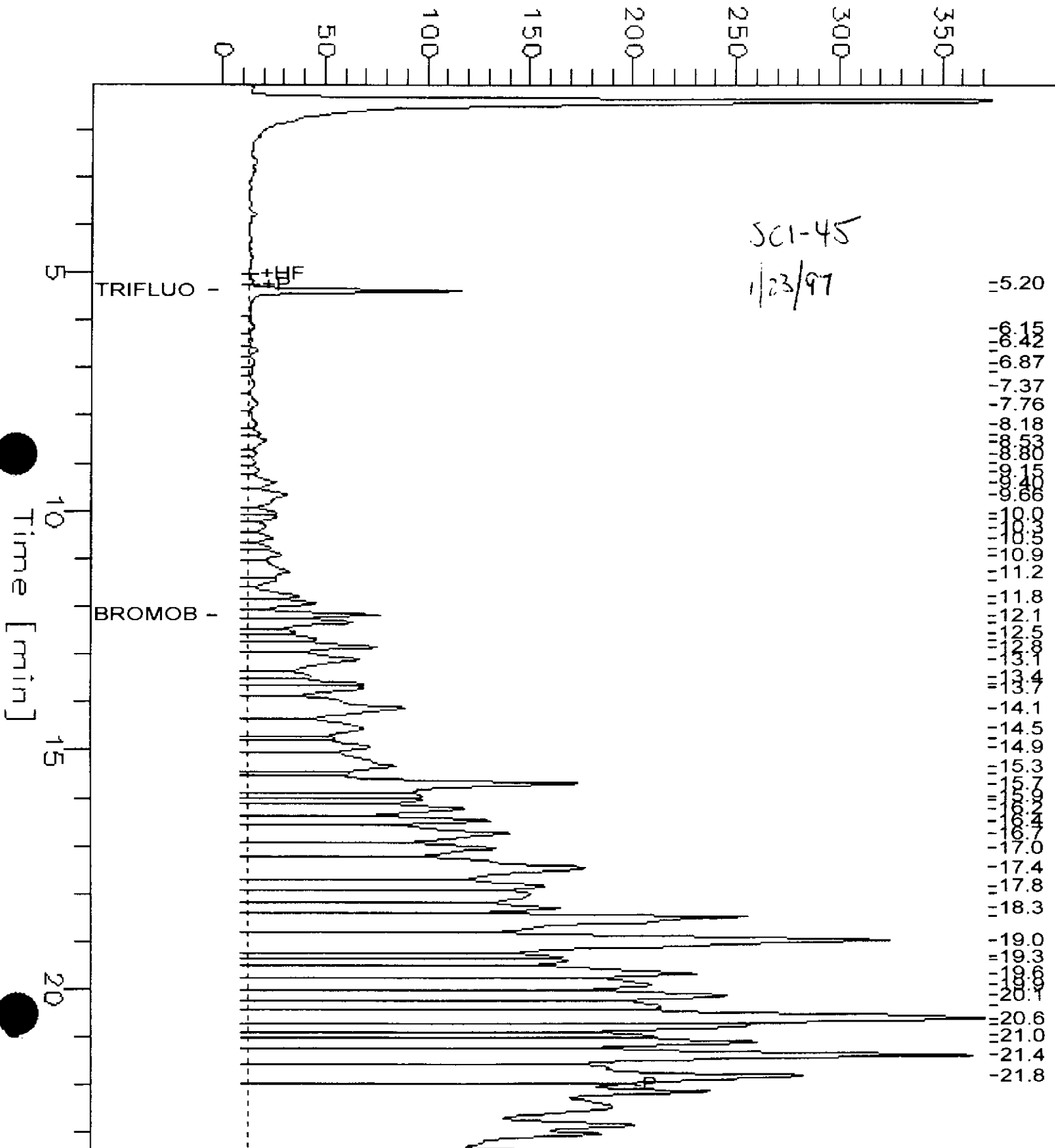
GC05 RTX1 TVH Chromatogram

Sample Name : S,128116-003,32121
 FileName : G:\GC05\DATA\029H044.RAW
 Method :

Sample # :
 Date : 1/30/97 01:06 PM
 Time of Injection: 1/30/97 02:45 AM
 Low Point : -1.72 mV
 High Point : 373.80 mV
 Plot Scale: 375.5 mV

Time : 1.05 min
 End Time : 23.40 min
 Factor: 0.0
 Plot Offset: -2 mV

Response [mV]



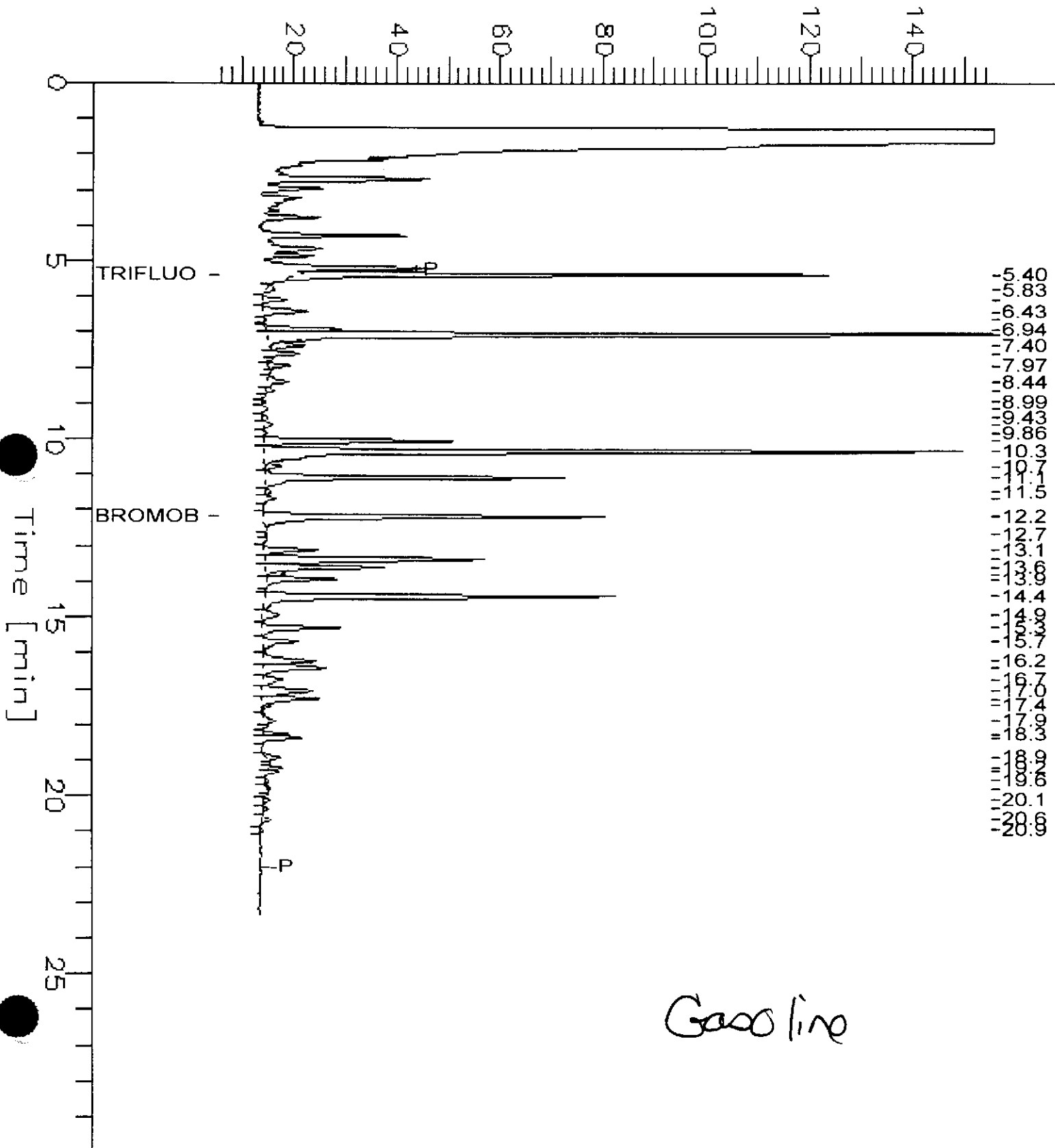
GC05 RTX1 TVH Chromatogram

Sample Name : LCS, QC39270, 32149
 FileName : G:\GC05\DATA\030H002.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 Factor : -1.0

End Time : 30.00 min
 Plot Offset: 6 mV

Sample #: 97WS3521 G
 Date : 1/30/97 09:02 PM
 Time of Injection: 1/30/97 03:44 PM
 Low Point : 5.67 mV
 High Point : 155.67 mV
 Plot Scale: 150.0 mV

Response [mV]





Lab #: 128116

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32121
Units: ug/L
Diln Fac: 1

Prep Date: 01/29/97
Analysis Date: 01/29/97

MB Lab ID: QC39158

Analyte	Result		
Gasoline	<50		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	86		65-135
Bromobenzene	80		65-135



Lab #: 128116

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/30/97
Batch#:	32149	Analysis Date:	01/30/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC39272

Analyte	Result		
Gasoline	<50		
Surrogate	%Rec	Recovery Limits	
Trifluorotoluene	91	65-135	
Bromobenzene	83	65-135	



Lab #: 128116

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 32149
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 01/30/97

LCS Lab ID: QC39270

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	1768	2000	88	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	89	65-135		
Bromobenzene	99	65-135		

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 #: 128116

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

 Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

 Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

 Matrix: Water
 Batch#: 32121
 Units: ug/L
 Diln Fac: 1

 Prep Date: 01/30/97
 Analysis Date: 01/30/97

BS Lab ID: QC39159

Analyte	Spike Added	BS	%Rec #	Limits
Gasoline	2000	2110	105	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	90	65-135		
Bromobenzene	90	65-135		

BSD Lab ID: QC39160

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2046	102	75-125	3	35
Surrogate	%Rec	Limits				
Trifluorotoluene	93	65-135				
Bromobenzene	94	65-135				

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

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128116-001	SCI-42	32122	01/23/97	01/29/97	02/01/97	
128116-002	SCI-43	32122	01/23/97	01/29/97	02/04/97	
128116-003	SCI-45	32122	01/23/97	01/29/97	02/04/97	

Matrix: Water

Analyte	Units	128116-001	128116-002	128116-003
Diln Fac:		1	20	50
Diesel C12-C22	ug/L	400 YH	190000	490000
Motor Oil C22-C50	ug/L	1100 YL	12000 YL	29000 YL
Surrogate				
Hexacosane	%REC	85	DO	DO

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

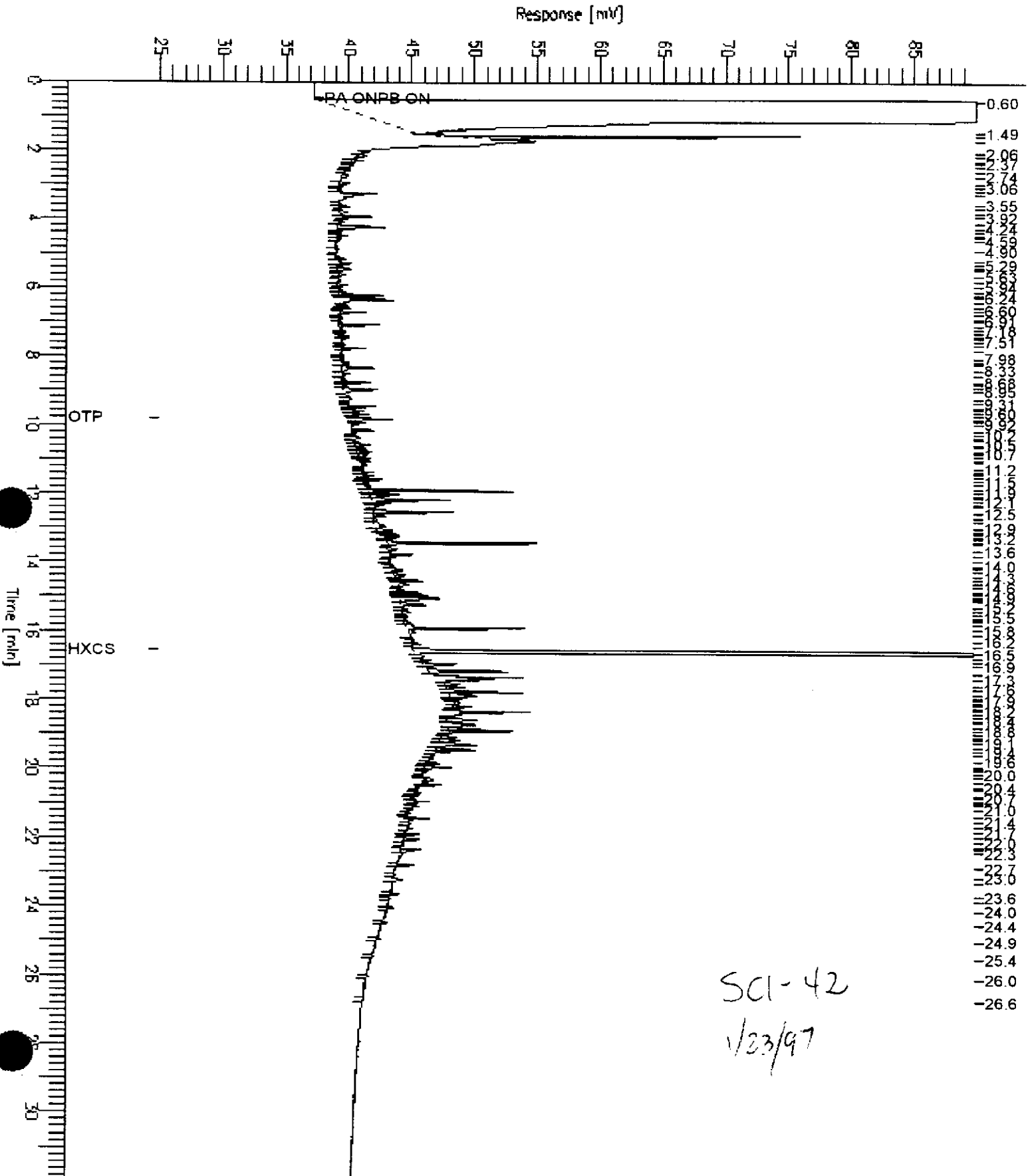
L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 128116-001, 32122
File Name : S:\GC13\CHA\031A043.raw
Method : SINGLA30
Start Time : 0.00 min
Factor : 0.0

Sample #: 32122
Date : 2/2/97 12:16 AM
Time of Injection: 2/1/97 11:44 PM
Low Point : 25.00 mV
High Point : 90.00 mV
Plot Scale: 65.0 mV

End Time : 31.90 min
Plot Offset: 25 mV



Chromatogram

Sample Name : 128116-002,32122

Sample #: 32122

Page 1 of 1

FileName : G:\GC11\CHB\034B025.RAW

Date : 2/4/97 02:22 PM

Method : BTEH035.MTH

Time of Injection: 2/4/97 03:39 AM

Start Time : 0.00 min

End Time : 31.90 min

Low Point : 26.99 mV

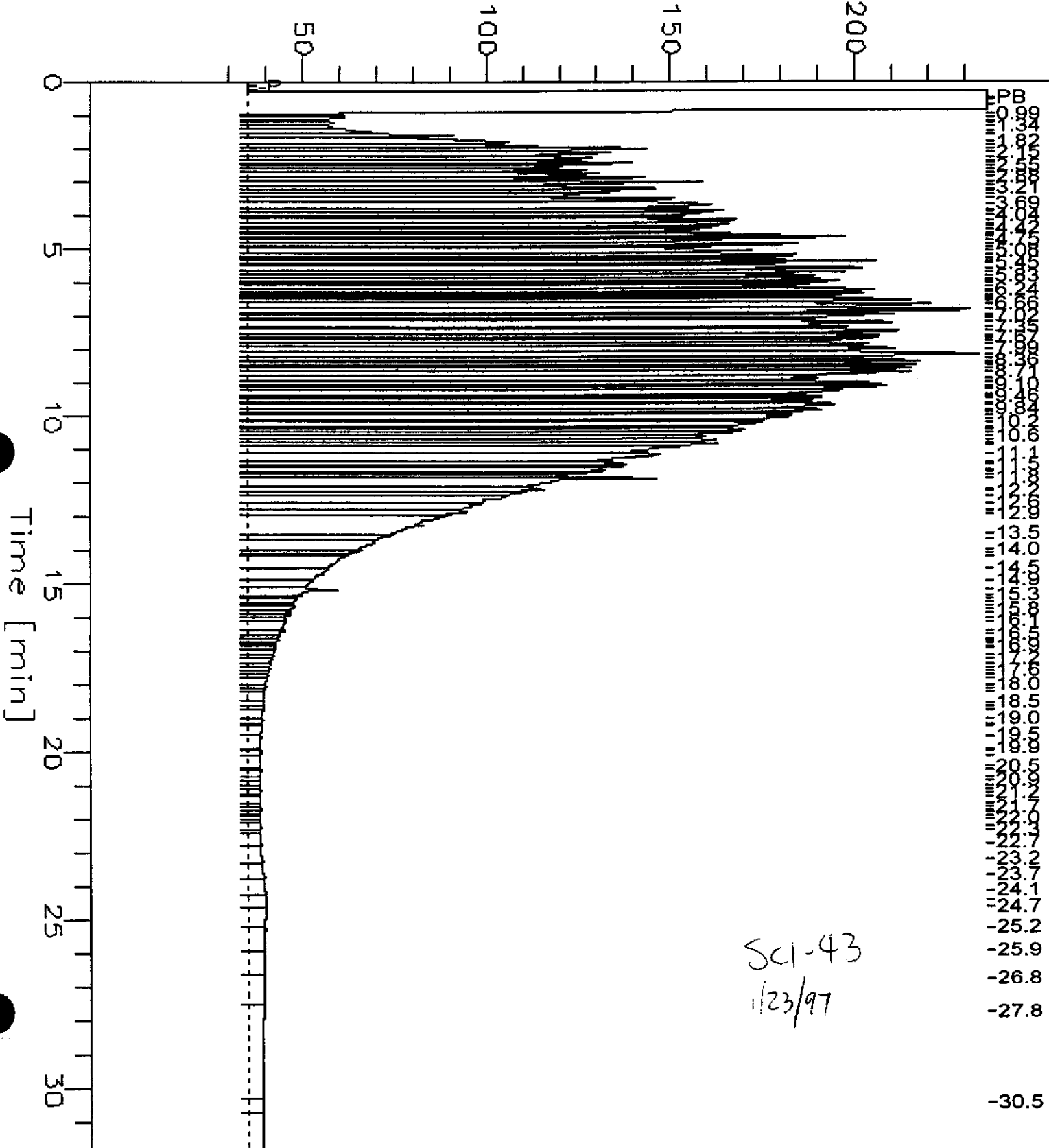
High Point : 236.09 mV

Gain Factor: 0.0

Plot Offset: 27 mV

Plot Scale: 209.1 mV

Response [mV]



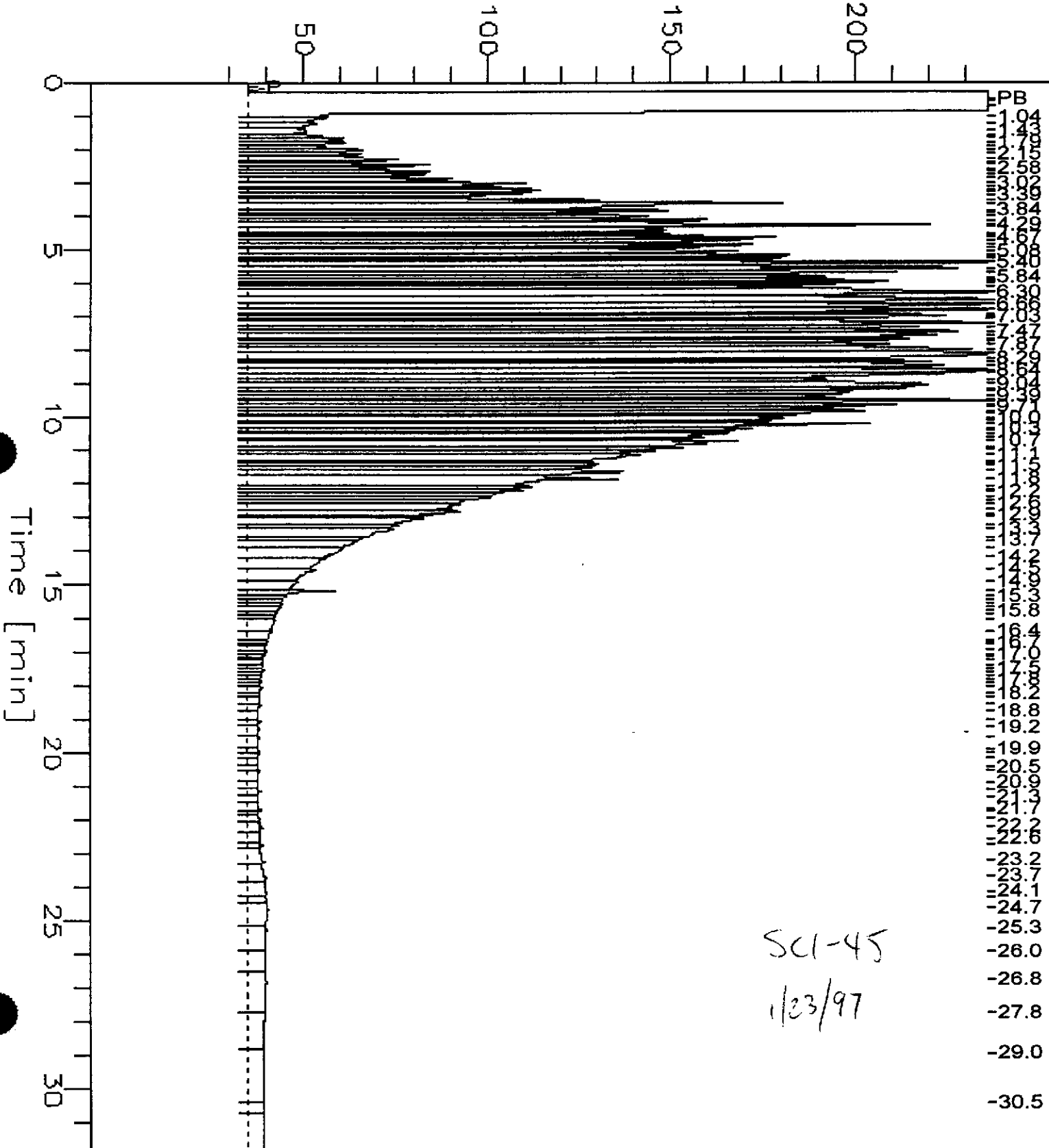
Chromatogram

Sample Name : 128116-003,32122
FileName : G:\GC11\CHB\034B024.RAW
Method : BTEH035.MTH
Start Time : 0.00 min
File Factor: 0.0

End Time : 31.90 min
Plot Offset: 27 mV

Sample #: 32122
Date : 2/4/97 02:21 PM
Time of Injection: 2/4/97 02:56 AM
Low Point : 26.99 mV
Plot Scale: 209.1 mV
Page 1 of 1
High Point : 236.09 mV

Response [mV]

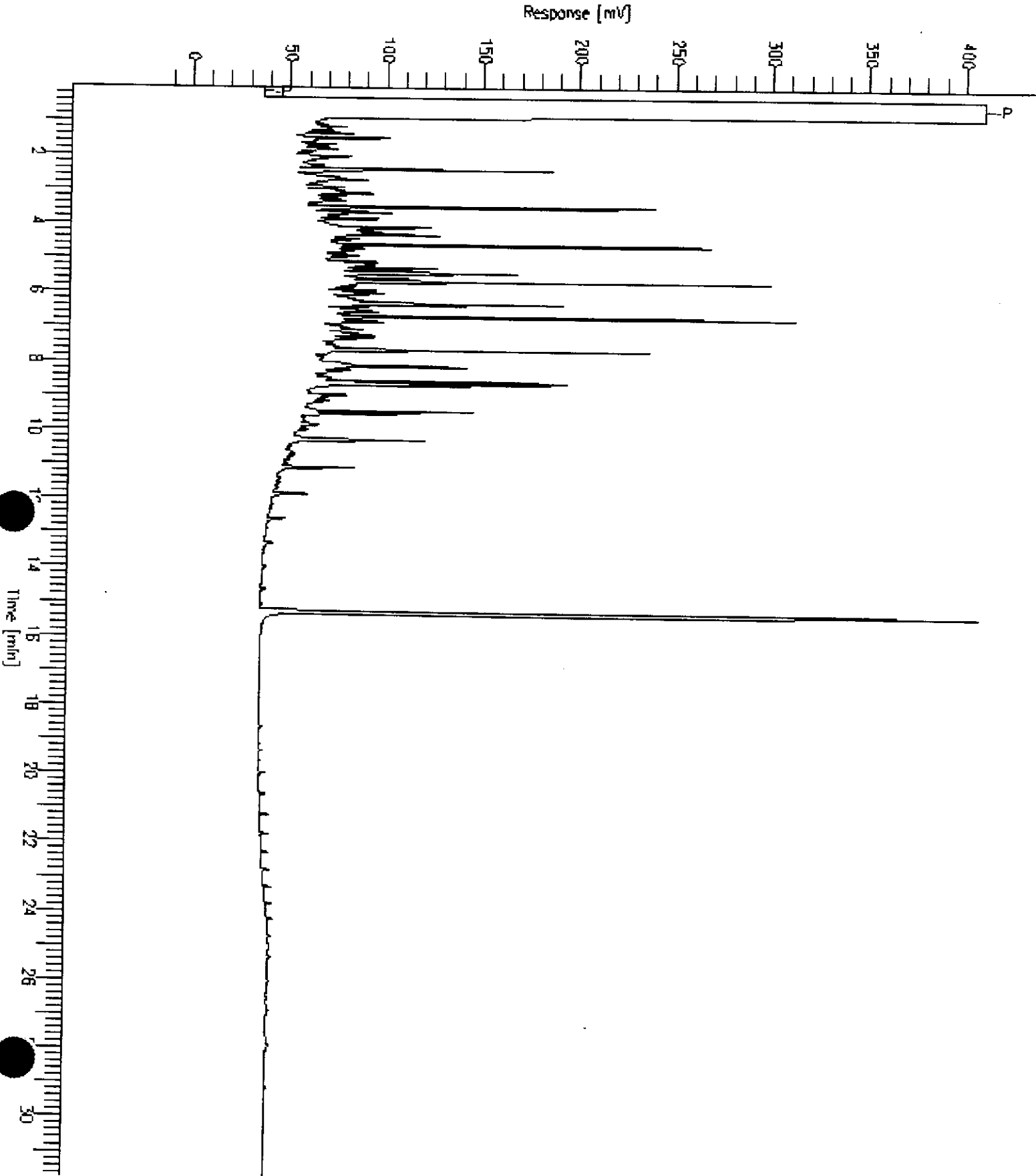


Chromatogram

Sample Name : CCV,96W53659,DS
File Name : G:\GC11\ACHBA\0348002.RAW
Method : BTEH008.MTH
Start Time : 0.01 min
Factor : 0.0

End Time : 31.76 min
Plot Offset : -15 mV

Sample #: 500MG/L
Date : 2/5/97 09:26 AM
Time of Injection: 2/3/97 10:14 AM
Low Point : -15.15 mV
High Point : 409.98 mV
Plot Scale: 425.1 mV

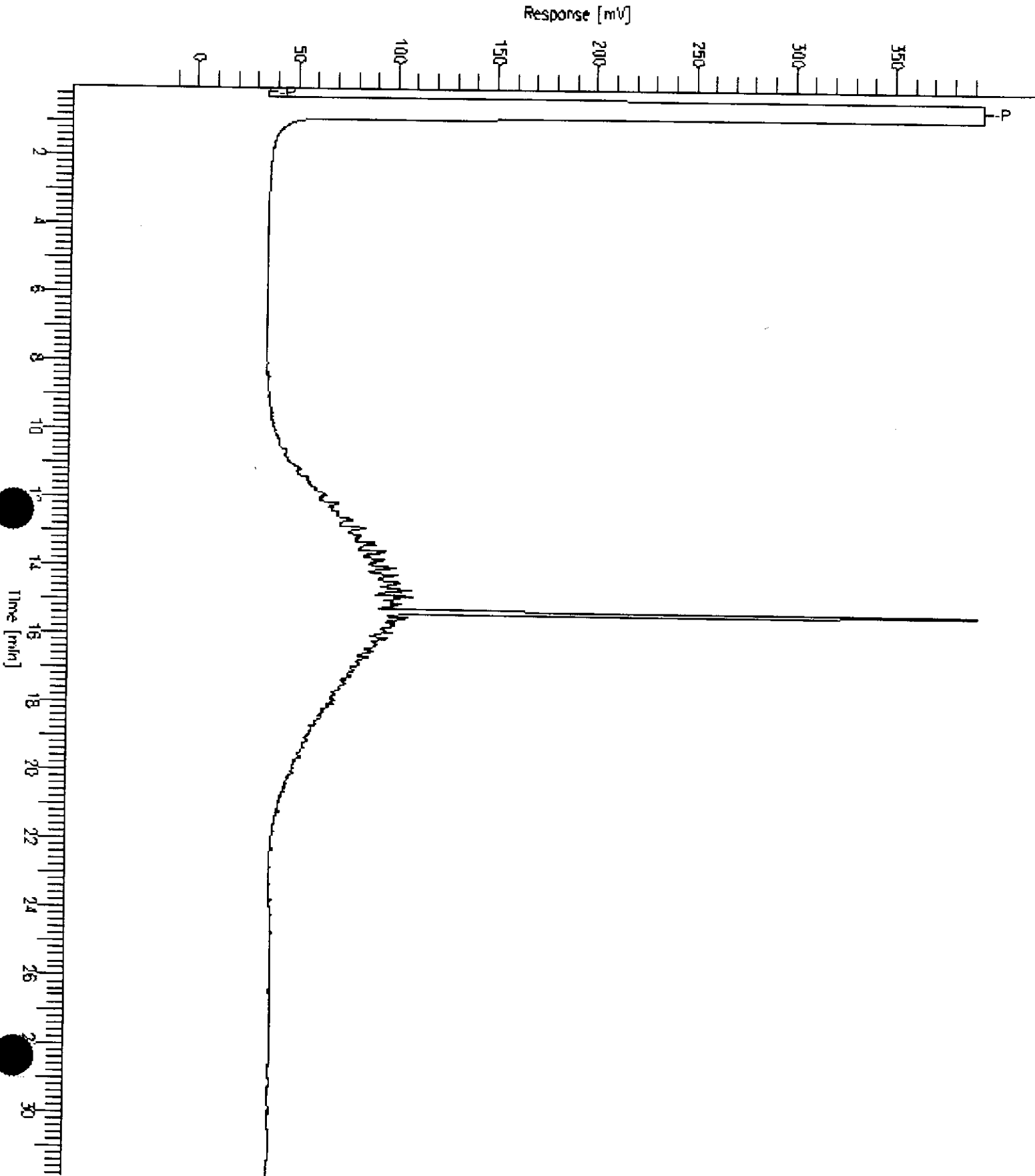


Chromatogram

Sample Name : CCV, 98WS3096, MO
File Name : G:\ASCI1\CHBA\034B004.RAW
Method : BTER006.MTH
Start Time : 0.01 min
Factor : 0.0

End Time : 31.91 min
Plot Offset : -17 mV

Sample #: 500MG/L
Date : 2/5/97 09:23 AM
Time of Injection: 2/3/97 11:40 AM
Low Point : -16.80 mV
High Point : 394.78 mV
Plot Scale: 411.6 mV



Lab #: 128116

BATCH QC REPORT



Curtis & Tompkins, Ltd
Page 1 of 1

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32122
Units: ug/L
Diln Fac: 1

Prep Date: 01/29/97
Analysis Date: 02/01/97

MB Lab ID: QC39161

Analyte	Result	
Diesel C12-C22	<50	
Motor Oil C22-C50	<250	
Surrogate	%Rec	Recovery Limits
Hexacosane	106	60-140



Lab #: 128116

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	
BLANK SPIKE/BLANK SPIKE DUPLICATE	
Matrix: Water	Prep Date: 01/29/97
Batch#: 32122	Analysis Date: 02/01/97
Units: ug/L	
Diln Fac: 1	

BS Lab ID: QC39162

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2225	90	60-140
Surrogate	%Rec	Limits		
Hexacosane	102	60-140		

BSD Lab ID: QC39163

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2408	97	60-140	8	35
Surrogate	%Rec	Limits				
Hexacosane	108	60-140				

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



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128116-001	SCI-42	32121	01/23/97	01/29/97	01/29/97	
128116-002	SCI-43	32149	01/23/97	01/31/97	01/31/97	
128116-003	SCI-45	32121	01/23/97	01/30/97	01/30/97	

Matrix: Water

Analyte	Units	128116-001	128116-002	128116-003
Diln Fac:		1	5	1
Benzene	ug/L	<0.5	<2.5	<0.5
Toluene	ug/L	<0.5	<2.5	2.9
Ethylbenzene	ug/L	<0.5	<2.5	<0.5
m,p-Xylenes	ug/L	<0.5	<2.5	<0.5
o-Xylene	ug/L	<0.5	<2.5	<0.5
Surrogate				
Trifluorotoluene	%REC	93	94	96
Bromobenzene	%REC	94	94	117



Lab #: 128116

BATCH QC REPORT

BTXE			
Client:	Subsurface Consultants	Analysis Method:	EPA 8020
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/29/97
Batch#:	32121	Analysis Date:	01/29/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC39158

Analyte	Result		
Benzene	<0.5		
Toluene	<0.5		
Ethylbenzene	<0.5		
m,p-Xylenes	<0.5		
o-Xylene	<0.5		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	87		58-130
Bromobenzene	84		62-131

Lab #: 128116

BATCH QC REPORT



Curtis & Tompkins, Ltd.
Page 1 of 1

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32149
Units: ug/L
Diln Fac: 1

Prep Date: 01/30/97
Analysis Date: 01/30/97

MB Lab ID: QC39272

Analyte	Result	
Benzene	<0.5	
Toluene	<0.5	
Ethylbenzene	<0.5	
m,p-Xylenes	<0.5	
o-Xylene	<0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	92	58-130
Bromobenzene	90	62-131



Lab #: 128116

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8020
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 32121
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/29/97
 Analysis Date: 01/29/97

LCS Lab ID: QC39157

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	17.74	20	89	80-120
Toluene	18.25	20	91	80-120
Ethylbenzene	18.14	20	91	80-120
m,p-Xylenes	36.06	40	90	80-120
o-Xylene	18.48	20	92	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	89	58-130		
Bromobenzene	89	62-131		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Lab #: 128116

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 01/30/97		
Batch#: 32149	Analysis Date: 01/30/97		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC39271

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	22.1	20	111	80-120
Toluene	22.74	20	114	80-120
Ethylbenzene	23.01	20	115	80-120
m,p-Xylenes	45.43	40	114	80-120
o-Xylene	23.41	20	117	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	95	58-130		
Bromobenzene	96	62-131		

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

Lab #: 128116

BATCH QC REPORT

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/28/97
Lab ID: 128144-001	Received Date: 01/28/97
Matrix: Water	Prep Date: 01/30/97
Batch#: 32149	Analysis Date: 01/30/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC39273

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Benzene	20	<0.5	18.51	93	75-125
Toluene	20	2.44	20.31	89	75-125
Ethylbenzene	20	<0.5	18.97	95	75-125
m,p-Xylenes	40	1.02	38.56	94	75-125
o-Xylene	20	<0.5	19.64	98	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	88	58-130			
Bromobenzene	89	62-131			

MSD Lab ID: QC39274

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Benzene	20	20.89	104	75-125	12	20
Toluene	20	22.26	99	75-125	9	20
Ethylbenzene	20	21.39	107	75-125	12	20
m,p-Xylenes	40	42.58	104	75-125	10	20
o-Xylene	20	21.92	110	75-125	11	20
Surrogate	%Rec	Limits				
Trifluorotoluene	89	58-130				
Bromobenzene	89	62-131				

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



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCI-42
 Lab ID: 128116-001
 Matrix: Water
 Batch#: 32051
 Units: ug/L
 Diln Fac: 1

Sampled: 01/23/97
 Received: 01/24/97
 Extracted: 01/27/97
 Analyzed: 01/27/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	4.1 J	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	95	87-125
Bromofluorobenzene	120	79-122

J: Estimated Value



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

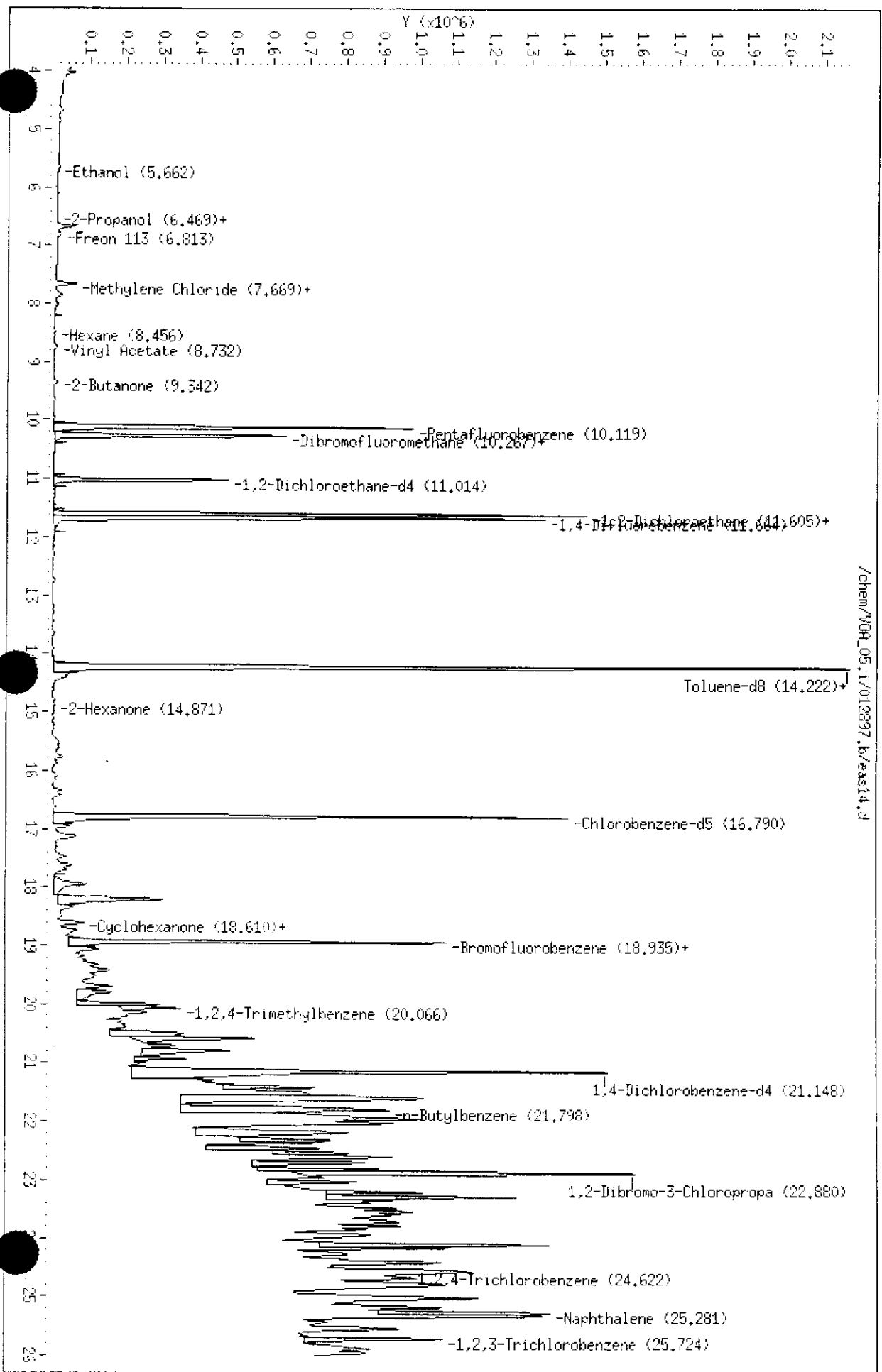
Field ID: SCI-43
 Lab ID: 128116-002
 Matrix: Water
 Batch#: 32081
 Units: ug/L
 Diln Fac: 1

Sampled: 01/23/97
 Received: 01/24/97
 Extracted: 01/28/97
 Analyzed: 01/28/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	40	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	99	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	109	79-122

Data File: /chem/MDR_05.1/012897.k/eas14.d
 Date: 28-JAN-97 17:18
 Client ID: DYNR Pat
 Sample Info: S.128116-002
 Purge Volume: 5.0
 Column Phase: RTX Volatiles

Instrument: MDR_05.1
 Operator: DM
 Column diameter: 0.32





Lab #: 128116

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 32081
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/28/97
 Analysis Date: 01/28/97

MB Lab ID: QC38991

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	101	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	112	79-122



Lab #: 128116

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 32051
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/27/97
 Analysis Date: 01/27/97

MB Lab ID: QC38881

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	94	87-125
Bromofluorobenzene	115	79-122



Lab #: 128116

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32051
Units: ug/L
Diln Fac: 1

Prep Date: 01/27/97
Analysis Date: 01/27/97

MB Lab ID: QC38916

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	96	87-125
Bromofluorobenzene	112	79-122



Lab #: 128116

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 32081
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/28/97
 Analysis Date: 01/28/97

MB Lab ID: QC39004

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	101	68-126
Toluene-d8	95	87-125
Bromofluorobenzene	111	79-122



Lab #: 128116

BATCH QC REPORT

EPA 8240 Volatile Organics			
Client: Subsurface Consultants	Analysis Method: EPA 8260		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 01/27/97		
Batch#: 32051	Analysis Date: 01/27/97		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC38880

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	58.17	50	116	51-180
Trichloroethene	49.05	50	98	73-141
Benzene	50.31	50	101	78-142
Toluene	47.95	50	96	76-150
Chlorobenzene	50.6	50	101	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	101	68-126		
Toluene-d8	97	87-125		
Bromofluorobenzene	113	79-122		

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



Lab #: 128116

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 32081
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/28/97

LCS Lab ID: QC38990

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	54.02	50	108	51-180
Trichloroethene	48.95	50	98	73-141
Benzene	50.8	50	102	78-142
Toluene	49.52	50	99	76-150
Chlorobenzene	50.27	50	101	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	100	68-126		
Toluene-d8	99	87-125		
Bromofluorobenzene	109	79-122		

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



Lab #: 128116

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/24/97
Lab ID: 128107-001	Received Date: 01/24/97
Matrix: Water	Prep Date: 01/27/97
Batch#: 32051	Analysis Date: 01/27/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC38913

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	0.5413	55.64	110	51-180
Trichloroethene	50	<5	47.73	95	73-141
Benzene	50	<5	49.33	99	78-142
Toluene	50	<5	47.04	94	76-150
Chlorobenzene	50	<5	50.01	100	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	101	68-126			
Toluene-d8	99	87-125			
Bromofluorobenzene	118	79-122			

MSD Lab ID: QC38914

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	55.07	109	51-180	1	14
Trichloroethene	50	47.44	94	73-141	1	14
Benzene	50	48.83	98	78-142	1	11
Toluene	50	47.39	95	76-150	1	13
Chlorobenzene	50	50.15	100	83-129	0	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	101	68-126				
Toluene-d8	100	87-125				
Bromofluorobenzene	115	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

Lab #: 128116

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/27/97
Lab ID: 128134-001	Received Date: 01/28/97
Matrix: Water	Prep Date: 01/28/97
Batch#: 32081	Analysis Date: 01/28/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC39001

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<5	47.93	96	51-180
Trichloroethene	50	<5	45.17	90	73-141
Benzene	50	0	47.53	95	78-142
Toluene	50	0	46.32	93	76-150
Chlorobenzene	50	<5	47.39	95	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	99	68-126			
Toluene-d8	99	87-125			
Bromofluorobenzene	107	79-122			

MSD Lab ID: QC39002

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	47.92	96	51-180	0	14
Trichloroethene	50	45.53	91	73-141	1	14
Benzene	50	48.17	96	78-142	1	11
Toluene	50	46.29	93	76-150	0	13
Chlorobenzene	50	47.01	94	83-129	1	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	100	68-126				
Toluene-d8	99	87-125				
Bromofluorobenzene	107	79-122				

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



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCI-42
Lab ID: 128116-001
Matrix: Water
Batch#: 32098
Units: ug/L
Diln Fac: 1

Sampled: 01/23/97
Received: 01/24/97
Extracted: 01/28/97
Analyzed: 01/31/97

Analyte	Result	Reporting Limit
Phenol	ND	9.4
2-Chlorophenol	ND	9.4
Benzyl alcohol	ND	9.4
2-Methylphenol	ND	9.4
4-Methylphenol	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
2,4-Dichlorophenol	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	47
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47
4,6-Dinitro-2-methylphenol	ND	47
Pentachlorophenol	ND	47
N-Nitrosodimethylamine	ND	9.4
Aniline	ND	9.4
bis(2-Chloroethyl) ether	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
1,2-Dichlorobenzene	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
bis(2-Chloroethoxy) methane	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4

Semivolatile Organics by GC/MS

Field ID: SCI-42	Sampled: 01/23/97
Lab ID: 128116-001	Received: 01/24/97
Matrix: Water	Extracted: 01/28/97
Batch#: 32098	Analyzed: 01/31/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
Fluorene	ND	9.4
4-Nitroaniline	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	68	21-110
Phenol-d5	71	10-110
2,4,6-Tribromophenol	19	10-123
Nitrobenzene-d5	59	35-114
2-Fluorobiphenyl	32*	43-116
Terphenyl-d14	8*	33-141

* Values outside of QC limits

Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: SCI-43
Lab ID: 128116-002
Matrix: Water
Batch#: 32098
Units: ug/L
Diln Fac: 20

Sampled: 01/23/97
Received: 01/24/97
Extracted: 01/28/97
Analyzed: 01/31/97

Analyte	Result	Reporting Limit
Phenol	ND	190
2-Chlorophenol	ND	190
Benzyl alcohol	ND	190
2-Methylphenol	ND	190
4-Methylphenol	ND	190
2-Nitrophenol	ND	940
2,4-Dimethylphenol	ND	190
Benzoic acid	ND	940
2,4-Dichlorophenol	ND	190
4-Chloro-3-methylphenol	ND	190
2,4,6-Trichlorophenol	ND	190
2,4,5-Trichlorophenol	ND	940
2,4-Dinitrophenol	ND	940
4-Nitrophenol	ND	940
4,6-Dinitro-2-methylphenol	ND	940
Pentachlorophenol	ND	940
N-Nitrosodimethylamine	ND	190
Aniline	ND	190
bis(2-Chloroethyl)ether	ND	190
1,3-Dichlorobenzene	ND	190
1,4-Dichlorobenzene	ND	190
1,2-Dichlorobenzene	ND	190
bis(2-Chloroisopropyl) ether	ND	190
N-Nitroso-di-n-propylamine	ND	190
Hexachloroethane	ND	190
Nitrobenzene	ND	190
Isophorone	ND	190
bis(2-Chloroethoxy)methane	ND	190
1,2,4-Trichlorobenzene	ND	190
Naphthalene	ND	190
4-Chloroaniline	ND	190
Hexachlorobutadiene	ND	190
2-Methylnaphthalene	ND	190
Hexachlorocyclopentadiene	ND	190
2-Chloronaphthalene	ND	190
2-Nitroaniline	ND	940
Dimethylphthalate	ND	190
Acenaphthylene	ND	190



Semivolatile Organics by GC/MS		
Field ID: SCI-43	Sampled:	01/23/97
Lab ID: 128116-002	Received:	01/24/97
Matrix: Water	Extracted:	01/28/97
Batch#: 32098	Analyzed:	01/31/97
Units: ug/L		
Diln Fac: 20		
Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	190
3-Nitroaniline	ND	940
Acenaphthene	ND	190
Dibenzofuran	ND	190
2,4-Dinitrotoluene	ND	190
Diethylphthalate	ND	190
4-Chlorophenyl-phenylether	ND	190
Fluorene	ND	190
4-Nitroaniline	ND	940
N-Nitrosodiphenylamine	ND	190
Azobenzene	ND	190
4-Bromophenyl-phenylether	ND	190
Hexachlorobenzene	ND	190
Phenanthrene	ND	190
Anthracene	ND	190
Di-n-butylphthalate	ND	190
Fluoranthene	ND	190
Pyrene	ND	190
Butylbenzylphthalate	ND	190
3,3'-Dichlorobenzidine	ND	940
Benzo(a)anthracene	ND	190
Chrysene	ND	190
bis(2-Ethylhexyl)phthalate	ND	190
Di-n-octylphthalate	ND	190
Benzo(b)fluoranthene	ND	190
Benzo(k)fluoranthene	ND	190
Benzo(a)pyrene	ND	190
Indeno(1,2,3-cd)pyrene	ND	190
Dibenz(a,h)anthracene	ND	190
Benzo(g,h,i)perylene	ND	190
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	DO*	21-110
Phenol-d5	DO*	10-110
2,4,6-Tribromophenol	DO*	10-123
Nitrobenzene-d5	DO*	35-114
2-Fluorobiphenyl	DO*	43-116
Terphenyl-d14	DO*	33-141

* Values outside of QC limits

DO: Surrogate diluted out

Lab #: 128116

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

 Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

 Analysis Method: EPA 8270
 Prep Method: EPA 3520

METHOD BLANK

 Matrix: Water
 Batch#: 32098
 Units: ug/L
 Diln Fac: 1

 Prep Date: 01/28/97
 Analysis Date: 01/30/97

MB Lab ID: QC39058

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



Lab #: 128116

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32098
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/30/97

MB Lab ID: QC39058

Analyte	Result	Reporting Limit
Acenaphthene	ND	10
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
4-Chlorophenyl-phenylether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
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)fluoranthene	ND	10
Benzo(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	74	21-110
Phenol-d5	75	10-110
2,4,6-Tribromophenol	72	10-123
Nitrobenzene-d5	91	35-114
2-Fluorobiphenyl	87	43-116
Terphenyl-d14	90	33-141



Lab #: 128116

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
 Batch#: 32098
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/28/97
 Analysis Date: 01/30/97

BS Lab ID: QC39059

Analyte	Spike Added	BS	%Rec #	Limits
Phenol	100	76.8	77	12-110
2-Chlorophenol	100	82.5	83	27-123
4-Chloro-3-methylphenol	100	83.3	83	23-97
4-Nitrophenol	100	79.03	79	10-80
Pentachlorophenol	100	62.72	63	9-103
1,4-Dichlorobenzene	50	30.72	61	36-97
N-Nitroso-di-n-propylamine	50	28.76	58	41-116
1,2,4-Trichlorobenzene	50	30.97	62	39-98
Acenaphthene	50	38.19	76	46-118
2,4-Dinitrotoluene	50	34.31	69	24-96
Pyrene	50	42.46	85	26-127
Surrogate	%Rec	Limits		
2-Fluorophenol	72	21-110		
Phenol-d5	73	10-110		
2,4,6-Tribromophenol	76	10-123		
Nitrobenzene-d5	89	35-114		
2-Fluorobiphenyl	87	43-116		
Terphenyl-d14	88	33-141		

BSD Lab ID: QC39060

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Phenol	100	74.03	74	12-110	4	42
2-Chlorophenol	100	78.65	79	27-123	5	40
4-Chloro-3-methylphenol	100	78.66	79	23-97	5	42
4-Nitrophenol	100	73.97	74	10-80	7	50
Pentachlorophenol	100	60.99	61	9-103	3	50
1,4-Dichlorobenzene	50	29.78	60	36-97	2	28
N-Nitroso-di-n-propylamine	50	27.35	55	41-116	5	38
1,2,4-Trichlorobenzene	50	29.96	60	39-98	3	28
Acenaphthene	50	36.17	72	46-118	5	31
2,4-Dinitrotoluene	50	31.34	63	24-96	9	38
Pyrene	50	40.27	81	26-127	5	31
Surrogate	%Rec	Limits				
2-Fluorophenol	67	21-110				
Phenol-d5	68	10-110				
2,4,6-Tribromophenol	69	10-123				
Nitrobenzene-d5	83	35-114				
2-Fluorobiphenyl	81	43-116				
Terphenyl-d14	80	33-141				

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

* Values outside of QC limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

SAMPLE ID: SCI-42
 LAB ID: 128116-001
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/23/97
 DATE RECEIVED: 01/24/97
 DATE REPORTED: 02/10/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32073	EPA 6010A	01/28/97
Arsenic	ND	5.0	1	32073	EPA 6010A	01/28/97
Barium	41	10	1	32073	EPA 6010A	01/28/97
Beryllium	ND	2.0	1	32073	EPA 6010A	01/28/97
Cadmium	ND	2.0	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20	1	32073	EPA 6010A	01/28/97
Copper	ND	10	1	32073	EPA 6010A	01/28/97
Lead	ND	3.0	1	32073	EPA 6010A	01/28/97
Mercury	ND	0.20	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20	1	32073	EPA 6010A	01/28/97
Nickel	ND	20	1	32073	EPA 6010A	01/28/97
Selenium	ND	5.0	1	32073	EPA 6010A	01/28/97
Silver	ND	5.0	1	32073	EPA 6010A	01/28/97
Thallium	ND	5.0	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10	1	32073	EPA 6010A	01/28/97
Zinc	20	20	1	32073	EPA 6010A	01/28/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCI-43
 LAB ID: 128116-002
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/23/97
 DATE RECEIVED: 01/24/97
 DATE REPORTED: 02/10/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32073	EPA 6010A	01/28/97
Arsenic	ND	5.0	1	32073	EPA 6010A	01/28/97
Barium	340	10	1	32073	EPA 6010A	01/28/97
Beryllium	ND	2.0	1	32073	EPA 6010A	01/28/97
Cadmium	ND	2.0	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20	1	32073	EPA 6010A	01/28/97
Copper	ND	10	1	32073	EPA 6010A	01/28/97
Lead	ND	3.0	1	32073	EPA 6010A	01/28/97
Mercury	ND	0.20	1	32106	EPA 7470	01/29/97
Molybdenum	22	20	1	32073	EPA 6010A	01/28/97
Nickel	ND	20	1	32073	EPA 6010A	01/28/97
Selenium	ND	5.0	1	32073	EPA 6010A	01/28/97
Silver	ND	5.0	1	32073	EPA 6010A	01/28/97
Thallium	ND	5.0	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10	1	32073	EPA 6010A	01/28/97
Zinc	ND	20	1	32073	EPA 6010A	01/28/97

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128116

DATE REPORTED: 02/10/97

 BATCH QC REPORT
 PREP BLANK

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	ug/L	1	32073	EPA 6010A	01/28/97
Arsenic	ND	5	ug/L	1	32073	EPA 6010A	01/28/97
Barium	ND	10	ug/L	1	32073	EPA 6010A	01/28/97
Beryllium	ND	2	ug/L	1	32073	EPA 6010A	01/28/97
Cadmium	ND	2	ug/L	1	32073	EPA 6010A	01/28/97
Chromium (total)	ND	10	ug/L	1	32073	EPA 6010A	01/28/97
Cobalt	ND	20	ug/L	1	32073	EPA 6010A	01/28/97
Copper	ND	10	ug/L	1	32073	EPA 6010A	01/28/97
Lead	ND	3	ug/L	1	32073	EPA 6010A	01/28/97
Mercury	ND	0.2	ug/L	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20	ug/L	1	32073	EPA 6010A	01/28/97
Nickel	ND	20	ug/L	1	32073	EPA 6010A	01/28/97
Selenium	ND	5	ug/L	1	32073	EPA 6010A	01/28/97
Silver	ND	5	ug/L	1	32073	EPA 6010A	01/28/97
Thallium	ND	5	ug/L	1	32073	EPA 6010A	01/28/97
Vanadium	ND	10	ug/L	1	32073	EPA 6010A	01/28/97
Zinc	ND	20	ug/L	1	32073	EPA 6010A	01/28/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128116

DATE REPORTED: 02/10/97

**BATCH QC REPORT
 BLANK SPIKE / BLANK SPIKE DUPLICATE**

Compound	Spike Amount	BS Result	BSD Result	Units	85% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	500	457	506	ug/L	91	101	80-120	10	35	32073	EPA 6010A	01/28/97
Arsenic	2000	1940	1940	ug/L	97	97	80-120	0	35	32073	EPA 6010A	01/28/97
Barium	2000	2040	2030	ug/L	102	102	80-120	1	35	32073	EPA 6010A	01/28/97
Beryllium	50	50.3	50.6	ug/L	101	101	80-120	1	35	32073	EPA 6010A	01/28/97
Cadmium	50	51.5	51.6	ug/L	103	103	80-120	0	35	32073	EPA 6010A	01/28/97
Chromium (total)	200	201	201	ug/L	101	101	80-120	0	35	32073	EPA 6010A	01/28/97
Cobalt	500	503	504	ug/L	101	101	80-120	0	35	32073	EPA 6010A	01/28/97
Copper	250	264	264	ug/L	106	106	80-120	0	35	32073	EPA 6010A	01/28/97
Lead	500	501	500	ug/L	100	100	80-120	0	35	32073	EPA 6010A	01/28/97
Mercury	5	5.061	5.154	ug/L	101	103	80-120	2	35	32106	EPA 7470	01/29/97
Molybdenum	400	403	405	ug/L	101	101	80-120	1	35	32073	EPA 6010A	01/28/97
Nickel	500	515	513	ug/L	103	103	80-120	0	35	32073	EPA 6010A	01/28/97
Selenium	2000	1880	1890	ug/L	94	95	80-120	1	35	32073	EPA 6010A	01/28/97
Silver	100	104	104	ug/L	104	104	80-120	0	35	32073	EPA 6010A	01/28/97
Thallium	2000	1970	1990	ug/L	99	100	80-120	1	35	32073	EPA 6010A	01/28/97
Vanadium	500	509	510	ug/L	102	102	80-120	0	35	32073	EPA 6010A	01/28/97
Zinc	500	515	510	ug/L	103	102	80-120	1	35	32073	EPA 6010A	01/28/97

CLIENT: Subsurface Consultants
 JOB NUMBER: 128116

DATE REPORTED: 02/10/97

**BATCH QC REPORT
 SAMPLE DUPLICATE**

Compound	Sample	Sample Result	Duplicate Result	Units	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	128090-001	<60.000	<60.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Arsenic	128090-001	16.2	14.9	ug/L	8	20	32073	EPA 6010A	01/28/97
Barium	128090-001	89.2	85	ug/L	5	20	32073	EPA 6010A	01/28/97
Beryllium	128090-001	<2.000	<2.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Cadmium	128090-001	<2.000	<2.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Chromium (total)	128090-001	<10.000	<10.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Cobalt	128090-001	<20.000	<20.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Copper	128090-001	<10.000	<10.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Lead	128090-001	<3.000	<3.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Mercury	128090-001	<0.200	<0.200	ug/L	NC	20	32106	EPA 7470	01/29/97
Molybdenum	128090-001	<20.000	<20.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Nickel	128090-001	49	46.7	ug/L	5	20	32073	EPA 6010A	01/28/97
Selenium	128090-001	40.4	42.6	ug/L	5	20	32073	EPA 6010A	01/28/97
Silver	128090-001	<5.000	<5.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Thallium	128090-001	<5.000	<5.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Vanadium	128090-001	<10.000	<10.000	ug/L	NC	20	32073	EPA 6010A	01/28/97
Zinc	128090-001	152	143	ug/L	6	20	32073	EPA 6010A	01/28/97

NC = Not Calculable



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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
Layfayette, CA 94549

Date: 31-JAN-97
Lab Job Number: 128131
Project ID: 133.005
Location: KOT

Reviewed by: Teresa K Morrison

Reviewed by: Tracy Belsky

This package may be reproduced only in its entirety.

Client: Subsurface Consultants

Laboratory Login Number: 128131

Project Name: KOT
 Project Number: 133.005

Report Date: 31 January 97

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) METHOD: SMWW 17:552OEF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
128131-005	SCI-4900.5'	Soil	24-JAN-97	27-JAN-97	31-JAN-97	27000	mg/Kg	50	DLP	32133
128131-008	SCI-5002'	Soil	24-JAN-97	27-JAN-97	31-JAN-97	ND	mg/Kg	50	DLP	32133

ND = Not Detected at or above Reporting Limit (RL).

Q C B a t c h R e p o r t

 Client: Subsurface Consultants
 Project Name: KOT
 Project Number: 133.005

 Laboratory Login Number: 128131
 Report Date: 31 January 97

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 32133

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
MB	ND	50	mg/Kg	SMWW 17:552OEF	31-JAN-97

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	113%	SMWW 17:552OEF	31-JAN-97
BSD	113%	SMWW 17:552OEF	31-JAN-97

		Control Limits
Average Spike Recovery	113%	80% - 120%
Relative Percent Difference	.3%	< 20%



TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-001	SCI-47@1'	32099	01/24/97	01/29/97	01/29/97	
128131-002	SCI-47@4.5'	32099	01/24/97	01/29/97	01/29/97	
128131-003	SCI-48@5.5'	32099	01/24/97	01/29/97	01/29/97	
128131-004	SCI-48@8'	32099	01/24/97	01/29/97	01/29/97	

Matrix: Soil

Analyte	Units	128131-001	128131-002	128131-003	128131-004
Diln Fac:		1	1	1	1
Gasoline	mg/Kg	<1	<1	<1	<1
Surrogate					
Trifluorotoluene	%REC	94	93	92	94
Bromobenzene	%REC	84	82	82	87



TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA.8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-005	SCI-49@0.5'	32099	01/24/97	01/29/97	01/29/97	
128131-006	SCI-49@3.5'	32099	01/24/97	01/29/97	01/29/97	
128131-007	SCI-49@6.0'	32099	01/24/97	01/29/97	01/29/97	
128131-008	SCI-50@2'	32099	01/24/97	01/29/97	01/29/97	

Matrix: Soil

Analyte	Units	128131-005	128131-006	128131-007	128131-008
Diln Fac:		1	1	1	1
Gasoline	mg/Kg	<1	<1	<1	<1
Surrogate					
Trifluorotoluene	%REC	92	94	93	91
Bromobenzene	%REC	82	87	85	85



TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-009	SCI-50@8'	32099	01/24/97	01/29/97	01/29/97	
128131-010	SCI-49@9.5'	32099	01/24/97	01/29/97	01/29/97	

Matrix: Soil

Analyte	Units	128131-009	128131-010
Diln Fac:		1	1
Gasoline	mg/Kg	<1	<1
Surrogate			
Trifluorotoluene	%REC	93	93
Bromobenzene	%REC	87	87

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-011	SCI-47	32080	01/24/97	01/28/97	01/28/97	
128131-012	SCI-48	32121	01/24/97	01/30/97	01/30/97	
128131-013	SCI-49	32080	01/24/97	01/28/97	01/28/97	
128131-014	SCI-50	32080	01/24/97	01/28/97	01/28/97	

Matrix: Water

Analyte	Units	128131-011	128131-012	128131-013	128131-014
Diln Fac:		1	1	1	1
Gasoline	ug/L	<50	<50	<50	<50
Surrogate					
Trifluorotoluene	%REC	94	93	95	95
Bromobenzene	%REC	88	91	87	91



Lab #: 128131

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 32099
Units: mg/Kg
Diln Fac: 1

Prep Date: 01/29/97
Analysis Date: 01/29/97

MB Lab ID: QC39063

Analyte	Result	
Gasoline	<1.0	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	92	52-127
Bromobenzene	84	45-140

Lab #: 128131

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32080
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/28/97

MB Lab ID: QC38986

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	91	65-135
Bromobenzene	83	65-135



Lab #: 128131

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32121
Units: ug/L
Diln Fac: 1

Prep Date: 01/29/97
Analysis Date: 01/29/97

MB Lab ID: QC39158

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	86	65-135
Bromobenzene	80	65-135



Lab #: 128131

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
LABORATORY CONTROL SAMPLE			
Matrix:	Soil	Prep Date:	01/29/97
Batch#:	32099	Analysis Date:	01/29/97
Units:	mg/Kg		
Diln Fac:	1		

LCS Lab ID: QC39061

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	10.54	10	105	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	96	52-127		
Bromobenzene	98	45-140		

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 #: 128131

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 32080
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/28/97
 Analysis Date: 01/28/97

LCS Lab ID: QC38984

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	2006	2000	100	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	98	65-135		
Bromobenzene	99	65-135		

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 #: 128131

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/23/97
Lab ID: 128117-002	Received Date: 01/24/97
Matrix: Soil	Prep Date: 01/29/97
Batch#: 32099	Analysis Date: 01/29/97
Units: mg/Kg	
Diln Fac: 1	

MS Lab ID: QC39064

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	10	<1	10.05	101	65-135
Surrogate	%Rec	Limits			
Trifluorotoluene	100	52-127			
Bromobenzene	101	45-140			

MSD Lab ID: QC39065

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	10	9.81	98	65-135	2	30
Surrogate	%Rec	Limits				
Trifluorotoluene	98	52-127				
Bromobenzene	100	45-140				

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

Lab #: 128131

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
BLANK SPIKE/BLANK SPIKE DUPLICATE			
Matrix: Water	Prep Date: 01/30/97		
Batch#: 32121	Analysis Date: 01/30/97		
Units: ug/L			
Diln Fac: 1			

BS Lab ID: QC39159

Analyte	Spike Added	BS	%Rec #	Limits
Gasoline	2000	2110	105	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	90	65-135		
Bromobenzene	90	65-135		

BSD Lab ID: QC39160

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2046	102	75-125	3	35
Surrogate	%Rec	Limits				
Trifluorotoluene	93	65-135				
Bromobenzene	94	65-135				

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

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: CA LUFT
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-001	SCI-47@1'	32120	01/24/97	01/29/97	02/05/97	
128131-002	SCI-47@4.5'	32120	01/24/97	01/29/97	01/31/97	
128131-003	SCI-48@5.5'	32120	01/24/97	01/29/97	01/31/97	
128131-004	SCI-48@8'	32120	01/24/97	01/29/97	01/31/97	

Matrix: Soil

Analyte	Units	128131-001	128131-002	128131-003	128131-004
Diln Fac:		5	1	1	1
Diesel C12-C22	mg/Kg	170 YH	53 YH	48 YH	4.4YZ
Motor Oil C22-C50	mg/Kg	1300 YH	100 Y	110 Y	30 YH
Surrogate					
Hexacosane	%REC	115	120	120	76

Y: Sample exhibits fuel pattern which does not resemble standard
 Z: Sample exhibits unknown single peak or peaks
 H: Heavier hydrocarbons than indicated standard



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: CA LUFT
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-005	SCI-49@0.5'	32120	01/24/97	01/29/97	01/31/97	
128131-006	SCI-49@3.5'	32120	01/24/97	01/29/97	01/31/97	
128131-007	SCI-49@6.0'	32148	01/24/97	01/30/97	02/03/97	
128131-008	SCI-50@2'	32148	01/24/97	01/30/97	02/03/97	

Matrix: Soil

Analyte	Units	128131-005	128131-006	128131-007	128131-008
Diln Fac:		50	1	1	1
Diesel C12-C22	mg/Kg	1500 YH	15 YH	7 YH	<1
Motor Oil C22-C50	mg/Kg	7200 Y	57 Y	14 Y	<5
Surrogate					
Hexacosane	%REC	DO	104	123	118

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-009	SCI-50@8'	32148	01/24/97	01/30/97	02/03/97	
128131-010	SCI-49@9.5'	32148	01/24/97	01/30/97	02/04/97	

Matrix: Soil

Analyte	Units	128131-009	128131-010
Diln Fac:		1	1
Diesel C12-C22	mg/Kg	14 YH	41 YH
Motor Oil C22-C50	mg/Kg	33 Y	86 Y
Surrogate			
Hexacosane	%REC	115	128

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

TEH-Tot Ext Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-011	SCI-47	32122	01/24/97	01/29/97	02/02/97	
128131-012	SCI-48	32122	01/24/97	01/29/97	02/07/97	
128131-013	SCI-49	32122	01/24/97	01/29/97	02/02/97	
128131-014	SCI-50	32122	01/24/97	01/29/97	02/02/97	

Matrix: Water

Analyte	Units	128131-011	128131-012	128131-013	128131-014
Diln Fac:		1	1	1	1
Diesel C12-C22	ug/L	120 Y	970 YH	1500 YH	1000 YH
Motor Oil C22-C50	ug/L	<250	2200 YLH	2600 YLH	2300 YLH
Surrogate					
Hexacosane	%REC	94	61	81	73

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

TEH-Tot Ext Hydrocarbons

 Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

 Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-015	SCI-46	32122	01/24/97	01/29/97	02/02/97	

Matrix: Water

Analyte	Units	128131-015
Diln Fac:		1
Diesel C12-C22	ug/L	1200 YH
Motor Oil C22-C50	ug/L	2000 YLH
Surrogate		
Hexacosane	%REC	76

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

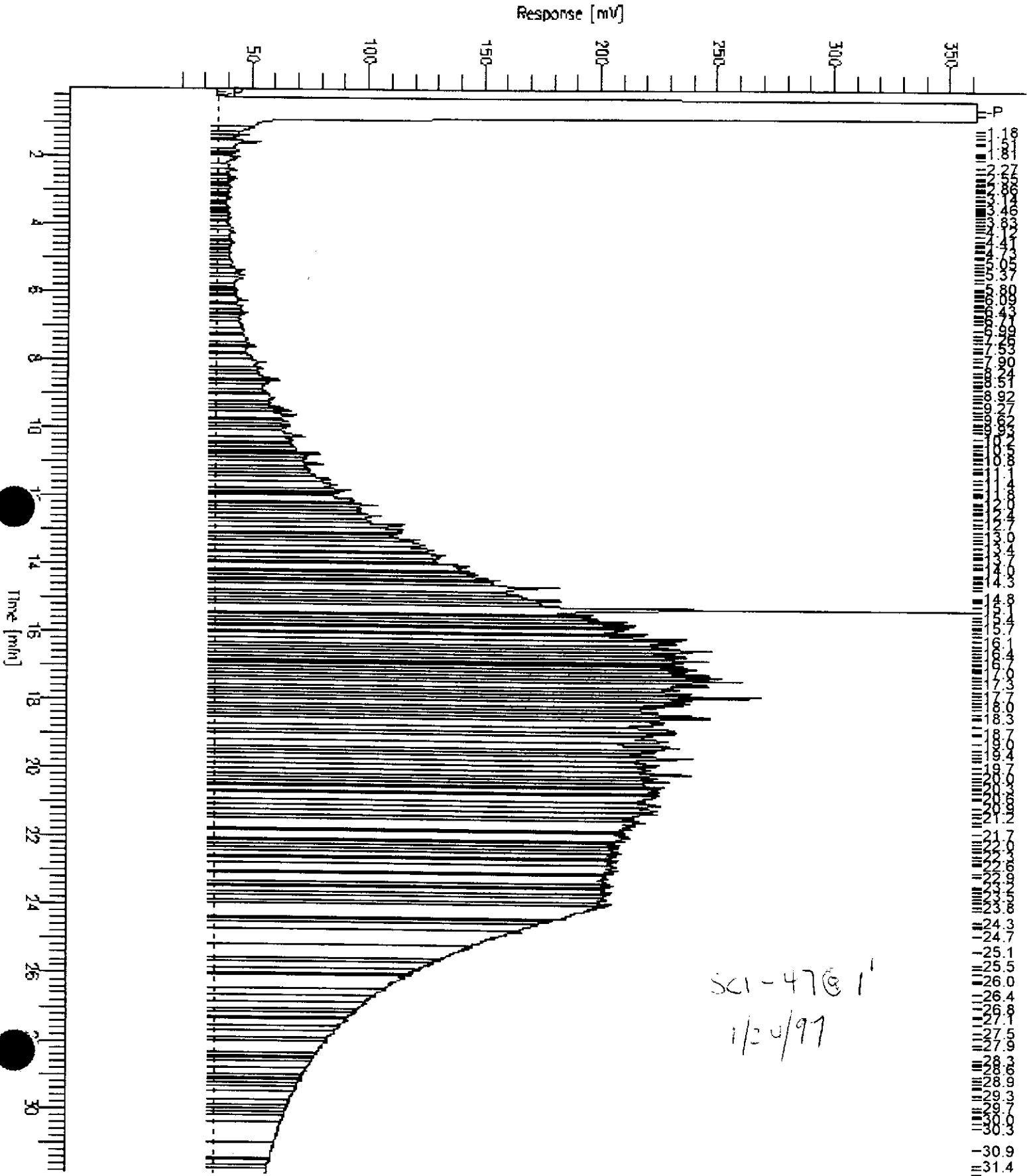
Chromatogram

Sample Name : 128131-001,32120
File Name : G:\GC11\CH8\0358025.RAW
Method : BTEH036.MTH
Start Time : 0.01 min
Factor : 0.0

End Time : 31.91 min
Plot Offset : 11 mV

Sample #: 32120
Date : 2/5/97 04:13 PM
Time of Injection: 2/5/97 11:30 AM
Low Point : 11.39 mV
High Point : 361.55 mV
Plot Scale: 350.2 mV

Page 1 of 1

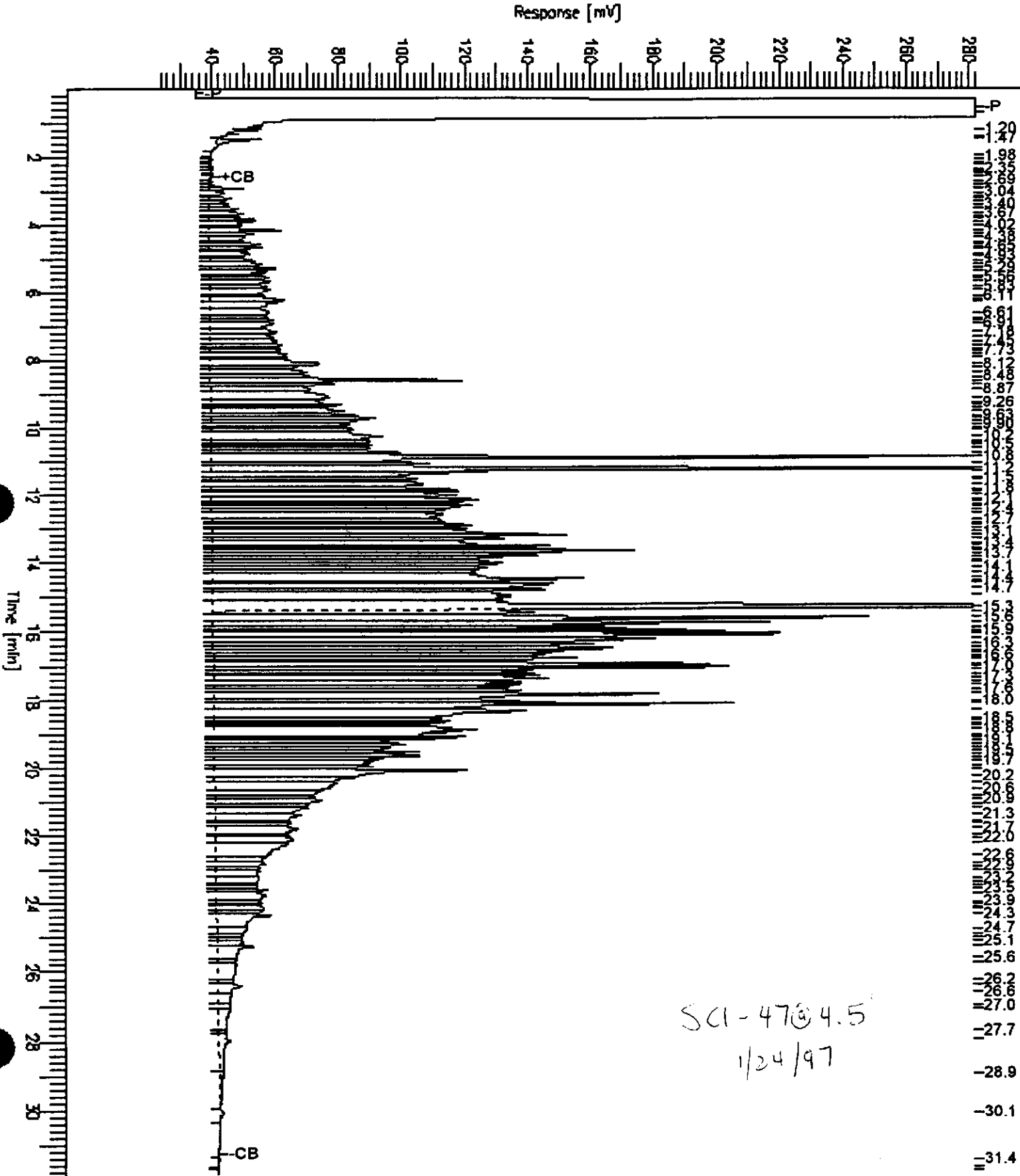


Chromatogram

Sample Name : 128131-002, 32120
FileName : G:\GC11\CHB\030B039.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
File Factor : 0.0

End Time : 31.91 min
Plot Offset : 24 mV

Sample #: 32120
Date : 1/31/97 02:28 PM
Time of Injection: 1/31/97 12:20 PM
Low Point : 23.59 mV
High Point : 282.18 mV
Plot Scale : 258.6 mV



Chromatogram

Sample Name : 128131-003,32120

FileName : G:\GC11\CHB\030B040.RAW

Method : BTEH006.MTH

Start Time : 0.01 min

Gain Factor : 0.0

Sample #: 32120

Date : 1/31/97 02:29 PM

Time of Injection: 1/31/97 01:02 PM

Low Point : 23.80 mV

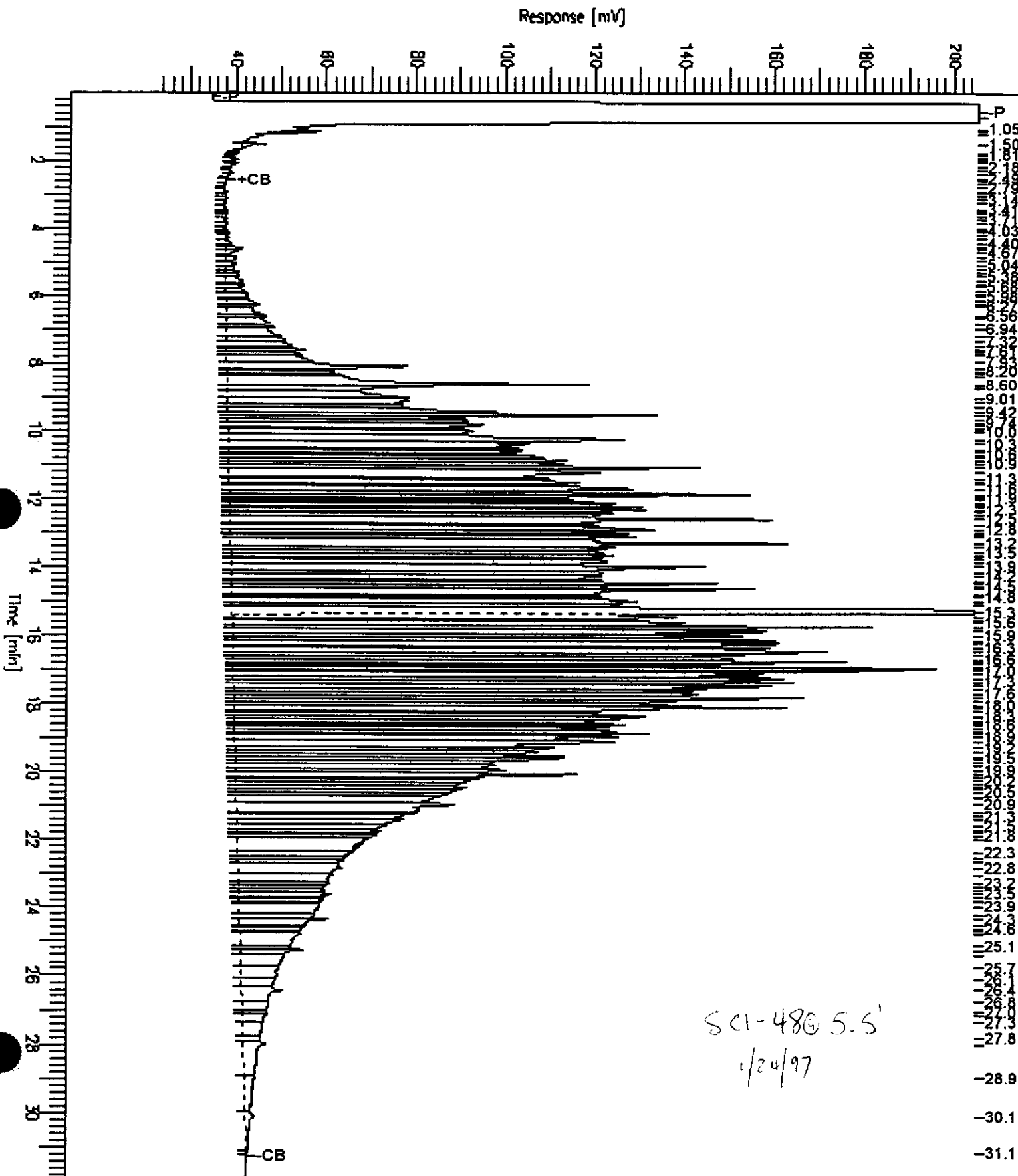
Plot Scale: 181.7 mV

Page 1 of 1

End Time : 31.91 min

Plot Offset: 24 mV

High Point : 205.50 mV



Chromatogram

Sample Name : 128131-004,32120

FileName : G:\GC11\CHB\030B041.RAW

Method : BTEH006.MTH

Start Time : 0.01 min

File Factor : 0.0

Sample #: 32120

Date : 1/31/97 02:30 PM

Time of Injection: 1/31/97 01:45 PM

Low Point : 23.20 mV

Plot Scale: 140.0 mV

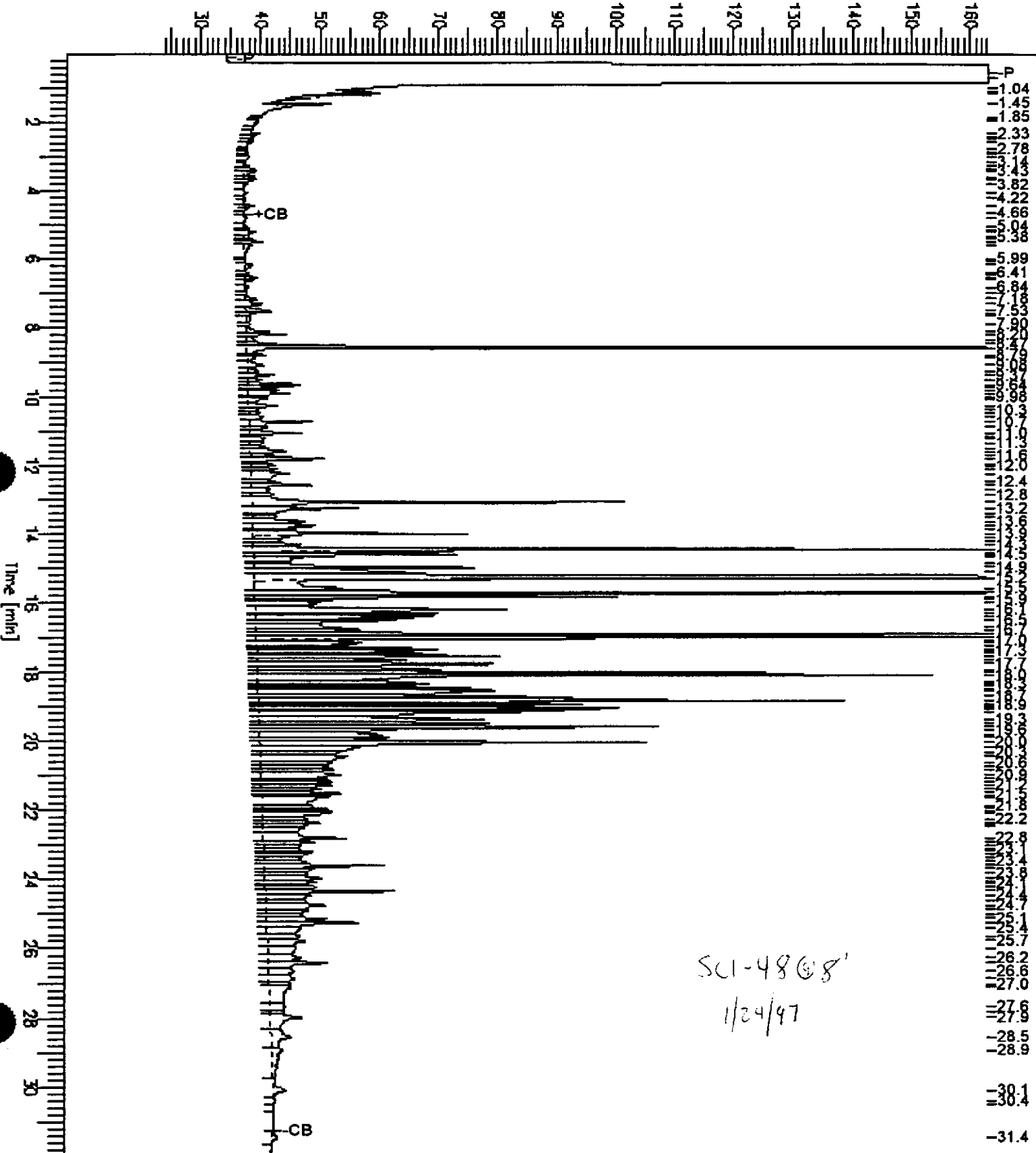
Page 1 of 1

End Time : 31.91 min

Plot Offset: 23 mV

High Point : 163.19 mV

Response [mV]



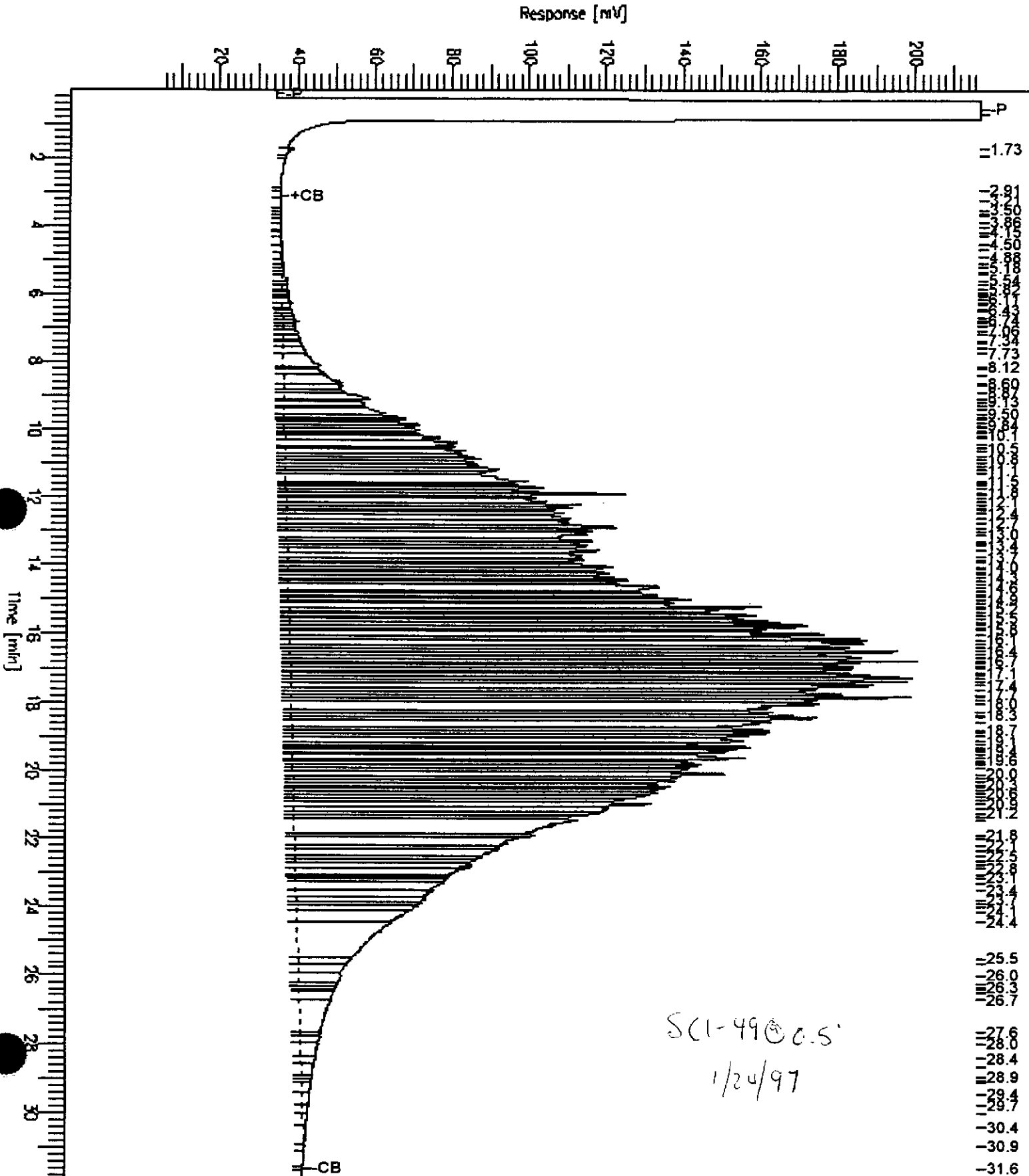
Chromatogram

Sample Name : 128131-005,32120
FileName : G:\GC11\CHB\030B045.RAW
Method : BTEH006.MTH
Start Time : 0.01 min
Gain Factor: 0.0

End Time : 31.91 min
Plot Offset: 5 mV

Sample #: 32120
Date : 2/3/97 10:01 AM
Time of Injection: 1/31/97 04:36 PM
Low Point : 5.16 mV
Plot Scale: 212.1 mV
High Point : 217.22 mV

Page 1 of 1



Chromatogram

Sample Name : 120131-006, 32120

FileName : G:\GC11\CHB\030B046.RAW

Method : BTEH006.MTH

Start Time : 0.01 min

File Factor : 0.0

Sample #: 32120

Date : 2/3/97 10:03 AM

Time of Injection: 1/31/97 05:45 PM

Low Point : 25.82 mV

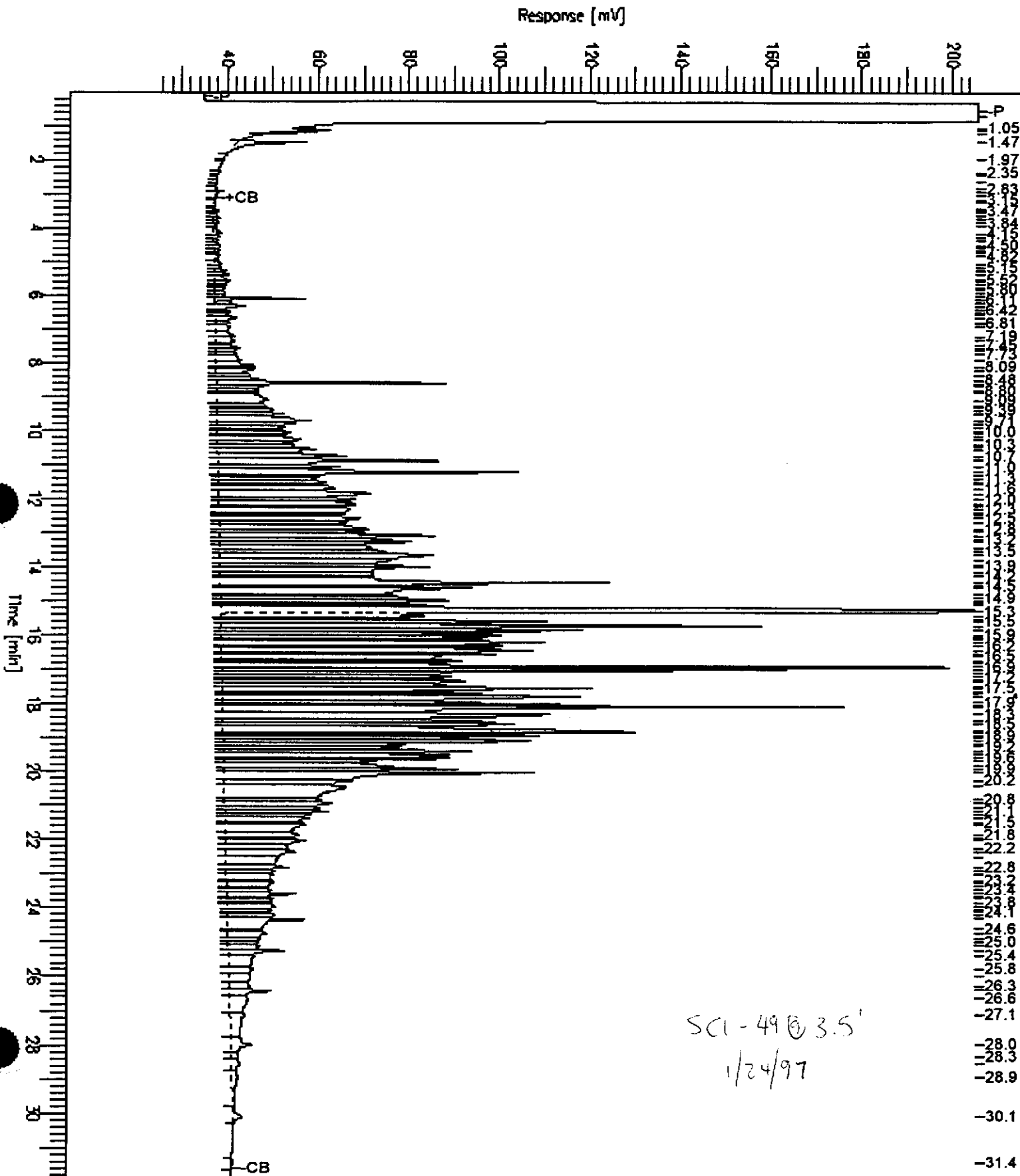
Plot Scale: 179.9 mV

Page 1 of 1

End Time : 31.91 min

Plot Offset: 26 mV

High Point : 205.77 mV



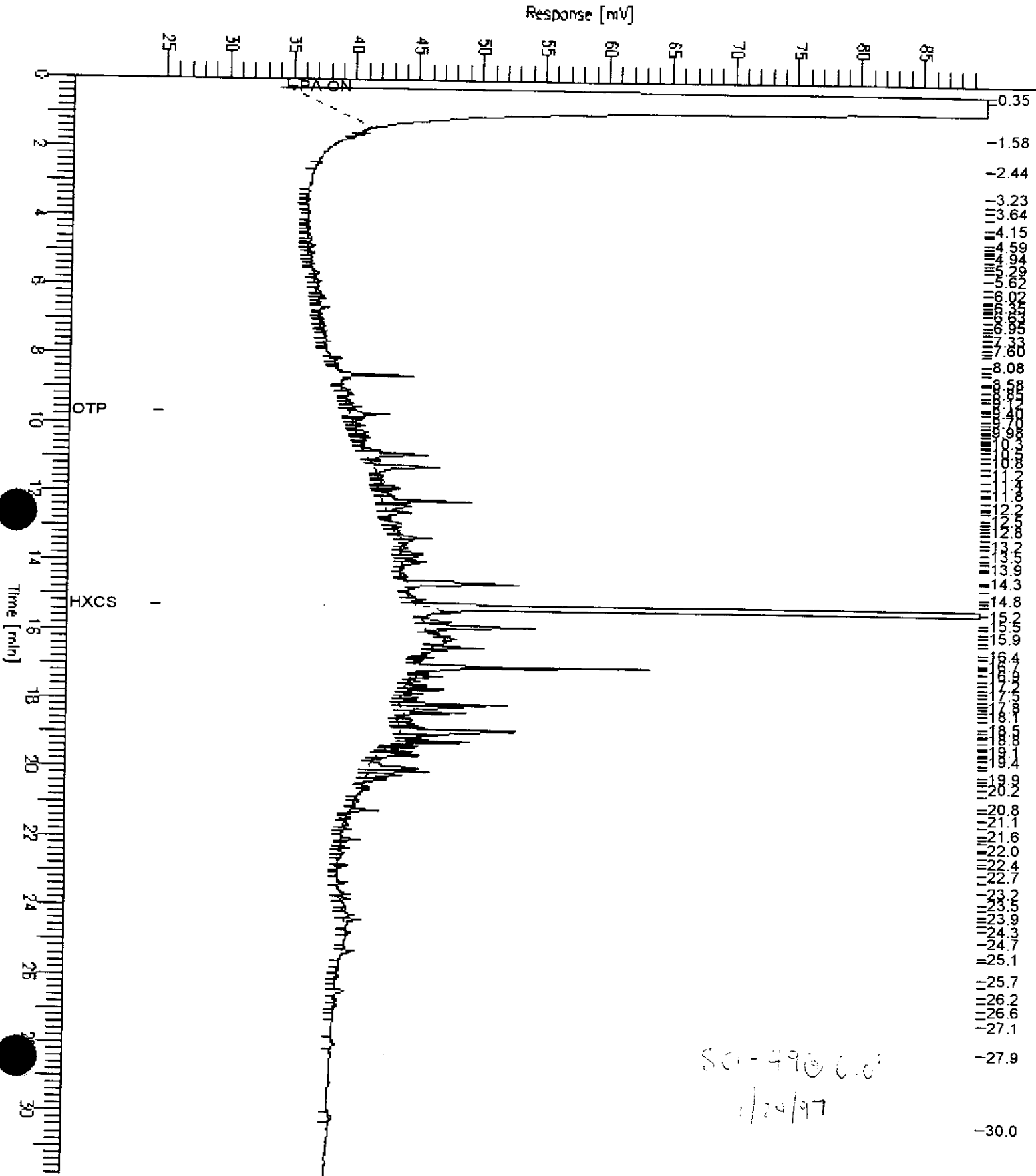
Chromatogram

Sample Name : 128131-007, 32148
File Name : G:\AGC11\CHB\034B015.raw
Method : SINGB
Start Time : 0.00 min
Factor : 0.0

End Time : 31.90 min
Plot Offset : 25 mV

Sample #: 32148
Date : 2/3/97 09:02 PM
Time of Injection: 2/3/97 08:30 PM
Low Point : 25.00 mV
High Point : 90.00 mV
Plot Scale: 65.0 mV

Page 1 of 1



Chromatogram

Sample Name : 128131-009, 32148

File Name : 81A0011A034B017.raw

N-Trace : SINGB

Start Time : 0.00 min

End Time : 31.90 min

Electron : 7.0

Plot Offset: 25 mV

Sample #: 32148

Page 1 of 1

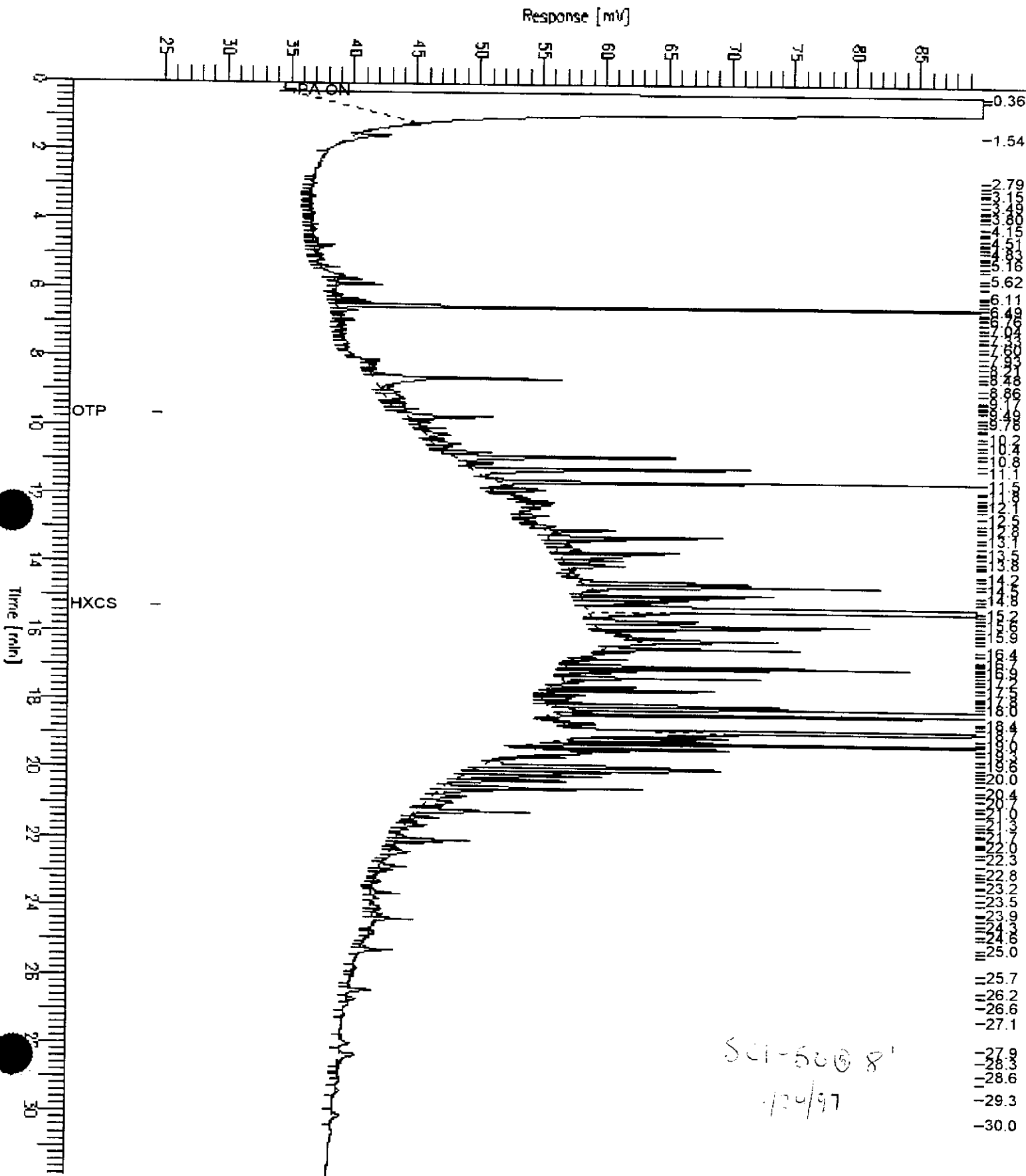
Date : 2/3/97 10:27 PM

Time of Injection: 2/3/97 09:58 PM

Low Point : 25.00 mV

High Point : 80.00 mV

Plot Scale: 65.0 mV



SCI-500 8'
2/24/97

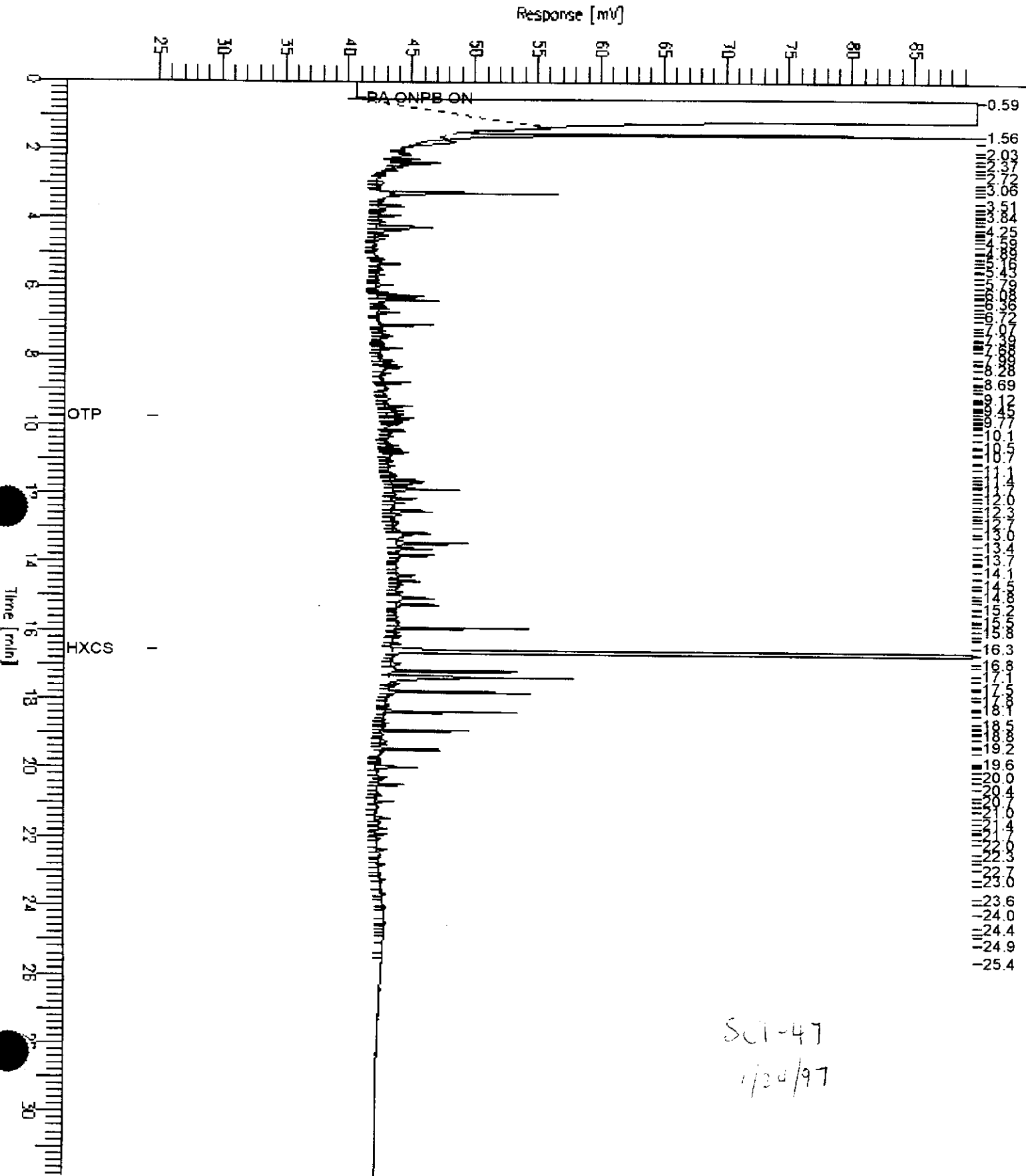
Chromatogram

Sample Name : 128131-011, 32122
File Name : GRAC13VCHAV031A054.raw
Method : SINGLA76
Start Time : 0.00 min
Pattern : 0.0

End Time : 31.90 min
Plot Offset: 25 mV

Sample #: 32122
Date : 1/2/97 08:00 AM
Time of Injection: 1/2/97 07:34 AM
Low Point : 25.00 mV
High Point : 90.00 mV
Plot Scale: x5.0 mV

Page 1 of 1

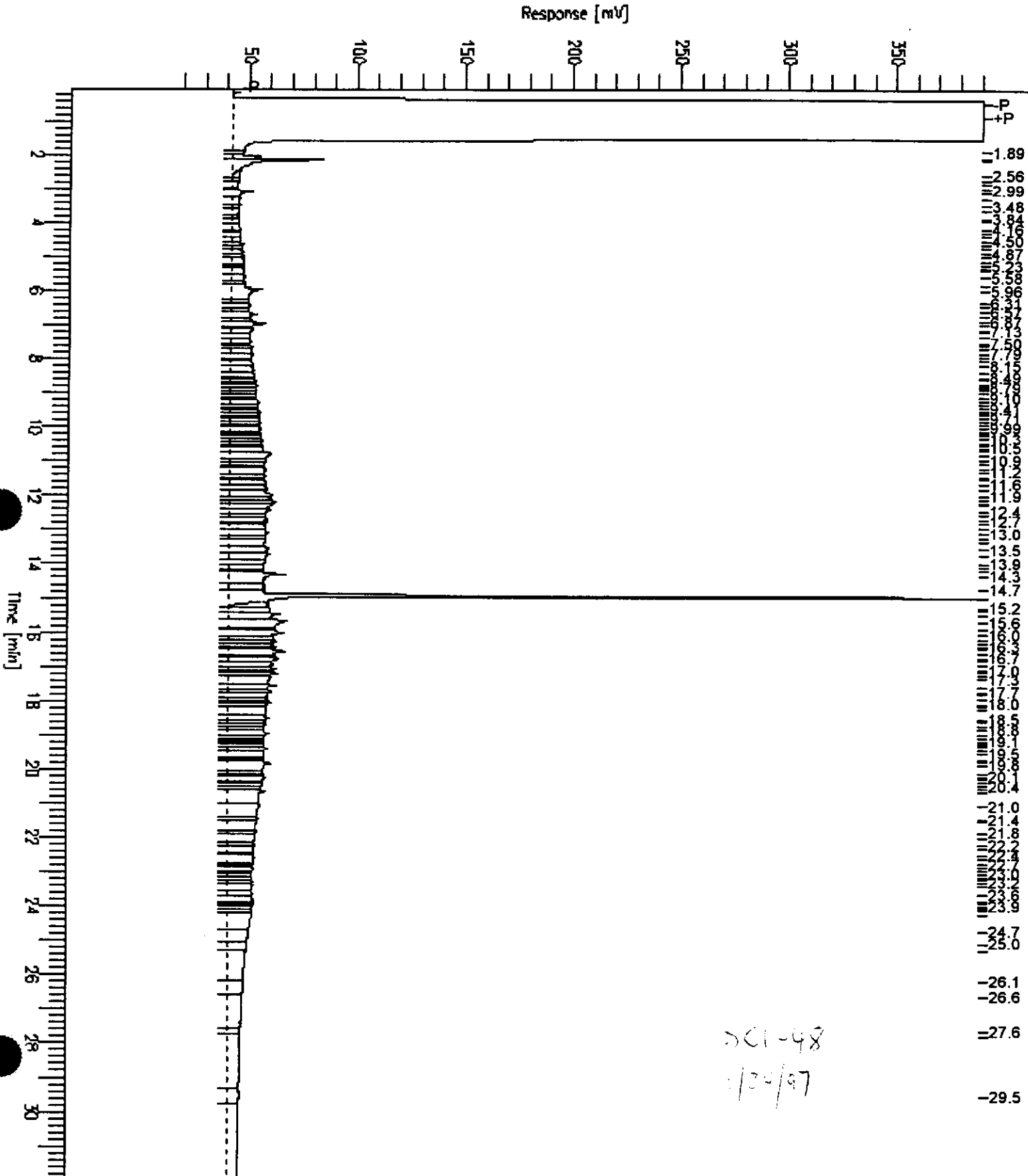


GC15 Channel B TEH

Sample Name : 128131-012,32122
 FileName : G:\GC15\CHB\038B004.RAW
 Method : B038TEH.MTH
 Start Time : 0.07 min
 Gain Factor: 0.0

End Time : 31.91 min
 Plot Offset: 10 mV

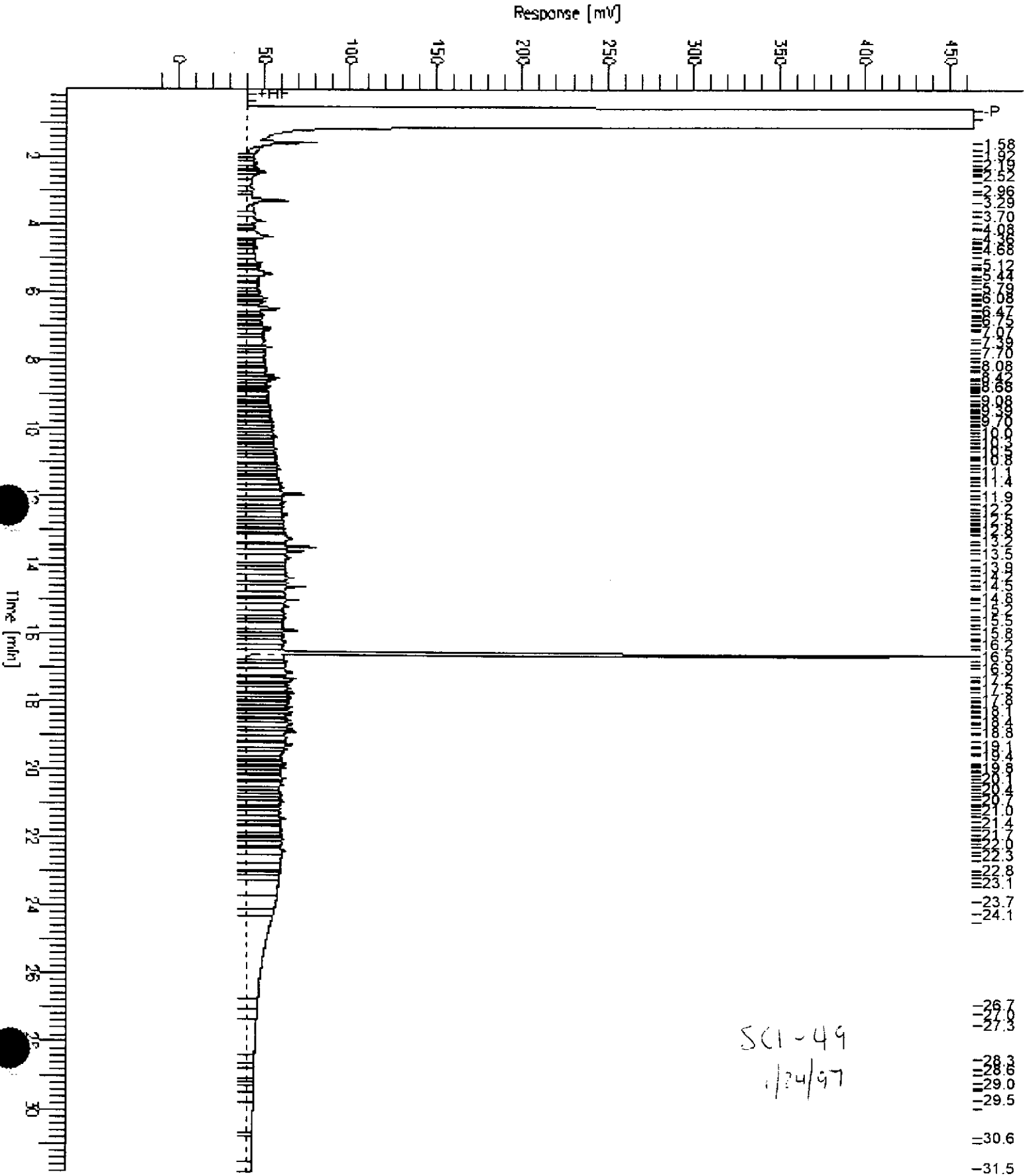
Sample #: 32122
 Date : 2/10/97 10:56 AM
 Time of Injection: 2/7/97 10:59 AM
 Low Point : 10.36 mV
 High Point : 390.42 mV
 Plot Scale: 380.1 mV



Chromatogram

Sample Name : 128131-013,32122
File Name : G:\GC13\CHA\031A056.RAW
Method : ATEH034.MTH
Start Time : 0.01 min
Factor : 0.0

Sample #: 32122
Date : 2/3/97 12:26 PM
Time of Injection: 2/2/97 08:59 AM
Low Point : -11.74 mV
High Point : 463.66 mV
Plot Scale: 475.4 mV



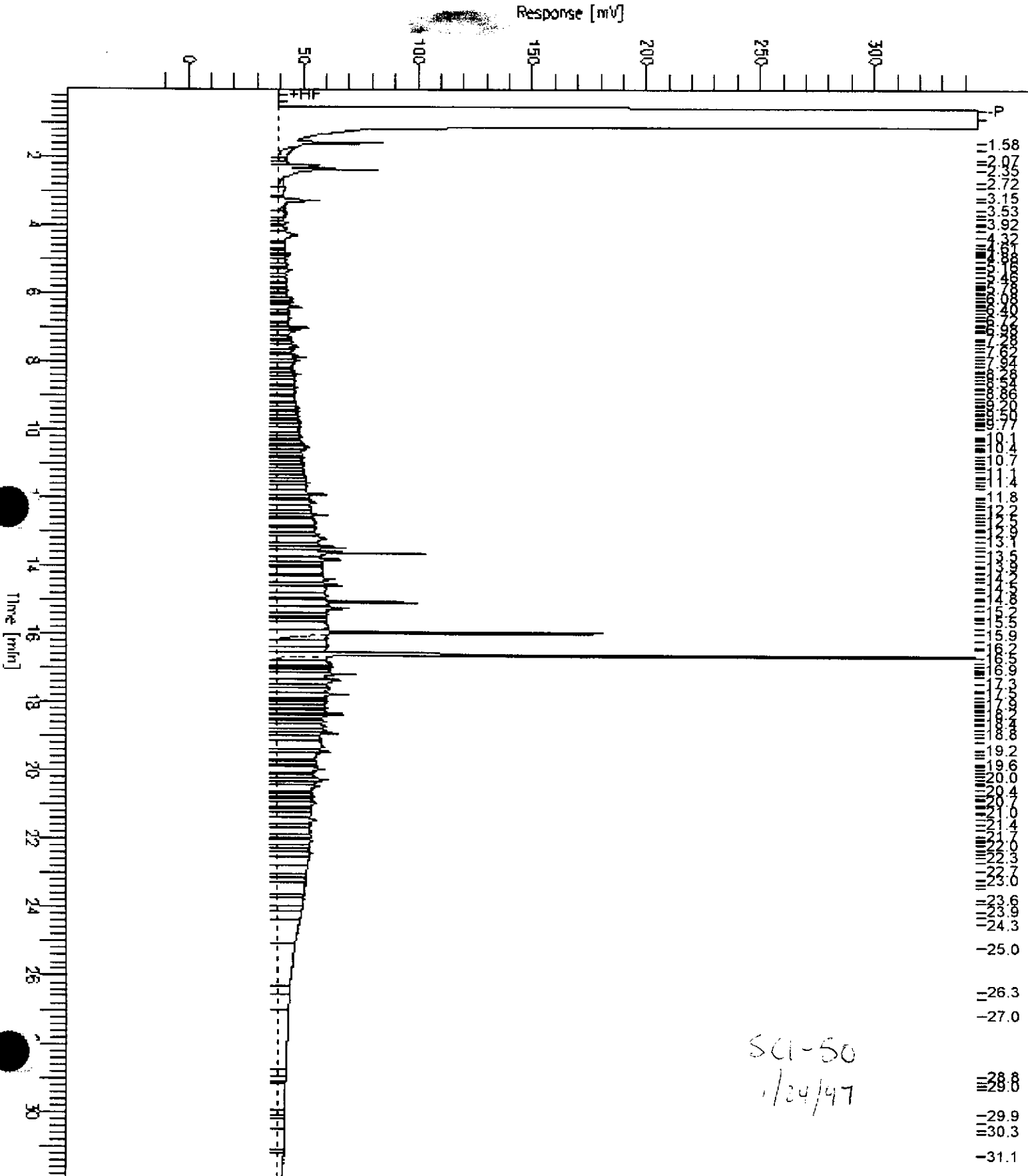
Chromatogram

Sample Name : 128131-014, 32122
File Name : G:\GC13\CHA\031A057.RAW
Method : ATEC34.MTH
Start Time : 0.01 min
Factor : 0.0

End Time : 31.91 min
Plot Offset: -13 mV

Sample #: 32122
Date : 2/3/97 12:27 PM
Time of Injection: 2/2/97 09:42 AM
Low Point : -12.60 mV
High Point : 345.50 mV
Plot Scale: 358.2 mV

Page 1 of 1



Chromatogram

Sample Name : 128131-015,32122

Sample #: 32122

Page 1 of 1

File Name : G:\GC13\CHRA\031A058.raw

Date : 2/2/97 10:57 AM

Method : SINGLA30

Time of Injection: 2/2/97 10:25 AM

Start Time : 0.00 min

End Time : 31.90 min

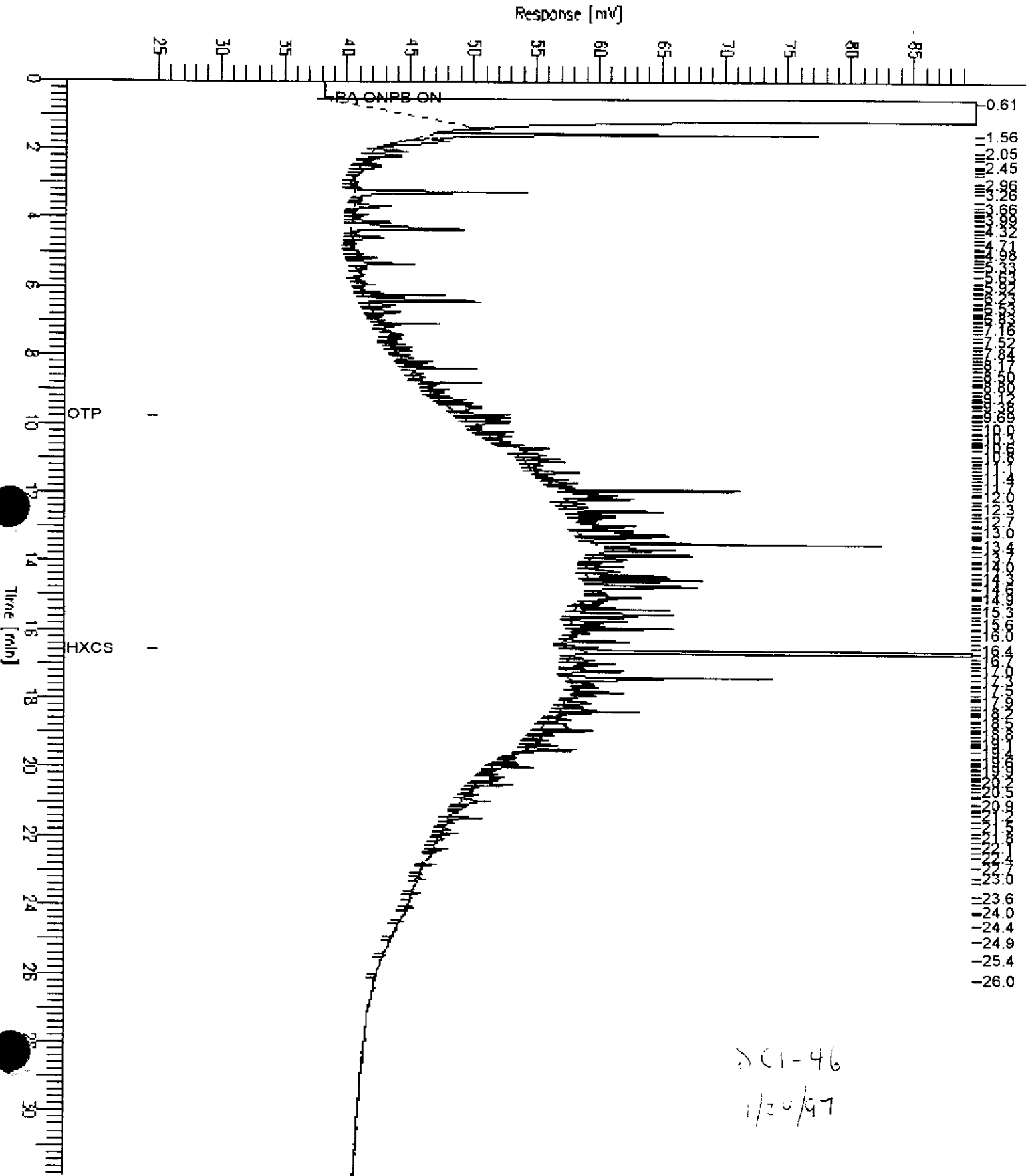
Low Point : 35.00 mV

High Point : 90.00 mV

Factor: 0.0

Plot Offset: 25 mV

Plot Scale: 35.0 mV

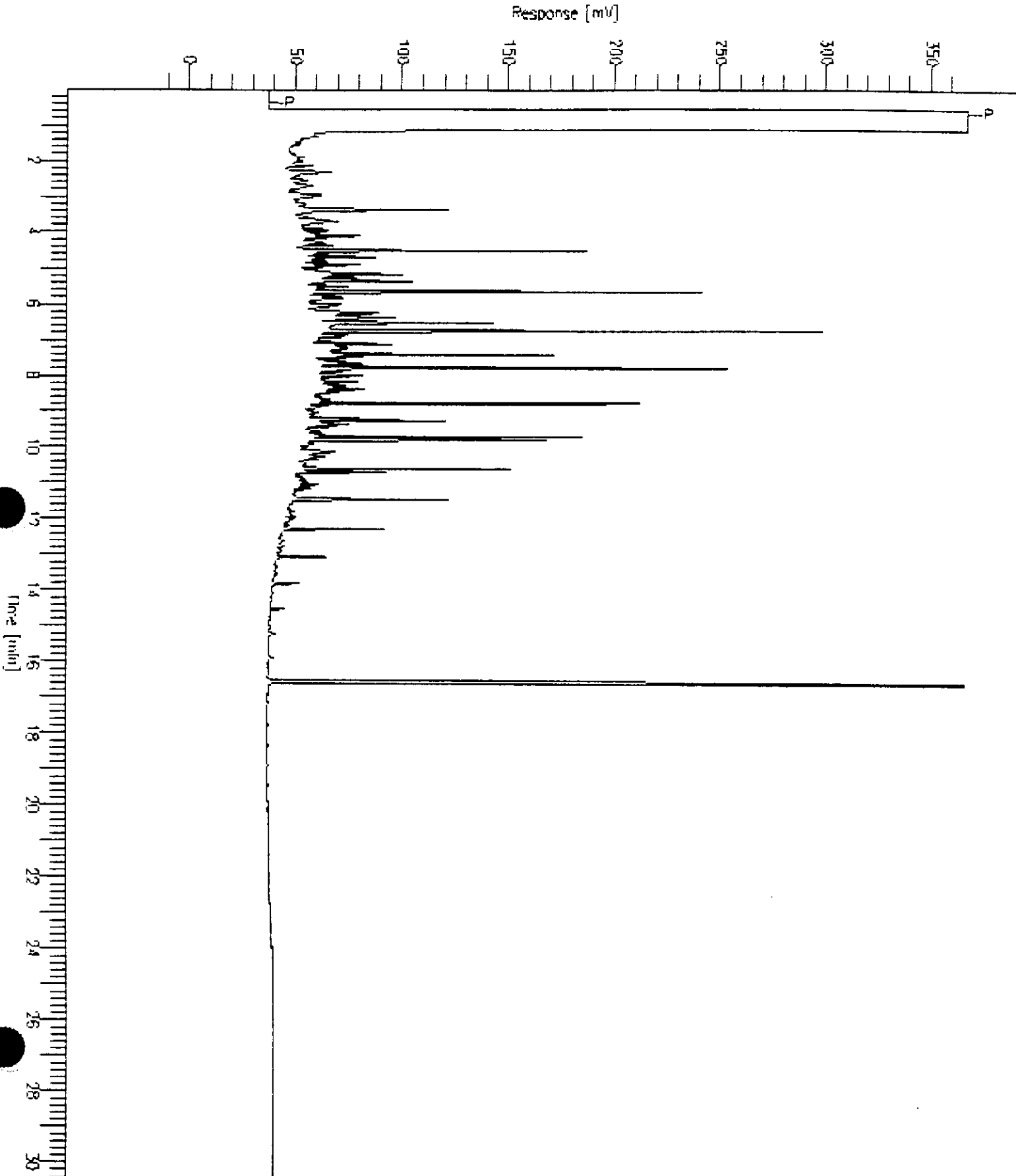


Chromatogram

Sample Name : GCV, 96WS3659, DS
File Name : 319013\CHAV\031A059.RAW
Method : ATEB034.MTH
Start Time : 3.31 min
Factor : 1.0

End Time : 30.45 min
Plot Offset: -15 mV

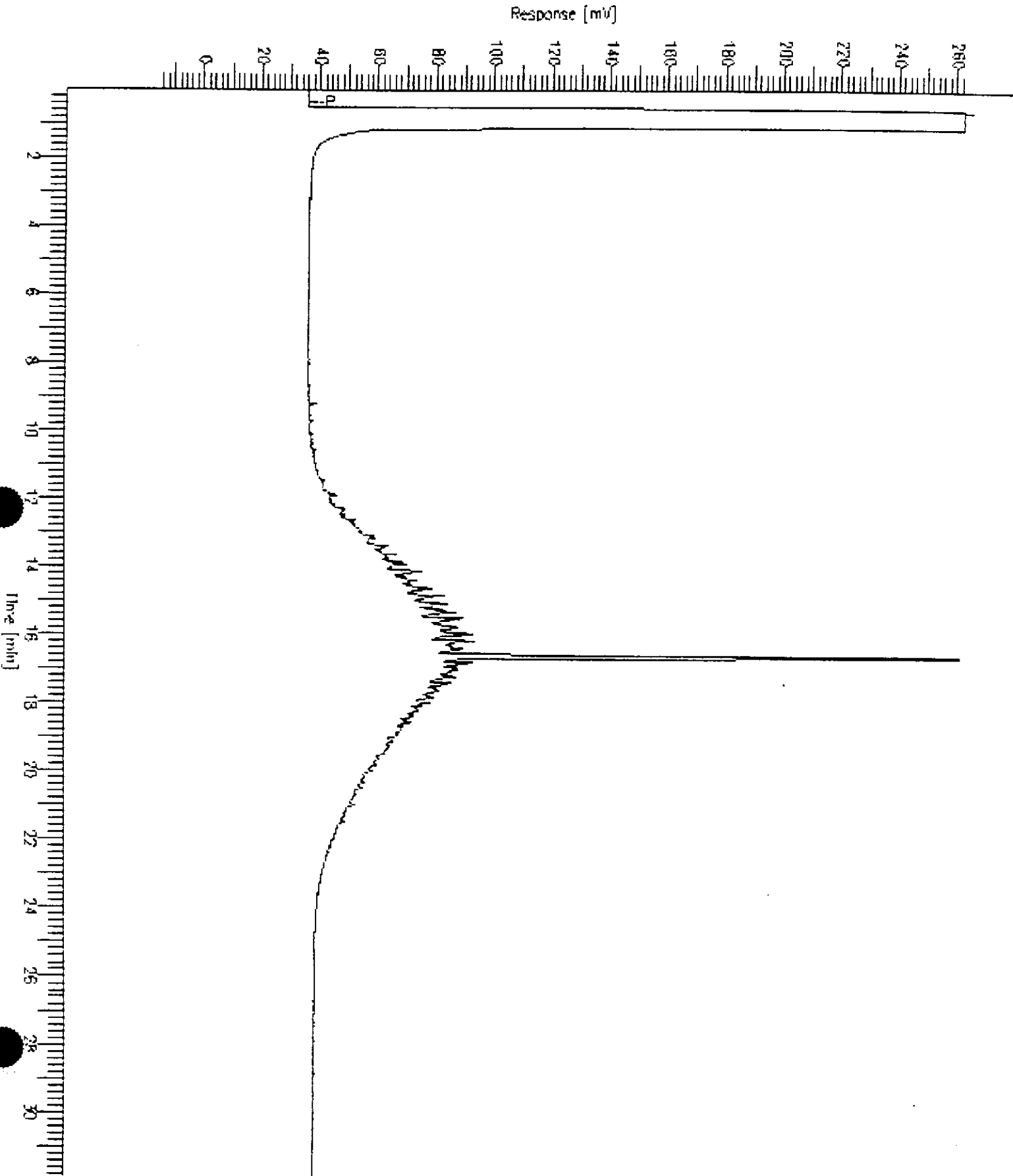
Sample #: 500MG/L Page: 1 of 1
Date : 2/3/97 11:31 AM
Time of Injection: 2/2/97 11:08 AM
Low Point: -14.55 mV High Point: 367.76 mV
Plot Scale: 362.3 mV



Chromatogram

Sample Name : 027, 96WG3096, MO
File Name : H:\GC13\CHAV031A061.RAW
Method : ATSH014.MTH
Start Time : 7.11 min
End Time : 31.01 min
Plot Offset: -12 mV

Sample #: 500MG/L
Date : 2/2/97 11:32 AM
Time of Injection: 2/2/97 12:34 PM
Low Point : -18.48 mV
High Point : 282.87 mV
Plot Offset: 272.1 mV

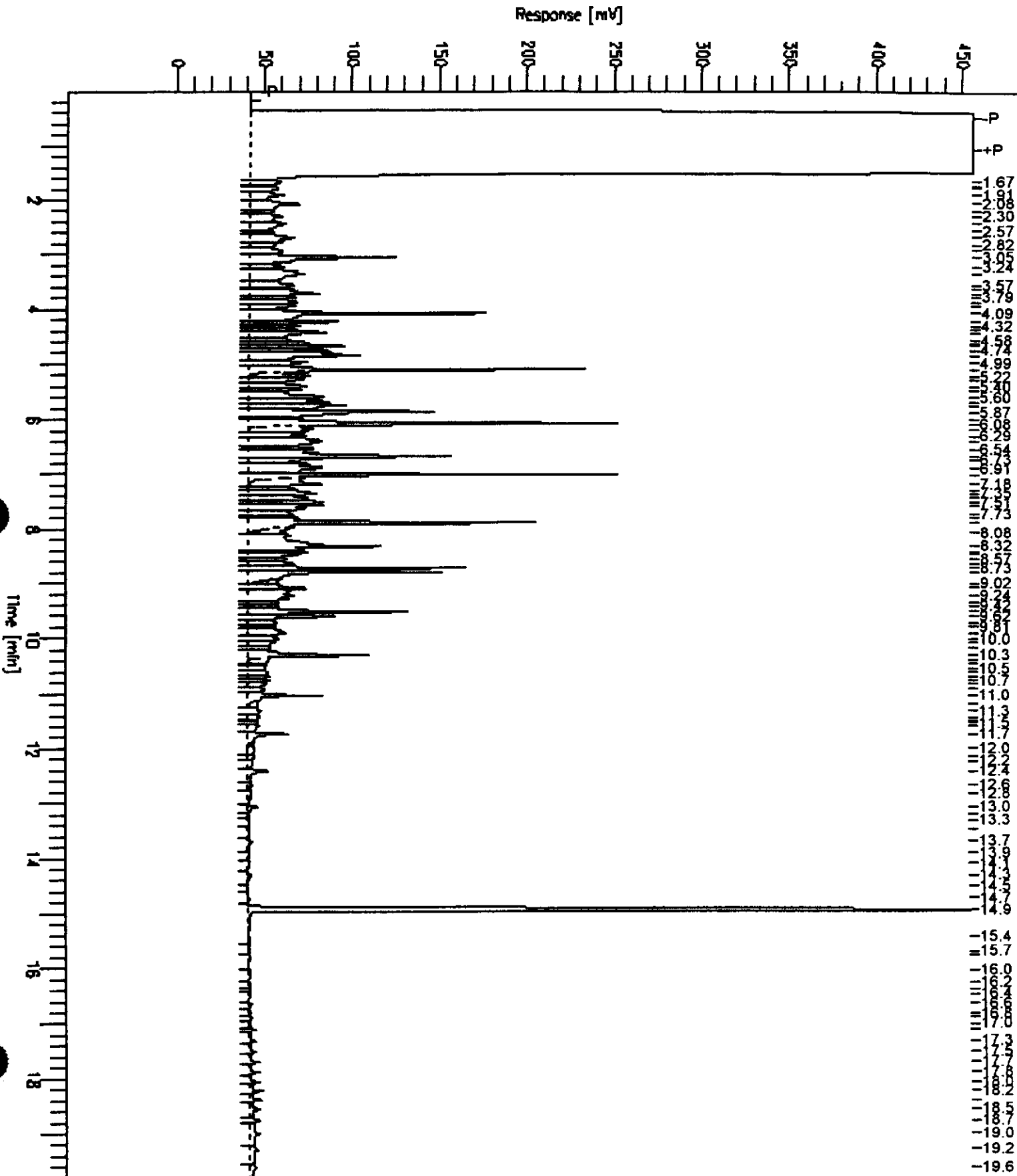


GC15 Channel B TEH

Sample Name : CCV,96MS3659,DS
 FileName : G:\GC15\CHB\0308002.RAW
 Method : B030TEH.MTH
 Start Time : 0.01 min
 Scale Factor: 0.0

Sample #: 500MG/L
 Date : 1/30/97 11:55 AM
 Time of Injection: 1/30/97 11:30 AM
 End Time : 19.80 min
 Plot Offset: -10 mV

Page 1 of 1
 Low Point : -9.66 mV
 High Point : 456.89 mV
 Plot Scale: 466.5 mV

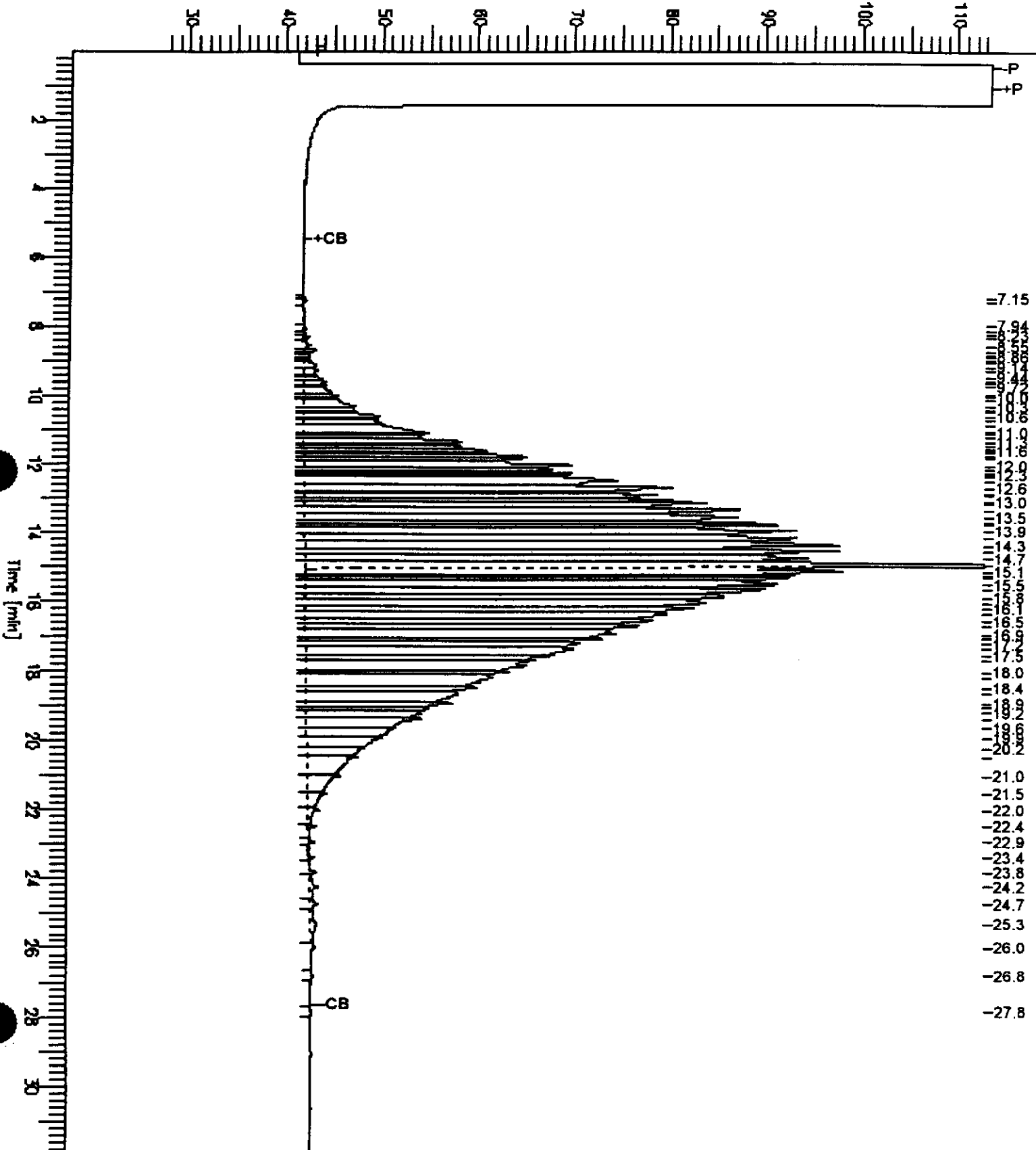


GC15 Channel B TEH

Sample Name : CCV,96NS3096,
 FileName : G:\GC15\CHB\030B014.RAW
 Method : B030TEH.MTH
 Start Time : 0.01 min
 Scale Factor: 0.0

Sample #: 500MG/L
 Date : 1/31/97 09:27 AM
 Time of Injection: 1/30/97 07:16 PM
 Low Point : 27.38 mV
 Plot Scale: 86.2 mV
 High Point : 113.53 mV

Response [mV]





Lab #: 128131

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

METHOD BLANK

Matrix: Soil
Batch#: 32120
Units: mg/Kg
Diln Fac: 1

Prep Date: 01/29/97
Analysis Date: 01/30/97

MB Lab ID: QC39152

Analyte	Result	
Diesel C12-C22	<1.0	
Motor Oil C22-C50	<5.0	
Surrogate	%Rec	Recovery Limits
Hexacosane	121	60-140



Lab #: 128131

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32122
Units: ug/L
Diln Fac: 1

Prep Date: 01/29/97
Analysis Date: 02/01/97

MB Lab ID: QC39161

Analyte	Result	
Diesel C12-C22	<50	
Motor Oil C22-C50	<250	
Surrogate	%Rec	Recovery Limits
Hexacosane	106	60-140



Lab #: 128131

BATCH QC REPORT

Page 1 of 1

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

METHOD BLANK

Matrix: Soil
Batch#: 32148
Units: mg/Kg
Diln Fac: 1

Prep Date: 01/30/97
Analysis Date: 02/03/97

MB Lab ID: QC39266

Analyte	Result		
Diesel C12-C22	<1.0		
Motor Oil C22-C50	<5.0		
Surrogate	%Rec		Recovery Limits
Hexacosane	117		60-140



Lab #: 128131

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: CA LUFT
Location: KOT	

LABORATORY CONTROL SAMPLE	
Matrix: Soil	Prep Date: 01/29/97
Batch#: 32120	Analysis Date: 01/30/97
Units: mg/Kg	
Diln Fac: 1	

LCS Lab ID: QC39153

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C12-C22	47.9	49.5	97	60-140
Surrogate	%Rec	Limits		
Hexacosane	123	60-140		

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 #: 128131

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 32122
Units: ug/L
Diln Fac: 1

Prep Date: 01/29/97
Analysis Date: 02/01/97

BS Lab ID: QC39162

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2225	90	60-140
Surrogate	%Rec	Limits		
Hexacosane	102	60-140		

BSD Lab ID: QC39163

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2408	97	60-140	8	35
Surrogate	%Rec	Limits				
Hexacosane	108	60-140				

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



Lab #: 128131

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)		
Project#: 133.005	Prep Method: CA LUFT		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Soil	Prep Date:	01/30/97	
Batch#: 32148	Analysis Date:	01/31/97	
Units: mg/Kg			
Diln Fac: 1			

LCS Lab ID: QC39267

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C12-C22	42.9	49.5	87	60-140
Surrogate	%Rec	Limits		
Hexacosane	124	60-140		

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



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-001	SCI-47@1'	32099	01/24/97	01/29/97	01/29/97	
128131-002	SCI-47@4.5'	32099	01/24/97	01/29/97	01/29/97	
128131-003	SCI-48@5.5'	32099	01/24/97	01/29/97	01/29/97	
128131-004	SCI-48@8'	32099	01/24/97	01/29/97	01/29/97	

Matrix: Soil

Analyte	Units	128131-001	128131-002	128131-003	128131-004
Diln Fac:		1	1	1	1
Benzene	ug/Kg	<5	<5	<5	<5
Toluene	ug/Kg	<5	<5	<5	<5
Ethylbenzene	ug/Kg	<5	<5	<5	<5
m,p-Xylenes	ug/Kg	<5	<5	<5	<5
o-Xylene	ug/Kg	<5	<5	<5	<5
Surrogate					
Trifluorotoluene	%REC	93	92	91	95
Bromobenzene	%REC	89	86	86	93

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-005	SCI-49@0.5'	32099	01/24/97	01/29/97	01/29/97	
128131-006	SCI-49@3.5'	32099	01/24/97	01/29/97	01/29/97	
128131-007	SCI-49@6.0'	32099	01/24/97	01/29/97	01/29/97	
128131-008	SCI-50@2'	32099	01/24/97	01/29/97	01/29/97	

Matrix: Soil

Analyte	Units	128131-005	128131-006	128131-007	128131-008
Diln Fac:		1	1	1	1
Benzene	ug/Kg	<5	<5	<5	<5
Toluene	ug/Kg	<5	<5	<5	<5
Ethylbenzene	ug/Kg	<5	<5	<5	<5
m,p-Xylenes	ug/Kg	<5	<5	<5	<5
o-Xylene	ug/Kg	<5	<5	<5	<5
Surrogate					
Trifluorotoluene	%REC	92	93	94	93
Bromobenzene	%REC	89	92	92	91



BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-009	SCI-50@8'	32099	01/24/97	01/29/97	01/29/97	
128131-010	SCI-49@9.5'	32099	01/24/97	01/29/97	01/29/97	

Matrix: Soil

Analyte	Units	128131-009	128131-010
Diln Fac:		1	1
Benzene	ug/Kg	<5	<5
Toluene	ug/Kg	<5	<5
Ethylbenzene	ug/Kg	<5	<5
m,p-Xylenes	ug/Kg	<5	<5
o-Xylene	ug/Kg	<5	<5
Surrogate			
Trifluorotoluene	%REC	95	95
Bromobenzene	%REC	93	94

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128131-011	SCI-47	32080	01/24/97	01/28/97	01/28/97	
128131-012	SCI-48	32121	01/24/97	01/30/97	01/30/97	
128131-013	SCI-49	32080	01/24/97	01/28/97	01/28/97	
128131-014	SCI-50	32080	01/24/97	01/28/97	01/28/97	

Matrix: Water

Analyte	Units	128131-011	128131-012	128131-013	128131-014
Diln Fac:		1	1	1	1
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5
Toluene	ug/L	2.1	1.8	0.6	0.7
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	ug/L	0.91	0.64	<0.5	0.53
o-Xylene	ug/L	<0.5	<0.5	<0.5	<0.5
Surrogate					
Trifluorotoluene	%REC	96	92	97	98
Bromobenzene	%REC	95	96	94	99

GC05 RTX1 BTXE Chromatogram

Sample Name : MSS,128131-011,32080,1,W
FileName : G:\GC05\DATA\028G006.raw

Sample # : Page 1 of 1

Date : 1/28/97 06:26 AM

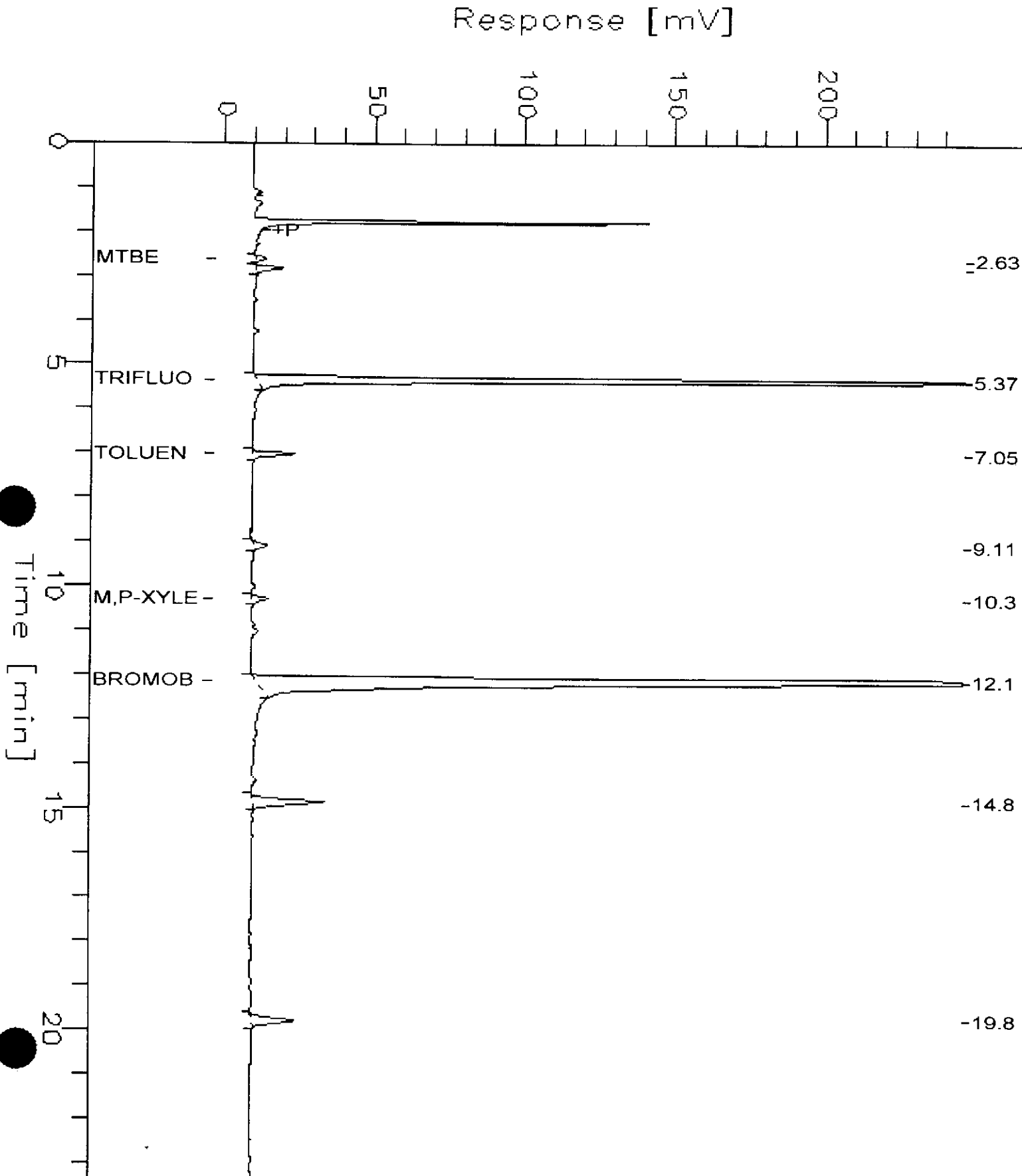
Time of Injection: 1/28/97 06:03 AM

Start Time : 0.00 min
Gain Factor: -1.0

End Time : 23.40 min
Plot Offset: -3 mV

Low Point : -3.03 mV
Plot Scale: 250.0 mV

High Point : 246.97 mV



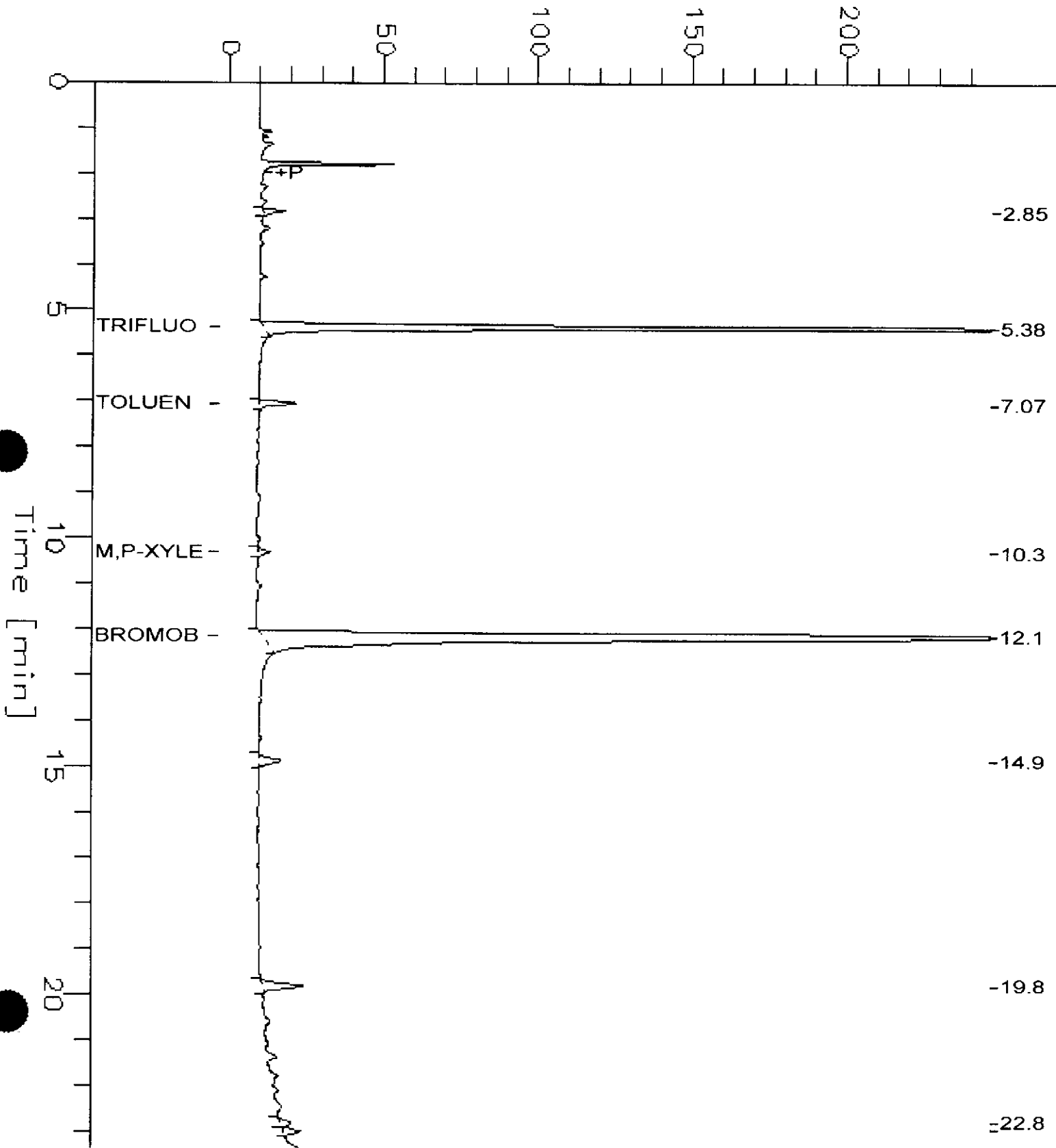
GC05 RTX1 BTXE Chromatogram

Sample Name : S,128131-01232121,
FileName : G:\GC05\DATA\029G046.raw
Method : TVHBTXE
Start Time : 0.00 min
e Factor: -1.0

End Time : 23.40 min
Plot Offset: -3 mV

Sample #:
Date : 2/4/97 12:02 PM
Time of Injection: 1/30/97 05:04 AM
Low Point : -2.64 mV
High Point : 247.36 mV
Plot Scale: 250.0 mV

Response [mV]



GC05 RTX1 BTXE Chromatogram

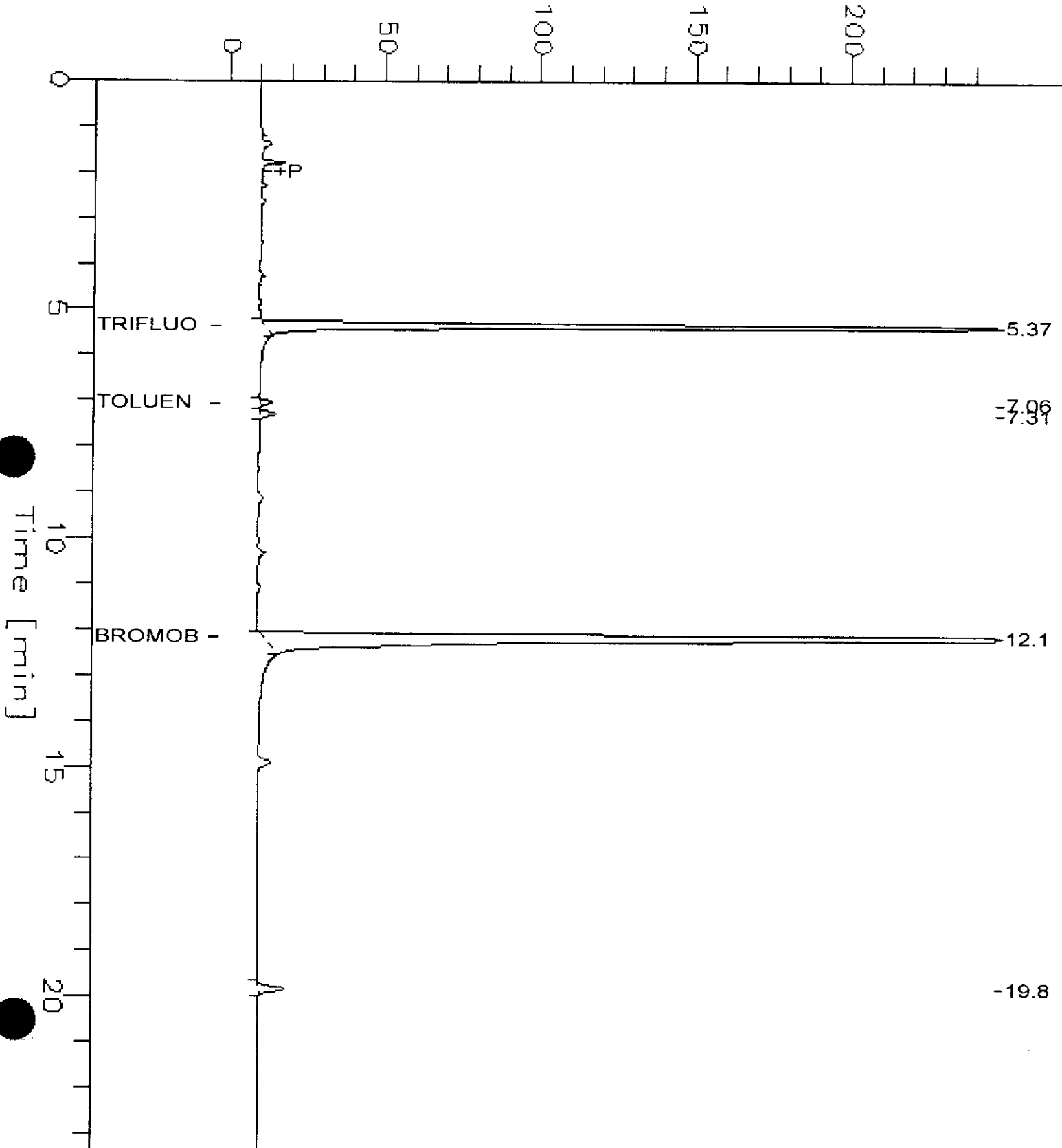
Sample Name : S,128131-013,32080,1,W,
FileName : G:\GC05\DATA\028G009.raw

Sample # :
Date : 1/28/97 08:13 AM
Time of Injection: 1/28/97 07:50 AM
Low Point : -2.67 mV
High Point : 247.33 mV
Plot Scale: 250.0 mV

Page 1 of 1

Start Time : 0.00 min
End Time : 23.40 min
Factor: -1.0
Plot Offset: -3 mV

Response [mV]



GC05 RTX1 BTXE Chromatogram

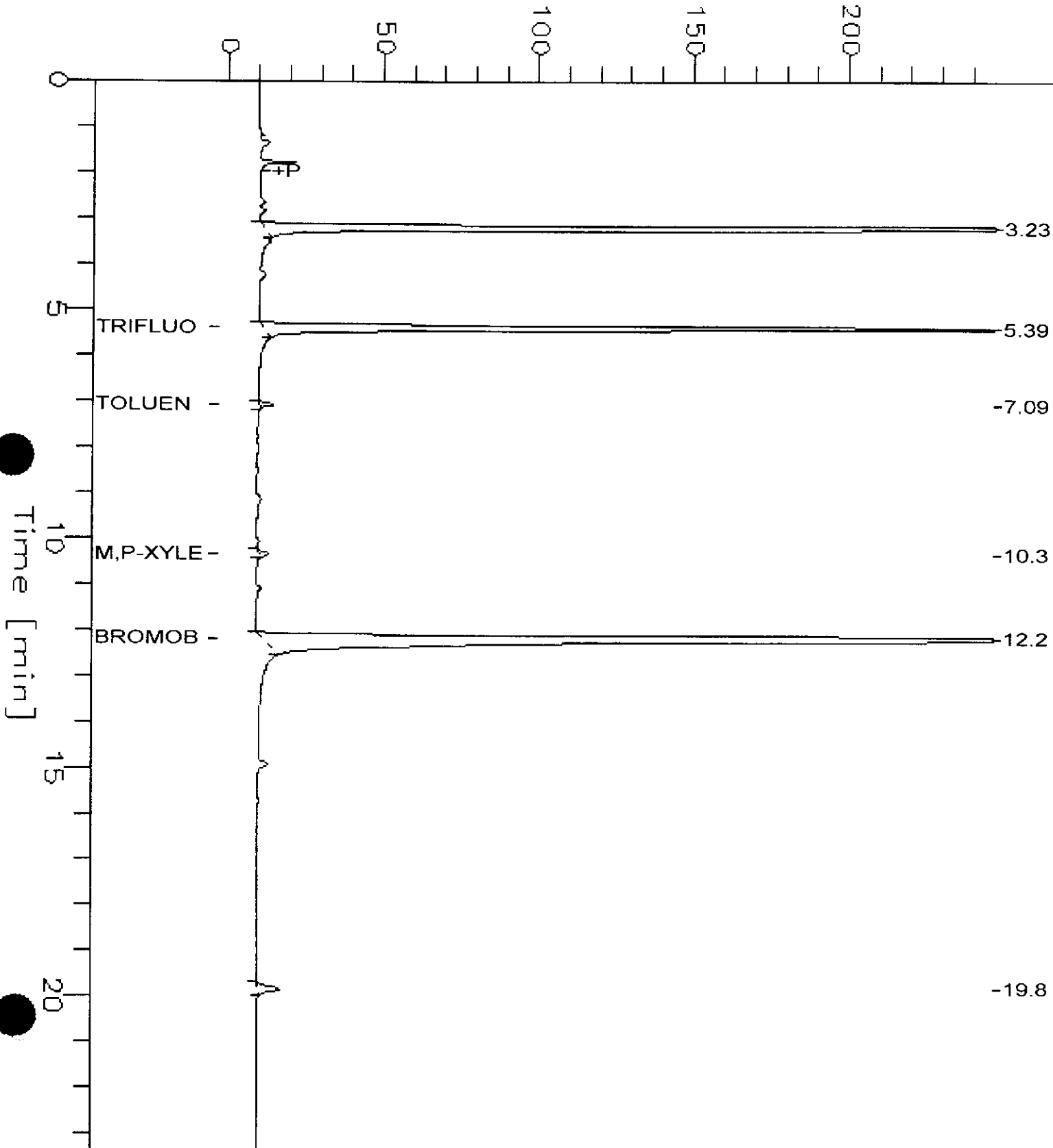
Sample Name : S,128131-014,32080,1,W,
FileName : G:\GC05\DATA\C28G022.raw
Method : TVHBTXE
Start Time : 0.00 min
e Factor: -1.0

Sample #:
Date : 2/4/97 12:03 PM
Time of Injection: 1/28/97 03:31 PM
Low Point : -2.63 mV
High Point : 247.37 mV
Plot Scale: 250.0 mV

Page 1 of 1

End Time : 23.40 min
Plot Offset: -3 mV

Response [mV]



Lab #: 128131

BATCH QC REPORT

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
METHOD BLANK	
Matrix: Soil	Prep Date: 01/29/97
Batch#: 32099	Analysis Date: 01/29/97
Units: ug/Kg	
Diln Fac: 1	

MB Lab ID: QC39063

Analyte	Result	
Benzene	<5.0	
Toluene	<5.0	
Ethylbenzene	<5.0	
m,p-Xylenes	<5.0	
o-Xylene	<5.0	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	93	52-127
Bromobenzene	90	45-140



Lab #: 128131

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32080
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/28/97

MB Lab ID: QC38986

Analyte	Result		
Benzene	<0.5		
Toluene	<0.5		
Ethylbenzene	<0.5		
m,p-Xylenes	<0.5		
o-Xylene	<0.5		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	91		58-130
Bromobenzene	90		62-131



Lab #: 128131

BATCH QC REPORT

BTXE			
Client:	Subsurface Consultants	Analysis Method:	EPA 8020
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/29/97
Batch#:	32121	Analysis Date:	01/29/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC39158

Analyte	Result	
Benzene	<0.5	
Toluene	<0.5	
Ethylbenzene	<0.5	
m,p-Xylenes	<0.5	
o-Xylene	<0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	87	58-130
Bromobenzene	84	62-131



Lab #: 128131

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8020
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Soil
 Batch#: 32099
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 01/29/97
 Analysis Date: 01/29/97

LCS Lab ID: QC39062

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	93.9	100	94	80-120
Toluene	96.54	100	97	80-120
Ethylbenzene	95.73	100	96	80-120
m,p-Xylenes	189.5	200	95	80-120
o-Xylene	97.1	100	97	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	96	52-127		
Bromobenzene	95	45-140		

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



Lab #: 128131

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 32080
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/28/97

LCS Lab ID: QC38985

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	18.6	20	93	80-120
Toluene	19.05	20	95	80-120
Ethylbenzene	18.85	20	94	80-120
m,p-Xylenes	37.42	40	94	80-120
o-Xylene	19.11	20	96	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	95	58-130		
Bromobenzene	93	62-131		

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



Lab #: 128131

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 01/29/97		
Batch#: 32121	Analysis Date: 01/29/97		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC39157

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	17.74	20	89	80-120
Toluene	18.25	20	91	80-120
Ethylbenzene	18.14	20	91	80-120
m,p-Xylenes	36.06	40	90	80-120
o-Xylene	18.48	20	92	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	89	58-130		
Bromobenzene	89	62-131		

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

Lab #: 128131

BATCH QC REPORT

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: SCI-47	Sample Date: 01/24/97
Lab ID: 128131-011	Received Date: 01/27/97
Matrix: Water	Prep Date: 01/28/97
Batch#: 32080	Analysis Date: 01/28/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC38987

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Benzene	20	<0.5	18.92	95	75-125
Toluene	20	2.14	21.83	98	75-125
Ethylbenzene	20	<0.5	19.44	97	75-125
m,p-Xylenes	40	0.91	38.68	94	75-125
o-Xylene	20	<0.5	19.53	98	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	97	58-130			
Bromobenzene	96	62-131			

MSD Lab ID: QC38988

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Benzene	20	22.56	113	75-125	18	20
Toluene	20	25.59	117	75-125	16	20
Ethylbenzene	20	23.39	117	75-125	18	20
m,p-Xylenes	40	46.24	113	75-125	18	20
o-Xylene	20	23.61	118	75-125	19	20
Surrogate	%Rec	Limits				
Trifluorotoluene	97	58-130				
Bromobenzene	96	62-131				

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



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCI-47@1'
Lab ID: 128131-001
Matrix: Soil
Batch#: 32127
Units: ug/Kg
Diln Fac: 1

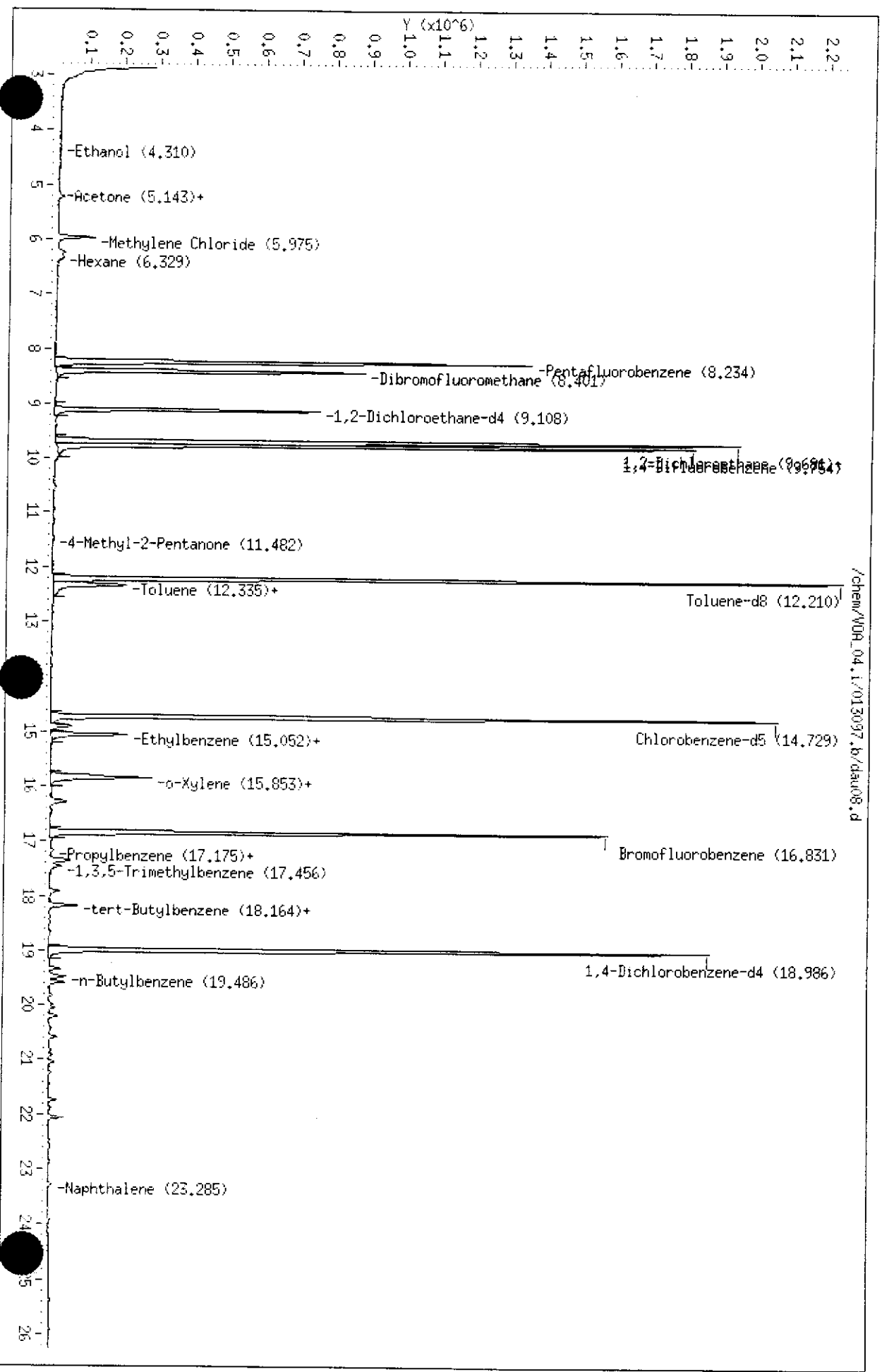
Sampled: 01/24/97
Received: 01/27/97
Extracted: 01/30/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	7.6	5.0
m,p-Xylenes	5.8	5.0
o-Xylene	3.5 J	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	95	79-122

J: Estimated Value

Data File: /chem/W09_04.1/013097.b/dau08.d
 Date : 30-JAN-97 14:30
 Client ID: DYNAM P&T
 Sample Info: S.128131-001
 Purge Volume: 5.0
 Column phase: RTX Volatiles

Instrument: W09_04.1
 Operator: LLH
 Column diameter: 0.32





Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCI-47@4.5'
 Lab ID: 128131-002
 Matrix: Soil
 Batch#: 32119
 Units: ug/Kg
 Diln Fac: 1

Sampled: 01/24/97
 Received: 01/27/97
 Extracted: 01/30/97
 Analyzed: 01/30/97

Analyte	Result	Reporting Limit
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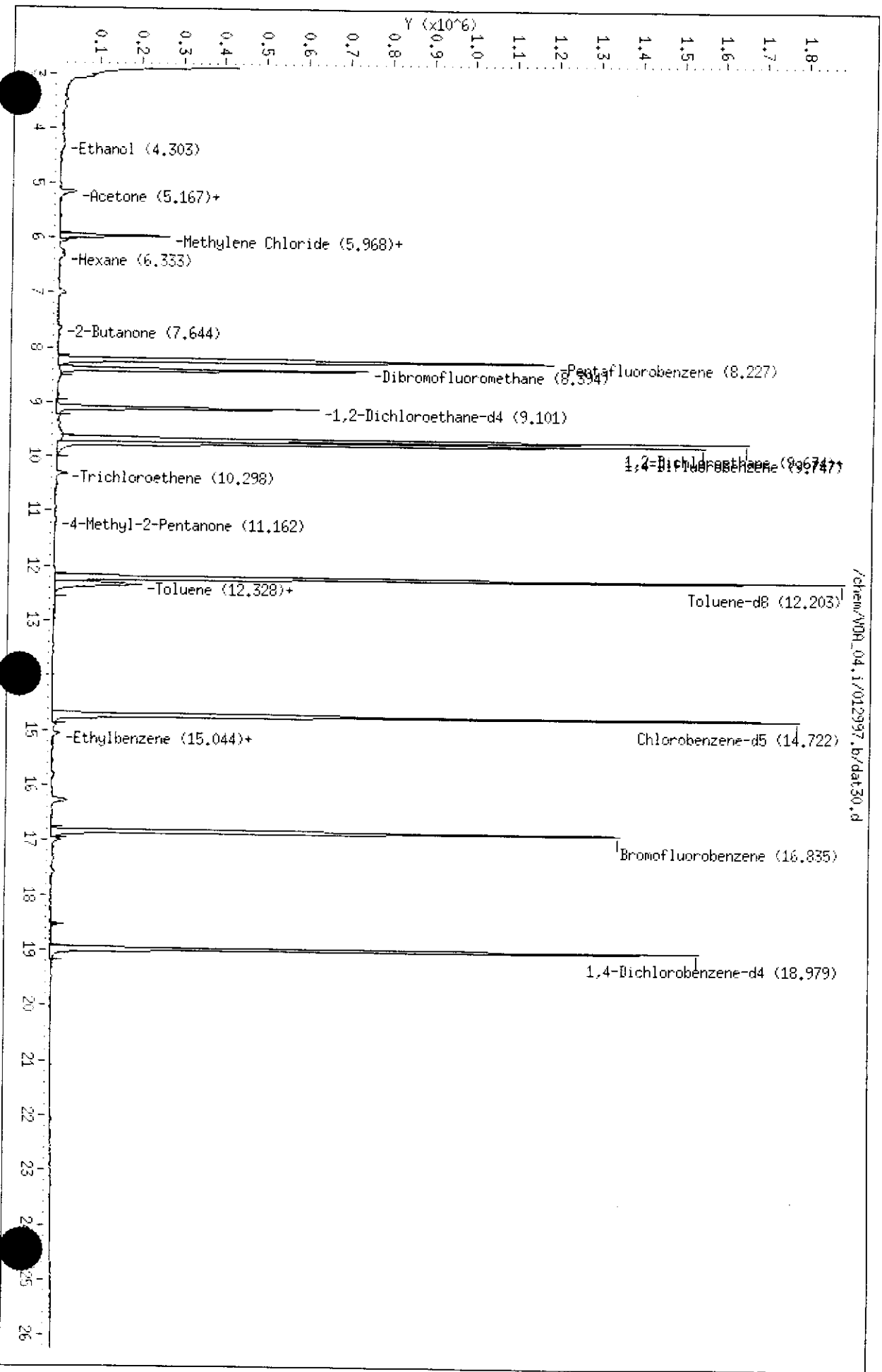
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	35	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%Recovery	Recovery Limits
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1,2-Dichloroethane-d4	102	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	105	79-122

Data File: /chem/V09_04.1/012997.b/dat30.d
 Date: 30-JAN-97 02:49
 Client ID: DYNAM P&I
 Sample Info: S.128131-002
 Purge Volume: 5.0
 Column phase: RTX Volatiles

Instrument: V09_04.1
 Operator: LH
 Column diameter: 0.32



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCI-48@5.5'
Lab ID: 128131-003
Matrix: Soil
Batch#: 32119
Units: ug/Kg
Diln Fac: 1

Sampled: 01/24/97
Received: 01/27/97
Extracted: 01/30/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	106	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	91	79-122

Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

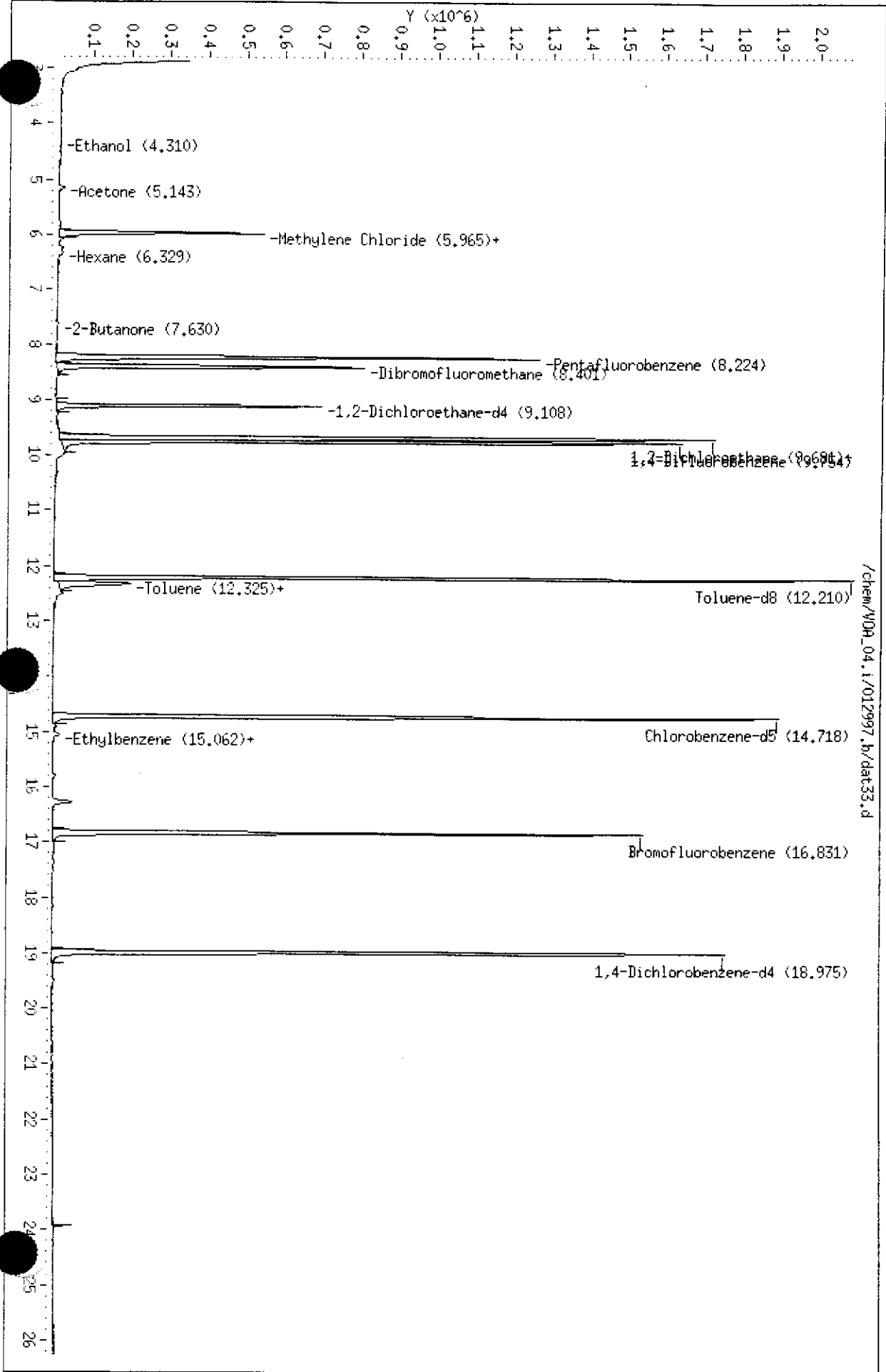
Field ID: SCI-49@3.5'
Lab ID: 128131-006
Matrix: Soil
Batch#: 32119
Units: ug/Kg
Diln Fac: 1

Sampled: 01/24/97
Received: 01/27/97
Extracted: 01/30/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	30	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	103	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	92	79-122

Data File: /chem/MOH_04.1/012997.b/dat33.d
Date: 30-JAN-97 04:27
Client ID: DVNA P&T
Sample Info: S.128131-006
Purge Volume: 5.0
Column phase: RTX Volatiles

Instrument: MOH_04.1
Operator: LLH
Column diameter: 0.32





Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCI-49@6.0'
 Lab ID: 128131-007
 Matrix: Soil
 Batch#: 32119
 Units: ug/Kg
 Diln Fac: 1

Sampled: 01/24/97
 Received: 01/27/97
 Extracted: 01/30/97
 Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	104	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	93	79-122



Volatile Organics by GC/MS		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
Field ID: SCI-50@2'	Sampled:	01/24/97
Lab ID: 128131-008	Received:	01/27/97
Matrix: Soil	Extracted:	01/30/97
Batch#: 32119	Analyzed:	01/30/97
Units: ug/Kg		
Diln Fac: 1		
Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	100	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	92	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
Field ID: SCI-50@8'	Sampled: 01/24/97	
Lab ID: 128131-009	Received: 01/27/97	
Matrix: Soil	Extracted: 01/30/97	
Batch#: 32119	Analyzed: 01/30/97	
Units: ug/Kg		
Diln Fac: 1		
Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	102	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	93	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCI-49@9.5'
 Lab ID: 128131-010
 Matrix: Soil
 Batch#: 32119
 Units: ug/Kg
 Diln Fac: 1

Sampled: 01/24/97
 Received: 01/27/97
 Extracted: 01/30/97
 Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	105	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	92	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCI-47
 Lab ID: 128131-011
 Matrix: Water
 Batch#: 32103
 Units: ug/L
 Diln Fac: 3.33

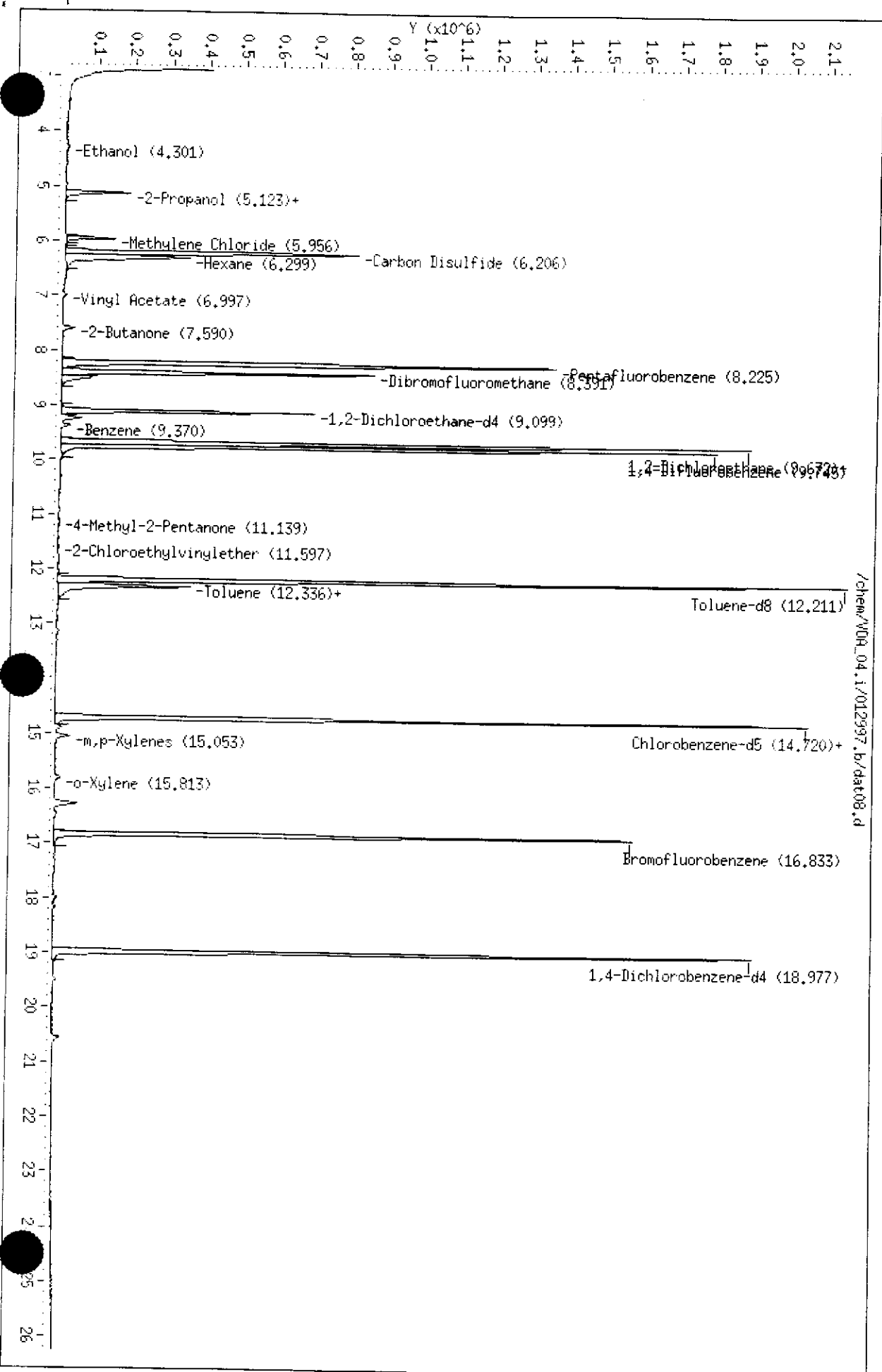
Sampled: 01/24/97
 Received: 01/27/97
 Extracted: 01/29/97
 Analyzed: 01/29/97

Analyte	Result	Reporting Limit
Chloromethane	ND	33
Bromomethane	ND	33
Vinyl Chloride	ND	33
Chloroethane	ND	33
Methylene Chloride	ND	67
Acetone	410	67
Carbon Disulfide	ND	17
Trichlorofluoromethane	ND	17
1,1-Dichloroethene	ND	17
1,1-Dichloroethane	ND	17
trans-1,2-Dichloroethene	ND	17
cis-1,2-Dichloroethene	ND	17
Chloroform	ND	17
Freon 113	ND	17
1,2-Dichloroethane	ND	17
2-Butanone	32 J	33
1,1,1-Trichloroethane	ND	17
Carbon Tetrachloride	ND	17
Vinyl Acetate	ND	170
Bromodichloromethane	ND	17
1,2-Dichloropropane	ND	17
cis-1,3-Dichloropropene	ND	17
Trichloroethene	ND	17
Dibromochloromethane	ND	17
1,1,2-Trichloroethane	ND	17
Benzene	ND	17
trans-1,3-Dichloropropene	ND	17
Bromoform	ND	17
2-Hexanone	ND	33
4-Methyl-2-Pentanone	ND	33
1,1,2,2-Tetrachloroethane	ND	17
Tetrachloroethene	ND	17
Toluene	17	17
Chlorobenzene	ND	17
Ethylbenzene	ND	17
Styrene	ND	17
m,p-Xylenes	ND	17
o-Xylene	ND	17
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	97	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	89	79-122

J: Estimated Value

Data File: /chem/V0R_04.1/012997.b/dat08.d
 Date: 29-JUN-97 14:24
 Client ID: DVMH P&T
 Sample Info: S.129131-011
 Purge Volume: 5.0
 Column phase: RTX Volatiles

Instrument: V0R_04.1
 Operator: LLH
 Column diameter: 0.32





Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: SCI-48
Lab ID: 128131-012
Matrix: Water
Batch#: 32103
Units: ug/L
Diln Fac: 1

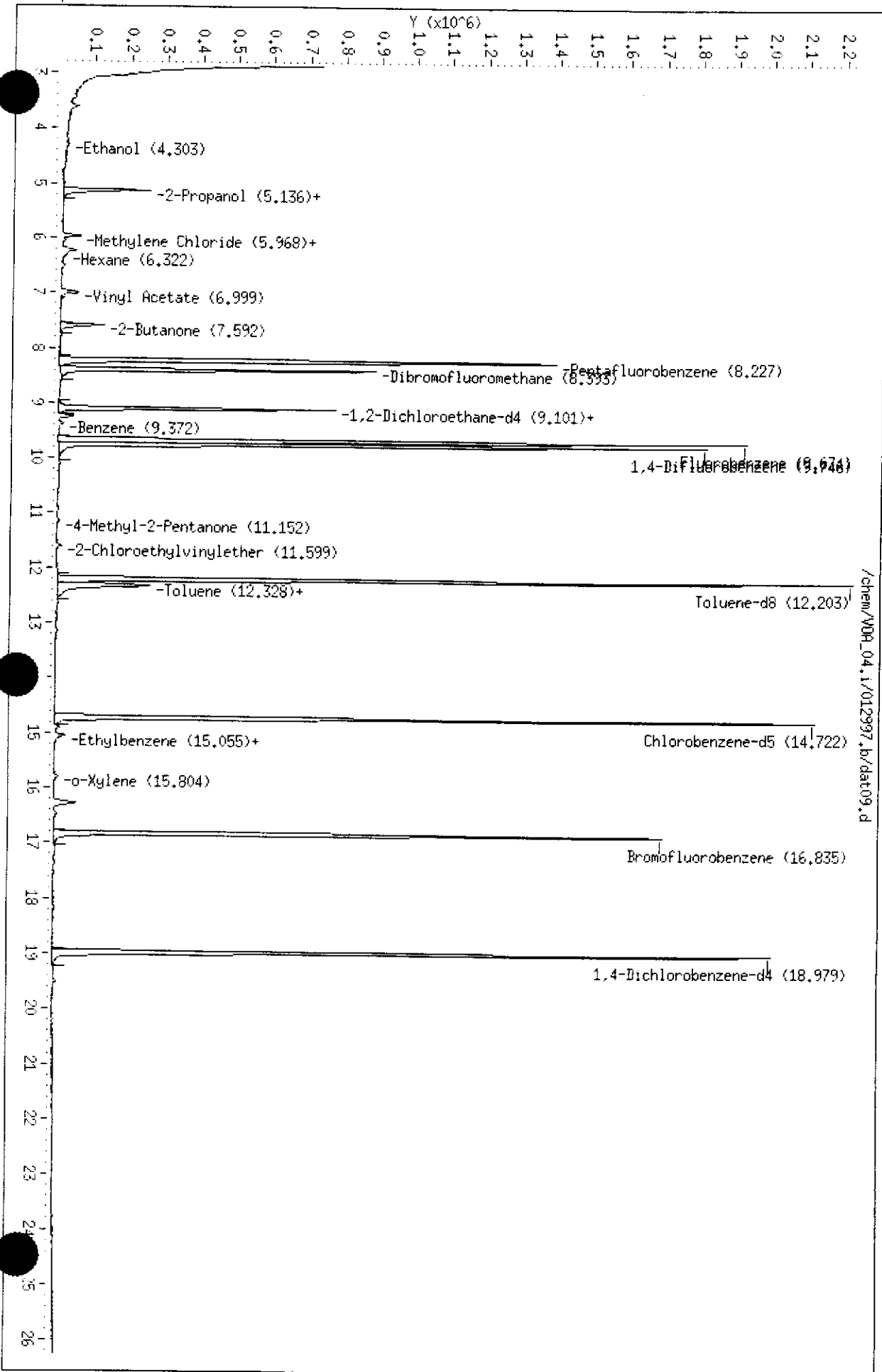
Sampled: 01/24/97
Received: 01/27/97
Extracted: 01/29/97
Analyzed: 01/29/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	170	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	2.9 J	5.0
2-Butanone	35	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	106	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	91	79-122

J: Estimated Value

Data File: /chem/V09_04.1/012997.b/dato9.d
Date: 29-JAN-97 14:56
Client ID: DYNQ PaT
Sample Info: MSS,128131-012
Purge Volume: 5.0
Column phase: RTX Volatiles

Instrument: V09_04.1
Operator: LLH
Column diameter: 0.32





Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: SCI-49
 Lab ID: 128131-013
 Matrix: Water
 Batch#: 32083
 Units: ug/L
 Diln Fac: 1

Sampled: 01/24/97
 Received: 01/27/97
 Extracted: 01/29/97
 Analyzed: 01/29/97

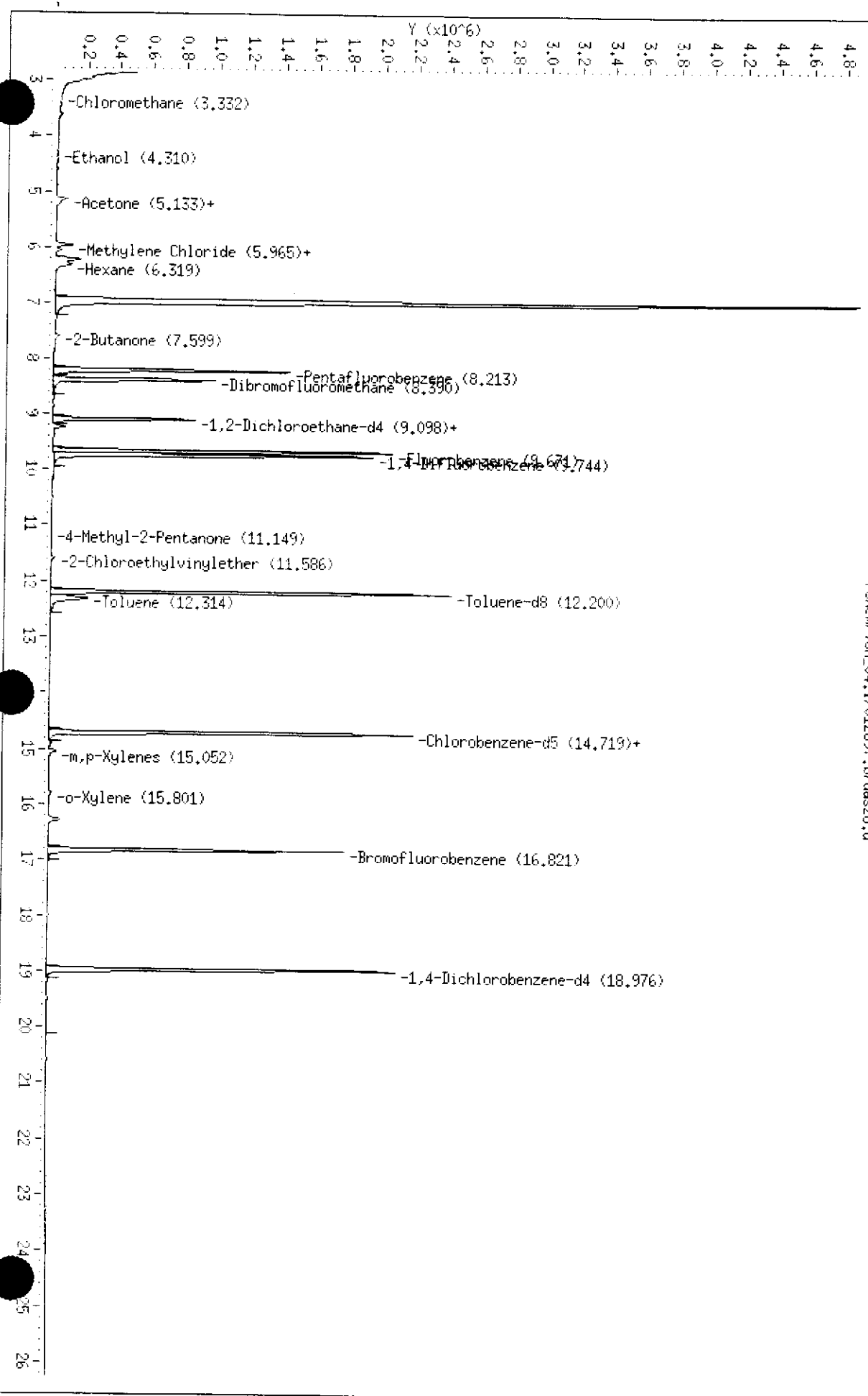
Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	49	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	4.3 J	5.0
2-Butanone	8.2 J	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	108	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	93	79-122

J: Estimated Value

Data File: /chem/VDH_04.1/012897.b/das28.d
Date: 29-JAN-97 01:23
Client ID: DVNA P&T
Sample Info: S.128131-013
Purge Volume: 5.0
Column phase: RTX Volatiles

Instrument: VDH_04.1
Operator: LLH
Column diameter: 0.32

/chem/VDH_04.1/012897.b/das28.d



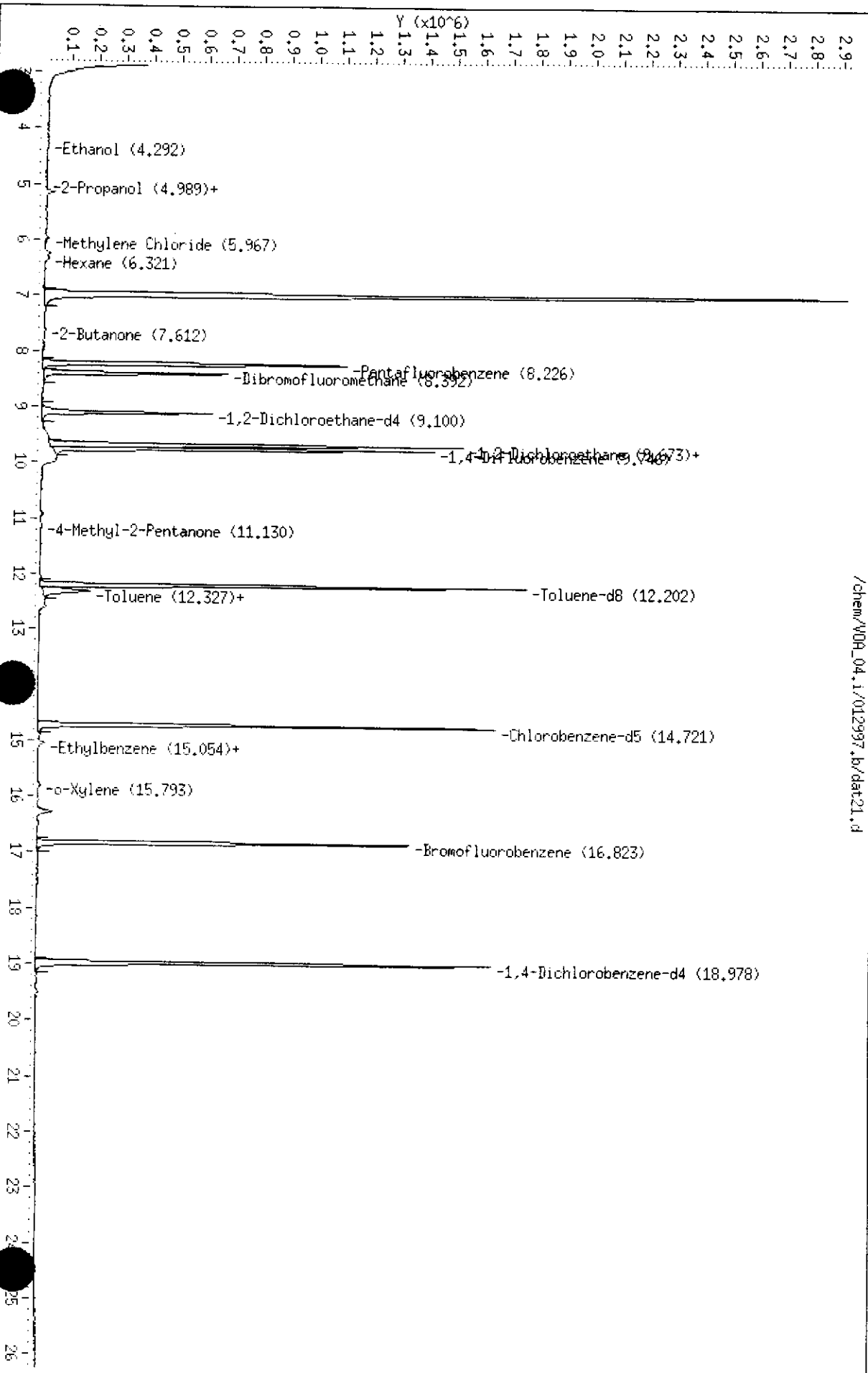


Volatile Organics by GC/MS

Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
Field ID: SCI-50	Sampled: 01/24/97	
Lab ID: 128131-014	Received: 01/27/97	
Matrix: Water	Extracted: 01/29/97	
Batch#: 32103	Analyzed: 01/29/97	
Units: ug/L		
Diln Fac: 1		
Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	28	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	108	68-126
Toluene-d8	101	87-125
Bromofluorobenzene	91	79-122

Data File: /chem/M09_04.1/012997.b/dat21.d
Date: 29-JAN-97 21:56
Client ID: DYNA P&T
Sample Info: S.128131-014
Purge Volume: 5.0
Column phase: RTX Volatiles

Instrument: M09_04.1
Operator: LLH
Column diameter: 0.32





Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 32083
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/28/97
 Analysis Date: 01/28/97

MB Lab ID: QC38998

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	95	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	89	79-122



Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 32083
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/28/97
 Analysis Date: 01/28/97

MB Lab ID: QC39000

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	96	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	93	79-122



Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
METHOD BLANK		
Matrix: Water	Prep Date: 01/29/97	
Batch#: 32103	Analysis Date: 01/29/97	
Units: ug/L		
Diln Fac: 1		

MB Lab ID: QC39076

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	97	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	90	79-122



Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 32103
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/29/97
 Analysis Date: 01/29/97

MB Lab ID: QC39077

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	100	68-126
Toluene-d8	101	87-125
Bromofluorobenzene	91	79-122



Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
METHOD BLANK		
Matrix: Soil	Prep Date: 01/29/97	
Batch#: 32119	Analysis Date: 01/29/97	
Units: ug/Kg		
Diln Fac: 1		

MB Lab ID: QC39149

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	99	68-126
Toluene-d8	101	87-125
Bromofluorobenzene	90	79-122



Lab #: 128131

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
 Batch#: 32127
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 01/30/97

MB Lab ID: QC39182

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	7	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	97	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	94	79-122



Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 32083
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/28/97
 Analysis Date: 01/28/97

LCS Lab ID: QC38997

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	54.08	50	108	51-180
Trichloroethene	50.09	50	100	73-141
Benzene	48.36	50	97	78-142
Toluene	49.52	50	99	76-150
Chlorobenzene	54.12	50	108	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	93	68-126		
Toluene-d8	98	87-125		
Bromofluorobenzene	89	79-122		

Column to be used to flag recovery and RPD values with an asterisk
 Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics			
Client: Subsurface Consultants	Analysis Method: EPA 8260		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 01/29/97		
Batch#: 32103	Analysis Date: 01/29/97		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC39075

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	48.61	50	97	51-180
Trichloroethene	47.42	50	95	73-141
Benzene	46.75	50	93	78-142
Toluene	47.48	50	95	76-150
Chlorobenzene	52.58	50	105	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	97	68-126		
Toluene-d8	98	87-125		
Bromofluorobenzene	89	79-122		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
LABORATORY CONTROL SAMPLE	
Matrix: Soil	Prep Date: 01/29/97
Batch#: 32119	Analysis Date: 01/29/97
Units: ug/Kg	
Diln Fac: 1	

LCS Lab ID: QC39147

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	39.09	50	78	51-180
Trichloroethene	46.58	50	93	73-141
Benzene	46.4	50	93	78-142
Toluene	47.37	50	95	76-150
Chlorobenzene	51.16	50	102	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	95	68-126		
Toluene-d8	100	87-125		
Bromofluorobenzene	89	79-122		

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

Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/21/97
Lab ID: 128082-002	Received Date: 01/22/97
Matrix: Water	Prep Date: 01/28/97
Batch#: 32083	Analysis Date: 01/28/97
Units: ug/L	
Diln Fac: 16.67	

MS Lab ID: QC39014

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	833.3	<83.35	887.2	106	51-180
Trichloroethene	833.3	<83.35	808.9	96	73-141
Benzene	833.3	<83.35	794.3	95	78-142
Toluene	833.3	28.09	821.8	95	76-150
Chlorobenzene	833.3	<83.35	866.7	104	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	96	68-126			
Toluene-d8	98	87-125			
Bromofluorobenzene	90	79-122			

MSD Lab ID: QC39015

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	833.3	874	105	51-180	1	14
Trichloroethene	833.3	818.9	98	73-141	1	14
Benzene	833.3	806.9	97	78-142	2	11
Toluene	833.3	845.5	98	76-150	3	13
Chlorobenzene	833.3	892.2	107	83-129	3	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	96	68-126				
Toluene-d8	98	87-125				
Bromofluorobenzene	90	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: SCI-48	Sample Date: 01/24/97
Lab ID: 128131-012	Received Date: 01/27/97
Matrix: Water	Prep Date: 01/29/97
Batch#: 32103	Analysis Date: 01/29/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC39117

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<5	45.92	92	51-180
Trichloroethene	50	<5	43.94	88	73-141
Benzene	50	<5	44.21	88	78-142
Toluene	50	<5	45.9	87	76-150
Chlorobenzene	50	<5	49.36	99	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	104	68-126			
Toluene-d8	99	87-125			
Bromofluorobenzene	91	79-122			

MSD Lab ID: QC39118

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	44.54	89	51-180	3	14
Trichloroethene	50	44.95	90	73-141	2	14
Benzene	50	44.82	89	78-142	1	11
Toluene	50	47.33	90	76-150	3	13
Chlorobenzene	50	49.61	99	83-129	1	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	106	68-126				
Toluene-d8	100	87-125				
Bromofluorobenzene	91	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Lab #: 128131

BATCH QC REPORT

Page 1 of 1

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: SCI-47@1'	Sample Date: 01/24/97
Lab ID: 128131-001	Received Date: 01/27/97
Matrix: Soil	Prep Date: 01/30/97
Batch#: 32119	Analysis Date: 01/30/97
Units: ug/Kg	
Diln Fac: 1	

MS Lab ID: QC39150

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<5	44.31	89	51-180
Trichloroethene	50	<5	49.7	99	73-141
Benzene	50	<5	46.4	93	78-142
Toluene	50	<5	47.83	94	76-150
Chlorobenzene	50	<5	49.87	100	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	90	68-126			
Toluene-d8	99	87-125			
Bromofluorobenzene	92	79-122			

MSD Lab ID: QC39151

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	42.92	86	51-180	3	22
Trichloroethene	50	49.55	99	73-141	0	24
Benzene	50	46.83	94	78-142	1	21
Toluene	50	48.86	96	76-150	2	21
Chlorobenzene	50	50.87	102	83-129	2	21
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	85	68-126				
Toluene-d8	99	87-125				
Bromofluorobenzene	91	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Lab #: 128131

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Soil
 Batch#: 32127
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 01/30/97

BS Lab ID: QC39180

Analyte	Spike Added	BS	%Rec #	Limits
1,1-Dichloroethene	50	51.68	103	51-180
Trichloroethene	50	48.39	97	73-141
Benzene	50	47.55	95	78-142
Toluene	50	47.55	95	76-150
Chlorobenzene	50	52.29	105	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	98	68-126		
Toluene-d8	97	87-125		
Bromofluorobenzene	92	79-122		

BSD Lab ID: QC39181

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	52.34	105	51-180	2	22
Trichloroethene	50	48.54	97	73-141	0	24
Benzene	50	48.83	98	78-142	3	21
Toluene	50	48.64	97	76-150	2	21
Chlorobenzene	50	53.34	107	83-129	2	21
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	98	68-126				
Toluene-d8	97	87-125				
Bromofluorobenzene	94	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOTAnalysis Method: EPA 8270
Prep Method: EPA 3550Field ID: SCI-50@2'
Lab ID: 128131-008
Matrix: Soil
Batch#: 32134
Units: ug/Kg
Diln Fac: 1Sampled: 01/24/97
Received: 01/27/97
Extracted: 01/30/97
Analyzed: 01/31/97

Analyte	Result	Reporting Limit
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
2,4-Dichlorophenol	ND	330
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	1700
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
Pentachlorophenol	ND	1700
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
bis(2-Chloroethyl)ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
bis(2-Chloroisopropyl) ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
bis(2-Chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330

Semivolatile Organics by GC/MS

Field ID: SCI-50@2'	Sampled: 01/24/97
Lab ID: 128131-008	Received: 01/27/97
Matrix: Soil	Extracted: 01/30/97
Batch#: 32134	Analyzed: 01/31/97
Units: ug/Kg	
Diln Fac: 1	

Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	69	25-121
Phenol-d5	76	24-113
2,4,6-Tribromophenol	57	19-122
Nitrobenzene-d5	82	23-120
2-Fluorobiphenyl	70	30-115
Terphenyl-d14	73	18-137



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3550

Field ID: SCI-50@8'
Lab ID: 128131-009
Matrix: Soil
Batch#: 32134
Units: ug/Kg
Diln Fac: 1

Sampled: 01/24/97
Received: 01/27/97
Extracted: 01/30/97
Analyzed: 02/04/97

Analyte	Result	Reporting Limit
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
2,4-Dichlorophenol	ND	330
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	1700
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
Pentachlorophenol	ND	1700
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
bis(2-Chloroethyl)ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
bis(2-Chloroisopropyl) ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
bis(2-Chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330

Semivolatile Organics by GC/MS		
Field ID: SCI-50@8'	Sampled:	01/24/97
Lab ID: 128131-009	Received:	01/27/97
Matrix: Soil	Extracted:	01/30/97
Batch#: 32134	Analyzed:	02/04/97
Units: ug/Kg		
Diln Fac: 1		
Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	310 J	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	84	25-121
Phenol-d5	84	24-113
2,4,6-Tribromophenol	57	19-122
Nitrobenzene-d5	86	23-120
2-Fluorobiphenyl	80	30-115
Terphenyl-d14	81	18-137

J: Estimated Value



Lab #: 128131

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics			
Client:	Subsurface Consultants	Analysis Method:	EPA 8270
Project#:	133.005	Prep Method:	EPA 3550
Location:	KOT		
METHOD BLANK			
Matrix:	Soil	Prep Date:	01/30/97
Batch#:	32134	Analysis Date:	01/31/97
Units:	ug/Kg		
Diln Fac:	1		

MB Lab ID: QC39216

Analyte	Result	Reporting Limit
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
2,4-Dichlorophenol	ND	330
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	1700
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
Pentachlorophenol	ND	1700
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
bis(2-Chloroethyl)ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
bis(2-Chloroisopropyl) ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
bis(2-Chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700

Lab #: 128131

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8270	
Project#: 133.005	Prep Method: EPA 3550	
Location: KOT		
METHOD BLANK		
Matrix: Soil	Prep Date: 01/30/97	
Batch#: 32134	Analysis Date: 01/31/97	
Units: ug/Kg		
Diln Fac: 1		

MB Lab ID: QC39216

Analyte	Result	Reporting Limit
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330
Surrogate	%Rec	Recovery Limits
2-Fluorophenol	74	25-121
Phenol-d5	81	24-113
2,4,6-Tribromophenol	59	19-122
Nitrobenzene-d5	93	23-120
2-Fluorobiphenyl	79	30-115
Terphenyl-d14	79	18-137



Lab #: 128131

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants	Analysis Method: EPA 8270
Project#: 133.005	Prep Method: EPA 3550
Location: KOT	

LABORATORY CONTROL SAMPLE

Matrix: Soil	Prep Date: 01/30/97
Batch#: 32134	Analysis Date: 02/05/97
Units: ug/Kg	
Diln Fac: 1	

LCS Lab ID: QC39217

Analyte	Result	Spike Added	%Rec #	Limits
Phenol	2596	3333	78	26-90
2-Chlorophenol	2574	3333	77	25-102
4-Chloro-3-methylphenol	2545	3333	76	26-103
4-Nitrophenol	2421	3333	73	11-114
Pentachlorophenol	884.9	3333	27	17-109
1,4-Dichlorobenzene	1045	1667	63	28-104
N-Nitroso-di-n-propylamine	1095	1667	66	41-126
1,2,4-Trichlorobenzene	1014	1667	61	38-107
Acenaphthene	1055	1667	63	31-137
2,4-Dinitrotoluene	1011	1667	61	28-89
Pyrene	1086	1667	65	35-142
Surrogate	%Rec	Limits		
2-Fluorophenol	71	25-121		
Phenol-d5	74	24-113		
2,4,6-Tribromophenol	59	19-122		
Nitrobenzene-d5	79	23-120		
2-Fluorobiphenyl	73	30-115		
Terphenyl-d14	73	18-137		

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

* Values outside of QC limits

Spike Recovery: 0 out of 11 outside limits

DO: Surrogate diluted out



Lab #: 128131

BATCH QC REPORT

Page 1 of 1

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3550

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: SCI-50@8'
 Lab ID: 128131-009
 Matrix: Soil
 Batch#: 32134
 Units: ug/Kg
 Diln Fac: 1

Sample Date: 01/24/97
 Received Date: 01/27/97
 Prep Date: 01/30/97
 Analysis Date: 02/04/97

MS Lab ID: QC39218

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Phenol	3333	<333.3	3070	92 *	26-90
2-Chlorophenol	3333	<333.3	3062	92	25-102
4-Chloro-3-methylphenol	3333	<333.3	2861	86	26-103
4-Nitrophenol	3333	<1667	2621	79	11-114
Pentachlorophenol	3333	<1667	1059	32	17-109
1,4-Dichlorobenzene	1667	<333.3	1175	71	28-104
N-Nitroso-di-n-propylamine	1667	<333.3	1258	76	41-126
1,2,4-Trichlorobenzene	1667	<333.3	1175	71	38-107
Acenaphthene	1667	<333.3	1231	74	31-137
2,4-Dinitrotoluene	1667	<333.3	1094	66	28-89
Pyrene	1667	305.8	1672	100	35-142
Surrogate	%Rec	Limits			
2-Fluorophenol	87	25-121			
Phenol-d5	88	24-113			
2,4,6-Tribromophenol	66	19-122			
Nitrobenzene-d5	90	23-120			
2-Fluorobiphenyl	87	30-115			
Terphenyl-d14	90	18-137			

MSD Lab ID: QC39219

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Phenol	3333	3083	92 *	26-90	0	35
2-Chlorophenol	3333	3071	92	25-102	0	50
4-Chloro-3-methylphenol	3333	2942	88	26-103	2	33
4-Nitrophenol	3333	2719	82	11-114	4	50
Pentachlorophenol	3333	1091	33	17-109	3	47
1,4-Dichlorobenzene	1667	1088	65	28-104	7	27
N-Nitroso-di-n-propylamine	1667	1270	76	41-126	1	38
1,2,4-Trichlorobenzene	1667	1133	68	38-107	3	23
Acenaphthene	1667	1223	73	31-137	1	19
2,4-Dinitrotoluene	1667	1054	63	28-89	5	47
Pyrene	1667	1685	83	35-142	1	36
Surrogate	%Rec	Limits				
2-Fluorophenol	86	25-121				
Phenol-d5	87	24-113				
2,4,6-Tribromophenol	67	19-122				
Nitrobenzene-d5	90	23-120				
2-Fluorobiphenyl	86	30-115				
Terphenyl-d14	90	18-137				

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: 2 out of 22 outside limits

DC: Surrogate diluted out



Organochlorine Pesticides and PCBs

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8080
Prep Method: EPA 3550

Field ID: SCI-50@2'
Lab ID: 128131-008
Matrix: Soil
Batch#: 32139
Units: ug/Kg
Diln Fac: 1

Sampled: 01/24/97
Received: 01/27/97
Extracted: 01/30/97
Analyzed: 02/07/97

Analyte	Result	Reporting Limit
alpha-BHC	ND	3.0
beta-BHC	ND	3.0
gamma-BHC	ND	3.0
delta-BHC	ND	3.0
Heptachlor	ND	3.0
Aldrin	ND	3.0
Heptachlor epoxide B	ND	3.0
Heptachlor epoxide A	ND	3.0
Endosulfan I	ND	3.0
Dieldrin	ND	6.0
4,4'-DDE	ND	6.0
Endrin	ND	6.0
Endosulfan II	ND	6.0
Endosulfan sulfate	ND	6.0
4,4'-DDD	ND	6.0
Endrin aldehyde	ND	6.0
4,4'-DDT	ND	6.0
Chlordane	ND	30
Methoxychlor	ND	30
Toxaphene	ND	60
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Surrogate	%Recovery	Recovery Limits
TCMX	83	29-108
Decachlorobiphenyl	79	30-125



Organochlorine Pesticides and PCBs

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8080
 Prep Method: EPA 3550

Field ID: SCI-50@8'
 Lab ID: 128131-009
 Matrix: Soil
 Batch#: 32139
 Units: ug/Kg
 Diln Fac: 1

Sampled: 01/24/97
 Received: 01/27/97
 Extracted: 01/30/97
 Analyzed: 02/07/97

Analyte	Result	Reporting Limit
alpha-BHC	ND	3.0
beta-BHC	ND	3.0
gamma-BHC	ND	3.0
delta-BHC	ND	3.0
Heptachlor	ND	3.0
Aldrin	ND	3.0
Heptachlor epoxide B	ND	3.0
Heptachlor epoxide A	ND	3.0
Endosulfan I	ND	3.0
Dieldrin	ND	6.0
4,4'-DDE	ND	6.0
Endrin	ND	6.0
Endosulfan II	ND	6.0
Endosulfan sulfate	ND	6.0
4,4'-DDD	ND	6.0
Endrin aldehyde	ND	6.0
4,4'-DDT	ND	6.0
Chlordane	ND	30
Methoxychlor	ND	30
Toxaphene	ND	60
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Surrogate	%Recovery	Recovery Limits
TCMX	88	29-108
Decachlorobiphenyl	78	30-125



Organochlorine Pesticides and PCBs

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8080
 Prep Method: EPA 3520

Field ID: SCI-49
 Lab ID: 128131-013
 Matrix: Water
 Batch#: 32097
 Units: ug/L
 Diln Fac: 1

Sampled: 01/24/97
 Received: 01/27/97
 Extracted: 01/28/97
 Analyzed: 02/07/97

Analyte	Result	Reporting Limit
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide B	ND	0.05
Heptachlor epoxide A	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.09
4,4'-DDE	ND	0.09
Endrin	ND	0.09
Endosulfan II	ND	0.09
Endosulfan sulfate	ND	0.09
4,4'-DDD	ND	0.09
Endrin aldehyde	ND	0.09
4,4'-DDT	ND	0.09
Chlordane	ND	0.5
Methoxychlor	ND	0.5
Toxaphene	ND	0.9
Aroclor-1016	ND	0.5
Aroclor-1221	ND	0.9
Aroclor-1232	ND	0.5
Aroclor-1242	ND	0.5
Aroclor-1248	ND	0.5
Aroclor-1254	ND	0.5
Aroclor-1260	ND	0.5
Surrogate	%Recovery	Recovery Limits
TCMX	23*	34-128
Decachlorobiphenyl	12*	50-150

* Values outside of QC limits



Organochlorine Pesticides and PCBs

Client: Subsurface Consultants	Analysis Method: EPA 8080
Project#: 133.005	Prep Method: EPA 3520
Location: KOT	

Field ID: SCI-50	Sampled: 01/24/97
Lab ID: 128131-014	Received: 01/27/97
Matrix: Water	Extracted: 01/28/97
Batch#: 32097	Analyzed: 02/07/97
Units: ug/L	
Diln Fac: 1	

Analyte	Result	Reporting Limit
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide B	ND	0.05
Heptachlor epoxide A	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.09
4,4'-DDE	ND	0.09
Endrin	ND	0.09
Endosulfan II	ND	0.09
Endosulfan sulfate	ND	0.09
4,4'-DDD	ND	0.09
Endrin aldehyde	ND	0.09
4,4'-DDT	ND	0.09
Chlordane	ND	0.5
Methoxychlor	ND	0.5
Toxaphene	ND	0.9
Aroclor-1016	ND	0.5
Aroclor-1221	ND	0.9
Aroclor-1232	ND	0.5
Aroclor-1242	ND	0.5
Aroclor-1248	ND	0.5
Aroclor-1254	ND	0.5
Aroclor-1260	1.1	0.5
Surrogate	%Recovery	Recovery Limits
TCMX	29*	34-128
Decachlorobiphenyl	16*	50-150

* Values outside of QC limits

Sample Name : 128131-014

Sample #: 32097

Page 1 of 1

FileName : g:\gc14\cha\036A085.raw

Date : 2/7/97 11:29 PM

Method : PEST-CNT.ins

Time of Injection: 2/7/97 10:56 PM

Start Time : 0.00 min

End Time : 32.35 min

Low Point : 42.23 mV

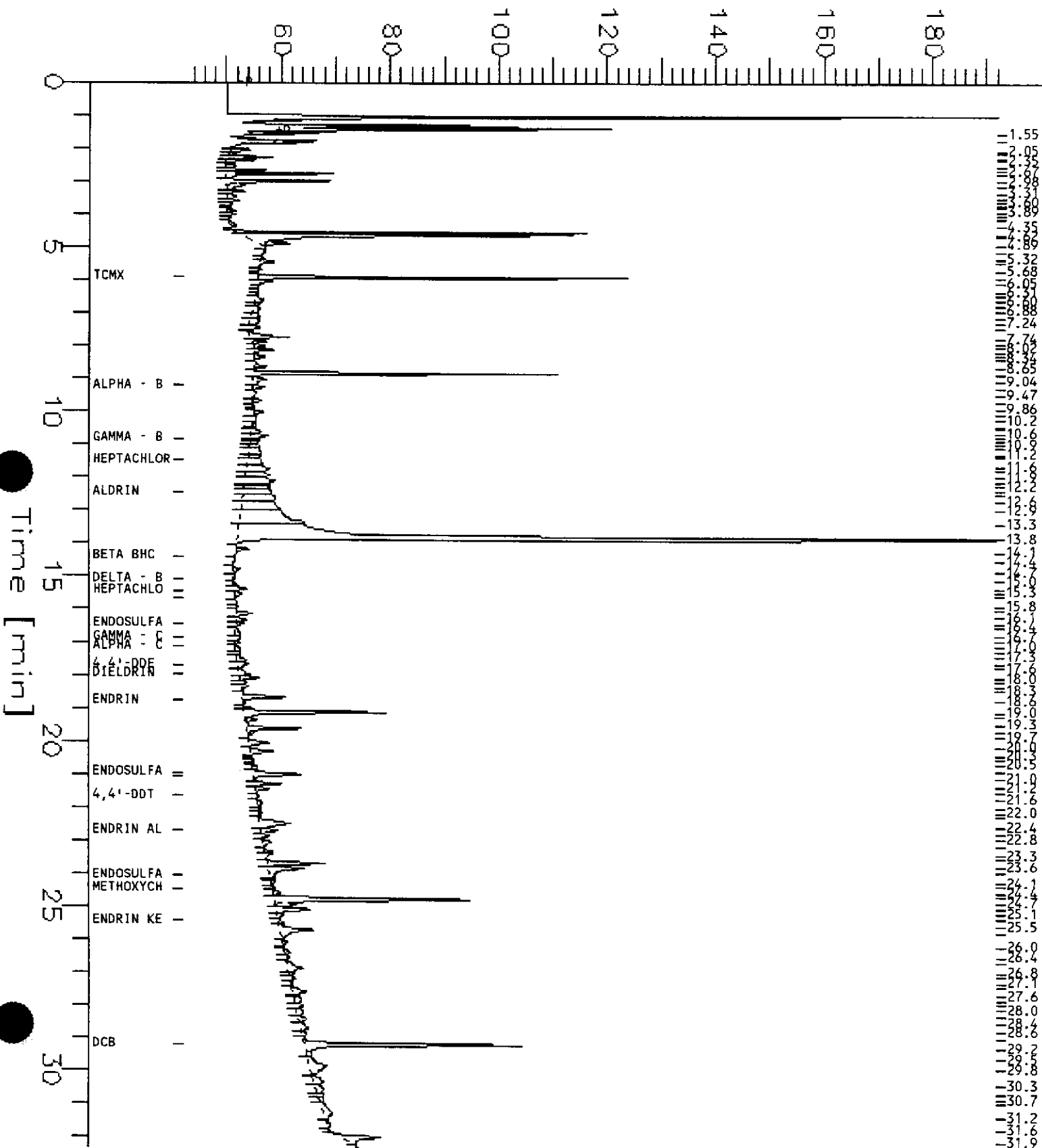
High Point : 192.23 mV

Scale Factor: -1.0

Plot Offset: 42 mV

Plot Scale: 150.0 mV

Response [mV]





Organochlorine Pesticides and PCBs

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8080
 Prep Method: EPA 3520

Field ID: SCI-46
 Lab ID: 128131-015
 Matrix: Water
 Batch#: 32097
 Units: ug/L
 Diln Fac: 20

Sampled: 01/24/97
 Received: 01/27/97
 Extracted: 01/28/97
 Analyzed: 02/07/97

Analyte	Result	Reporting Limit
alpha-BHC	ND	0.9
beta-BHC	ND	0.9
gamma-BHC	ND	0.9
delta-BHC	ND	0.9
Heptachlor	ND	0.9
Aldrin	ND	0.9
Heptachlor epoxide B	ND	0.9
Heptachlor epoxide A	ND	0.9
Endosulfan I	ND	0.9
Dieldrin	ND	1.9
4,4'-DDE	ND	1.9
Endrin	ND	1.9
Endosulfan II	ND	1.9
Endosulfan sulfate	ND	1.9
4,4'-DDD	ND	1.9
Endrin aldehyde	ND	1.9
4,4'-DDT	15	1.9
Chlordane	ND	9.4
Methoxychlor	ND	9.4
Toxaphene	ND	19
Aroclor-1016	ND	9.4
Aroclor-1221	ND	19
Aroclor-1232	ND	9.4
Aroclor-1242	ND	9.4
Aroclor-1248	ND	9.4
Aroclor-1254	ND	9.4
Aroclor-1260	ND	9.4
Surrogate	%Recovery	Recovery Limits
TCMX	DO*	34-128
Decachlorobiphenyl	DO*	50-150

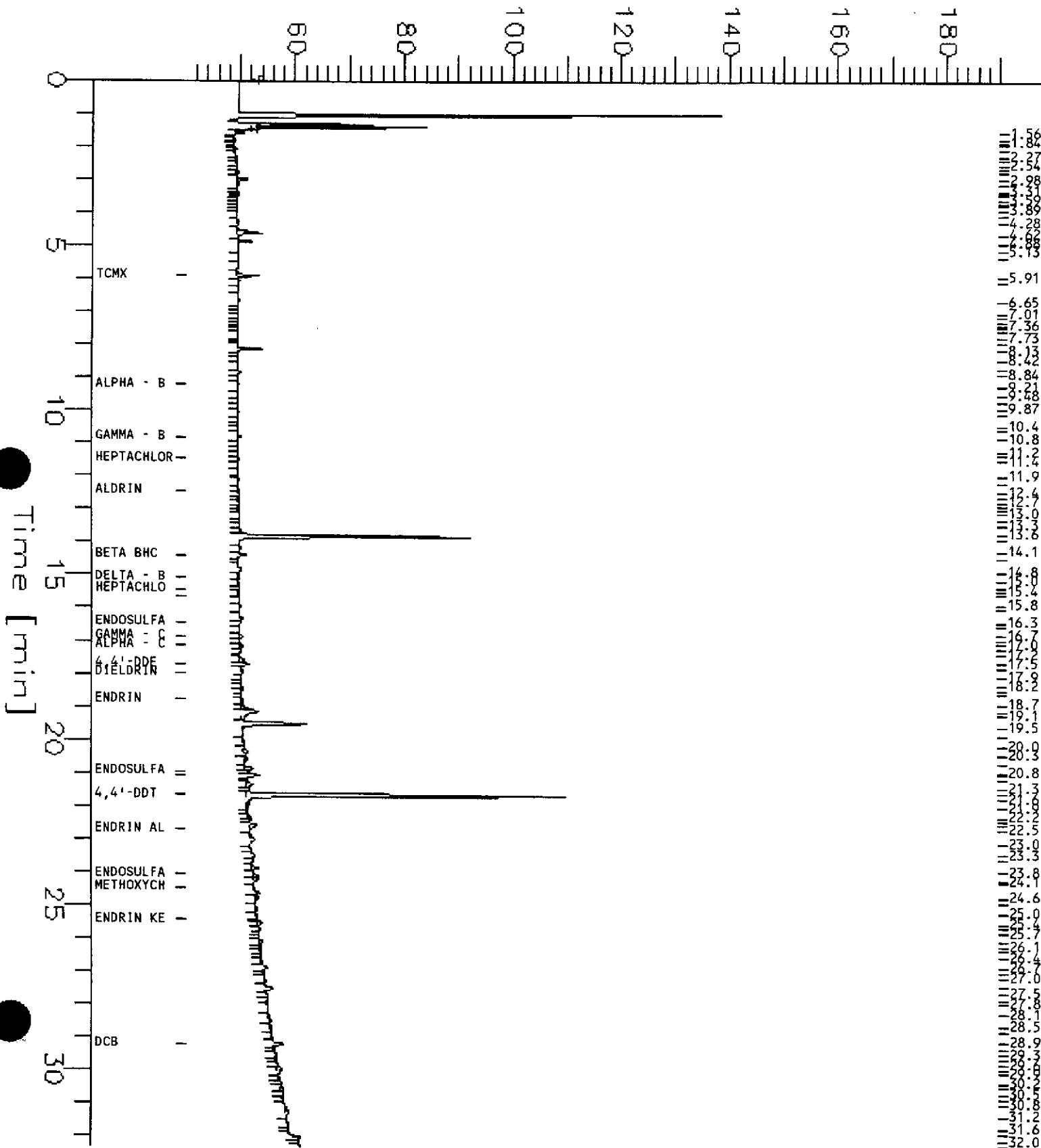
* Values outside of QC limits
 DO: Surrogate diluted out

Sample Name : 128131-015
 FileName : g:\gc14\cha\036A076.raw
 Method : PEST-CNT.ins
 Start Time : 0.00 min
 Scale Factor: -1.0

End Time : 32.35 min
 Plot Offset: 40 mV

Sample #: 32097
 Date : 2/7/97 05:44 PM
 Time of Injection: 2/7/97 05:12 PM
 Low Point : 40.07 mV
 High Point : 190.07 mV
 Plot Scale: 150.0 mV

Response [mV]





Lab #: 128131

BATCH QC REPORT

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8080
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32097
Units: ug/L
Diln Fac: 1

Prep Date: 01/28/97
Analysis Date: 01/30/97

MB Lab ID: QC39055

Analyte	Result	Reporting Limit
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide B	ND	0.05
Heptachlor epoxide A	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
Endosulfan sulfate	ND	0.1
4,4'-DDD	ND	0.1
Endrin aldehyde	ND	0.1
4,4'-DDT	ND	0.1
Chlordane	ND	0.5
Methoxychlor	ND	0.5
Toxaphene	ND	1.0
Aroclor-1016	ND	0.5
Aroclor-1221	ND	1.0
Aroclor-1232	ND	0.5
Aroclor-1242	ND	0.5
Aroclor-1248	ND	0.5
Aroclor-1254	ND	0.5
Aroclor-1260	ND	0.5
Surrogate	%Rec	Recovery Limits
TCMX	90	34-128
Decachlorobiphenyl	68	50-150



Lab #: 128131

BATCH QC REPORT

Page 1 of 1

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8080
 Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
 Batch#: 32139
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 02/06/97

MB Lab ID: QC39232

Analyte	Result	Reporting Limit
alpha-BHC	ND	3.0
beta-BHC	ND	3.0
gamma-BHC	ND	3.0
delta-BHC	ND	3.0
Heptachlor	ND	3.0
Aldrin	ND	3.0
Heptachlor epoxide B	ND	3.0
Heptachlor epoxide A	ND	3.0
Endosulfan I	ND	3.0
Dieldrin	ND	6.0
4,4'-DDE	ND	6.0
Endrin	ND	6.0
Endosulfan II	ND	6.0
Endosulfan sulfate	ND	6.0
4,4'-DDD	ND	6.0
Endrin aldehyde	ND	6.0
4,4'-DDT	ND	6.0
Chlordane	ND	30
Methoxychlor	ND	30
Toxaphene	ND	60
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Surrogate	%Rec	Recovery Limits
TCMX	93	29-108
Decachlorobiphenyl	94	30-125



Lab #: 128131

BATCH QC REPORT

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8080
 Prep Method: EPA 3550

LABORATORY CONTROL SAMPLE

Matrix: Soil
 Batch#: 32139
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 02/06/97

LCS Lab ID: QC39233

Analyte	Result	Spike Added	%Rec #	Limits
gamma-BHC	15.16	17	91	49-115
Heptachlor	15.78	17	95	51-119
Aldrin	15.15	17	91	55-112
Dieldrin	15.83	17	95	54-123
Endrin	16.67	17	100	63-128
4,4'-DDT	14.99	17	90	57-131
Surrogate	%Rec	Limits		
TCMX	95	29-108		
Decachlorobiphenyl	88	30-125		

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 #: 128131

BATCH QC REPORT

EPA 8080 Pesticides & PCBs			
Client: Subsurface Consultants	Analysis Method: EPA 8080		
Project#: 133.005	Prep Method: EPA 3520		
Location: KOT			
BLANK SPIKE/BLANK SPIKE DUPLICATE			
Matrix: Water	Prep Date: 01/28/97		
Batch#: 32097	Analysis Date: 01/30/97		
Units: ug/L			
Diln Fac: 1			

BS Lab ID: QC39056

Analyte	Spike Added	BS	%Rec #	Limits
gamma-BHC	0.5	0.51	102	57-120
Heptachlor	0.5	0.45	90	51-109
Aldrin	0.5	0.43	86	57-105
Dieldrin	0.5	0.48	96	62-122
Endrin	0.5	0.47	94	70-128
4,4'-DDT	0.5	0.44	88	67-128
Surrogate	%Rec	Limits		
TCMX	90	34-128		
Decachlorobiphenyl	77	50-150		

BSD Lab ID: QC39057

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
gamma-BHC	0.5	0.51	102	57-120	0	20
Heptachlor	0.5	0.44	88	51-109	2	20
Aldrin	0.5	0.43	86	57-105	0	20
Dieldrin	0.5	0.47	94	62-122	2	20
Endrin	0.5	0.45	90	70-128	4	20
4,4'-DDT	0.5	0.43	86	67-128	2	20
Surrogate	%Rec	Limits				
TCMX	89	34-128				
Decachlorobiphenyl	75	50-150				

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

* Values outside of QC limits

RPD: 0 out of 6 outside limits

Spike Recovery: 0 out of 12 outside limits

Lab #: 128131

BATCH QC REPORT

Page 1 of 1

EPA 8080 Pesticides & PCBs			
Client: Subsurface Consultants	Analysis Method: EPA 8080		
Project#: 133.005	Prep Method: EPA 3550		
Location: KOT			
MATRIX SPIKE/MATRIX SPIKE DUPLICATE			
Field ID: ZZZZZZ	Sample Date:	01/22/97	
Lab ID: 128112-010	Received Date:	01/24/97	
Matrix: Soil	Prep Date:	01/30/97	
Batch#: 32139	Analysis Date:	02/07/97	
Units: ug/Kg			
Diln Fac: 1			

MS Lab ID: QC39234

Analyte	Spike Added	Sample	MS	%Rec #	Limits
gamma-BHC	17	<3	16.28	98	53-124
Heptachlor	17	<3	16.84	101	55-128
Aldrin	17	<3	16.29	98	49-128
Dieldrin	17	<6	15.95	96	54-128
Endrin	17	<6	16.63	100	69-131
4,4'-DDT	17	<6	17.4	104	53-144
Surrogate	%Rec	Limits			
TCMX	101	29-108			
Decachlorobiphenyl	76	30-125			

MSD Lab ID: QC39235

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
gamma-BHC	17	16.84	101	53-124	3	35
Heptachlor	17	17.61	106	55-128	4	35
Aldrin	17	16.85	101	49-128	3	35
Dieldrin	17	16.76	101	54-128	5	35
Endrin	17	17.45	105	69-131	5	35
4,4'-DDT	17	17.96	108	53-144	3	35
Surrogate	%Rec	Limits				
TCMX	105	29-108				
Decachlorobiphenyl	92	30-125				

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

LABORATORY NUMBER: 128131
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 133.005
 LOCATION: KOT

DATE SAMPLED: 01/24/97
 DATE RECEIVED: 01/27/97
 DATE ANALYZED: 01/30/97
 DATE REPORTED: 02/03/97

=====
 ANALYSIS: TOTAL PHOSPHORUS
 METHOD REFERENCE: EPA 365.2
 =====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
128131-001	SCI-47@1'	15	mg/Kg	1.0
128131-008	SCI-50@2'	0.50	mg/Kg	0.30
METHOD BLANK	N/A	ND	mg/Kg	0.30

ND = Not detected at or above the reporting limit.

QA/QC SUMMARY: MS/SAMPLE DUPLICATE OF 128112-010

=====
 RPD, % <1
 RECOVERY, % 72
 =====



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 128131
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 133.005
LOCATION: KOT

DATE SAMPLED: 01/24/97
DATE RECEIVED: 01/27/97
DATE ANALYZED: 01/31/97
DATE REPORTED: 02/03/97

=====
ANALYSIS: TOTAL PHOSPHORUS
METHOD REFERENCE: EPA 365.2
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
128131-012	SCI-48	0.15	mg/L	0.30
128131-015	SCI-46	0.05	mg/L	0.30
METHOD BLANK	N/A	ND	mg/L	0.30

ND = Not detected at or above the reporting limit.

QA/QC SUMMARY: MS/SAMPLE DUPLICATE OF 128131-015

RPD, %	57
RECOVERY, %	61



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 128131
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 133.005
LOCATION: KOT

DATE SAMPLED: 01/24/97
DATE RECEIVED: 01/27/97
DATE ANALYZED: 01/30/97
DATE REPORTED: 02/03/97

=====

ANALYSIS: NITRATE/NITRITE
METHOD REFERENCE: EPA 353.2

=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
128131-001	SCI-47@1'	0.31	mg/Kg	0.20
128131-008	SCI-50@2'	0.47	mg/Kg	0.20
METHOD BLANK	N/A	ND	mg/Kg	0.20

ND = Not detected at or above the reporting limit.

QA/QC SUMMARY: MS/MSD OF SAMPLE NO: 215714-002

=====

RPD, % 2
RECOVERY, % 109

=====



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 128131
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 133.005
LOCATION: KOT

DATE SAMPLED: 01/24/97
DATE RECEIVED: 01/27/97
DATE ANALYZED: 01/30/97
DATE REPORTED: 02/03/97

=====

ANALYSIS: NITRATE/NITRITE
METHOD REFERENCE: EPA 353.2

=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
128131-012	SCI-48	0.08	mg/L	0.04
128131-015	SCI-46	8.7	mg/L	0.20
METHOD BLANK	N/A	ND	mg/L	0.04

ND = Not detected at or above the reporting limit.

QA/QC SUMMARY: BS/BSD

=====

RPD, %	10
RECOVERY, %	84

=====



Forensic Analytical
Analytical Report

San Francisco • 3777 Depot Road, Suite 409, Hayward, CA 94545 • Phone 510/887-8828 • Fax 510/887-4218
Los Angeles • 2959 Pacific Commerce Dr., Rancho Dominguez, CA 90221 • Phone 310/763-2374 • Fax 310/763-8684

Bulk Material Analysis
Method: 40 CFR 763, Subpart F, Appendix A (AHERA)

Client:
Curtis & Tompkins, Ltd.

2323 Fifth Street
Berkeley, CA 94710

Client ID: 1137
Report Number: 263588
Date Received: 01/28/97
Date Analyzed: 01/29/97

P.O. Num: 128131
Job ID: 128131
Site:

Sample Number	Lab Number	Total Asbestos	Total Fibrous Non-Asbestos	(Breakdown by type)
128131-001 Brown soil.	19705464	Non-Det.†	Trace†	Cellulose (Trace†)
128131-002 Grey soil.	19705465	Non-Det.†	Trace†	Cellulose (Trace†)

David Kahane

David Kahane, C.I.H., Laboratory Director, Hayward Laboratory

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

Project Number: 128131

Subcontract Lab:

Forensic Analytical
 3777 Depot Road Suite 409
 Hayward, CA 94545
 (510) 887-8828

Please send report to: Tracy Babjar

Turnaround Time: Normal

Sample ID	Date Sampled	Matrix	Analysis	C&T Lab #
SCI-47@1'	24-JAN-97	Soil	ASBESTOS-PLM	128131-001
SCI-47@4.5'	24-JAN-97	Soil	ASBESTOS-PLM	128131-002

**Please report using Sample ID instead of C&T Lab #.

Notes:	RELINQUISHED BY: 1/27/97	RECEIVED BY:
	<i>[Signature]</i> Date/Time	Date/Time
	Date/Time	<i>[Signature]</i> 1/28/97

Signature on this form constitutes a firm Purchase Order for the services requested above.

SAMPLE ID: SCI-47@1'
 LAB ID: 128131-001
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Soil

DATE SAMPLED: 01/24/97
 DATE RECEIVED: 01/27/97
 DATE REPORTED: 01/31/97

California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.9	1	32117	EPA 6010A	01/30/97
Arsenic	4.7	0.25	1	32117	EPA 6010A	01/30/97
Barium	66	0.49	1	32117	EPA 6010A	01/30/97
Beryllium	0.26	0.098	1	32117	EPA 6010A	01/30/97
Cadmium	0.63	0.098	1	32117	EPA 6010A	01/30/97
Chromium (total)	51	0.49	1	32117	EPA 6010A	01/30/97
Cobalt	11	0.98	1	32117	EPA 6010A	01/30/97
Copper	11	0.49	1	32117	EPA 6010A	01/30/97
Lead	12	0.15	1	32117	EPA 6010A	01/30/97
Mercury	ND	0.091	1	32130	EPA 7471	01/30/97
Molybdenum	ND	0.98	1	32117	EPA 6010A	01/30/97
Nickel	75	0.98	1	32117	EPA 6010A	01/30/97
Selenium	1.0	0.25	1	32117	EPA 6010A	01/30/97
Silver	ND	0.49	1	32117	EPA 6010A	01/30/97
Thallium	0.91	0.25	1	32117	EPA 6010A	01/30/97
Vanadium	31	0.49	1	32117	EPA 6010A	01/30/97
Zinc	31	0.98	1	32117	EPA 6010A	01/30/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCI-49@0.5'
 LAB ID: 128131-005
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Soil

DATE SAMPLED: 01/24/97
 DATE RECEIVED: 01/27/97
 DATE REPORTED: 01/31/97

California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.9	1	32117	EPA 6010A	01/30/97
Arsenic	5.2	0.25	1	32117	EPA 6010A	01/30/97
Barium	35	0.49	1	32117	EPA 6010A	01/30/97
Beryllium	0.38	0.098	1	32117	EPA 6010A	01/30/97
Cadmium	0.93	0.098	1	32117	EPA 6010A	01/30/97
Chromium (total)	32	0.49	1	32117	EPA 6010A	01/30/97
Cobalt	11	0.98	1	32117	EPA 6010A	01/30/97
Copper	66	0.49	1	32117	EPA 6010A	01/30/97
Lead	70	0.15	1	32117	EPA 6010A	01/30/97
Mercury	0.25	0.091	1	32130	EPA 7471	01/30/97
Molybdenum	ND	0.98	1	32117	EPA 6010A	01/30/97
Nickel	59	0.98	1	32117	EPA 6010A	01/30/97
Selenium	1.1	0.25	1	32117	EPA 6010A	01/30/97
Silver	ND	0.49	1	32117	EPA 6010A	01/30/97
Thallium	0.84	0.25	1	32117	EPA 6010A	01/30/97
Vanadium	25	0.49	1	32117	EPA 6010A	01/30/97
Zinc	120	0.98	1	32117	EPA 6010A	01/30/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCI-49@3.5'
 LAB ID: 128131-006
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Soil

DATE SAMPLED: 01/24/97
 DATE RECEIVED: 01/27/97
 DATE REPORTED: 01/31/97

California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.9	1	32117	EPA 6010A	01/30/97
Arsenic	3.7	0.24	1	32117	EPA 6010A	01/30/97
Barium	73	0.49	1	32117	EPA 6010A	01/30/97
Beryllium	0.40	0.098	1	32117	EPA 6010A	01/30/97
Cadmium	0.72	0.098	1	32117	EPA 6010A	01/30/97
Chromium (total)	33	0.49	1	32117	EPA 6010A	01/30/97
Cobalt	9.2	0.98	1	32117	EPA 6010A	01/30/97
Copper	15	0.49	1	32117	EPA 6010A	01/30/97
Lead	12	0.15	1	32117	EPA 6010A	01/30/97
Mercury	ND	0.091	1	32130	EPA 7471	01/30/97
Molybdenum	ND	0.98	1	32117	EPA 6010A	01/30/97
Nickel	54	0.98	1	32117	EPA 6010A	01/30/97
Selenium	1.2	0.24	1	32117	EPA 6010A	01/30/97
Silver	ND	0.49	1	32117	EPA 6010A	01/30/97
Thallium	0.54	0.24	1	32117	EPA 6010A	01/30/97
Vanadium	26	0.49	1	32117	EPA 6010A	01/30/97
Zinc	41	0.98	1	32117	EPA 6010A	01/30/97

ND = Not detected at or above reporting limit



Curtis & Tompkins. Ltd.

SAMPLE ID: SCI-50@2'
LAB ID: 128131-008
CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Soil

DATE SAMPLED: 01/24/97
DATE RECEIVED: 01/27/97
DATE REPORTED: 01/31/97

California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.9	1	32117	EPA 6010A	01/30/97
Arsenic	2.4	0.24	1	32117	EPA 6010A	01/30/97
Barium	290	0.49	1	32117	EPA 6010A	01/30/97
Beryllium	0.38	0.098	1	32117	EPA 6010A	01/30/97
Cadmium	1.9	0.098	1	32117	EPA 6010A	01/30/97
Chromium (total)	0.80	0.49	1	32117	EPA 6010A	01/30/97
Cobalt	8.5	0.98	1	32117	EPA 6010A	01/30/97
Copper	35	0.49	1	32117	EPA 6010A	01/30/97
Lead	0.32	0.15	1	32117	EPA 6010A	01/30/97
Mercury	0.12	0.10	1	32130	EPA 7471	01/30/97
Molybdenum	ND	0.98	1	32117	EPA 6010A	01/30/97
Nickel	6.9	0.98	1	32117	EPA 6010A	01/30/97
Selenium	1.7	0.24	1	32117	EPA 6010A	01/30/97
Silver	ND	0.49	1	32117	EPA 6010A	01/30/97
Thallium	ND	0.24	1	32117	EPA 6010A	01/30/97
Vanadium	19	0.49	1	32117	EPA 6010A	01/30/97
Zinc	60	0.98	1	32117	EPA 6010A	01/30/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCI-50@8'
 LAB ID: 128131-009
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Soil

DATE SAMPLED: 01/24/97
 DATE RECEIVED: 01/27/97
 DATE REPORTED: 01/31/97

California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	2.9	1	32117	EPA 6010A	01/30/97
Arsenic	2.9	0.24	1	32117	EPA 6010A	01/30/97
Barium	41	0.48	1	32117	EPA 6010A	01/30/97
Beryllium	0.24	0.095	1	32117	EPA 6010A	01/30/97
Cadmium	0.49	0.095	1	32117	EPA 6010A	01/30/97
Chromium (total)	21	0.48	1	32117	EPA 6010A	01/30/97
Cobalt	5.5	0.95	1	32117	EPA 6010A	01/30/97
Copper	5.8	0.48	1	32117	EPA 6010A	01/30/97
Lead	6.5	0.14	1	32117	EPA 6010A	01/30/97
Mercury	ND	0.095	1	32130	EPA 7471	01/30/97
Molybdenum	ND	0.95	1	32117	EPA 6010A	01/30/97
Nickel	25	0.95	1	32117	EPA 6010A	01/30/97
Selenium	0.77	0.24	1	32117	EPA 6010A	01/30/97
Silver	ND	0.48	1	32117	EPA 6010A	01/30/97
Thallium	0.67	0.24	1	32117	EPA 6010A	01/30/97
Vanadium	18	0.48	1	32117	EPA 6010A	01/30/97
Zinc	19	0.95	1	32117	EPA 6010A	01/30/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCI-49
 LAB ID: 128131-013
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/24/97
 DATE RECEIVED: 01/27/97
 DATE REPORTED: 01/31/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32116	EPA 6010A	01/30/97
Arsenic	13	5.0	1	32116	EPA 6010A	01/30/97
Barium	400	10	1	32116	EPA 6010A	01/30/97
Beryllium	ND	2.0	1	32116	EPA 6010A	01/30/97
Cadmium	ND	2.0	1	32116	EPA 6010A	01/30/97
Chromium (total)	ND	10	1	32116	EPA 6010A	01/30/97
Cobalt	ND	20	1	32116	EPA 6010A	01/30/97
Copper	ND	10	1	32116	EPA 6010A	01/30/97
Lead	ND	3.0	1	32116	EPA 6010A	01/30/97
Mercury	ND	0.20	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20	1	32116	EPA 6010A	01/30/97
Nickel	ND	20	1	32116	EPA 6010A	01/30/97
Selenium	14	5.0	1	32116	EPA 6010A	01/30/97
Silver	ND	5.0	1	32116	EPA 6010A	01/30/97
Thallium	ND	5.0	1	32116	EPA 6010A	01/30/97
Vanadium	ND	10	1	32116	EPA 6010A	01/30/97
Zinc	ND	20	1	32116	EPA 6010A	01/30/97

ND = Not detected at or above reporting limit

SAMPLE ID: SCI-50
 LAB ID: 128131-014
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/24/97
 DATE RECEIVED: 01/27/97
 DATE REPORTED: 01/31/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32116	EPA 6010A	01/30/97
Arsenic	12	5.0	1	32116	EPA 6010A	01/30/97
Barium	320	10	1	32116	EPA 6010A	01/30/97
Beryllium	ND	2.0	1	32116	EPA 6010A	01/30/97
Cadmium	ND	2.0	1	32116	EPA 6010A	01/30/97
Chromium (total)	ND	10	1	32116	EPA 6010A	01/30/97
Cobalt	ND	20	1	32116	EPA 6010A	01/30/97
Copper	ND	10	1	32116	EPA 6010A	01/30/97
Lead	ND	3.0	1	32116	EPA 6010A	01/30/97
Mercury	ND	0.20	1	32106	EPA 7470	01/29/97
Molybdenum	ND	20	1	32116	EPA 6010A	01/30/97
Nickel	ND	20	1	32116	EPA 6010A	01/30/97
Selenium	13	5.0	1	32116	EPA 6010A	01/30/97
Silver	ND	5.0	1	32116	EPA 6010A	01/30/97
Thallium	ND	5.0	1	32116	EPA 6010A	01/30/97
Vanadium	ND	10	1	32116	EPA 6010A	01/30/97
Zinc	ND	20	1	32116	EPA 6010A	01/30/97

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Soil

DATE REPORTED: 01/31/97

Metals Analytical Report

Potassium

Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
SCI-47@1'	128131-001	01/24/97	01/27/97	700	25	1	32117	EPA 6010A	01/30/97
SCI-50@2'	128131-008	01/24/97	01/27/97	1000	24	1	32117	EPA 6010A	01/30/97

CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Water

DATE REPORTED: 01/31/97

Metals Analytical Report

Potassium

Sample ID	Lab ID	Sample Date	Receive Date	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
SCI-48	128131-012	01/24/97	01/27/97	110000	500	1	32115	EPA 6010A	01/30/97
SCI-46	128131-015	01/24/97	01/27/97	150000	50000	100	32115	EPA 6010A	01/30/97



Curtis & Tompkins, Ltd.

CLIENT: Subsurface Consultants
 JOB NUMBER: 128131

DATE REPORTED: 01/31/97

 BATCH QC REPORT
 PREP BLANK

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	ug/L	1	32116	EPA 6010A	01/30/97
Antimony	ND	3	mg/Kg	1	32117	EPA 6010A	01/30/97
Arsenic	ND	5	ug/L	1	32116	EPA 6010A	01/30/97
Arsenic	ND	0.25	mg/Kg	1	32117	EPA 6010A	01/30/97
Barium	ND	10	ug/L	1	32116	EPA 6010A	01/30/97
Barium	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97
Beryllium	ND	2	ug/L	1	32116	EPA 6010A	01/30/97
Beryllium	ND	0.1	mg/Kg	1	32117	EPA 6010A	01/30/97
Cadmium	ND	2	ug/L	1	32116	EPA 6010A	01/30/97
Cadmium	ND	0.1	mg/Kg	1	32117	EPA 6010A	01/30/97
Chromium (total)	ND	10	ug/L	1	32116	EPA 6010A	01/30/97
Chromium (total)	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97
Cobalt	ND	20	ug/L	1	32116	EPA 6010A	01/30/97
Cobalt	ND	1	mg/Kg	1	32117	EPA 6010A	01/30/97
Copper	ND	10	ug/L	1	32116	EPA 6010A	01/30/97
Copper	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97
Lead	ND	3	ug/L	1	32116	EPA 6010A	01/30/97
Lead	ND	0.15	mg/Kg	1	32117	EPA 6010A	01/30/97
Mercury	ND	0.2	ug/L	1	32106	EPA 7470	01/29/97
Mercury	ND	0.1	mg/Kg	1	32130	EPA 7471	01/30/97
Molybdenum	ND	20	ug/L	1	32116	EPA 6010A	01/30/97
Molybdenum	ND	1	mg/Kg	1	32117	EPA 6010A	01/30/97
Nickel	ND	20	ug/L	1	32116	EPA 6010A	01/30/97
Nickel	ND	1	mg/Kg	1	32117	EPA 6010A	01/30/97
Potassium	ND	500	ug/L	1	32115	EPA 6010A	01/30/97
Potassium	ND	25	mg/Kg	1	32117	EPA 6010A	01/30/97
Selenium	ND	5	ug/L	1	32116	EPA 6010A	01/30/97
Selenium	ND	0.25	mg/Kg	1	32117	EPA 6010A	01/30/97
Silver	ND	5	ug/L	1	32116	EPA 6010A	01/30/97
Silver	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97

ND = Not Detected at or above reporting limit



CLIENT: Subsurface Consultants
JOB NUMBER: 128131

DATE REPORTED: 01/31/97

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Thallium	ND	5	ug/L	1	32116	EPA 6010A	01/30/97
Thallium	ND	0.25	mg/Kg	1	32117	EPA 6010A	01/30/97
Vanadium	ND	10	ug/L	1	32116	EPA 6010A	01/30/97
Vanadium	ND	0.5	mg/Kg	1	32117	EPA 6010A	01/30/97
Zinc	ND	20	ug/L	1	32116	EPA 6010A	01/30/97
Zinc	ND	1	mg/Kg	1	32117	EPA 6010A	01/30/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128131

DATE REPORTED: 01/31/97

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	500	492	527	ug/L	98	105	80-120	7	35	32116	EPA 6010A	01/30/97
Antimony	25	26.1	26.25	mg/Kg	104	105	80-120	1	35	32117	EPA 6010A	01/30/97
Arsenic	2000	1940	1970	ug/L	97	99	80-120	2	35	32116	EPA 6010A	01/30/97
Arsenic	100	93	95.5	mg/Kg	93	96	80-120	3	35	32117	EPA 6010A	01/30/97
Barium	2000	2040	2070	ug/L	102	104	80-120	2	35	32116	EPA 6010A	01/30/97
Barium	100	104	104.5	mg/Kg	104	105	80-120	1	35	32117	EPA 6010A	01/30/97
Beryllium	50	49.8	50.3	ug/L	100	101	80-120	1	35	32117	EPA 6010A	01/30/97
Beryllium	2.5	2.525	2.58	mg/Kg	101	103	80-120	2	35	32117	EPA 6010A	01/30/97
Cadmium	50	51.8	52.3	ug/L	104	105	80-120	1	35	32116	EPA 6010A	01/30/97
Cadmium	2.5	2.53	2.565	mg/Kg	101	103	80-120	1	35	32117	EPA 6010A	01/30/97
Chromium (total)	200	199	202	ug/L	100	101	80-120	2	35	32116	EPA 6010A	01/30/97
Chromium (total)	10	9.7	9.9	mg/Kg	97	99	80-120	2	35	32117	EPA 6010A	01/30/97
Cobalt	500	492	495	ug/L	98	99	80-120	1	35	32116	EPA 6010A	01/30/97
Cobalt	25	23.25	23.8	mg/Kg	93	95	80-120	2	35	32117	EPA 6010A	01/30/97
Copper	250	260	263	ug/L	104	105	80-120	1	35	32116	EPA 6010A	01/30/97
Copper	12.5	13.2	13.4	mg/Kg	106	107	80-120	2	35	32117	EPA 6010A	01/30/97
Lead	500	500	506	ug/L	100	101	80-120	1	35	32116	EPA 6010A	01/30/97
Lead	25	24.35	24.85	mg/Kg	97	99	80-120	2	35	32117	EPA 6010A	01/30/97
Mercury	5	5.061	5.154	ug/L	101	103	80-120	2	35	32106	EPA 7470	01/29/97
Mercury	5	4.746	4.951	ug/L	95	99	80-120	4	35	32130	EPA 7470	01/30/97
Molybdenum	400	401	409	ug/L	100	102	80-120	2	35	32116	EPA 6010A	01/30/97
Molybdenum	20	19.55	19.95	mg/Kg	98	100	80-120	2	35	32117	EPA 6010A	01/30/97
Nickel	500	521	508	ug/L	104	102	80-120	3	35	32116	EPA 6010A	01/30/97
Nickel	25	24.65	25.2	mg/Kg	99	101	80-120	2	35	32117	EPA 6010A	01/30/97
Potassium	20000	19770	19540	ug/L	99	98	80-120	1	35	32115	EPA 6010A	01/30/97
Potassium	1000	838	844.5	mg/Kg	84	85	80-120	1	35	32117	EPA 6010A	01/30/97
Selenium	2000	1870	1910	ug/L	94	96	80-120	2	35	32116	EPA 6010A	01/30/97
Selenium	100	92	92.5	mg/Kg	92	93	80-120	1	35	32117	EPA 6010A	01/30/97
Silver	100	103	104	ug/L	103	104	80-120	1	35	32116	EPA 6010A	01/30/97
Silver	5	5.1	5.15	mg/Kg	102	103	80-120	1	35	32117	EPA 6010A	01/30/97
Thallium	2000	1940	1980	ug/L	97	99	80-120	2	35	32116	EPA 6010A	01/30/97
Thallium	100	88.5	92	mg/Kg	89	92	80-120	4	35	32117	EPA 6010A	01/30/97
Vanadium	500	502	508	ug/L	100	102	80-120	1	35	32116	EPA 6010A	01/30/97
Vanadium	25	24.95	25.35	mg/Kg	100	101	80-120	2	35	32117	EPA 6010A	01/30/97
Zinc	500	497	498	ug/L	99	100	80-120	0	35	32116	EPA 6010A	01/30/97
Zinc	25	24.9	25.5	mg/Kg	100	102	80-120	2	35	32117	EPA 6010A	01/30/97

CHAIN OF CUSTODY FORM

128131

PROJECT NAME: KOT
 JOB NUMBER: 133 005 LAB: Curtis & Sampkins
 PROJECT CONTACT: Jessie de Verrier TURNAROUND: Standard
 SAMPLED BY: John Wolfe REQUESTED BY: Meg Mendoza

ANALYSIS REQUESTED	
TEH (dtms)	<input checked="" type="checkbox"/>
TVH/BTEX	<input checked="" type="checkbox"/>
8240	<input checked="" type="checkbox"/>
8270	<input checked="" type="checkbox"/>
8080	<input checked="" type="checkbox"/>
Heavy Metals	<input checked="" type="checkbox"/>
Trace Phosphorus	<input checked="" type="checkbox"/>
K	<input checked="" type="checkbox"/>
Nitrate/Nitrite	<input checked="" type="checkbox"/>
Asbestos	<input checked="" type="checkbox"/>
Oil and Grease	<input checked="" type="checkbox"/>

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS				METHOD PRESERVED					SAMPLING DATE				NOTES				
		WATER	SOIL	WASTE	AIR	VOA	LITER	PINT	TUBE	HCL	H ₂ SO ₄	HNO ₃	ICE	NONE	MONTH	DAY	YEAR	TIME					
-1	SCI-47 @ 1'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>		01	24	97						
-2	SCI-47 @ 4.5'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>										
-3	SCI-48 @ 5.5'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>										
-4	SCI-48 @ 8'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>										
-5	SCI-49 @ 0.5'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>										
-6	SCI-49 @ 3.5'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>										
-7	SCI-49 @ 6.0'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>										
-8	SCI-50 @ 2'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>										
-9	SCI-50 @ 8'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>										
-10	SCI-49 @ 9.5'		<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>										

CHAIN OF CUSTODY RECORD			
RELEASED BY: (Signature) <i>Dei-alefando</i>	DATE / TIME 1/27/97 12:45 PM	RECEIVED BY: (Signature) <i>[Signature]</i>	DATE / TIME 1/27/97 12:45 PM
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:

per

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



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
Layfayette, CA 94549

Date: 20-FEB-97
Lab Job Number: 128165
Project ID: 133.005
Location: KOT

Reviewed by: _____

Reviewed by: _____

This package may be reproduced only in its entirety.

Client: Subsurface Consultants

Laboratory Login Number: 128165

Project Name: KOT
Project Number: 133.005

Report Date: 13 February 97

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) METHOD: SMWW 17:5520EF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
128165-011	TP-6 @ 3'	Soil	28-JAN-97	29-JAN-97	06-FEB-97	4400	mg/Kg	50	DLP	32265

ND = Not Detected at or above Reporting Limit (RL).

Q C B a t c h R e p o r t

 Client: Subsurface Consultants
 Project Name: KOT
 Project Number: 133.005

 Laboratory Login Number: 128165
 Report Date: 13 February 97

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 32265

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
MB	ND	50	mg/Kg	SMWW 17:5520EF	06-FEB-97

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	111%	SMWW 17:5520EF	06-FEB-97
BSD	101%	SMWW 17:5520EF	06-FEB-97

		Control Limits
Average Spike Recovery	106%	80% - 120%
Relative Percent Difference	9.4%	< 20%



TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128165-001	TP-1 @ 4'	32043	01/27/97	01/31/97	01/31/97	
128165-002	TP-1 @ 5'	32043	01/27/97	01/31/97	01/31/97	
128165-003	TP-2 @ 6'	32043	01/27/97	01/31/97	01/31/97	
128165-004	TP-2 @ 10'	32043	01/27/97	01/31/97	01/31/97	

Matrix: Soil

Analyte	Units	128165-001	128165-002	128165-003	128165-004
Diln Fac:		1	1	1	1
Gasoline	mg/Kg	<1	<1	<1	19 YH
Surrogate					
Trifluorotoluene	%REC	91	93	92	86
Bromobenzene	%REC	82	85	83	81

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

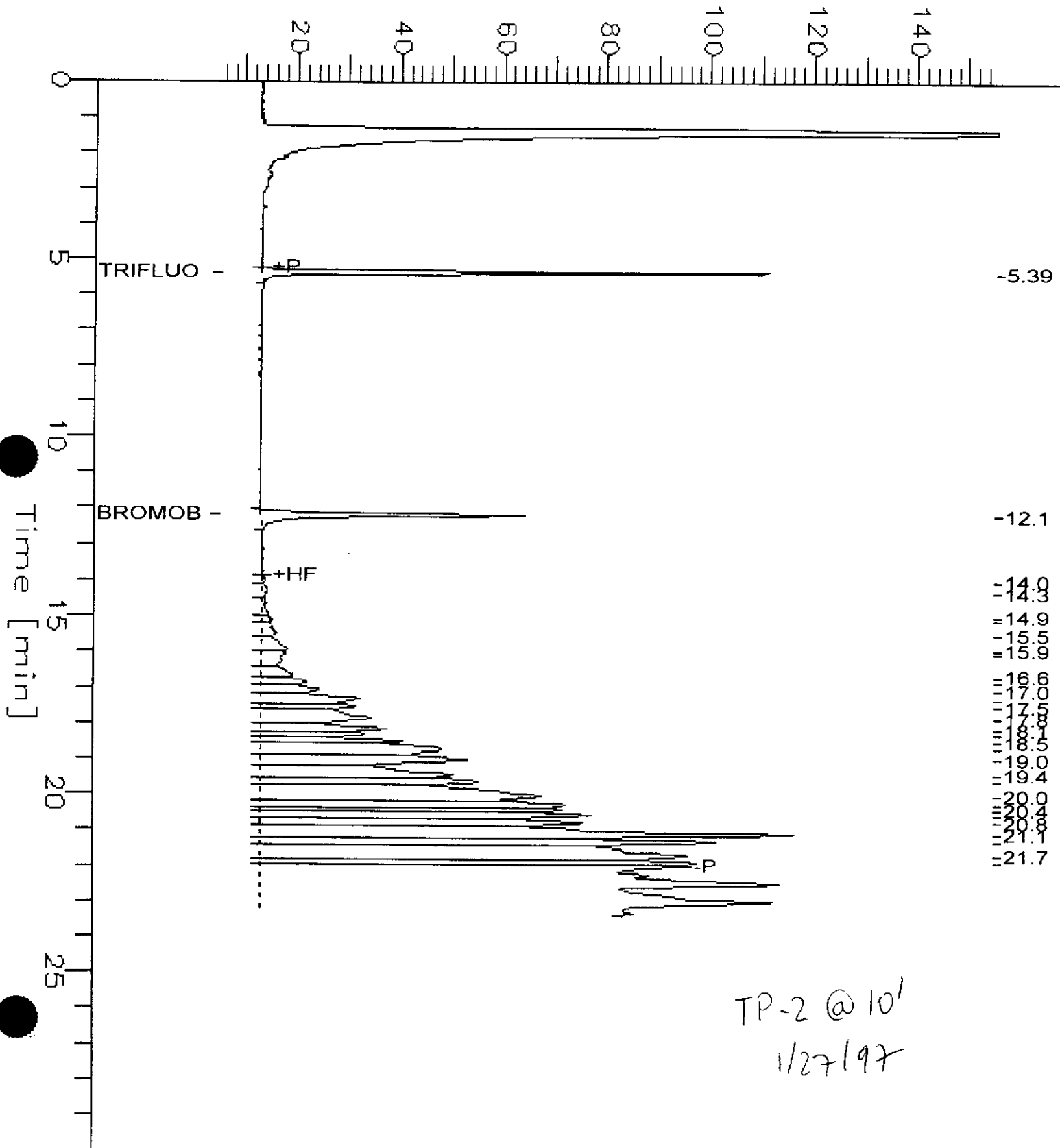
GC05 RTX1 TVH Chromatogram

Sample Name : S,128165-004,32043,
FileName : G:\GC05\DATA\C31H018.RAW

Sample # :
Date : 2/3/97 10:26 AM
Time of Injection: 1/31/97 11:23 PM
Low Point : 5.49 mV
High Point : 155.49 mV
Plot Scale: 150.0 mV

Start Time : 0.00 min
End Time : 30.00 min
Factor: -1.0
Plot Offset: 5 mV

Response [mV]



TP-2 @ 10'
1/27/97



TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128165-005	TP-3 @ 2.5-3'	32043	01/27/97	01/31/97	01/31/97	
128165-006	TP-3 @ 3.5-4'	32318	01/27/97	02/11/97	02/11/97	
128165-007	TP-4 @ 5' SIDEWALL	32356	01/28/97	02/13/97	02/13/97	
128165-008	TP-4 @ 5'	32356	01/28/97	02/13/97	02/13/97	

Matrix: Soil

Analyte	Units	128165-005	128165-006	128165-007	128165-008
Diln Fac:		1	100	100	100
Gasoline	mg/Kg	43 H	640 YH	300 YH	260 YH
Surrogate					
Trifluorotoluene	%REC	86	85	84	83
Bromobenzene	%REC	83	94	112	109

Y: Sample exhibits fuel pattern which does not resemble standard

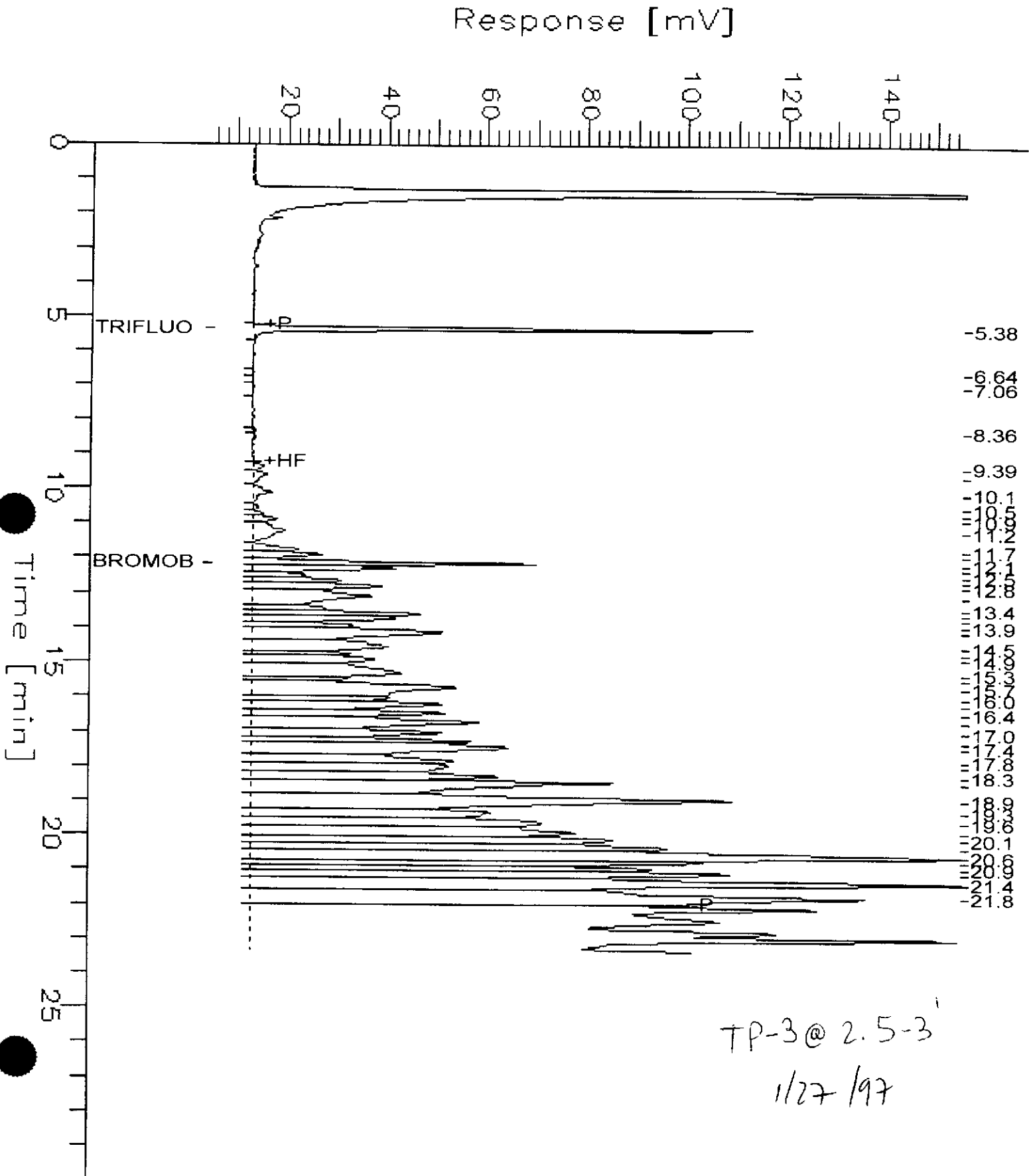
H: Heavier hydrocarbons than indicated standard

GC05 RTX1 TVH Chromatogram

Sample Name : S_128165-005_32043,
 FileName : G:\GC05\DATA\031H019.RAW
 Method :
 Start Time : 0.00 min
 Factor: -1.0

End Time : 30.00 min
 Plot Offset: 6 mV

Sample #: Page 1 of 1
 Date : 2/3/97 10:27 AM
 Time of Injection: 1/31/97 11:59 PM
 Low Point : 5.53 mV High Point : 155.53 mV
 Plot Scale: 150.0 mV

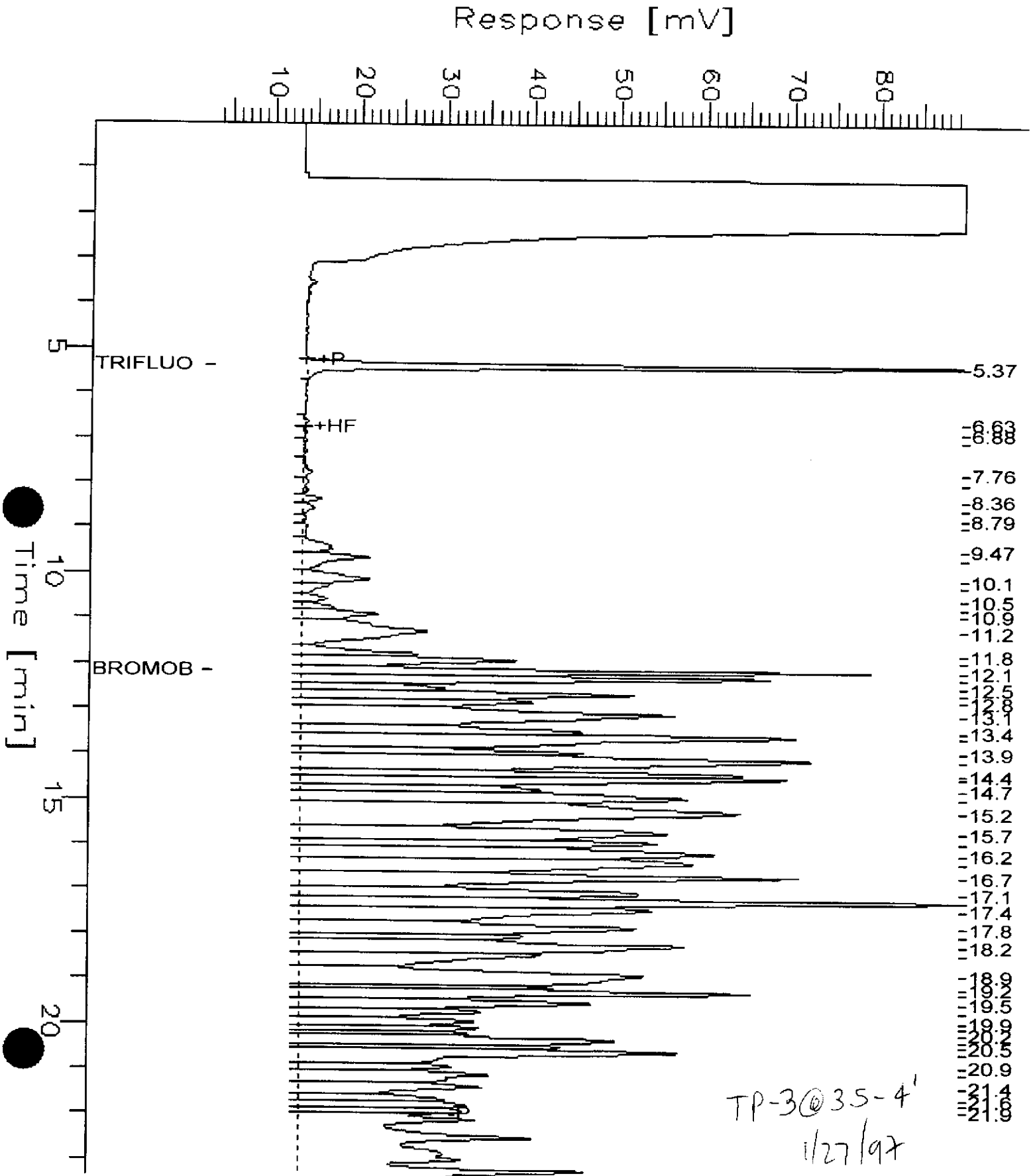


GC05 RTX1 TVH Chromatogram

Sample Name : D,128165-006,32318,100X,S
 FileName : G:\GC05\DATA\042H022.RAW
 Method :

Sample # :
 Date : 2/12/97 11:29 PM
 Time of Injection: 2/11/97 09:13 PM
 Low Point : 3.15 mV
 High Point : 89.79 mV
 Plot Scale: 86.6 mV

Start Time : 0.02 min
 Factor: 0.0
 End Time : 23.40 min
 Plot Offset: 3 mV

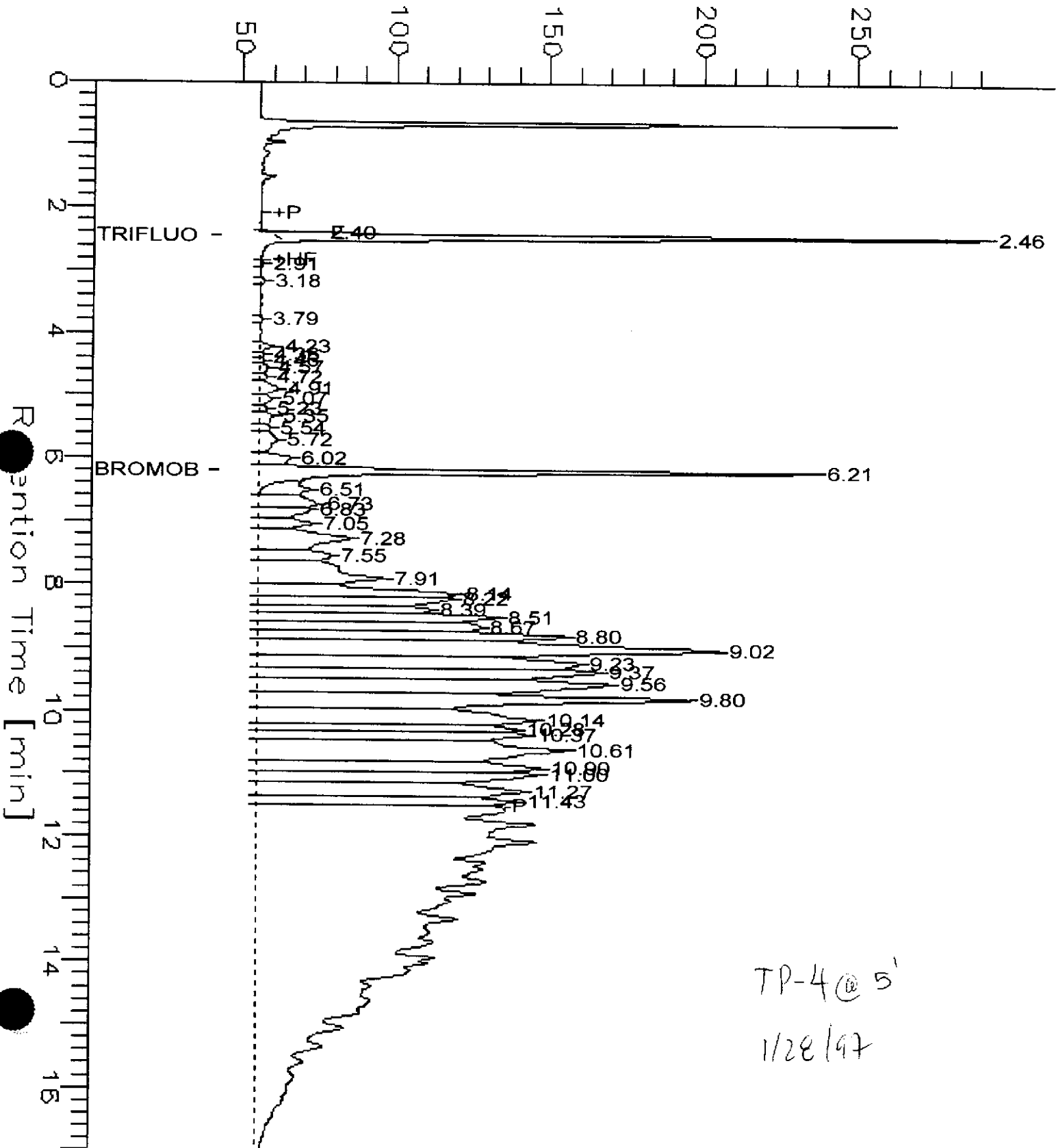


GC04 TVH 'J' File (Rtx1, FID)

Sample Name : D,128165-008,32356,100X,S
FileName : G:\GC04\DATA\043J023.RAW
Method :
Start Time : 0.00 min
Gain Factor: -1.0

Sample #: Page 1 of 1
Date : 2/13/97 06:53 PM
Time of Injection: 2/13/97 03:02 AM
Low Point : 43.06 mV
High Point : 293.06 mV
Plot Scale: 250.0 mV

Response [mV]



TP-4@5'
1/28/97

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128165-009	TP-5 @ 1.5'	32043	01/28/97	01/31/97	01/31/97	
128165-010	TP-5 @ 4'	32043	01/28/97	01/31/97	01/31/97	
128165-011	TP-6 @ 3'	32043	01/28/97	01/31/97	01/31/97	

Matrix: Soil

Analyte	Units	128165-009	128165-010	128165-011
Diln Fac:		1	1	1
Gasoline	mg/Kg	<1	<1	29 H
Surrogate				
Trifluorotoluene	%REC	88	93	87
Bromobenzene	%REC	80	86	76

H: Heavier hydrocarbons than indicated standard



Lab #: 128165

BATCH QC REPORT

Page 1 of 1

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 32043
Units: mg/Kg
Diln Fac: 1

Prep Date: 01/31/97
Analysis Date: 01/31/97

MB Lab ID: QC38863

Analyte	Result		
Gasoline	<1.0		
Surrogate	%Rec	Recovery Limits	
Trifluorotoluene	88	52-127	
Bromobenzene	82	45-140	



Lab #: 128165

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32318
Units: ug/L
Diln Fac: 1

Prep Date: 02/11/97
Analysis Date: 02/11/97

MB Lab ID: QC39883

Analyte	Result	
Gasoline	<1.0	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	87	52-127
Bromobenzene	75	45-140



Lab #: 128165

BATCH QC REPORT

Page 1 of 1

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 32356
Units: mg/Kg
Diln Fac: 1

Prep Date: 02/12/97
Analysis Date: 02/12/97

MB Lab ID: QC40027

Analyte	Result	
Gasoline	<1.0	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	82	52-127
Bromobenzene	95	45-140



Lab #: 128165

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
LABORATORY CONTROL SAMPLE	
Matrix: Soil	Prep Date: 01/31/97
Batch#: 32043	Analysis Date: 01/31/97
Units: mg/Kg	
Diln Fac: 1	

LCS Lab ID: QC38861

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	10.16	10	102	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	96	52-127		
Bromobenzene	96	45-140		

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 #: 128165

BATCH QC REPORT

Page 1 of 1

TVH-Total Volatile Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
LABORATORY CONTROL SAMPLE			
Matrix:	Water	Prep Date:	02/11/97
Batch#:	32318	Analysis Date:	02/11/97
Units:	ug/L		
Diln Fac:	1		

LCS Lab ID: QC39881

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	1964	2000	98	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	94	52-127		
Bromobenzene	88	45-140		

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 #: 128165

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
LABORATORY CONTROL SAMPLE			
Matrix:	Soil	Prep Date:	02/12/97
Batch#:	32356	Analysis Date:	02/12/97
Units:	mg/Kg		
Diln Fac:	1		

LCS Lab ID: QC40025

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	9.56	10	96	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	90	52-127		
Bromobenzene	114	45-140		

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 #: 128165

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/29/97
Lab ID: 128179-003	Received Date: 01/30/97
Matrix: Water	Prep Date: 02/11/97
Batch#: 32318	Analysis Date: 02/11/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC39884

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	236.4	3253	106	65-135
Surrogate	%Rec	Limits			
Trifluorotoluene	80	52-127			
Bromobenzene	119	45-140			

MSD Lab ID: QC39885

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2427	110	65-135	3	30
Surrogate	%Rec	Limits				
Trifluorotoluene	81	52-127				
Bromobenzene	121	45-140				

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



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128165-001	TP-1 @ 4'	32309	01/27/97	02/10/97	02/16/97	
128165-002	TP-1 @ 5'	32309	01/27/97	02/10/97	02/13/97	
128165-003	TP-2 @ 6'	32309	01/27/97	02/10/97	02/13/97	
128165-004	TP-2 @ 10'	32309	01/27/97	02/10/97	02/16/97	

Matrix: Soil

Analyte	Units	128165-001	128165-002	128165-003	128165-004
Diln Fac:		3	1	5	10
Diesel C12-C22	mg/Kg	15 YH	1.2YH	390 H	3200 H
Motor Oil C22-C50	mg/Kg	380 Y	22 YH	450 YH	1400 Y
Surrogate					
Hexacosane	%REC	105	83	105	DO

DO: Surrogate diluted out

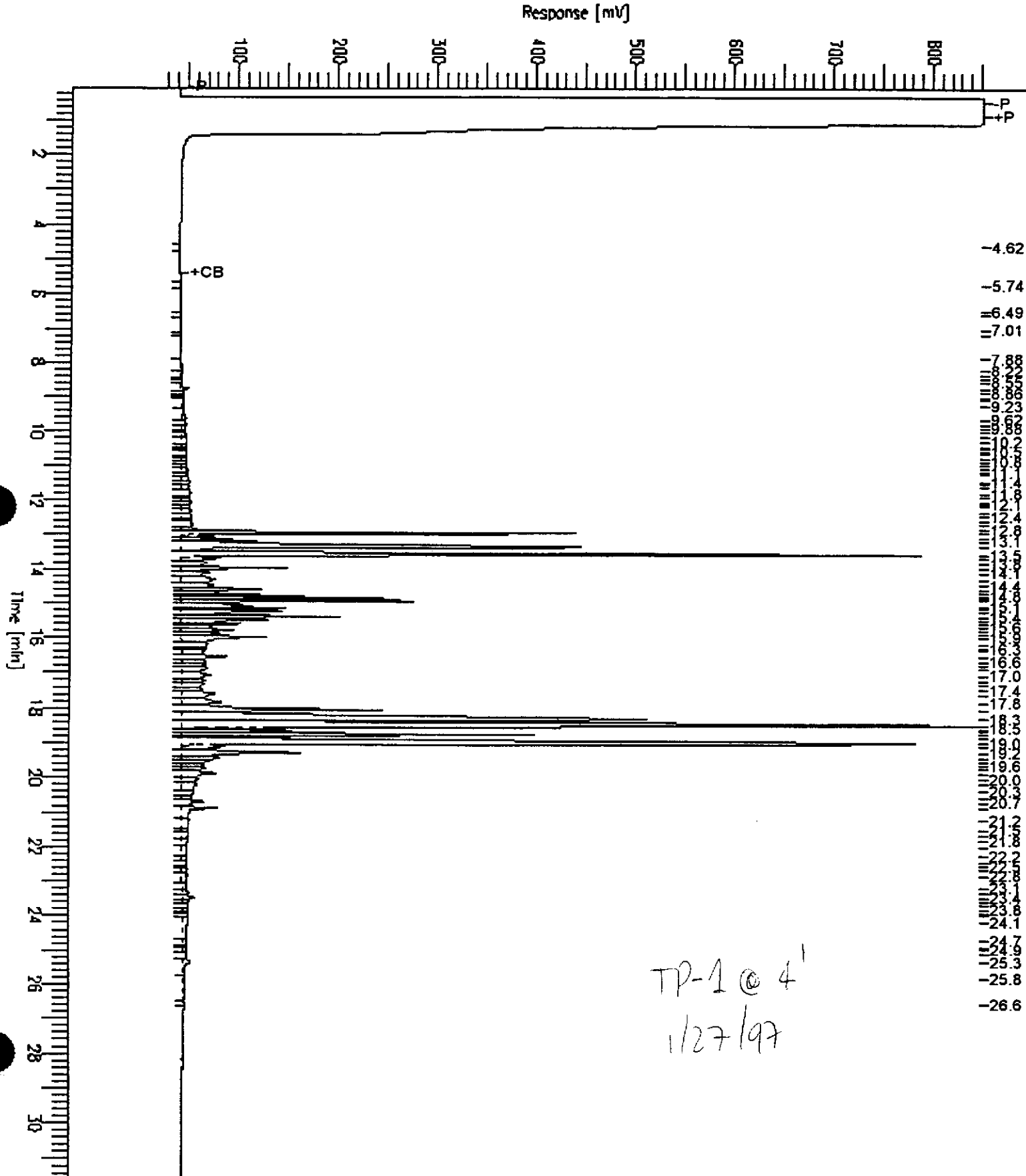
Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

GC15 Channel B TEH

Sample Name : 128165-001,32309
 FileName : G:\GC15\CHB\045_033.RAW
 Method : B038TEH.MTH
 Start Time : 0.07 min
 Inlet Factor: 0.0

Sample #: 32309
 Date : 2/17/97 01:34 PM
 Time of Injection: 2/16/97 03:25 PM
 Low Point : 25.51 mV
 Plot Scale: 826.2 mV
 End Time : 31.56 min
 Plot Offset: 26 mV
 High Point : 851.76 mV



GC15 Channel B TEH

Sample Name : 128165-002,32309

FileName : G:\GC15\CHB\042B060.RAW

Method : B038TEH.MTH

rt Time : 0.01 min

Gain Factor: 0.0

End Time : 31.91 min

Plot Offset: -11 mV

Sample #: 32309

Date : 2/20/97 11:54 AM

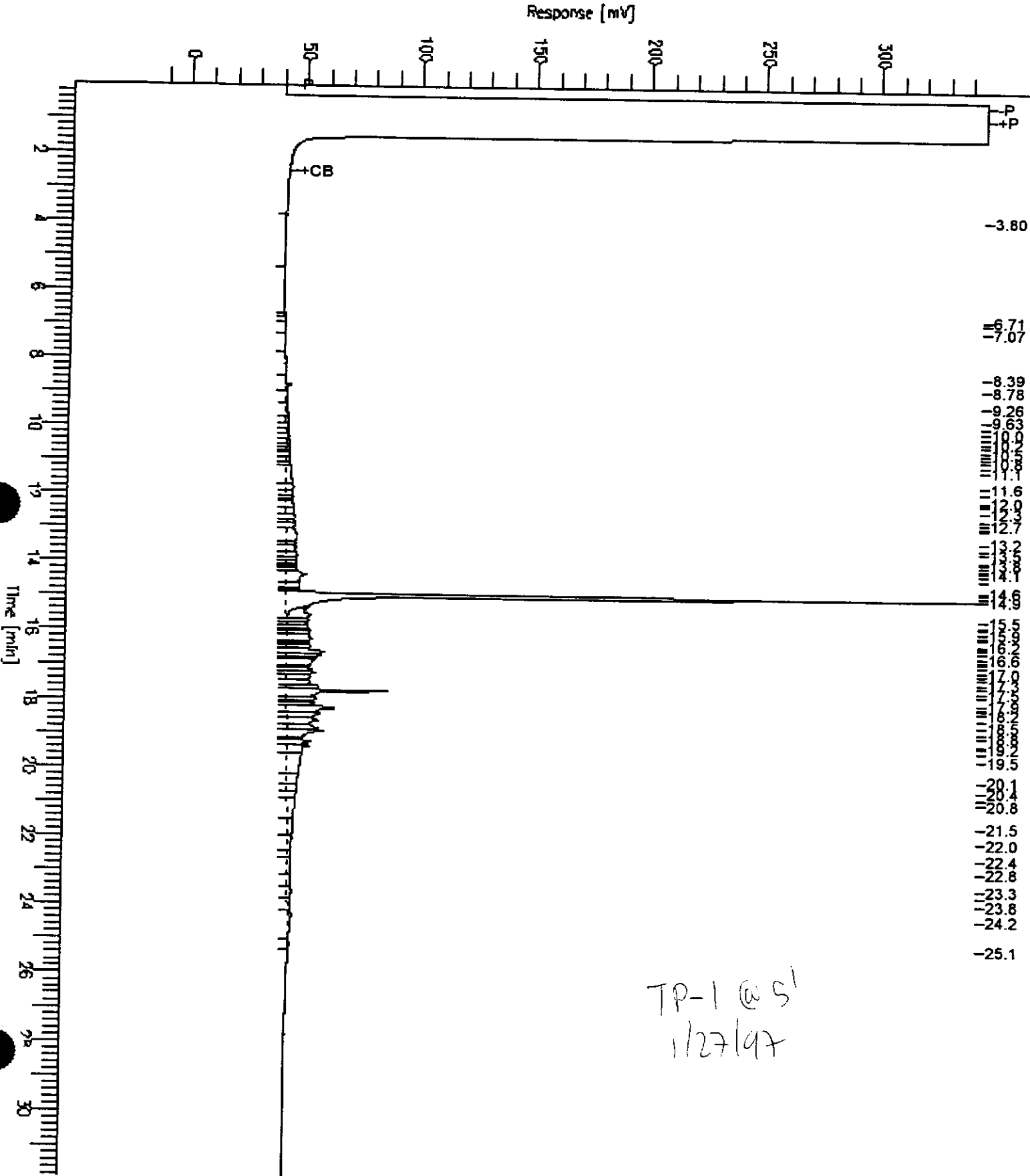
Time of Injection: 2/13/97 01:28 PM

Low Point : -11.34 mV

Plot Scale: 357.4 mV

Page 1 of 1

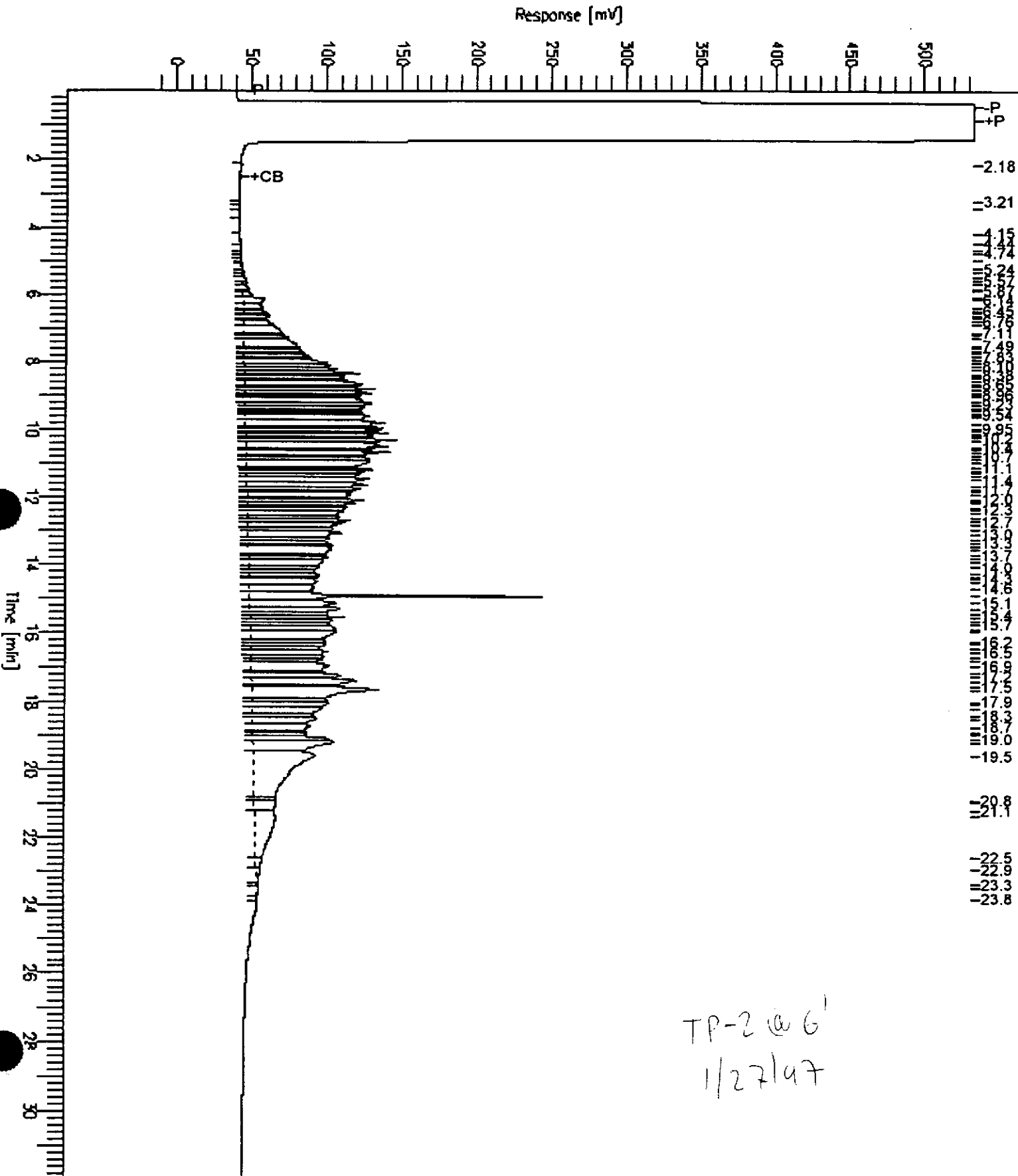
High Point : 346.02 mV



GC15 Channel B TEH

Sample Name : 128165-003,32309
 FileName : G:\GC15\CHB\042B061.RAW
 Method : B038TEH.MTH
 Start Time : 0.01 min
 Scale Factor: 0.0

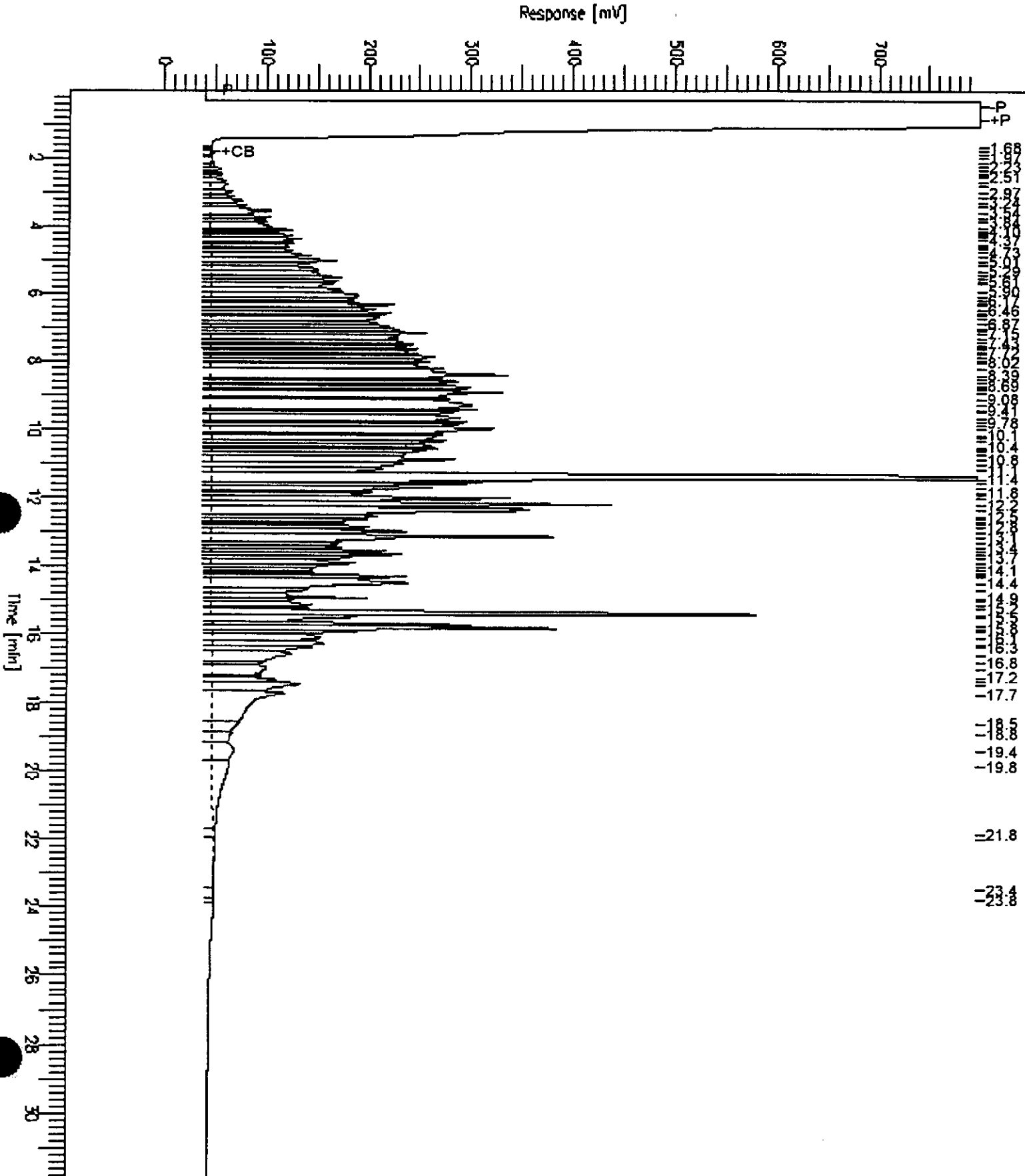
Sample #: 32309
 Date : 2/20/97 11:55 AM
 Time of Injection: 2/13/97 02:11 PM
 Low Point : -11.37 mV
 High Point : 533.74 mV
 End Time : 31.91 min
 Plot Offset: -11 mV
 Plot Scale: 545.1 mV



GC15 Channel B TEH

Sample Name : 128165-004, 32309
FileName : G:\GC15\CHB\045_034.RAW
Method : B038TEH.MTH
Start Time : 0.01 min
Gain Factor : 0.0

Sample #: 32309
Date : 2/17/97 01:35 PM
Time of Injection: 2/16/97 04:08 PM
Low Point : -1.87 mV
High Point : 799.53 mV
End Time : 31.91 min
Plot Offset: -2 mV
Plot Scale: 801.4 mV





TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128165-005	TP-3 @ 2.5-3'	32309	01/27/97	02/10/97	02/16/97	
128165-006	TP-3 @ 3.5-4'	32309	01/27/97	02/10/97	02/16/97	
128165-007	TP-4 @ 5'SIDEWALL	32309	01/28/97	02/10/97	02/16/97	
128165-008	TP-4 @ 5'	32309	01/28/97	02/10/97	02/14/97	

Matrix: Soil

Analyte	Units	128165-005	128165-006	128165-007	128165-008
Diln Fac:		50	50	20	50
Diesel C12-C22	mg/Kg	6700	4900 L	5000 L	3600 L
Motor Oil C22-C50	mg/Kg	680 YL	210 YL	400 YL	1800 YLH
Surrogate					
Hexacosane	%REC	DO	DO	DO	DO

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

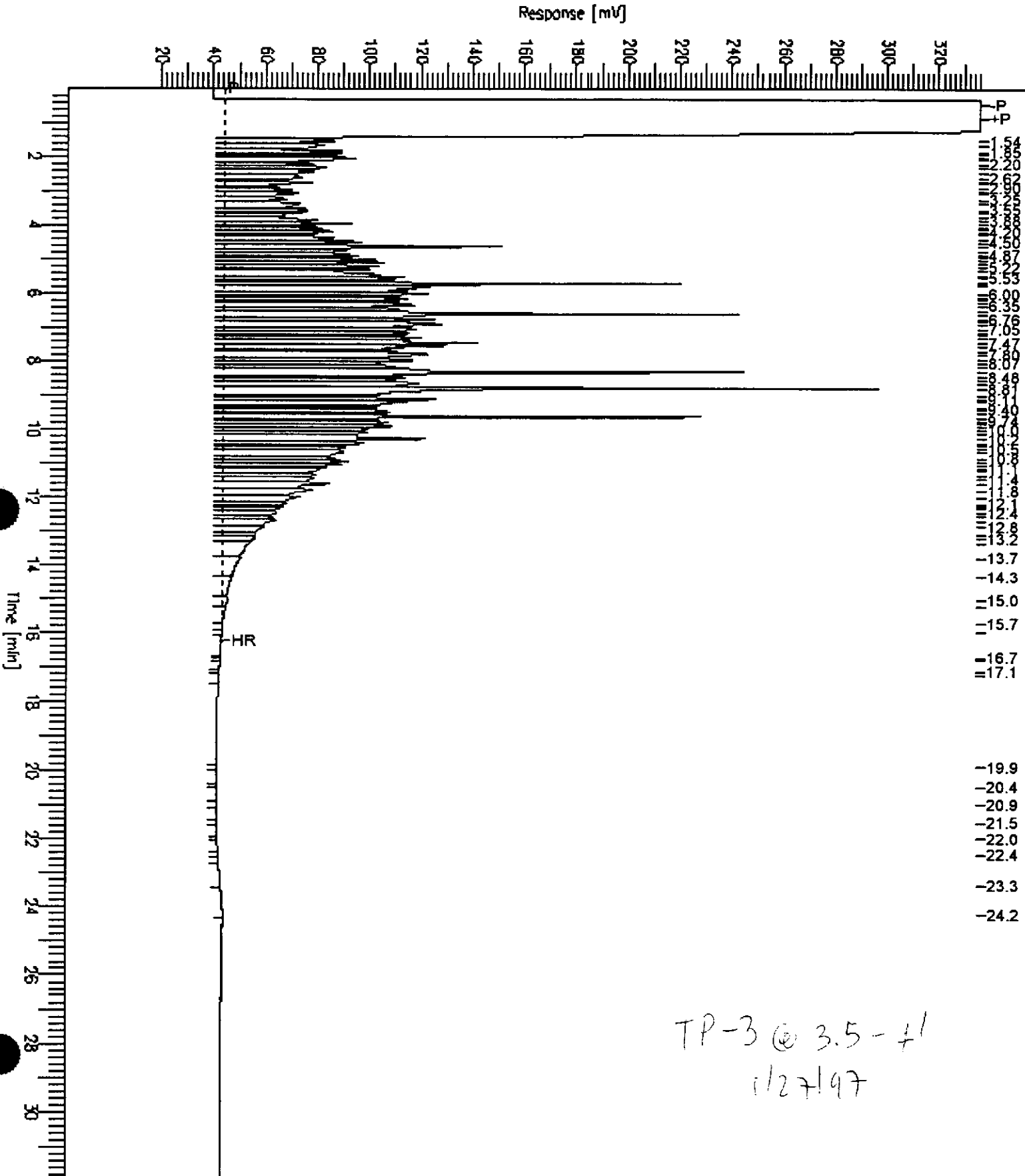
L: Lighter hydrocarbons than indicated standard

GC15 Channel B TEH

Sample Name : 128165-006, 32309
FileName : G:\GC15\CHB\045_036.RAW
Method : B038TEH.MTH
Start Time : 0.01 min
File Factor: 0.0

End Time : 31.91 min
Plot Offset: 20 mV

Sample #: 32309
Date : 2/17/97 01:38 PM
Time of Injection: 2/16/97 05:34 PM
Low Point : 19.86 mV
High Point : 336.23 mV
Plot Scale: 316.4 mV



GC15 Channel B TEH

Sample Name : 128165-007, 32309

Sample #: 32309

Page 1 of 1

FileName : G:\GC15\CHB\045_042.RAW

Date : 2/20/97 11:30 AM

Method : B038TEH.MTH

Time of Injection: 2/16/97 09:52 PM

Start Time : 0.00 min

End Time : 31.90 min

Low Point : -13.29 mV

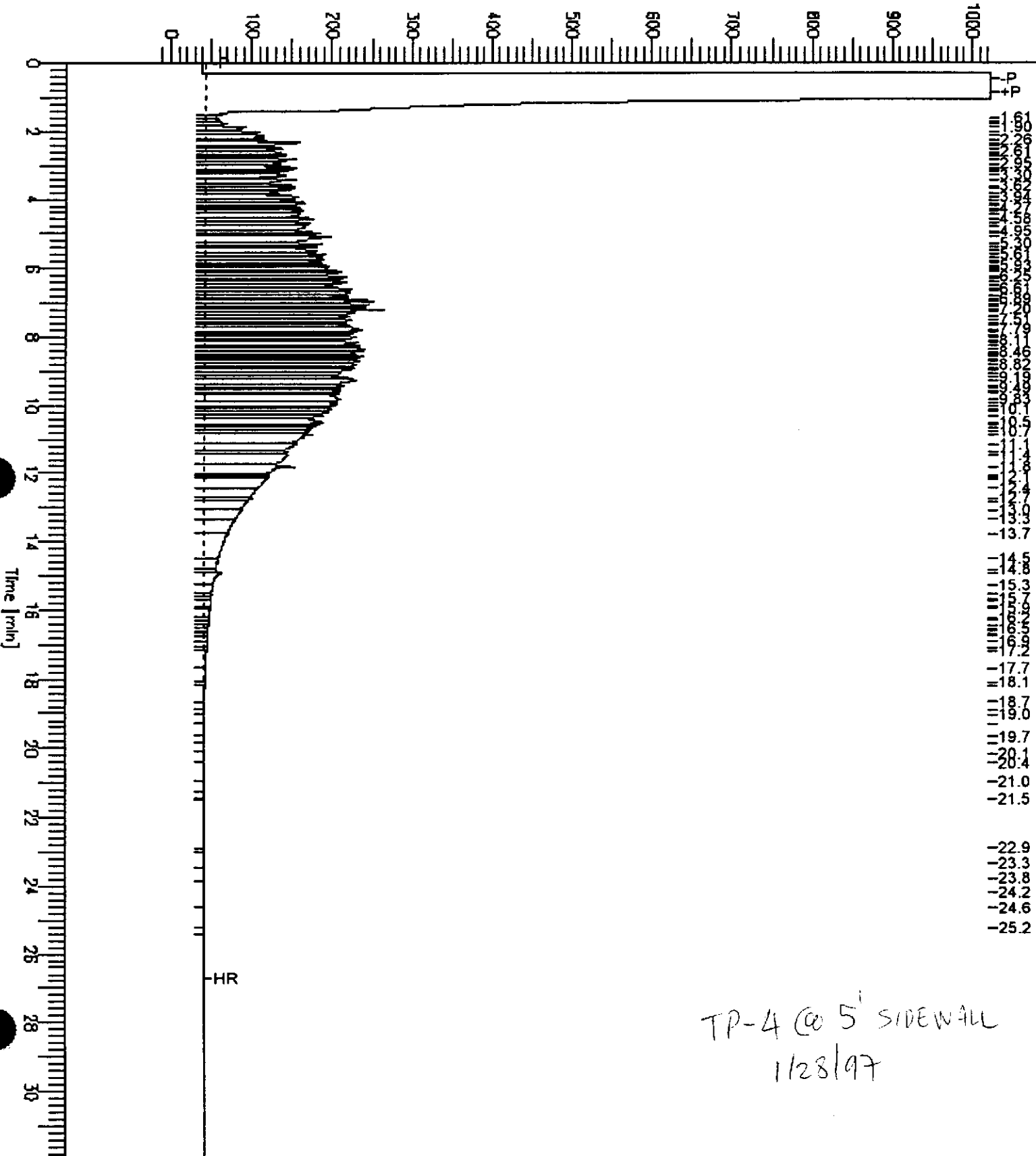
High Point : 1024.00 mV

File Factor: 0.0

Plot Offset: -13 mV

Plot Scale: 1037.3 mV

Response [mV]



TP-4 @ 5' SIDEWALL
1/28/97

GC15 Channel B TEH

Sample Name : 128165-008,32309

FileName : G:\GC15\CHB\042B083.RAW

Method : B051TEH.MTH

Start Time : 0.01 min

Gain Factor : 0.0

Sample #: 32309

Date : 2/20/97 12:20 PM

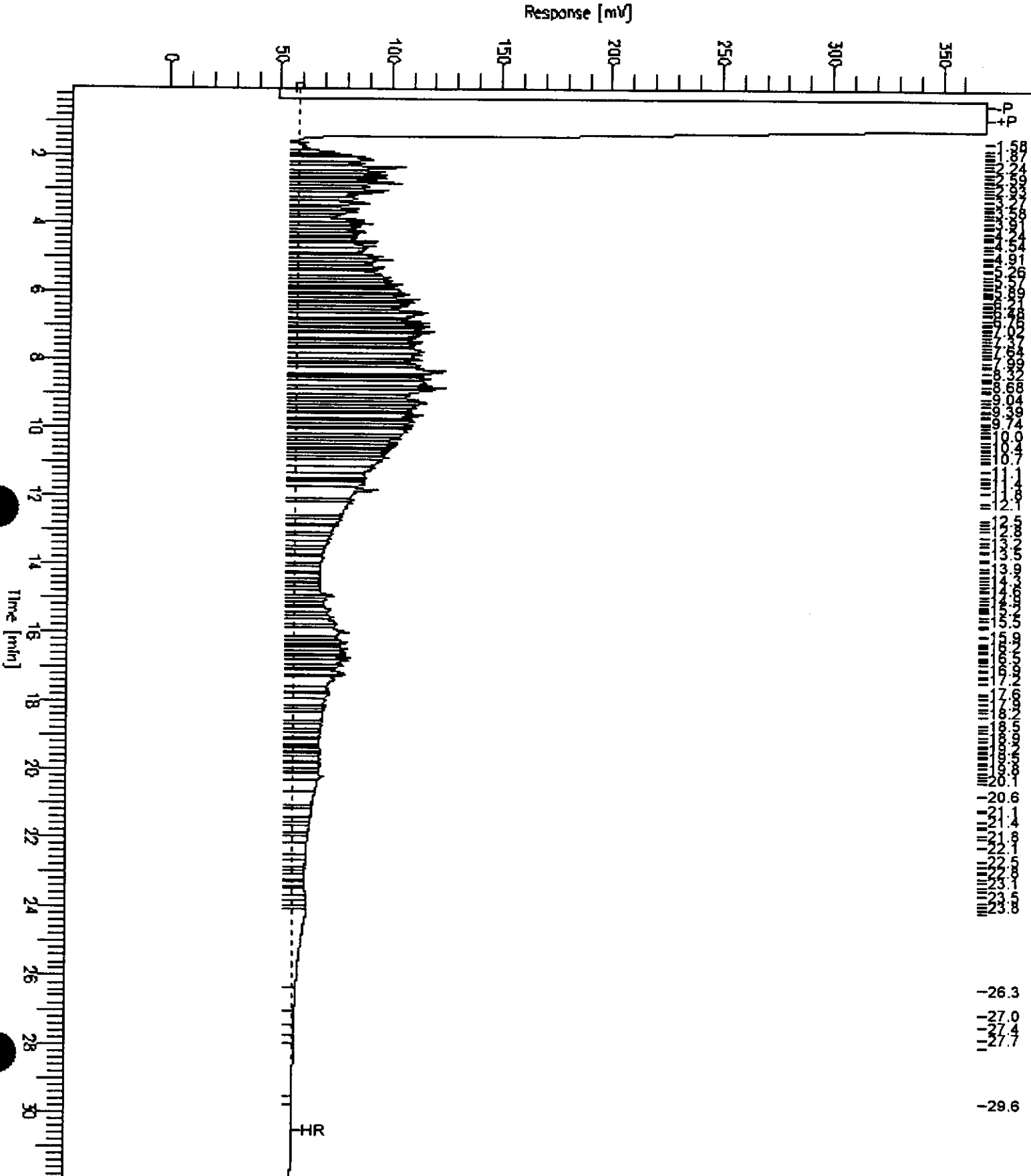
Time of Injection: 2/14/97 04:41 AM

Low Point : -2.48 mV

Plot Scale: 372.4 mV

Page 1 of 1

High Point : 369.88 mV





TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128165-009	TP-5 @ 1.5'	32309	01/28/97	02/10/97	02/13/97	
128165-010	TP-5 @ 4'	32309	01/28/97	02/10/97	02/13/97	
128165-011	TP-6 @ 3'	32390	01/28/97	02/13/97	02/17/97	

Matrix: Soil

Analyte	Units	128165-009	128165-010	128165-011
Diln Fac:		50	1	50
Diesel C12-C22	mg/Kg	2800 YH	5.7YH	12000 YH
Motor Oil C22-C50	mg/Kg	14000 LH	59 YH	7700 L
Surrogate				
Hexacosane	%REC	DO	86	DO

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

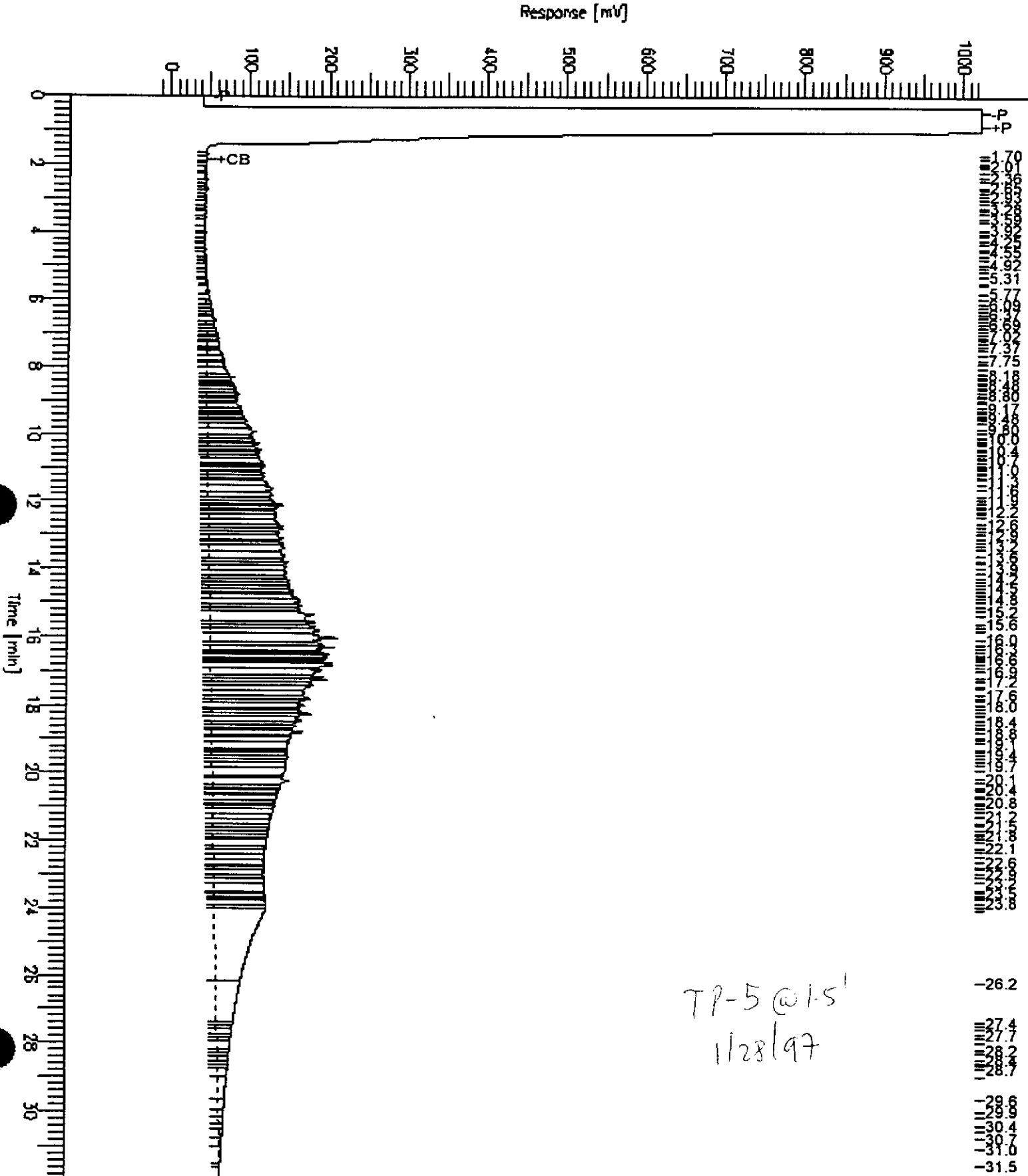
H: Heavier hydrocarbons than indicated standard

L: Lighter hydrocarbons than indicated standard

GC15 Channel B TEH

Sample Name : 128165-009,32309
 FileName : G:\GC15\CHB\042B067.RAW
 Method : B051TEH.MTH
 Start Time : 0.00 min
 Scale Factor : 0.0

Sample #: 32309
 Date : 2/20/97 12:22 PM
 Time of Injection: 2/13/97 05:56 PM
 Low Point : -11.02 mV
 Plot Scale: 1035.0 mV
 High Point : 1024.00 mV
 End Time : 31.90 min
 Plot Offset: -11 mV



TP-5 @ 1.5'
 1/28/97

-26.2
 27.4
 27.7
 28.2
 28.4
 28.6
 28.8
 29.0
 29.2
 29.4
 29.6
 29.8
 30.0
 30.2
 30.4
 30.6
 30.8
 31.0
 31.2
 31.4
 31.5

GC15 Channel B TEH

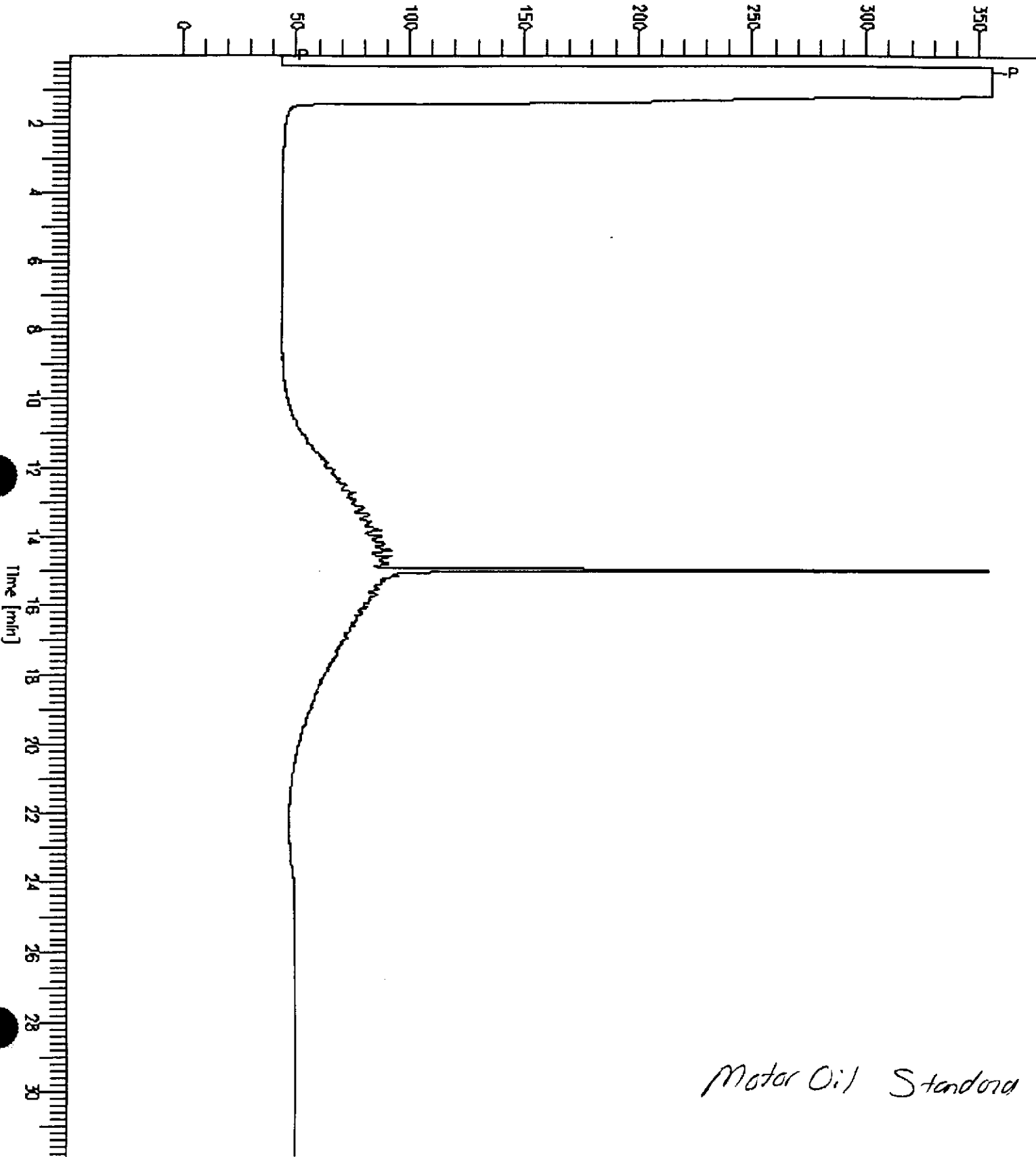
Sample Name : CCV,97WS3691,MO
FileName : G:\GC15\CHB\045_014.RAW
Method : B038TEH.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: -8 mV

Sample #: 500MG/L
Date : 2/18/97 02:26 PM
Time of Injection: 2/14/97 09:46 PM
Low Point : -8.21 mV
High Point : 356.16 mV
Plot Scale: 364.4 mV

Page 1 of 1

Response [mV]



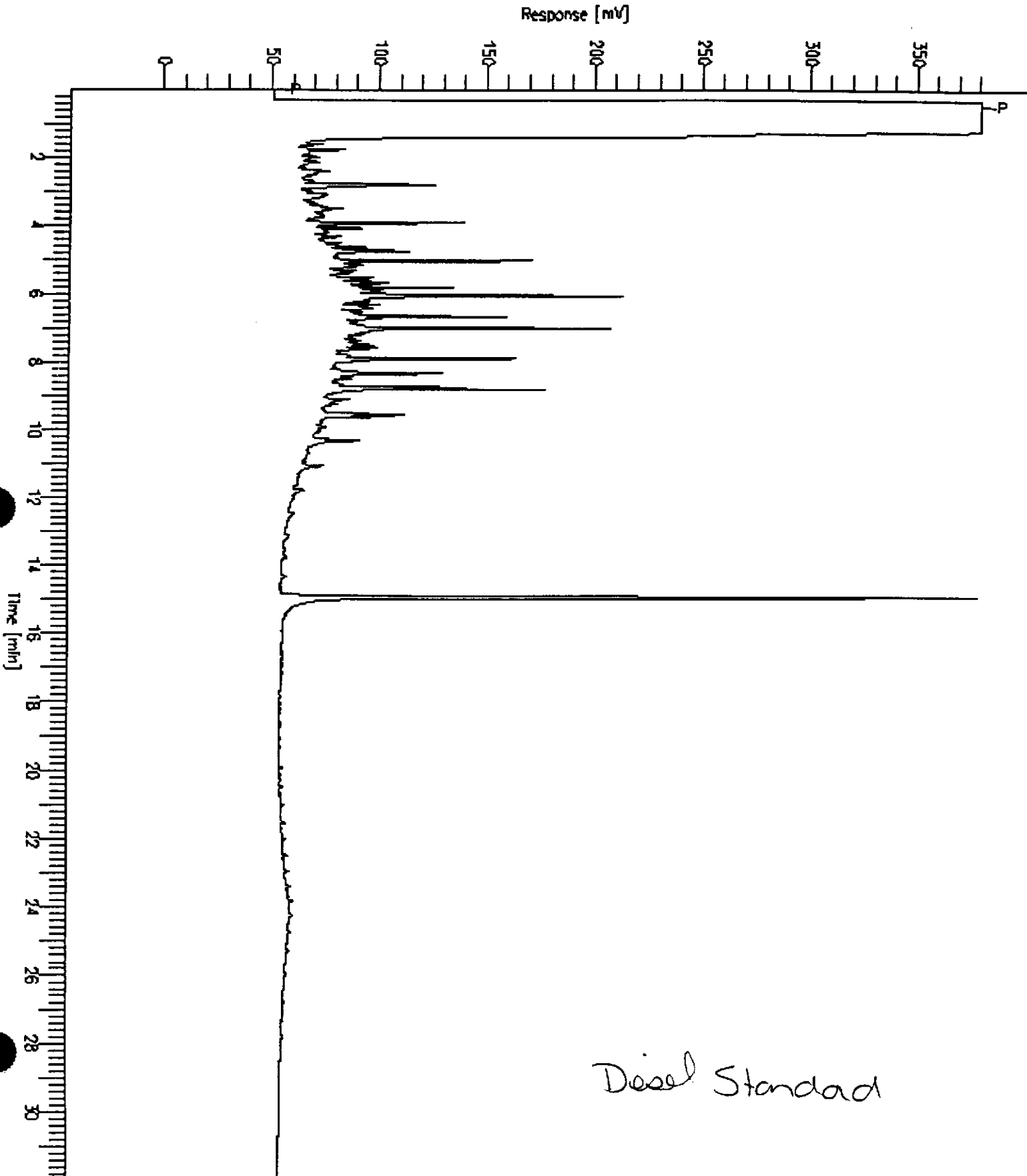
Motor Oil Standard

GC15 Channel B TEH

Sample Name : CCV, 97WS3659, DS
FileName : G:\GC15\CHB\045_026.RAW
Method : B038TEH.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: -0 mV

Sample #: 500MG/L
Date : 2/18/97 02:27 PM
Time of Injection: 2/16/97 10:24 AM
Low Point : -0.18 mV
Plot Scale: 380.7 mV
High Point : 380.50 mV





Lab #: 128165

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: CA LUFT
Location: KOT	

METHOD BLANK

Matrix: Soil	Prep Date: 02/10/97
Batch#: 32309	Analysis Date: 02/14/97
Units: mg/Kg	
Diln Fac: 1	

MB Lab ID: QC39851

Analyte	Result	
Diesel C12-C22	<1.0	
Motor Oil C22-C50	<5.0	
Surrogate	%Rec	Recovery Limits
Hexacosane	102	60-140



Lab #: 128165

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: CA LUFT

METHOD BLANK

Matrix: Soil
Batch#: 32390
Units: mg/Kg
Diln Fac: 1

Prep Date: 02/13/97
Analysis Date: 02/13/97

MB Lab ID: QC40155

Analyte	Result	
Diesel C12-C22	<1.0	
Motor Oil C22-C50	<5.0	
Surrogate	%Rec	Recovery Limits
Hexacosane	115	60-140



Lab #: 128165

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 133.005	Prep Method: CA LUFT
Location: KOT	
LABORATORY CONTROL SAMPLE	
Matrix: Soil	Prep Date: 02/10/97
Batch#: 32309	Analysis Date: 02/14/97
Units: mg/Kg	
Diln Fac: 1	

LCS Lab ID: QC39852

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C12-C22	43.8	49.5	89	60-140
Surrogate	%Rec	Limits		
Hexacosane	102	60-140		

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 #: 128165

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: CA LUFT

LABORATORY CONTROL SAMPLE

Matrix: Soil
 Batch#: 32390
 Units: mg/Kg
 Diln Fac: 1

Prep Date: 02/13/97
 Analysis Date: 02/13/97

LCS Lab ID: QC40156

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C12-C22	38.5	49.5	78	60-140
Surrogate	%Rec	Limits		
Hexacosane	125	60-140		

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

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128165-001	TP-1 @ 4'	32043	01/27/97	01/31/97	01/31/97	
128165-002	TP-1 @ 5'	32043	01/27/97	01/31/97	01/31/97	
128165-003	TP-2 @ 6'	32043	01/27/97	01/31/97	01/31/97	
128165-004	TP-2 @ 10'	32043	01/27/97	01/31/97	01/31/97	

Matrix: Soil

Analyte	Units	128165-001	128165-002	128165-003	128165-004
Diln Fac:		1	1	1	1
Benzene	ug/Kg	<5	<5	<5	<5
Toluene	ug/Kg	<5	<5	<5	<5
Ethylbenzene	ug/Kg	<5	<5	<5	<5
m,p-Xylenes	ug/Kg	<5	<5	<5	<5
o-Xylene	ug/Kg	<5	<5	<5	<5
Surrogate					
Trifluorotoluene	%REC	92	93	92	86
Bromobenzene	%REC	88	90	88	84

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128165-005	TP-3 @ 2.5-3'	32043	01/27/97	01/31/97	01/31/97	
128165-006	TP-3 @ 3.5-4'	32318	01/27/97	02/11/97	02/11/97	
128165-007	TP-4 @ 5' SIDEWALL	32326	01/28/97	02/11/97	02/11/97	
128165-008	TP-4 @ 5'	32326	01/28/97	02/11/97	02/11/97	

Matrix: Soil

Analyte	Units	128165-005	128165-006	128165-007	128165-008
Diln Fac:		1	100	1	1
Benzene	ug/Kg	<5	<500	<5	<5
Toluene	ug/Kg	<5	<500	<5	<5
Ethylbenzene	ug/Kg	<5	<500	<5	<5
m,p-Xylenes	ug/Kg	<5	<500	<5	<5
o-Xylene	ug/Kg	<5	660	<5	<5
Surrogate					
Trifluorotoluene	%REC	83	89	99	97
Bromobenzene	%REC	99	91	130	126



BTXE

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8020
 Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128165-009	TP-5 @ 1.5'	32043	01/28/97	01/31/97	01/31/97	
128165-010	TP-5 @ 4'	32043	01/28/97	01/31/97	01/31/97	
128165-011	TP-6 @ 3'	32043	01/28/97	01/31/97	01/31/97	

Matrix: Soil

Analyte	Units	128165-009	128165-010	128165-011
Diln Fac:		1	1	1
Benzene	ug/Kg	<5	<5	<5
Toluene	ug/Kg	<5	<5	<5
Ethylbenzene	ug/Kg	<5	<5	<5
m,p-Xylenes	ug/Kg	<5	<5	<5
o-Xylene	ug/Kg	<5	<5	<5
Surrogate				
Trifluorotoluene	%REC	88	94	87
Bromobenzene	%REC	84	92	82



Lab #: 128165

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 32043
Units: ug/Kg
Diln Fac: 1

Prep Date: 01/31/97
Analysis Date: 01/31/97

MB Lab ID: QC38863

Analyte	Result		
Benzene	<5.0		
Toluene	<5.0		
Ethylbenzene	<5.0		
m,p-Xylenes	<5.0		
o-Xylene	<5.0		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	89		52-127
Bromobenzene	86		45-140



Lab #: 128165

BATCH QC REPORT

Page 1 of 1

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32318
Units: ug/L
Diln Fac: 1

Prep Date: 02/11/97
Analysis Date: 02/11/97

MB Lab ID: QC39883

Analyte	Result		
Benzene	<5.0		
Toluene	<5.0		
Ethylbenzene	<5.0		
m,p-Xylenes	<5.0		
o-Xylene	<5.0		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	85		52-127
Bromobenzene	79		45-140

Lab #: 128165

BATCH QC REPORT

Page 1 of 1

BTXE			
Client:	Subsurface Consultants	Analysis Method:	EPA 8020
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
METHOD BLANK			
Matrix:	Soil	Prep Date:	02/11/97
Batch#:	32326	Analysis Date:	02/11/97
Units:	ug/Kg		
Diln Fac:	1		

MB Lab ID: QC39912

Analyte	Result		
Benzene	<5.0		
Toluene	<5.0		
Ethylbenzene	<5.0		
m,p-Xylenes	<5.0		
o-Xylene	<5.0		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	100		52-127
Bromobenzene	123		45-140

Lab #: 128165

BATCH QC REPORT

Page 1 of 1

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Soil	Prep Date: 02/11/97		
Batch#: 32326	Analysis Date: 02/11/97		
Units: ug/Kg			
Diln Fac: 1			

LCS Lab ID: QC39911

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	101.5	100	101	80-120
Toluene	109.8	100	110	80-120
Ethylbenzene	108.9	100	109	80-120
m,p-Xylenes	214.5	200	107	80-120
o-Xylene	110	100	110	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	104	52-127		
Bromobenzene	130	45-140		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



Lab #: 128165

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 02/11/97		
Batch#: 32318	Analysis Date: 02/11/97		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC39882

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	17.57	20	88	80-120
Toluene	18.18	20	91	80-120
Ethylbenzene	17.77	20	89	80-120
m,p-Xylenes	35.68	40	89	80-120
o-Xylene	18.04	20	90	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	88	52-127		
Bromobenzene	83	45-140		

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

Lab #: 128165

BATCH QC REPORT

Page 1 of 1

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Soil	Prep Date: 01/31/97		
Batch#: 32043	Analysis Date: 01/31/97		
Units: ug/Kg			
Diln Fac: 1			

LCS Lab ID: QC38862

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	89.84	100	90	80-120
Toluene	93.75	100	94	80-120
Ethylbenzene	92.71	100	93	80-120
m,p-Xylenes	184	200	92	80-120
o-Xylene	94.05	100	94	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	94	52-127		
Bromobenzene	93	45-140		

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

Lab #: 128165

BATCH QC REPORT

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/29/97
Lab ID: 128161-003	Received Date: 01/29/97
Matrix: Soil	Prep Date: 01/31/97
Batch#: 32043	Analysis Date: 01/31/97
Units: ug/Kg dry weight	Moisture: 52%
Diln Fac: 1	

MS Lab ID: QC39285

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Benzene	208.3	<10.42	183.1	88	75-125
Toluene	208.3	<10.42	191.1	92	75-125
Ethylbenzene	208.3	<10.42	157.6	76	75-125
m,p-Xylenes	416.7	<10.42	323.4	78	75-125
o-Xylene	208.3	<10.42	173.1	83	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	101	52-127			
Bromobenzene	106	45-140			

MSD Lab ID: QC39286

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Benzene	208.3	181.7	87	75-125	1	20
Toluene	208.3	181.9	87	75-125	5	20
Ethylbenzene	208.3	156.7	75	75-125	1	20
m,p-Xylenes	416.7	324	78	75-125	0	20
o-Xylene	208.3	170.6	82	75-125	1	20
Surrogate	%Rec	Limits				
Trifluorotoluene	101	52-127				
Bromobenzene	108	45-140				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

Volatile Organics by GC/MS

Client: Subsurface Consultants Analysis Method: EPA 8260
 Project#: 133.005 Prep Method: EPA 5030
 Location: KOT

Field ID: TP-6 @ 3' Sampled: 01/28/97
 Lab ID: 128165-011 Received: 01/29/97
 Matrix: Soil Extracted: 02/05/97
 Batch#: 32203 Analyzed: 02/05/97
 Units: ug/Kg
 Diln Fac: 1

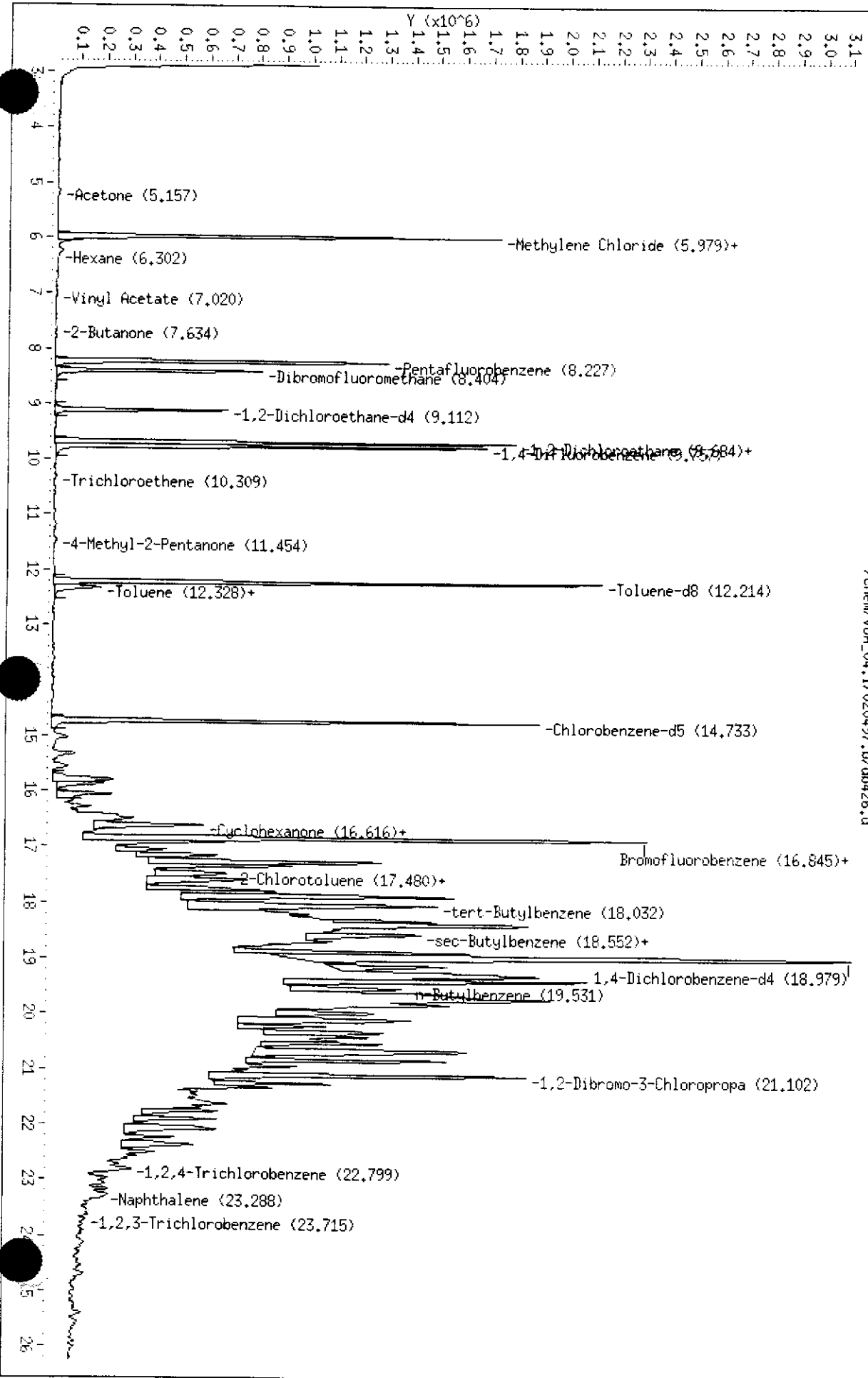
Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	95	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	95	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	127*	79-122

* Values outside of QC limits

Data File: /chem/V09_04.1/020497.b/db426.d
Date: 05-FEB-97 00:35
Client ID: DVM4 P&T
Sample Info: S.128165-011
Purge Volume: 5.0
Column phase: RTX Volatiles

Instrument: V09_04.1
Operator: LLH
Column diameter: 0.32

/chem/V09_04.1/020497.b/db426.d





Lab #: 128165

BATCH QC REPORT

EPA 8240 Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
METHOD BLANK		
Matrix: Soil	Prep Date: 02/04/97	
Batch#: 32203	Analysis Date: 02/04/97	
Units: ug/Kg		
Diln Fac: 1		

MB Lab ID: QC39459

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	97	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	90	79-122



Lab #: 128165

BATCH QC REPORT

EPA 8240 Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8260	
Project#: 133.005	Prep Method: EPA 5030	
Location: KOT		
METHOD BLANK		
Matrix: Soil	Prep Date:	02/04/97
Batch#: 32203	Analysis Date:	02/04/97
Units: ug/Kg		
Diln Fac: 1		

MB Lab ID: QC39495

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	93	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	91	79-122



Lab #: 128165

BATCH QC REPORT

EPA 8240 Volatile Organics			
Client: Subsurface Consultants	Analysis Method: EPA 8260		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Soil	Prep Date: 02/04/97		
Batch#: 32203	Analysis Date: 02/04/97		
Units: ug/Kg			
Diln Fac: 1			

LCS Lab ID: QC39458

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	51.96	50	104	51-180
Trichloroethene	48.95	50	98	73-141
Benzene	47.62	50	95	78-142
Toluene	47.96	50	96	76-150
Chlorobenzene	52.62	50	105	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	94	68-126		
Toluene-d8	98	87-125		
Bromofluorobenzene	89	79-122		

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



Lab #: 128165

BATCH QC REPORT

EPA 8240 Volatile Organics			
Client: Subsurface Consultants	Analysis Method: EPA 8260		
Project#: 133.005	Prep Method: EPA 5030		
Location: KOT			
MATRIX SPIKE/MATRIX SPIKE DUPLICATE			
Field ID: ZZZZZZ	Sample Date: 01/30/97		
Lab ID: 128194-010	Received Date: 01/31/97		
Matrix: Soil	Prep Date: 02/04/97		
Batch#: 32203	Analysis Date: 02/04/97		
Units: ug/Kg			
Diln Fac: 1			

MS Lab ID: QC39486

Analyte	Spike Added	Sample	MS	%Rec #	Limits	
1,1-Dichloroethene	50	<5	49.54	99	51-180	
Trichloroethene	50	<5	49.31	97	73-141	
Benzene	50	<5	48.07	96	78-142	
Toluene	50	5.853	53.51	95	76-150	
Chlorobenzene	50	<5	51.92	104	83-129	
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	86	68-126				
Toluene-d8	98	87-125				
Bromofluorobenzene	91	79-122				

MSD Lab ID: QC39487

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	47.64	95	51-180	4	22
Trichloroethene	50	44.94	88	73-141	9	24
Benzene	50	45.04	89	78-142	7	21
Toluene	50	48.14	85	76-150	11	21
Chlorobenzene	50	45.77	92	83-129	13	21
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	88	68-126				
Toluene-d8	99	87-125				
Bromofluorobenzene	91	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Semivolatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8270
Prep Method: EPA 3550

Field ID: TP-6 @ 3'
Lab ID: 128165-011
Matrix: Soil
Batch#: 32202
Units: ug/Kg
Diln Fac: 10

Sampled: 01/28/97
Received: 01/29/97
Extracted: 02/04/97
Analyzed: 02/11/97

Analyte	Result	Reporting Limit
Phenol	ND	3300
2-Chlorophenol	ND	3300
Benzyl alcohol	ND	3300
2-Methylphenol	ND	3300
4-Methylphenol	ND	3300
2-Nitrophenol	ND	17000
2,4-Dimethylphenol	ND	3300
Benzoic acid	ND	17000
2,4-Dichlorophenol	ND	3300
4-Chloro-3-methylphenol	ND	3300
2,4,6-Trichlorophenol	ND	3300
2,4,5-Trichlorophenol	ND	17000
2,4-Dinitrophenol	ND	17000
4-Nitrophenol	ND	17000
4,6-Dinitro-2-methylphenol	ND	17000
Pentachlorophenol	ND	17000
N-Nitrosodimethylamine	ND	3300
Aniline	ND	3300
bis(2-Chloroethyl)ether	ND	3300
1,3-Dichlorobenzene	ND	3300
1,4-Dichlorobenzene	ND	3300
1,2-Dichlorobenzene	ND	3300
bis(2-Chloroisopropyl) ether	ND	3300
N-Nitroso-di-n-propylamine	ND	3300
Hexachloroethane	ND	3300
Nitrobenzene	ND	3300
Isophorone	ND	3300
bis(2-Chloroethoxy)methane	ND	3300
1,2,4-Trichlorobenzene	ND	3300
Naphthalene	ND	3300
4-Chloroaniline	ND	3300
Hexachlorobutadiene	ND	3300
2-Methylnaphthalene	ND	3300
Hexachlorocyclopentadiene	ND	3300
2-Chloronaphthalene	ND	3300
2-Nitroaniline	ND	17000
Dimethylphthalate	ND	3300
Acenaphthylene	ND	3300

Semivolatile Organics by GC/MS		
Field ID: TP-6 @ 3'	Sampled:	01/28/97
Lab ID: 128165-011	Received:	01/29/97
Matrix: Soil	Extracted:	02/04/97
Batch#: 32202	Analyzed:	02/11/97
Units: ug/Kg		
Diln Fac: 10		
Analyte	Result	Reporting Limit
2,6-Dinitrotoluene	ND	3300
3-Nitroaniline	ND	17000
Acenaphthene	ND	3300
Dibenzofuran	ND	3300
2,4-Dinitrotoluene	ND	3300
Diethylphthalate	ND	3300
4-Chlorophenyl-phenylether	ND	3300
Fluorene	ND	3300
4-Nitroaniline	ND	17000
N-Nitrosodiphenylamine	ND	3300
Azobenzene	ND	3300
4-Bromophenyl-phenylether	ND	3300
Hexachlorobenzene	ND	3300
Phenanthrene	ND	3300
Anthracene	ND	3300
Di-n-butylphthalate	ND	3300
Fluoranthene	ND	3300
Benzidine	ND	3300
Pyrene	ND	3300
Butylbenzylphthalate	ND	3300
3,3'-Dichlorobenzidine	ND	17000
Benzo(a)anthracene	ND	3300
Chrysene	ND	3300
bis(2-Ethylhexyl)phthalate	ND	3300
Di-n-octylphthalate	ND	3300
Benzo(b)fluoranthene	ND	3300
Benzo(k)fluoranthene	ND	3300
Benzo(a)pyrene	ND	3300
Indeno(1,2,3-cd)pyrene	ND	3300
Dibenz(a,h)anthracene	ND	3300
Benzo(g,h,i)perylene	ND	3300
Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	49	25-121
Phenol-d5	49	24-113
2,4,6-Tribromophenol	16*	19-122
Nitrobenzene-d5	51	23-120
2-Fluorobiphenyl	35	30-115
Terphenyl-d14	41	18-137

* Values outside of QC limits

Lab #: 128165

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics		
Client: Subsurface Consultants	Analysis Method: EPA 8270	
Project#: 133.005	Prep Method: EPA 3550	
Location: KOT		
METHOD BLANK		
Matrix: Soil	Prep Date: 02/04/97	
Batch#: 32202	Analysis Date: 02/05/97	
Units: ug/Kg		
Diln Fac: 1		

MB Lab ID: QC39453

Analyte	Result	Reporting Limit
Phenol	ND	330
2-Chlorophenol	ND	330
Benzyl alcohol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
2,4-Dichlorophenol	ND	330
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	1700
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
Pentachlorophenol	ND	1700
N-Nitrosodimethylamine	ND	330
Aniline	ND	330
bis(2-Chloroethyl)ether	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
bis(2-Chloroisopropyl) ether	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
bis(2-Chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700



Lab #: 128165

BATCH QC REPORT

Page 2 of 2

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
 Batch#: 32202
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 02/04/97
 Analysis Date: 02/05/97

MB Lab ID: QC39453

Analyte	Result	Reporting Limit
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330
Surrogate	%Rec	Recovery Limits
2-Fluorophenol	72	25-121
Phenol-d5	73	24-113
2,4,6-Tribromophenol	52	19-122
Nitrobenzene-d5	80	23-120
2-Fluorobiphenyl	71	30-115
Terphenyl-d14	70	18-137



Lab #: 128165

BATCH QC REPORT

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8270
 Prep Method: EPA 3550

LABORATORY CONTROL SAMPLE

Matrix: Soil
 Batch#: 32202
 Units: ug/Kg
 Diln Fac: 1

Prep Date: 02/04/97
 Analysis Date: 02/05/97

LCS Lab ID: QC39454

Analyte	Result	Spike Added	%Rec #	Limits
Phenol	2558	3333	77	26-90
2-Chlorophenol	2538	3333	76	25-102
4-Chloro-3-methylphenol	2458	3333	74	26-103
4-Nitrophenol	2233	3333	67	11-114
Pentachlorophenol	867.2	3333	26	17-109
1,4-Dichlorobenzene	1087	1667	65	28-104
N-Nitroso-di-n-propylamine	1082	1667	65	41-126
1,2,4-Trichlorobenzene	1026	1667	62	38-107
Acenaphthene	1027	1667	62	31-137
2,4-Dinitrotoluene	953.4	1667	57	28-89
Pyrene	1020	1667	61	35-142
Surrogate	%Rec	Limits		
2-Fluorophenol	71	25-121		
Phenol-d5	73	24-113		
2,4,6-Tribromophenol	54	19-122		
Nitrobenzene-d5	77	23-120		
2-Fluorobiphenyl	70	30-115		
Terphenyl-d14	68	18-137		

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

* Values outside of QC limits

Spike Recovery: 0 out of 11 outside limits

DO: Surrogate diluted out



Lab #: 128165

BATCH QC REPORT

Page 1 of 1

EPA 8270 Semi-Volatile Organics

Client: Subsurface Consultants	Analysis Method: EPA 8270
Project#: 133.005	Prep Method: EPA 3550
Location: KOT	

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ	Sample Date: 01/29/97
Lab ID: 128184-005	Received Date: 01/31/97
Matrix: Soil	Prep Date: 02/04/97
Batch#: 32202	Analysis Date: 02/07/97
Units: ug/Kg	
Diln Fac: 1	

MS Lab ID: QC39455

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Phenol	3333	<333.3	2388	72	26-90
2-Chlorophenol	3333	<333.3	2332	70	25-102
4-Chloro-3-methylphenol	3333	<333.3	2231	67	26-103
4-Nitrophenol	3333	<166.7	1904	57	11-114
Pentachlorophenol	3333	6769	17350	317 *	17-109
1,4-Dichlorobenzene	1667	<333.3	883.3	53	28-104
N-Nitroso-di-n-propylamine	1667	<333.3	1069	64	41-126
1,2,4-Trichlorobenzene	1667	<333.3	905.7	54	38-107
Acenaphthene	1667	<333.3	975.7	59	31-137
2,4-Dinitrotoluene	1667	<333.3	970.5	58	28-89
Pyrene	1667	<333.3	1094	66	35-142
Surrogate	%Rec	Limits			
2-Fluorophenol	70	25-121			
Phenol-d5	75	24-113			
2,4,6-Tribromophenol	53	19-122			
Nitrobenzene-d5	80	23-120			
2-Fluorobiphenyl	72	30-115			
Terphenyl-d14	75	18-137			

MSD Lab ID: QC39456

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Phenol	3333	2426	73	26-90	1	35
2-Chlorophenol	3333	2355	71	25-102	1	50
4-Chloro-3-methylphenol	3333	2216	66	26-103	2	33
4-Nitrophenol	3333	1857	56	11-114	2	50
Pentachlorophenol	3333	23020	488 *	17-109	28	47
1,4-Dichlorobenzene	1667	935.9	56	28-104	6	27
N-Nitroso-di-n-propylamine	1667	1074	64	41-126	0	38
1,2,4-Trichlorobenzene	1667	944.1	57	38-107	5	23
Acenaphthene	1667	977.2	59	31-137	0	19
2,4-Dinitrotoluene	1667	942.7	57	28-89	2	47
Pyrene	1667	1052	63	35-142	5	36
Surrogate	%Rec	Limits				
2-Fluorophenol	69	25-121				
Phenol-d5	74	24-113				
2,4,6-Tribromophenol	52	19-122				
Nitrobenzene-d5	79	23-120				
2-Fluorobiphenyl	70	30-115				
Terphenyl-d14	70	18-137				

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: 2 out of 22 outside limits

DO: Surrogate diluted out

Lab #: 128165

BATCH QC REPORT



Curtis & Tompkins, Ltd.
Page 1 of 1

EPA 8080 Pesticides & PCBs

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8080
Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
Batch#: 32192
Units: ug/Kg
Diln Fac: 1

Prep Date: 02/03/97
Analysis Date: 02/06/97

MB Lab ID: QC39408

Analyte	Result	Reporting Limit
alpha-BHC	ND	3.0
beta-BHC	ND	3.0
gamma-BHC	ND	3.0
delta-BHC	ND	3.0
Heptachlor	ND	3.0
Aldrin	ND	3.0
Heptachlor epoxide B	ND	3.0
Heptachlor epoxide A	ND	3.0
Endosulfan I	ND	3.0
Dieldrin	ND	6.0
4,4'-DDE	ND	6.0
Endrin	ND	6.0
Endosulfan II	ND	6.0
Endosulfan sulfate	ND	6.0
4,4'-DDD	ND	6.0
Endrin aldehyde	ND	6.0
4,4'-DDT	ND	6.0
Chlordane	ND	30
Methoxychlor	ND	30
Toxaphene	ND	60
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12
Surrogate	%Rec	Recovery Limits
TCMX	92	29-108
Decachlorobiphenyl	90	30-125



Lab #: 128165

BATCH QC REPORT

EPA 8080 Pesticides & PCBs			
Client: Subsurface Consultants	Analysis Method: EPA 8080		
Project#: 133.005	Prep Method: EPA 3550		
Location: KOT			
LABORATORY CONTROL SAMPLE			
Matrix: Soil	Prep Date: 02/03/97		
Batch#: 32192	Analysis Date: 02/06/97		
Units: ug/Kg			
Diln Fac: 1			

LCS Lab ID: QC39409

Analyte	Result	Spike Added	%Rec #	Limits
gamma-BHC	15.27	17	92	49-115
Heptachlor	15.79	17	95	51-119
Aldrin	15.4	17	92	55-112
Dieldrin	15.98	17	96	54-123
Endrin	17.09	17	102	63-128
4,4'-DDT	15.71	17	94	57-131
Surrogate	%Rec	Limits		
TCMX	94	29-108		
Decachlorobiphenyl	88	30-125		

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 #: 128165

BATCH QC REPORT

EPA 8080 Pesticides & PCBs	
Client: Subsurface Consultants	Analysis Method: EPA 8080
Project#: 133.005	Prep Method: EPA 3550
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: TP-6 @ 3'	Sample Date: 01/28/97
Lab ID: 128165-011	Received Date: 01/29/97
Matrix: Soil	Prep Date: 02/03/97
Batch#: 32192	Analysis Date: 02/12/97
Units: ug/Kg	
Diln Fac: 1	

MS Lab ID: QC39410

Analyte	Spike Added	Sample	MS	%Rec #	Limits
gamma-BHC	17	<3	10.09	61	53-124
Heptachlor	17	<3	8.83	53 *	55-128
Aldrin	17	<3	7.99	48 *	49-128
Dieldrin	17	<6	8.01	48 *	54-128
Endrin	17	<6	11.38	68 *	69-131
4,4'-DDT	17	<6	8.07	48 *	53-144
Surrogate	%Rec	Limits			
TCMX	63	29-108			
Decachlorobiphenyl	58	30-125			

MSD Lab ID: QC39411

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
gamma-BHC	17	9.5	57	53-124	6	35
Heptachlor	17	8.53	51 *	55-128	3	35
Aldrin	17	8.13	49	49-128	2	35
Dieldrin	17	7.88	47 *	54-128	2	35
Endrin	17	11.46	69	69-131	1	35
4,4'-DDT	17	7.91	47 *	53-144	2	35
Surrogate	%Rec	Limits				
TCMX	63	29-108				
Decachlorobiphenyl	58	30-125				

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: 8 out of 12 outside limits



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 128165
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 133.005
LOCATION: KOT

DATE SAMPLED: 01/27/97
DATE RECEIVED: 01/29/97
DATE ANALYZED: 02/07/97
BATCH#: 32287

=====
ANALYSIS: TOTAL PHOSPHORUS
METHOD REFERENCE: EPA 365.2
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
128165-011	TP-6 @ 3'	ND	mg/Kg	0.3
METHOD BLANK	N/A	ND	mg/Kg	0.3

ND = Not detected at or above the reporting limit.

QA/QC SUMMARY: MS/SAMPLE DUPLICATE OF 128237-010
=====

RPD, %	17
RECOVERY, %	82

=====

LABORATORY NUMBER: 128165
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT#: 133.005
 LOCATION: KOT

DATE SAMPLED: 01/27/97
 DATE RECEIVED: 01/29/97
 DATE ANALYZED: 02/04/97
 BATCH#: 15030

=====
 ANALYSIS: NITRATE/NITRITE NITROGEN
 ANALYSIS METHOD: EPA 353.2
 =====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
128165-011	TP-6 @ 3'	0.30	mg/Kg	0.20
METHOD BLANK	N/A	ND	mg/Kg	0.20

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: MS/MSD OF 128165-011

=====
 RPD, % 2
 RECOVERY, % 119
 =====



Forensic Analytical
Analytical Report

San Francisco • 3777 Depot Road, Suite 409, Hayward, CA 94545 • Phone 510/887-8828 • Fax 510/887-4218
Los Angeles • 2959 Pacific Commerce Dr., Rancho Dominguez, CA 90221 • Phone 310/763-2374 • Fax 310/763-8684

Bulk Material Analysis
Method: 40 CFR 763, Subpart F, Appendix A (AHERA)

Client:
Curtis & Tompkins, Ltd.

2323 Fifth Street
Berkeley, CA 94710

Client ID: 1137
Report Number: 263844
Date Received: 02/04/97
Date Analyzed: 02/04/97

P.O. Num: 128165
Job ID: 128165
Site:

Sample Number	Lab Number	Total Asbestos	Total Fibrous Non-Asbestos	(Breakdown by type)
128165-011 Green material.	19707214	Non-Det.‡	1-5‡	Cellulose (1-5‡)

David Kahane

David Kahane, C.I.H., Laboratory Director, Hayward Laboratory

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

Project Number: 128165

Subcontract Lab:

Forensic Analytical
3777 Depot Road Suite 409
Hayward, CA 94545
(510) 887-8828

Please send report to: Tracy Babjar

Turnaround Time: Normal

Sample ID	Date Sampled	Matrix	Analysis	C&T Lab #
TP-6 @ 3'	28-JAN-97	Soil	ASBESTOS-PLM	128165-011

***Please report using Sample ID instead of C&T Lab #.

Notes:

RELINQUISHED BY:	RECEIVED BY:
<i>[Signature]</i> 2/3/97 Date/Time	 Date/Time
 Date/Time	 Date/Time

Signature on this form constitutes a firm Purchase Order for the services requested above.

[Signature] 2/4/97
0921

SAMPLE ID: TP-6 @ 3'
 LAB ID: 128165-011
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Soil

DATE SAMPLED: 01/28/97
 DATE RECEIVED: 01/29/97
 DATE REPORTED: 02/13/97

California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	3.0	1	32143	EPA 6010A	01/31/97
Arsenic	1.3	0.25	1	32143	EPA 6010A	01/31/97
Barium	34	0.50	1	32143	EPA 6010A	01/31/97
Beryllium	0.21	0.10	1	32143	EPA 6010A	01/31/97
Cadmium	1.2	0.10	1	32143	EPA 6010A	01/31/97
Chromium (total)	27	0.50	1	32143	EPA 6010A	01/31/97
Cobalt	2.6	1.0	1	32143	EPA 6010A	01/31/97
Copper	33	0.50	1	32143	EPA 6010A	01/31/97
Lead	25	0.15	1	32143	EPA 6010A	01/31/97
Mercury	ND	0.095	1	32207	EPA 7471	02/04/97
Molybdenum	ND	1.0	1	32143	EPA 6010A	01/31/97
Nickel	7.5	1.0	1	32143	EPA 6010A	01/31/97
Selenium	ND	0.25	1	32143	EPA 6010A	01/31/97
Silver	ND	0.50	1	32143	EPA 6010A	01/31/97
Thallium	ND	0.25	1	32143	EPA 6010A	01/31/97
Vanadium	4.5	0.50	1	32143	EPA 6010A	01/31/97
Zinc	750	1.0	1	32143	EPA 6010A	02/03/97

ND = Not detected at or above reporting limit

SAMPLE ID: TP-6 @ 3'
LAB ID: 128165-011
CLIENT: Subsurface Consultants
PROJECT ID: 133.005
LOCATION: KOT
MATRIX: Soil

DATE SAMPLED: 01/28/97
DATE RECEIVED: 01/29/97
DATE REPORTED: 02/13/97

Metals Analytical Report

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
Potassium	110	25	1	32143	EPA 6010A	02/03/97

CLIENT: Subsurface Consultants
 JOB NUMBER: 128165

DATE REPORTED: 02/13/97

**BATCH QC REPORT
 PREP BLANK**

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	3	mg/Kg	1	32143	EPA 6010A	01/31/97
Arsenic	ND	0.25	mg/Kg	1	32143	EPA 6010A	01/31/97
Barium	ND	0.5	mg/Kg	1	32143	EPA 6010A	01/31/97
Beryllium	ND	0.1	mg/Kg	1	32143	EPA 6010A	01/31/97
Cadmium	ND	0.1	mg/Kg	1	32143	EPA 6010A	01/31/97
Chromium (total)	ND	0.5	mg/Kg	1	32143	EPA 6010A	01/31/97
Cobalt	ND	1	mg/Kg	1	32143	EPA 6010A	01/31/97
Copper	ND	0.5	mg/Kg	1	32143	EPA 6010A	01/31/97
Lead	ND	0.15	mg/Kg	1	32143	EPA 6010A	01/31/97
Mercury	ND	0.1	mg/Kg	1	32207	EPA 7471	02/04/97
Molybdenum	ND	1	mg/Kg	1	32143	EPA 6010A	01/31/97
Nickel	ND	1	mg/Kg	1	32143	EPA 6010A	01/31/97
Potassium	ND	25	mg/Kg	1	32143	EPA 6010A	02/03/97
Selenium	ND	0.25	mg/Kg	1	32143	EPA 6010A	01/31/97
Silver	ND	0.5	mg/Kg	1	32143	EPA 6010A	01/31/97
Thallium	ND	0.25	mg/Kg	1	32143	EPA 6010A	01/31/97
Vanadium	ND	0.5	mg/Kg	1	32143	EPA 6010A	01/31/97
Zinc	ND	1	mg/Kg	1	32143	EPA 6010A	01/31/97

ND = Not Detected at or above reporting limit



CLIENT: Subsurface Consultants
JOB NUMBER: 128165

DATE REPORTED: 02/13/97

BATCH QC REPORT
LABORATORY CONTROL SAMPLE

Compound	Spike Amt	Result	Units	% Rec.	QC Batch	Method	Analysis Date
Antimony	25	23.25	mg/Kg	93	32143	EPA 6010A	01/31/97
Arsenic	100	88.5	mg/Kg	89	32143	EPA 6010A	01/31/97
Barium	100	99	mg/Kg	99	32143	EPA 6010A	01/31/97
Beryllium	2.5	2.435	mg/Kg	97	32143	EPA 6010A	01/31/97
Cadmium	2.5	2.44	mg/Kg	98	32143	EPA 6010A	01/31/97
Chromium (total)	10	9.65	mg/Kg	97	32143	EPA 6010A	01/31/97
Cobalt	25	22.95	mg/Kg	92	32143	EPA 6010A	01/31/97
Copper	12.5	13.3	mg/Kg	106	32143	EPA 6010A	01/31/97
Lead	25	23.45	mg/Kg	94	32143	EPA 6010A	01/31/97
Molybdenum	20	19	mg/Kg	95	32143	EPA 6010A	01/31/97
Nickel	25	24.55	mg/Kg	98	32143	EPA 6010A	01/31/97
Potassium	1000	921.5	mg/Kg	92	32143	EPA 6010A	02/03/97
Selenium	100	86	mg/Kg	86	32143	EPA 6010A	01/31/97
Silver	5	5	mg/Kg	100	32143	EPA 6010A	01/31/97
Thallium	100	88	mg/Kg	88	32143	EPA 6010A	01/31/97
Vanadium	25	24.2	mg/Kg	97	32143	EPA 6010A	01/31/97
Zinc	25	23.6	mg/Kg	94	32143	EPA 6010A	01/31/97



Curtis & Tompkins, Ltd.

CLIENT: Subsurface Consultants
JOB NUMBER: 128165

DATE REPORTED: 02/13/97

**BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE**

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Mercury	5	4.863	5.07	ug/L	97	101	80-120	4	35	32207	EPA 7470	02/04/97



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
Layfayette, CA 94549

Date: 19-FEB-97
Lab Job Number: 128166
Project ID: 133.005
Location: KOT

Reviewed by: _____

Reviewed by: _____

This package may be reproduced only in its entirety.

Client: Subsurface Consultants

Laboratory Login Number: 128166

Project Name: KOT
Project Number: 133.005

Report Date: 20 February 97

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) METHOD: SMWW 17:5520BF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
128166-001	TP-3	Water	27-JAN-97	29-JAN-97	03-FEB-97	180	mg/L	5	DLP	32193
128166-002	TP-6	Water	28-JAN-97	29-JAN-97	03-FEB-97	590	mg/L	5	DLP	32193

ND = Not Detected at or above Reporting Limit (RL).

Q C B a t c h R e p o r t

 Client: Subsurface Consultants
 Project Name: KOT
 Project Number: 133.005

 Laboratory Login Number: 128166
 Report Date: 14 February 97

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 32193

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
MB	ND	5	mg/L	SMWW 17:5520BF	03-FEB-97

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	92%	SMWW 17:5520BF	03-FEB-97
BSD	98%	SMWW 17:5520BF	03-FEB-97

		Control Limits
Average Spike Recovery	95%	80% - 120%
Relative Percent Difference	6.5%	< 20%

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128166-001	TP-3	32149	01/27/97	01/31/97	01/31/97	
128166-002	TP-6	32149	01/28/97	01/31/97	01/31/97	

Matrix: Water

Analyte	Units	128166-001	128166-002
Diln Fac:		1	1
Gasoline	ug/L	8600 YH	1800 YH
Surrogate			
Trifluorotoluene	%REC	92	87
Bromobenzene	%REC	105	80

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

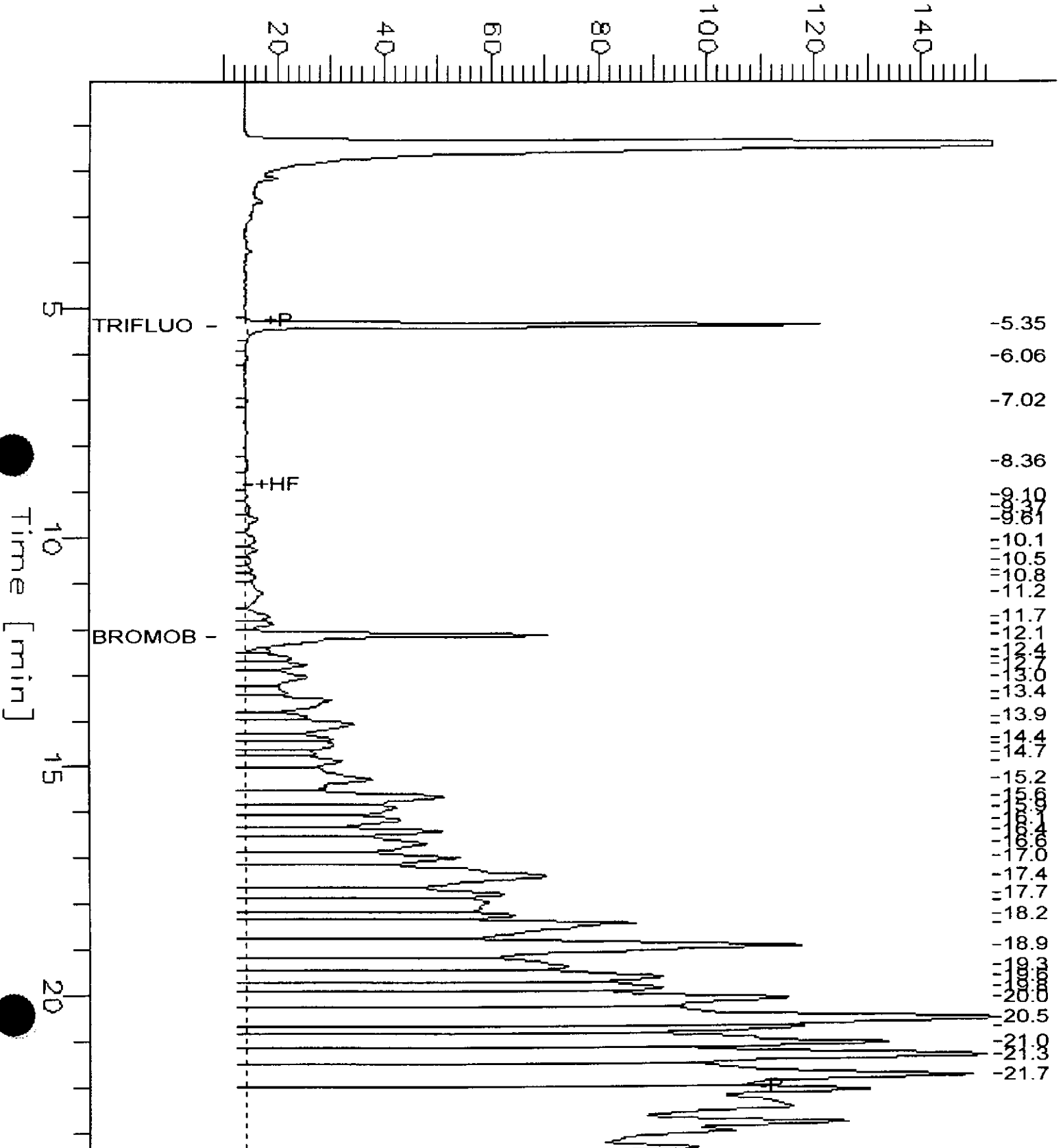
GC05 RTX1 TVH Chromatogram

Sample Name : S,128166-001,32149
 FileName : G:\GC05\DATA\030H027.RAW
 Method :
 Start Time : 0.02 min
 Scale Factor: 0.0

Sample #:
 Date : 2/3/97 08:29 PM
 Time of Injection: 1/31/97 06:32 AM
 Low Point : 8.73 mV
 High Point : 153.13 mV
 End Time : 23.40 min
 Plot Offset: 9 mV
 Plot Scale: 144.4 mV

TP-3 1/27/97

Response [mV]



GC05 RTX1 TVH Chromatogram

Sample Name : S,128166-002,32149,water layer

Sample #:

Page 1 of 1

FileName : G:\GC05\DATA\030H029.RAW

Date : 2/3/97 08:32 PM

Method :

Time of Injection: 1/31/97 07:43 AM

Start Time : 0.02 min

End Time : 23.40 min

Low Point : 6.03 mV

High Point : 61.07 mV

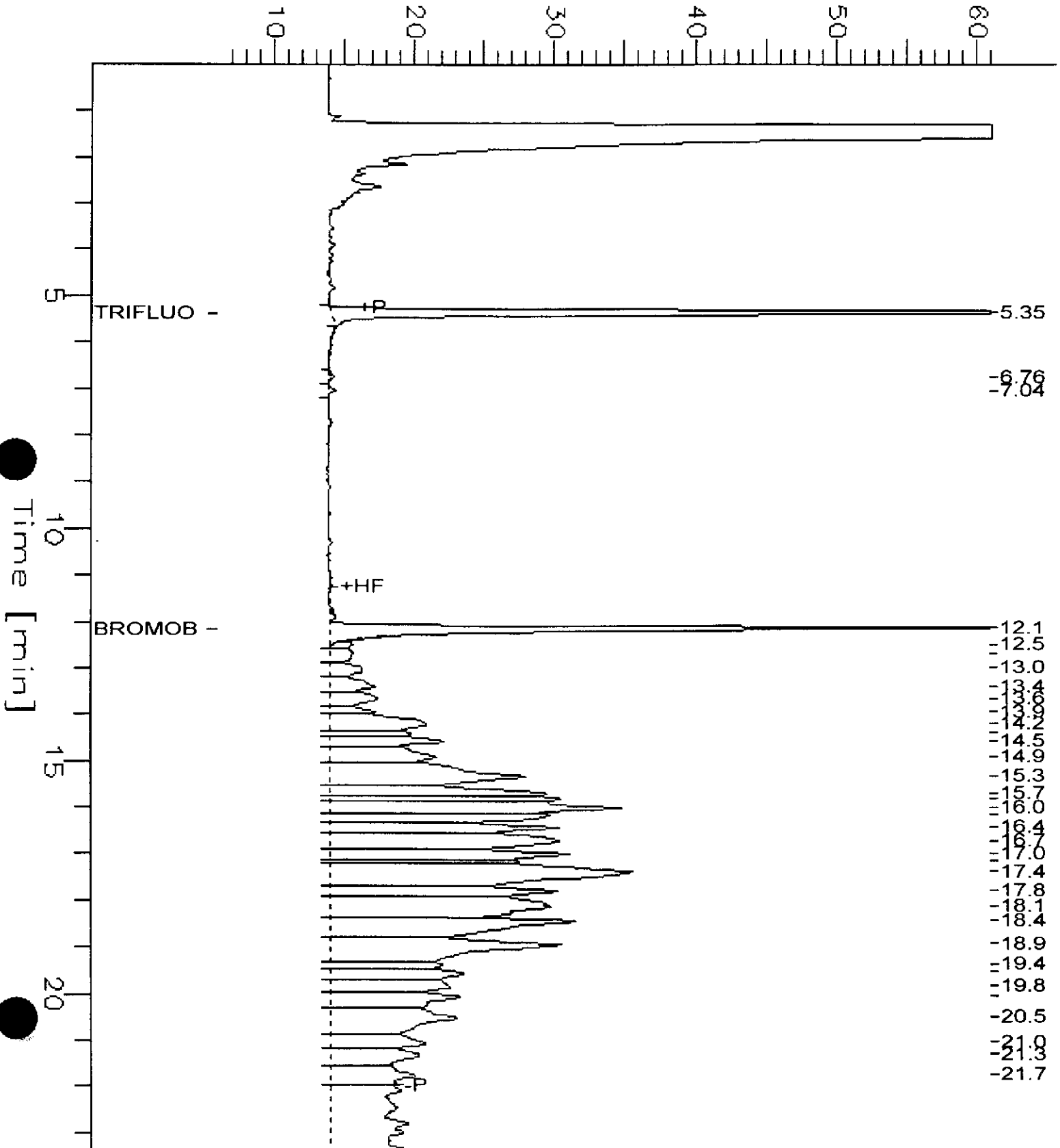
Factor: 0.0

Plot Offset: 6 mV

Plot Scale: 55.0 mV

TP-6 1/28/97

Response [mV]

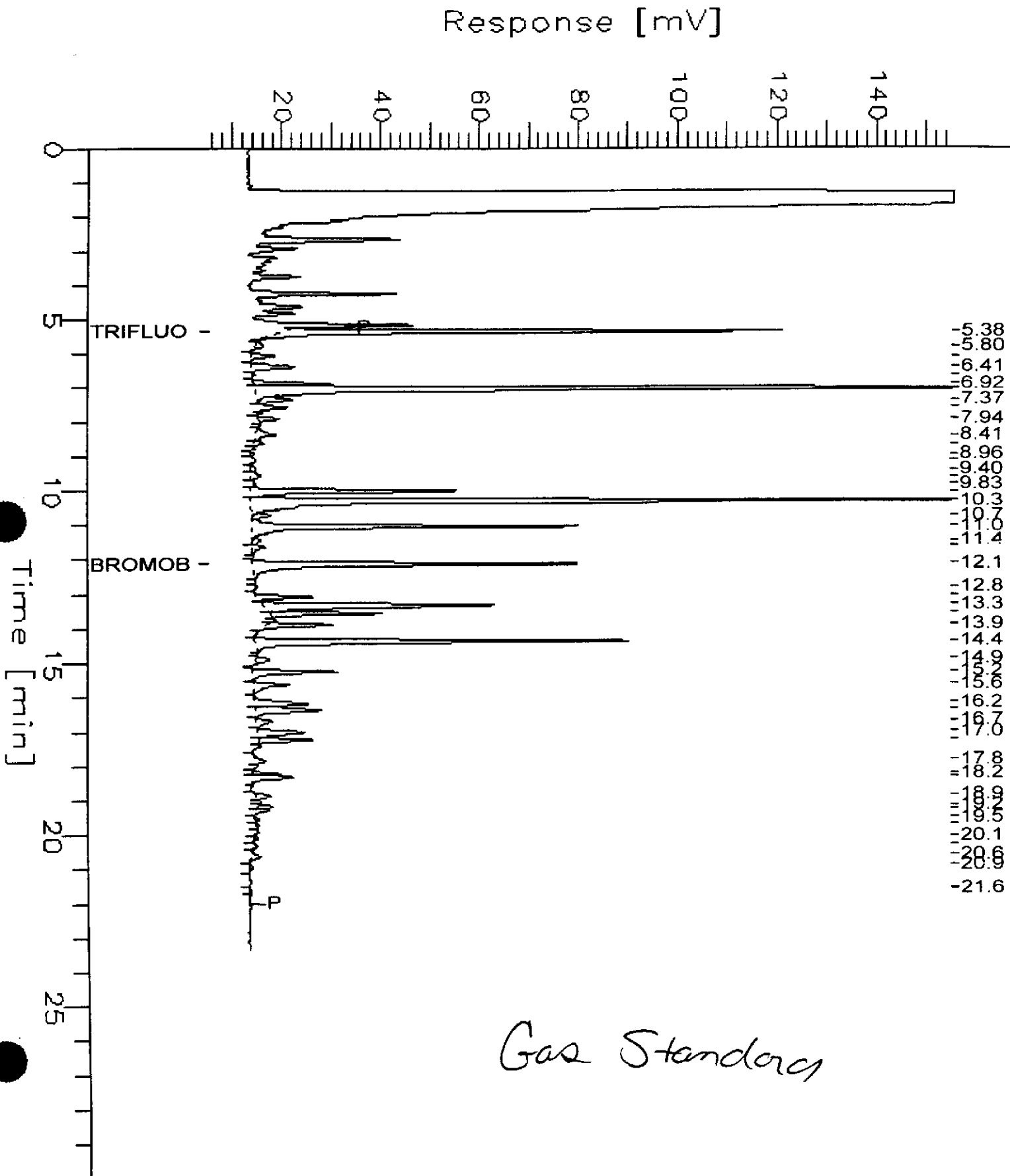


GC05 RTX1 TVH Chromatogram

Sample Name : CCV,GAS,32149
 FileName : G:\GC05\DATA\030H007.raw
 Method : TVHBTXE
 Start Time : 0.00 min
 e Factor: -1.0

End Time : 30.00 min
 Plot Offset: 6 mV

Sample #: 97WS3521 G
 Date : 1/30/97 09:04 PM
 Time of Injection: 1/30/97 06:41 PM
 Low Point : 5.63 mV
 High Point : 155.63 mV
 Plot Scale: 150.0 mV



Lab #: 128166

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	133.005	Prep Method:	EPA 5030
Location:	KOT		
METHOD BLANK			
Matrix:	Water	Prep Date:	01/30/97
Batch#:	32149	Analysis Date:	01/30/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC39272

Analyte	Result	
Gasoline	<50	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	91	65-135
Bromobenzene	83	65-135



Lab #: 128166

BATCH QC REPORT

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 32149
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 01/30/97

LCS Lab ID: QC39270

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	1768	2000	88	75-125
Surrogate	%Rec	Limits		
Trifluorotoluene	89	65-135		
Bromobenzene	99	65-135		

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

Laboratory Number: 128166
Client: SUBSURFACE CONSULTANTS
Project#: 133.005

Sample Date: 01/28/97
Receipt Date: 01/29/97

FINGERPRINT - TVH

Client Sample I.D

Curtis & Tompkins I.D

TP-6

128166-002

On 01/31/97, the above sample was analyzed by EPA 8015. The sample was compared to Stoddard Solvent, Naptha and JP-4 standards. It does resemble purgeable fuel standard for Stoddard Solvent but the retention times are slightley shifted. Enclosed you will find the chromatogram for sample TP-6 and the standard chromatograms to which it was compared.

GC05 RTX1 TVH Chromatogram

Sample Name : S,128166-002,32149,product layer

Sample #:

Page 1 of 1

FileName : G:\GC05\DATA\030H021.raw

Date : 1/31/97 03:23 AM

Method : TVHBTXE

Time of Injection: 1/31/97 02:59 AM

Start Time : 0.00 min

End Time : 30.00 min

Low Point : 6.61 mV

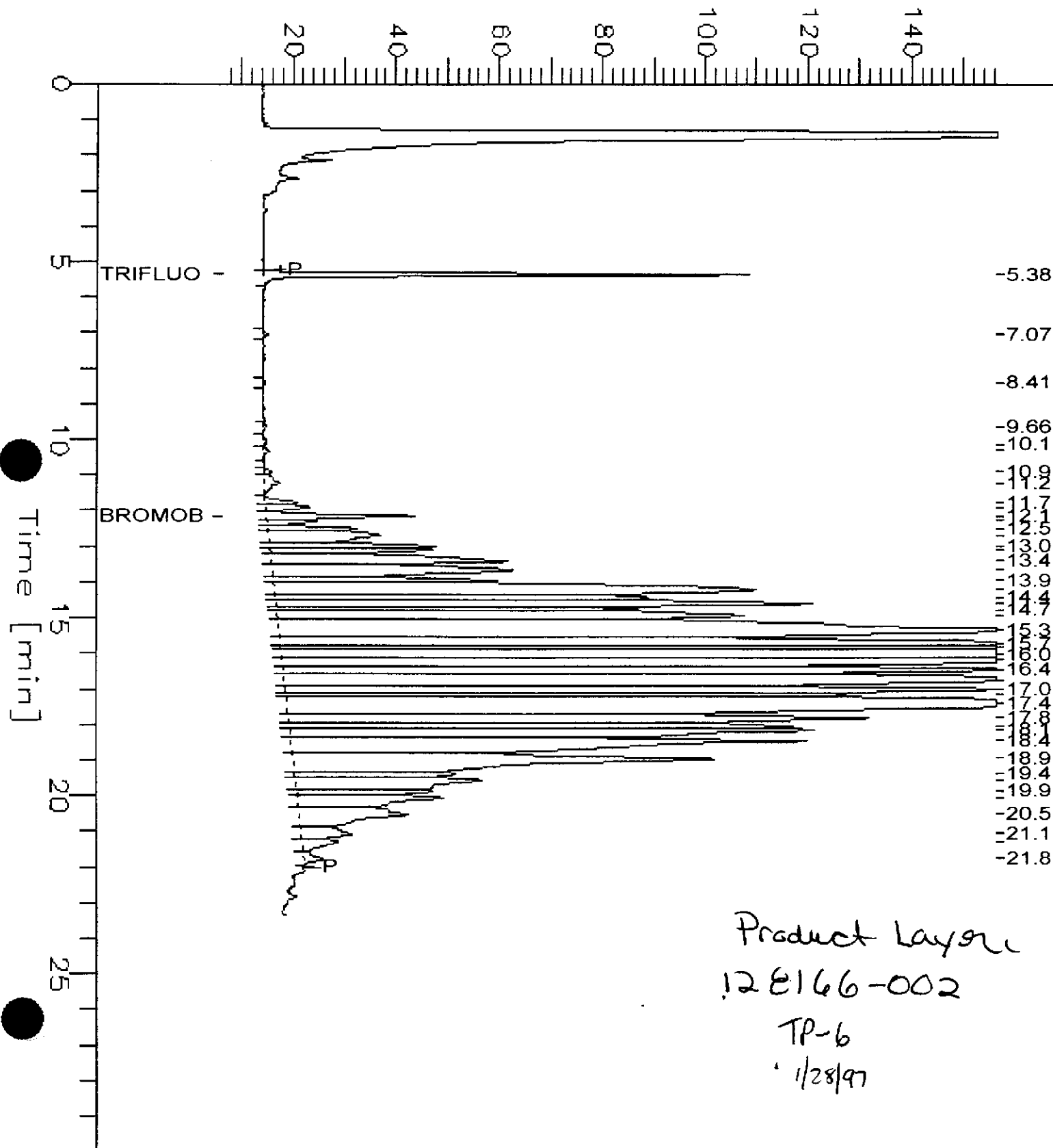
High Point : 156.61 mV

Factor: -1.0

Plot Offset: 7 mV

Plot Scale: 150.0 mV

Response [mV]



250
200
150
100
50
0

030H021.RAW

128166-002 Product Layer

TP-6 1/28/97

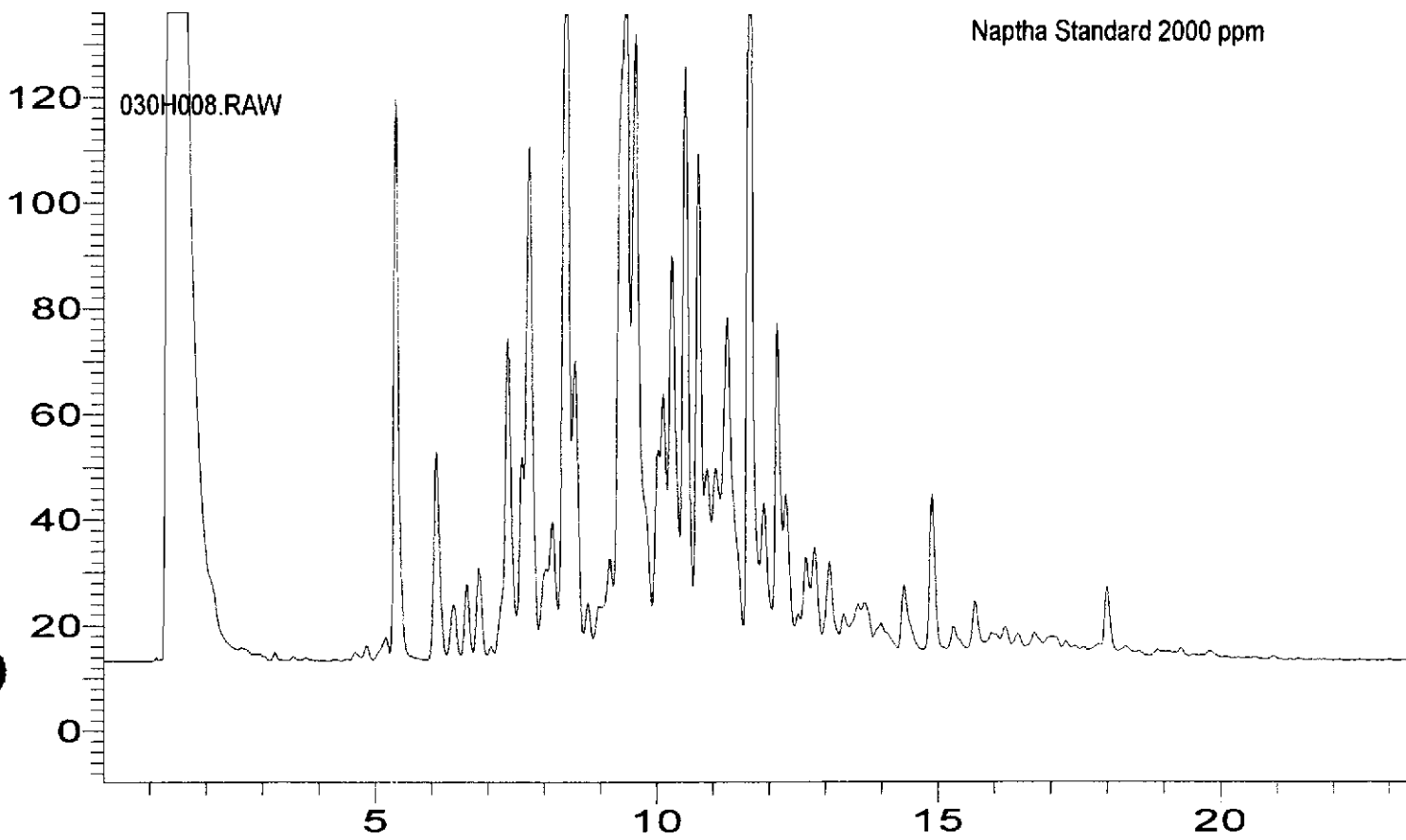
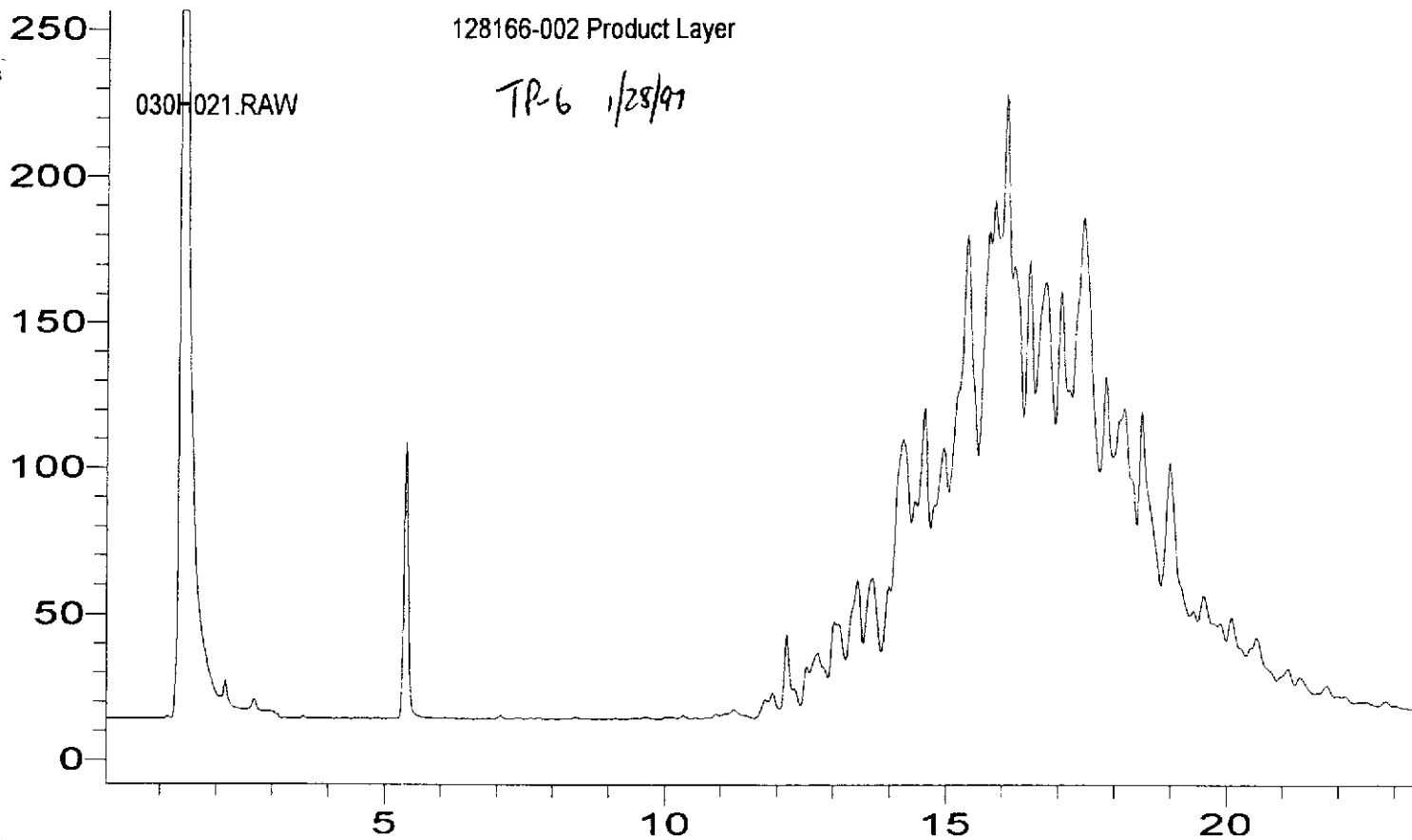
5 10 15 20

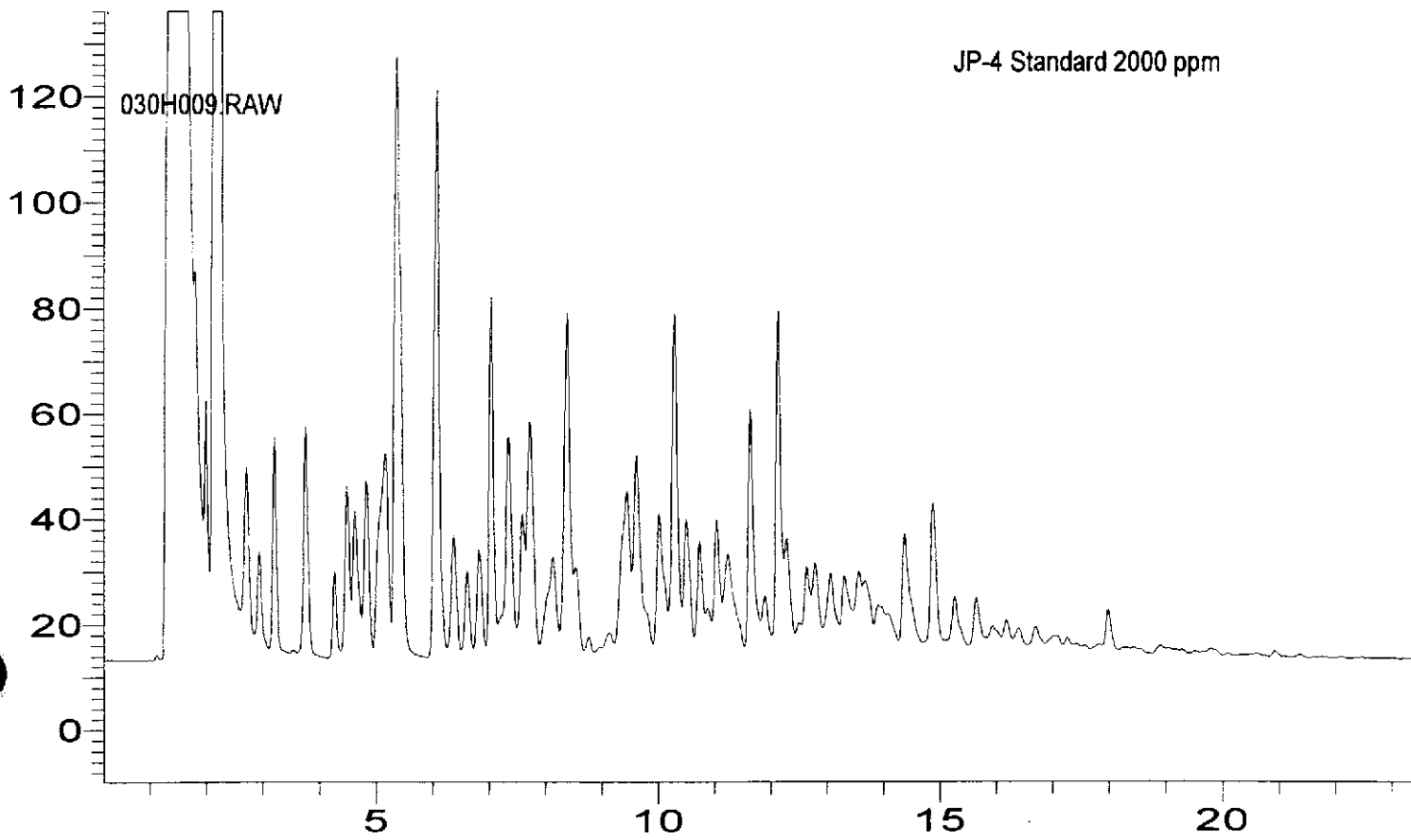
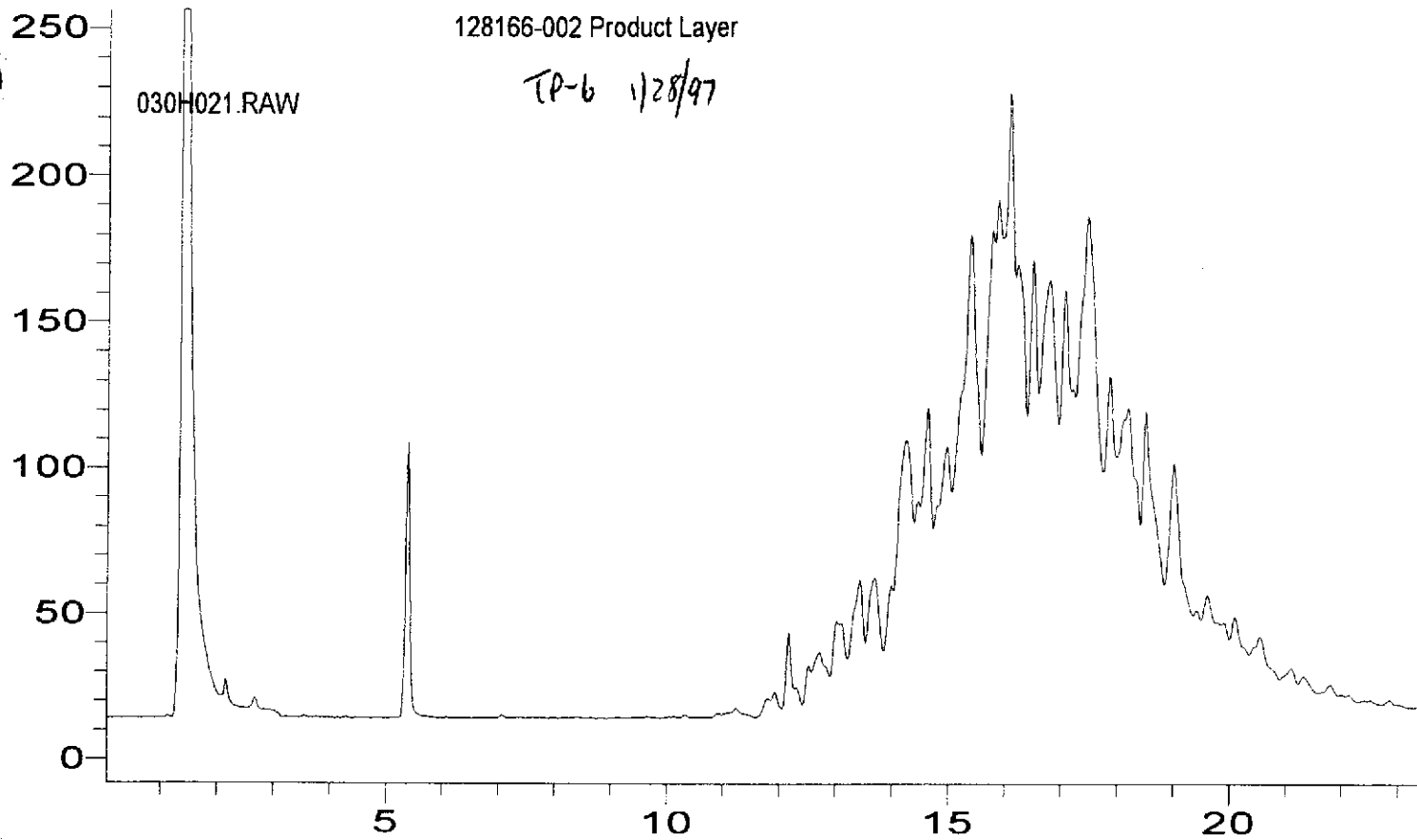
120
100
80
60
40
20
0

030H010.RAW

Standard
at 2000 ppm

5 10 15 20







TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128166-001	TP-3	32249	01/27/97	02/05/97	02/14/97	
128166-002	TP-6	32249	01/28/97	02/05/97	02/18/97	

Matrix: Water

Analyte	Units	128166-001	128166-002	
Diln Fac:		50	200	
Diesel C12-C22	ug/L	590000	19000000	YH
Motor Oil C22-C50	ug/L	35000 YL	5900000	L
Surrogate				
Hexacosane	%REC	DO	DO	

DO: Surrogate diluted out

Y: Sample exhibits fuel pattern which does not resemble standard

H: Heavier hydrocarbons than indicated standard

L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 128166-001,32249

FileName : G:\GC11\CHB\044B027.RAW

Method : BTEH036.MTH

Time : 0.01 min

End Time : 31.91 min

Factor : 6.0

Plot Offset : 5 mV

Sample #: 32249

Date : 2/17/97 11:53 AM

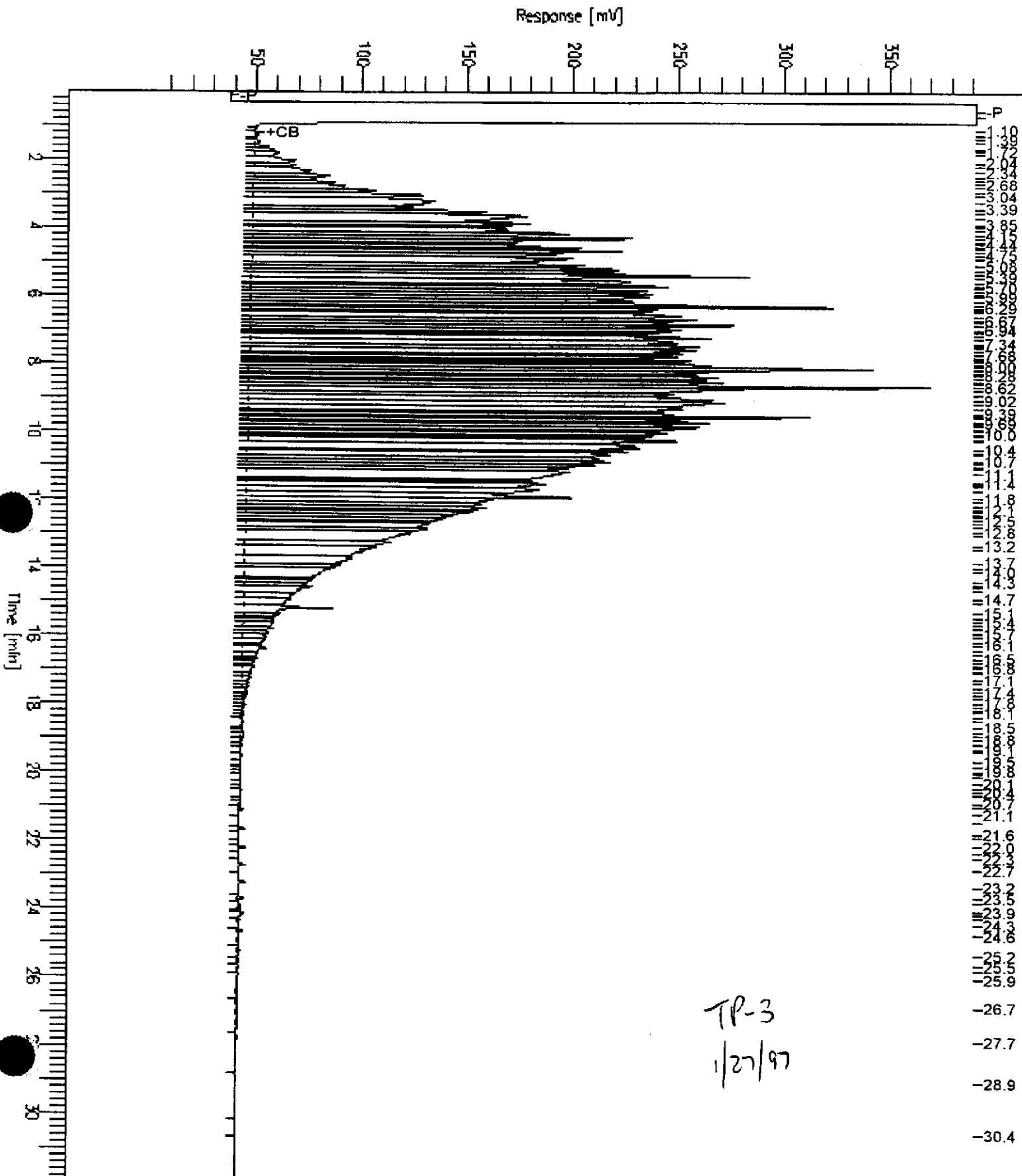
Time of Injection: 2/14/97 09:34 AM

Low Point : 4.65 mV

High Point : 391.56 mV

Plot Scale: 386.9 mV

Page 1 of 1



Chromatogram

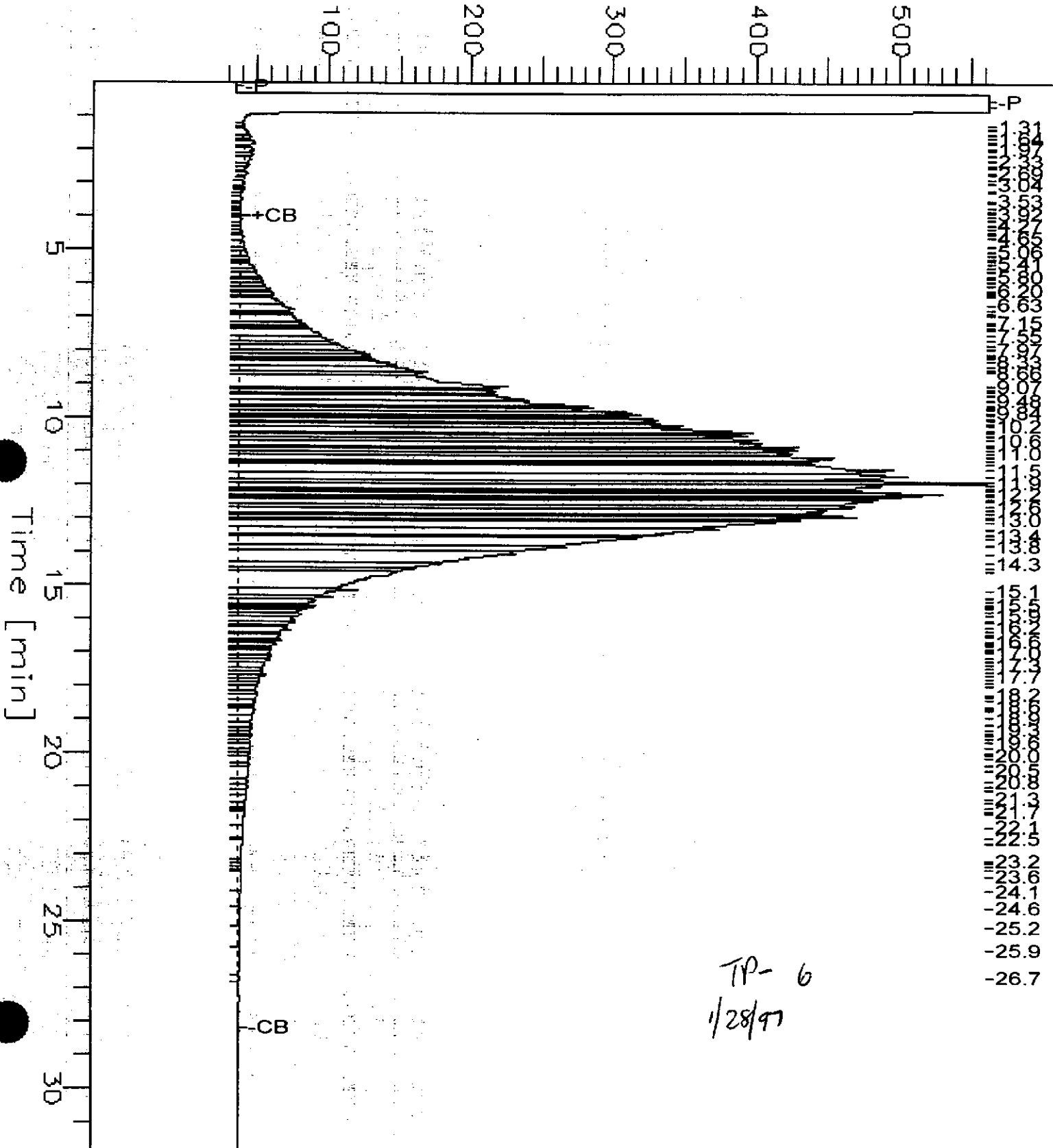
Sample Name : 128166-002,32249
FileName : G:\GC11\CHB\047B021.RAW
Method : BTEH036.MTH
Inj. Time : 0.01 min
Gain Factor : 0.0

End Time : 31.91 min
Plot Offset : 24 mV

Sample #: 32249
Date : 2/19/97 10:47 AM
Time of Injection: 2/18/97 04:51 AM
Low Point : 23.62 mV
Plot Scale : 538.7 mV
High Point : 562.34 mV

Page 1 of 1

Response [mV]



TP- 6
1/28/97

Chromatogram

Sample Name : BS, QC39620, 32249

Sample #: 32249

Page 1 of 1

FileName : G:\GC11\CHB\041B026.RAW

Date : 2/12/97 12:51 PM

Method : BTEH036.MTH

Time of Injection: 2/11/97 04:10 AM

Start Time : 0.07 min

End Time : 31.76 min

Low Point : -13.13 mV

High Point : 342.76 mV

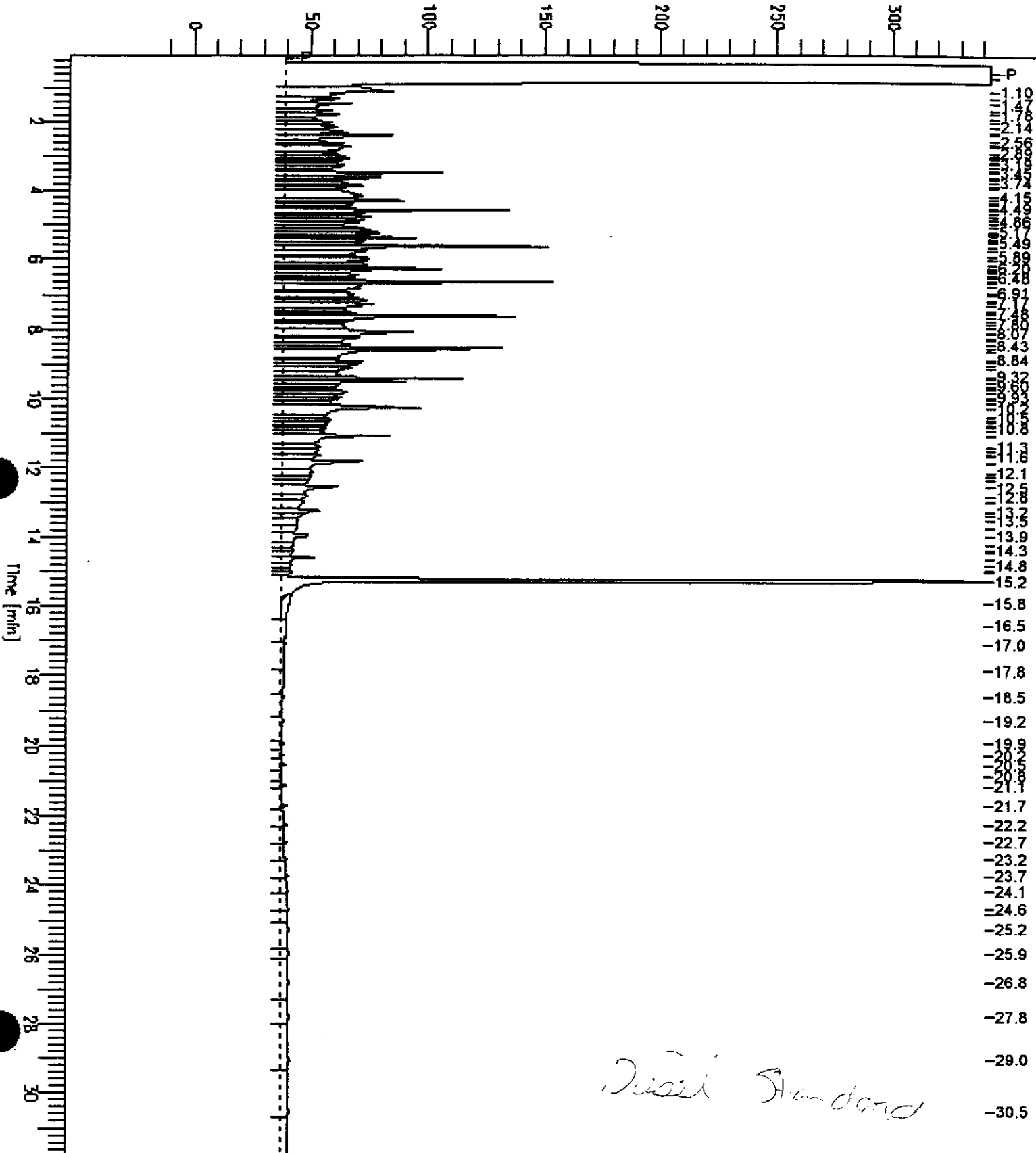
Gain Factor: 0.0

Plot Offset: -13 mV

Plot Scale: 355.9 mV

Diesel Standard

Response [mV]



Diesel Standard

Chromatogram

Sample Name : CCV,97WS3691,MO
FileName : G:\GC11\CHB\047B028.RAW
Method : BTEH036.MTH
Start Time : 0.01 min
e Factor : 0.0

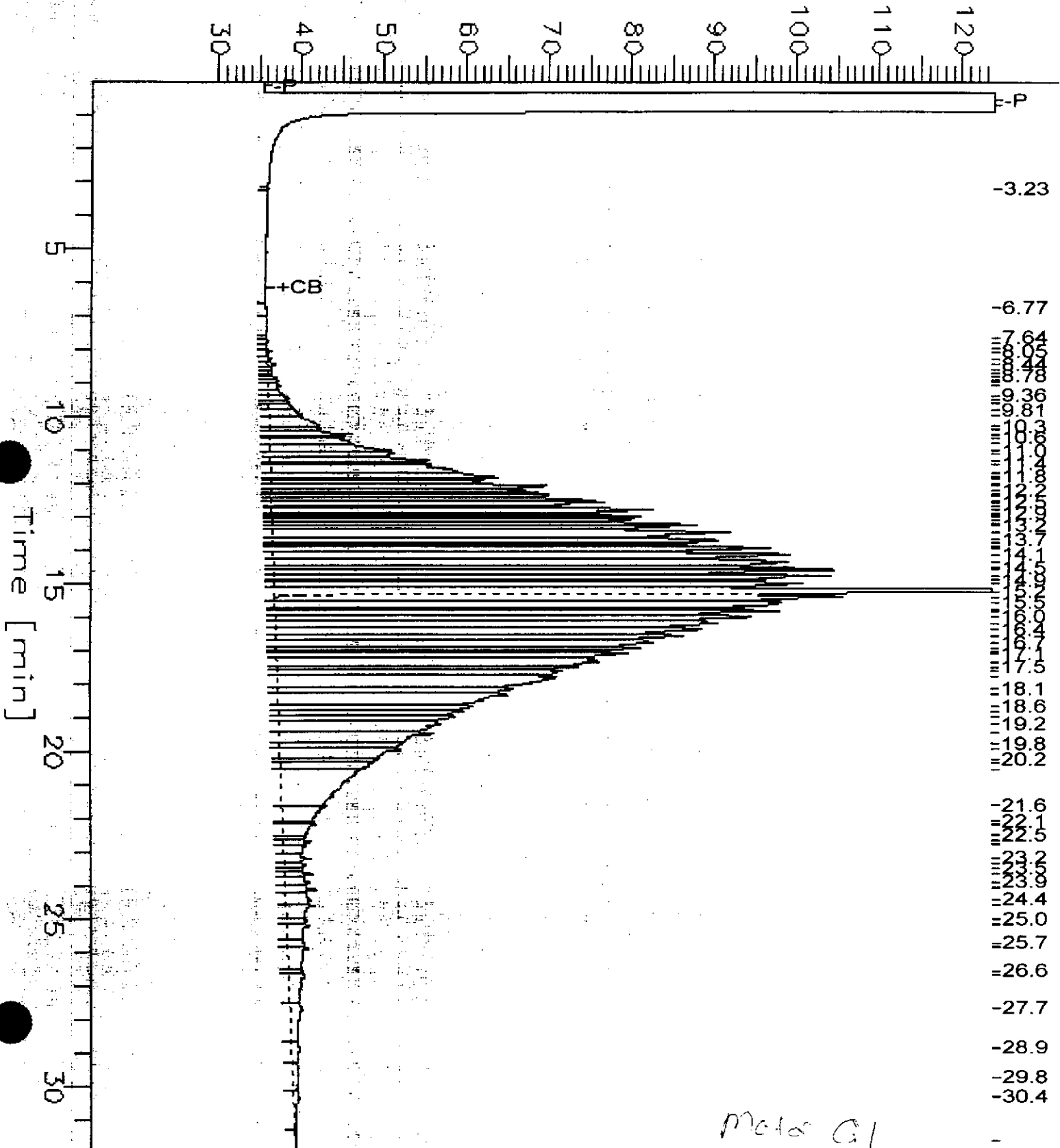
End Time : 31.91 min
Plot Offset : 30 mV

Sample #: 500MG/L
Date : 2/19/97 12:19 PM
Time of Injection: 2/18/97 09:38 AM
Low Point : 30.00 mV
Plot Scale: 93.9 mV
High Point : 123.87 mV

Page 1 of 1

Motor oil

Response [mV]



Motor Oil



Lab #: 128166

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 32249
Units: ug/L
Diln Fac: 1

Prep Date: 02/05/97
Analysis Date: 02/11/97

MB Lab ID: QC39618

Analyte	Result		
Diesel C12-C22	<50		
Motor Oil C22-C50	<250		
Surrogate	%Rec	Recovery Limits	
Hexacosane	109	60-140	



Lab #: 128166

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons	
Client: Subsurface Consultants Project#: 133.005 Location: KOT	Analysis Method: CA LUFT (EPA 8015M) Prep Method: EPA 3520
BLANK SPIKE/BLANK SPIKE DUPLICATE	
Matrix: Water Batch#: 32249 Units: ug/L Diln Fac: 1	Prep Date: 02/05/97 Analysis Date: 02/11/97

BS Lab ID: QC39619

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	1951	79	60-140
Surrogate	%Rec	Limits		
Hexacosane	108	60-140		

BSD Lab ID: QC39620

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2180	88	60-140	11	35
Surrogate	%Rec	Limits				
Hexacosane	115	60-140				

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

Laboratory Number: 128166
Client: **SUBSURFACE CONSULTANTS**
Project#: 133.005

Sample Date: 01/28/97
Receipt Date: 01/29/97

FINGERPRINT - TEH

Client Sample I.D

Curtis & Tompkins I.D

TP-6

128166-002

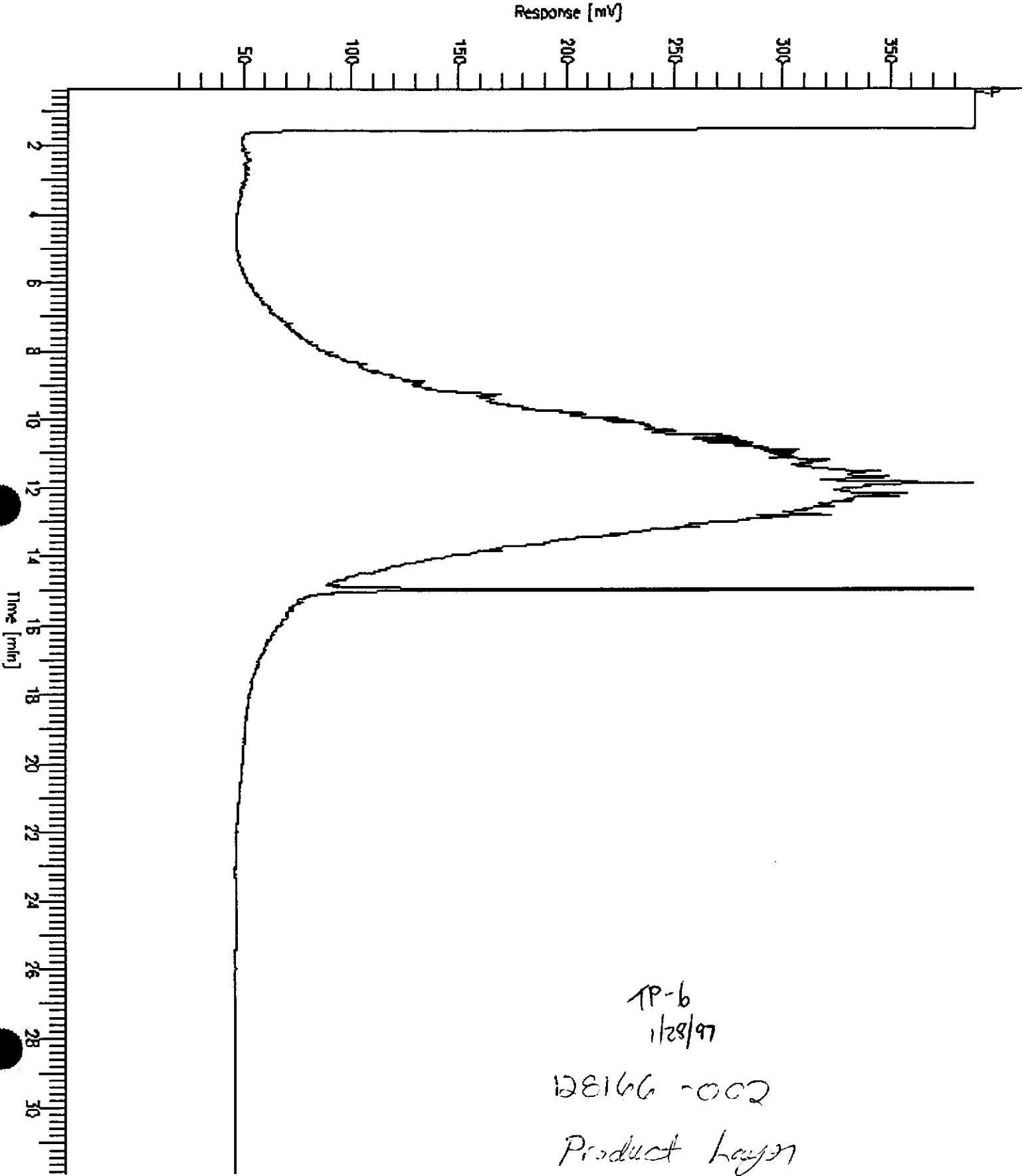
On 02/11/97, the above sample was analyzed by EPA 8015. It does not match extractable fuel standards for Diesel or Motor Oil but it is similar to a hydraulic fluid or transformer oil. Enclosed you will find the chromatogram for sample TP-6 and the Diesel standard and Motor Oil standard chromatograms to which it was compared.

GC15 Channel B TEH

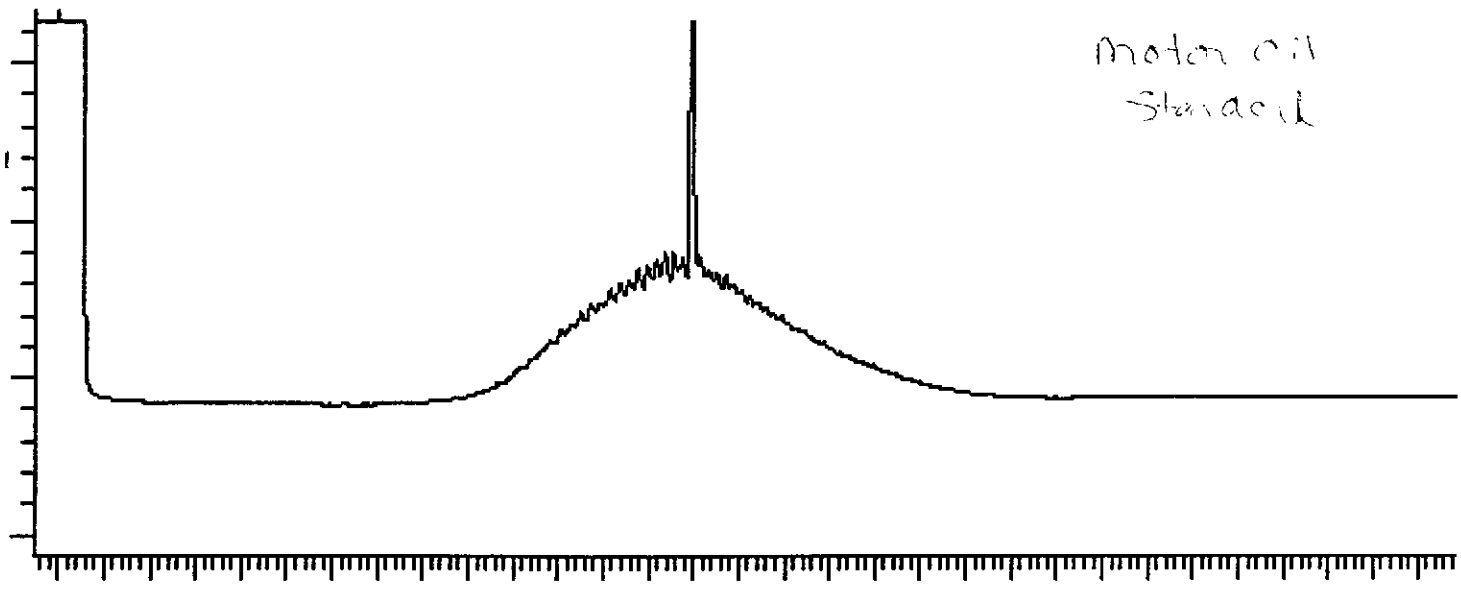
Sample Name : 128166-002,FP
FileName : G:\GC15\CHB\041B024.RAW
Method : B038TEH.MTH
Start Time : 0.36 min
Gain Factor: 0.0

End Time : 31.91 min
Plot Offset: 11 mV

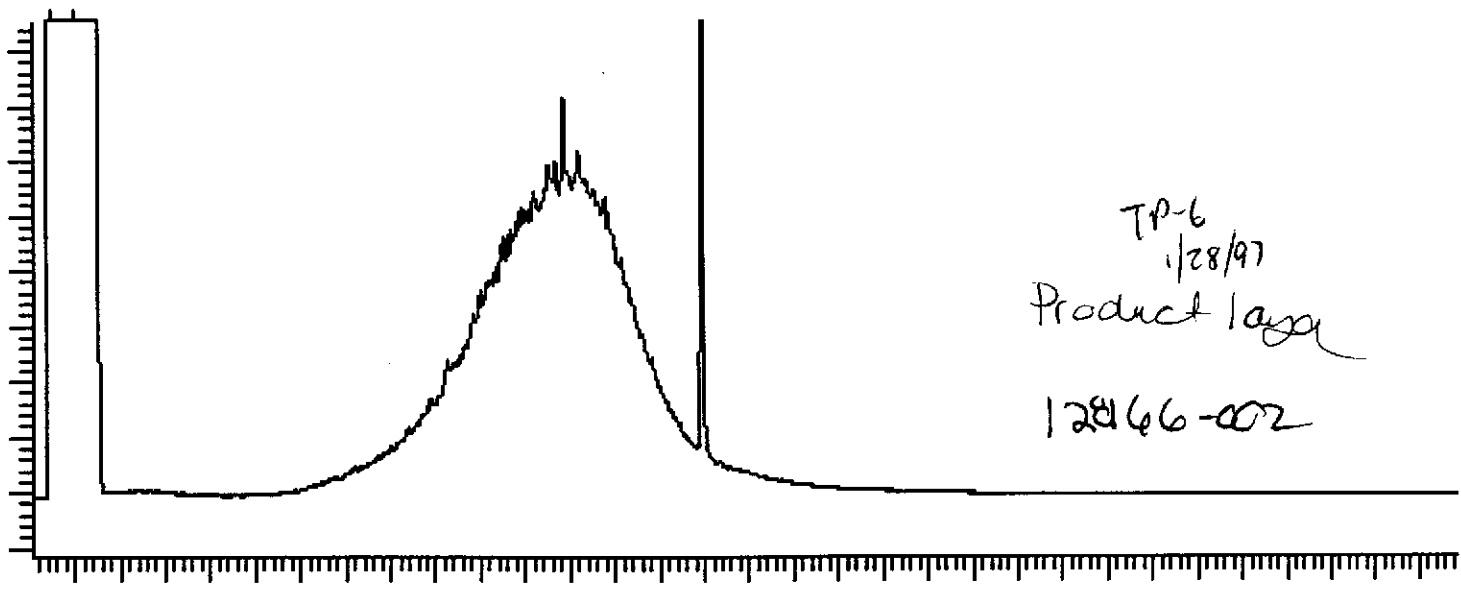
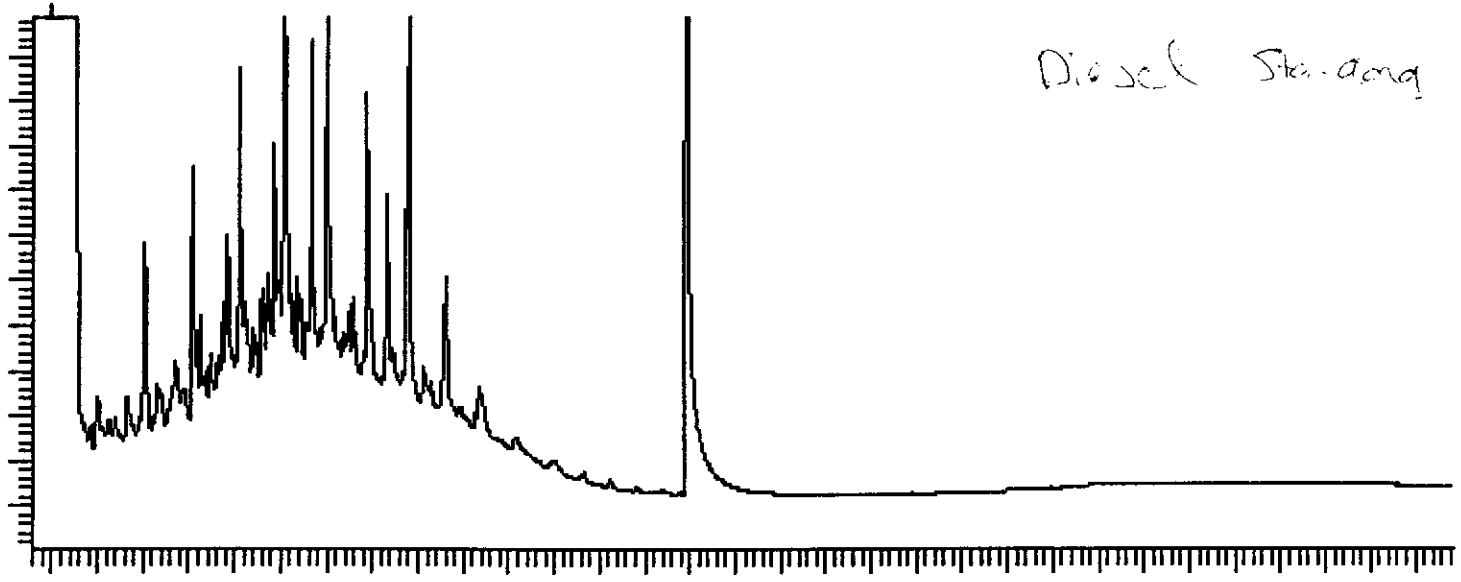
Sample #: Page 1 of 1
Date : 2/11/97 01:02 PM
Time of Injection: 2/11/97 05:54 AM
Low Point : 11.29 mV
High Point : 389.89 mV
Plot Scale: 378.6 mV



oil
500 mg/l



Diesel
500 mg/l





BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128166-001	TP-3	32149	01/27/97	01/31/97	01/31/97	
128166-002	TP-6	32149	01/28/97	01/31/97	01/31/97	

Matrix: Water

Analyte	Units	128166-001	128166-002
Diln Fac:		1	1
Benzene	ug/L	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5
m,p-Xylenes	ug/L	1.3	<0.5
o-Xylene	ug/L	<0.5	<0.5
Surrogate			
Trifluorotoluene	%REC	92	86
Bromobenzene	%REC	92	81



Lab #: 128166

BATCH QC REPORT

BTXE

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8020
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32149
Units: ug/L
Diln Fac: 1

Prep Date: 01/30/97
Analysis Date: 01/30/97

MB Lab ID: QC39272

Analyte	Result		
Benzene	<0.5		
Toluene	<0.5		
Ethylbenzene	<0.5		
m,p-Xylenes	<0.5		
o-Xylene	<0.5		
Surrogate	%Rec		Recovery Limits
Trifluorotoluene	92		58-130
Bromobenzene	90		62-131



Lab #: 128166

BATCH QC REPORT

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
LABORATORY CONTROL SAMPLE	
Matrix: Water	Prep Date: 01/30/97
Batch#: 32149	Analysis Date: 01/30/97
Units: ug/L	
Diln Fac: 1	

LCS Lab ID: QC39271

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	22.1	20	111	80-120
Toluene	22.74	20	114	80-120
Ethylbenzene	23.01	20	115	80-120
m,p-Xylenes	45.43	40	114	80-120
o-Xylene	23.41	20	117	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	95	58-130		
Bromobenzene	96	62-131		

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



Lab #: 128166

BATCH QC REPORT

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/28/97
Lab ID: 128144-001	Received Date: 01/28/97
Matrix: Water	Prep Date: 01/30/97
Batch#: 32149	Analysis Date: 01/30/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC39273

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Benzene	20	<0.5	18.51	93	75-125
Toluene	20	2.44	20.31	89	75-125
Ethylbenzene	20	<0.5	18.97	95	75-125
m,p-Xylenes	40	1.02	38.56	94	75-125
o-Xylene	20	<0.5	19.64	98	75-125
Surrogate	%Rec	Limits			
Trifluorotoluene	88	58-130			
Bromobenzene	89	62-131			

MSD Lab ID: QC39274

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Benzene	20	20.89	104	75-125	12	20
Toluene	20	22.26	99	75-125	9	20
Ethylbenzene	20	21.39	107	75-125	12	20
m,p-Xylenes	40	42.58	104	75-125	10	20
o-Xylene	20	21.92	110	75-125	11	20
Surrogate	%Rec	Limits				
Trifluorotoluene	89	58-130				
Bromobenzene	89	62-131				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



Volatile Organics by GC/MS

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

Field ID: TP-3
 Lab ID: 128166-001
 Matrix: Water
 Batch#: 32125
 Units: ug/L
 Diln Fac: 1

Sampled: 01/27/97
 Received: 01/29/97
 Extracted: 01/30/97
 Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	97	68-126
Toluene-d8	98	87-125
Bromofluorobenzene	106	79-122



Volatile Organics by GC/MS

Client: Subsurface Consultants
Project#: 133.005
Location: KOT

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: TP-6
Lab ID: 128166-002
Matrix: Water
Batch#: 32125
Units: ug/L
Diln Fac: 1

Sampled: 01/28/97
Received: 01/29/97
Extracted: 01/30/97
Analyzed: 01/30/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	95	68-126
Toluene-d8	99	87-125
Bromofluorobenzene	110	79-122



Lab #: 128166

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
 Batch#: 32125
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 01/30/97

MB Lab ID: QC39174

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	20
Acetone	ND	20
Carbon Disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	5.2	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Surrogate	%Rec	Recovery Limits
1,2-Dichloroethane-d4	99	68-126
Toluene-d8	94	87-125
Bromofluorobenzene	109	79-122



Lab #: 128166

BATCH QC REPORT

EPA 8240 Volatile Organics

Client: Subsurface Consultants
 Project#: 133.005
 Location: KOT

Analysis Method: EPA 8260
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 32125
 Units: ug/L
 Diln Fac: 1

Prep Date: 01/30/97
 Analysis Date: 01/30/97

LCS Lab ID: QC39173

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	56.76	50	114	51-180
Trichloroethene	50.04	50	100	73-141
Benzene	52.44	50	105	78-142
Toluene	51.23	50	102	76-150
Chlorobenzene	53.16	50	106	83-129
Surrogate	%Rec	Limits		
1,2-Dichloroethane-d4	97	68-126		
Toluene-d8	99	87-125		
Bromofluorobenzene	107	79-122		

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

Lab #: 128166

BATCH QC REPORT

EPA 8240 Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 133.005	Prep Method: EPA 5030
Location: KOT	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 01/22/97
Lab ID: 128109-001	Received Date: 01/24/97
Matrix: TCLP Leachate	Prep Date: 01/30/97
Batch#: 32125	Analysis Date: 01/30/97
Units: ug/L	
Diln Fac: .99	

MS Lab ID: QC39187

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	49.41	<4.95	48.51	98	51-180
Trichloroethene	49.41	<4.95	45.23	92	73-141
Benzene	49.41	13.76	61.68	97	78-142
Toluene	49.41	80.77	125.6	91	76-150
Chlorobenzene	49.41	<4.95	46.65	94	83-129
Surrogate	%Rec	Limits			
1,2-Dichloroethane-d4	96	68-126			
Toluene-d8	100	87-125			
Bromofluorobenzene	109	79-122			

MSD Lab ID: QC39188

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	49.41	50.17	102	51-180	3	14
Trichloroethene	49.41	44.96	91	73-141	1	14
Benzene	49.41	61.11	96	78-142	1	11
Toluene	49.41	122.3	84	76-150	3	13
Chlorobenzene	49.41	47.52	96	83-129	2	13
Surrogate	%Rec	Limits				
1,2-Dichloroethane-d4	93	68-126				
Toluene-d8	99	87-125				
Bromofluorobenzene	108	79-122				

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

SAMPLE ID: TP-3
 LAB ID: 128166-001
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/27/97
 DATE RECEIVED: 01/29/97
 DATE REPORTED: 02/14/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32165	EPA 6010A	02/03/97
Arsenic	ND	5.0	1	32165	EPA 6010A	02/03/97
Barium	49	10	1	32165	EPA 6010A	02/03/97
Beryllium	ND	2.0	1	32165	EPA 6010A	02/03/97
Cadmium	ND	2.0	1	32165	EPA 6010A	02/03/97
Chromium (total)	ND	10	1	32165	EPA 6010A	02/03/97
Cobalt	ND	20	1	32165	EPA 6010A	02/03/97
Copper	ND	10	1	32165	EPA 6010A	02/03/97
Lead	ND	3.0	1	32165	EPA 6010A	02/03/97
Mercury	ND	0.20	1	32256	EPA 7470	02/06/97
Molybdenum	ND	20	1	32165	EPA 6010A	02/03/97
Nickel	ND	20	1	32165	EPA 6010A	02/03/97
Selenium	6.4	5.0	1	32165	EPA 6010A	02/03/97
Silver	ND	5.0	1	32165	EPA 6010A	02/03/97
Thallium	ND	5.0	1	32165	EPA 6010A	02/03/97
Vanadium	ND	10	1	32165	EPA 6010A	02/03/97
Zinc	ND	20	1	32165	EPA 6010A	02/03/97

ND = Not detected at or above reporting limit

SAMPLE ID: TP-6
 LAB ID: 128166-002
 CLIENT: Subsurface Consultants
 PROJECT ID: 133.005
 LOCATION: KOT
 MATRIX: Filtrate

DATE SAMPLED: 01/28/97
 DATE RECEIVED: 01/29/97
 DATE REPORTED: 02/20/97

California TITLE 26 Metals

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	1	32165	EPA 6010A	02/03/97
Arsenic	ND	5.0	1	32165	EPA 6010A	02/03/97
Barium	260	10	1	32165	EPA 6010A	02/03/97
Beryllium	ND	2.0	1	32165	EPA 6010A	02/03/97
Cadmium	ND	2.0	1	32165	EPA 6010A	02/03/97
Chromium (total)	ND	10	1	32165	EPA 6010A	02/03/97
Cobalt	ND	20	1	32165	EPA 6010A	02/03/97
Copper	ND	10	1	32165	EPA 6010A	02/03/97
Lead	3.4	3.0	1	32165	EPA 6010A	02/03/97
Mercury	ND	0.20	1	32256	EPA 7470	02/06/97
Molybdenum	ND	20	1	32165	EPA 6010A	02/03/97
Nickel	ND	20	1	32165	EPA 6010A	02/03/97
Selenium	7.3	5.0	1	32165	EPA 6010A	02/03/97
Silver	ND	5.0	1	32165	EPA 6010A	02/03/97
Thallium	ND	5.0	1	32165	EPA 6010A	02/03/97
Vanadium	ND	10	1	32165	EPA 6010A	02/03/97
Zinc	ND	20	1	32165	EPA 6010A	02/03/97

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128166

DATE REPORTED: 02/14/97

 BATCH QC REPORT
 PREP BLANK

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Antimony	ND	60	ug/L	1	32165	EPA 6010A	02/03/97
Arsenic	ND	5	ug/L	1	32165	EPA 6010A	02/03/97
Barium	ND	10	ug/L	1	32165	EPA 6010A	02/03/97
Beryllium	ND	2	ug/L	1	32165	EPA 6010A	02/03/97
Cadmium	ND	2	ug/L	1	32165	EPA 6010A	02/03/97
Chromium (total)	ND	10	ug/L	1	32165	EPA 6010A	02/03/97
Cobalt	ND	20	ug/L	1	32165	EPA 6010A	02/03/97
Copper	ND	10	ug/L	1	32165	EPA 6010A	02/03/97
Lead	ND	3	ug/L	1	32165	EPA 6010A	02/03/97
Mercury	ND	0.2	ug/L	1	32256	EPA 7470	02/06/97
Molybdenum	ND	20	ug/L	1	32165	EPA 6010A	02/03/97
Nickel	ND	20	ug/L	1	32165	EPA 6010A	02/03/97
Selenium	ND	5	ug/L	1	32165	EPA 6010A	02/03/97
Silver	ND	5	ug/L	1	32165	EPA 6010A	02/03/97
Thallium	ND	5	ug/L	1	32165	EPA 6010A	02/03/97
Vanadium	ND	10	ug/L	1	32165	EPA 6010A	02/03/97
Zinc	ND	20	ug/L	1	32165	EPA 6010A	02/03/97

ND = Not Detected at or above reporting limit

CLIENT: Subsurface Consultants
 JOB NUMBER: 128166

DATE REPORTED: 02/14/97

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Antimony	500	453	490	ug/L	91	98	80-120	8	35	32165	EPA 6010A	02/03/97
Arsenic	2000	1950	1960	ug/L	98	98	80-120	1	35	32165	EPA 6010A	02/03/97
Barium	2000	2060	2060	ug/L	103	103	80-120	0	35	32165	EPA 6010A	02/03/97
Beryllium	50	51.5	52.2	ug/L	103	104	80-120	1	35	32165	EPA 6010A	02/03/97
Cadmium	50	54.7	54.4	ug/L	109	109	80-120	1	35	32165	EPA 6010A	02/03/97
Chromium (total)	200	200	202	ug/L	100	101	80-120	1	35	32165	EPA 6010A	02/03/97
Cobalt	500	497	502	ug/L	99	100	80-120	1	35	32165	EPA 6010A	02/03/97
Copper	250	238	238	ug/L	95	95	80-120	0	35	32165	EPA 6010A	02/03/97
Lead	500	505	516	ug/L	101	103	80-120	2	35	32165	EPA 6010A	02/03/97
Mercury	5	4.91	5.103	ug/L	98	102	80-120	4	35	32256	EPA 7470	02/06/97
Molybdenum	400	405	410	ug/L	101	103	80-120	1	35	32165	EPA 6010A	02/03/97
Nickel	500	526	531	ug/L	105	106	80-120	1	35	32165	EPA 6010A	02/03/97
Selenium	2000	1930	1960	ug/L	97	98	80-120	2	35	32165	EPA 6010A	02/03/97
Silver	100	102	102	ug/L	102	102	80-120	0	35	32165	EPA 6010A	02/03/97
Thallium	2000	1950	1970	ug/L	98	99	80-120	1	35	32165	EPA 6010A	02/03/97
Vanadium	500	498	501	ug/L	100	100	80-120	1	35	32165	EPA 6010A	02/03/97
Zinc	500	500	504	ug/L	100	101	80-120	1	35	32165	EPA 6010A	02/03/97

CHAIN OF CUSTODY FORM

128166

PAGE 2 OF

PROJECT NAME: KOT
 JOB NUMBER: 133025 LAB: Curtis and Tompkins
 PROJECT CONTACT: Jerome de Verrier TURNAROUND: Standard
 SAMPLED BY: John Wolfe REQUESTED BY: Meg Mendaza

ANALYSIS REQUESTED	
TEA (d.t.m.s)	
TOH/BTEX	
S240 - VOA's compressed	
S270 soil extended list	
Heavy Metals	
Oil and Grease	

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS				METHOD PRESERVED					SAMPLING DATE				NOTES
		WATER	SOIL	WASTE	AIR	VOA	LITER	PINT	TUBE	HCL	H2SO4	HNO3	ICE	NONE	MONTH	DAY	YEAR	TIME	
-1	TP-3	/				4	4			/			/		01	27	97		
2	TP-6	/				5	3			/			/		01	28	97		
	TP-6 (Free product)	/						2					/		01	28	97		

CHAIN OF CUSTODY RECORD			
RELEASED BY: (Signature) <i>James G. Helge</i>	DATE / TIME 1/29/97 17:00	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature) <i>Jan Quin</i>	DATE / TIME 1/29/97 5:10pm
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES:
 * Please analyze free product layer in this sample

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