SOIL VAPOR SURVEY
106 SOUTH THIRD AVENUE
YAKIMA, WASHINGTON

Submitted To:

Frank Wear Cleaners
106 South Third Avenue
Yakima, Washington 98901

Submitted By:

AGRA Earth & Environmental, Inc.
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

January 1995

File #11-09818-01

AGRA
Earth & Environmental

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Tel (206) 820-4669
Fax (206) 821-3914

30 January 1995
11-09818-01

Frank Wear Cleaners
106 South Third Avenue
Yakima, Washington 98901

Attention: Mr. Gregg Stouffers

Subject: Soil Vapor Survey
106 South Third Avenue
Yakima, Washington

Dear Mr. Stouffers:

AGRA Earth & Environmental, Inc. (AGRA) is pleased to provide you with the results of our recent soil vapor survey conducted at the subject property. The soil vapor survey was performed in accordance with the requirements outlined in the Yakima Railroad Area Remedial Investigation Work Plan drafted by the Washington Department of Ecology.

Thank you for the opportunity to assist you with this project. If you have any questions regarding the report, please do not hesitate to contact the undersigned at (503) 639-3400.

Respectfully submitted,
AGRA Earth & Environmental, Inc.

Leonard C. Farr, Jr., P.G.
Geologist
(503) 639-3400

James S. Dransfield, P.E.
Senior Associate
(206) 820-4669

cc: Rick Roedder, Site Manager, WODE, Yakima Central Region

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11-09818-01

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SOIL VAPOR SURVEY **11-09818-01**
106 SOUTH THIRD STREET
YAKIMA, WASHINGTON

1.0 SUMMARY

At the request of Mr. Gregg Stouffers, AGRA Earth & Environmental, Inc. (AGRA) recently completed a soil vapor survey at Frank Wear Cleaners. The site is located at 106 Third Avenue, Yakima, Washington. The soil vapor survey was performed in accordance with a Remedial Investigation (RI) Work Plan prepared by the Washington Department of Ecology for the Yakima Railroad Area Facility (YRRA).

Our Soil Vapor Survey Indicated:

- **Sampling Methods:** A total of 25 soil vapor samples were collected using two sampling methods. Inside the Frank Wear Cleaners building, vapor samples were collected in Tedlar bags utilizing manually driven hollow drive rods. Outside the building, soil vapor samples were collected in pre-evacuated sample containers using a van-mounted RECON soil probe collection system. Field control samples also were collected in particulate cassettes and charcoal tubes using an SKC high flow air pump.

- **Sampling Results:** PCE vapors were detected in all 25 soil vapor samples at concentrations ranging from 7 to 712 micrograms per liter of air (ppb). Of the 25 samples collected, 17 yielded PCE vapor concentrations of less than 45 ppb. Only three samples yielded PCE concentrations of greater than 125 ppb.

- **Conclusions:** The distribution of PCE vapors in the vadose zone underlying the Frank Wear Cleaner site indicates two potential source areas located near the north-central portion of the site. PCE vapor concentrations also indicate no evidence that the PCE vapor plume has migrated off-site to the east, west, and south. The data obtained through performance of the soil vapor survey will be utilized to aid in siting borings and monitoring wells required by Task 2 of the YRRA RI Work Plan.

1.1 Introduction and Background

This report presents the results of a soil vapor survey conducted by AGRA Earth & Environmental Inc. (AGRA) at Frank Wear Cleaners, located at 106 South Third Avenue, Yakima, Washington. The survey was conducted on behalf of Mr. Gregg Stouffers, current owner of Frank Wear Cleaners.

Frank Wear Cleaners has been identified as a subfacility within the Yakima Railroad Area (YRRA). The YRRA was established as a Facility (as defined in RCW 70.105D.020[5]) by the Washington Department of Ecology (ECOLOGY) following the discovery of tetrachloroethylene (PCE) in the shallow aquifer of the area. A Remedial Investigation (RI) Work Plan has been prepared by ECOLOGY to determine the nature and extent of releases of hazardous

substances from the YRRA. The soil vapor survey was conducted in order to complete Task 1 of the YRRA RI Work Plan. A site history, which was also part of Task 1 of the YRRA RI Work Plan, has been completed and submitted to ECOLOGY.

1.2 Objectives and Scope of Work

The objectives of the soil vapor survey, as stated in the ECOLOGY Work Plan, included:

1) assessing the lateral extent of target volatile organic compounds (VOCs) in vadose zone soil vapors,

2) making a preliminary determination of lateral boundaries of subsurface VOC contamination,

3) providing data to assist in the siting of soil borings and groundwater monitoring wells, and

4) identifying potential source areas.

A soil vapor work plan, and sampling and analysis plan (SAP) for the Frank Wear Cleaners was submitted to ECOLOGY on January 5, 1995. The soil vapor work plan indicated planned soil vapor sampling locations, and described the method that would be utilized to screen vapor samples for PCE. The work plan also stated that vapor samples would be collected in accordance with the sampling methodology provided in the YRRA RI Work Plan. Verbal approval of the soil vapor work plan was received from ECOLOGY of January 6, 1995.

This report has been prepared for the exclusive use of Mr. Gregg Stouffers for specific application to this project, in accordance with generally accepted environmental and geotechnical engineering practices. No other warranty, expressed or implied, is made.

2.0 SOIL VAPOR COLLECTION METHODOLOGIES

Soil vapor samples were collected inside the Frank Wear Cleaners building and in the parking area west of the building. Two different sampling methodologies were utilized, and these are described in the following sections. Field control sampling was also performed both inside and outside the building, and is discussed in Section 2.3.

2.1 Indoor Sampling

Soil vapor samples were collected inside the building using a manual probe advancement system. Prior to probe advancement, the concrete slab was cored. Hollow drive rods were driven to a depth of 3.5 feet below the top of the concrete floor. Soil vapors were extracted

from the subsurface through new Teflon tubing using a vacuum vapor trap. Vapor samples were collected in previously unused, one-liter, Tedlar bags. Sampling locations are shown on Figure 1. The sampling apparatus utilized inside the building is shown on Figure 3, Plate 3.

Nine soil vapor samples were collected inside the Frank Wear Cleaners building on January 10, 1995. The samples were stored overnight in a clean, unchilled cooler. On January 11, 1995, the vapor samples were relinquished to Burlington Environmental Services (BES) for on-site screening. Analytical testing methods and results are described in Section 3.0.

2.2 Outdoor Sampling Methodology

Outside the dry cleaner building, soil vapor samples were collected utilizing a van-mounted, RECON soil probe collection system operated by BES. Hollow drive rods were advanced to depths ranging from four to seven feet below ground surface. The drive rods were pulled-back six to twelve inches, and the sampling system was purged by evacuating two to five probe volumes. Vapor samples were then collected in pre-evacuated glass sample containers. Outside sampling locations are shown on Figure 1. The outside sampling grid and the Geoprobe unit mounted on the RECON van are shown on Figure 2, Plates 1 and 2, respectively.

A total of sixteen soil vapor samples were collected in the parking area west of the Frank Wear Cleaners building on January 11, 1995. The samples were screened for PCE by BES immediately following their collection. Analytical testing methods and results are described in Section 3.0.

2.3 Field Control Sampling

As required by ECOLOGY, field control sampling was conducted at the beginning and the end of each day of sampling. Field control sampling was performed utilizing pre-weighted particulate cartridges and charcoal tubes attached to SKC high flow air pumps. The pumps were calibrated at a flow rate of one liter per minute. The duration of all field control sampling was 90 minutes per sample. Figure 3, Plate 4 shows the field control sampling equipment in operation inside the dry cleaner building. Field control samples were tested for PCE by EPA Method 8010.

3.0 SAMPLE TESTING METHODS AND RESULTS

3.1 Soil Vapor Samples

Soil vapor samples were screened for PCE using a gas chromatograph (GC). The PCE screening was performed in the field by BES. The GC was equipped with a flame-ionization detector and VOC capillary column. The GC was calibrated with a single point calibration standard.

A total of 25 soil vapor samples were screened for PCE. PCE was detected in all of the vapor samples screened. Concentrations ranged from 7 micrograms per liter of air (ppb) to 727 ppb. Soil vapor screening results are summarized in RECON SAMPLE ANALYSIS DRAFT DATA SUMMARY TABLE (2 sheets) in Appendix A. Appendix A also contains chain-of-custody documents for the soil vapor samples collected by AGRA personnel inside the dry cleaner building, and screening results and chromatograms for all soil vapor samples.

3.2 Field Control Samples

Field control samples were submitted to North Creek Analytical for testing by EPA Method 8010. Three of the four field control samples collected inside the dry cleaner building indicated detectable PCE vapor concentrations. The concentrations detected ranged from 0.0079 ppb to 3.9 ppb. PCE was not detected in the field control samples collected during outside sampling activities. The results of field control sample analyses are summarized in the table below. A chain-of-custody document and laboratory report for the samples has been included in Appendix B.

DATE	TIME	LOCATION	SAMPLE I.D.	PCE (ppb)
1-10-95	10:00-11:30	Inside	Cassette, Part 1	0.0079
1-10-95	10:00-11:30	Inside	Charcoal #1	3.9
1-10-95	16:45-18:15	Inside	Cassette, Part 2	<0.0025
1-10-95	16:45-18:15	Inside	Charcoal #2	0.011
1-11-95	8:30-10:00	Outside	Cassette, Part 3	<0.0025
1-11-95	8:30-10:00	Outside	Charcoal #3	<0.0025
1-11-95	14:30-16:00	Outside	Cassette, Part 4	<0.0025
1-11-95	14:30-16:00	Outside	Charcoal #4	<0.0025

4.0 LATERAL EXTENT AND MAGNITUDE OF PCE VAPORS

In order to aid in the presentation of testing results, a PCE vapor concentration contour map has been prepared (Figure 4). The distribution of PCE vapors illustrated in Figure 4 indicates two primary areas with elevated PCE vapors. The two areas are each defined by a single elevated vapor sample (probe locations OTS-15 and INS-1B). Both areas are considered to have a high potential as source areas.

Because PCE vapors were detected in all project samples, the absolute lateral boundaries of the PCE vapor plume could not be determined. However, significant vapor concentrations do not appear to extend beyond the east, west, and south boundaries of the property, where PCE vapor concentrations were generally low (7 ppb to 44 ppb). Because the highest PCE vapor concentrations were detected near the northern property boundary, the lateral extent of the PCE vapor plume could not be determined.

5.0 CONCLUSIONS

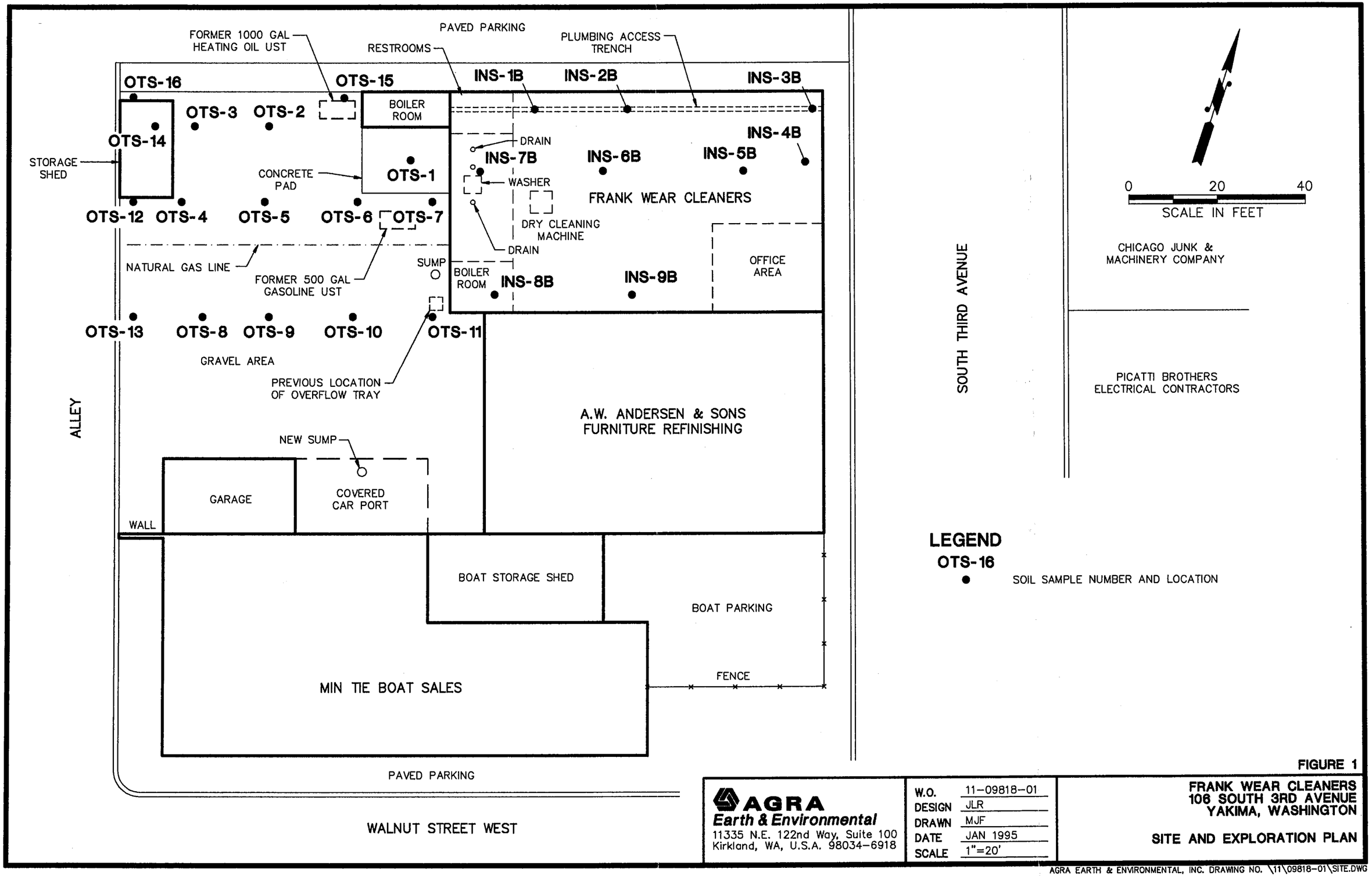
Two potential PCE source areas have been identified at the site through a soil vapor survey. The two areas yielded PCE vapor concentrations of 712 ppb (OTS-15) and 456 ppb (INS-1B). Although PCE was detected in all 25 soil vapor samples collected and analyzed, the distribution of PCE indicates that significant PCE vapor concentrations have likely not migrated off-site to the east, west, or south.

The objectives stated in the YRRA RI Work Plan have generally been achieved. The lateral extent and boundaries of PCE vapors in vadose zone soils have been determined for the subject site. Off-site vapor sampling locations could not be established north of the subject site due to access limitations. Two potential source areas warranting further assessment have been identified. The data gathered will be utilized in siting YRRA RI Work Plan Task 2 soil borings and groundwater monitoring wells.

6.0 DATA LIMITATIONS

Soil vapor survey effectiveness is based upon the vapor pressures (volatility) of target compound(s), and upon site soil conditions. Soil conditions at the Frank Wear Cleaners site and PCE are conducive to soil vapor sampling. Therefore, the vapor survey discussed in this report is considered reliable in identifying residual VOC contamination in the vadose zone.

The effectiveness of soil vapor surveys in determining the lateral extent of a groundwater contaminant plumes is generally not effective. Therefore, the distribution of the PCE vapor plume is not considered to be an accurate representation of the lateral extent and magnitude of groundwater impact at the site. The soil vapor concentration data obtained is not considered sufficient to determine the magnitude of soil impact, or to determine if site groundwater quality has been affected. Soil and groundwater sampling that will be conducted as part of Task 2 will provide the data necessary to determine the extent and magnitude of soil and groundwater contamination.



LEGEND

OTS-16

● SOIL SAMPLE NUMBER AND LOCATION

FIGURE 1

AGRA
Earth & Environmental
11335 N.E. 122nd Way, Suite 100
Kirkland, WA, U.S.A. 98034-6918

W.O.	11-09818-01
DESIGN	JLR
DRAWN	MJF
DATE	JAN 1995
SCALE	1"=20'

FRANK WEAR CLEANERS
106 SOUTH 3RD AVENUE
YAKIMA, WASHINGTON

SITE AND EXPLORATION PLAN

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \11\09818-01\SITE.DWG

PLATE 1

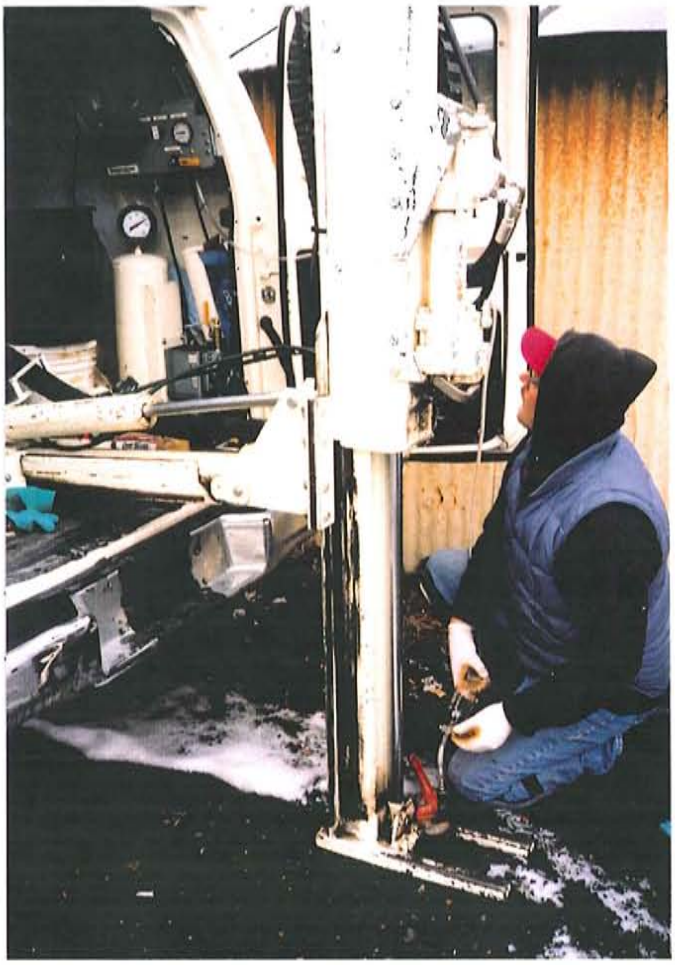


PLATE 2

FIGURE 2

AGRA
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Kirkland, WA, U.S.A. 98034-6918

W.O.	11-09818-01
DESIGN	DAK
DRAWN	MJF
DATE	JAN 1995
SCALE	N.T.S.

FRANK WEAR CLEANERS
106 SOUTH 3RD AVENUE
YAKIMA, WASHINGTON

SITE PHOTOGRAPHS

PLATE 3

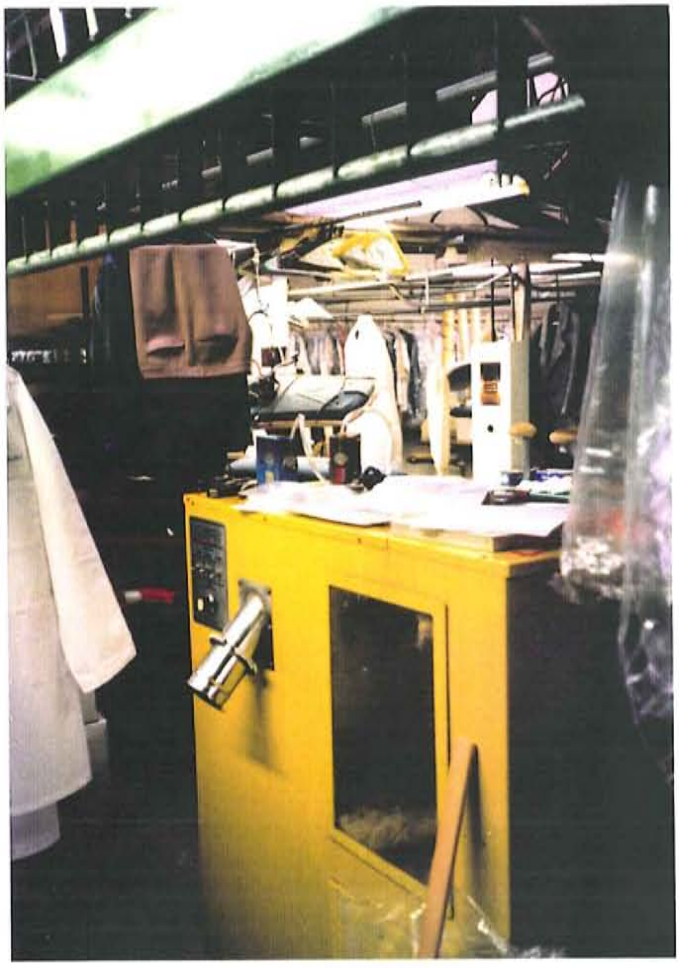

PLATE 4

FIGURE 3

AGRA
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Kirkland, WA, U.S.A. 98034-6918

W.O.	11-09818-01
DESIGN	DAK
DRAWN	MJF
DATE	JAN 1995
SCALE	N.T.S.

FRANK WEAR CLEANERS
106 SOUTH 3RD AVENUE
YAKIMA, WASHINGTON

SITE PHOTOGRAPHS

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \11\09818-01\PHOTO3.DWG

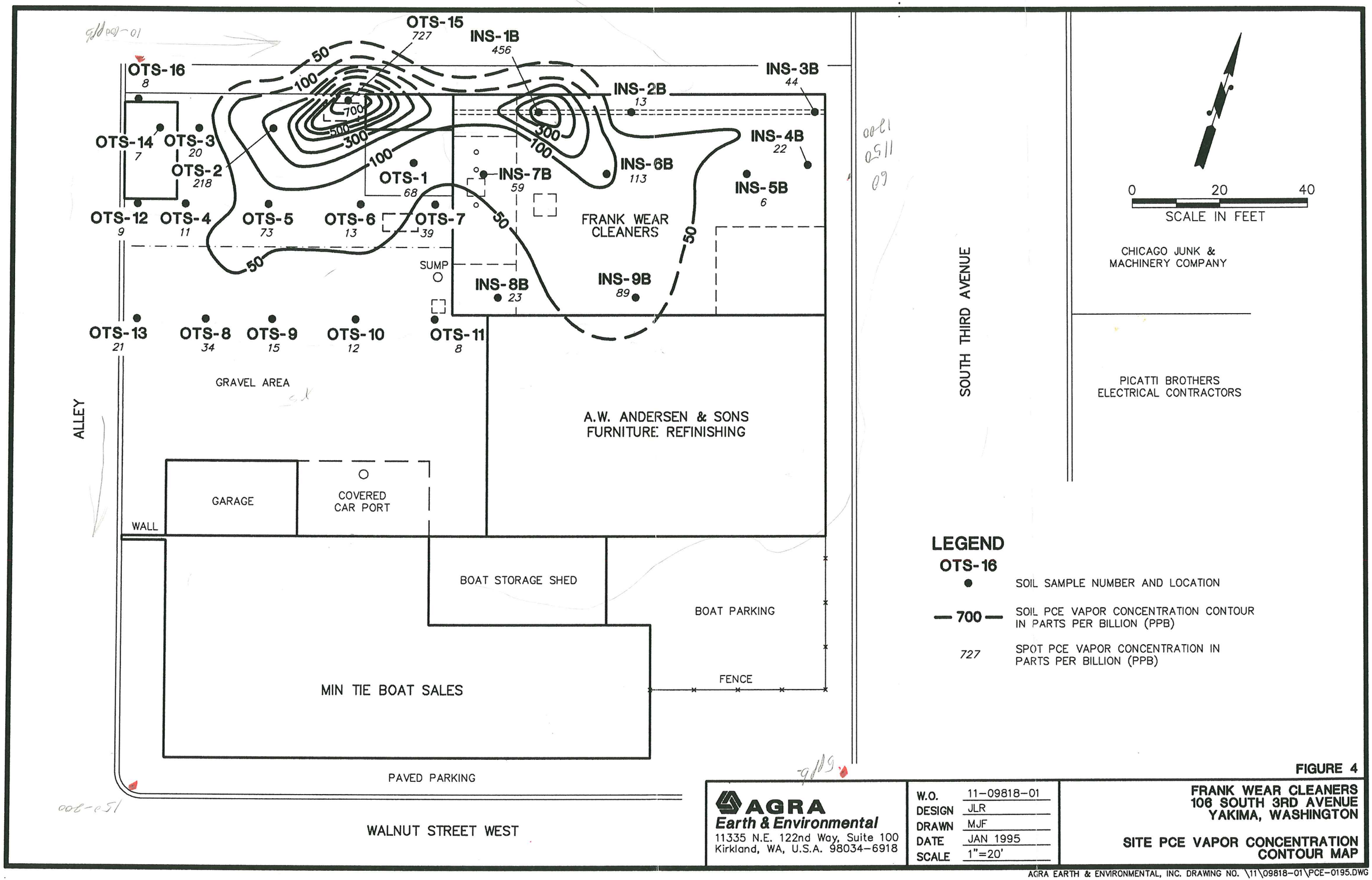

FIGURE 4

AGRA
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Kirkland, WA, U.S.A. 98034-6918

W.O.	11-09818-01
DESIGN	JLR
DRAWN	MJF
DATE	JAN 1995
SCALE	1"=20'

FRANK WEAR CLEANERS
106 SOUTH 3RD AVENUE
YAKIMA, WASHINGTON

SITE PCE VAPOR CONCENTRATION CONTOUR MAP

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \11\09818-01\PCE-0195.DWG

APPENDIX A

CHAIN-OF-CUSTODIES, RECON® SAMPLES, TEST RESULTS/CHROMATOGRAMS

BURLINGTON ENVIRONMENTAL

RECON SAMPLE ANALYSIS
DRAFT DATA SUMMARY TABLE
Project: 13583

Sample I.D.	Probe Hole Number	Sample Depth (feet)	PCE (ug/L)					Comments
Blank-01	N/A	N/A	ND(3)					QC - System Blank
STD-1007	N/A	N/A	238					Calibration Standard
Blank-02	N/A	N/A	ND(3)					QC - System Blank
INS-1B	N/A	N/A	456					Soil-gas
INS-2B	N/A	3.5	13					Soil-gas
INS-3B	N/A	3.5	44					Soil-gas
INS-4B	N/A	3.5	22					Soil-gas
INS-5B	N/A	3.5	16					Soil-gas
INS-6B	N/A	3.5	113					Soil-gas
INS-7B	N/A	3.5	59					Soil-gas
INS-8B	N/A	3.5	23					Soil-gas
INS-9B	N/A	3.5	89					Soil-gas
OTS-1B	N/A	6.0	68					Soil-gas
OTS-2	N/A	6-7	218					Soil-gas
OTS-3	N/A	5-6	20					Soil-gas
OTS-4	N/A	3.5-4	11					Soil-gas
OTS-5	N/A	5.5-6.5	73					Soil-gas
OTS-5-D	N/A	5.5-6.5	79					QC - Duplicate
Blank-03	N/A	N/A	ND(3)					Soil-gas
OTS-6	N/A	5-6	13					Soil-gas
OTS-7	N/A	5-6	39					Soil-gas
OTS-8	N/A	5.5-6.5	34					Soil-gas
OTS-9	N/A	5-6	15					Soil-gas
OTS-10	N/A	5-6	12					Soil-gas
OTS-11	N/A	4-5	8					Soil-gas
OTS-12	N/A	5-6	9					Soil-gas
OTS-13	N/A	6-7	21					Soil-gas
OTS-14	N/A	3.0	7					Soil-gas

D = duplicate analysis
QC = quality control
ug/L = micrograms of compound detected per liter of soil vapor analyzed
ND = not detected at the lower quantifiable limit indicated in parenthesis
NA = not applicable

QA Review: _____

Review Date: _____

BURLINGTON ENVIRONMENTAL

RECON SAMPLE ANALYSIS
DRAFT DATA SUMMARY TABLE
Project: 13583

Sample I.D.	Probe Hole Number	Sample Depth (feet)	PCE (ug/L)					Comments
OTS-15	N/A	5.5-6.5	727					Soil-gas
OTS-16	N/A	6-7	8					

D = duplicate analysis
QC = quality control
ug/L = micrograms of compound detected per liter of soil vapor analyzed
ND = not detected at the lower quantifiable limit indicated in parenthesis
NA = not applicable

QA Review: ________________

Review Date: ________________

APPENDIX A

CHAIN-OF-CUSTODIES, RECON® SAMPLES, TEST RESULTS/CHROMATOGRAMS

AGRA
Earth & Environmental
11335 NE 122nd Way, Suite 100
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Tel (206) 820-4669 Fax (206) 821-3914

00452

CHAIN OF CUSTODY

PROJECT: FRANIC WEAR CLEANERS	PROJECT No.: 11:098/8:01
CLIENT: GREG STOOFFERS	PHONE No.
PROJECT MANAGER: DALE KRAMER	PHONE No.
SAMPLER'S NAME (please print): DALE KRAMER / SCOTT OVERBECK	PHONE No.
SAMPLERS SIGNATURE: Dale A. Kramer	

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	CONTAINERS VOL.	BTEX by EPA 602 / 8020	WTPH-G	BTEX / WTPH-G	WTPH-HCID	WTPH-D / WTPH-D EXTENDED	TPH by EPA 8015 MODIFIED	WTPH-418.1 MODIFIED	TPH by EPA 418.1	GC / MS EPA 624 / 8240 or EPA 8260 Volatiles	GC / MS EPA 625 / 8270 Semi-volatiles	VOCs EPA 601 (8010) or EPA 602 / 8020	PCBs EPA 608 / 8080	LEAD EPA 6010 / EPA 7421 Total / Dissolved	TOTAL METALS	TCLP				
1. INS-1A	1-6-95		SOIL VAPOR	NO	1	TEDLAR BAG											(8010) MODIFIED BY BES								
2. INS-1B																									
3. INS-2A																									
4. INS-2B																									
5. INS-3A																									
6. INS-3B																									
7. INS-4A																									
8. INS-4B																									
9. INS-5A																									
10. INS-5B																									

SAMPLE RECEIPT	LABORATORY	TURNAROUND TIME	SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS
TOTAL # CONTAINERS: 20	SHIPPING I.D. / AIRBILL #: N/A Relinquished on Site	☐ 8 HOUR ☒ 24 HOUR ☐ 1 WEEK ☐ 2 WEEK (standard) ☐ OTHER _____	Save only B's of samples INS-1 through INS-5 DAK
CONDITION OF CONTAINERS: Good	CARRIER		
CONDITION OF SEALS: Good	DOT DESIGNATION		

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1. Dale A. Kramer	1-11-95	0800	1. Gary Wood	1-11-95	0800
2.			2.		
3.			3.		

PAGE 1 OF 2

AGRA Earth & Environmental, Inc. (7/94)

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AGRA
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11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918
Tel (206) 820-4669 Fax (206) 821-3914

CHAIN OF CUSTODY

PROJECT	PROJECT No.
CLIENT	PHONE No.
PROJECT MANAGER	PHONE No.
SAMPLER'S NAME (please print)	PHONE No.
SAMPLER'S SIGNATURE	

See page 1

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	CONTAINERS VOL.	BTEX by EPA 602 / 8020	WTPH-G	BTEX / WTPH-G	WTPH-HCID	WTPH-D / WTPH-D EXTENDED	TPH by EPA 8015 MODIFIED	WTPH-418.1 MODIFIED	TPH by EPA 418.1	GC / MS EPA 624 / 8240 or EPA 8260 Volatiles	GC / MS EPA 625 / 8270 Semi-volatiles	VOCs EPA 601 / 8010 or EPA 602 / 8020	PCBs EPA 608 / 8080	LEAD EPA 6010 / EPA 7421 Total / Dissolved	TOTAL METALS	TCLP				
1. INS-6A	1-10-95		Soil Vapor	NONE	TEDLAR	BAG																			
2. INS-6B	↓		↓	↓	↓																				
3. INS-7A																									
4. INS-7B																									
5. INS-8A																									
6. INS-8B																									
7. INS-9A																									
8. INS-9B																									
9. ~~INS-10A~~ OTS1A																									
10. ~~INS-10B~~ OTS1B	↓		↓	↓	↓																				

SAMPLE RECEIPT	LABORATORY	TURNAROUND TIME	SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS
TOTAL # CONTAINERS 20	Burlington Environmental Region Geoprobe 8010 Analysis	☐ 8 HOUR	Save only B's of samples INS-1 through OTS-1 OAK
CONDITION OF CONTAINERS Good	SHIPPING I.D. / AIRBILL # N/A Relinquished on Site	☐ 24 HOUR	
CONDITION OF SEALS Good	CARRIER	☐ 1 WEEK	
	DOT DESIGNATION	☐ 2 WEEK (standard)	
		☐ OTHER ______	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1. Dale A. [signature]	1-11-95	0800	1. Mary Wood	1-11-95	0800
2.			2.		
3.			3.		

DISTRIBUTION: White, Yellow - Laboratory, Pink - Originator

External Standard Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0105.D
Operator : GWW
Instrument : HP5890GC
Sample Name : INS-1B
Run Time Bar Code:
Acquired on : 11 Jan 95 08:18 AM
Report Created on: 11 Jan 95 08:21 AM
Last Recalib on : 11 Jan 95 07:39 AM
Multiplier : 0.2
Sample Info : SOIL-GAS COLLECTED @ 1315 1/10/95

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0105.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.887	50704	VB	0.044	1-R	25.384	a,a,a-TFT
1.509	104461	BB	0.050	1	456.077	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
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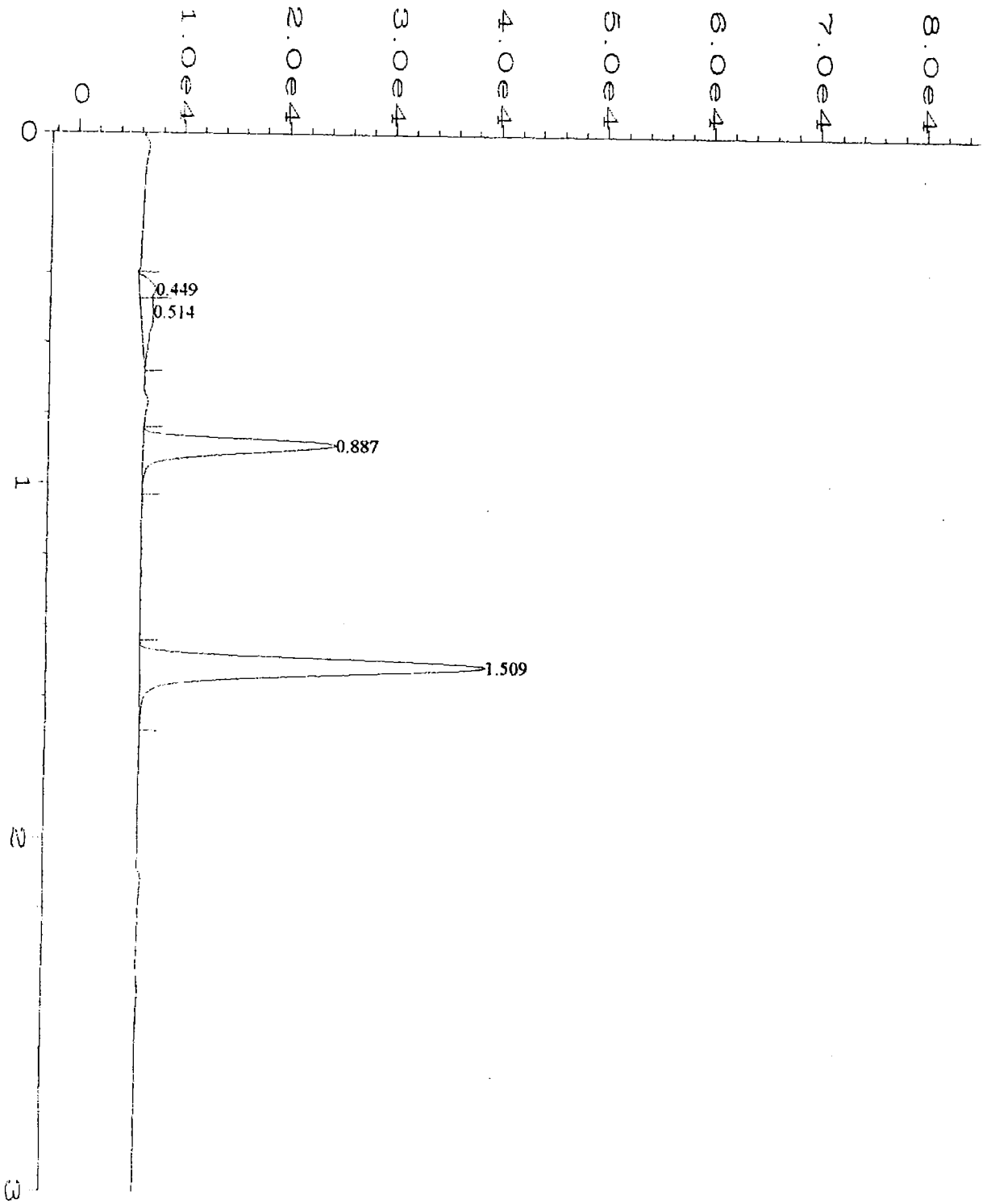
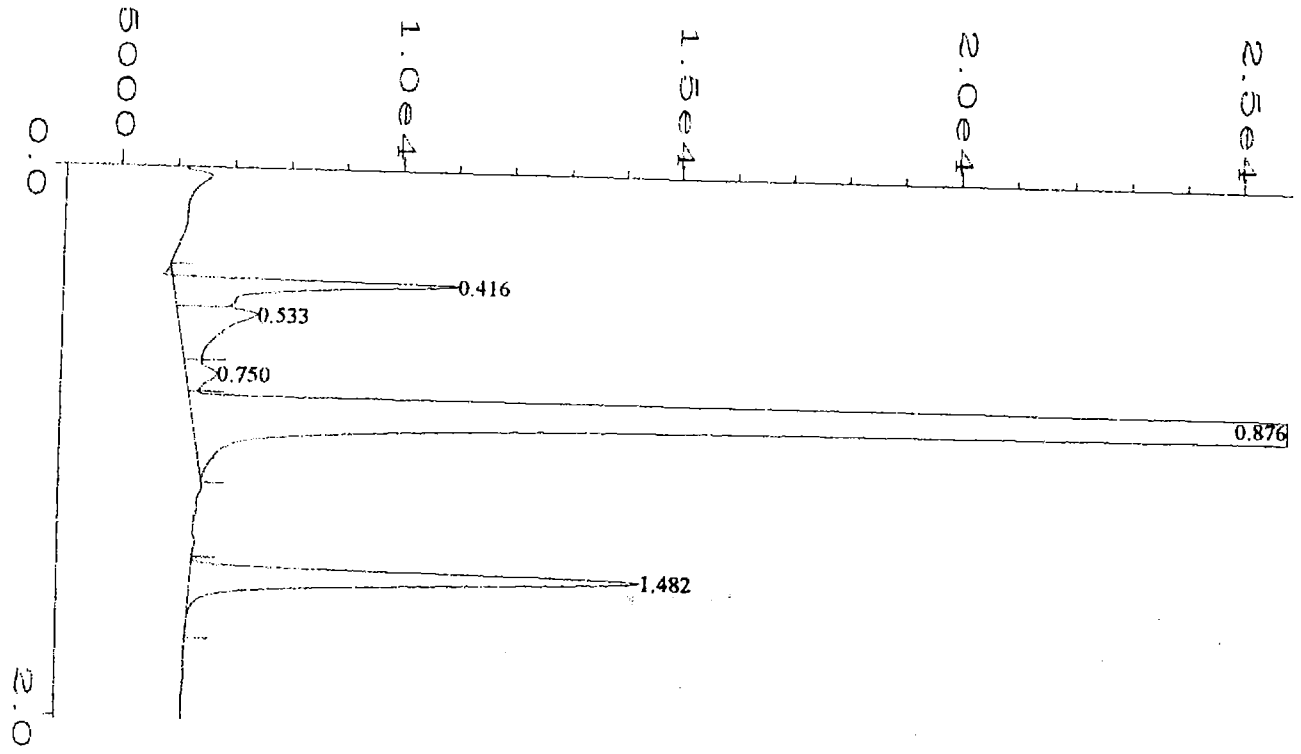


Data File Name : C:\HPCHEM\1\DATA\NV-F0105.D
Operator : GWW
Instrument : HP5890GC
Sample Name : INS-1B
Run Time Bar Code:
Acquired on : 11 Jan 95 08:18 AM
Report Created on: 11 Jan 95 08:21 AM
Last Recalib on : 11 Jan 95 07:39 AM
Multiplier : 0.2
Sample Info : SOIL-GAS COLLECTED @ 1315 1/10/95

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :



External Standard Report

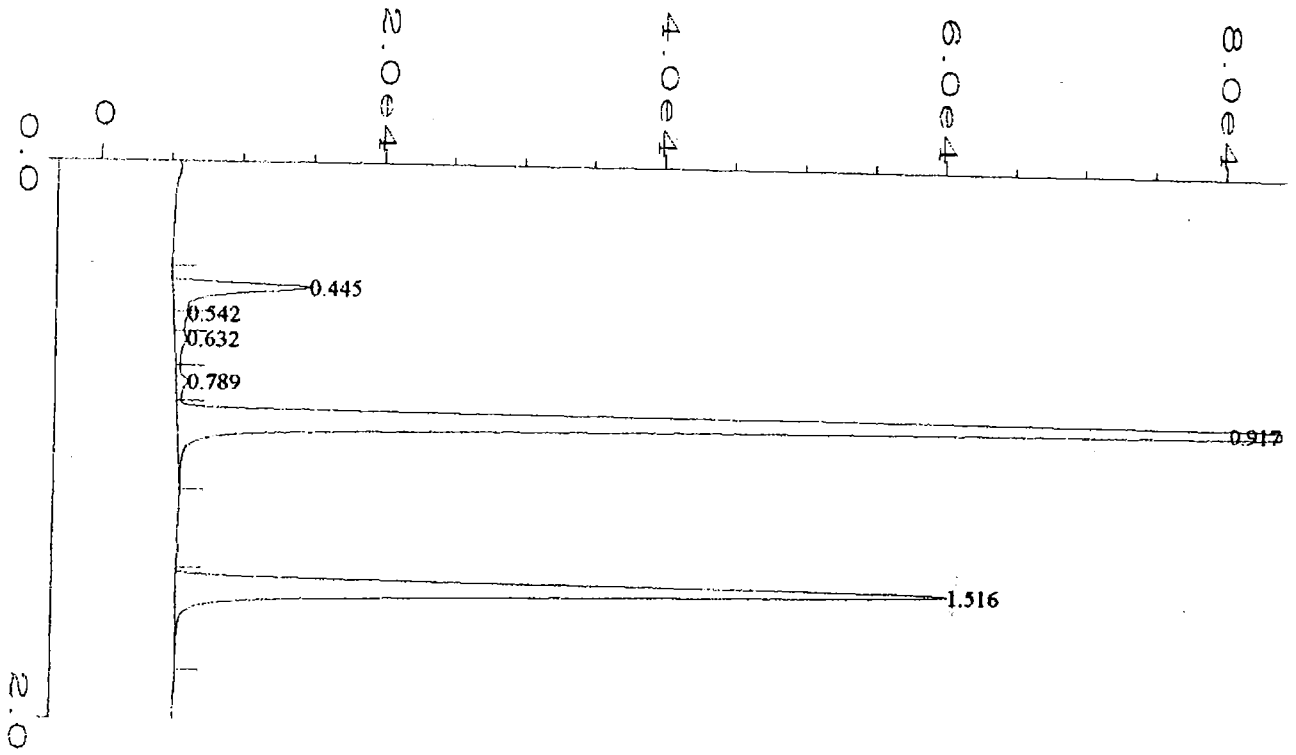
Data File Name : C:\HPCHEM\1\DATA\NV-F0114.D
Operator : GWW
Instrument : HP5890GC
Sample Name : INS-6B
Run Time Bar Code:
Acquired on : 11 Jan 95 09:11 AM
Report Created on: 11 Jan 95 09:13 AM
Last Recalib on : 11 JAN 95 07:39 AM
Multiplier : 0.2
Sample Info : SOIL-GAS COLLECTED @ 1522 1/10/95 @ 3.5 FEET BGS

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

Avg. 1 in C:\HPCHEM\1\DATA\NV-F0114.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.876	554371	VV	0.051	1-R	277.537	a,a,a-TFT
1.482	25944	BB	0.051	1	113.272	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.876	-2.4%



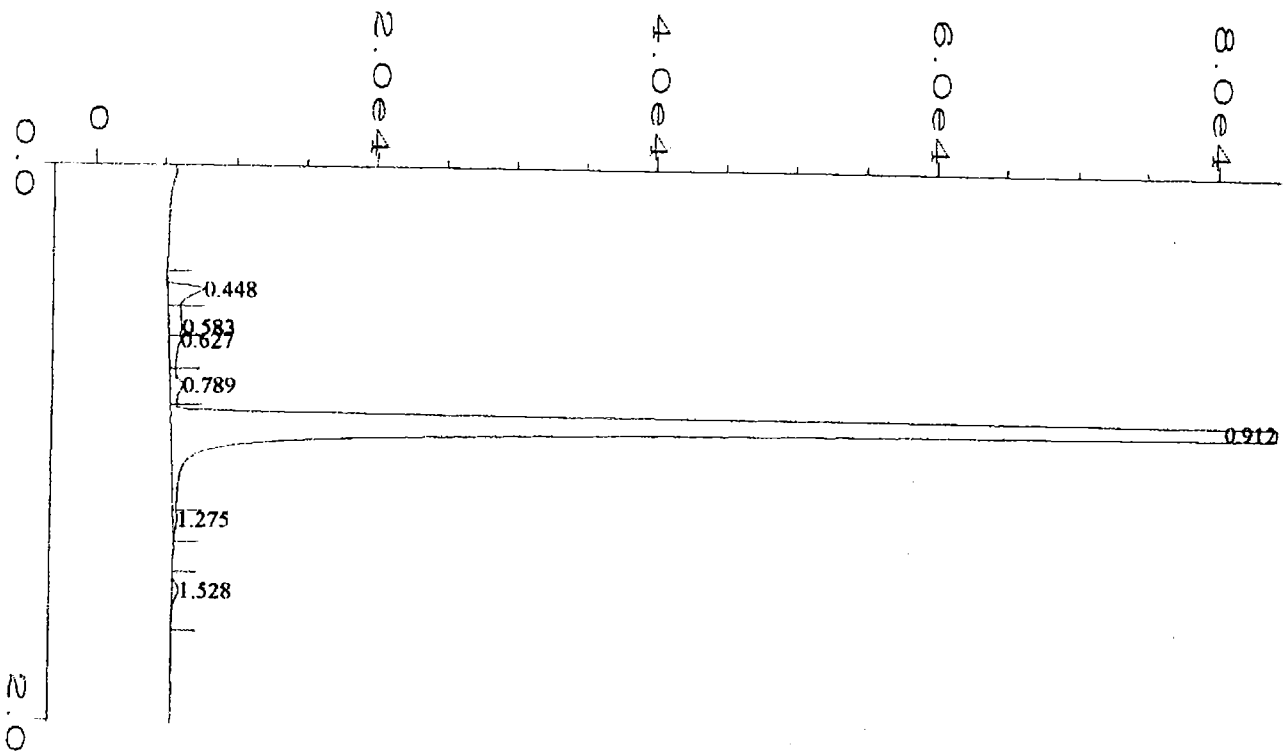
External Standard Report

ta File Name	: C:\HPCHEM\1\DATA\NV-F0142.D		
erator	: GWW	Page Number	: 1
nstrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-15	Injection Number	:
un Time Bar Code:		Sequence Line	:
cquired on	: 11 Jan 95 02:51 PM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 02:54 PM	Analysis Method	: BTEX.MTH
ast Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
ultiplier	: 0.2	ISTD Amount	:

ig. 1 in C:\HPCHEM\1\DATA\NV-F0142.D

et Time	Area	Type	Width	Ref#	ug/L	Name
0.917	288532	VV	0.046	1-R	144.449	a,a,a-TFT
1.516	166528	PB	0.048	1	727.065	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.917	2.1%



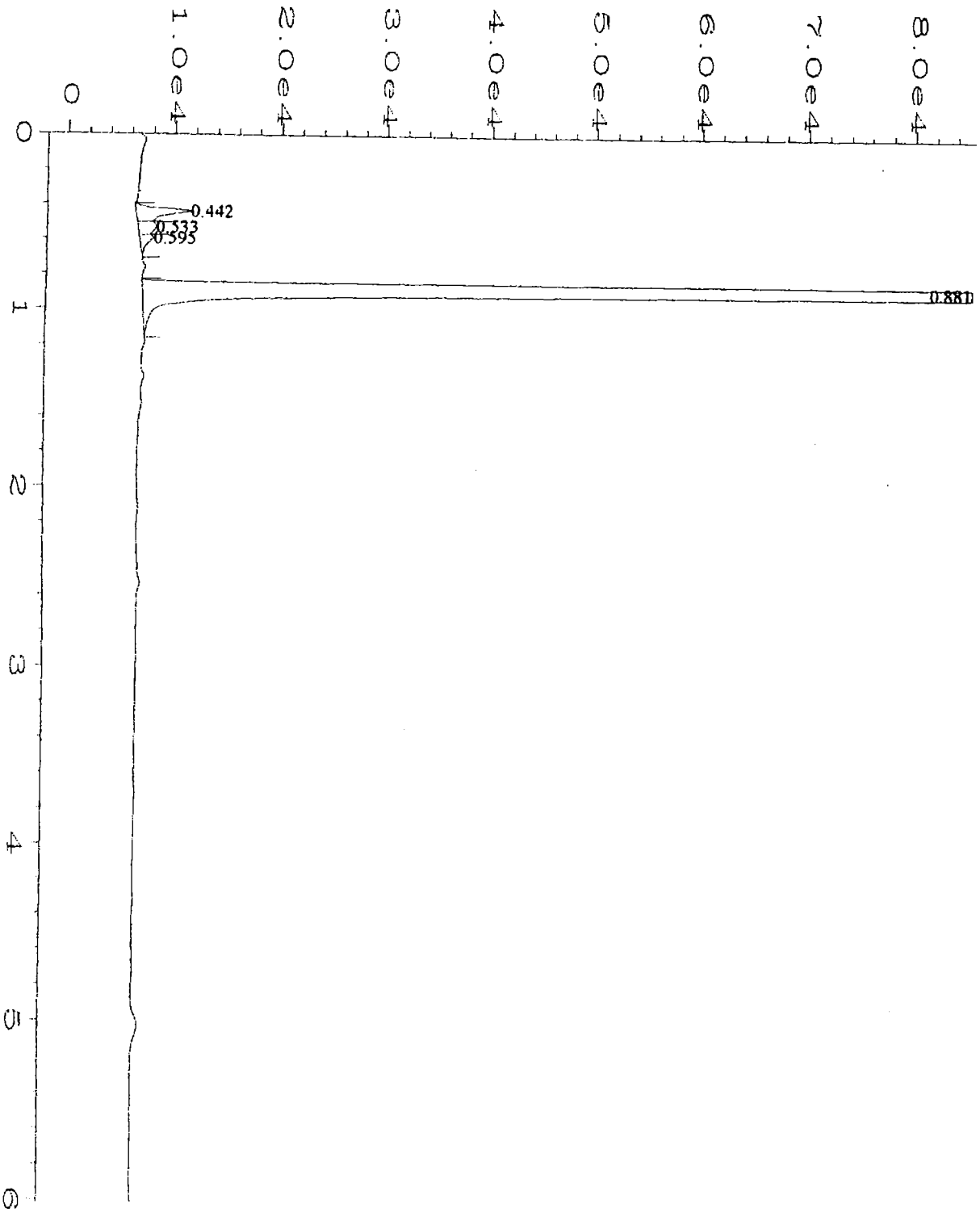
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0143.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-16	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 03:02 PM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 03:04 PM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED AT 1500 1/11/95 @ 6 TO 7 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0143.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.912	487340	VV	0.039	1-R	243.979	a,a,a-TFT
1.528	1874	BB	0.061	1	8.181	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.912	1.6%



Data File Name : C:\HPCHEM\1\DATA\NV-F0102.D
Operator : GWW
Instrument : HP5890GC
Sample Name : BLANK-01
Run Time Bar Code:
Acquired on : 11 Jan 95 06:43 AM
Report Created on: 11 Jan 95 06:49 AM
Last Recalib on : 28 NOV 94 07:47 AM
Multiplier : 0.2
Sample Info : QC - SYSTEM BLANK

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

External Standard Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0102.D
Operator : GWW
Instrument : HP5890GC
Sample Name : BLANK-01
Run Time Bar Code:
Acquired on : 11 Jan 95 06:43 AM
Report Created on: 11 Jan 95 06:49 AM
Last Recalib on : 28 NOV 94 07:47 AM
Multiplier : 0.2
Sample Info : QC - SYSTEM BLANK

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0102.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
1.717	* not found *			1-R		a,a,a-TFT
0.442	15190	BV	0.043		14.801	* uncalibrated *
0.533	6665	VV	0.061		6.495	* uncalibrated *
0.595	4407	VB	0.045		4.294	* uncalibrated *
0.881	984581	BV	0.040		959.375	* uncalibrated *

Time Reference Peak	Expected RT	Actual RT	Difference
1	1.717	* not found *	

Could not find time reference peak:
No peak of Number 1's description at 1.717 + 0.086 - 0.086 min.
Not all time reference peaks were found

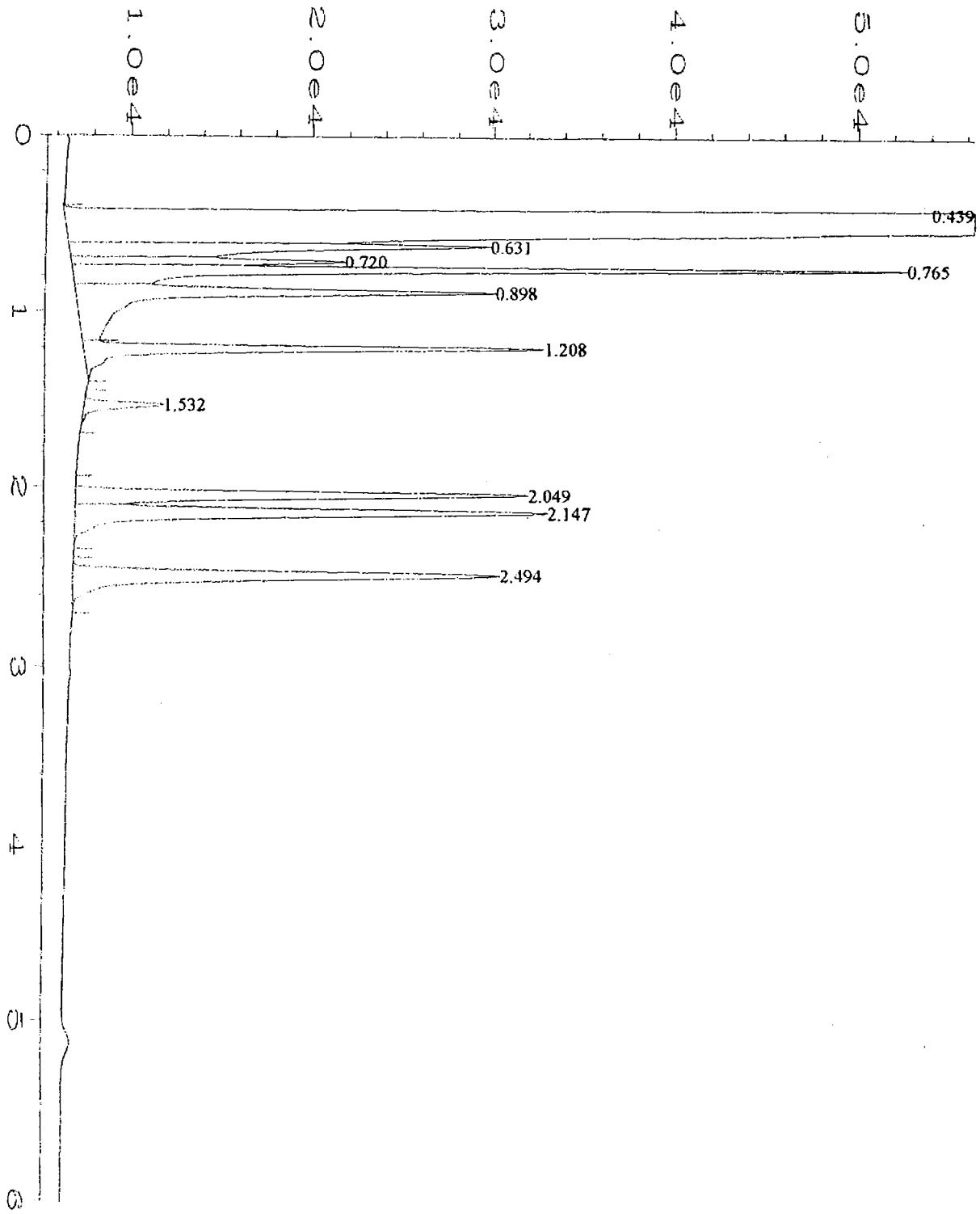
Area Percent Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0102.D
Operator : GWW
Instrument : HP5890GC
Sample Name : BLANK-01
Run Time Bar Code:
Acquired on : 11 Jan 95 06:43 AM
Report Created on: 11 Jan 95 06:49 AM
Last Recalib on : 28 NOV 94 07:47 AM
Multiplier : 0.2
Sample Info : QC - SYSTEM BLANK

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

Sig./Pk# in RT: C:\HPCHEM\1\DATA\NV-F0102.D

Ret Time	Area	Height	Type	Width	Area %
0.533	6665	1672	VV	0.061	0.1319



Data File Name	: C:\HPCHEM\1\DATA\NV-F0103.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: STD-0111	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 07:18 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 07:36 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 Jan 95 07:35 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	:

External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0103.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: STD-0111	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 07:18 AM	Instrument Method:	BTEX.MTH
Report Created on:	11 Jan 95 07:36 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 Jan 95 07:35 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	:

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0103.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.898	88688	VV	0.052	1-R	222.000	a,a,a-TFT
1.532	10902	BB	0.039	1	238.000	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.898	0.0%

Calibration Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0103.D
Operator : GWW
Instrument : HP5890GC
Sample Name : STD-0111
Run Time Bar Code:
Acquired on : 11 Jan 95 07:18 AM
Report Created on: 11 Jan 95 07:39 AM
Last Recalib on : 11 Jan 95 07:35 AM
Multiplier : 1

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

Calibration Table

Pk#	RT	Lvl	ug/L	Amt/Area	Ref Istd	I#	Name
1	0.898	1	222.0	2.5032e-003	Ref	1	a,a,a-TFT
2	1.532	1	238.0	0.02183		1	PCE

Calibration Settings

Title:

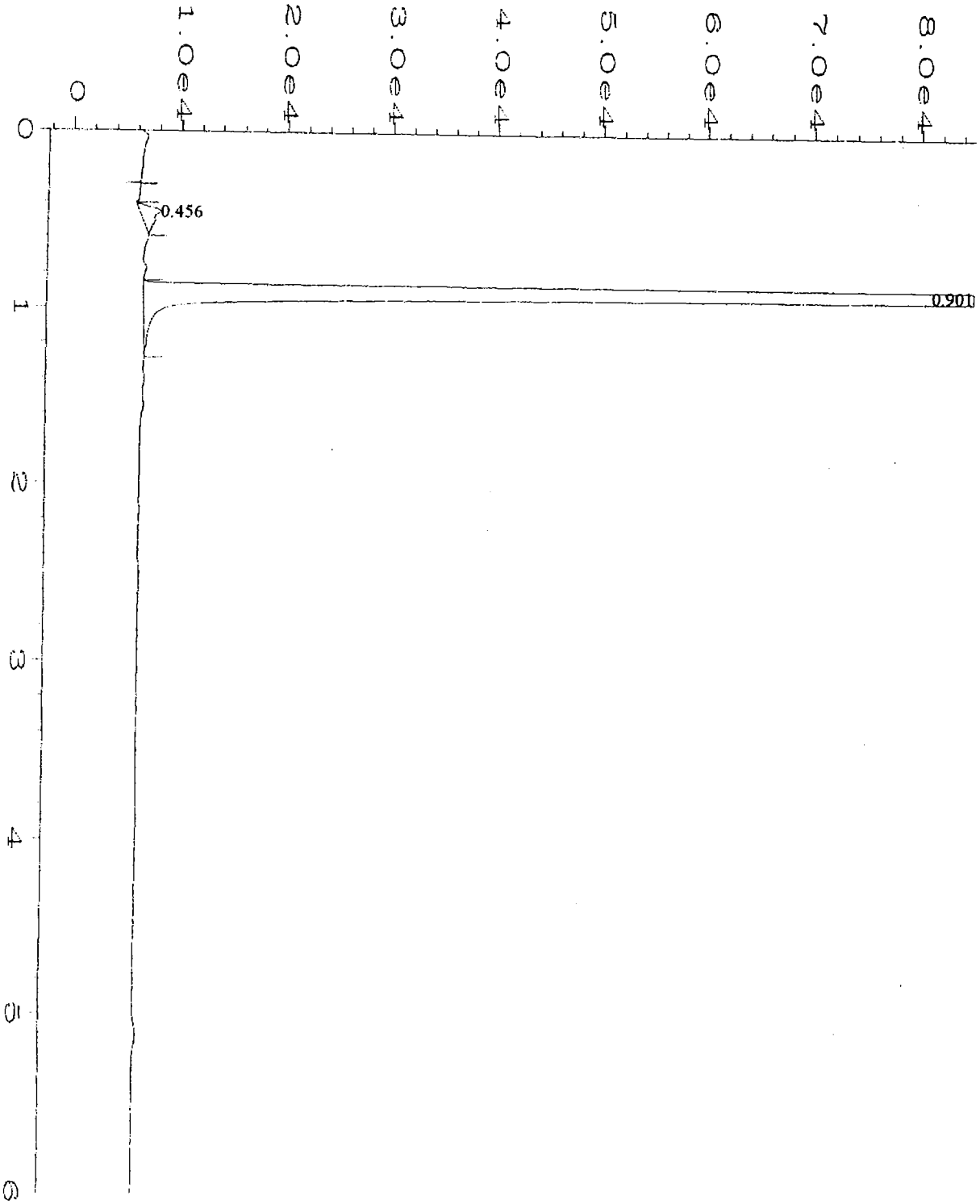
Reference window: 10.000 %
Non-reference window: 5.000 %
Units of amount: ug/L
Multiplier: 1.0
Puncal peaks: 0.0
Sample Amount: 0.0

Sample ISTD Information

No Sample ISTD Amounts

Multilevel Information

Fit: Linear
Origin: Force



Data File Name : C:\HPCHEM\1\DATA\NV-F0104.D
Operator : GWW
Instrument : HP5890GC
Sample Name : BLANK-02
Run Time Bar Code:
Acquired on : 11 Jan 95 07:42 AM
Report Created on: 11 Jan 95 07:48 AM
Last Recalib on : 11 Jan 95 07:39 AM
Multiplier : 0.2
Sample Info : QC - SYSTEM BLANK

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

External Standard Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0104.D
Operator : GWW
Instrument : HP5890GC
Sample Name : BLANK-02
Run Time Bar Code:
Acquired on : 11 Jan 95 07:42 AM
Report Created on: 11 Jan 95 07:48 AM
Last Recalib on : 11 Jan 95 07:39 AM
Multiplier : 0.2
Sample Info : QC - SYSTEM BLANK

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0104.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.901	1034608	BB	0.044	1-R	517.960	a,a,a-TFT
1.532	* not found *			1		PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.901	0.3%

Not all calibrated peaks were found

RECOVERY SYSTEM

GC LOWER QUANTIFIABLE LIMIT (LQL)

DATE : **1/11/95** PROJECT # **RZA AGRA - FRANK WARE CLEANERS**

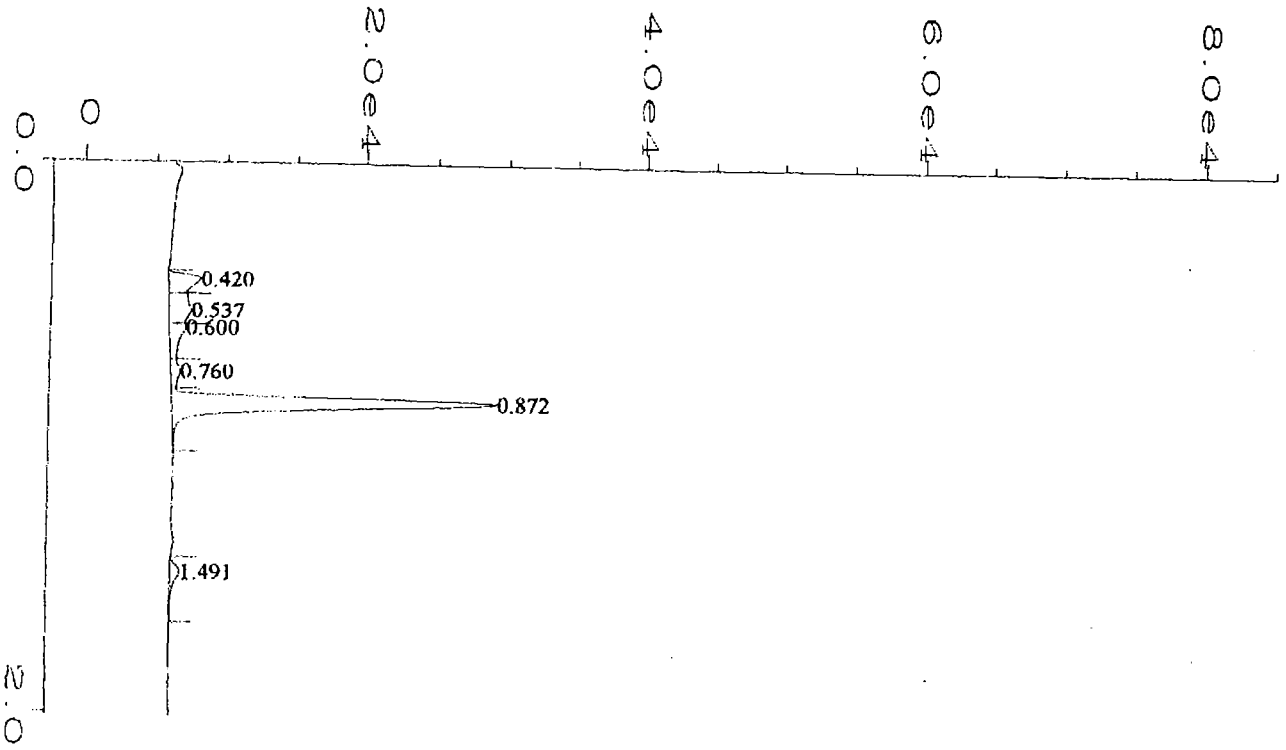
CALIBRATION STANDARD INJECTION VOLUME (uL):	**100**
MAXIMUM INJECTION VOLUME (uL):	**500**
AREA COUNT USED TO CALCULATE LQL:	**500**

COMPOUND : **PCE**

CONCENTRATION : **238** ug/L AREA : **10902**

RESPONSE FACTOR : 2.1831E-02

Sample IV =	500	LQL :	**2.18**	µg/ L
Sample IV =	400	LQL :	**2.73**	µg/ L
Sample IV =	300	LQL :	**3.64**	µg/ L
Sample IV =	200	LQL :	**5.46**	µg/ L
Sample IV =	100	LQL :	**10.92**	µg/ L



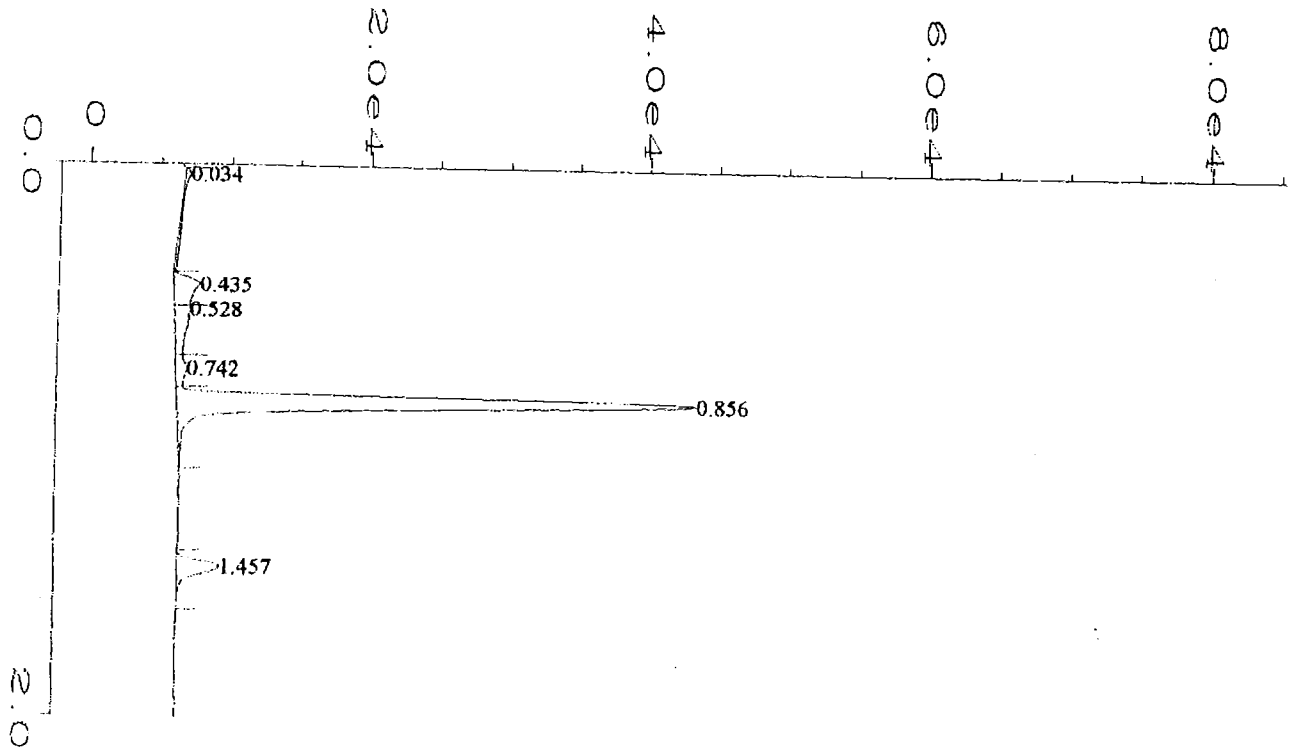
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0106.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: INS-2B	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 08:32 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 08:36 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 Jan 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0106.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.872	62874	VB	0.043	1-R	31.477	a,a,a-TFT
1.491	3003	VB	0.064	1	13.112	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.872	-2.9%



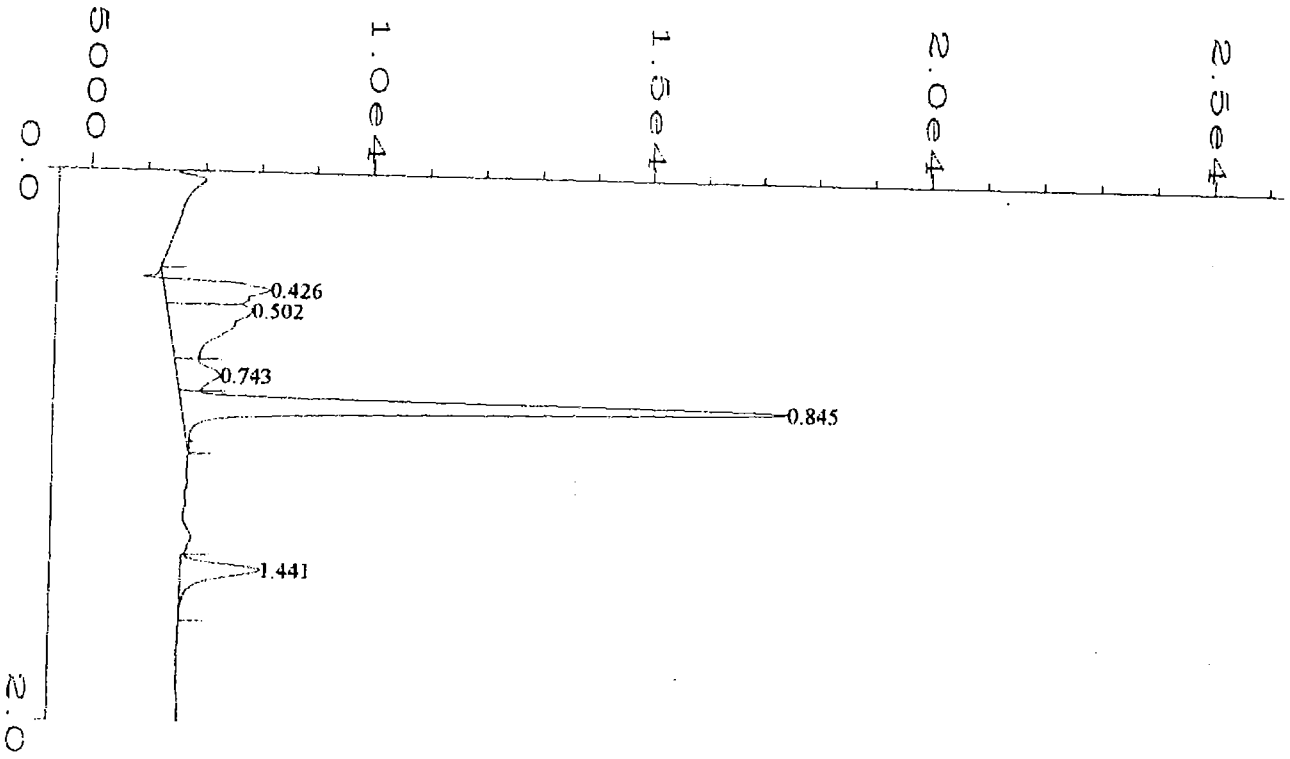
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0107.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: INS-3B	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 08:39 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 08:41 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 Jan 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED AT 1430 1/10/95 @ 3.5 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0107.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.856	106210	VV	0.045	1-R	53.172	a,a,a-TFT
1.457	10185	VB	0.053	1	44.468	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.856	-4.7%



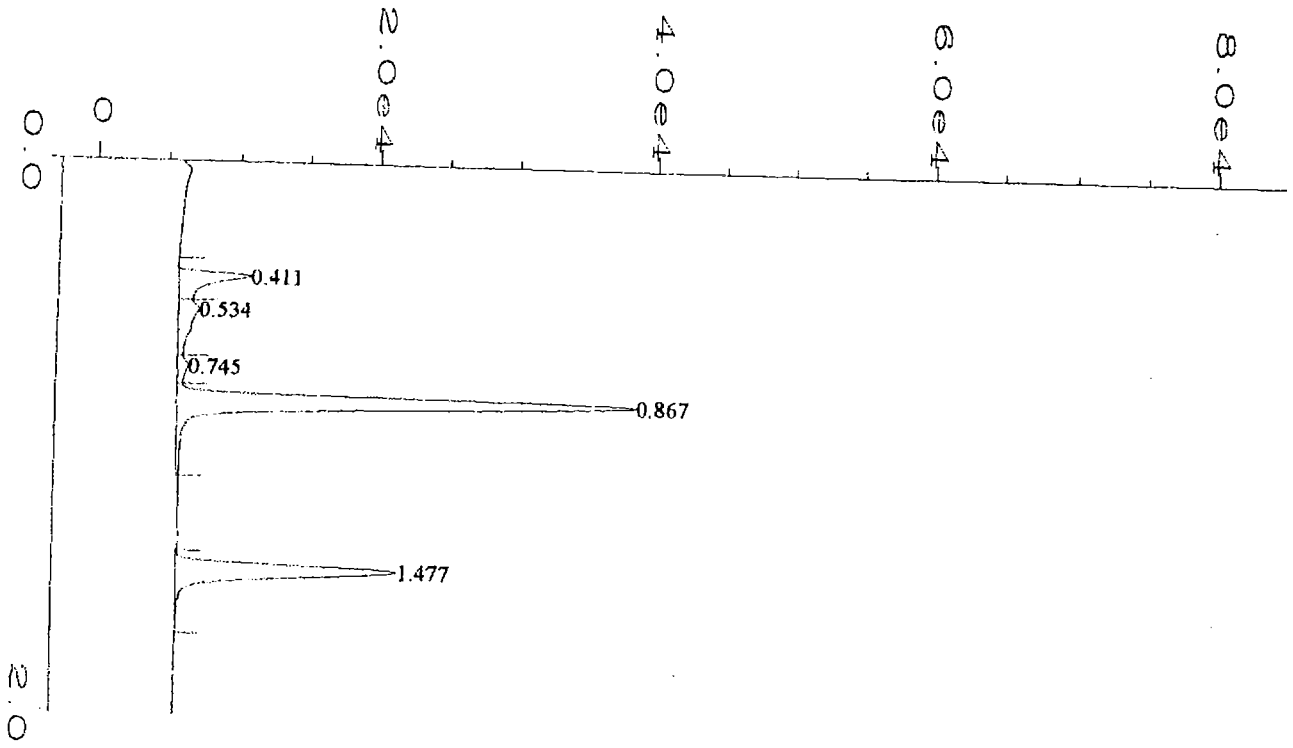
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0108.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: INS-4B	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 08:45 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 08:48 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 Jan 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0108.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.845	29592	VB	0.043	1-R	14.815	a,a,a-TFT
1.441	5055	VB	0.056	1	22.070	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.845	-5.9%



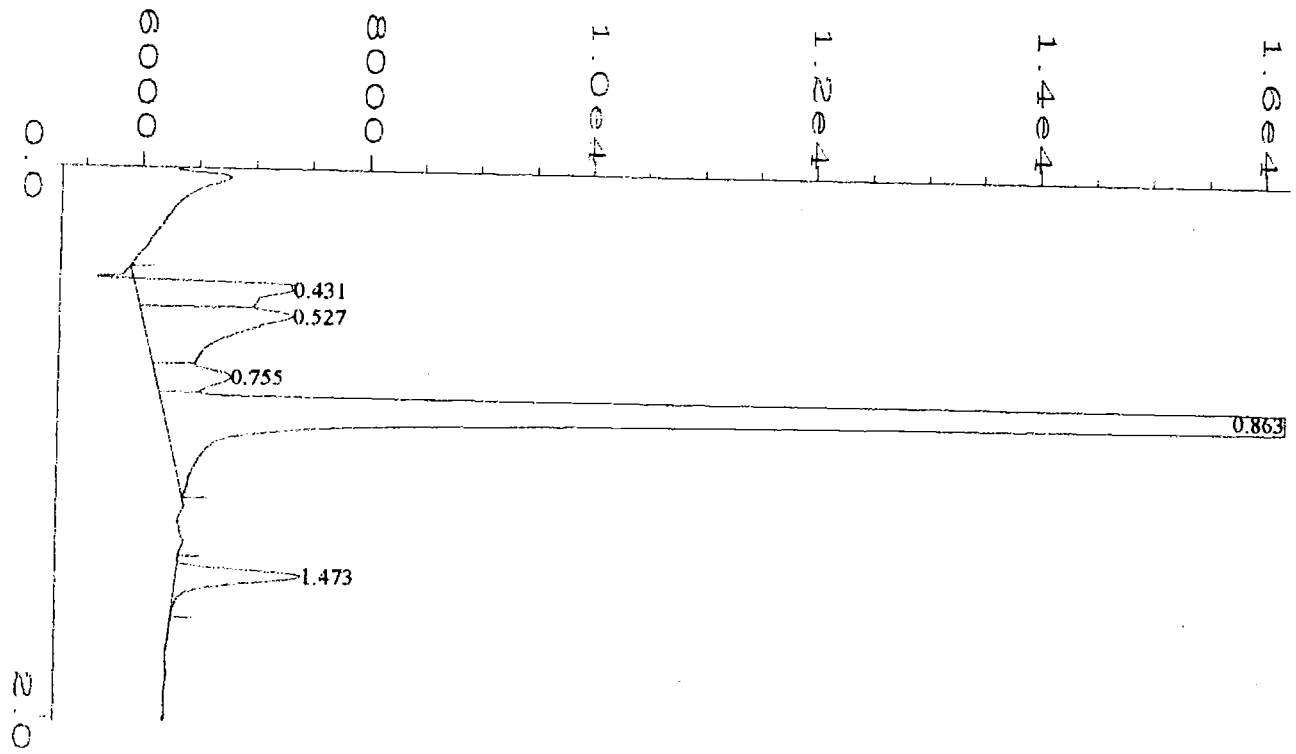
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0112.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-2	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 09:00 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 09:02 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 Jan 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED @ 0845 1/11/95 @ 6-7 FEET BGS		

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0112.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.867	93040	VV	0.044	1-R	46.579	a,a,a-TFT
1.477	49824	VB	0.049	1	217.532	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.867	-3.5%



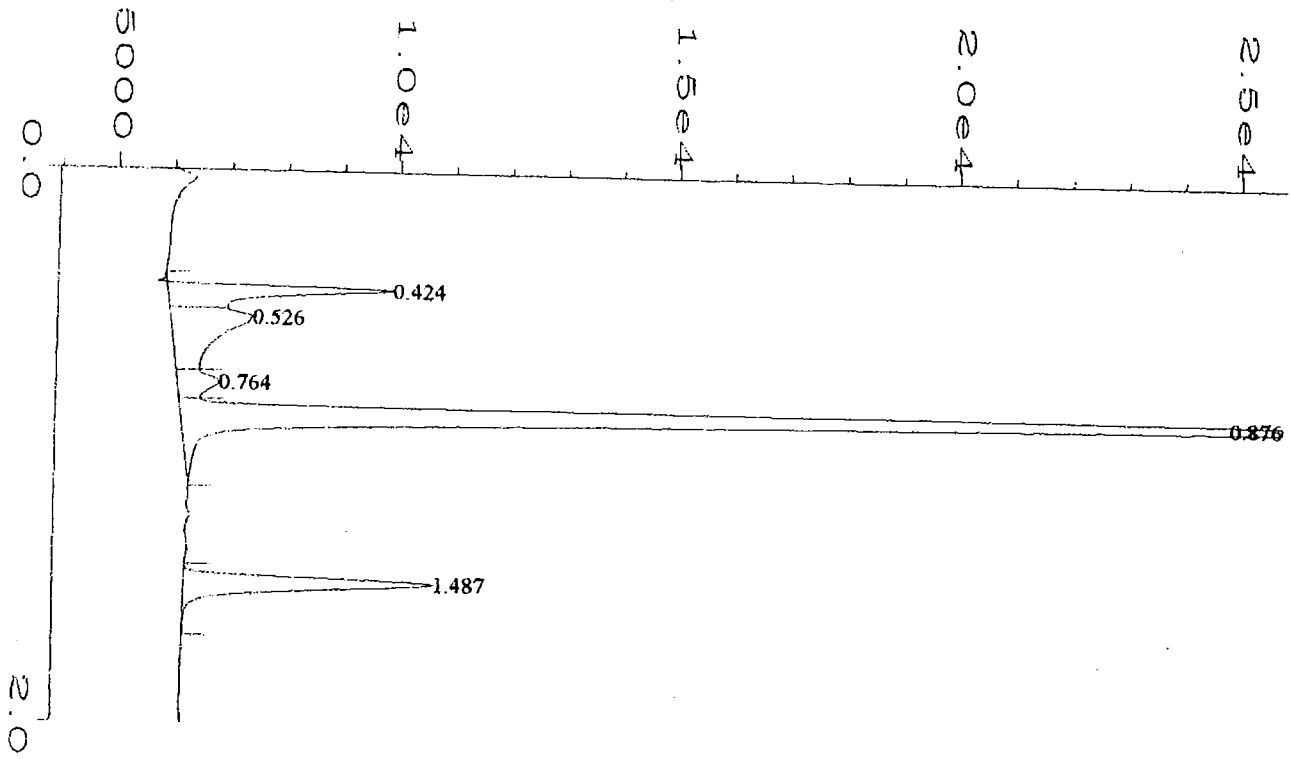
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0113.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: INS-5B	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 09:06 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 09:08 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED @ 1453 1/10/95 @ 3.5 FEET BGS		

Dlg. 1 in C:\HPCHEM\1\DATA\NV-F0113.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.863	217081	VV	0.046	1-R	108.678	a,a,a-TFT
1.473	3767	BB	0.054	1	16.445	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.863	-3.9%



External Standard Report

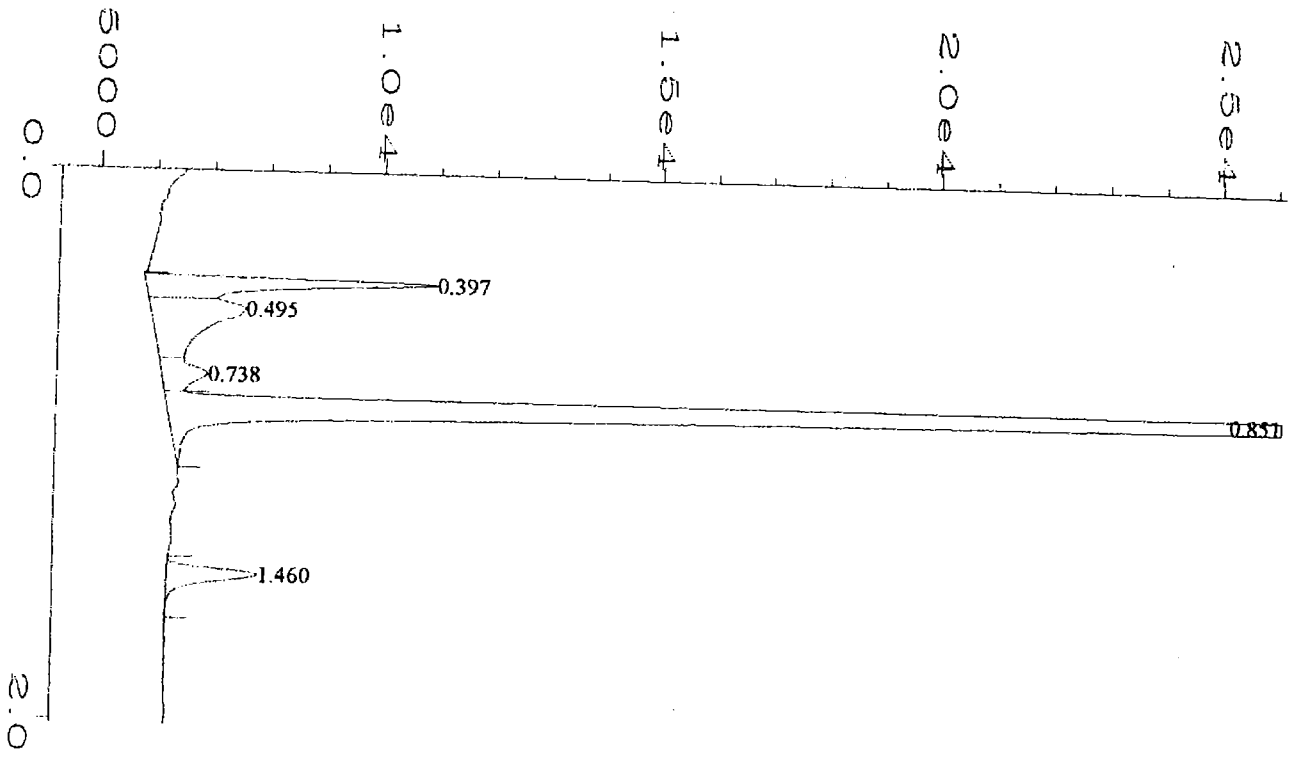
Data File Name : C:\HPCHEM\1\DATA\NV-F0115.D
Operator : GWW
Instrument : HP5890GC
Sample Name : INS-7B
Run Time Bar Code:
Acquired on : 11 Jan 95 09:27 AM
Report Created on: 11 Jan 95 09:29 AM
Last Recalib on : 11 JAN 95 07:39 AM
Multiplier : 0.2
Sample Info : SOIL-GAS COLLECTED 1/10/95 @ 3.5 FEET BGS (9.0 ppm)

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0115.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.876	75162	VB	0.038	1-R	37.629	a,a,a-TFT
1.487	13480	BB	0.047	1	58.856	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.876	-2.4%



External Standard Report

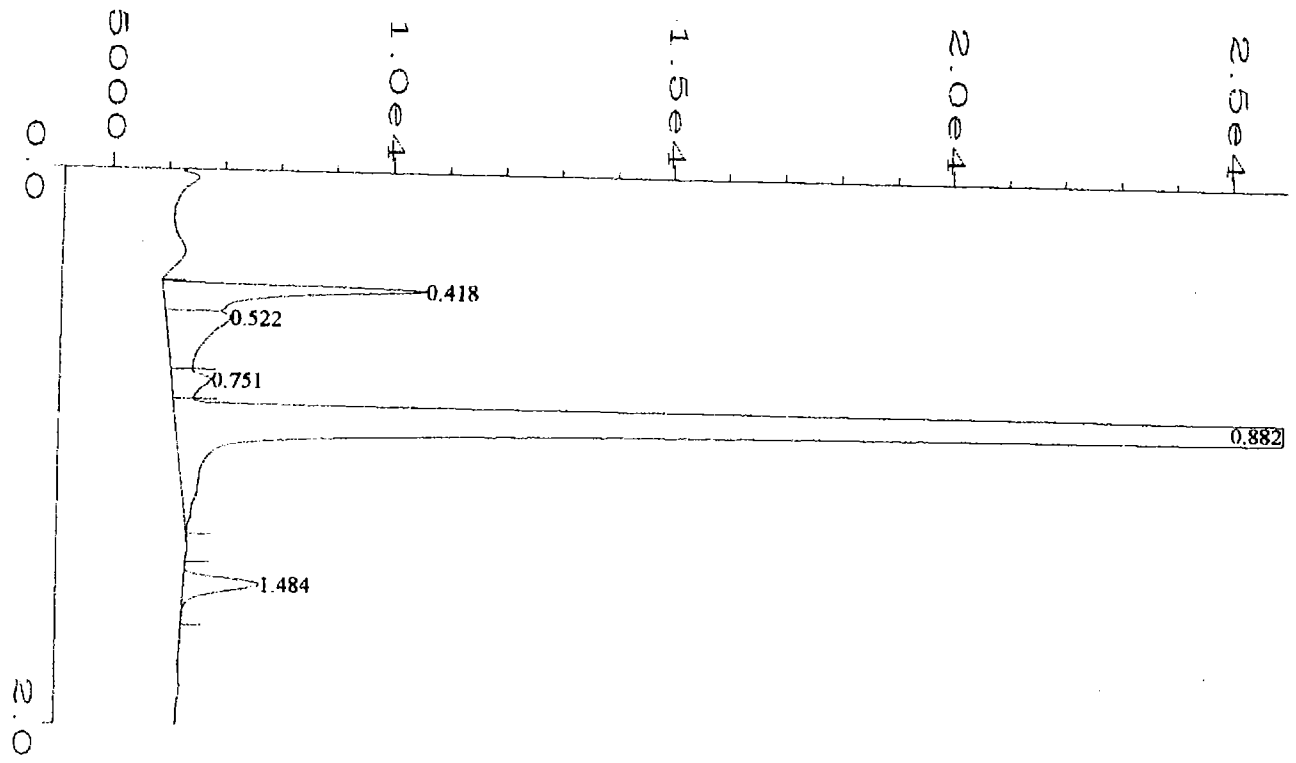
Data File Name : C:\HPCHEM\1\DATA\NV-F0116.D
Operator : GWW
Instrument : HP5890GC
Sample Name : INS-8B
Run Time Bar Code:
Acquired on : 11 Jan 95 09:34 AM
Report Created on: 11 Jan 95 09:36 AM
Last Recalib on : 11 JAN 95 07:39 AM
Multiplier : 0.2
Sample Info : SOIL-GAS COLLECTED 1557 1/10/95 @ 3.5 FEET BGS (3.5 ppm)

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0116.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.851	124343	VB	0.041	1-R	62.250	a,a,a-TFT
1.460	5183	BB	0.050	1	22.627	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.851	-5.2%



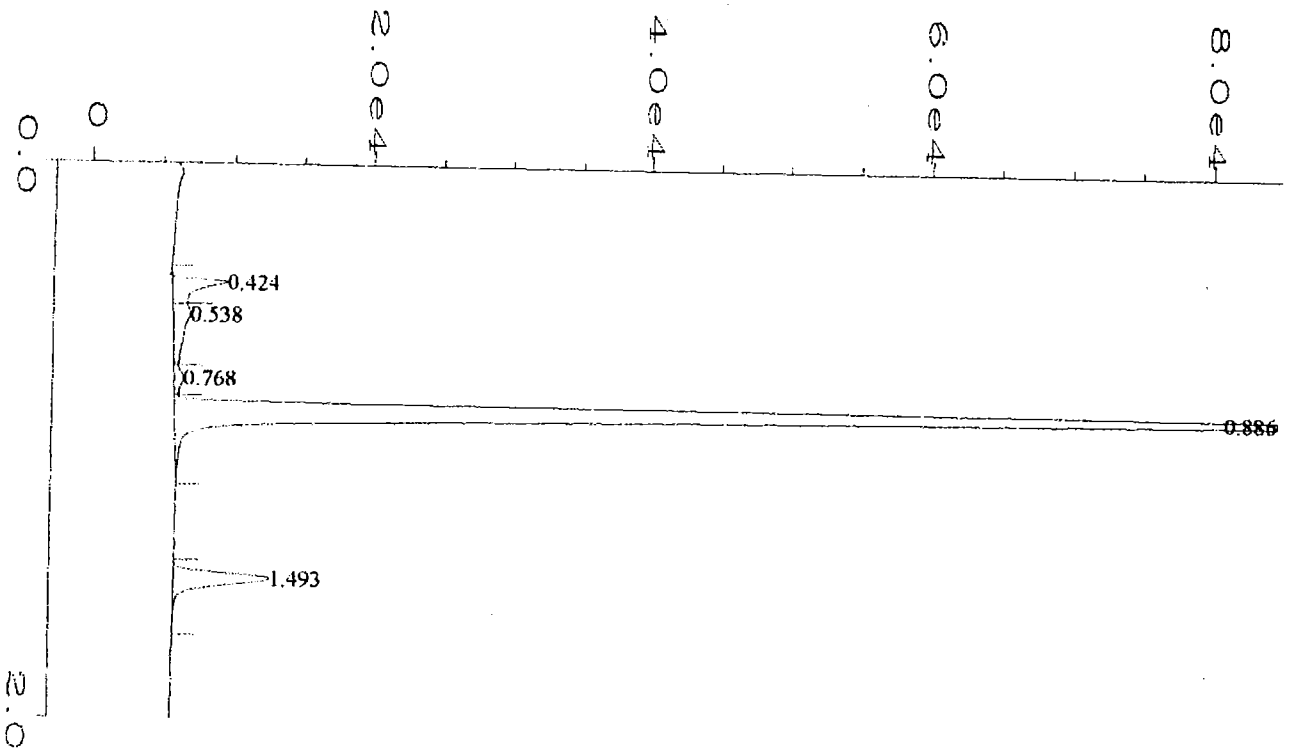
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0117.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-3	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 09:39 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 09:41 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED 0930 1/11/95 @ 5-6 FEET BGS		

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0117.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.882	350403	VB	0.052	1-R	175.424	a,a,a-TFT
1.484	4515	BB	0.053	1	19.713	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.882	-1.8%



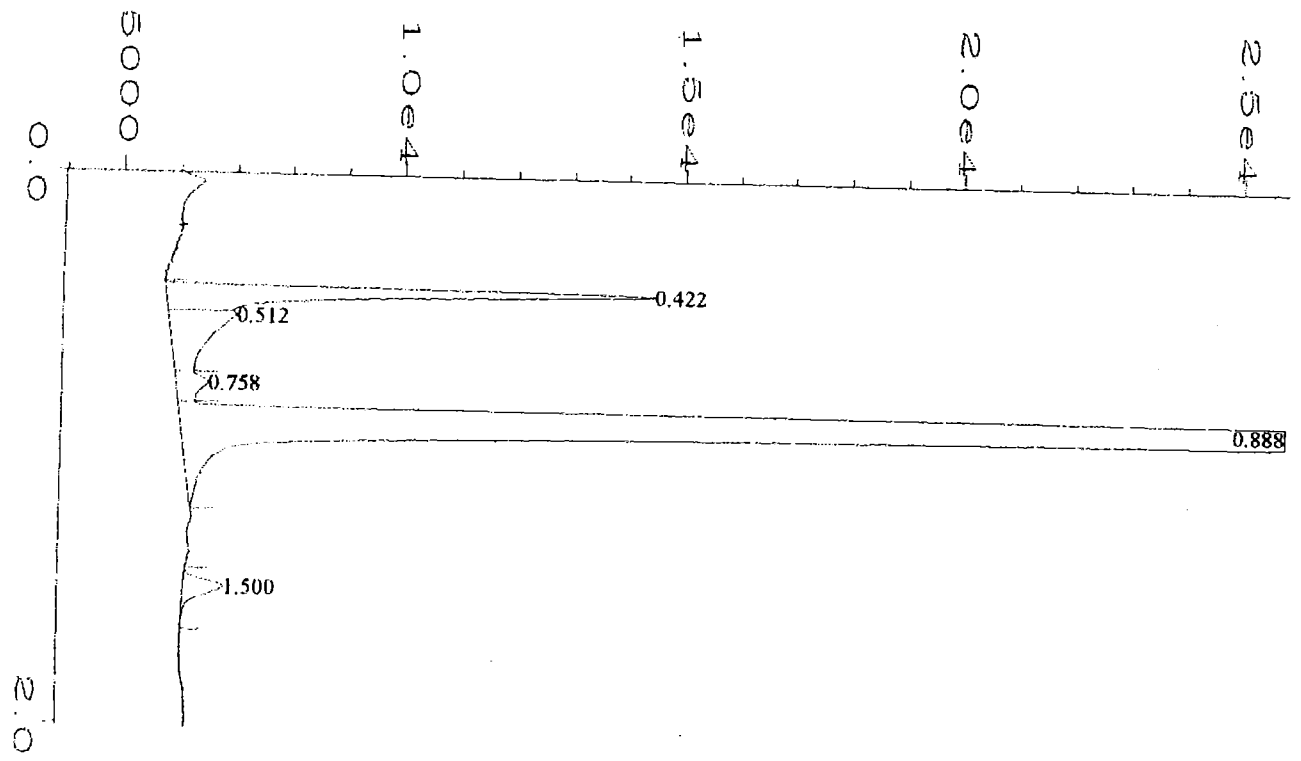
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0118.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: INS-9B	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 09:50 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 09:52 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED 1/10/95 @ 4 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0118.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.886	260291	VV	0.042	1-R	130.311	a,a,a-TFT
1.493	20384	BB	0.047	1	88.997	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.886	-1.3%



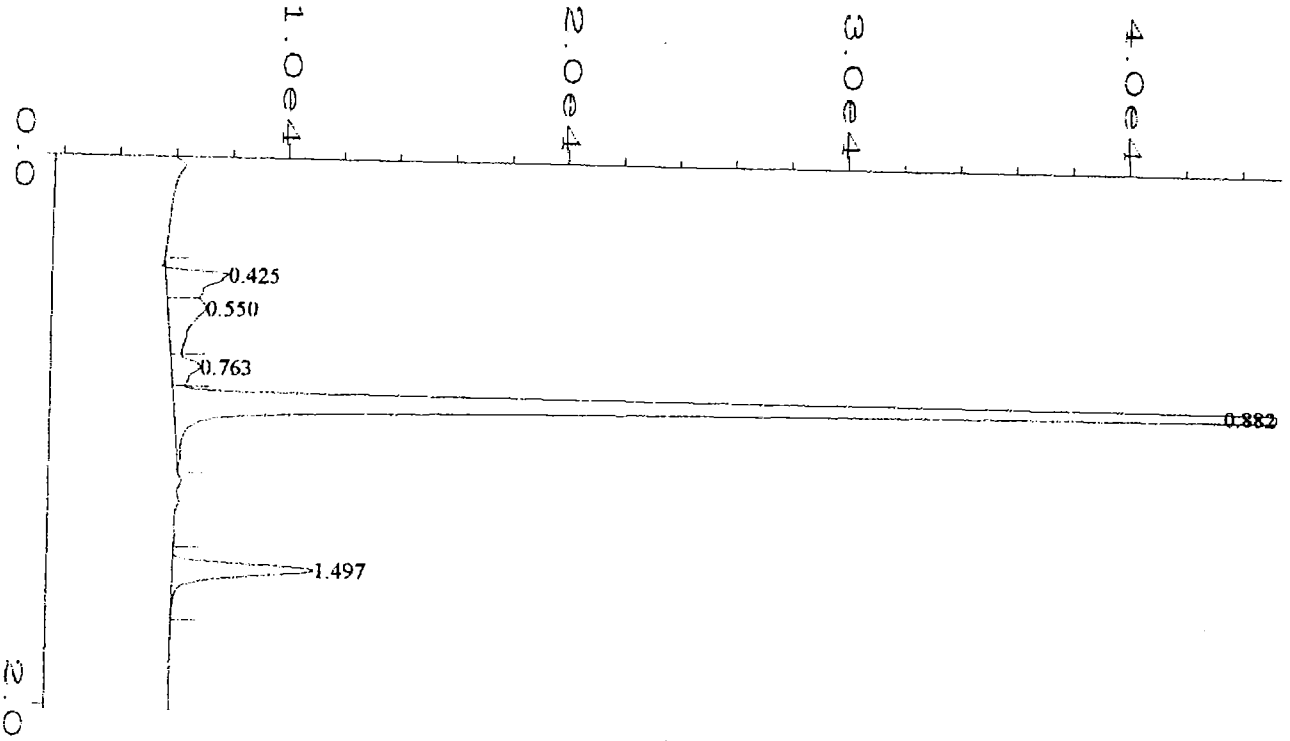
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0119.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-4	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 09:58 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 10:00 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED 0955 1/11/95 @ 3.5 TO 4 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0119.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.888	377131	VV	0.054	1-R	188.804	a,a,a-TFT
1.500	2580	BB	0.059	1	11.263	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.888	-1.1%



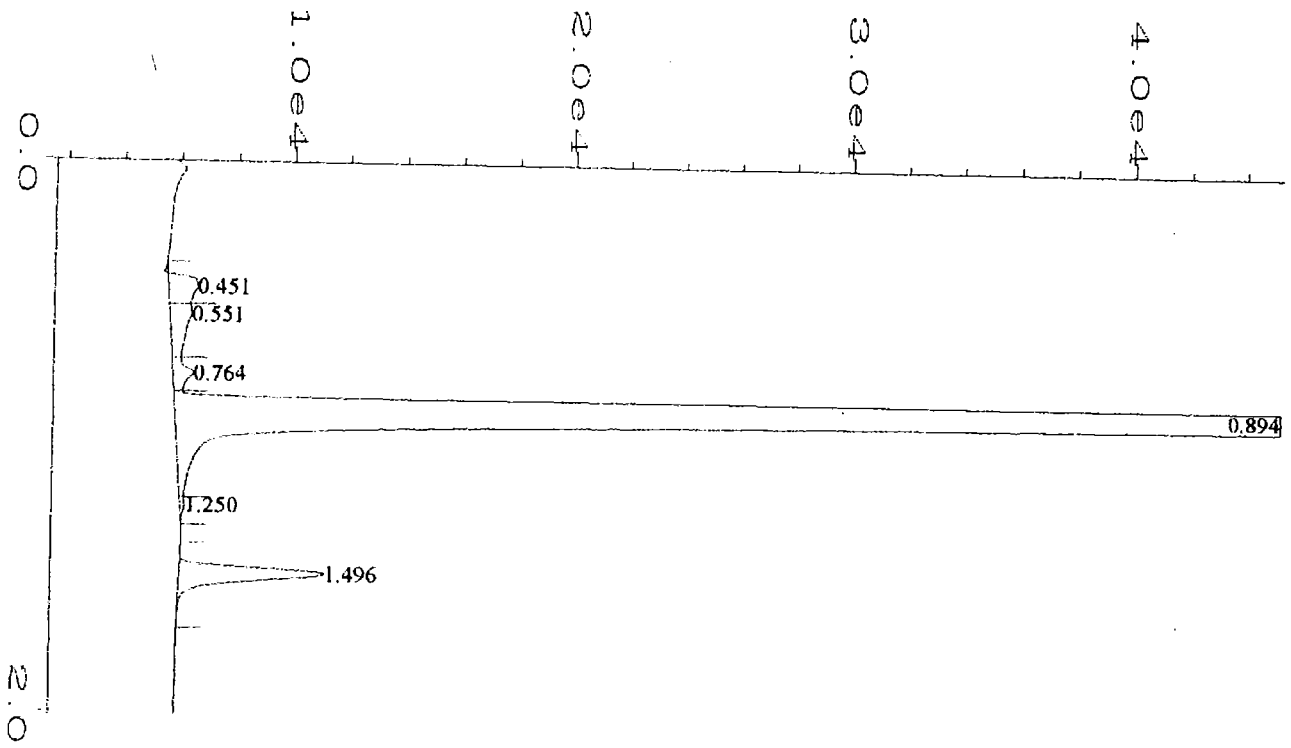
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0120.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-1B	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 10:06 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 10:08 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED 1/10/95 @ 6 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0120.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.882	154834	VV	0.037	1-R	77.515	a,a,a-TFT
1.497	15654	BB	0.048	1	68.346	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.882	-1.8%



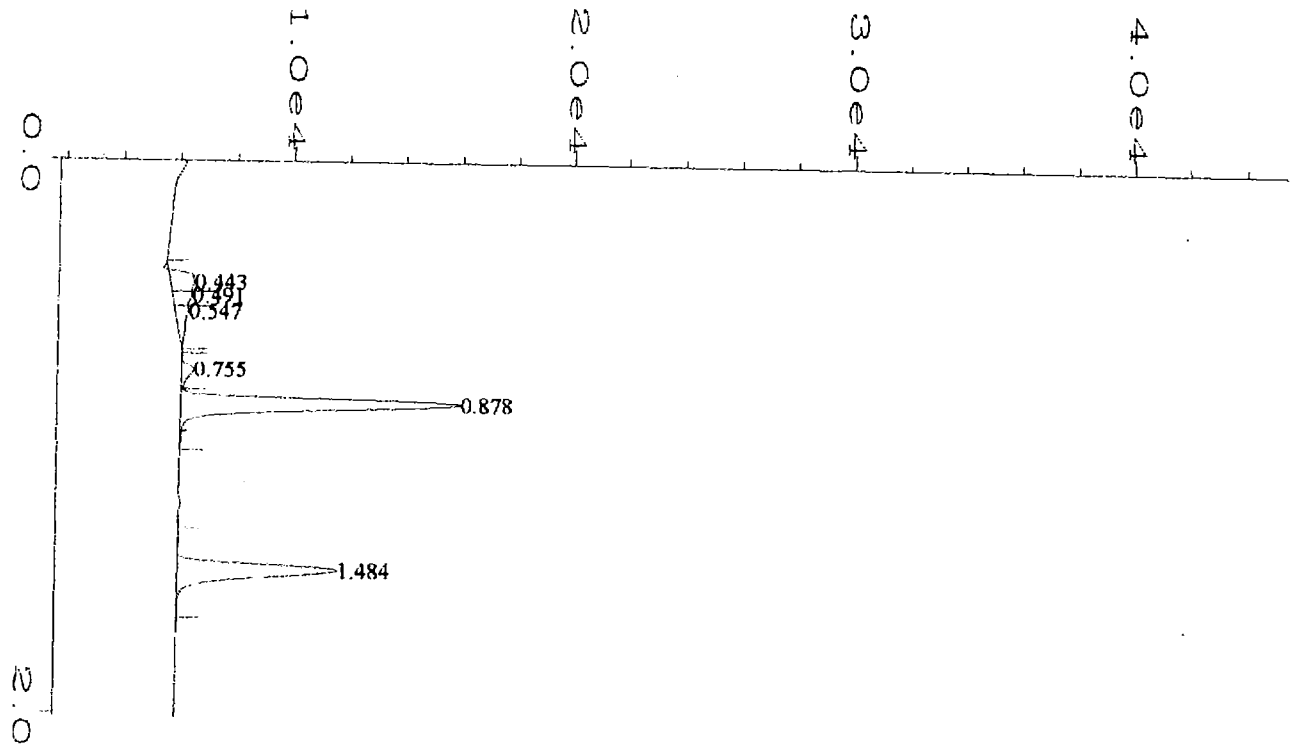
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0121.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-5	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 10:26 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 10:28 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED @ 1020 1/11/95 @ 5.5 TO 6.5 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0121.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.894	680028	VV	0.053	1-R	340.445	a,a,a-TFT
1.496	16667	BB	0.051	1	72.770	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.894	-0.4%



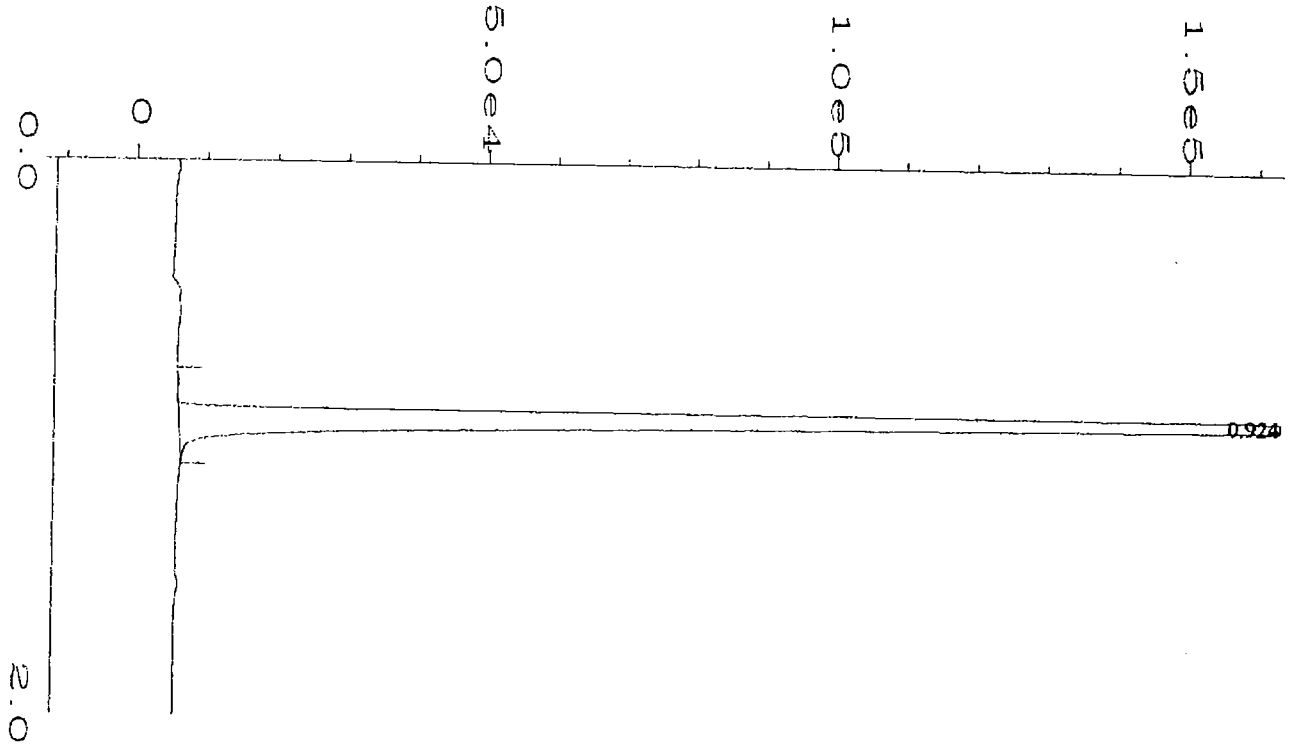
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0122.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-5-D	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 10:33 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 10:36 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: QC - DUPLICATE		

Rg. 1 in C:\HPCHEM\1\DATA\NV-F0122.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.878	27096	VB	0.044	1-R	13.565	a,a,a-TFT
1.484	18196	BB	0.050	1	79.444	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.878	-2.2%



External Standard Report

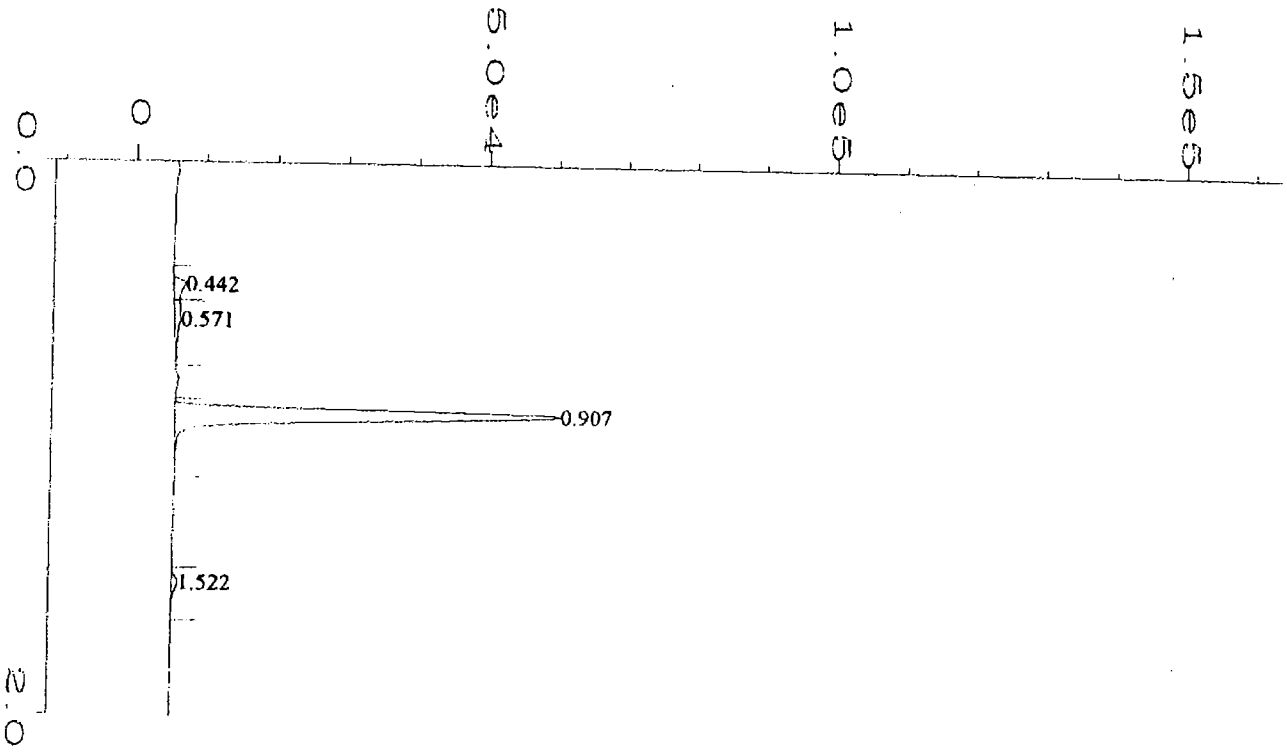
Data File Name	: C:\HPCHEM\1\DATA\NV-F0124.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: BLANK-03	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 10:45 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 10:49 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0124.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.924	670914	BB	0.047	1-R	335.882	a,a,a-TFT
1.532	* not found *			1		PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.924	2.9%

Not all calibrated peaks were found



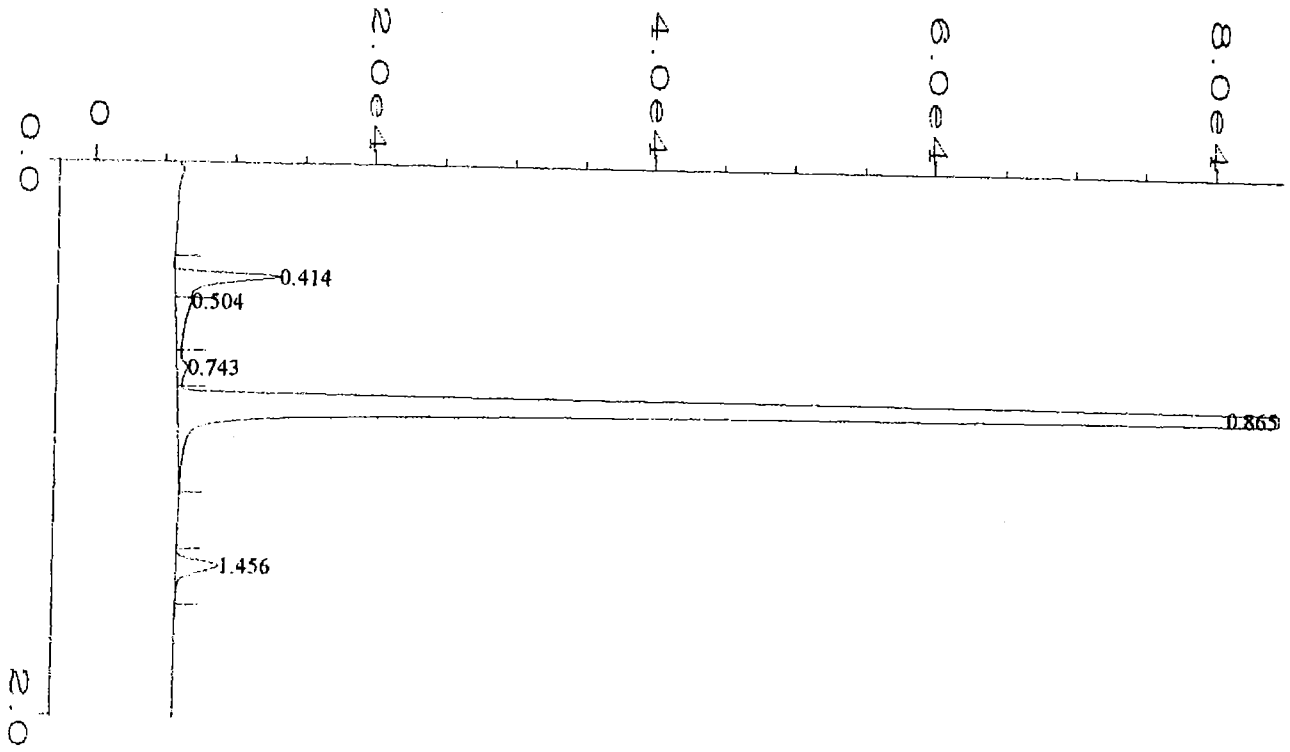
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0125.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-6	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 10:57 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 10:59 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED AT 1040 1/11/95 2 5-6 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0125.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.907	148038	VB	0.043	1-R	74.113	a,a,a-TFT
1.522	2976	BB	0.056	1	12.994	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.907	1.0%



External Standard Report

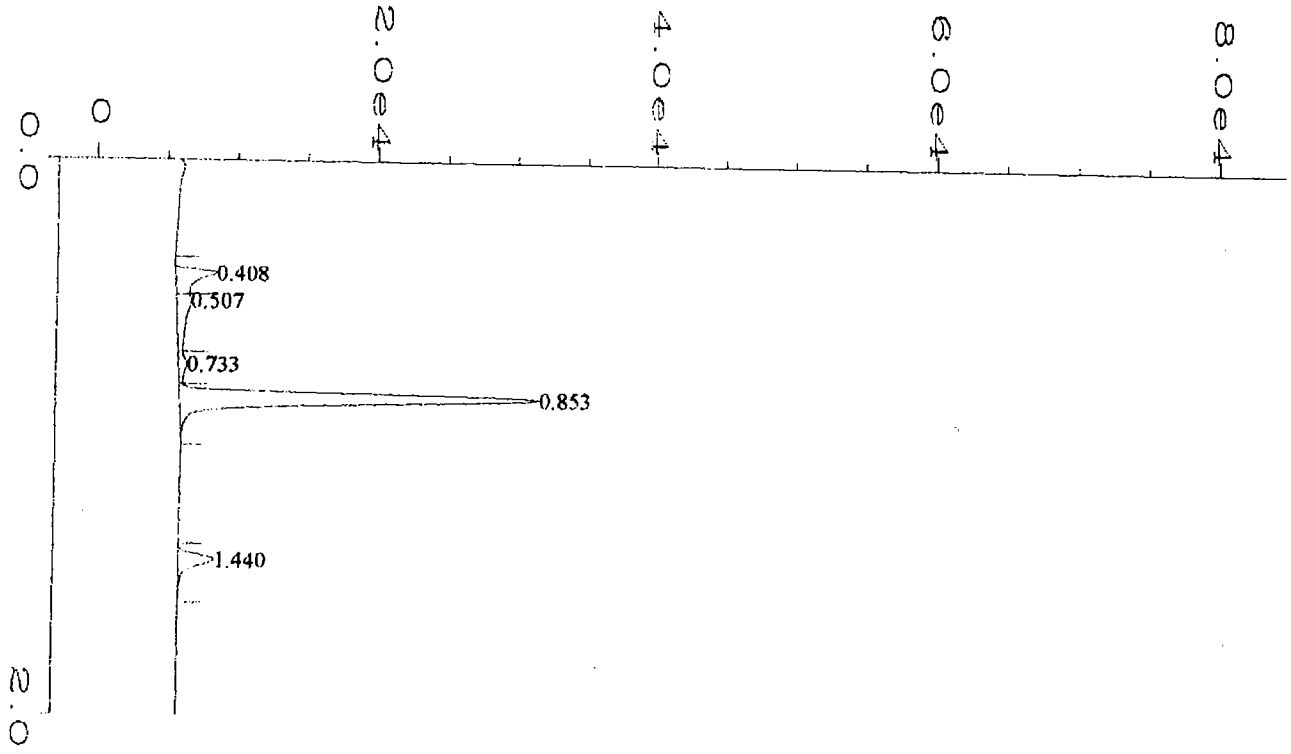
Data File Name : C:\HPCHEM\1\DATA\NV-F0130.D
Operator : GWW
Instrument : HP5890GC
Sample Name : OTS-7
Run Time Bar Code:
Acquired on : 11 Jan 95 11:24 AM
Report Created on: 11 Jan 95 11:26 AM
Last Recalib on : 11 JAN 95 07:39 AM
Multiplier : 0.2
Sample Info : SOIL-GAS COLLECTED AT 1100 1/11/95 @ 5-6 FEET BGS

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: BTEX.MTH
Analysis Method : BTEX.MTH
Sample Amount : 0
ISTD Amount :

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0130.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.865	434485	VB	0.042	1-R	217.518	a,a,a-TFT
1.456	8933	BB	0.047	1	39.000	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.865	-3.7%



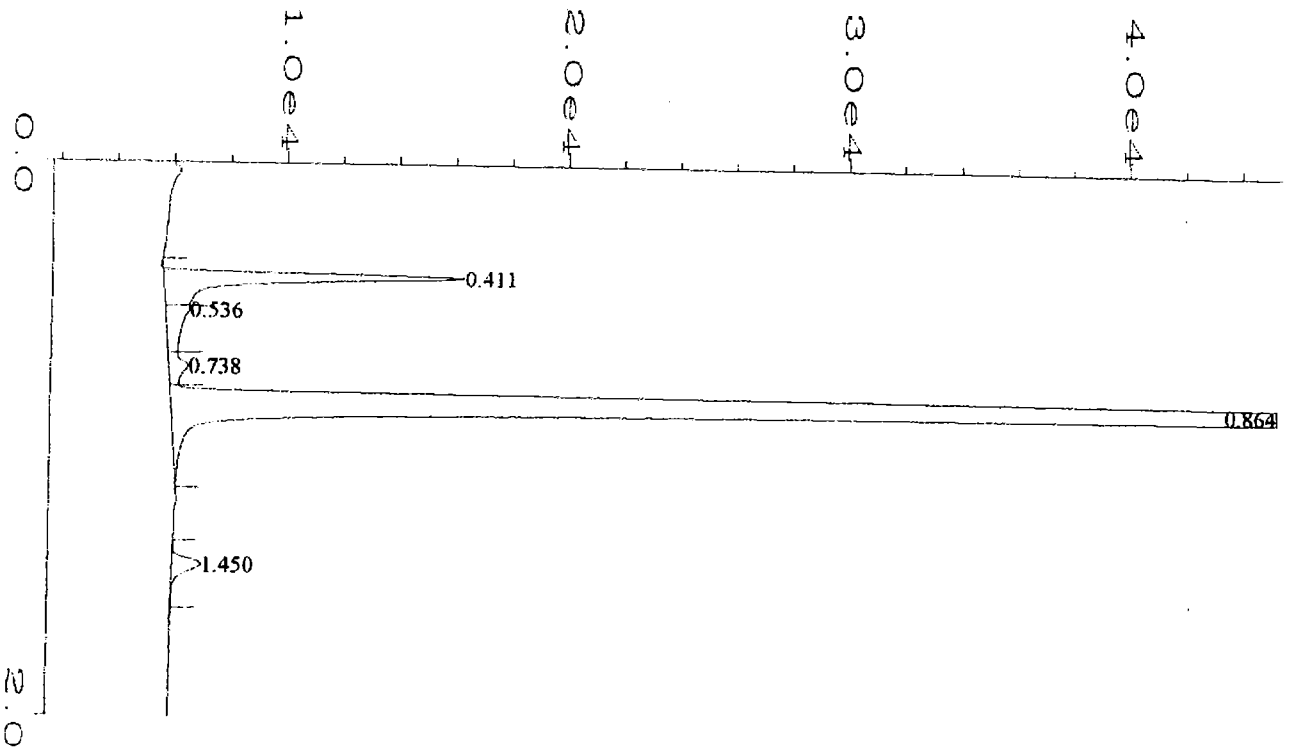
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0131.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-8	Injection Number	:
In Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 11:32 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 11:34 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED AT 1120 1/11/95 @ 5.5-6.5 FEET BGS		

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0131.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.853	65089	VB	0.040	1-R	32.586	a,a,a-TFT
1.440	7768	BB	0.048	1	33.915	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.853	-5.0%



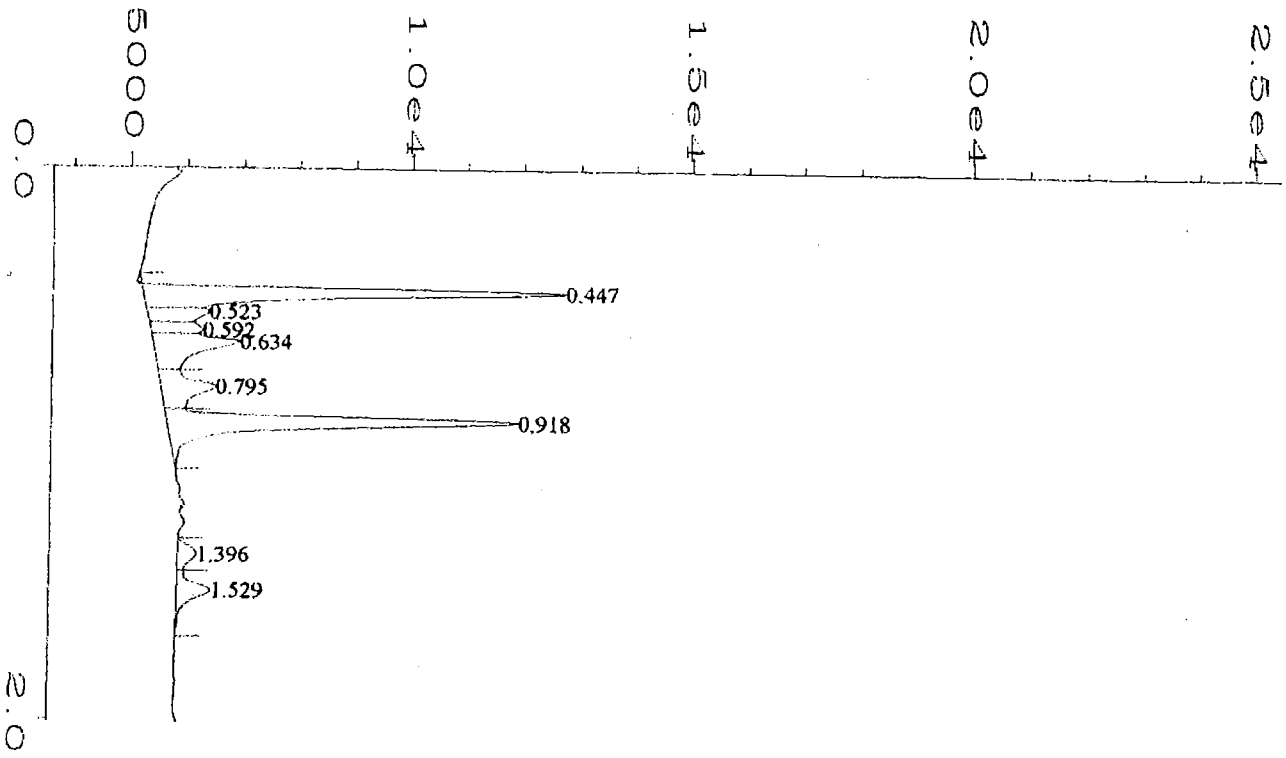
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0132.D		
Operator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-9	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 11:47 AM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 11:49 AM	Analysis Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED AT 1140 1/11/95 @ 5 TO 6 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0132.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.864	285261	VV	0.048	1-R	142.811	a,a,a-TFT
1.450	3535	BB	0.054	1	15.434	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.864	-3.8%



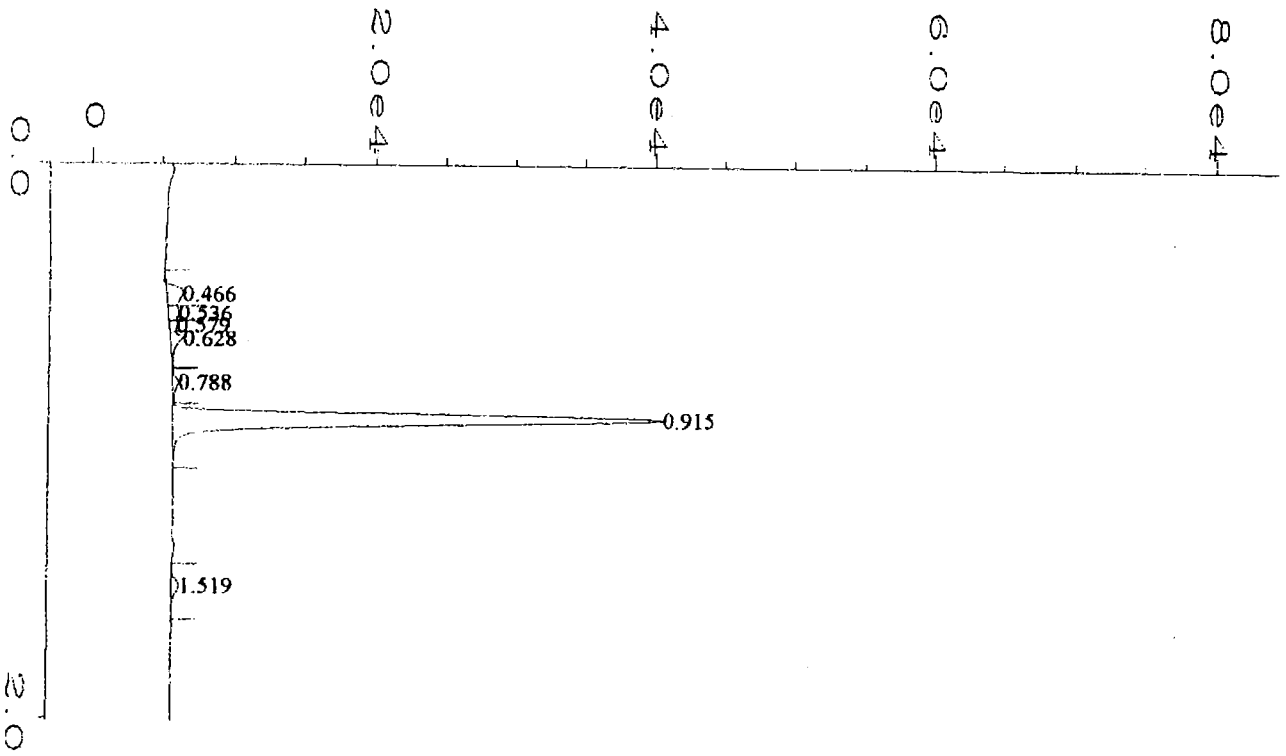
External Standard Report

ta File Name	: C:\HPCHEM\1\DATA\NV-F0136.D		
perator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-10	Injection Number	:
un Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 01:23 PM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 01:27 PM	Analysis Method	: BTEX.MTH
ast Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
ultiplier	: 0.2	ISTD Amount	:

ig. 1 in C:\HPCHEM\1\DATA\NV-F0136.D

et Time	Area	Type	Width	Ref#	ug/L	Name
0.918	17710	VV	0.043	1-R	8.866	a,a,a-TFT
1.529	2658	VB	0.066	1	11.604	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.918	2.2%



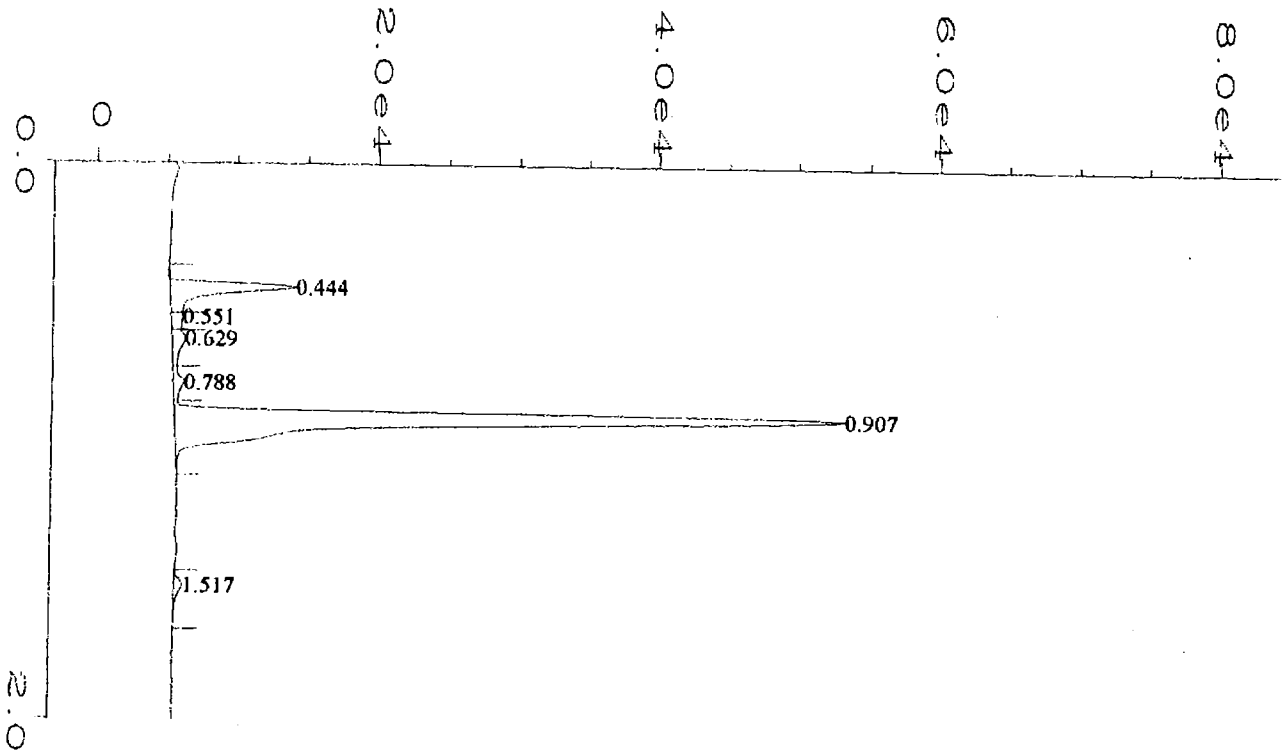
External Standard Report

ta File Name	: C:\HPCHEM\1\DATA\NV-F0137.D		
perator	: GWW	Page Number	: 1
Instrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-11	Injection Number	:
un Time Bar Code:		Sequence Line	:
Acquired on	: 11 Jan 95 01:33 PM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 01:36 PM	Analysis Method	: BTEX.MTH
ast Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
ultiplier	: 0.2	ISTD Amount	:

ig. 1 in C:\HPCHEM\1\DATA\NV-F0137.D

et Time	Area	Type	Width	Ref#	ug/L	Name
0.915	90789	VV	0.041	1-R	45.452	a,a,a-TFT
1.519	1935	PB	0.058	1	8.448	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.915	1.9%



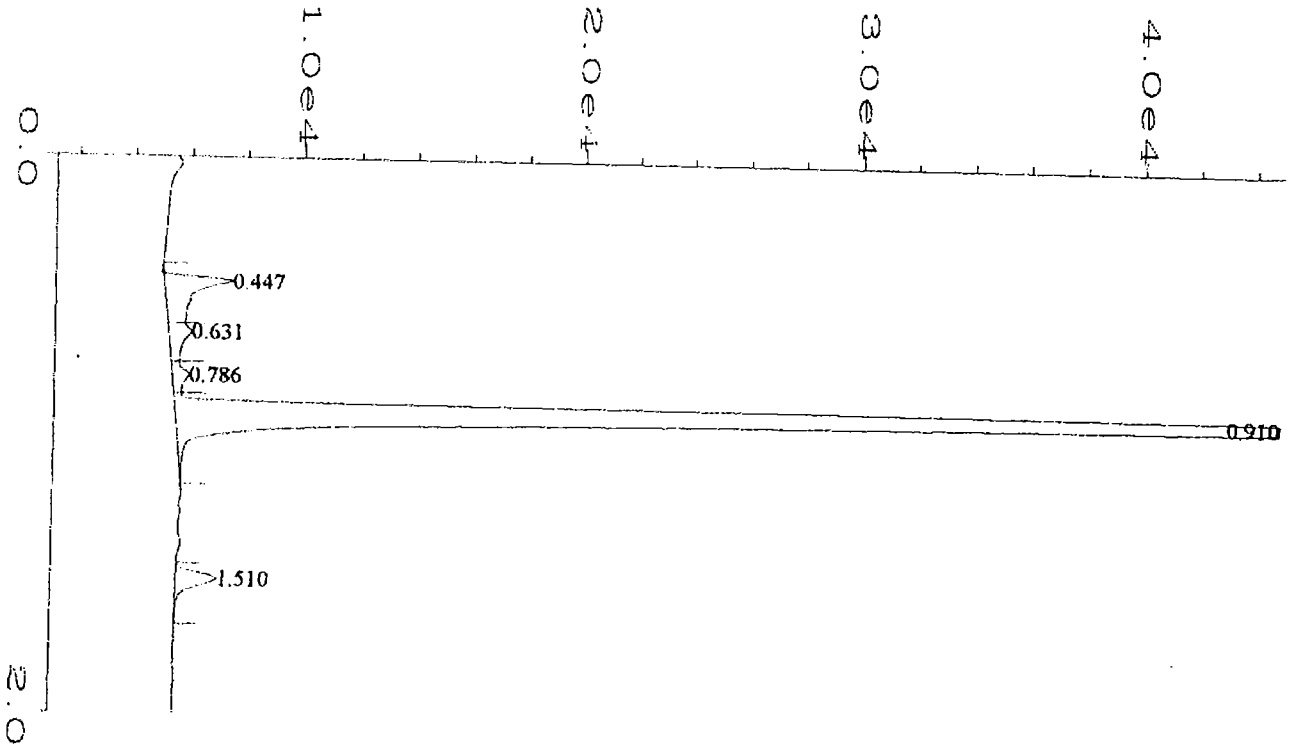
External Standard Report

ta File Name	: C:\HPCHEM\1\DATA\NV-F0138.D		
perator	: GWW	Page Number	: 1
nstrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-12	Injection Number	:
un Time Bar Code:		Sequence Line	:
cquired on	: 11 Jan 95 02:01 PM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 02:03 PM	Analysis Method	: BTEX.MTH
ast Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
ultiplier	: 0.2	ISTD Amount	:
Sample Info	: SOIL-GAS COLLECTED AT 1400 1/11/95 @ 5 TO 6 FEET BGS		

ig. 1 in C:\HPCHEM\1\DATA\NV-F0138.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.907	152332	VV	0.049	1-R	76.262	a,a,a-TFT
1.517	2050	VB	0.058	1	8.950	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.907	1.0%



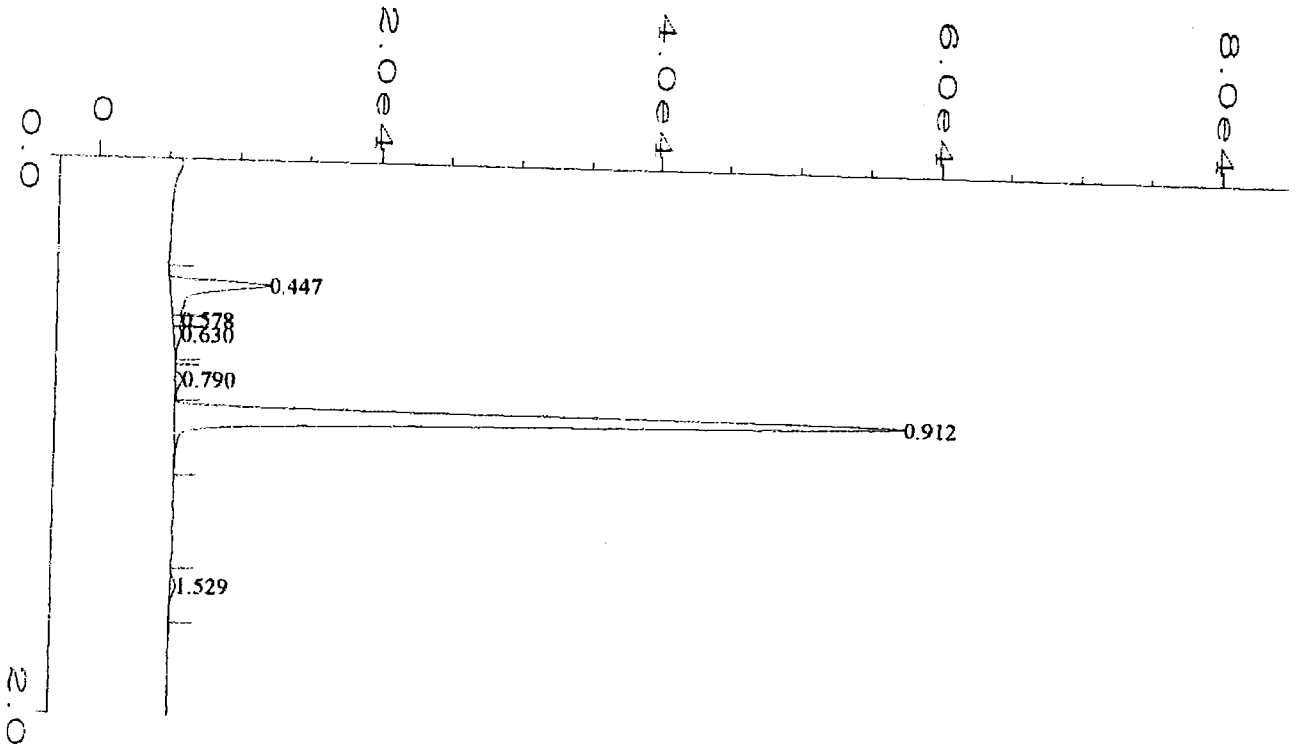
External Standard Report

ta File Name	: C:\HPCHEM\1\DATA\NV-F0139.D		
perator	: GWW	Page Number	: 1
nstrument	: HP5890GC	Vial Number	:
Sample Name	: OTS-13	Injection Number	:
un Time Bar Code:		Sequence Line	:
cquired on	: 11 Jan 95 02:18 PM	Instrument Method	: BTEX.MTH
Report Created on	: 11 Jan 95 02:22 PM	Analysis Method	: BTEX.MTH
ast Recalib on	: 11 JAN 95 07:39 AM	Sample Amount	: 0
ultiplier	: 0.2	ISTD Amount	:

ig. 1 in C:\HPCHEM\1\DATA\NV-F0139.D

et Time	Area	Type	Width	Ref#	ug/L	Name
0.910	179853	VB	0.050	1-R	90.040	a,a,a-TFT
1.510	4768	VB	0.052	1	20.816	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.910	1.3%



External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0141.D		
Operator	: GWW		
Instrument	: HP5890GC	Page Number	: 1
Sample Name	: OTS-14	Vial Number	:
In Time Bar Code:		Injection Number	:
Acquired on	: 11 Jan 95 02:39 PM	Sequence Line	:
Report Created on	: 11 Jan 95 02:41 PM	Instrument Method	: BTEX.MTH
Last Recalib on	: 11 JAN 95 07:39 AM	Analysis Method	: BTEX.MTH
Multiplier	: 0.2	Sample Amount	: 0
Sample Info	: SOIL-GAS COLLECTED AT 1400 1/11/95 @ 3 FEET BGS, INSIDE SHED	ISTD Amount	:

Fig. 1 in C:\HPCHEM\1\DATA\NV-F0141.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
0.912	135548	VB	0.042	1-R	67.860	a,a,a-TFT
1.529	1547	PB	0.059	1	6.753	PCE

Time Reference Peak	Expected RT	Actual RT	Difference
1	0.898	0.912	1.6%

APPENDIX B

FIELD CONTROL CHAIN-OF-CUSTODY/TEST RESULTS

AGRA
Earth & Environmental
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918
Tel (206) 820-4669 Fax (206) 821-3914

00424

CHAIN OF CUSTODY

PROJECT	PROJECT No.
FRANK WEAR CLEANERS	11-09818-01
CLIENT	PHONE No.
YAKIMA RAILROAD AREA	
PROJECT MANAGER	PHONE No.
DALE KRAMER / DAVE WASSERMAN	820-4669
SAMPLER'S NAME (please print)	PHONE No.
DAVE WASSERMAN	820-4669
SAMPLER'S SIGNATURE	
David Wasserman	

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	CONTAINERS VOL.	BTEX by EPA 602 / 8020	WTPH-G	BTEX / WTPH-G	WTPH-HCID	WTPH-D / WTPH-D EXTENDED	TPH by EPA 8015 MODIFIED	WTPH-418.1 MODIFIED	TPH by EPA 418.1	GC / MS EPA 624 / 8240 or EPA 8260 Volatiles	GC / MS EPA 625 / 8270 Semi-volatiles	VOCs EPA 601 / 8010 or EPA 602 / 8020	PCBs EPA 608 / 8080	LEAD EPA 6010 / EPA 7421 Total / Dissolved	TOTAL METALS	TCLP	GRAVIMETRIC	B501019		
1. PART 1	1-5-95				1																	X	X		-01
2. PART 2	1-5-95				1																	X			-02
3. PART 3	1-5-95				1																	X			-03
4. PART 4	1-5-95				1																	X			-04
5. PART 5	1-5-95				1																	X			-05
6. PART 6	1-5-95				1																	X			-06
7.																									
8.																									
9.																									
10.																									

SAMPLE RECEIPT	LABORATORY	TURNAROUND TIME	SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS
TOTAL # CONTAINERS	SHIPPING I.D. / AIRBILL #	☐ 8 HOUR ☑ 24 HOUR ☐ 1 WEEK ☐ 2 WEEK (standard) ☐ OTHER _____	WEIGH COMPLETE CASSETTE PRE-WEIGHT
CONDITION OF CONTAINERS	CARRIER		
CONDITION OF SEALS	DOT DESIGNATION		

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1. R McCoy	1/5/95	11:16	1. NCA	1/5/95	1116
2.			2.		
3.			3.		

PAGE 1 OF 1

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DISTRIBUTION: White, Yellow - Laboratory, Pink - Originator

AGRA
Earth & Environmental
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918
Tel (206) 820-4669 Fax (206) 821-3914

00455

CHAIN OF CUSTODY

PROJECT: FRANK WEAR CLEANERS	PROJECT No.: 11-09818:01
CLIENT: GREGG STOUFFERS	PHONE No.:
PROJECT MANAGER: DALE KRAMER	PHONE No.: 820-4669
SAMPLER'S NAME (please print): DALE KRAMER	PHONE No.: 820-4669
SAMPLER'S SIGNATURE: Dale A. Kramer	

ANALYSIS REQUESTED (circle, check box or write preferred method in box): BTEX by EPA 602 / 8020; WTPH-G; BTEX / WTPH-G; WTPH-HCID; WTPH-D / WTPH-D EXTENDED; TPH by EPA 8015 MODIFIED; WTPH-418.1 MODIFIED; TPH by EPA 418.1; GC / MS EPA 624 / 8240 or EPA 8260 Volatiles; GC / MS EPA 625 / 8270 Semi-volatiles; VOCs EPA 601 / 8010 or EPA 602 / 8020; PCBs EPA 608 / 8080; LEAD EPA 6010 / EPA 7421 Total / Dissolved; TOTAL METALS; TCLP; PCE (tetrachloroethylene) by Method 8010 modified (FID)

	SAMPLE I.D.	DATE	START TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	CONTAINERS VOL.	PCE by Method 8010 modified (FID)	
1.	PART 1, BEGIN	1-10-95	90 MINS 1000	Filter		1		↓	B501019-01
2.	CHARCOAL #1	1-10-95		CHARCOAL		↓		↓	07
3.	PART 2, END	1-10-95	1645	F		↓		↓	-02
4.	CHARCOAL 2	1-10-95		C		↓		↓	08
5.	PART 3, BEGIN	1-11-95	0800	F		↓		↓	-03
6.	CHARCOAL 3	1-11-95	0900	C		↓		↓	09
7.	PART 4, END	1-11-95	1430	F		↓		↓	-04
8.	CHARCOAL 4	1-11-95	1430	C		↓		↓	10
9.									
10.									

SAMPLE RECEIPT		LABORATORY	PNA
TOTAL # CONTAINERS	8	SHIPPING I.D. / AIRBILL #	
CONDITION OF CONTAINERS	good	CARRIER	
CONDITION OF SEALS	good	DOT DESIGNATION	

TURNAROUND TIME: ☐ 8 HOUR ☒ 24 HOUR ☐ 1 WEEK ☐ 2 WEEK (standard) ☐ OTHER ____

SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS:
① ALL SAMPLES RUN AT 90min with flow rate ≈1.0 L/MIN.
② PLEASE SUPPLY chromatograms, this is an Ecology overseen project.

	RELINQUISHED BY / AFFILIATION	DATE	TIME		ACCEPTED BY / AFFILIATION	DATE	TIME
1.	Dale A. Kramer			1.			
2.	[signature]	1/13	2:44	2.	[signature] NCA	1/13/95	1445
3.				3.			

PAGE 1 OF 1

AGRA Earth & Environmental, Inc. (7/94)

DISTRIBUTION: White, Yellow - Laboratory, Pink - Originator

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011-9508 (206) 481-9200 • FAX 485-2992
East 11115 Montgomery, Suite B • Spokane, WA 99206-4776 (509) 924-9200 • FAX 924-9290
9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	Sampled:	Jan 10, 1995
11335 NE 122nd Way, #100	Sample Descript:	Cassette, PART 1	Received:	Jan 13, 1995
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed:	Jan 15, 1995
Attention: Dale Kramer	Sample Number:	B501019-01	Reported:	Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	**0.0025**	**0.0079**

4-Bromofluorobenzene Surrogate Recovery, %: 89
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Shannon Stowell
Project Manager

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9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	Sampled:	Jan 10, 1995
11335 NE 122nd Way, #100	Sample Descript:	Cassette, PART 2	Received:	Jan 13, 1995
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed:	Jan 15, 1995
Attention: Dale Kramer	Sample Number:	B501019-02	Reported:	Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	0.0025	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 93
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	Sampled:	Jan 10, 1995
11335 NE 122nd Way, #100	Sample Descript:	Cassette, PART 3	Received:	Jan 13, 1995
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed:	Jan 15, 1995
Attention: Dale Kramer	Sample Number:	B501019-03	Reported:	Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	0.0025	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 79
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	Sampled:	Jan 10, 1995
11335 NE 122nd Way, #100	Sample Descript:	Cassette, PART 4	Received:	Jan 13, 1995
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed:	Jan 15, 1995
Attention: Dale Kramer	Sample Number:	B501019-04	Reported:	Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	0.0025	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 80
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	
11335 NE 122nd Way, #100	Sample Descript:	Method Blank	
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed: Jan 15, 1995
Attention: Dale Kramer	Sample Number:	BLK011595	Reported: Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	0.0025	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 89
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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AGRA Earth & Environmental	Client Project ID: Frank Wear Cleaners, #11-09818-01	Analyst:	R. Hager
11335 NE 122nd Way, #100	Sample Matrix: Cassette		F. Shino
Kirkland, WA 98034	Analysis Method: EPA 8010		
Attention: Dale Kramer	Units: µg/L Air (ppb)	Analyzed:	Jan 15, 1995
	QC Sample #: BLK011595	Reported:	Jan 16, 1995

BLANK SPIKE QUALITY CONTROL DATA REPORT

ANALYTE	1,1-DCE	TCE	Chloro-Benzene
Sample Result:	N.D.	N.D.	N.D.
Spike Conc. Added:	0.0222	0.0222	0.0222
Spike Result:	0.0202	0.0203	0.0201
Spike % Recovery:	91%	91%	91%
Spike Dup. Result:	0.0229	0.0214	0.0206
Spike Duplicate % Recovery:	103%	96%	93%
Upper Control Limit %:	115	102	113
Lower Control Limit %:	31	46	54
Relative % Difference:	12%	5.3%	2.5%
Maximum RPD:	20	21	22

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% Recovery:	$\frac{\text{Spike Result - Sample Result}}{\text{Spike Conc. Added}}$	x 100
Relative % Difference:	$\frac{\text{Spike Result - Spike Dup. Result}}{\text{(Spike Result + Spike Dup. Result) / 2}}$	x 100

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AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	Sampled:	Jan 10, 1995
11335 NE 122nd Way, #100	Sample Descript:	Solid, CHARCOAL #1	Received:	Jan 13, 1995
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed:	Jan 15, 1995
Attention: Dale Kramer	Sample Number:	B501019-07	Reported:	Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	0.0025	3.9

4-Bromofluorobenzene Surrogate Recovery, %: 97
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	Sampled:	Jan 10, 1995
11335 NE 122nd Way, #100	Sample Descript:	Solid, CHARCOAL #2	Received:	Jan 13, 1995
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed:	Jan 15, 1995
Attention: Dale Kramer	Sample Number:	B501019-08	Reported:	Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	0.0025	0.011

4-Bromofluorobenzene Surrogate Recovery, %: 74
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	Sampled:	Jan 10, 1995
11335 NE 122nd Way, #100	Sample Descript:	Solid, CHARCOAL #3	Received:	Jan 13, 1995
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed:	Jan 15, 1995
Attention: Dale Kramer	Sample Number:	B501019-09	Reported:	Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	0.0025	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 69
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	Sampled:	Jan 10, 1995
11335 NE 122nd Way, #100	Sample Descript:	Solid, CHARCOAL #4	Received:	Jan 13, 1995
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed:	Jan 15, 1995
Attention: Dale Kramer	Sample Number:	B501019-10	Reported:	Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	0.0025	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 62
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01		
11335 NE 122nd Way, #100	Sample Descript:	Method Blank		
Kirkland, WA 98034	Analysis Method:	EPA 8010	Analyzed:	Jan 15, 1995
Attention: Dale Kramer	Sample Number:	BLK011595	Reported:	Jan 16, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit µg/L Air (ppb)	Sample Results µg/L Air (ppb)
Tetrachloroethene	0.0025	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 89
Surrogate Recovery Control Limits are 32 - 148 %.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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AGRA Earth & Environmental	Client Project ID: Frank Wear Cleaners, #11-09818-01	Analyst:	R. Hager
11335 NE 122nd Way, #100	Sample Matrix: Charcoal		F. Shino
Kirkland, WA 98034	Analysis Method: EPA 8010		
Attention: Dale Kramer	Units: µg/L Air (ppb)	Analyzed:	Jan 15, 1995
	QC Sample #: BLK011595	Reported:	Jan 16, 1995

BLANK SPIKE QUALITY CONTROL DATA REPORT

ANALYTE	1,1-DCE	TCE	Chloro-Benzene
Sample Result:	N.D.	N.D.	N.D.
Spike Conc. Added:	0.0222	0.0222	0.0222
Spike Result:	0.0202	0.0203	0.0201
Spike % Recovery:	91%	91%	91%
Spike Dup. Result:	0.0229	0.0214	0.0206
Spike Duplicate % Recovery:	103%	96%	93%
Upper Control Limit %:	115	102	113
Lower Control Limit %:	31	46	54
Relative % Difference:	12%	5.3%	2.5%
Maximum RPD:	20	21	22

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% Recovery:	$\frac{\text{Spike Result - Sample Result}}{\text{Spike Conc. Added}}$	x 100
Relative % Difference:	$\frac{\text{Spike Result - Spike Dup. Result}}{\text{(Spike Result + Spike Dup. Result) / 2}}$	x 100

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AGRA Earth & Environmental	Client Project ID:	Frank Wear Cleaners, #11-09818-01	
11335 NE 122nd Way, #100	Sample Matrix:	Filter	
Kirkland, WA 98034			Received: Jan 13, 1995
Attention: Dale Kramer	First Sample #:	B501019	Reported: Jan 17, 1995

LABORATORY ANALYSIS FOR: FILTER WEIGHT

Sample Number	Sample Description	Filter Wt. Before (g)	Filter Wt. After (g)	Difference (g)
B501019-01	PART 1	19.8585	20.3424	0.4839
B501019-02	PART 2	20.0026	20.4729	0.4703
B501019-03	PART 3	19.8119	20.3020	0.4901
B501019-04	PART 4	19.8187	20.3079	0.4892

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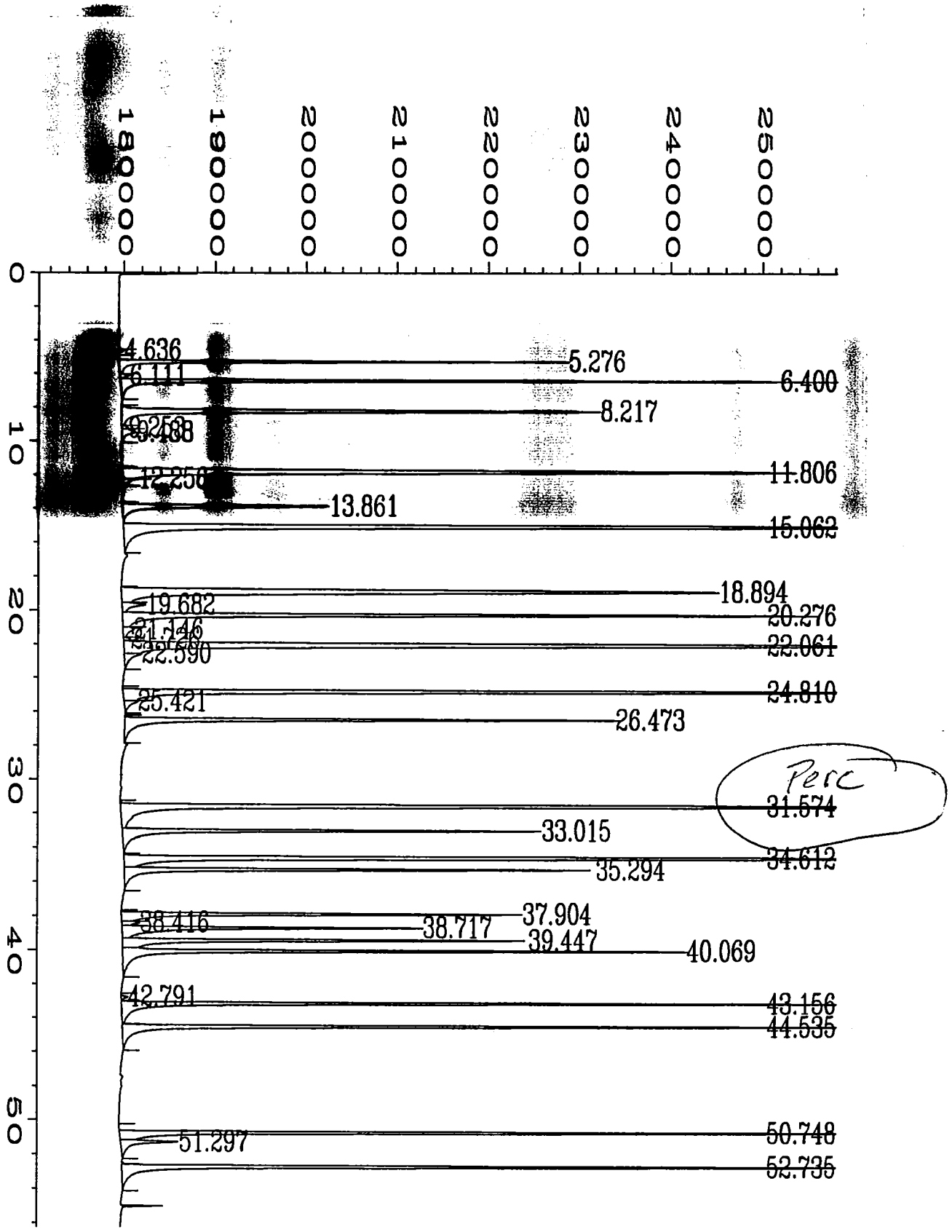

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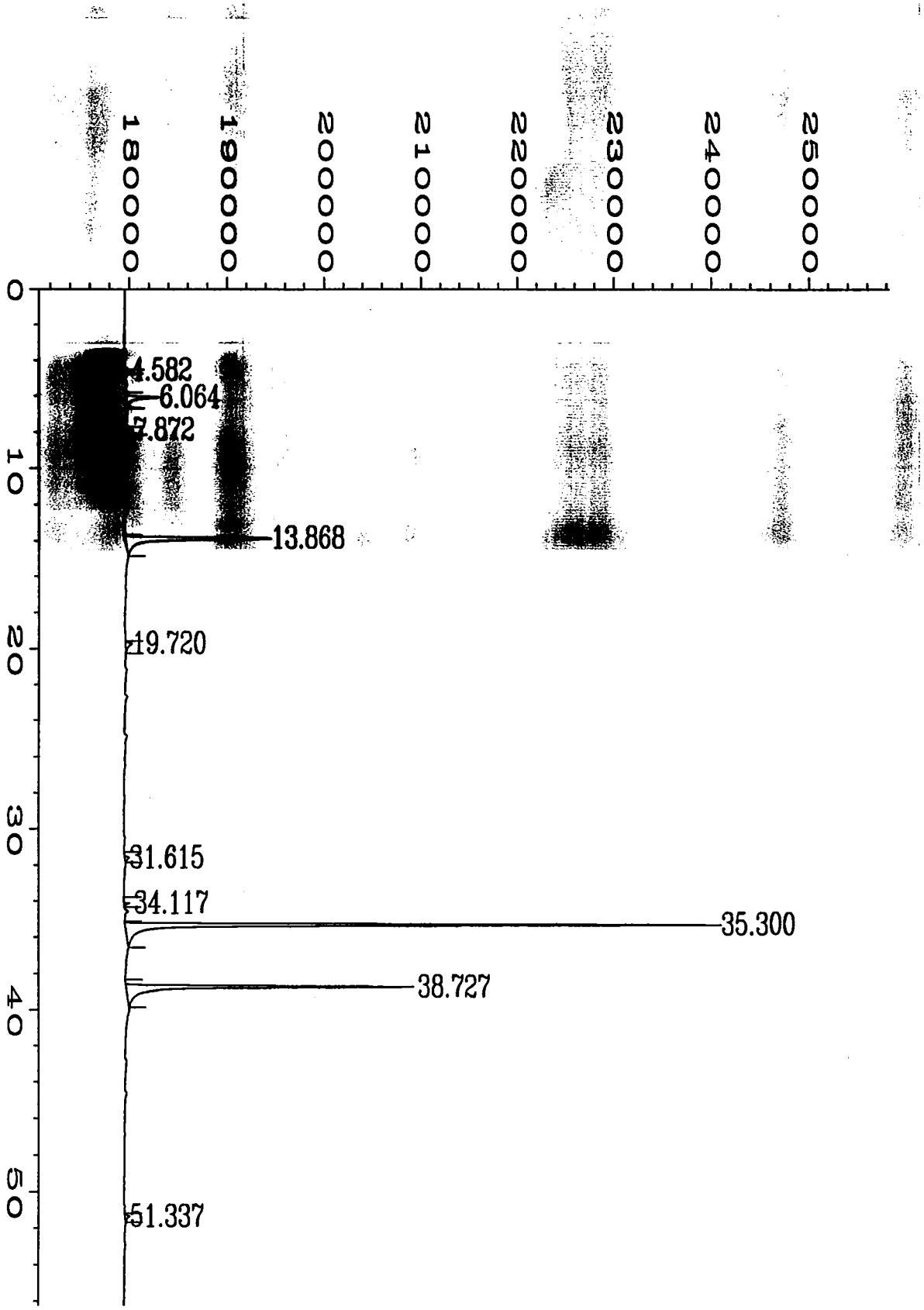
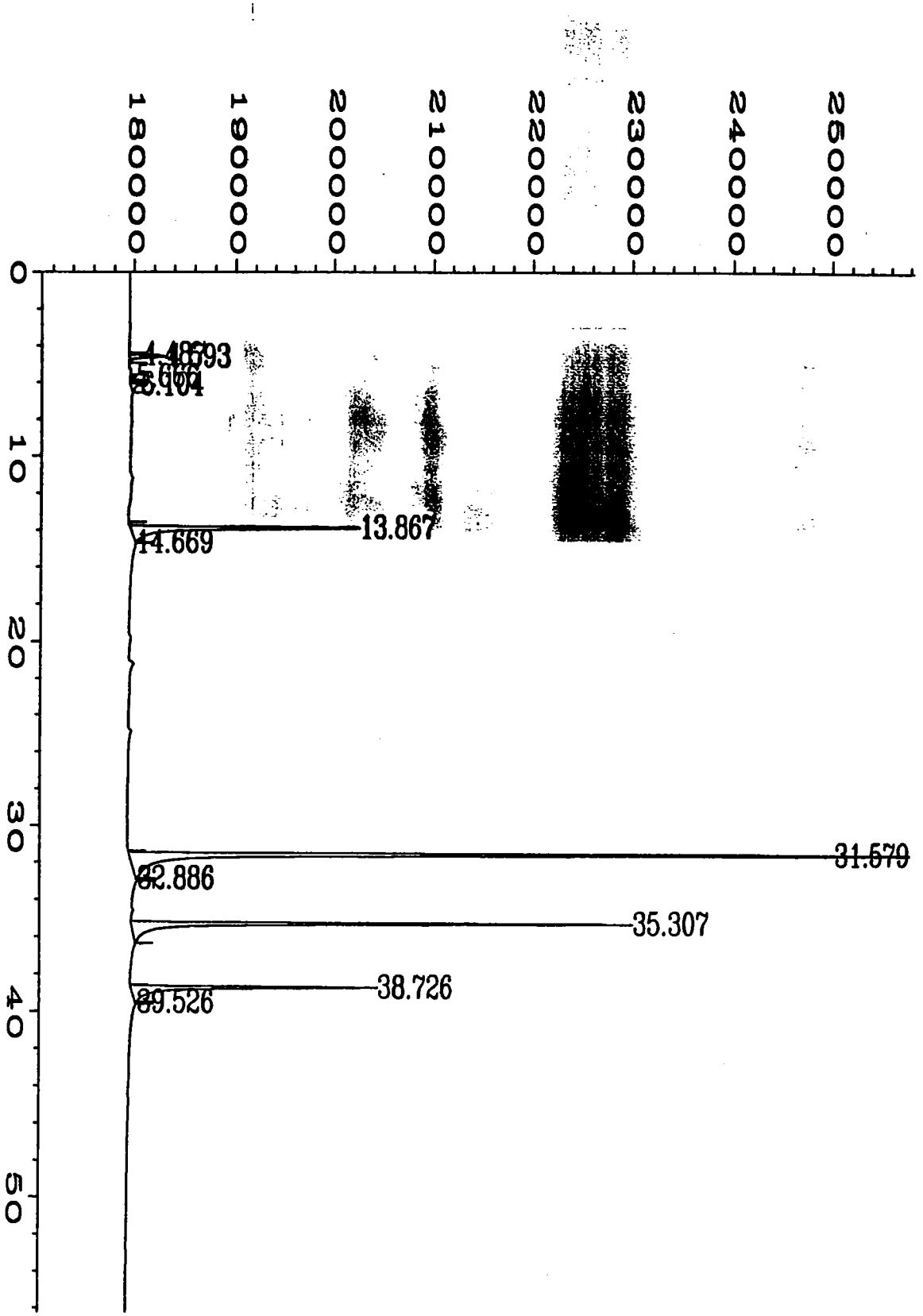
Operator :
Instrument : GC#3
Sample Name : 502d std
n Time Bar Code:
quired on : 15 Jan 95 08:53 PM
Report Created on: 15 Jan 95 09:50 PM
Last Recalib on : 27 NOV 94 10:29 AM
Multiplier : 1
Sample Info : 50 ng v-12w

Page Number : 1
Vial Number : 2
Injection Number : 1
Sequence Line : 2
Instrument Method: E502DWTR.MTH
Analysis Method : E502DWTR.MTH
Sample Amount : 0
ISTD Amount : 4



Data File Name : C:\HPCHEM\4\DATA\011595\004F0401.D
Operator :
Instrument : GC#3
Sample Name : Matrix Blank
n Time Bar Code:
cquired on : 15 Jan 95 11:06 PM
Report Created on: 16 Jan 95 00:02 AM
Last Recalib on : 27 NOV 94 10:29 AM
Multiplier : 20
Sample Info : 250 ul of 5 ml

Page Number : 1
Vial Number : 4
Injection Number : 1
Sequence Line : 4
Instrument Method: 8010WATR.MTH
Analysis Method : 8010WATR.MTH
Sample Amount : 0
ISTD Amount : 4



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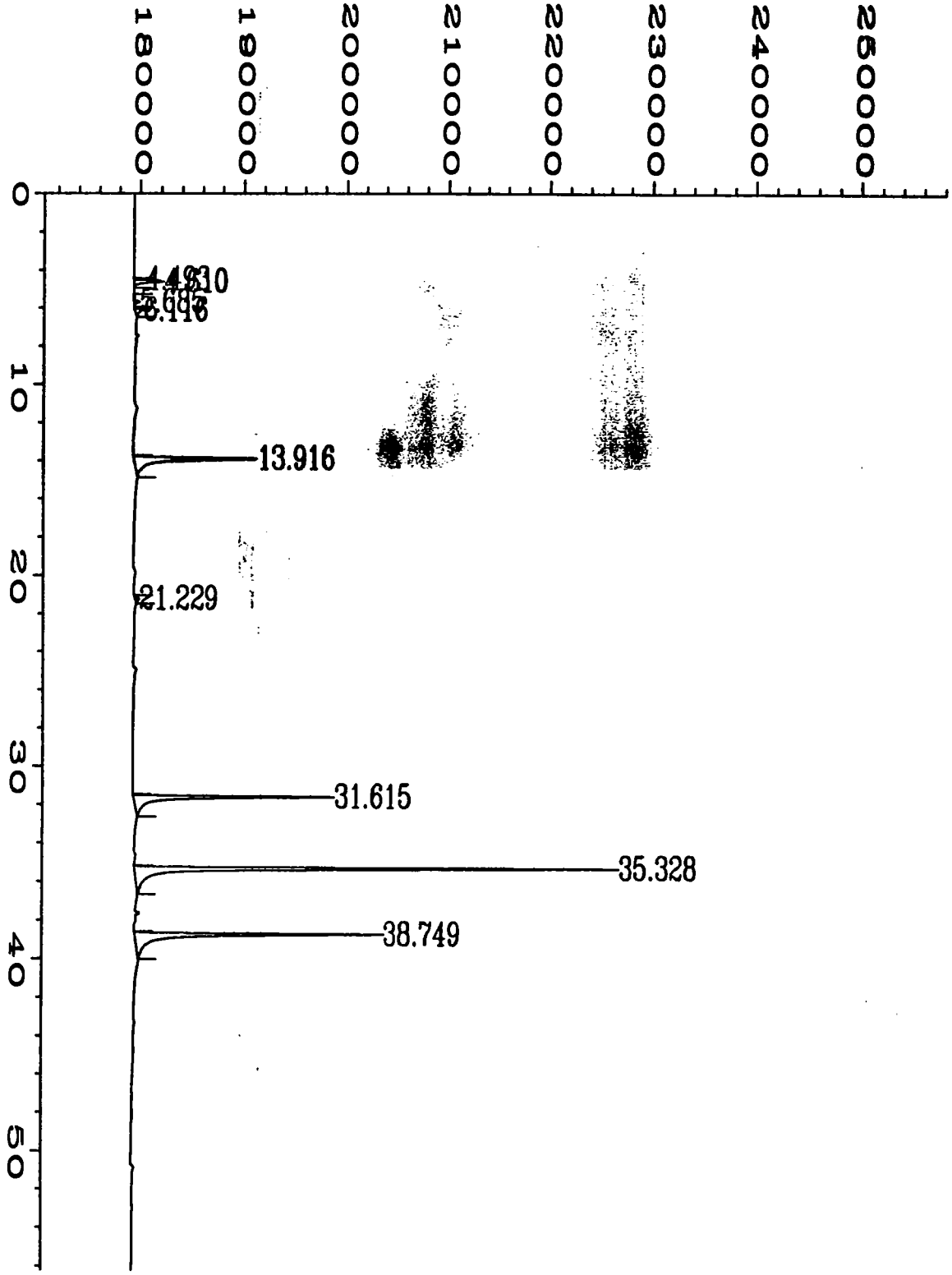
Operator	:	Page Number	: 1
Instrument	: GC#3	Vial Number	: 10
Sample Name	: B501019-01	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 6
Acquired on	: 16 Jan 95 05:43 AM	Instrument Method	: 8010WATR.MTH
Report Created on	: 16 Jan 95 06:40 AM	Analysis Method	: 8010WATR.MTH
Last Recalib on	: 27 NOV 94 10:29 AM	Sample Amount	: 0
Multiplier	: 20	ISTD Amount	: 4
Sample Info	: 250 ul of 5 ml		



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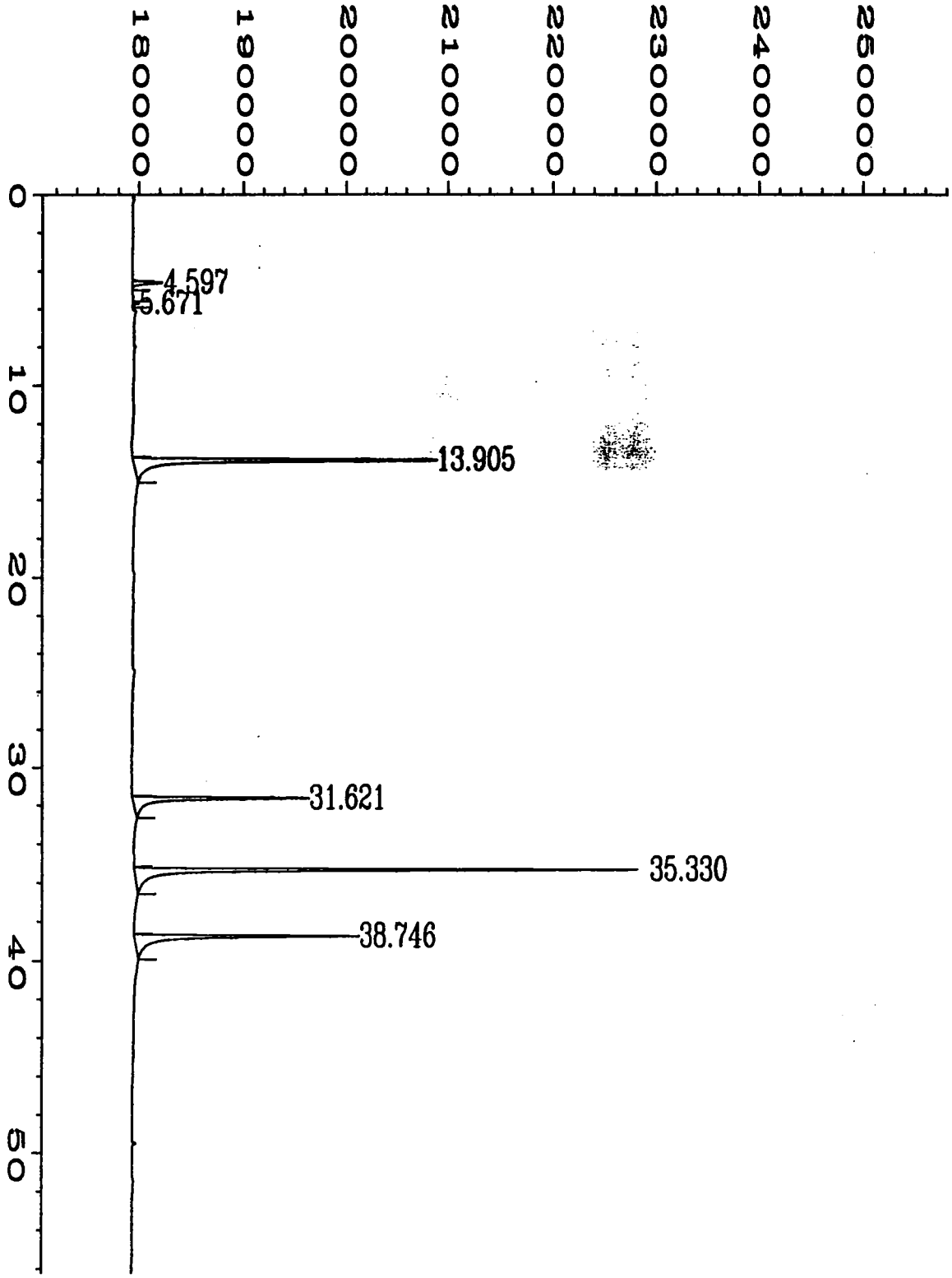
Operator :
Instrument : GC#3
Sample Name : B501019-02
Run Time Bar Code:
Acquired on : 16 Jan 95 11:12 AM
Report Created on: 16 Jan 95 12:08 PM
Last Recalib on : 27 NOV 94 10:29 AM
Multiplier : 20
Sample Info : 250 ul of 5 ml

Page Number : 1
Vial Number : 15
Injection Number : 1
Sequence Line : 8
Instrument Method: 8010WATR.MTH
Analysis Method : 8010WATR.MTH
Sample Amount : 0
ISTD Amount : 4



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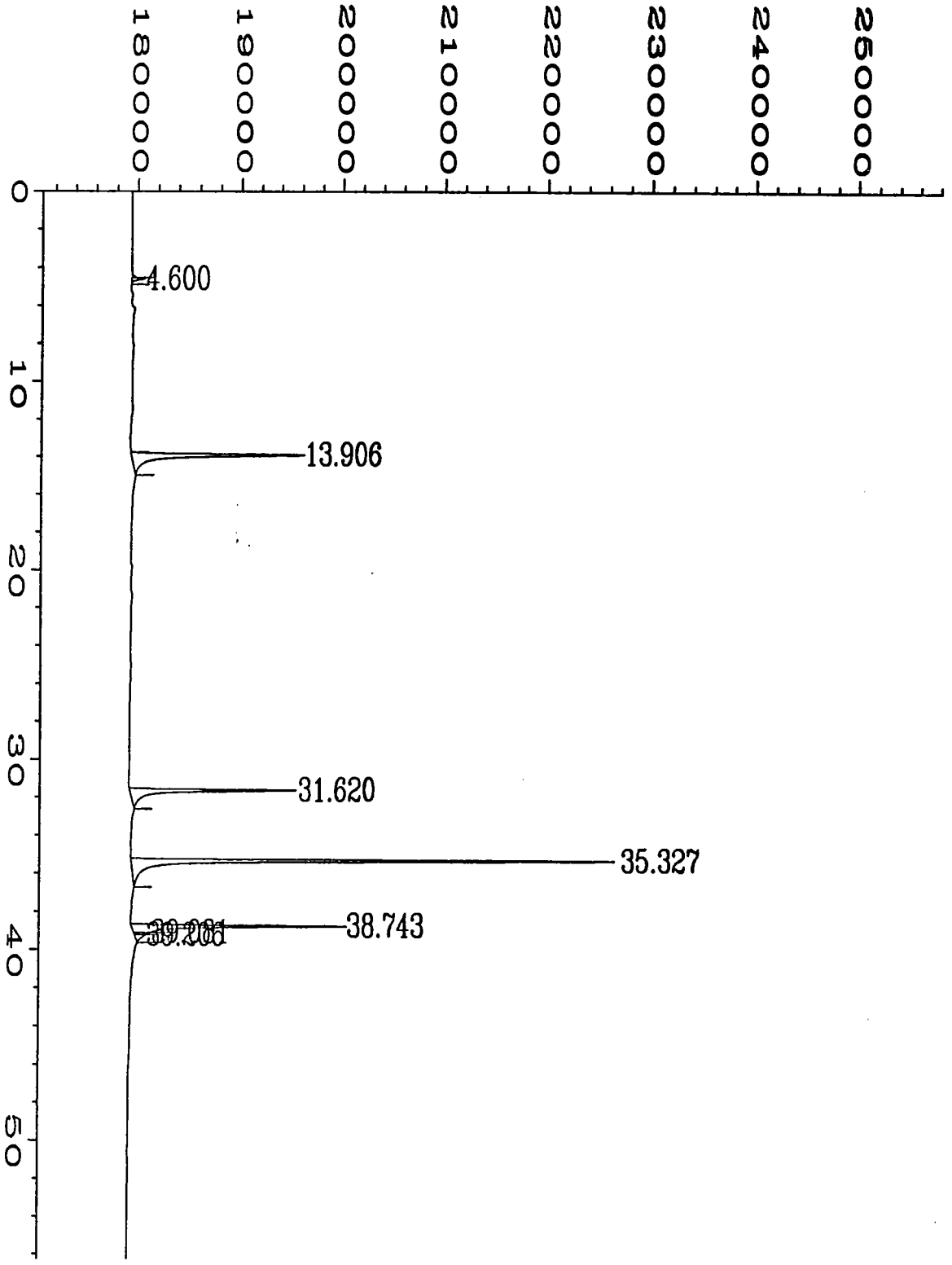
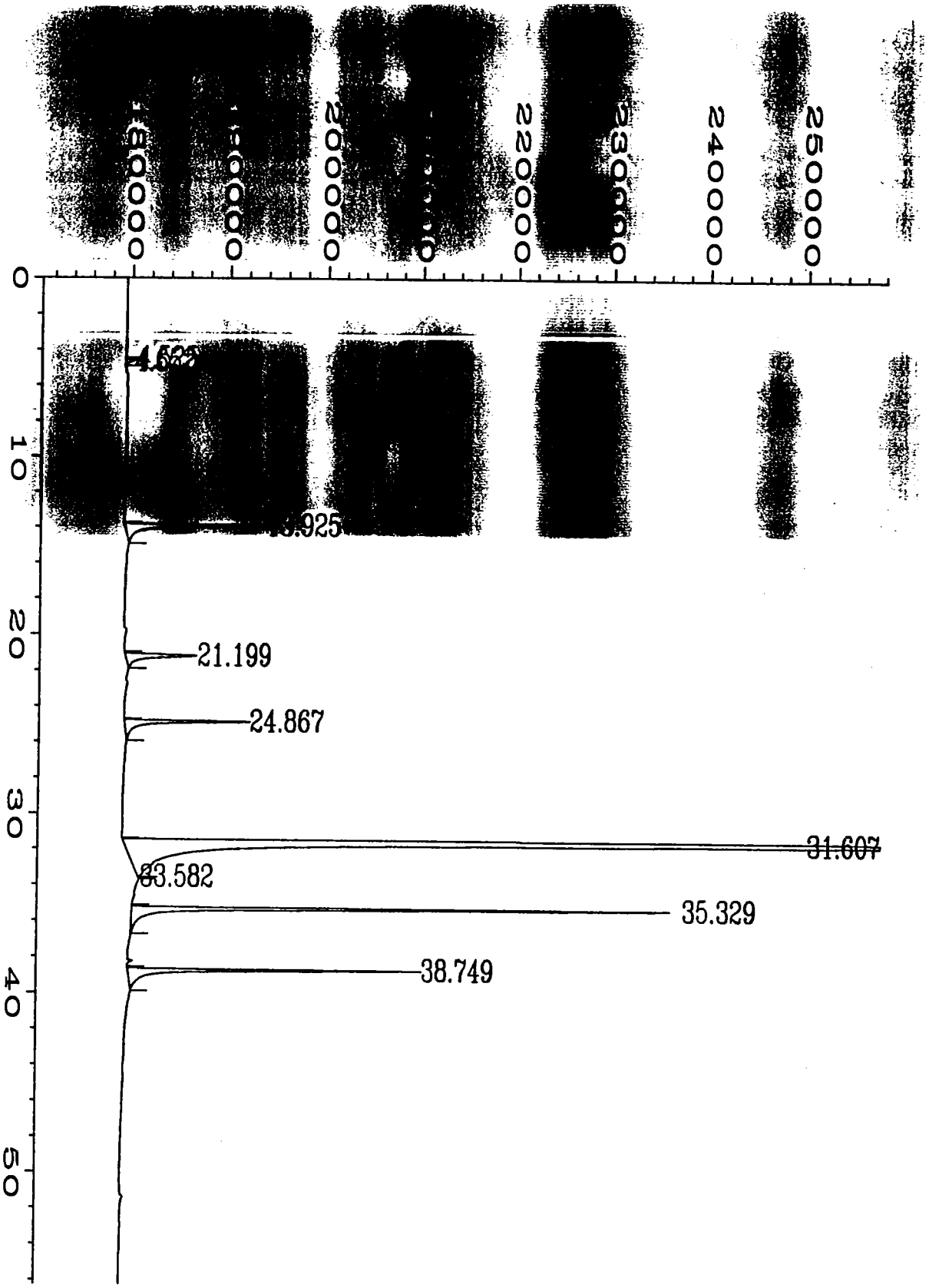
Operator	:	Page Number	: 1
Instrument	: GC#3	Vial Number	: 16
Sample Name	: B501019-03	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 16 Jan 95 12:17 PM	Instrument Method	: 8010WATR.MTH
Report Created on	: 16 Jan 95 01:14 PM	Analysis Method	: 8010WATR.MTH
Last Recalib on	: 27 NOV 94 10:29 AM	Sample Amount	: 0
Multiplier	: 20	ISTD Amount	: 4
Sample Info	: 250 ul of 5 ml		



Data File Name : C:\HPCHEM\4\DATA\011595\017F0801.D
Operator :
Instrument : GC#3
Sample Name : B501019-04
Run Time Bar Code:
Acquired on : 16 Jan 95 01:22 PM
Report Created on: 16 Jan 95 02:19 PM
Last Recalib on : 27 NOV 94 10:29 AM
Multiplier : 20
Sample Info : 250 ul of 5 ml

Page Number : 1
Vial Number : 17
Injection Number : 1
Sequence Line : 8
Instrument Method: 8010WATR.MTH
Analysis Method : 8010WATR.MTH
Sample Amount : 0
ISTD Amount : 4



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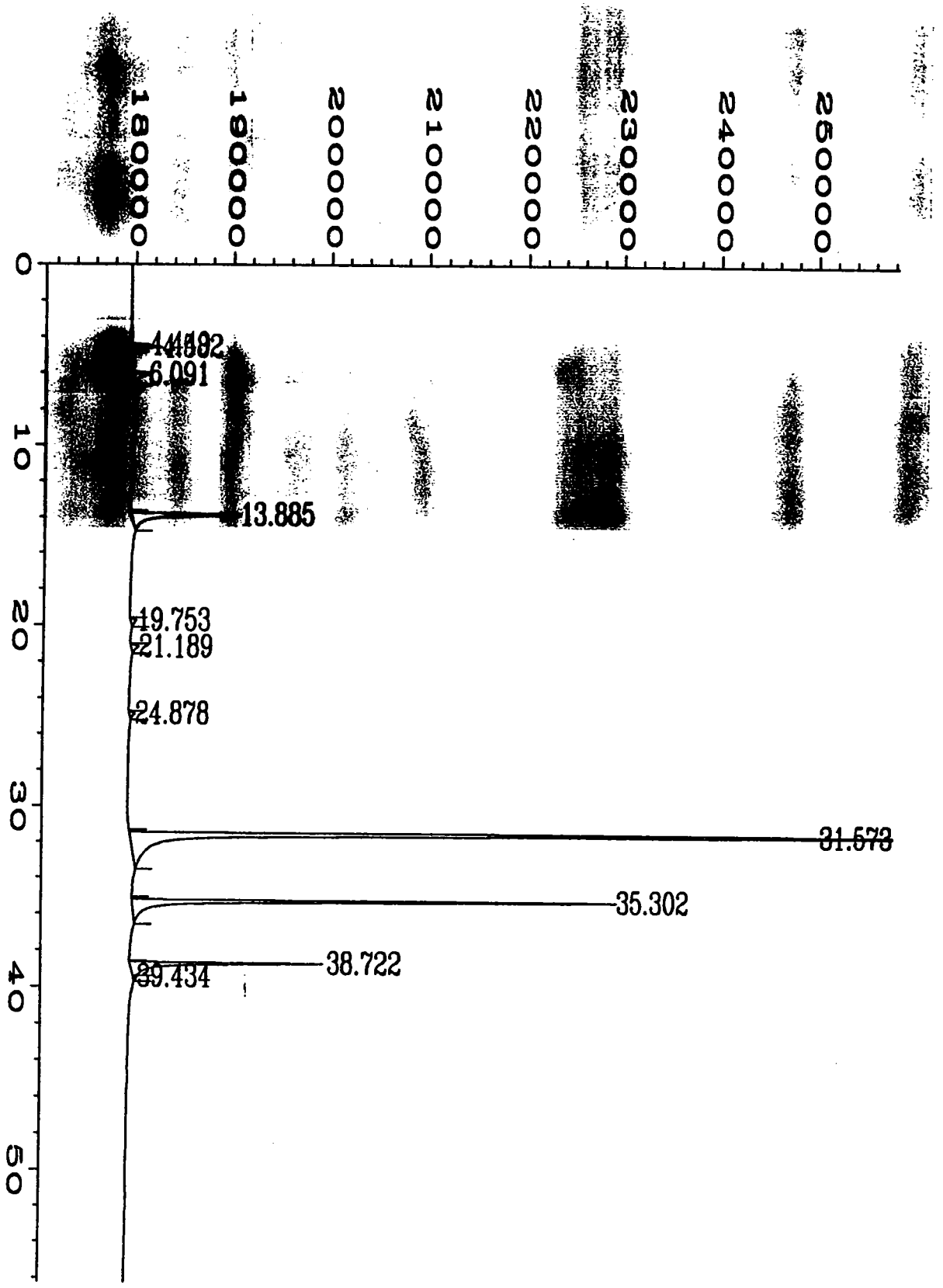
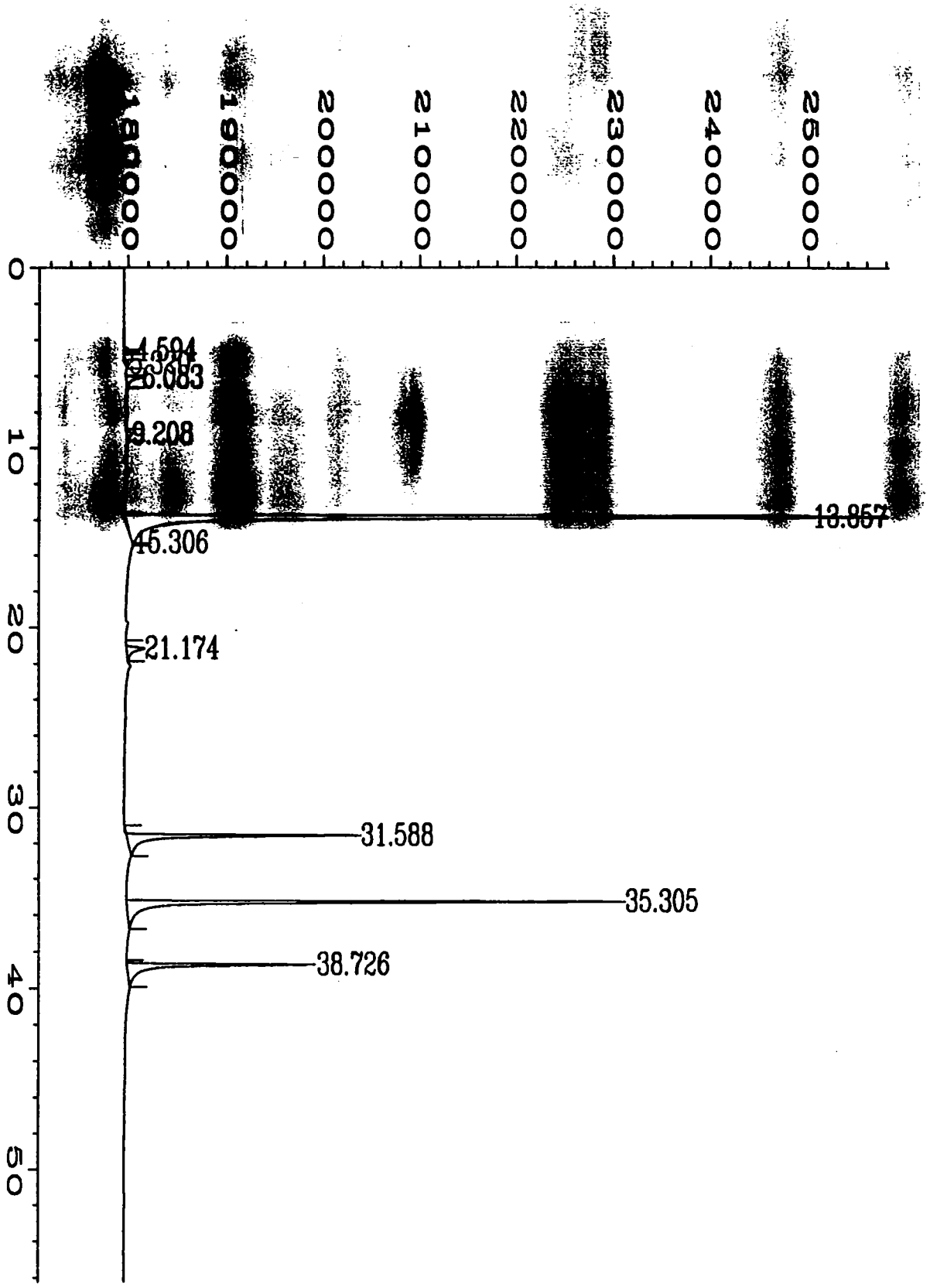
Operator :
Instrument : GC#3
Sample Name : B501019-07 r1
Run Time Bar Code:
Acquired on : 16 Jan 95 02:29 PM
Report Created on: 16 Jan 95 03:25 PM
Last Recalib on : 27 NOV 94 10:29 AM
Multiplier : 1000
Sample Info : 5 ul of 5 ml

Page Number : 1
Vial Number : 18
Injection Number : 1
Sequence Line : 8
Instrument Method: 8010WATR.MTH
Analysis Method : 8010WATR.MTH
Sample Amount : 0
ISTD Amount : 4



Data File Name : C:\HPCHEM\4\DATA\011595\007F0601.D
Operator :
Instrument : GC#3
Sample Name : B501019-08
Run Time Bar Code:
Acquired on : 16 Jan 95 02:25 AM
Report Created on: 16 Jan 95 03:21 AM
Last Recalib on : 27 NOV 94 10:29 AM
Multiplier : 20
Sample Info : 250 ul of 5 ml

Page Number : 1
Vial Number : 7
Injection Number : 1
Sequence Line : 6
Instrument Method: 8010WATR.MTH
Analysis Method : 8010WATR.MTH
Sample Amount : 0
ISTD Amount : 4



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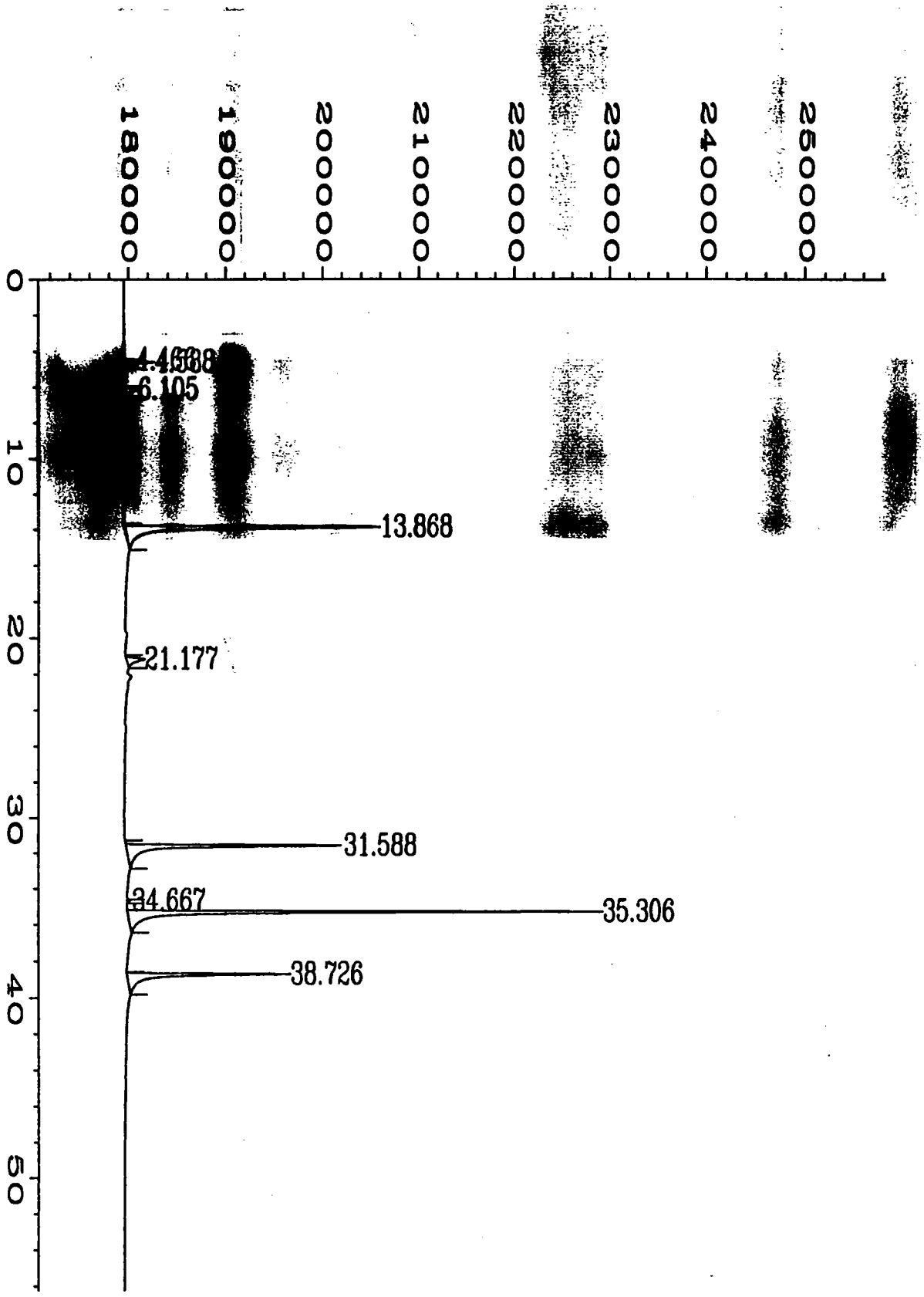
Operator :
Instrument : GC#3
Sample Name : B501019-09
Run Time Bar Code:
Acquired on : 16 Jan 95 03:31 AM
Report Created on: 16 Jan 95 04:27 AM
Last Recalib on : 27 NOV 94 10:29 AM
Multiplier : 20
Sample Info : 250 ul of 5 ml

Page Number : 1
Vial Number : 8
Injection Number : 1
Sequence Line : 6
Instrument Method: 8010WATR.MTH
Analysis Method : 8010WATR.MTH
Sample Amount : 0
ISTD Amount : 4



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Operator	:	Page Number	: 1
Instrument	: GC#3	Vial Number	: 9
Sample Name	: B501019-10	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 6
Acquired on	: 16 Jan 95 04:37 AM	Instrument Method	: 8010WATR.MTH
Report Created on	: 16 Jan 95 05:33 AM	Analysis Method	: 8010WATR.MTH
Last Recalib on	: 27 NOV 94 10:29 AM	Sample Amount	: 0
Multiplier	: 20	ISTD Amount	: 4
Sample Info	: 250 ul of 5 ml		