UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

DATE: MAR 15 1989

SUBJECT: Review of Region 5 data for Export Packaging

FROM: Curtis Ross, Director
Region 5 Central Regional Laboratory

To: Data User:

Attached are the results for:

CRL Data Set Numbers: SF 5553
Sample Numbers: 89ES09375-77; B75 + R05
Parameter(s): PCB/Pesticides
Laboratory: CRL Organic Lab

Results Status:

(X) DATA ACCEPTABLE FOR USE*
( ) DATA QUALIFIED AS TO USE
( ) DATA UNACCEPTABLE FOR USE

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to David Payne, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

SUBMITTED BY
Griffin
MAR 15 1989

RECEIVED BY/DATE:
Comments:

U.S. EPA CENTRAL
REGIONAL LAB

DATA SET	SITE	DU/ACT.
SF 5883	Export Packaging	TFA 902

SAMPLES	PARAMETER(S)
89FS09875-77; B75 & R05	PCB/Pesticides

SAMPLED	RECEIVED	DUE	LAB
2/21/89	2/22/89	3/15/89	CRL Organic

SHIPPED	DATA RECEIVED	CONTRACT

Comments By Reviewer:

1) Method Blank is free from contamination by analytes of interest.
2) DBC surrogate spike recoveries for 2 QC samples, the duplicate sample and field blank are ~~very high~~ out of control high but attributable to phthalate contamination. The rest of the samples and QC (6) showed acceptable recoveries. The high recoveries did not affect the data.
3) Pesticide + PCB matrix spike recoveries are within limits
4) No PCB or pesticides of interest were detected in the samples.

Data is acceptable.

(X) REVIEWED	( ) UNREVIEWED	TEAM LEADER/DATE L Evangelista 3/13/89
( ) REVIEWED	( ) UNREVIEWED	SECTION CHIEF/DATE
( ) REVIEWED	( ) UNREVIEWED	QC COORDINATOR/DATE

REVIEWED BY CONTRACT COORDINATOR/DATE

RECEIVED	TRANSMITTED	DATA MANAGEMENT COORDINATOR
3/15/89	3/15/89	SHuffin

ENVIRONMENTAL PROTECTION AGENCY, REGION V BASIC DATA FORM: Form #1:

DIVISION/BRANCH: ESD Sampling Date: 2/21/89 (Month Day Year) Arrival Date: 2/22/89 (Month Day Year) Analysis Due Date: 3/15/89 (Month Day Year)

D.U. Number: TFA Data Set Group #: 5883 Activity #: Study: export packaging

All units are micrograms per liter milligram per kilograms or micrograms Sample Type: Water, Sediment, Oil, Sludge, WIPE

#	Sample #	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1221	Aroclor	Aroclor	Dibuthyl phthalate	Diethyl Hexyl phthalate	
1	89FS09875	0.1µ	0.1µ	0.1µ	0.1µ						
2	89FS09876	0.1µ	0.1µ	0.1µ	0.1µ						
3	89FS09877	0.1µ	0.1µ	0.1µ	0.1µ						
4	89FS09B75	0.1µ	0.1µ	0.1µ	0.1µ						
5	89FS09R08	0.1µ	0.1µ	0.1µ	0.1µ						
6				0							
7						3/9/89					
8											
9											
10											
11											
12											
13											
14											
15											
16											

ENVIRONMENTAL PROTECTION AGENCY, REGION V BASIC FORM

DIVISION/BRANCH: ESD Sampling Date: 2/21/89 Arrival Date: 2/22/89 Analysis Due Date: 3/15/89

Sample#/

D.U. Number: TFA Group# 5883 Activity#: Export Packaging Study:

ALL UNITS ARE MICROGRAMS PER LITER OR MILLIGRAMS PER KILOGRAM. Sample type: Water

Pesticide / Sample #	Y-BHC Lindane	Heptachlor	Aldrin	Heptachlor Epoxide	Endosulfan I	Dieldrin	Endrin	Endosulfan II	pp-DDE	Beta-BHC	Delta-BHC	Alpha-BHC	pp-DDD	pp-DDT	Methoxychlor	Endosulfan Sulfate	Endrin Aldehyde	Endrin Ketone	T-Chlordane	Toxaphene
1. 89FS09S75	0.002U	0.02U	0.016U	0.005U	0.006U	0.006U	0.009U	0.008U	0.017U	0.014U	0.014U	0.022U	0.045U	0.013U	0.011U	0.127U	0.049U	0.03U	0.14U	1.0U
2. 89FS09S76	0.002U	0.02U	0.016U	0.005U	0.006U	0.006U	0.009U	0.008U	0.017U	0.014U	0.014U	0.022U	0.045U	0.013U	0.011U	0.127U	0.049U	0.03U	0.14U	1.0U
3. 89FS09S77	0.002U	0.02U	~~0.016U~~ .016U	0.005U	0.006U	0.006U	0.009U	0.008U	0.017U	0.014U	0.014U	0.022U	0.045U	0.013U	0.011U	0.127U	0.049U	0.03U	0.14U	1.0U
4. 89FS09B75	0.002U	0.02U	~~0.016U~~ .016U	0.005U	0.006U	0.006U	0.009U	0.008U	~~0.017U~~ .017U	0.014U	0.014U	0.022U	0.045U	0.013U	0.011U	0.127U	0.049U	0.03U	0.14U	1.0U
5. 89FS09R08	0.002U	0.02U	0.16U .016U	0.005U	0.006U	0.006U	0.009U	0.008U	~~0.17U~~ .017U	0.014U	0.014U	0.022U	0.045U	0.013U	0.011U	0.127U	0.049U	0.03U	0.14U	1.0U
6.			IE 3/2/89						IE 3/2/89											
7.																				
8.				AK		3/8/89														
9.																				
10.																				
11.																				
12.																				
13.																				

PEST / PCB

TFA302

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: PESTICIDES AND PCB'S

DIVISION/BRANCH SUPERFUND FIT SAMPLE DATE 2/21/89 LAB ARRIVAL DATE 2/22/89 DUE DATE 3/~~14~~ 15/89

DU NUMBER ~~19057~~ TFA DATA SET NUMBER 5883 STUDY Export Packaging PRIORITY — CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER TRIHALOMETHANES UG/L PES17414	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES 17134	WATER HERBICIDES UG/L PES 17424	WATER OIL AND GREASE MG/L PES 17439
89FS09S75	RW1 5-020065-6		✓	✓		
89FS09S76	~~5020003-104~~ 5-020072-73 RW2 5-020077-78		✓	✓		
89FS09S77	RW3 5-020084-85		✓	✓		
~~89FS09S78~~	~~RW4~~		✓	✓		
89FS09B75	Dup 5-020091-92		✓	✓		
89FS09R08	Blank 5-020098 5-020099		✓	✓		

Narrative

~~Sample~~ Analysis request sheet

Bench sheet

Sample reporting forms.

DATE: FEBRUARY 27, 1989

DATA SET: SF 5883, EXPORT PACKAGING

FROM: AMBERINA KHAN

TO: LINDA EVANGELISTA

The data set consisted of 5 water samples.

All sample holding times were met.

The samples were analyzed using the CRL method 608 for PCB's and pesticides. The samples were cleaned using florisil.

QC

The method blank was free of contamination.

The pesticide and PCB spike recoveries were acceptable.

The ~~percent RSD~~ RPD for 1 out of 9 compounds was more than 10% for the pesticide spikes.

The ~~percent RSD~~ RPD for PCB spikes was 11%. ISTD area %RSD = 9%

The endrin and 4'4'DDT degradation for the primary and secondary column was below 20%.

DBC recoveries were high for the pesticide spikes (520 & 560%).

But the sample that was used as a matrix spike had acceptable level of recovery. Recovery for sample 89FS09B75 was 2574%

DBC recoveries for the other samples, the method blank and the PCB spikes were acceptable.

Calibration curves were acceptable.

The standards were shared with data set SF 5868 .

SAMPLES

The samples had a few interfering peaks but none of them matched any compounds of interest.

PROBLEMS The injection needle was jammed and had to be re-adjusted.

Export Packaging

PCB/PEST EXTRACTION

DATA SET(S) SF 5883 DATE EXTRACTED: 2/24/89

SAMPLE TYPE(S) water DATE CONCENTRATED:

EXTRACTION SYSTEM sep funnel DATE COMPLETED:

SOLVENT SYSTEM CH_2Cl_2 x60 x3 VOLUMES USED

SAMPLE #	SAMPLE AMOUNT	CONC. EXTRACT	DILUTIONS 1ST	2ND	3RD	FINAL VOL	INSTDS MRX/OTHER
	mls	mls				mls	Ph 7
89FS09 $75	1000	10				10	Inst Mixes
89FS09 $76	1000	↓				↓	10 ul
89FS09 $77	1000						to each vial.
89FS09 B75	980						
Pest Spk 89FS09 $76	1020						
Pest Spk Dup 89FS09 $76	1020						
PCB Spk 89FS09 $76	960						
PCB Spk Dup 89FS09 $76	1000						
Method Blank	1000						
89FS09 R08	1000	↓				↓	

#	PREPARATION DATE	VOLUME

MATRIX SPIKE SOLUTION: 1ml of PCB Spk 3.0 ng/ml was added to each PCB spike

SURROGATES: 1ml of DBC 0.5 ng/ml was added to each funnel except Pest spikes
& 1ml of Pest Spk was added to pest spk + dup

PREP. CHEMIST NW/G.F./AK ANALYST AK

AQC DATA

DATE: 2/9/89
DATA SET: SF 5883

BLANK DATA:

	CONC. OF AROCLOR (PPB)				CONC. OF PEST (PPB)
	1242	1248	1254	1260	
MB	0.14	0.14	0.14	0.14	0.14

SPIKE DATA:

	COMPOUND:	CONC. (ug) of PEST/PCB				% RECOVERY	
		SPIKE ADDED	SPIKE RESULT	SPIKE DUP. RESULT	% RPD	SPIKE RECOVERY	SPIKE DUPLICATE RECOVERY
PESTICIDES:	LINDANE	.29	0.182	0.1677	8	63	58
	HEPTACHLOR	.29	0.235	0.225	5	81	77
	ALDRIN	.29	0.166	0.164	2	57	56
	ENDOSULFAN-1	.50	0.377	0.396	5	75	79
	DIELDRIN	1.00	0.662	0.6046	9	66	60
	ENDRIN	1.50	1.328	1.103	17	89	74
	P,P'-DDT	1.52	1.53	1.55	2	100	102
	P,P'-METHOXYCHLOR	1.50	0.986	0.896	9	66	60
	DIBUTYL CHLORENDATE	.50	2.81	2.6	8	562	520
PCB:	AROCLOR 1242	3.00	2.63	2.38	11	88	79

COMMENTS:

11/86
JFP

SF. 5883

DBC Recovery

Sample Name	Amt Added UG	Amt found UG	% Recovery
Method Blank	0.5	0.53	106
PCB spike 89FS09$76	0.5	0.44	88
PCB spk Dup 89FS09$76	0.5	0.46	92
Pest spk 89FS09$76	0.5	2.8	560
Pest spk Dup 89FS09$76	0.5	2.6	520
89FS09$76	0.5	0.52	104
89FS09$75	0.5	0.56	112
89FS09B75	0.5	12.87	2574
89FS09$77	0.5	0.46	92
89FS09R08	0.5	1.07	214

SEQUENCE RECORDED IN Y:SF 5883.SEQ

	SAMPLE NAME	METHOD NAME	DATA FILE	AMOUNT INJECTED	INT.STD. AMOUNT	DILUTION FACTOR	SAMPLE WEIGHT
			INSTD Area				
1	SOLVENT BLANK	ZERO	438181	1.0000	1.0000	1.00	1.000
2	METHOD BLANK	ZERO	395061	1.0000	1.0000	10.00	1.000
3	DEG ENDRIN	ZERO	477888	1.0000	1.0000	1.00	1.000
4	DEG DDT	ZERO	437286	1.0000	1.0000	1.00	1.000
5	PEST STD A LEVEL 1	ZERO	464827	1.0000	1.0000	1.00	1.000
6	PEST STD A LEVEL 2	ZERO	454285	1.0000	1.0000	1.00	1.000
7	~~PEST STD A LEVEL 3~~	~~ZERO~~		1.0000	1.0000	1.00	1.000
8	~~PEST STD A LEVEL 4~~	~~ZERO~~		1.0000	1.0000	1.00	1.000
9	PEST STD A LEVEL 4	ZERO	369233	1.0000	1.0000	1.00	1.000
10	~~PEST SPK 89FS09S76~~	~~ZERO~~		1.0000	1.0000	10.00	1.020
11	~~PEST SPK DUP 89FS09S~~	~~ZERO~~		1.0000	1.0000	10.00	1.020
12	PEST SPK DUP 89FS09S	ZERO	374889	1.0000	1.0000	10.00	1.020
13	PEST SPK 89FS09S76	ZERO	363402	1.0000	1.0000	10.00	1.020
14	~~PEST STD B LEVEL 1~~	~~ZERO~~		1.0000	1.0000	1.00	1.000
15	~~PEST STD B LEVEL 2~~	~~ZERO~~		1.0000	1.0000	1.00	1.000
16	PEST STD B LEVEL 3	ZERO	417492	1.0000	1.0000	1.00	1.000
17	~~PEST STD B LEVEL 4~~	~~ZERO~~		1.0000	1.0000	1.00	1.000
18	~~PEST STD B LEVEL 5~~	~~ZERO~~		1.0000	1.0000	1.00	1.000
19	STD 1242 LEVEL 1	ZERO	407306	1.0000	1.0000	1.00	1.000
20	STD 1242 LEVEL 2	ZERO	404406	1.0000	1.0000	1.00	1.000
21	STD 1242 LEVEL 3	ZERO	500937	1.0000	1.0000	1.00	1.000
22	PEST STD A LEVEL 3	ZERO	444007	1.0000	1.0000	1.00	1.000
23	STD 1242 LEVEL 4	ZERO	395218	1.0000	1.0000	1.00	1.000
24	PCB SPK DUP 89FS09S7	ZERO	420881	1.0000	1.0000	10.00	1.000
25	PCB SPK 89FS09S76	ZERO	424869	1.0000	1.0000	10.00	1.000
26	DEG ENDRIN	ZERO	471183	1.0000	1.0000	1.00	1.000
27	DEG DDT	ZERO	384418	1.0000	1.0000	10.00	1.000
28	~~89FS09S75~~	~~ZERO~~		1.0000	1.0000	10.00	1.000
29	89FS09S75	ZERO	460628	1.0000	1.0000	10.00	1.000
30	89FS09S77	ZERO	*1118305	1.0000	1.0000	10.00	1.000
31	89FS09B75	ZERO	428131	1.0000	1.0000	10.00	1.000
32	~~89FS09R08~~	~~ZERO~~		1.0000	1.0000	10.00	1.000
33	~~89FS09S76~~	~~ZERO~~		1.0000	1.0000	10.00	1.000
34	89FS09R08	ZERO	335171	1.0000	1.0000	10.00	1.000
35	89FS09S76	ZERO	475581	1.0000	1.0000	10.00	1.000
36	STD 1254	ZERO	430152	1.0000	1.0000	1.00	1.000
37	STD 1260	ZERO		1.0000	1.0000	1.00	1.000
38	STD 1248	ZERO	398070	1.0000	1.0000	1.00	1.000
39	STD 1248	ZERO		1.0000	1.0000	1.00	1.000
40	STD 1232	ZERO		1.0000	1.0000	1.00	1.000
41	STD 1221	ZERO		1.0000	1.0000	1.00	1.000
42	STD 1221	ZERO		1.0000	1.0000	1.00	1.000
43				0.0000	0.0000	0.00	0.000
44				0.0000	0.0000	0.00	0.000
45				0.0000	0.0000	0.00	0.000
46				0.0000	0.0000	0.00	0.000
47				0.0000	0.0000	0.00	0.000
48				0.0000	0.0000	0.00	0.000
49				0.0000	0.0000	0.00	0.000
50				0.0000	0.0000	0.00	0.000

* 1118305 was not used for deviation because of interfering peak with the INST mix

25	444007	

****

DATA POINT	DATA ENTERED	DEVIATION
1	438181	15242.92
2	395061	-27877.08
3	477838	54899.92
4	437286	14347.92
5	464827	41888.92
6	454285	31346.92
7	369233	-53705.08
8	374889	-48049.08
9	363402	-59536.08
10	417492	-5446.080000000002
11	407306	-15632.08
12	404406	-18532.08
13	500937	77998.92
14	395218	-27720.08
15	420881	-2057.080000000002
16	424869	1930.919999999998
17	471183	48244.92
18	384418	-38520.08
19	460628	37689.92
20	428131	5192.919999999998
21	335171	-87767.08
22	475581	52642.92
23	430152	7213.919999999998
24	398070	-24868.08
25	444007	21068.92

****

The number of data points= 25

The sum of the data= 10573452

The mean= 422938.08

The standard deviation is= 40014.68030702728

The coefficient of variation is= 9.461120244132967D-02

QC

Spikes
Method Blank
Solvent Blank
Deg Info

```
****** INTERNAL STANDARD TABLE ******
******************** 03-06-1989 14:13:13 Version 4.1 ********************
* Sample Name: DEG ENDRIN                          Data File: I:FP3        *
* Date: 03-02-1989 18:34:03 Method: SPESTA4 03-06-1989 09:38:50  #  101   *
* Interface: 0   Cycle#:  3    Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED              *
*              Solvent Description: NITROGEN                             *
* Conditions: ISOTHERMAL 200 C                                           *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.     *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                        *
*************************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
4	18.07	ENDRIN	0.2650	99.9971%	2653482	89172	29.8	1	4	5	0	9.9872E-08
5	39.99	INSTD	1.0000	0.0000%	477838	5631	84.9	1	5	5	0	2.0928E-06
6	46.74	DBC	0.0000	0.0029%	36782	558	65.9	1	6	5	0	2.0928E-10

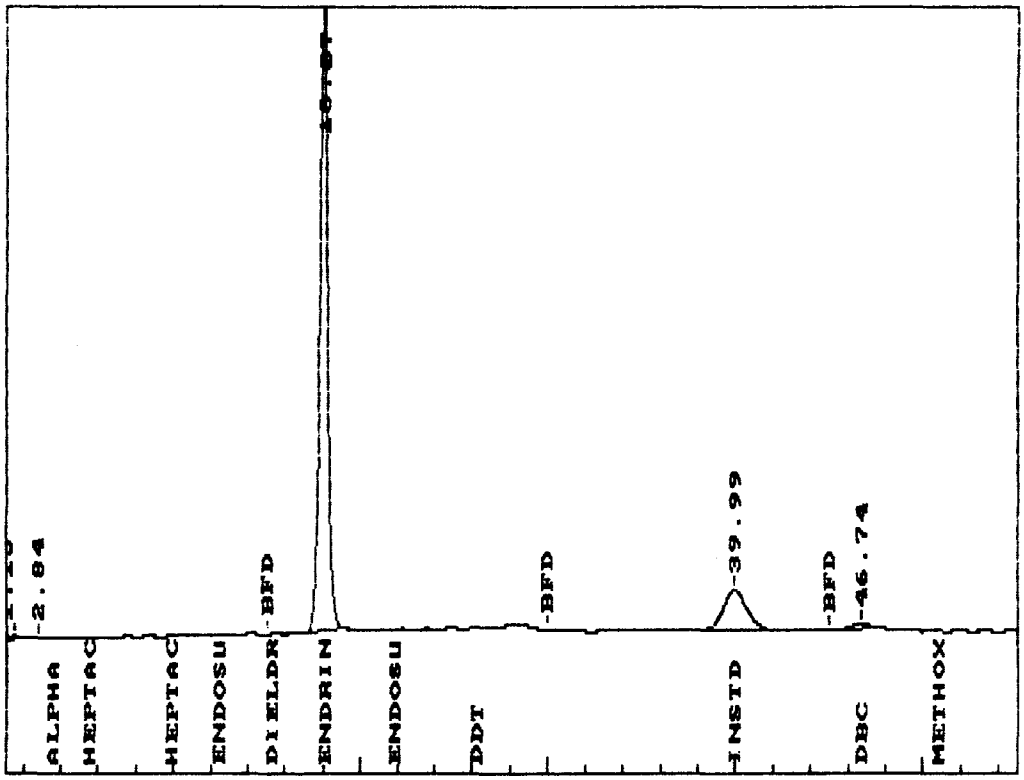
TOTAL AMOUNT = 0.2650

$$\% \text{ Deg Endrin} = \frac{\text{Total area of Endrin ketone + End Aldehyde}}{\text{Area of Endrin + Endrin ketone + End Aldehyde}} \times 100$$

$$= \frac{36782}{2653482 + 36782} \times 100 =$$

$$\frac{36782 \times 100}{2690264} = 1.36\%$$

Plot of data file: I:FP3.PTS
Date: 03-06-1989 Time: 14:20:02
Sample Name: DEG ENDRIN
Start Time= 1.02Stop Time = 55.01Min. Scale= 6049Max. Scale= 96573

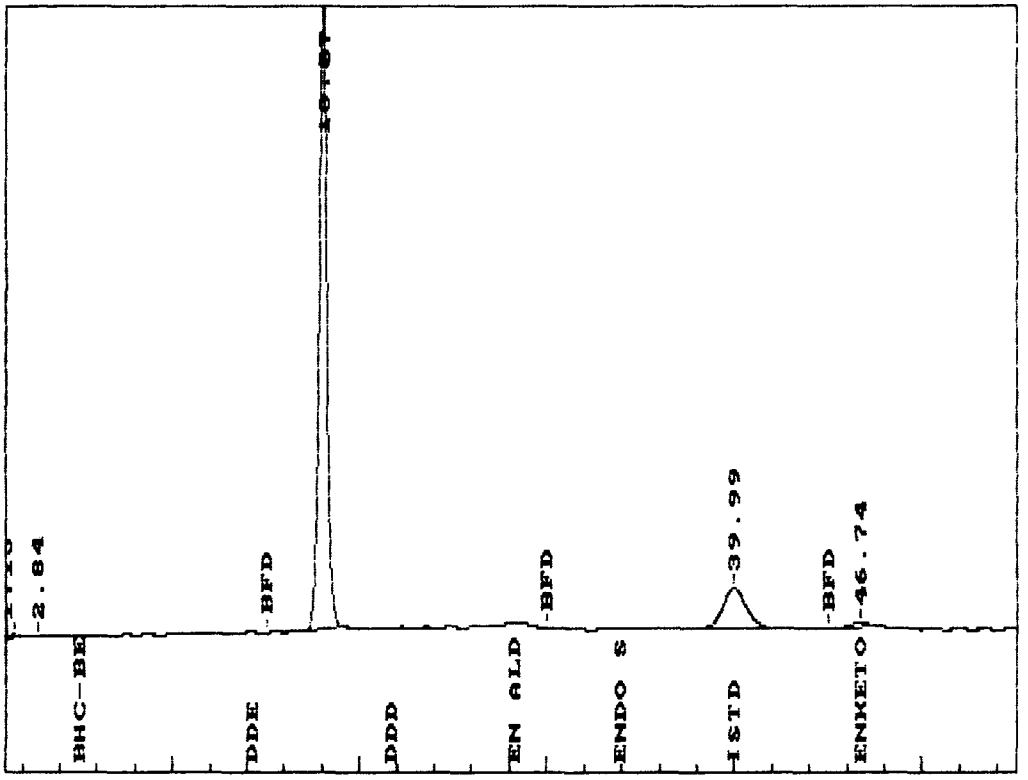


```
*****    INTERNAL STANDARD TABLE    *****
******************** 03-06-1989 14:21:42 Version 4.1 ********************
* Sample Name: DEG ENDRIN                          Data File: I:FP3        *
* Date: 03-02-1989 18:34:03 Method: SPESTB 03-06-1989 11:39:11  #  67     *
* Interface: 0   Cycle#:  3    Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
***********************************************************************
* Instrument Type: TRACOR                Column Type: PACKED              *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
***********************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	39.99	ISTD	1.0000	0.0000%	477838	5631	84.9	1	5	5	0	2.0928E-06
6	46.74	ENKETONE	0.0028	100.0000%	36782	558	65.9	1	6	5	0	7.7144E-08

TOTAL AMOUNT = 0.0028

Plot of data file: I:FP3.PTS
Date: 03-06-1989 Time: 14:24:31
Sample Name: DEG ENDRIN
Start Time= 1.02Stop Time = 55.01Min. Scale= 6049Max. Scale= 96573



```
*****   INTERNAL STANDARD TABLE   *****
******************** 03-06-1989 14:26:25 Version 4.1 **********************
* Sample Name: DEG DDT                          Data File: I:FP4          *
* Date: 03-02-1989 19:30:36 Method: SPESTA4 03-06-1989 09:38:50  #  101   *
* Interface: 0   Cycle#:  4    Operator AK  Channel#: 1    Vial#: N.A.   *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
***************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED            *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
***************************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
6	21.81	~~ENDOSULFAN II~~ DDD	0.0046	2.3146%	57608	1195	48.2	1	6	8	0	7.9460E-08
7	26.23	DDT	0.1932	97.6854%	1134884	22173	51.2	1	7	8	0	1.7023E-07
8	40.08	INSTD	1.0000	0.0000%	437286	5125	85.3	1	8	8	0	2.2868E-06

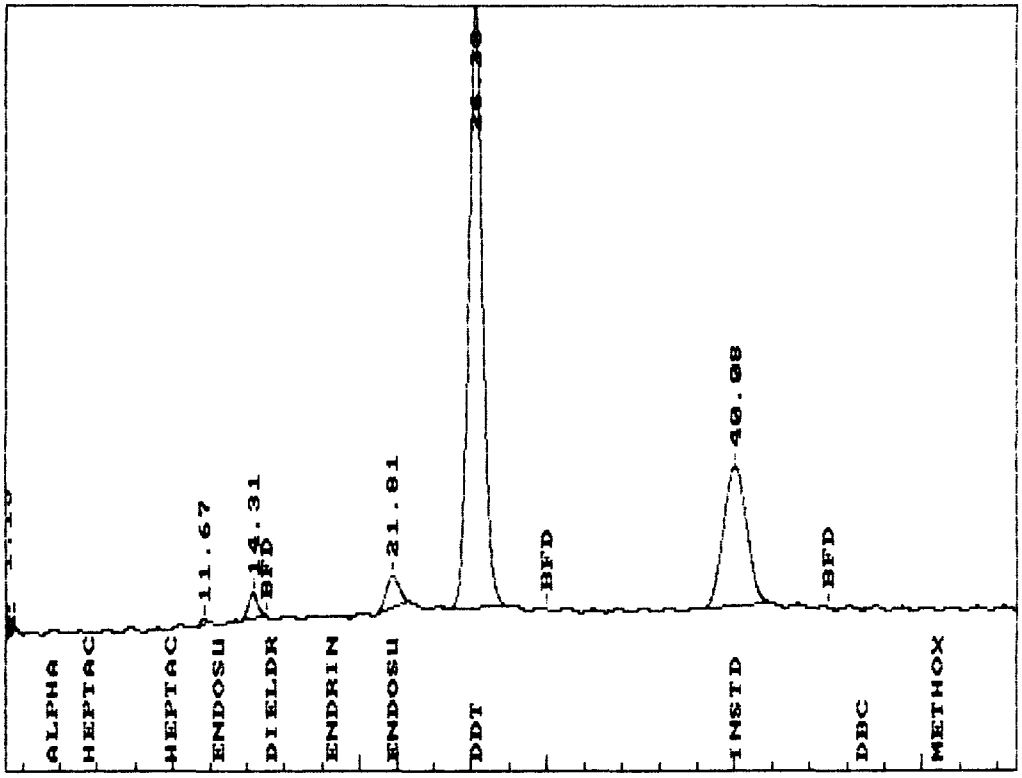
TOTAL AMOUNT = 0.1978

$$\%\text{Deg DDT} = \frac{\text{Total Area of DDE + DDD}}{\text{Area of DDT + DDE + DDD}} \times 100$$

$$= \frac{32285 + 57608}{1134884} \times 100 = \frac{89893}{1224777} \times 100$$

$$= 7.3\%$$

Plot of data file: I:FP4.PTS
Date: 03-06-1989 Time: 14:26:47
Sample Name: DEG DDT
Start Time= 1.02Stop Time = 55.01Min. Scale= 6265Max. Scale= 29549

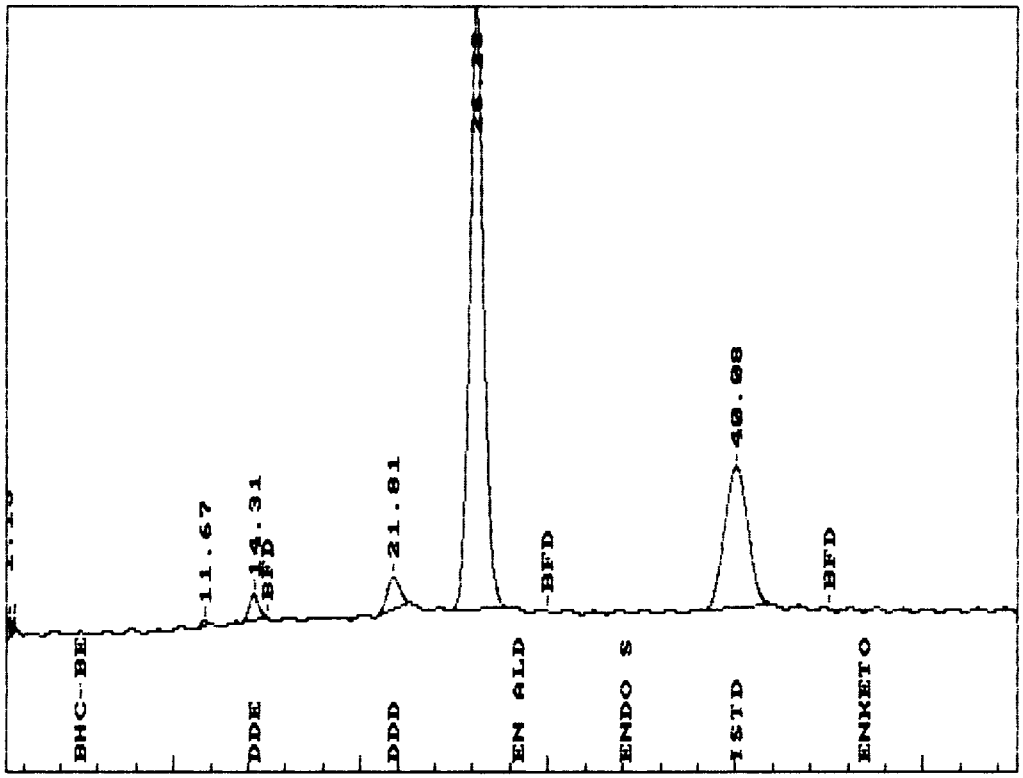


```
*****    INTERNAL STANDARD TABLE    *****
******************** 03-06-1989 14:28:12 Version 4.1 ********************
* Sample Name: DEG DDT                          Data File: I:FP4          *
* Date: 03-02-1989 19:30:36 Method: SPESTB 03-06-1989 11:39:11  #  67     *
* Interface: 0   Cycle#:  4    Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
*************************************************************************
* Instrument Type: TRACOR                 Column Type: PACKED             *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
*************************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	14.31	DDE	0.0009	32.6373%	32285	940	34.3	1	5	8	0	2.6533E-08
6	21.81	DDD	0.0018	67.3627%	57608	1195	48.2	1	6	8	0	3.0691E-08
8	40.08	ISTD	1.0000	0.0000%	437286	5125	85.3	1	8	8	0	2.2868E-06

TOTAL AMOUNT = 0.0026

Data File = I:FP4.PTS Printed on 03-06-1989 at 14:28:25
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 6265 uv High Value: 29549 uv Scale factor: 1.0



Secondary Column

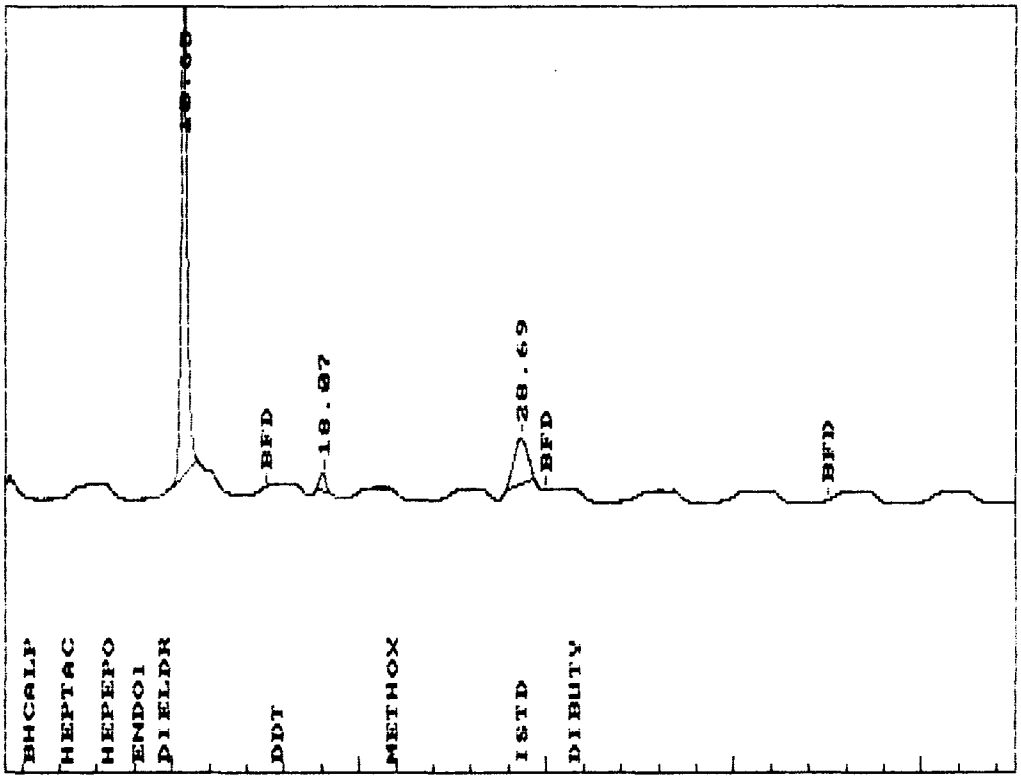
```
****** INTERNAL STANDARD TABLE ******
******************** 03-07-1989 14:10:37 Version 4.1 ********************
* Sample Name: DEG ENDRIN                          Data File: 1:EP3          *
* Date: 03-02-1989 18:34:04 Method: SPESACO 03-07-1989 12:41:34  #  9       *
* Interface: 0   Cycle#:  3    Operator AK  Channel#: 0    Vial#: N.A.      *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100              *
*****************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED               *
*              Solvent Description: NITROGEN                                *
* Conditions: ISOTHERMAL 200 C                                              *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.        *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                           *
*****************************************************************************
Starting Delay:    1.00                      Ending retention time:    55.00
Area reject:        0                        One sample per    1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
1	10.65	EN+ENDGII	0.3732	100.0000%	107477	4794	22.4	1	1	3	0	3.4723E-06
3	28.69	ISTD	1.0000	0.0000%	23750	468	50.8	1	3	3	0	4.2105E-05

TOTAL AMOUNT = 0.3732

Secondary column

Plot of data file: I:EP3.PTS
Date: 03-07-1989 Time: 14:11:01
Sample Name: DEG ENDRIN
Start Time= 1.02Stop Time = 55.01Min. Scale= 0Max. Scale= 6473



Secondary Column

INTERNAL STANDARD TABLE

```
******************** 03-07-1989 14:34:03 Version 4.1 **********************
* Sample Name: DEG ENDRIN                          Data File: I:EP3         *
* Date: 03-02-1989 18:34:04 Method: SPESBCO 03-07-1989 14:29:45  #  8      *
* Interface: 0   Cycle#:  3    Operator AK  Channel#: 0    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100             *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED             *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
*************************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	18.07	ENKETONE	0.0181	100.0000%	4088	176	23.2	1	2	3	0	4.4288E-06
3	28.69	ISTD	1.0000	0.0000%	23750	468	50.8	1	3	3	0	4.2105E-05

TOTAL AMOUNT = 0.0181

PEAKS NOT FOUND IN THIS RUN

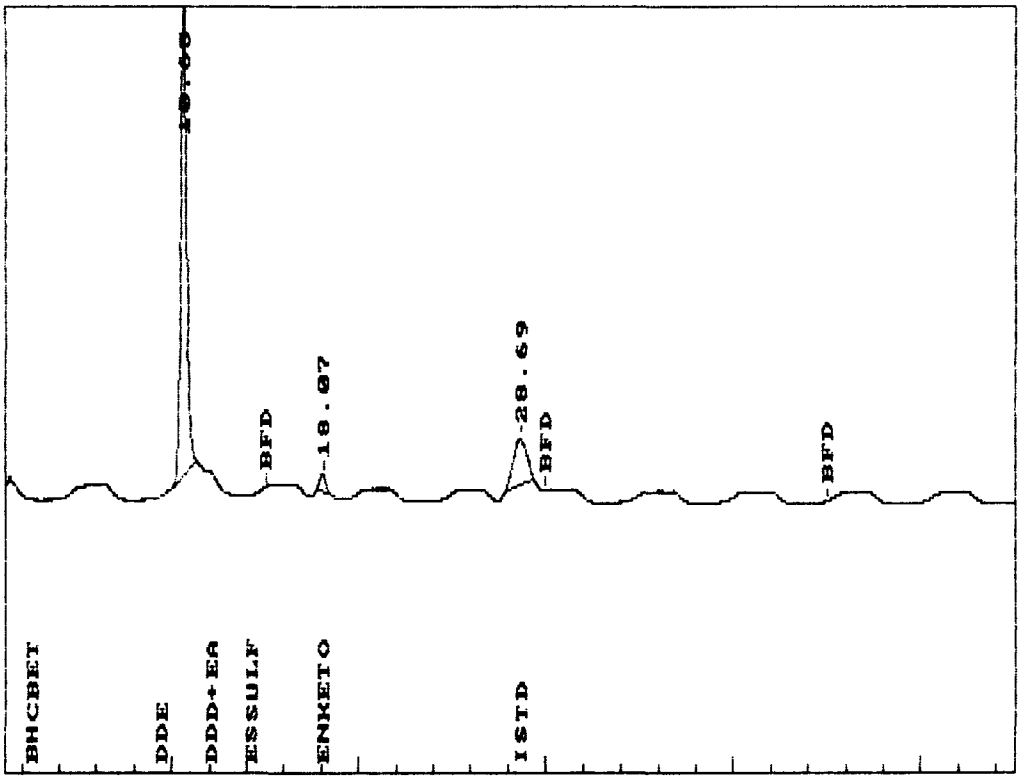
NAME	ADJUSTED RET.TIME.	REFERENCE PEAK
BHCBETA	2.57	BHCBETA
BHCDELTA	2.90	BHCDELTA
DDE	9.50	DDE
DDD+EA	12.12	DDD+EA
ESSULFATE	14.23	ESSULFATE

$$\text{Deg Endrin} = \frac{4088}{107477 + 4088} \times 100$$

$$= \frac{4088}{111565} \times 100 = 3.6\%$$

Secondary column

Data File = I:EP3.PTS Printed on 03-07-1989 at 14:34:19
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 0 uv High Value: 6473 uv Scale factor: 1.0



Secondary Column

```
*****      INTERNAL STANDARD TABLE      *****
******************** 03-07-1989 14:36:03 Version 4.1 ********************
* Sample Name: DEG DDT                          Data File: I:EP4          *
* Date: 03-02-1989 19:30:37 Method: SPESBCO 03-07-1989 14:29:45  #  8     *
* Interface: 0   Cycle#:  4    Operator AK  Channel#: 0    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED              *
*              Solvent Description: NITROGEN                             *
* Conditions: ISOTHERMAL 200 C                                           *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                        *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:    55.00
Area reject:        0                      One sample per   1.002 sec.
Amount injected:        1.00               Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	28.72	ISTD	1.0000	0.0000%	18660	396	47.1	1	2	2	0	5.3590E-05

TOTAL AMOUNT = 0.0000

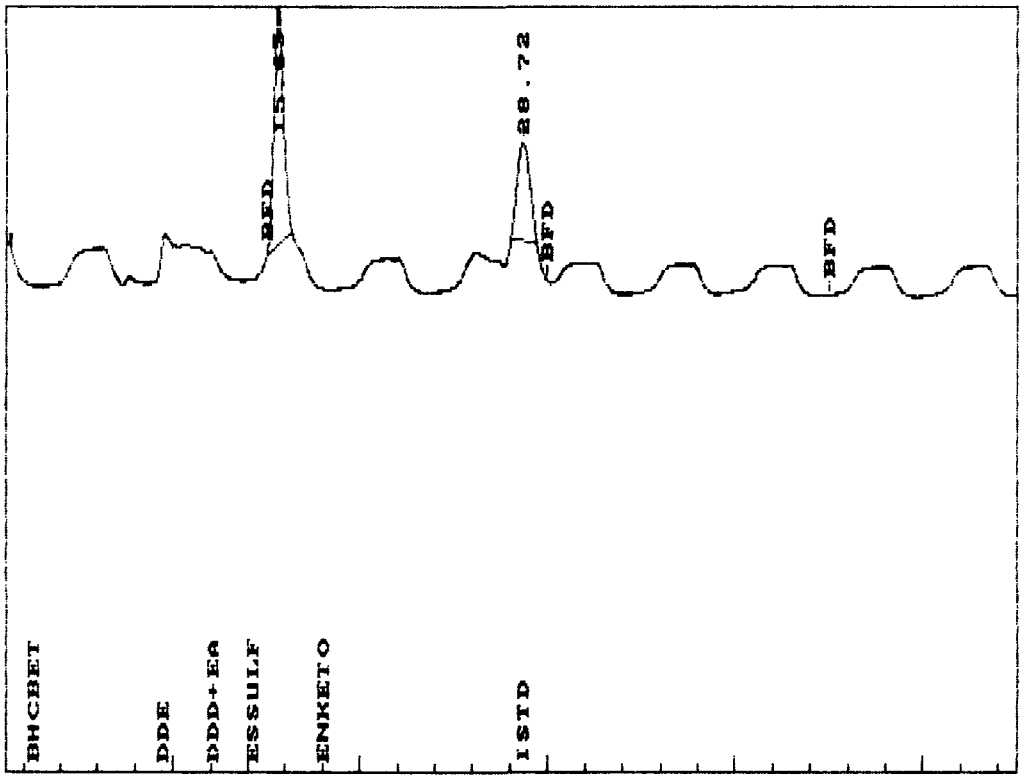
PEAKS NOT FOUND IN THIS RUN

NAME	ADJUSTED RET.TIME.	REFERENCE PEAK
BHCBETA	2.57	BHCBETA
BHCDELTA	2.90	BHCDELTA
DDE	9.50	DDE
DDD+EA	12.12	DDD+EA
ESSULFATE	14.23	ESSULFATE
ENKETONE	18.02	ENKETONE

Deg = None

Secondary column

Data File = I:EP4.PTS Printed on 03-07-1989 at 14:36:18
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 0 uv High Value: 2563 uv Scale factor: 1.0



Secondary column

INTERNAL STANDARD TABLE

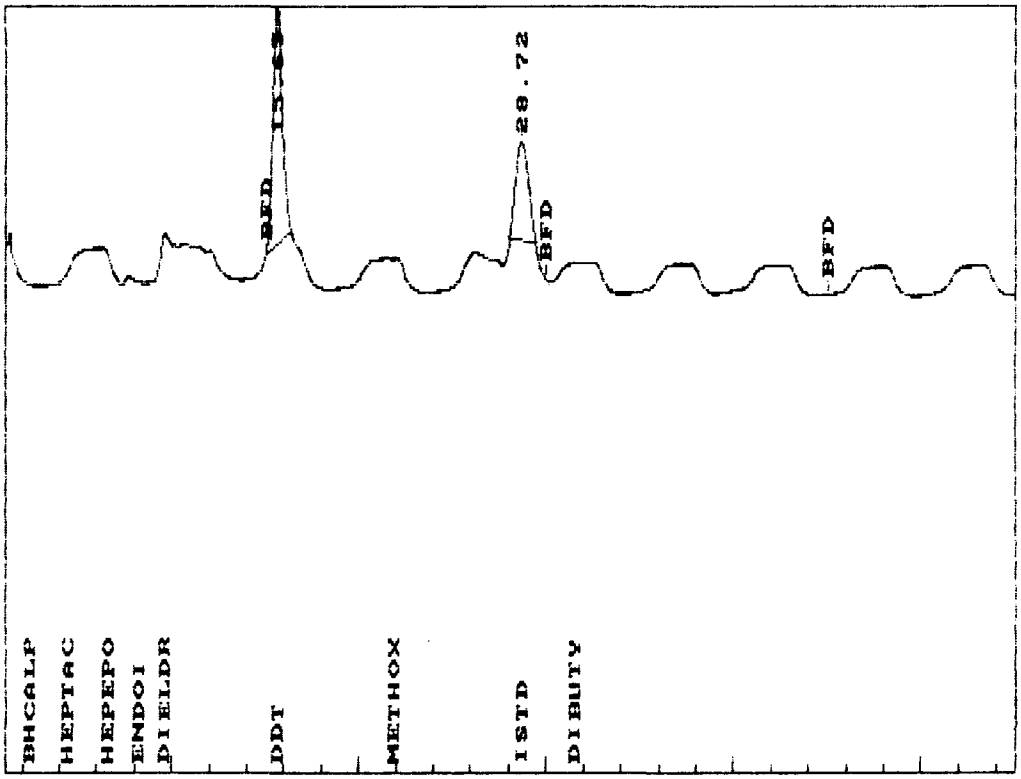
```
******************** 03-07-1989 14:12:46 Version 4.1 ********************
* Sample Name: DEG DDT                          Data File: I:EP4          *
* Date: 03-02-1989 19:30:37 Method: SPESACO 03-07-1989 12:41:34  #  9     *
* Interface: 0   Cycle#:  4    Operator AK  Channel#: 0    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED              *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:   55.00
Area reject:        0                      One sample per   1.002 sec.
Amount injected:        1.00               Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
1	15.65	DDT	0.3564	100.0000%	33072	963	34.3	1	1	2	0	1.0778E-05
2	28.72	ISTD	1.0000	0.0000%	18660	396	47.1	1	2	2	0	5.3590E-05

TOTAL AMOUNT = 0.3564

Secondary column

Data File = I:EP4.PTS Printed on 03-07-1989 at 14:12:57
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 0 uv High Value: 2563 uv Scale factor: 1.0



Continuing

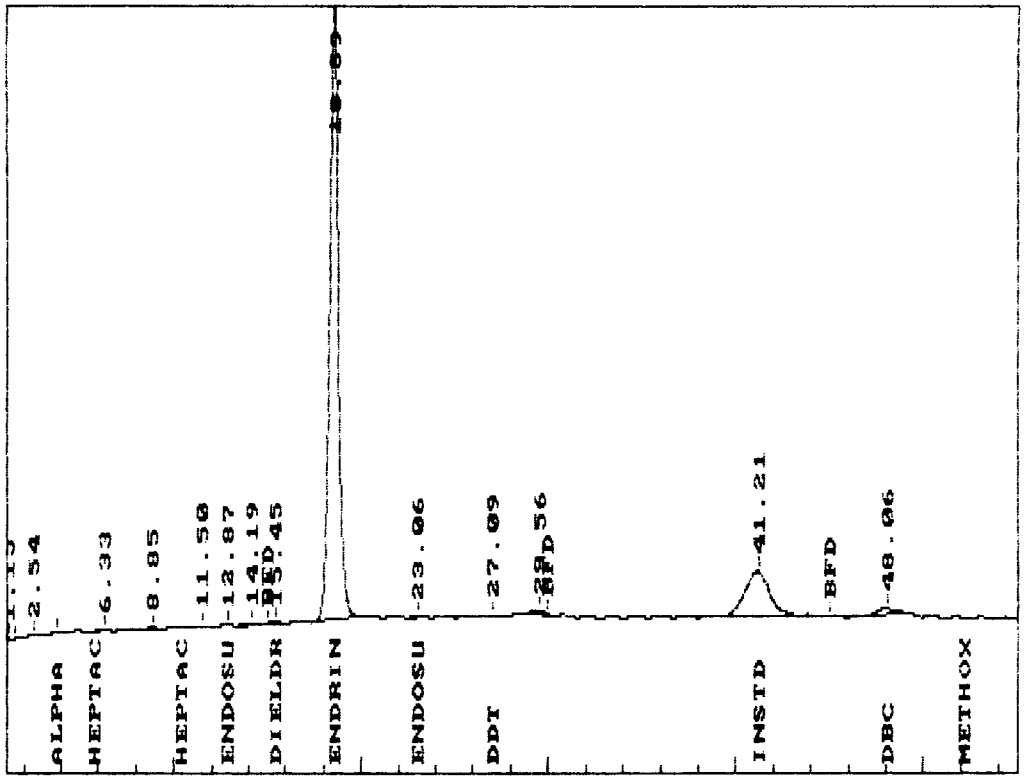
```
****** INTERNAL STANDARD TABLE ******
******************** 03-07-1989 15:39:48 Version 4.1 ********************
* Sample Name: DEG ENDRIN                          Data File: I:FP26      *
* Date: 03-03-1989 16:14:44 Method: SPESTA4 03-06-1989 09:38:50  #  101  *
* Interface: 0   Cycle#:  26   Operator AK  Channel#: 1    Vial#: N.A.   *
* Starting Peak Width:  30   Threshold: 1  Area Threshold: 1000          *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED             *
*            Solvent Description: NITROGEN                               *
* Conditions: ISOTHERMAL 200 C                                           *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE      1:MIXED PHASE 0   *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:   55.00
Area reject:        0                      One sample per   1.002 sec.
Amount injected:        1.00               Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
1	18.59	ENDRIN	0.2243	100.0000%	2205710	68781	32.1	1	1	2	0	1.0170E-07
2	41.21	INSTD	1.0000	0.0000%	471183	5074	92.9	1	2	2	0	2.1223E-06

TOTAL AMOUNT = 0.2243

% Deg Endrin = None

Data File = I:FP26.PTS Printed on 03-07-1989 at 15:38:16
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 8002 uv High Value: 79006 uv Scale factor: 1.0

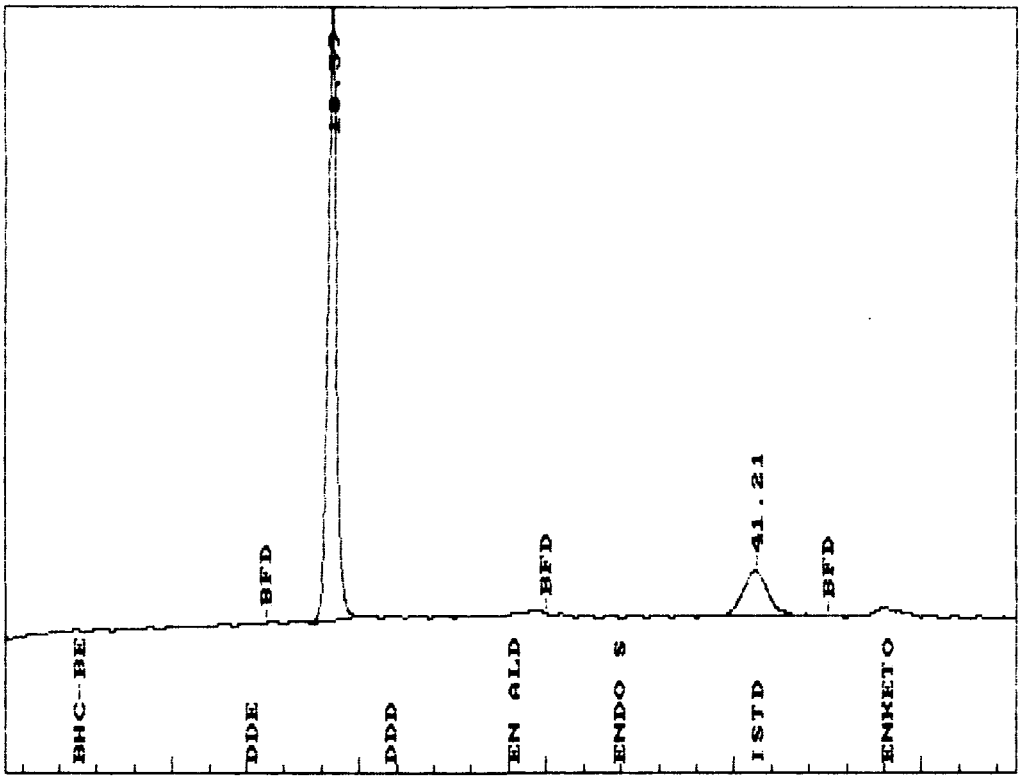


```
******    INTERNAL STANDARD TABLE    ******
******************** 03-07-1989 15:40:35 Version 4.1 **********************
* Sample Name: DEG ENDRIN                          Data File: I:FP26        *
* Date: 03-03-1989 16:14:44 Method: SPESTB 03-06-1989 11:39:11  #  67      *
* Interface: 0   Cycle#:  26   Operator AK  Channel#: 1    Vial#: N.A.     *
* Starting Peak Width:  30   Threshold: 1  Area Threshold: 1000            *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED             *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE       1:MIXED PHASE 0   *
*************************************************************************
Starting Delay:    1.00                        Ending retention time:    55.00
Area reject:        0                          One sample per   1.002 sec.
Amount injected:        1.00                   Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	41.21	ISTD	1.0000	0.0000%	471183	5074	92.9	1	2	2	0	2.1223E-06

TOTAL AMOUNT = 0.0000

Data File = I:FP26.PTS Printed on 03-07-1989 at 15:40:45
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 8002 uv High Value: 79006 uv Scale factor: 1.0



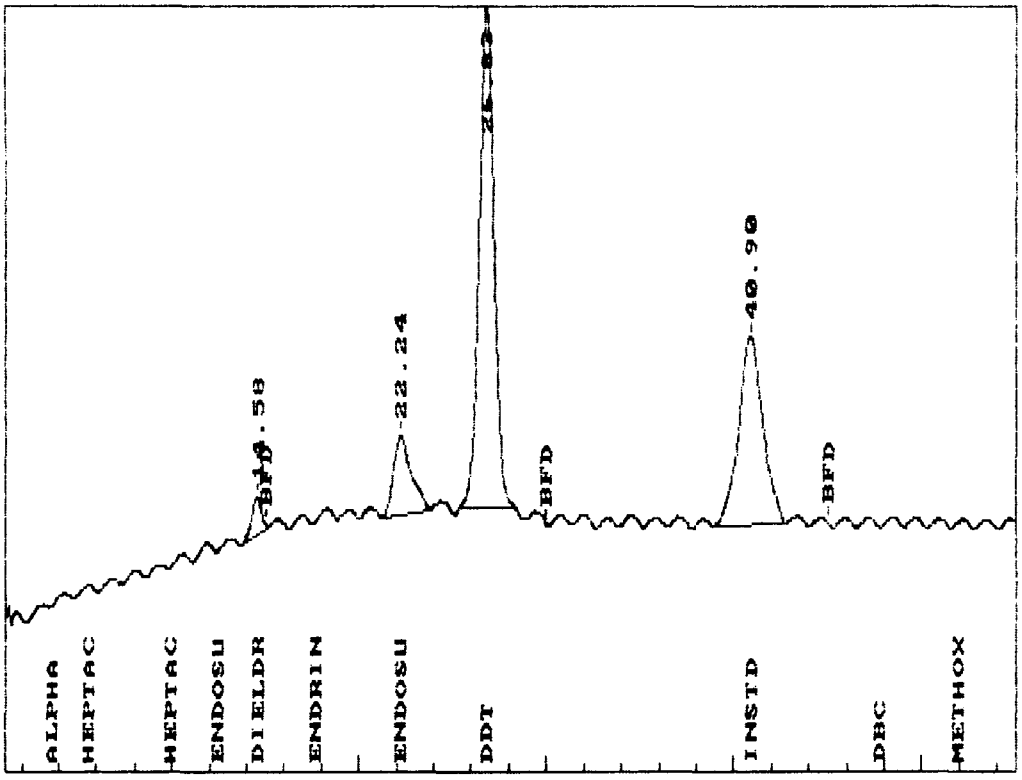
INTERNAL STANDARD TABLE

```
******************** 03-08-1989 09:33:38 Version 4.1 ********************
* Sample Name: DEG DDT                          Data File: 1:FP27        *
* Date: 03-03-1989 17:11:16 Method: SPESTA4 03-06-1989 09:38:50  #  101  *
* Interface: 0   Cycle#:  27   Operator AK  Channel#: 1    Vial#: N.A.   *
* Starting Peak Width:  10.5   Threshold: 1  Area Threshold: 1000        *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED            *
*              Solvent Description: NITROGEN                            *
* Conditions: ISOTHERMAL 200 C                                          *
*             Detector 0: ECD Conf.          Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE      1:MIXED PHASE 0  *
*************************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	14.58	DIELDRIN	0.0163	11.0494%	25787	803	32.1	1	2	5	0	6.3093E-07
3	22.24	ENDOSULFAN II	0.0143	9.6868%	112166	1775	63.2	1	3	5	0	1.2717E-07
4	26.83	DDT	0.1167	79.2638%	600741	11278	53.3	1	4	5	0	1.9429E-07
5	40.90	INSTD	1.0000	0.0000%	384418	4263	90.2	1	5	5	0	2.6013E-06

TOTAL AMOUNT = 0.1472

Plot of data file: I:FP27.PTS
Date: 03-07-1989 Time: 15:52:10
Sample Name: DEG DDT
Start Time= 1.02Stop Time = 55.01Min. Scale= 7542Max. Scale= 21912



```
*****   INTERNAL STANDARD TABLE   *****
******************** 03-08-1989 09:32:24 Version 4.1 ********************
* Sample Name: DEG DDT                          Data File: I:FP27        *
* Date: 03-03-1989 17:11:16 Method: SPESTB 03-06-1989 11:39:11  #  67    *
* Interface: 0   Cycle#:  27   Operator AK  Channel#: 1    Vial#: N.A.   *
* Starting Peak Width:  10.5   Threshold: 1  Area Threshold: 1000        *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED           *
*              Solvent Description: NITROGEN                            *
* Conditions: ISOTHERMAL 200 C                                          *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.    *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE       1:MIXED PHASE 0 *
*************************************************************************
Starting Delay:    1.00                      Ending retention time:    55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	14.58	DDE	0.0008	2.8286%	25787	803	32.1	1	2	5	0	3.0182E-08
3	22.24	DDD	0.0016	5.9011%	46509	1168	39.8	1	3	5	0	3.4912E-08
4	26.83	EN ALDEHYDE	0.0251	91.2703%	600741	11278	53.3	1	4	5	0	4.1805E-08
5	40.90	ISTD	1.0000	0.0000%	384418	4263	90.2	1	5	5	0	2.6013E-06

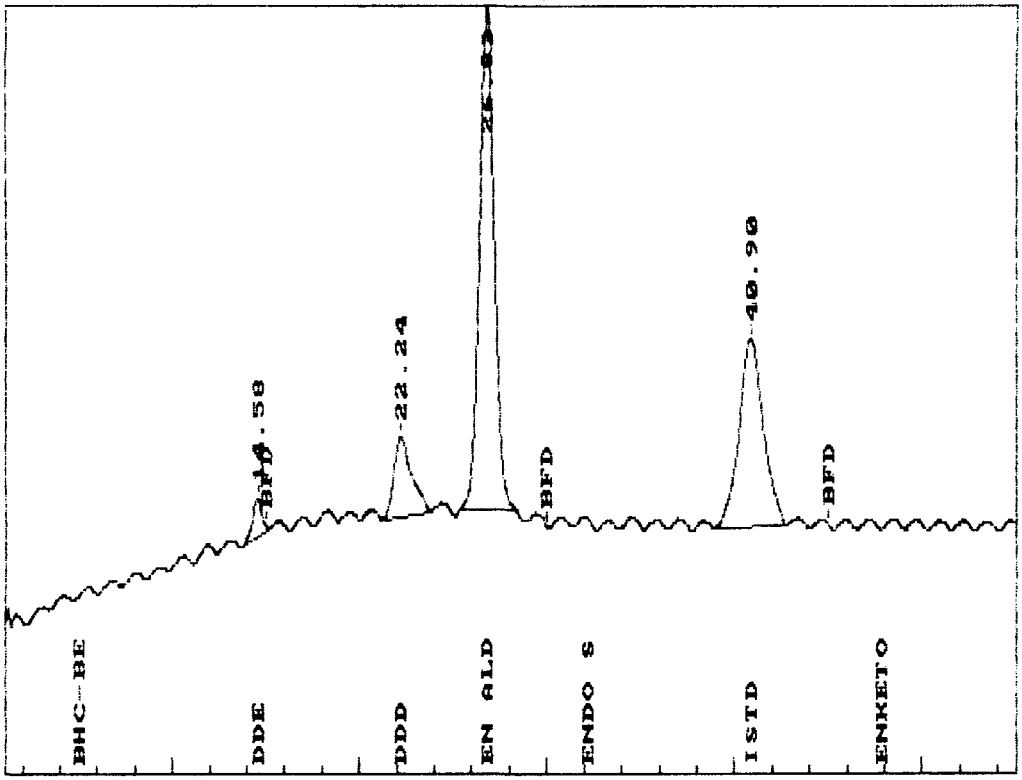
TOTAL AMOUNT = 0.0275

$$\% \text{ Deg DDT} = \text{Total area of } \frac{DDE + DDD}{DDT + DDE + DDD} \times 100$$

$$\% \text{ Deg DDT} = \frac{25787 + 46509}{600741 +} \times 100 = \frac{72296}{673037} \times 100$$

$$= 10.7\%$$

Data File = I:FP27.PTS Printed on 03-07-1989 at 15:54:26
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 7542 uv High Value: 21912 uv Scale factor: 1.0

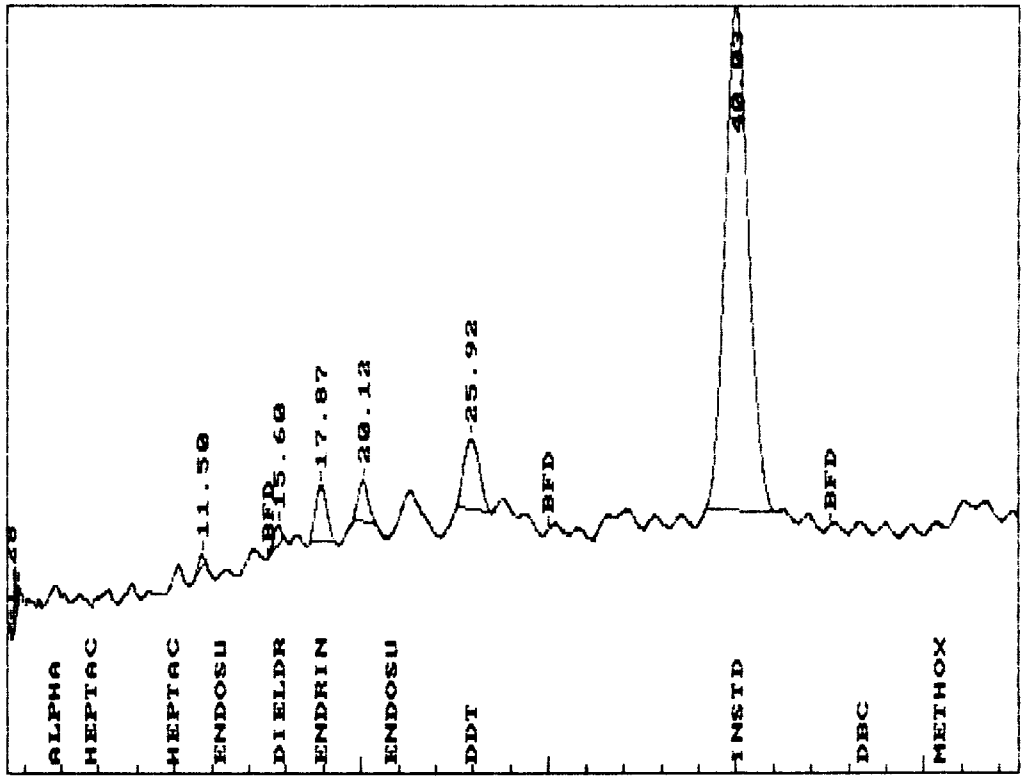


```
******    INTERNAL STANDARD TABLE    ******
******************** 03-06-1989 14:07:55 Version 4.1 **********************
* Sample Name: SOLVENT BLANK                    Data File: I:FP1          *
* Date: 03-02-1989 16:40:56 Method: SPESTA4 03-06-1989 09:38:50  #  101   *
* Interface: 0   Cycle#:  1    Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED              *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:    55.00
Area reject:        0                      One sample per    1.002 sec.
Amount injected:        1.00               Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	15.60	DIELDRIN	0.0155	49.1458%	4741	190	24.9	1	5	9	0	3.2677E-06
6	17.87	ENDRIN	0.0084	26.5628%	23866	568	42.0	1	6	9	0	3.5089E-07
8	25.92	DDT	0.0077	24.2914%	39538	695	56.9	1	8	9	0	1.9369E-07
9	40.03	INSTD	1.0000	0.0000%	438181	5030	87.1	1	9	9	0	2.2822E-06

TOTAL AMOUNT = 0.0315

Data File = I:FP1.PTS Printed on 03-06-1989 at 14:08:08
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 6238 uv High Value: 12558 uv Scale factor: 1.0



```
******      INTERNAL STANDARD TABLE      ******
******************** 03-08-1989 13:43:08 Version 4.1 ********************
* Sample Name: METHOD BLANK                    Data File: I:FP2          *
* Date: 03-02-1989 17:37:30 Method: SPESTA4 03-06-1989 09:38:50  #  101  *
* Interface: 0   Cycle#:  2    Operator AK  Channel#: 1    Vial#: N.A.  *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100          *
***********************************************************************
* Instrument Type: TRACOR                Column Type: PACKED            *
*              Solvent Description: NITROGEN                            *
* Conditions: ISOTHERMAL 200 C                                          *
*             Detector 0: ECD Conf.          Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                       *
***********************************************************************
Starting Delay:    1.00                    Ending retention time:   55.00
Area reject:        0                      One sample per   1.002 sec.
Amount injected:        1.00               Dilution factor:      10.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
4	3.44	~~ALPHA BHC~~	0.0076	21.4633%	2519	250	10.1	2	4	9	0	3.0027E-06
6	5.66	~~HEPTACHLOR~~	0.0268	76.0895%	1599	146	10.9	1	6	9	0	1.6766E-05
9	40.40	INSTD	1.0000	0.0000%	395061	4694	84.2	1	9	9	0	2.5313E-06
10	46.96	DBC	0.0009	2.4472%	340688	3287	103.7	1	10	9	0	2.5313E-09

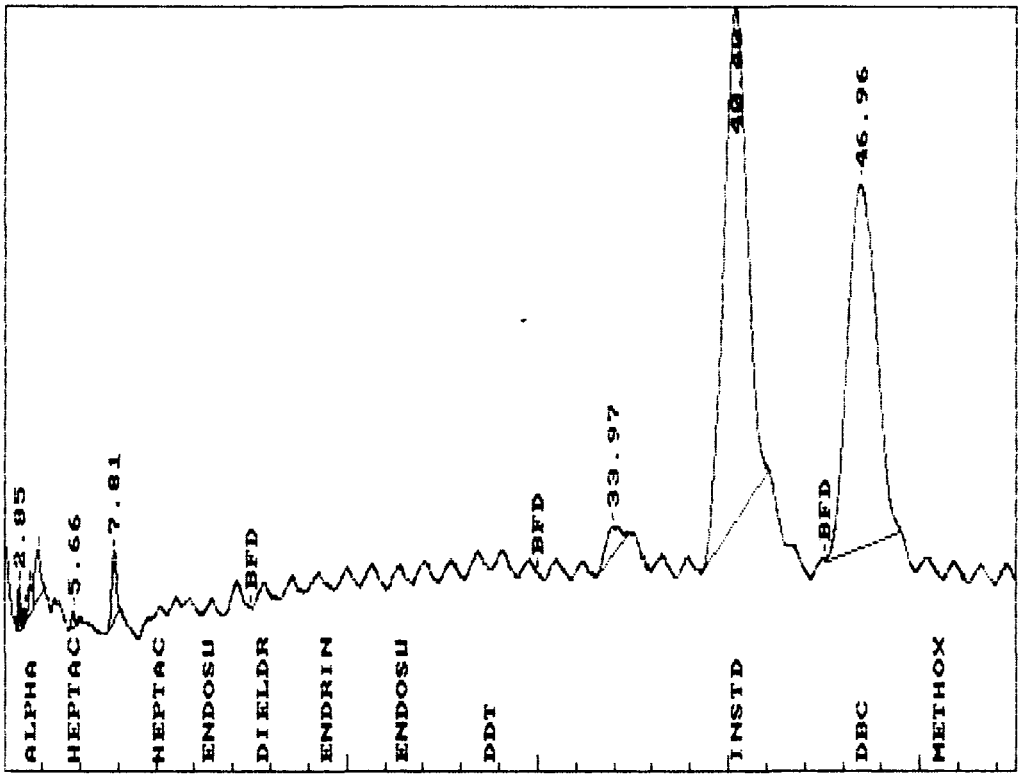
TOTAL AMOUNT = 0.0352

$$\text{conc of DBC} = \frac{\text{area of sample}}{\text{area of std}} \times \frac{\text{conc of std} \times \text{FU}}{\text{amt of sample}}$$

$$= \frac{340688}{320596} \times \frac{0.05 \times 10}{1}$$

$$= 0.53 \text{ ug/l}$$

Plot of data file: I:FP2.PTS
Date: 03-08-1989 Time: 13:43:41
Sample Name: METHOD BLANK
Start Time= 1.99Stop Time = 55.01Min. Scale= 9154Max. Scale= 14921

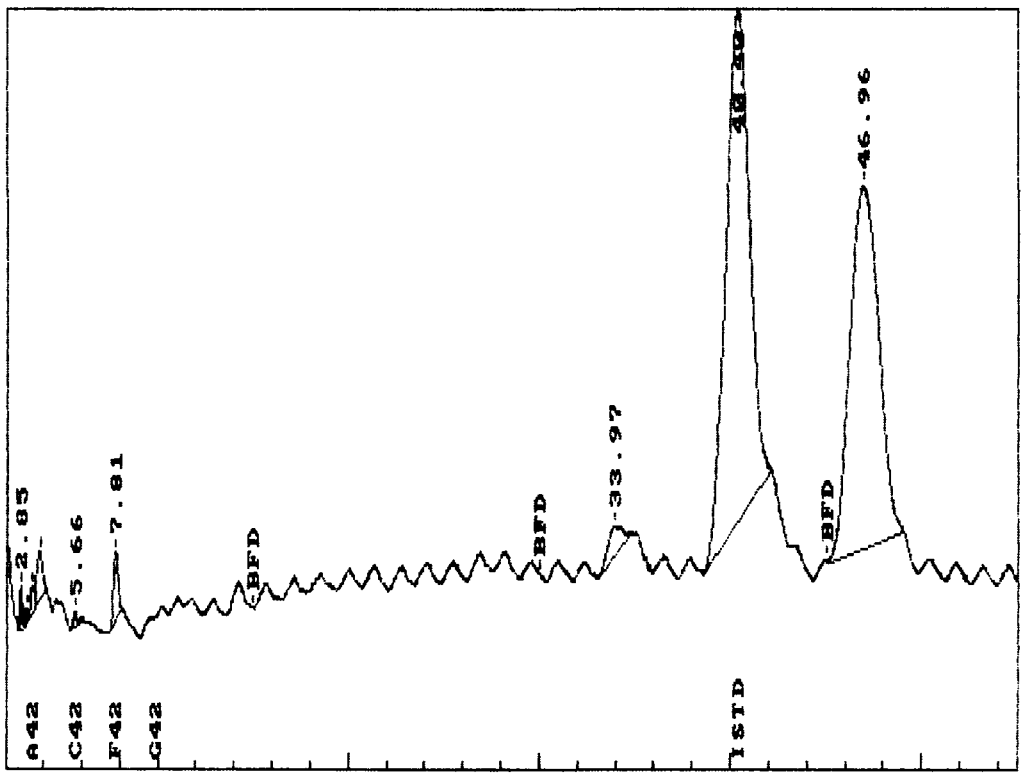


```
****** INTERNAL STANDARD TABLE ******
******************** 03-09-1989 13:36:50 Version 4.1 ********************
* Sample Name: METHOD BLANK                    Data File: I:FP2          *
* Date: 03-02-1989 17:37:30 Method: SAR424 03-06-1989 13:37:25  #  40    *
* Interface: 0   Cycle#:  2    Operator AK  Channel#: 1    Vial#: N.A.  *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100           *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED             *
*              Solvent Description: NITROGEN                             *
* Conditions: ISOTHERMAL 200 C                                           *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                        *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:    55.00
Area reject:        0                      One sample per   1.002 sec.
Amount injected:        1.00               Dilution factor:       10.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	HEIGHT BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
4	3.44	A42	0.1793	14.8468%	2519	250	10.1	2	4	9	0	7.1165E-05
6	5.66	C42	0.4107	34.0148%	1599	146	10.9	1	6	9	0	2.5680E-04
7	7.81	F42	0.6174	51.1384%	11029	635	17.4	1	7	9	0	5.5981E-05
9	40.40	ISTD	1.0000	0.0000%	395061	4694	84.2	1	9	9	0	2.5313E-06

TOTAL AMOUNT = 1.2073

Plot of data file: I:FP2.PTS
Date: 03-09-1989 Time: 13:37:20
Sample Name: METHOD BLANK
Start Time= 1.99Stop Time = 55.01Min. Scale= 9154Max. Scale= 14921



INTERNAL STANDARD TABLE

03-07-1989 10:35:24 Version 4.1

Sample Name: PCB SPK 89FS09S76 Data File: 1:FP25

Date: 03-03-1989 15:54:53 Method: SAR424 03-06-1989 13:37:25 # 40

Interface: 0 Cycle#: 25 Operator AK Channel#: 1 Vial#: N.A.

Starting Peak Width: 10 Threshold: 1 Area Threshold: 100

Instrument Type: TRACOR Column Type: PACKED

Solvent Description: NITROGEN

Conditions: ISOTHERMAL 200 C

Detector 0: ECD Conf. Detector 1: ECD Anal.

Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE

Starting Delay: 1.00 Ending retention time: 55.00

Area reject: 0 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 10.00

Internal Standard Amount: 1

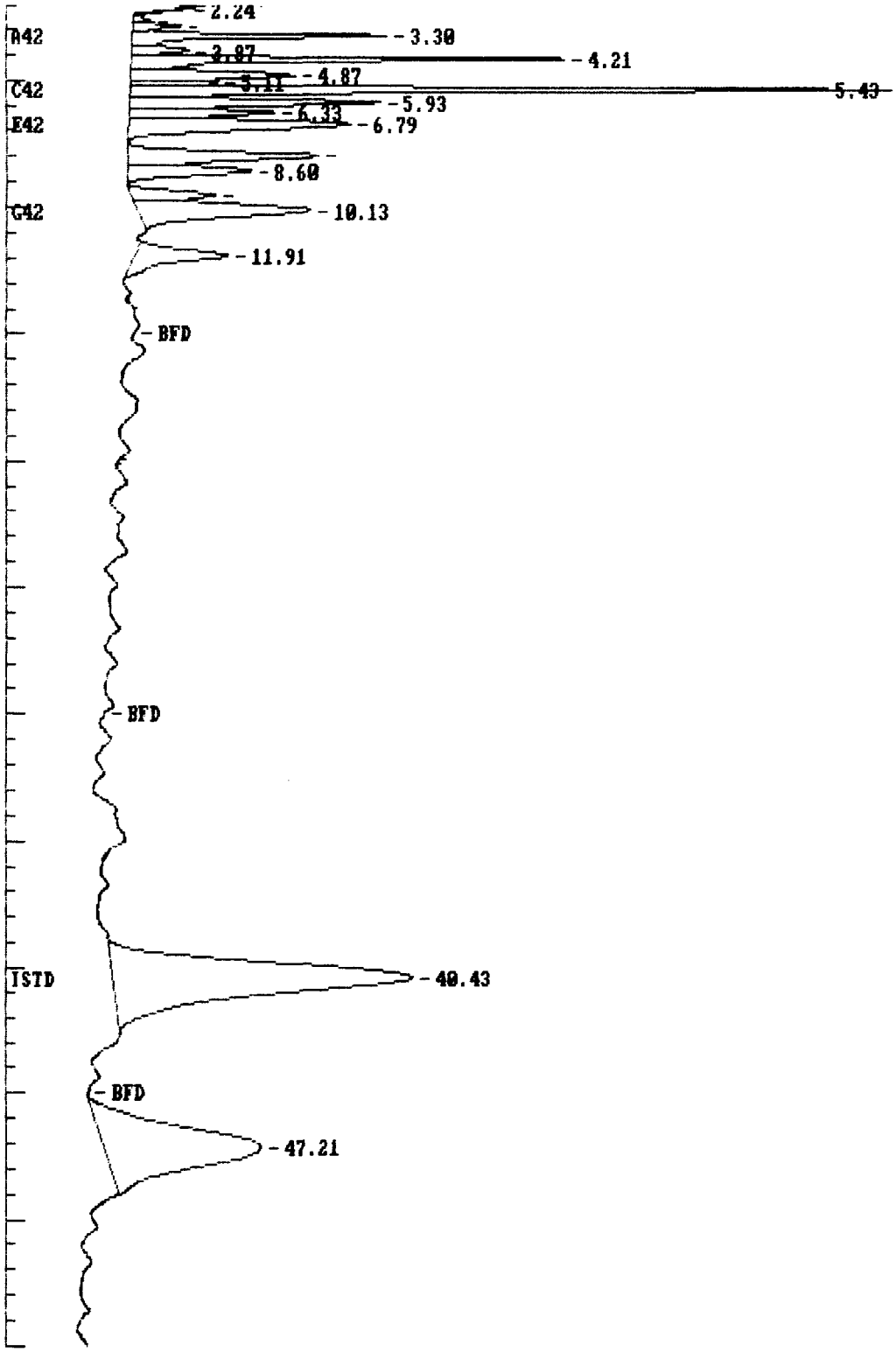
Sample Weight: 0.960000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
7	3.30	A42	2.7863	15.1030%	50792	4077	12.5	2	7	21	0	5.4858E-05
9	4.21	B42	2.5255	13.6894%	88020	6936	12.7	2	9	21	0	2.8693E-05
12	5.43	C42	2.2347	12.1131%	171256	12179	14.1	2	12	21	0	1.3049E-05
13	5.93	D42	2.5715	13.9388%	70191	4020	17.5	2	13	21	0	3.6636E-05
15	6.79	E42	2.3854	12.9300%	96771	3553	27.2	2	15	21	0	2.4650E-05
16	8.01	F42	2.9361	15.9146%	71271	3068	23.2	2	16	21	0	4.1196E-05
19	10.13	G42	3.0092	16.3109%	94231	2755	34.2	2	19	21	0	3.1934E-05
21	40.43	ISTD	1.0000	0.0000%	424869	4799	88.5	1	21	21	0	2.3537E-06

TOTAL AMOUNT = 18.4487 ÷ 7

= 2.63 ug/l

Data File = I:FP25.PTS Printed on 03-07-1989 at 10:36:14
Start time: 2.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 9994 uv High Value: 23016 uv Scale factor: 1.0



AREA PERCENT REPORT

```
******************** 03-07-1989 10:38:56 Version 4.1 ********************
* Sample Name: PCB SPK 89F509576                    Data File: I:FP25      *
* Date: 03-03-1989 15:54:53 Method: ZERO                                   *
* Interface: 0   Cycle#:  25   Operator AK  Channel#: 1    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100             *
****************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED             *
*              Solvent Description: NITROGEN                               *
* Conditions: ISOTHERMAL 200 C                                             *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                          *
****************************************************************************
Starting Delay:    1.00                          Run Time:     0.00
```

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.13	226561	3.9912	2	46034	5.918	4.9
2	1.23	3828077	67.4366	2	182748	100.000	20.9
3	1.90	19640	0.3460	2	1648	0.513	11.9
4	2.24	2801	0.0493	2	345	0.073	8.1
5	2.69	2952	0.0520	2	282	0.077	10.5
6	2.90	9120	0.1607	2	768	0.238	11.9
7	3.30	50792	0.8948	2	4077	1.327	12.5
8	3.87	16015	0.2821	2	914	0.418	17.5
9	4.21	88020	1.5506	2	6936	2.299	12.7
10	4.87	52181	0.9192	2	2633	1.363	19.8
11	5.11	12087	0.2129	2	1402	0.316	8.6
12	5.43	171256	3.0169	2	12179	4.474	14.1
13	5.93	70191	1.2365	2	4020	1.834	17.5
14	6.33	38926	0.6857	2	2330	1.017	16.7
15	6.79	96771	1.7047	2	3553	2.528	27.2
16	8.01	71271	1.2555	2	3068	1.862	23.2
17	8.60	47915	0.8441	2	1986	1.252	24.1
18	9.52	28793	0.5072	2	1339	0.752	21.5
19	10.13	94231	1.6600	2	2755	2.462	34.2
20	11.91	52041	0.9168	1	1492	1.359	34.9
21	40.43	424869	7.4846	1	4799	11.099	88.5
22	47.21	272046	4.7925	1	2507	7.107	108.5

Total Area: 5676554 Area Reject: 0 One sample per 1.002 sec.

$$\text{Conc of } \cancel{\text{std}}\ \text{DBC} = \frac{\text{area of sample}}{\text{area of std}} \times \frac{\text{conc of std} \times \text{FU}}{\text{amt of sample}}$$

$$\frac{272046}{320596} \times \frac{.05 \times 10}{0.96} = 0.44 \text{ ug/l}$$

See column

***** INTERNAL STANDARD TABLE *****

********** 03-09-1989 12:32:16 Version 4.1 **********

* Sample Name: PCB SPK 89FS09S76 Data File: I:EP25 *
* Date: 03-03-1989 15:54:59 Method: SCAR42 03-07-1989 13:28:20 # 14 *
* Interface: 0 Cycle#: 25 Operator AK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: .1 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE 1:MIXED PHASE 0 *

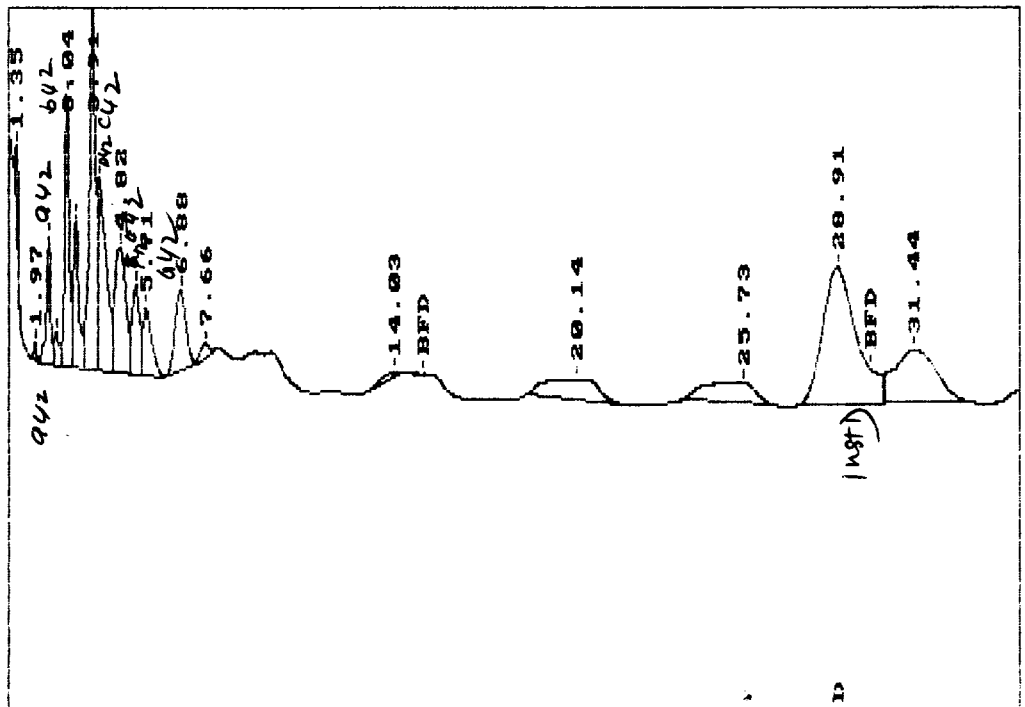
****

Starting Delay: 1.00 Ending retention time: 55.00
Area reject: 0 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 10.00
Internal Standard Amount: 1
Sample Weight: 0.960000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
3	2.44	A42	3.1065	11.9814%	7783	802	9.7	2	3	17	0	3.9914E-04
5	3.04	B42	3.4532	13.3187%	18042	1687	10.7	2	5	17	0	1.9140E-04
7	3.91	C42	3.7923	14.6264%	31782	2271	14.0	2	7	17	0	1.1932E-04
8	4.14	D42	4.0229	15.5159%	25644	1190	21.5	2	8	17	0	1.5687E-04
9	4.82	E42	3.4985	13.4933%	20476	778	26.3	2	9	17	0	1.7086E-04
10	5.36	F42	3.1781	12.2575%	9884	555	17.8	2	10	17	0	3.2154E-04
12	6.88	G42	4.8762	18.8068%	12516	498	25.1	1	12	17	0	3.8958E-04
17	28.91	ISTD	1.0000	0.0000%	67915	860	79.0	2	17	17	0	1.4724E-05

TOTAL AMOUNT = 25.9278

Plot of data file: I:EP25.PTS
Date: 03-09-1989 Time: 12:32:51
Sample Name: PCB SPK 89FS09S76
Start Time= 1.02Stop Time = 35.00Min. Scale= 0Max. Scale= 3951



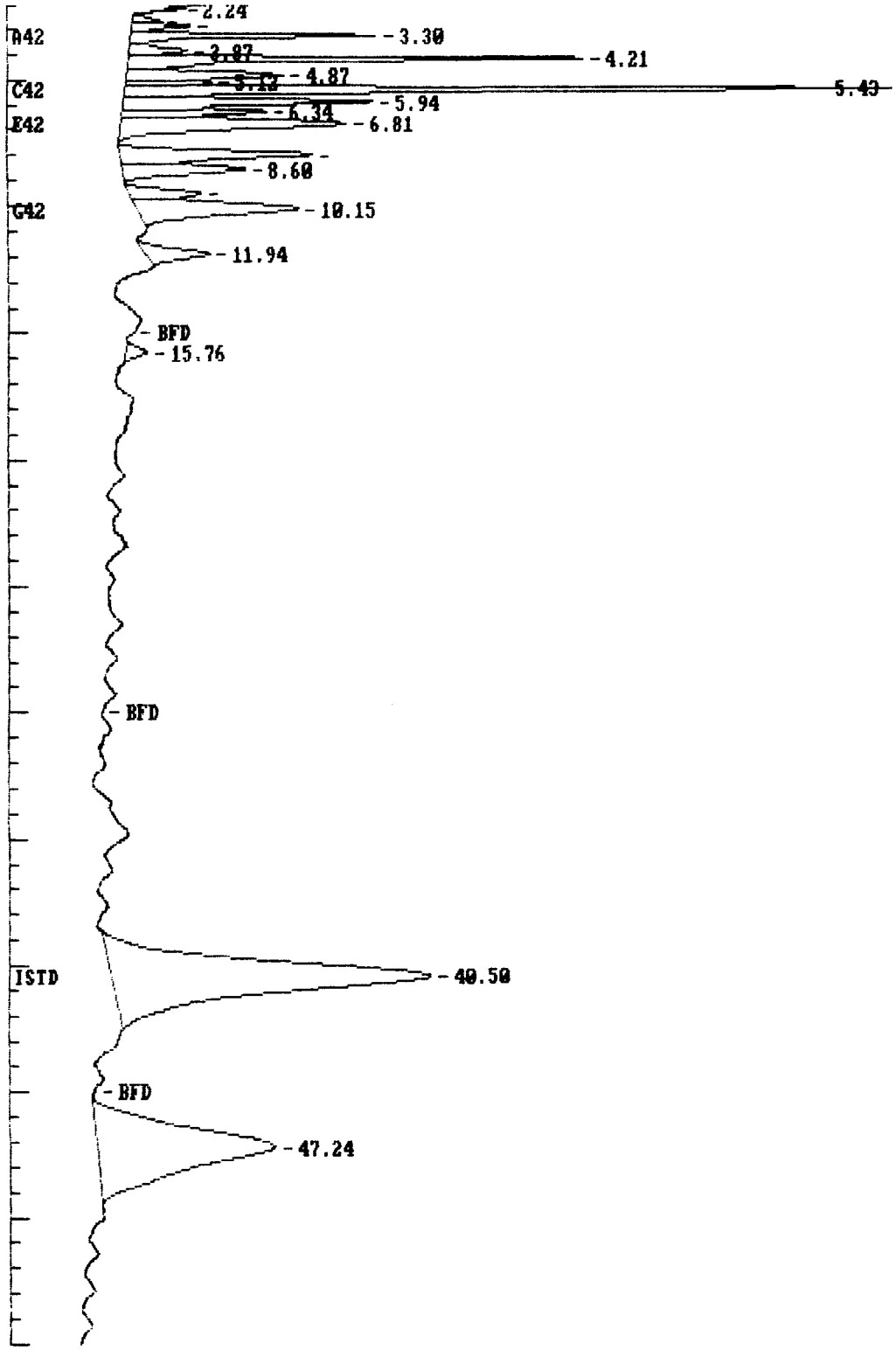
```
*****   INTERNAL STANDARD TABLE   *****
******************** 03-07-1989 10:32:57 Version 4.1 ********************
* Sample Name: PCB SPK DUP 89FS09S76              Data File: I:FP24        *
* Date: 03-03-1989 14:21:39 Method: SAR424 03-06-1989 13:37:25  #  40      *
* Interface: 0   Cycle#:  24   Operator AK  Channel#: 1    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100             *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED             *
*              Solvent Description: NITROGEN                               *
* Conditions: ISOTHERMAL 200 C                                             *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                          *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:    55.00
Area reject:        0                      One sample per    1.002 sec.
Amount injected:        1.00               Dilution factor:        10.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
8	3.30	A42	2.2698	13.6060%	42584	3712	11.5	2	8	23	0	5.3302E-05
10	4.21	B42	2.4627	14.7624%	88700	6870	12.9	2	10	23	0	2.7765E-05
13	5.43	C42	2.0538	12.3113%	160788	11593	13.9	2	13	23	0	1.2773E-05
14	5.94	D42	2.3800	14.2667%	66967	3771	17.8	2	14	23	0	3.5540E-05
16	6.81	E42	2.2885	13.7181%	95793	3414	28.1	2	16	23	0	2.3890E-05
17	8.03	F42	2.7028	16.2014%	67505	2906	23.2	2	17	23	0	4.0038E-05
20	10.15	G42	2.5247	15.1340%	81002	2421	33.5	2	20	23	0	3.1168E-05
23	40.50	ISTD	1.0000	0.0000%	420881	4822	87.3	1	23	23	0	2.3760E-06

TOTAL AMOUNT = 16.6824 ÷ 7

2.38 µg/l

Data File = I:FP24.PTS Printed on 03-07-1989 at 10:33:50
Start time: 2.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 9696 uv High Value: 21993 uv Scale factor: 1.0



********** AREA PERCENT REPORT **********

```
********************* 03-07-1989 10:37:48 Version 4.1 *********************
* Sample Name: PCB SPK DUP 89FS09S76                Data File: I:FP24       *
* Date: 03-03-1989 14:21:39 Method: ZERO                                    *
* Interface: 0   Cycle#:  24   Operator AK  Channel#: 1    Vial#: N.A.      *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100              *
*****************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED              *
*              Solvent Description: NITROGEN                                *
* Conditions: ISOTHERMAL 200 C                                              *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.        *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                           *
*****************************************************************************
Starting Delay:   1.00                          Run Time:    0.00
```

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.23	2330184	59.6969	1	104527	100.000	22.3
2	1.55	5838	0.1496	1	1407	0.251	4.1
3	1.78	4785	0.1226	2	566	0.205	8.5
4	1.90	12250	0.3138	2	1442	0.526	8.5
5	2.24	2315	0.0593	1	296	0.099	7.8
6	2.69	4560	0.1168	2	404	0.196	11.3
7	2.92	11141	0.2854	2	880	0.478	12.7
8	3.30	42584	1.0910	2	3712	1.827	11.5
9	3.87	14440	0.3699	2	874	0.620	16.5
10	4.21	88700	2.2724	2	6870	3.807	12.9
11	4.87	44991	1.1526	2	2369	1.931	19.0
12	5.12	12345	0.3163	2	1303	0.530	9.5
13	5.43	160788	4.1192	2	11593	6.900	13.9
14	5.94	66967	1.7156	2	3771	2.874	17.8
15	6.34	35210	0.9020	2	2182	1.511	16.1
16	6.81	95793	2.4541	2	3414	4.111	28.1
17	8.03	67505	1.7294	2	2906	2.897	23.2
18	8.60	44189	1.1321	2	1859	1.896	23.8
19	9.53	23361	0.5985	2	1081	1.003	21.6
20	10.15	81002	2.0752	2	2421	3.476	33.5
21	11.94	25979	0.6656	1	948	1.115	27.4
22	15.76	8138	0.2085	1	329	0.349	24.8
23	40.50	420881	10.7825	1	4822	18.062	87.3
24	47.24	299413	7.6706	1	2697	12.849	111.0

Total Area: 3903356 Area Reject: 0 One sample per 1.002 sec.

$$\text{Conc of DBC} = \frac{\text{area of sample}}{\text{area of std}} \times \frac{\text{conc of std} \times \text{FV}}{\text{Amt. sample}}$$

$$\frac{299413}{320596} \times \frac{.05 \times 10}{1} = 0.466\ \mu g/l$$

see column

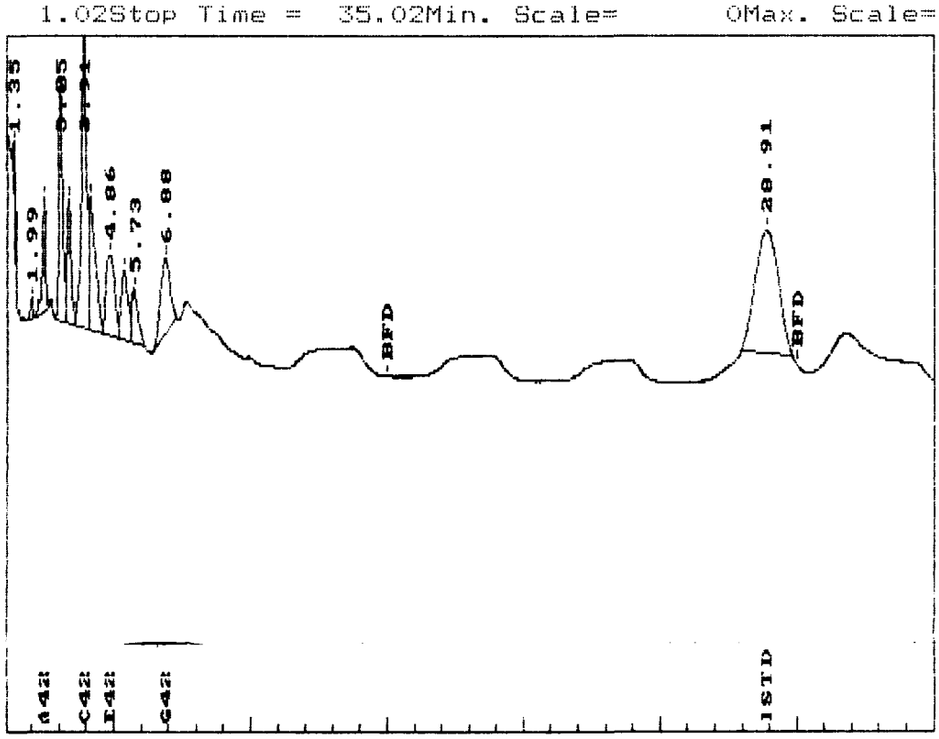
****** INTERNAL STANDARD TABLE ******

```
******************** 03-09-1989 12:27:43 Version 4.1 **********************
* Sample Name: PCB SPK DUP 89FS09S76                Data File: I:EP24      *
* Date: 03-03-1989 14:21:44 Method: SCAR42 03-07-1989 13:28:20  #  14      *
* Interface: 0   Cycle#:  24   Operator AK  Channel#: 0    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100             *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED            *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:    55.00
Area reject:        0                      One sample per    1.002 sec.
Amount injected:        1.00               Dilution factor:        10.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
3	2.44	A42	3.4100	12.6505%	5940	708	8.4	1	3	12	0	5.7408E-04
4	3.05	B42	3.8480	14.2754%	13978	1455	9.6	2	4	12	0	2.7529E-04
6	3.91	C42	4.1544	15.4121%	24207	1842	13.1	2	6	12	0	1.7162E-04
7	4.14	D42	3.2002	11.8721%	14183	826	17.2	2	7	12	0	2.2563E-04
8	4.86	E42	2.7872	10.3401%	11342	502	22.6	2	8	12	0	2.4574E-04
9	5.38	F42	3.3363	12.3773%	7214	441	16.3	2	9	12	0	4.6247E-04
11	6.88	G42	6.2192	23.0725%	11099	465	23.9	1	11	12	0	5.6034E-04
12	28.91	ISTD	1.0000	0.0000%	45330	770	58.9	1	12	12	0	2.2060E-05

TOTAL AMOUNT = 26.9553

Plot of data file: I:EP24.PTS
Date: 03-09-1989 Time: 12:28:45
Sample Name: PCB SPK DUP 89FS09S76
Start Time= 1.02Stop Time = 35.02Min. Scale= 0Max. Scale= 3643



INTERNAL STANDARD TABLE

```
******************** 03-07-1989 09:03:15 Version 4.1 ********************
* Sample Name: PEST SPK 89FS09S76                Data File: I:FP13        *
* Date: 03-03-1989 03:59:31 Method: SPESTA4 03-06-1989 09:38:50  #  101  *
* Interface: 0   Cycle#:  13   Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: .01  Area Threshold: 50           *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED            *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE       1:MIXED PHASE 0   *
*************************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:       10.00
Internal Standard Amount:  1
Sample Weight:          1.020000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
6	~~3.39~~	~~ALPHA BHC~~	0.0108	0.2144%	5302	373	14.2	2	6	25	0	2.0311E-06
8	4.44	LINDANE	0.1827	3.6390%	196021	18720	10.5	2	8	25	0	9.3222E-07
9	5.48	HEPTACHLOR	0.2354	4.6886%	234269	18790	12.5	1	9	25	0	1.0050E-06
10	6.63	ALDRIN	0.1666	3.3177%	192977	12637	15.3	2	10	25	0	8.6334E-07
13	10.29	~~HEPTACHLOR EPOXIDE~~	0.0353	0.7025%	20057	582	34.4	1	13	25	0	1.7588E-06
14	12.32	ENDOSULFAN I	0.3778	7.5231%	330427	12394	26.7	1	14	25	0	1.1433E-06
15	15.04	DIELDRIN	0.6621	13.1842%	1373760	45871	29.9	2	15	25	0	4.8194E-07
16	18.27	ENDRIN	1.3282	26.4485%	1009404	25454	39.7	3	16	25	0	1.3158E-06
18	22.13	~~ENDOSULFAN II~~	0.4777	9.5136%	312983	2596	120.6	4	18	25	0	1.5264E-06
19	26.48	DDT	1.5395	30.6574%	765711	11971	64.0	3	19	25	0	2.0106E-06
25	40.43	INSTD	1.0000	0.0000%	363402	4404	82.5	1	25	25	0	2.7518E-06
26	47.69	DBC	0.0050	0.0989%	1841822	13342	138.0	3	26	25	0	2.6978E-09
27	50.93	METHOXYCHLOR	0.0006	0.0119%	222134	2052	108.2	4	27	25	0	2.6978E-09

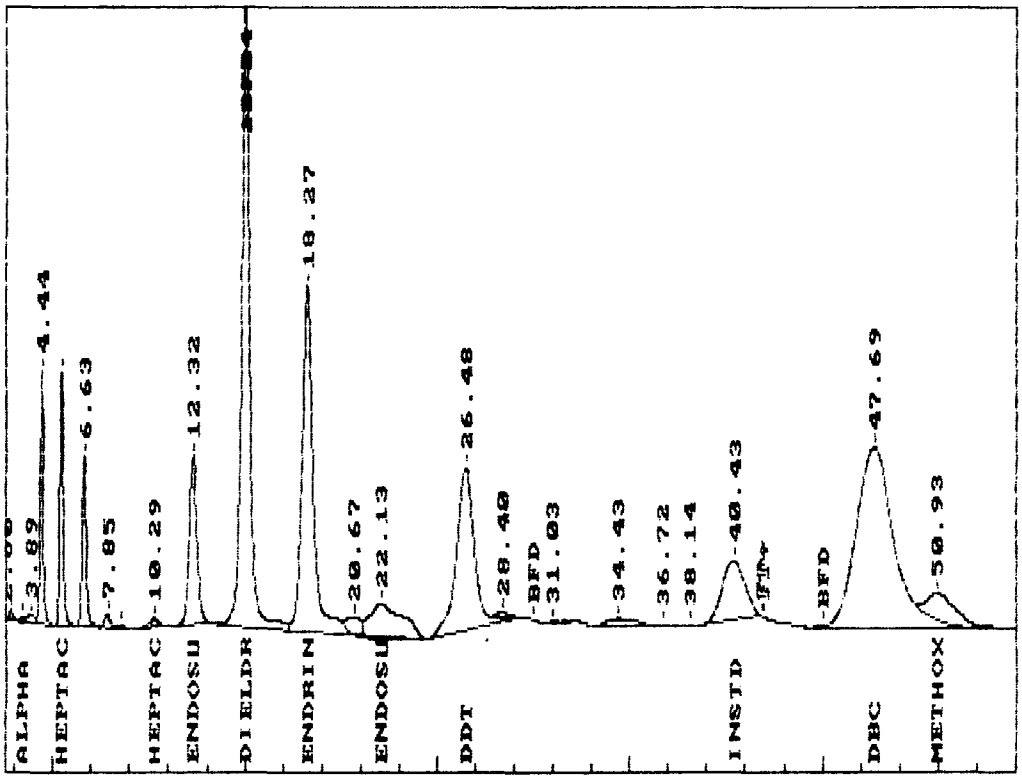
TOTAL AMOUNT = 5.0216

$$\text{Conc. of compound} = \frac{\text{area of sample}}{\text{area of std}} \times \frac{\text{conc of std} \times \text{FU}}{\text{amt of sample}}$$

$$\text{Conc. of DBC} = \frac{1841822}{320596} \times \frac{.05 \times 10}{1.02} = 2.816 \text{ ug/l}$$

$$\text{conc of methoxychlor} = \frac{222134}{309177} \times \frac{0.14 \times 10}{1.02} = 0.986 \text{ ug/l}$$

Plot of data file: I:FP13.PTS
Date: 03-07-1989 Time: 09:04:11
Sample Name: PEST SPK 89FS09S76
Start Time= 2.49Stop Time = 55.01Min. Scale= 8819Max. Scale= 55641



Secondary Column

INTERNAL STANDARD TABLE

********** 03-07-1989 14:00:08 Version 4.1 **********

* Sample Name: PEST SPK [redacted] 89FS09S76 Data File: I:EP13 *
* Date: 03-03-1989 03:59:33 Method: SPESACO 03-07-1989 12:41:34 # 9 *
* Interface: 0 Cycle#: 13 Operator AK Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE *

****

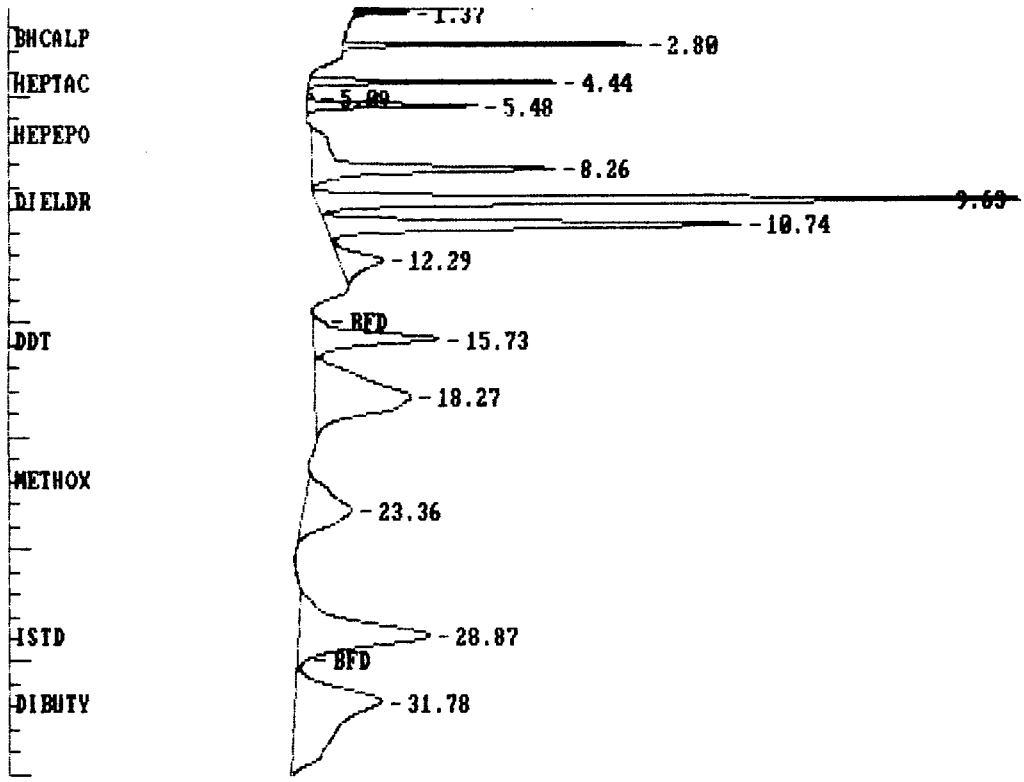
Starting Delay: 1.00 Ending retention time: 55.00
Area reject: 0 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 10.00
Internal Standard Amount: 1
Sample Weight: 1.020000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	2.80	LINDANE	0.2428	3.7051%	14916	2139	7.0	1	2	10	0	1.6276E-05
3	4.44	HEPTACHLOR	0.3135	4.7845%	18839	1779	10.6	1	3	10	0	1.6642E-05
4	5.48	ALDRIN	0.1916	2.9243%	15493	1210	12.8	1	4	10	0	1.2368E-05
5	8.26	ENDOI	0.6072	9.2657%	32318	1604	20.2	1	5	10	0	1.8787E-05
6	9.63	DIELDRIN	0.9736	14.8574%	103921	5078	20.5	2	6	10	0	9.3683E-06
7	10.74	EN+ENDOII	1.2620	19.2591%	68258	2969	23.0	2	7	10	0	1.8489E-05
9	15.73	DDT	1.2049	18.3872%	26722	827	32.3	1	9	10	0	4.5088E-05
10	28.87	ISTD	1.0000	0.0000%	43730	766	57.1	1	10	10	0	2.2867E-05
11	31.78	DIBUTYLCHLORENDATE	1.7572	26.8167%	15812	317	49.9	1	11	10	0	1.1114E-04

TOTAL AMOUNT = 6.5527

Secondary Column

Plot of data file: I:EP13.PTS
Date: 03-07-1989 Time: 14:01:29
Sample Name: PEST SPK [redacted] 89FS09S76
Start Time= 1.02Stop Time = 35.02Min. Scale= 0Max. Scale= 6724



INTERNAL STANDARD TABLE

```
******************** 03-07-1989 08:50:27 Version 4.1 ********************
* Sample Name: PEST SPK DUP 89FS09S76            Data File: I:FP12       *
* Date: 03-03-1989 03:02:59 Method: SPESTA4 03-06-1989 09:38:50  #  101  *
* Interface: 0   Cycle#:  12   Operator AK  Channel#: 1    Vial#: N.A.   *
* Starting Peak Width:  10   Threshold: .01  Area Threshold: 50          *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED             *
*              Solvent Description: NITROGEN                             *
* Conditions: ISOTHERMAL 200 C                                           *
*             Detector 0: ECD Conf.          Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                        *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:   55.00
Area reject:        0                      One sample per   1.002 sec.
Amount injected:        1.00               Dilution factor:       10.00
Internal Standard Amount:  1
Sample Weight:          1.020000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
7	3.40	~~ALPHA BHC~~	0.0150	0.3477%	9314	539	17.3	2	7	24	0	1.6057E-06
9	4.44	LINDANE	0.1677	3.8985%	180921	17322	10.4	2	9	24	0	9.2680E-07
10	5.48	HEPTACHLOR	0.2251	5.2327%	229750	18476	12.4	2	10	24	0	9.7958E-07
11	6.61	ALDRIN	0.1647	3.8298%	196065	12441	15.8	1	11	24	0	8.4013E-07
14	10.25	~~HEPTACHLOR EPOXIDE~~	0.0628	1.4599%	50707	968	52.4	2	14	24	0	1.2383E-06
15	12.32	ENDOSULFAN I	0.3965	9.2179%	359074	12158	29.5	2	15	24	0	1.1041E-06
16	15.04	DIELDRIN	0.6046	14.0558%	1257869	42333	29.7	2	16	24	0	4.8061E-07
17	18.27	ENDRIN	1.1030	25.6460%	856884	22999	37.3	2	17	24	0	1.2873E-06
19	22.08	~~ENDOSULFAN II~~	-0.0027	-0.0631%	19318	490	39.4	1	19	24	0	-1.4059E-07
20	26.48	DDT	1.5596	36.2611%	800293	11710	68.3	3	20	24	0	1.9488E-06
24	40.58	INSTD	1.0000	0.0000%	374889	5015	74.8	1	24	24	0	2.6675E-06
26	47.79	DBC	0.0044	0.1017%	1672701	12502	133.8	3	26	24	0	2.6152E-09
27	51.05	METHOXYCHLOR	0.0005	0.0120%	197955	1575	125.7	4	27	24	0	2.6152E-09

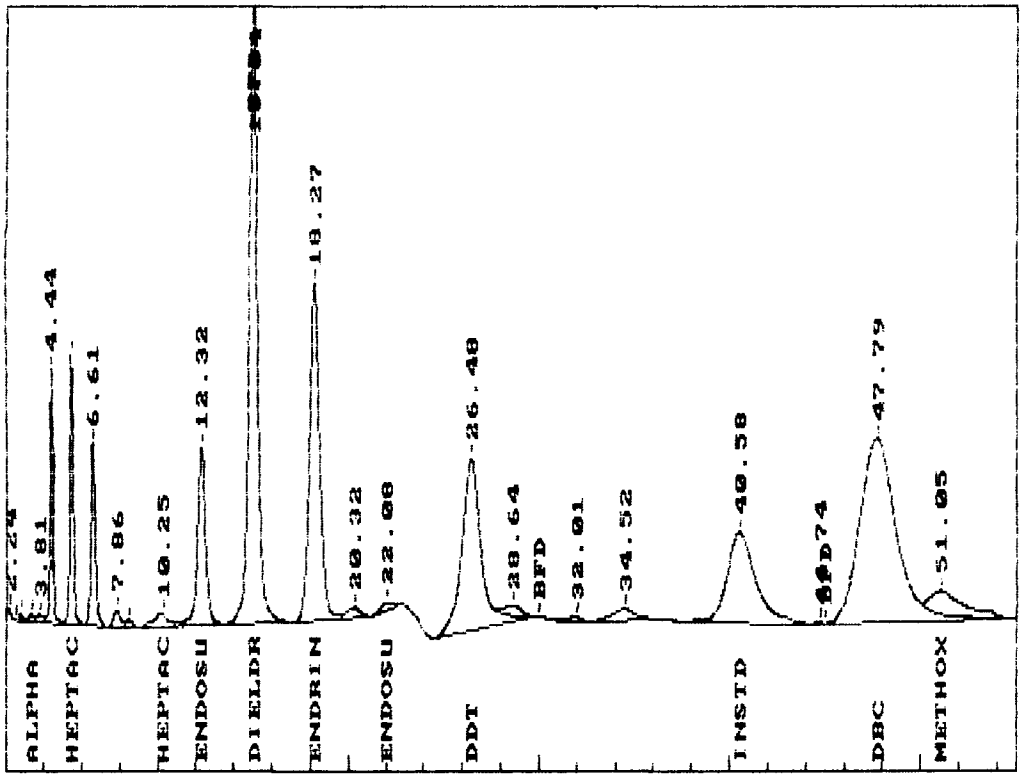
TOTAL AMOUNT = 4.3011

$$\text{conc of compound} = \frac{\text{area of sample}}{\text{area of std}} \times \frac{\text{conc of std} \times \text{FV}}{\text{amt of sample}}$$

$$\text{(ng) DBC} = \frac{1672701}{320596} \times \frac{.05 \times 10}{1} = 2.6\ \text{ug/l}$$

$$\text{conc of methoxychlor} = \frac{197955}{\cancel{320596}\ 309177} \times \frac{0.14 \times 10}{1} = 0.896\ \text{ug/l}$$

Plot of data file: I:FP12.PTS
Date: 03-07-1989 Time: 08:52:07
Sample Name: PEST SPK DUP 89FS09576
Start Time= 1.99Stop Time = 55.01Min. Scale= 8383Max. Scale= 51690



Secondary column

***** INTERNAL STANDARD TABLE *****

********** 03-07-1989 13:57:56 Version 4.1 **********

* Sample Name: PEST SPK [redacted] 89FS09S76 Dup AK Data File: I:EP12 *

* Date: 03-03-1989 03:03:01 Method: SPESACO 03-07-1989 12:41:34 # 9 *

* Interface: 0 Cycle#: 12 Operator AK Channel#: 0 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *

* Solvent Description: NITROGEN *

* Conditions: ISOTHERMAL 200 C *

* Detector 0: ECD Conf. Detector 1: ECD Anal. *

* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE *

****

Starting Delay: 1.00 Ending retention time: 55.00

Area reject: 0 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 10.00

Internal Standard Amount: 1

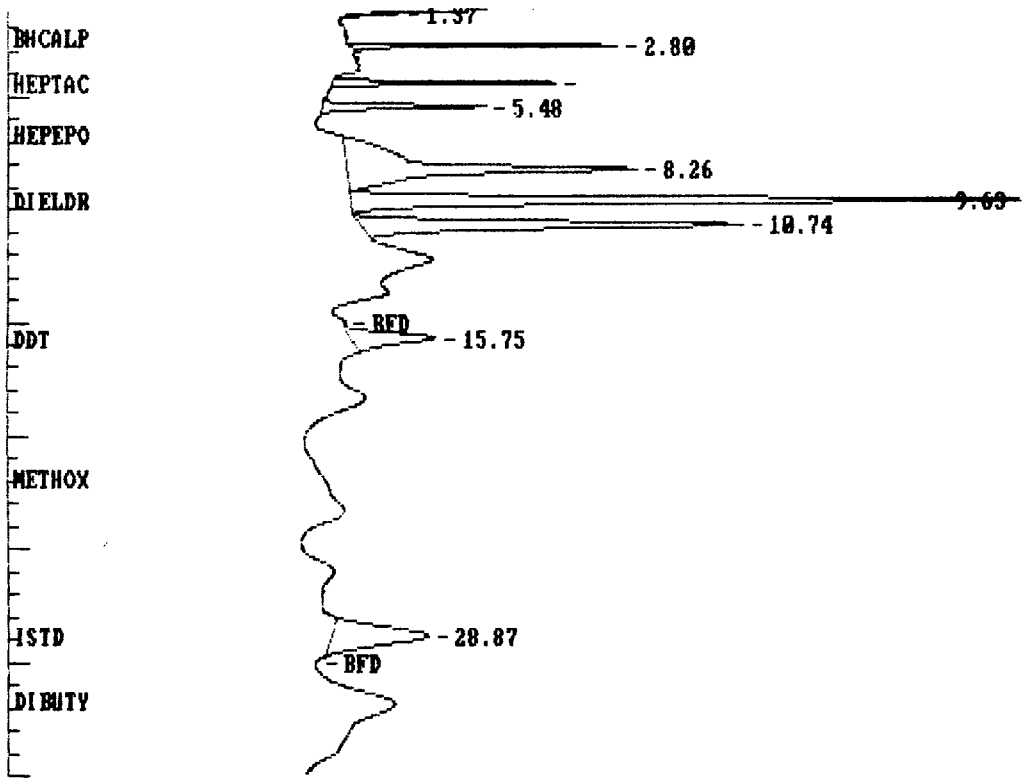
Sample Weight: 1.020000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	2.80	LINDANE	0.2497	4.1566%	12645	1851	6.8	1	2	9	0	1.9746E-05
3	4.44	HEPTACHLOR	0.3206	5.3375%	15881	1566	10.1	1	3	9	0	2.0190E-05
4	5.48	ALDRIN	0.2250	3.7458%	14996	1152	13.0	1	4	9	0	1.5005E-05
5	8.26	ENDOI	1.6968	28.2462%	74447	2025	36.8	2	5	9	0	2.2792E-05
6	9.63	DIELDRIN	1.1125	18.5198%	97887	4677	20.9	2	6	9	0	1.1365E-05
7	10.74	EN+ENDOII	1.3770	22.9217%	61389	2666	23.0	1	7	9	0	2.2430E-05
8	15.75	DDT	1.0256	17.0724%	18749	588	31.9	1	8	9	0	5.4700E-05
9	28.87	ISTD	1.0000	0.0000%	36046	683	52.8	1	9	9	0	2.7742E-05

TOTAL AMOUNT = 6.0072

Secondary column

Plot of data file: 1:EP12.PTS
Date: 03-07-1989 Time: 13:58:37
Sample Name: PEST SPK [redacted] 89FS09S76 Dup
Start Time= 1.02Stop Time = 35.00Min. Scale= 0Max. Scale= 6515



Sample Data

Chromatograms + reports

```
*****   INTERNAL STANDARD TABLE   *****
******************** 03-07-1989 09:21:50 Version 4.1 ********************
* Sample Name: 89FS09S75                          Data File: I:FP29      *
* Date: 03-03-1989 19:04:23 Method: SPESTA4 03-06-1989 09:38:50  #  101  *
* Interface: 0   Cycle#:  29   Operator AK  Channel#: 1    Vial#: N.A.   *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100           *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED             *
*              Solvent Description: NITROGEN                             *
* Conditions: ISOTHERMAL 200 C                                           *
*             Detector 0: ECD Conf.          Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                        *
*************************************************************************
Starting Delay:   1.00                      Ending retention time:   55.00
Area reject:        0                       One sample per   1.002 sec.
Amount injected:        1.00                Dilution factor:       10.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
6	~~9.47~~	~~HEPTACHLOR EPOXIDE~~	0.0214	11.9251%	6278	188	33.5	1	6	11	0	3.4111E-06
9	~~14.76~~	~~DIELDRIN~~	0.1574	87.6394%	13099	324	40.4	1	9	11	0	1.2014E-05
11	41.35	INSTD	1.0000	0.0000%	460628	5189	88.8	1	11	11	0	2.1709E-06
12	48.23	DBC	0.0008	0.4355%	360193	3213	112.1	1	12	11	0	2.1709E-09

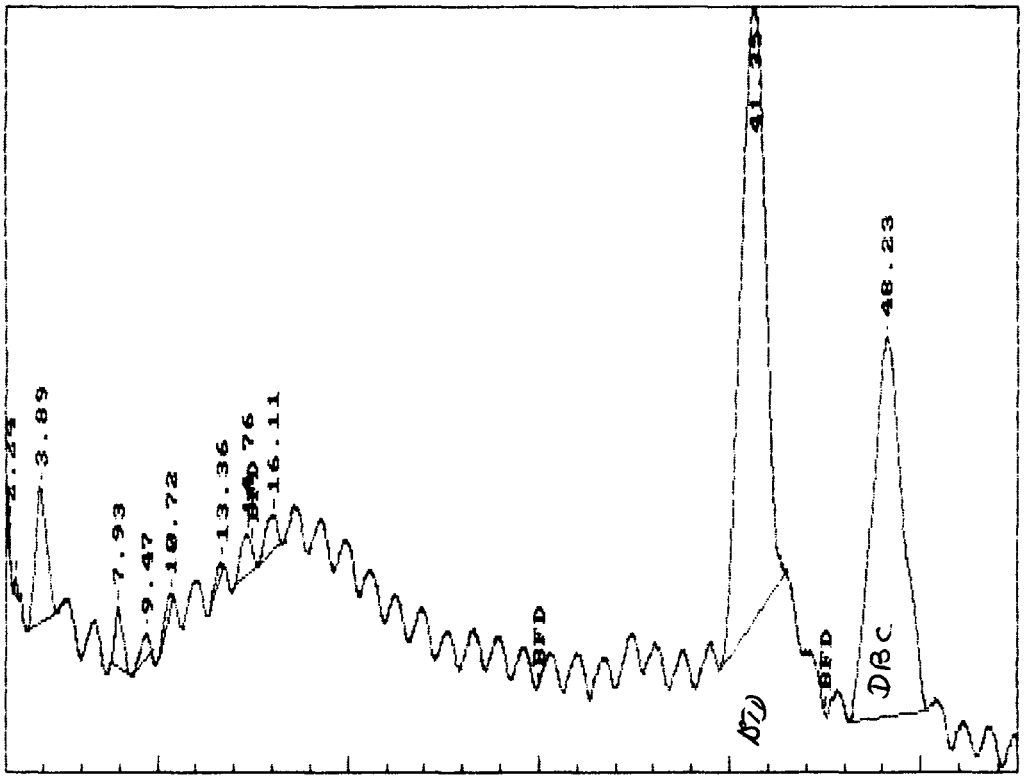
TOTAL AMOUNT = 0.1796

$$\text{Conc of DBC} = \frac{\text{area of sample}}{\text{area std}} \times \frac{\text{conc std} \times \text{FU}}{\text{amt of sample}}$$

$$\frac{360193}{320596} \times \frac{0.05 \times 10}{1}$$

$$= 0.56 \text{ mg/l}$$

Plot of data file: I:FP29.PTS
Date: 03-07-1989 Time: 09:22:32
Sample Name: 89FS09575
Start Time= 1.99Stop Time = 55.01Min. Scale= 10960Max. Scale= 17427



```
*****    INTERNAL STANDARD TABLE    *****
******************** 03-09-1989 09:24:05 Version 4.1 **********************
* Sample Name: 89FS09B75                          Data File: I:FP31        *
* Date: 03-03-1989 20:57:29 Method: SPESTA4 03-06-1989 09:38:50  #  101   *
* Interface: 0   Cycle#:  31   Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
*************************************************************************
* Instrument Type: TRACOR                 Column Type: PACKED              *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
*************************************************************************
Starting Delay:    1.00                        Ending retention time:    55.00
Area reject:        0                          One sample per    1.002 sec.
Amount injected:        1.00                   Dilution factor:        10.00
Internal Standard Amount:  1
Sample Weight:          0.980000
```

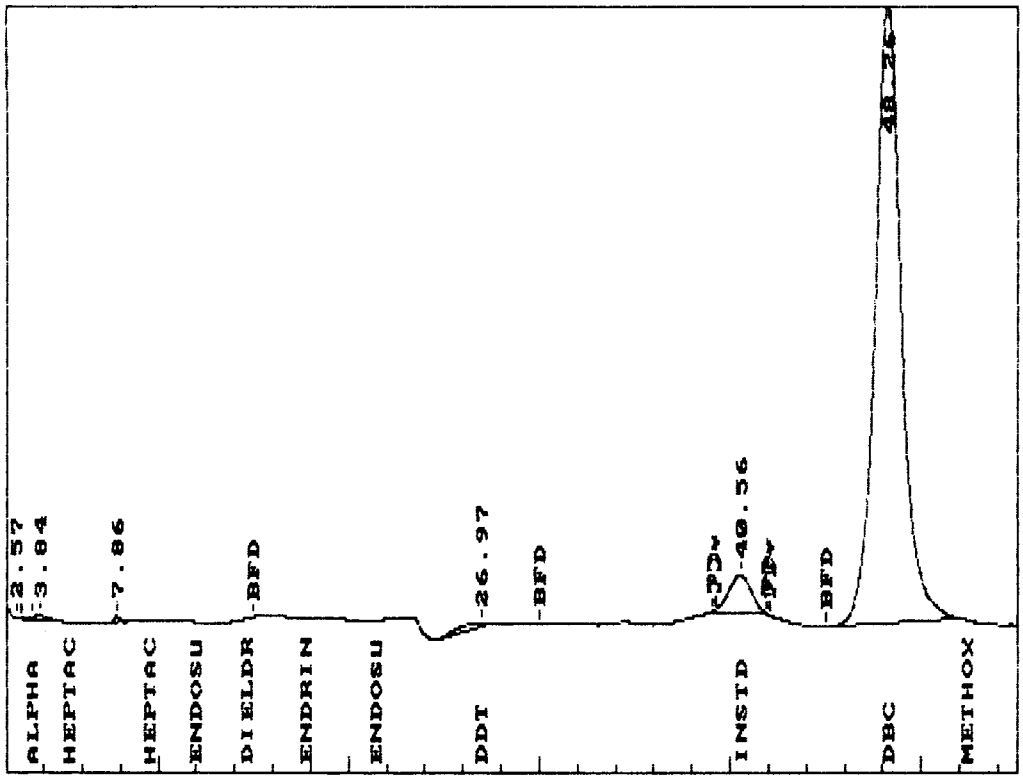
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
4	~~3.42~~	~~ALPHA BHC~~	0.0090	5.3817%	4069	358	11.4	2	4	8	0	2.2236E-06
7	~~26.97~~	~~DDT~~	0.1398	83.1509%	73546	439	167.4	1	7	8	0	1.9005E-06
8	40.56	INSTD	1.0000	0.0000%	428131	5179	82.7	1	8	8	0	2.3357E-06
9	48.26	DBC	0.0193	11.4674%	8087773	84983	95.2	1	9	8	0	2.3834E-09

TOTAL AMOUNT = 0.1681

$$\text{conc of DBC} = \frac{\text{area of sample}}{\text{area std}} \times \frac{\text{conc of std} \times \text{FV}}{\text{amt of sample}}$$

$$\frac{8087773}{320596} \times \frac{0.05 \times 10}{.98} = 12.87 \text{ ug/l}$$

Plot of data file: I:FP31.PTS
Date: 03-09-1989 Time: 09:24:55
Sample Name: 89FS09B75
Start Time= 1.99Stop Time = 55.01Min. Scale= 9142Max. Scale= 96447



```
*****   INTERNAL STANDARD TABLE   *****
******************** 03-08-1989 13:48:51 Version 4.1 **********************
* Sample Name: 89FS09S76                    Data File: I:FP35              *
* Date: 03-04-1989 00:43:41 Method: SPESTA4 03-06-1989 09:38:50  #  101   *
* Interface: 0   Cycle#:  35   Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED              *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*            Detector 0: ECD Conf.          Detector 1: ECD Anal.         *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:   55.00
Area reject:        0                      One sample per   1.002 sec.
Amount injected:        1.00               Dilution factor:       10.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
4	~~3.31~~	~~ALPHA BHC~~	0.0055	10.4665%	691	77	9.0	1	0	10	-1.870	7.9799E-06
6	~~5.71~~	~~HEPTACHLOR~~	0.0280	53.2149%	3664	301	12.2	1	6	10	0	7.6496E-06
8	~~10.40~~	~~HEPTACHLOR EPOXIDE~~	0.0184	34.9838%	2430	134	18.2	1	8	10	0	7.5822E-06
10	40.85	INSTD	1.0000	0.0000%	475581	5333	89.2	1	10	10	0	2.1027E-06
11	47.64	DBC	0.0007	1.3348%	334381	3079	108.6	1	11	10	0	2.1027E-09

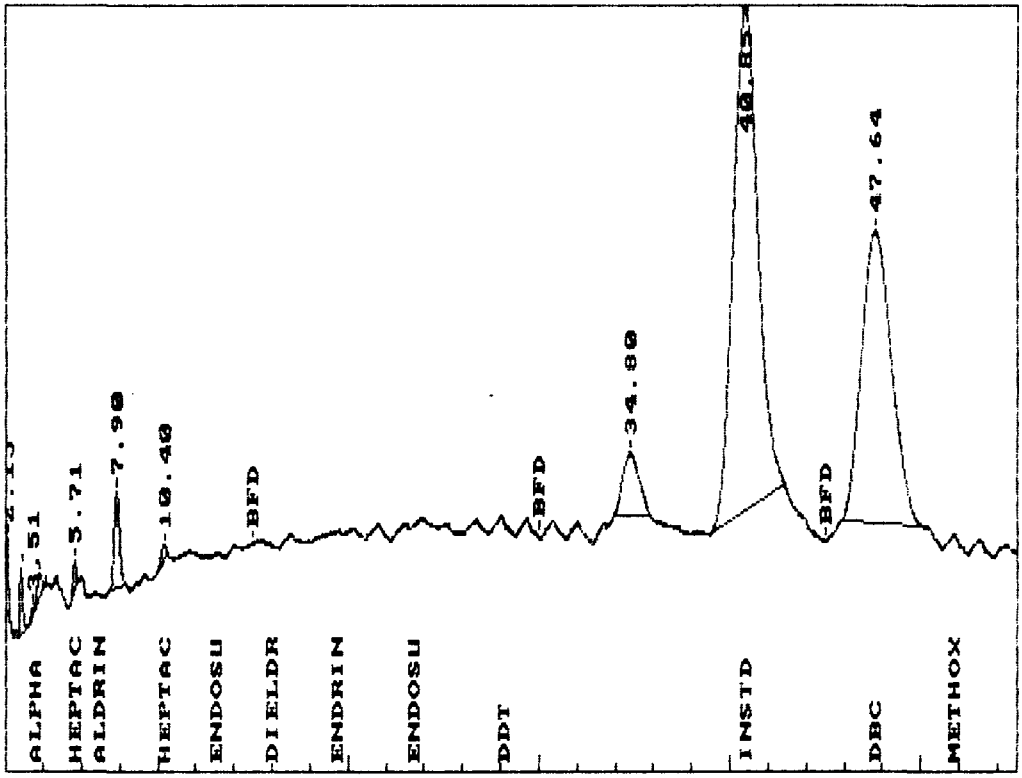
TOTAL AMOUNT = 0.0527

$$\text{conc of DBC} = \frac{\text{area of sample}}{\text{area of std}} \times \frac{\text{conc of std} \times FV}{\text{amt of sample}}$$

$$= \frac{334381}{320596} \times \frac{.05 \times 10}{1}$$

$$= 0.52 \text{ ug/l}$$

Plot of data file: 1:FP35.PTS
Date: 03-08-1989 Time: 13:49:32
Sample Name: 89FS09576
Start Time= 1.99Stop Time = 55.01Min. Scale= 9677Max. Scale= 16356



***** INTERNAL STANDARD TABLE *****

********** 03-07-1989 10:03:55 Version 4.1 **********

* Sample Name: 89FS09577 Data File: I:FP30 *

* Date: 03-03-1989 20:00:56 Method: SPESTA4 03-06-1989 09:38:50 # 101 *

* Interface: 0 Cycle#: 30 Operator AK Channel#: 1 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *

* Solvent Description: NITROGEN *

* Conditions: ISOTHERMAL 200 C *

* Detector 0: ECD Conf. Detector 1: ECD Anal. *

* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE *

****

Starting Delay: 1.00 Ending retention time: 55.00

Area reject: 0 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 10.00

Internal Standard Amount: 1

Sample Weight: 1.000000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	~~3.40~~	~~ALPHA BHC~~	0.0052	3.1588%	771	81	9.5	1	0	8	-4.675	6.7381E-06
7	~~45.48~~	~~DIELDRIN~~	0.1590	96.6808%	45111	360	125.3	1	7	8	0	3.5249E-06
8	40.26	INSTD	1.0000	0.0000%	1118305	5691	196.5	1	8	8	0	8.9421E-07
10	49.85	DBC	0.0003	0.1604%	294989	2301	128.2	2	10	8	0	8.9421E-10

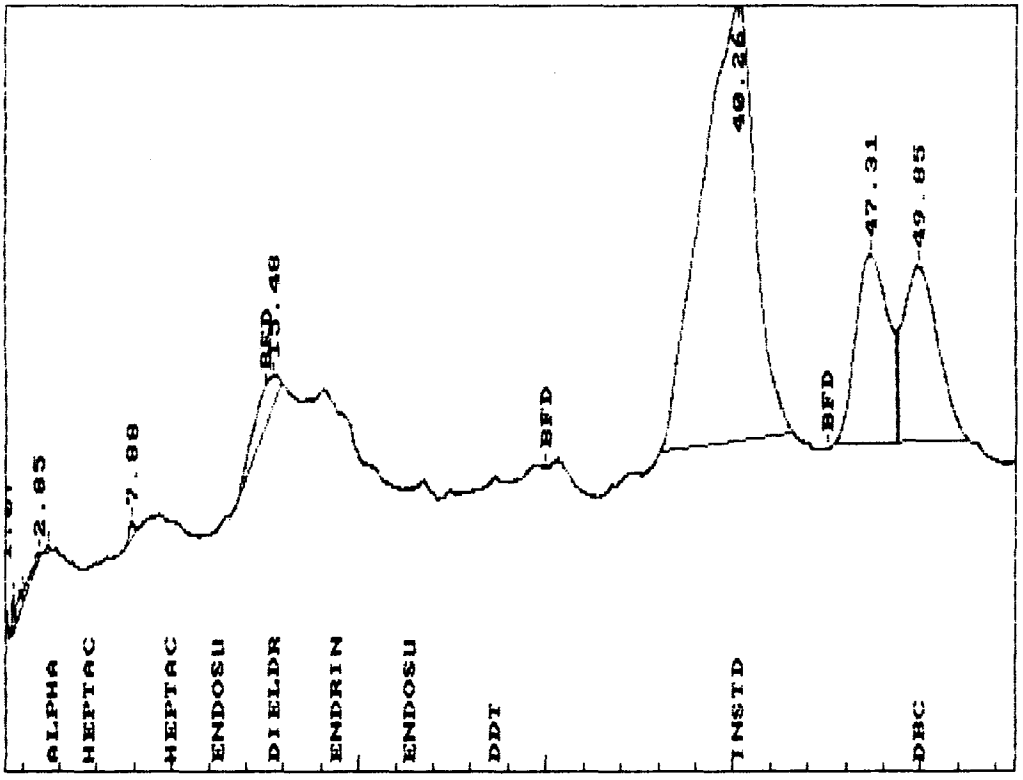
TOTAL AMOUNT = 0.1645

$$\text{Conc of DBC} = \frac{\text{area of sample}}{\text{area of std}} \times \frac{\text{conc of std} \times \text{FV}}{\text{amt of sample}}$$

$$\frac{294989}{320596} \times \frac{0.05 \times 10}{1}$$

$$= 0.46\ \mu g/l$$

Plot of data file: I:FP30.PTS
Date: 03-07-1989 Time: 10:04:19
Sample Name: 89FS09S77
Start Time= 1.02Stop Time = 55.01Min. Scale= 7545Max. Scale= 15822



```
****** INTERNAL STANDARD TABLE ******
******************** 03-07-1989 10:25:35 Version 4.1 ********************
* Sample Name: 89FS09R08                          Data File: I:FP34        *
* Date: 03-03-1989 23:47:08 Method: SPESTA4 03-06-1989 09:38:50  #  101   *
* Interface: 0   Cycle#:  34   Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  30   Threshold: 1  Area Threshold: 100            *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED            *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE       1:MIXED PHASE 0   *
*************************************************************************
Starting Delay:    1.00                        Ending retention time:   55.00
Area reject:        0                          One sample per   1.002 sec.
Amount injected:        1.00                   Dilution factor:       10.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
3	~~3.40~~	~~ALPHA BHC~~	0.0099	3.5991%	4046	445	9.1	2	3	8	0	2.4556E-06
~~5~~	~~5.68~~	~~HEPTACHLOR~~	0.0322	11.6599%	6766	451	15.0	1	5	8	0	4.7575E-06
7	~~27.37~~	~~DDT~~	0.2319	83.9968%	100521	547	183.9	1	7	8	0	2.3067E-06
8	40.60	INSTD	1.0000	0.0000%	335171	3922	85.4	1	8	8	0	2.9836E-06
9	47.36	DBC	0.0021	0.7443%	688609	5454	126.3	1	9	8	0	2.9836E-09

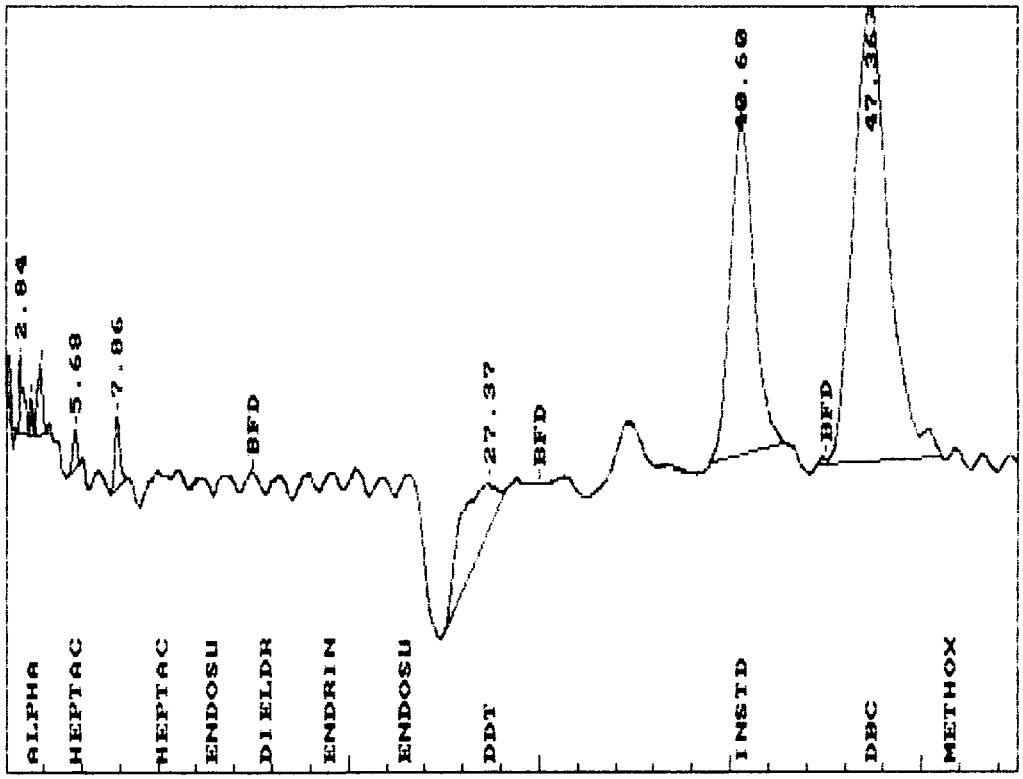
TOTAL AMOUNT = 0.2760

$$\text{conc of DBC} = \frac{\text{area of sample}}{\text{area of std}} \times \frac{\text{conc of std} \times \text{FV}}{\text{amt of sample}}$$

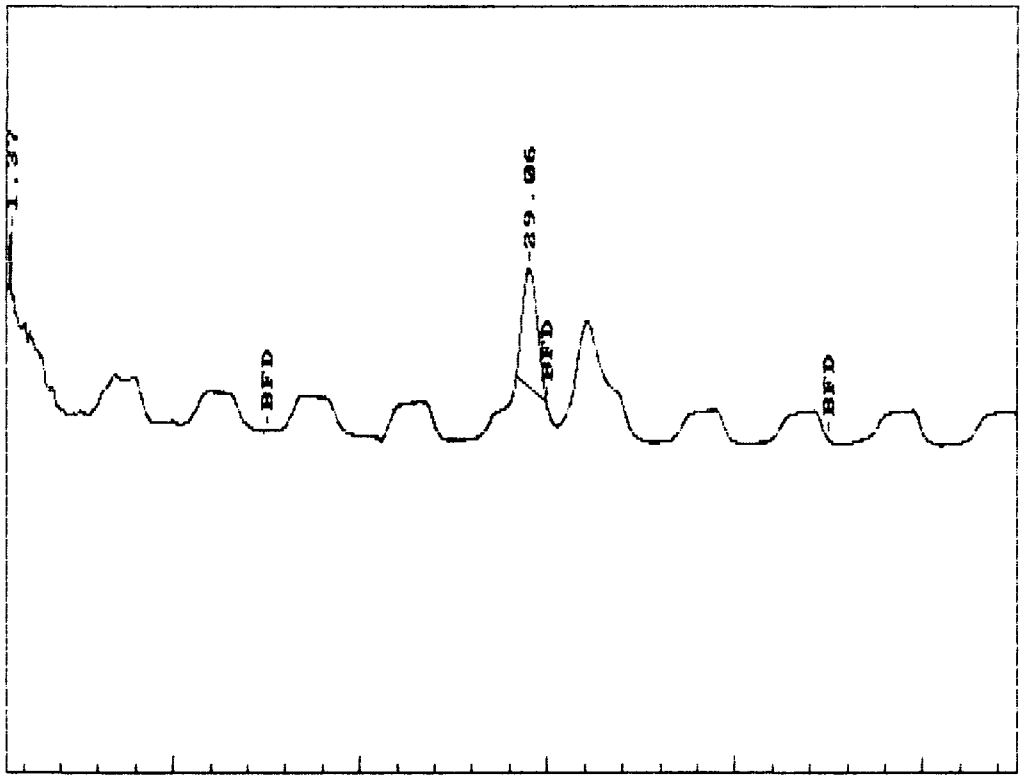
$$\frac{688609}{320596} \times \frac{.05 \times 10}{1}$$

$$= 1.07 \text{ ug/l}$$

Plot of data file: I:FP34.PTS
Date: 03-07-1989 Time: 10:26:08
Sample Name: 89FS09R08
Start Time= 1.99Stop Time = 55.01Min. Scale= 7565Max. Scale= 15135



Plot of data file: I:EP34.PTS
Date: 03-07-1989 Time: 10:27:43
Sample Name: 89FS09R08
Start Time= 1.02Stop Time = 55.01Min. Scale= 0Max. Scale= 3310



Secondary column

Standards

&

Calibration Curves.

****** INTERNAL STANDARD TABLE ******

********** 03-06-1989 10:23:55 Version 4.1 **********

* Sample Name: PEST STD A LEVEL 1 Data File: I:FP5 *
* Date: 03-02-1989 20:27:08 Method: SPESTA4 03-06-1989 09:38:50 # 101 *
* Interface: 0 Cycle#: 5 Operator AK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10.02 Threshold: .01 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE *

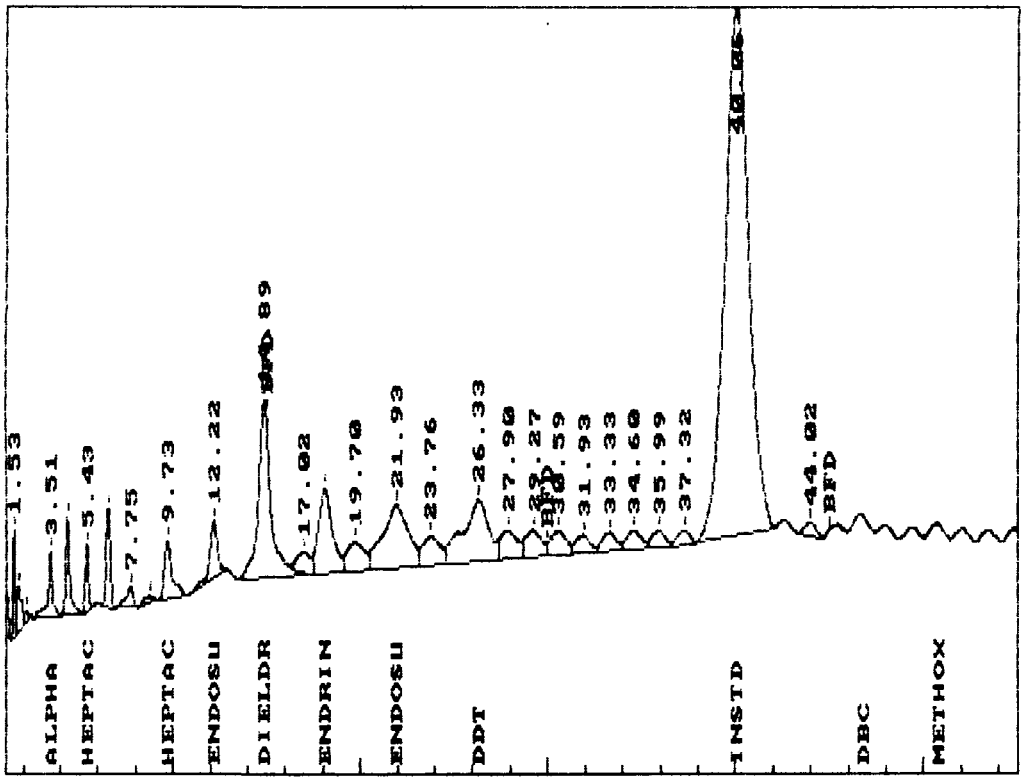
****

Starting Delay: 1.00 Ending retention time: 55.00
Area reject: 0 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Internal Standard Amount: 1
Sample Weight: 1.000000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
4	3.51	ALPHA BHC	0.0014	2.2325%	10492	643	16.3	2	4	27	0	1.3637E-07
5	4.41	LINDANE	0.0049	7.6045%	14064	988	14.2	2	5	27	0	3.4653E-07
6	5.43	HEPTACHLOR	0.0031	4.8898%	8198	663	12.4	1	6	27	0	3.8225E-07
7	6.56	ALDRIN	0.0050	7.8523%	14531	977	14.9	1	7	27	0	3.4632E-07
10	9.73	HEPTACHLOR EPOXIDE	0.0029	4.5647%	16734	580	28.9	1	10	27	0	1.7482E-07
11	12.22	ENDOSULFAN I	0.0042	6.6075%	16415	560	29.3	1	11	27	0	2.5798E-07
12	14.89	DIELDRIN	0.0178	27.7141%	81401	1779	45.7	3	12	27	0	2.1820E-07
14	18.13	ENDRIN	0.0101	15.8245%	42922	851	50.4	2	14	27	0	2.3629E-07
16	21.93	ENDOSULFAN II	0.0043	6.7434%	59272	628	94.4	2	16	27	0	7.2914E-08
18	26.33	DDT	0.0102	15.9666%	58102	611	95.0	2	18	27	0	1.7612E-07
27	40.06	INSTD	1.0000	0.0000%	464827	5330	87.2	1	27	27	0	2.1513E-06

TOTAL AMOUNT = 0.0641

Data File = I:FP5.PTS Printed on 03-06-1989 at 10:25:34
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 6210 uv High Value: 12597 uv Scale factor: 1.0

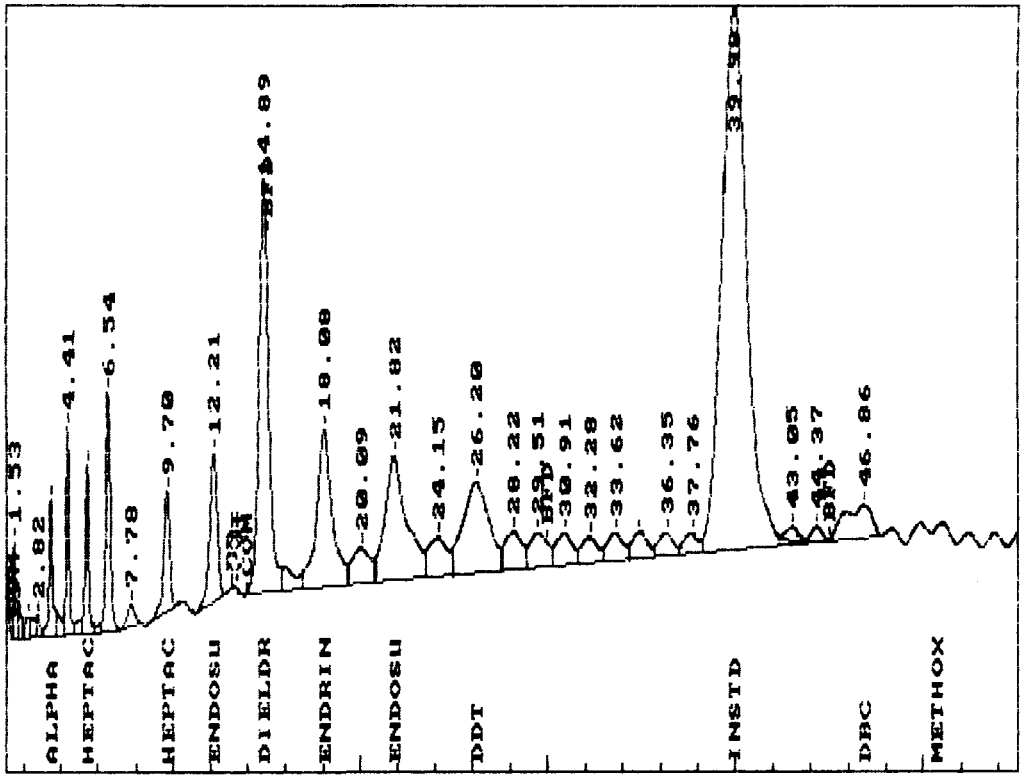


```
*****   INTERNAL STANDARD TABLE   *****
******************** 03-06-1989 10:31:20 Version 4.1 **********************
* Sample Name: PEST STD A LEVEL 2                Data File: I:FP6          *
* Date: 03-02-1989 21:23:41 Method: SPESTA4 03-06-1989 09:38:50  #  101   *
* Interface: 0   Cycle#:  6    Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  10.02   Threshold: .01  Area Threshold: 100       *
***********************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED            *
*              Solvent Description: NITROGEN                             *
* Conditions: ISOTHERMAL 200 C                                           *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.     *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                        *
***********************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	3.51	ALPHA BHC	0.0019	2.2344%	14962	1209	12.4	2	5	26	0	1.2447E-07
6	4.41	LINDANE	0.0053	6.3895%	21339	1841	11.6	2	6	26	0	2.4957E-07
7	5.43	HEPTACHLOR	0.0041	4.9065%	21049	1495	14.1	2	7	26	0	1.9429E-07
8	6.54	ALDRIN	0.0061	7.3584%	35094	2121	16.5	2	8	26	0	1.7476E-07
10	9.70	HEPTACHLOR EPOXIDE	0.0036	4.2834%	24710	1066	23.2	1	10	26	0	1.4448E-07
11	12.21	ENDOSULFAN I	0.0062	7.3966%	38387	1329	28.9	1	11	26	0	1.6060E-07
12	14.89	DIELDRIN	0.0193	23.1364%	129649	3572	36.3	2	12	26	0	1.4874E-07
13	18.08	ENDRIN	0.0142	17.0953%	81924	1416	57.9	2	13	26	0	1.7393E-07
15	21.82	ENDOSULFAN II	0.0088	10.5458%	91465	1115	82.1	2	15	26	0	9.6100E-08
17	26.20	DDT	0.0139	16.6458%	79120	813	97.3	2	17	26	0	1.7536E-07
26	39.98	INSTD	1.0000	0.0000%	454285	4901	92.7	3	26	26	0	2.2013E-06
29	46.86	DBC	0.0000	0.0079%	29971	296	101.1	2	29	26	0	2.2013E-10

TOTAL AMOUNT = 0.0833

Data File = I:FP6.PTS Printed on 03-06-1989 at 10:36:28
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 6379 uv High Value: 12067 uv Scale factor: 1.0



****** INTERNAL STANDARD TABLE ******

********** 03-06-1989 10:52:41 Version 4.1 **********

* Sample Name: PEST STD A LEVEL 3 Data File: I:FP22 *
* Date: 03-03-1989 12:28:31 Method: SPESTA4 03-06-1989 09:38:50 # 101 *
* Interface: 0 Cycle#: 22 Operator AK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10.02 Threshold: .01 Area Threshold: 50 *

****

* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE 1:MIXED PHASE 0 *

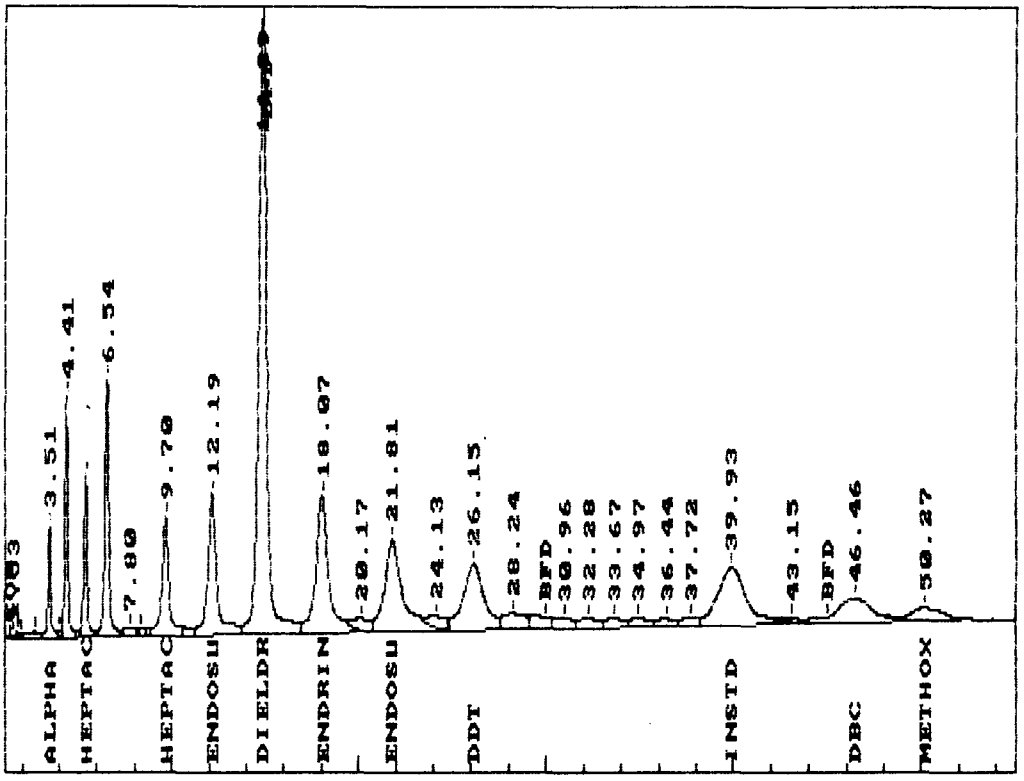
****

Starting Delay: 1.00 Ending retention time: 55.00
Area reject: 0 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Internal Standard Amount: 1
Sample Weight: 1.000000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	3.51	ALPHA BHC	0.0087	2.4425%	99219	9399	10.6	3	5	27	0	8.8080E-08
7	4.41	LINDANE	0.0153	4.2634%	207491	20212	10.3	2	7	27	0	7.3517E-08
8	5.43	HEPTACHLOR	0.0146	4.0763%	181076	13599	13.3	2	8	27	0	8.0544E-08
9	6.54	ALDRIN	0.0200	5.5863%	328673	21490	15.3	3	9	27	0	6.0813E-08
12	9.70	HEPTACHLOR EPOXIDE	0.0208	5.8257%	274122	9987	27.4	2	12	27	0	7.6039E-08
13	12.19	ENDOSULFAN I	0.0348	9.7346%	408199	11823	34.5	2	13	27	0	8.5325E-08
14	14.89	DIELDRIN	0.0581	16.2513%	1553135	52631	29.5	2	14	27	0	3.7438E-08
15	18.07	ENDRIN	0.0585	16.3431%	565014	11478	49.2	3	15	27	0	1.0349E-07
17	21.81	ENDOSULFAN II	0.0621	17.3651%	542360	7707	70.4	3	17	27	0	1.1456E-07
19	26.15	DDT	0.0647	18.0911%	431209	5548	77.7	2	19	27	0	1.5011E-07
27	39.93	INSTD	1.0000	0.0000%	500937	4716	106.2	3	27	27	0	1.9963E-06
29	46.46	DBC	0.0001	0.0145%	259979	1905	136.5	2	29	27	0	1.9963E-10
30	50.26	METHOXYCHLOR	0.0000	0.0061%	109282	1001	109.1	2	30	27	0	1.9963E-10

TOTAL AMOUNT = 0.3578

Plot of data file: I:FP22.PTS
Date: 03-06-1989 Time: 11:03:18
Sample Name: PEST STD A LEVEL 3
Start Time= 1.02Stop Time = 55.01Min. Scale= 5926Max. Scale= 59003



****** INTERNAL STANDARD TABLE ******

********** 03-06-1989 11:06:36 Version 4.1 **********

* Sample Name: PEST STD A LEVEL 4 Data File: I:FP9 *
* Date: 03-03-1989 00:13:19 Method: SPESTA4 03-06-1989 09:38:50 # 101 *
* Interface: 0 Cycle#: 9 Operator AK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE 1:MIXED PHASE 0 *

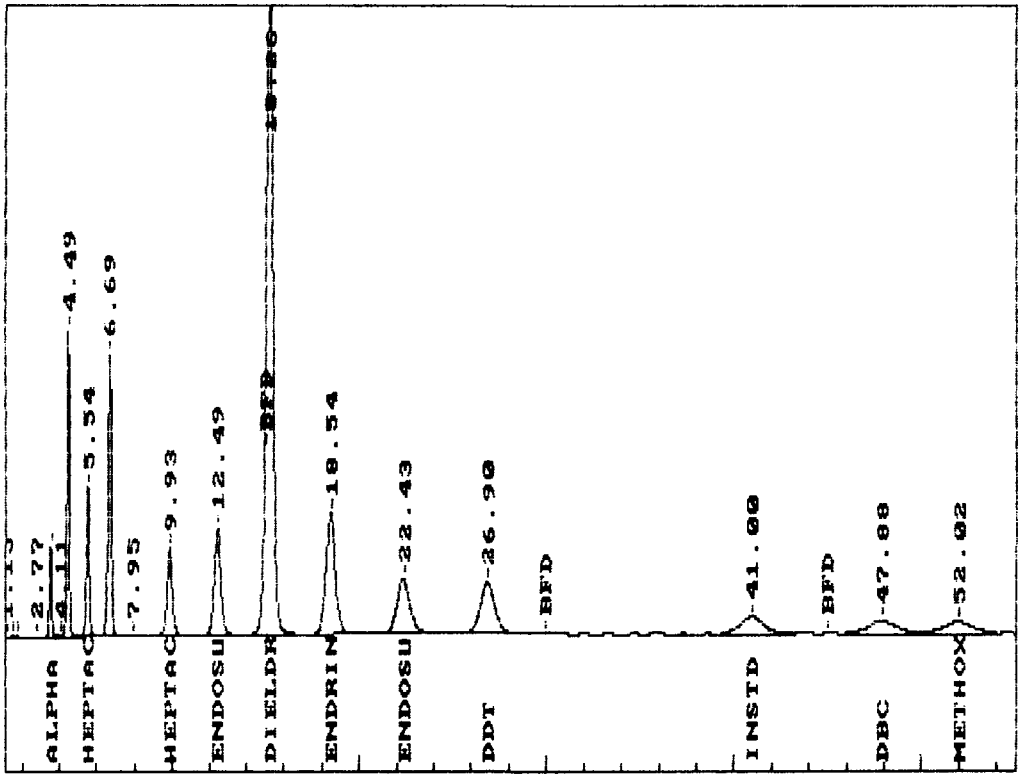
****

Starting Delay: 1.00 Ending retention time: 55.00
Area reject: 0 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Internal Standard Amount: 1
Sample Weight: 1.000000

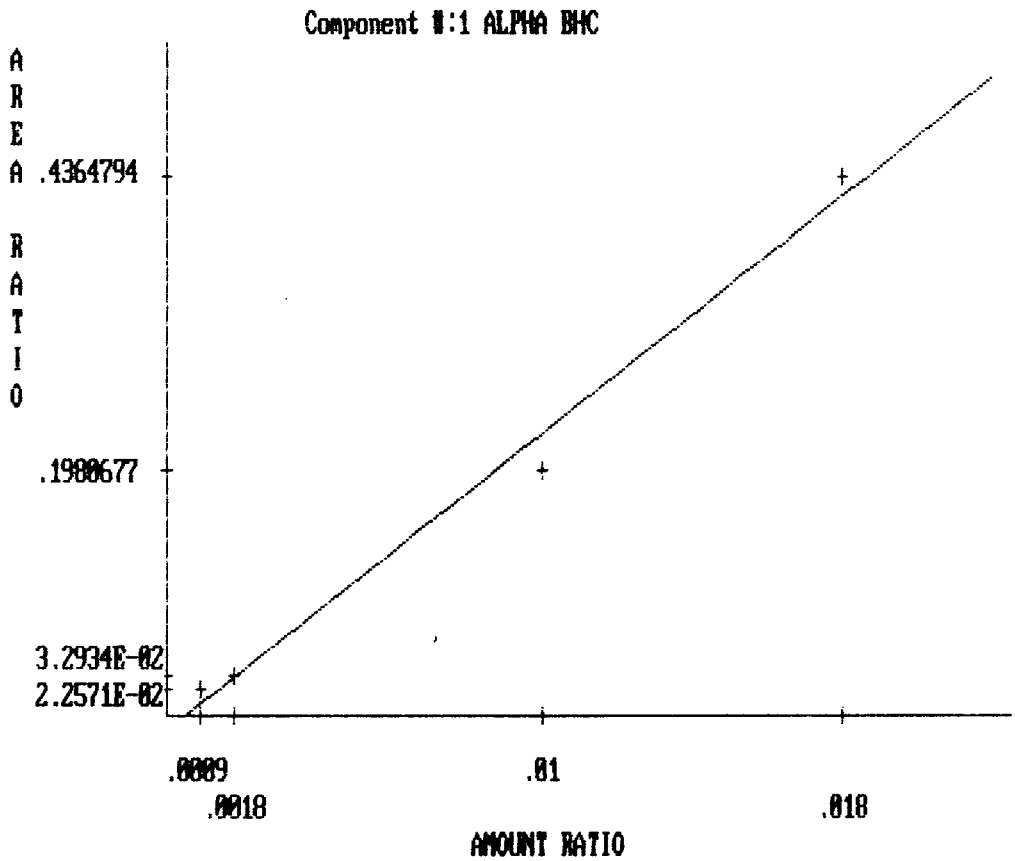
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	HEIGHT BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	3.57	ALPHA BHC	0.0187	2.3160%	161163	22191	7.3	2	5	17	0	1.1583E-07
7	4.49	LINDANE	0.0471	5.8492%	588497	75122	7.8	2	7	17	0	8.0114E-08
8	5.54	HEPTACHLOR	0.0376	4.6638%	388555	36584	10.6	2	8	17	0	9.6748E-08
9	6.69	ALDRIN	0.0557	6.9161%	793931	69075	11.5	2	9	17	0	7.0216E-08
11	9.93	HEPTACHLOR EPOXIDE	0.0431	5.3484%	436613	21663	20.2	1	11	17	0	9.8738E-08
12	12.49	ENDOSULFAN I	0.0691	8.5754%	623491	26282	23.7	1	12	17	0	1.1086E-07
13	15.26	DIELDRIN	0.1721	21.3502%	4192407	154736	27.1	1	13	17	0	4.1048E-08
14	18.53	ENDRIN	0.1330	16.5036%	1006248	29607	34.0	1	14	17	0	1.3220E-07
15	22.43	ENDOSULFAN II	0.0993	12.3177%	626436	13309	47.1	1	15	17	0	1.5849E-07
16	26.90	DDT	0.1301	16.1385%	643653	12269	52.5	1	16	17	0	2.0210E-07
17	41.00	INSTD	1.0000	0.0000%	369233	4109	89.9	1	17	17	0	2.7083E-06
18	47.88	DBC	0.0001	0.0108%	320596	3041	105.4	2	18	17	0	2.7083E-10
19	52.02	METHOXYCHLOR	0.0001	0.0104%	309177	2867	107.9	2	19	17	0	2.7083E-10

TOTAL AMOUNT = 0.8060

Plot of data file: I:FP9.PTS
Date: 03-06-1989 Time: 11:07:08
Sample Name: PEST STD A LEVEL 4
Start Time= 1.02Stop Time = 55.01Min. Scale= 6154Max. Scale= 161648



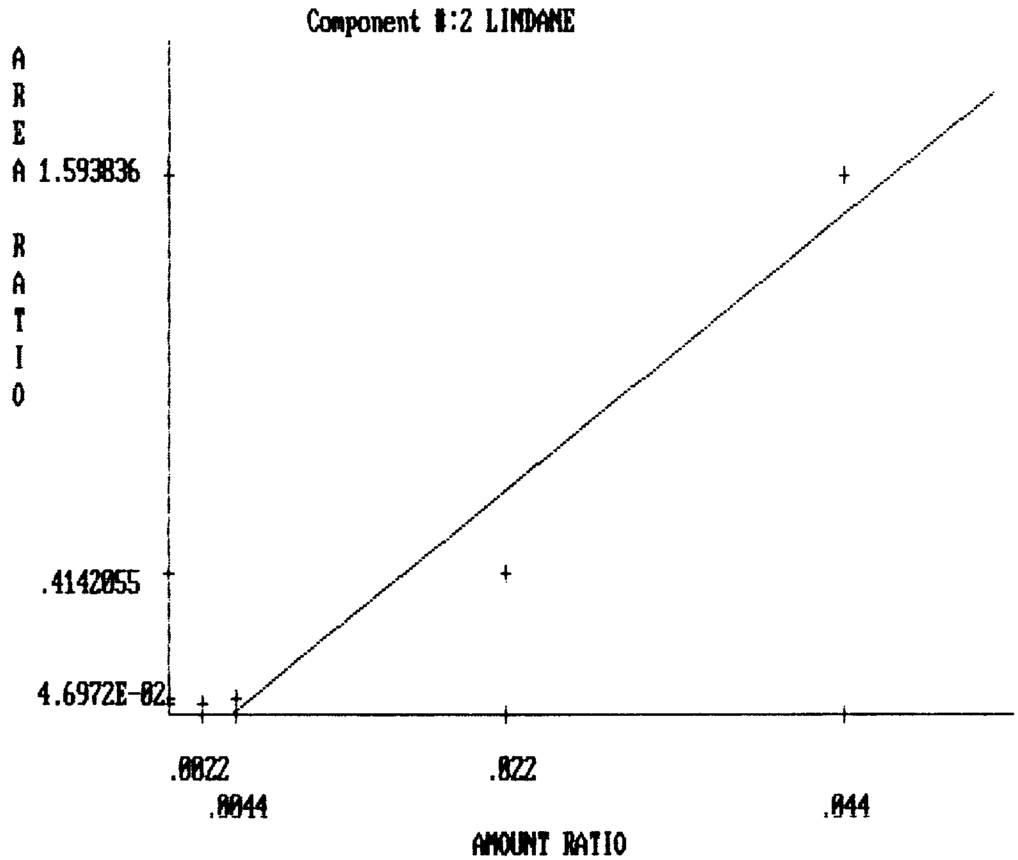
Method SPESTA4
Sample PESTICIDES
Operator AK
Run date 03-06-1989 09:38:50 version: 101
Printed on 03-06-1989 AT 09:44:03
Straight Line fit



Component 1 = ALPHA BHC
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0009	10492	0.0009	0.0226
2	0.0018	14962	0.0018	0.0329
3	0.0100	99219	0.0100	0.1981
4	0.0180	161163	0.0180	0.4365

Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 2.4013E+01 * Amt ratio + -1.1786E-02
Amt ratio = 4.1644E-02 * Area ratio + 4.9082E-04
Correlation Coefficient = 0.9881

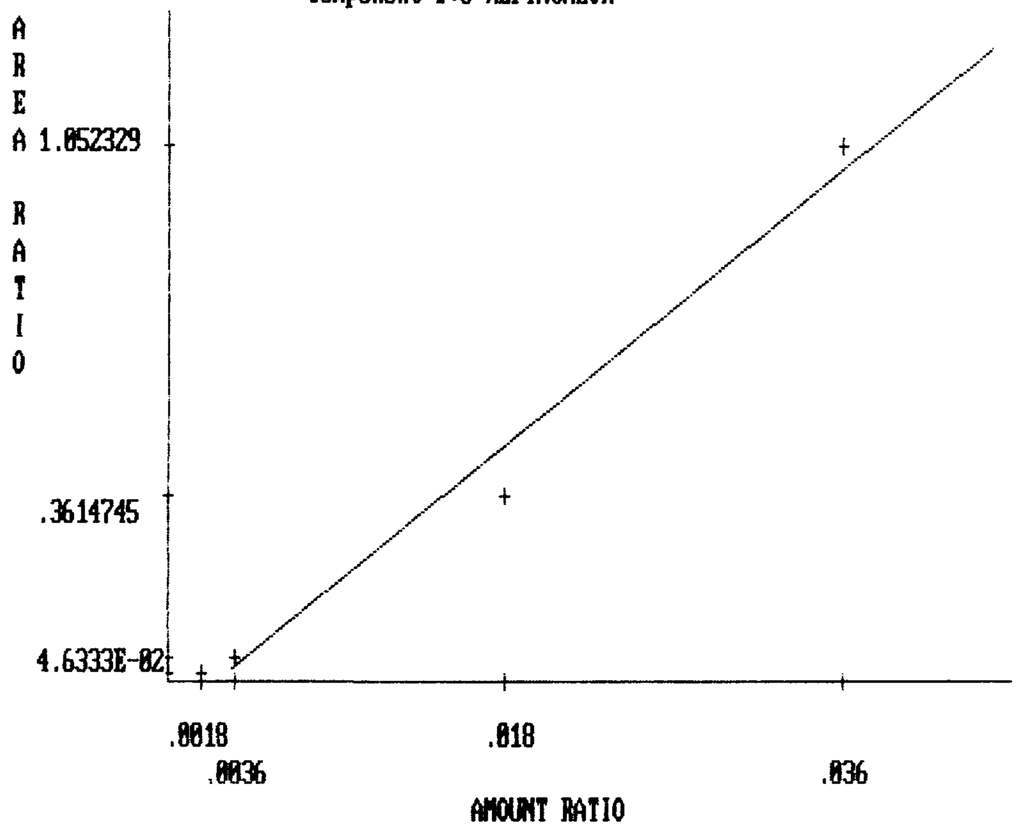


Component 2 = LINDANE
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0022	14064	0.0022	0.0303
2	0.0044	21339	0.0044	0.0470
3	0.0220	207491	0.0220	0.4142
4	0.0440	588497	0.0440	1.5938

Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 3.6988E+01 * Amt ratio + -1.5001E-01
Amt ratio = 2.7036E-02 * Area ratio + 4.0556E-03
Correlation Coefficient = 0.9467

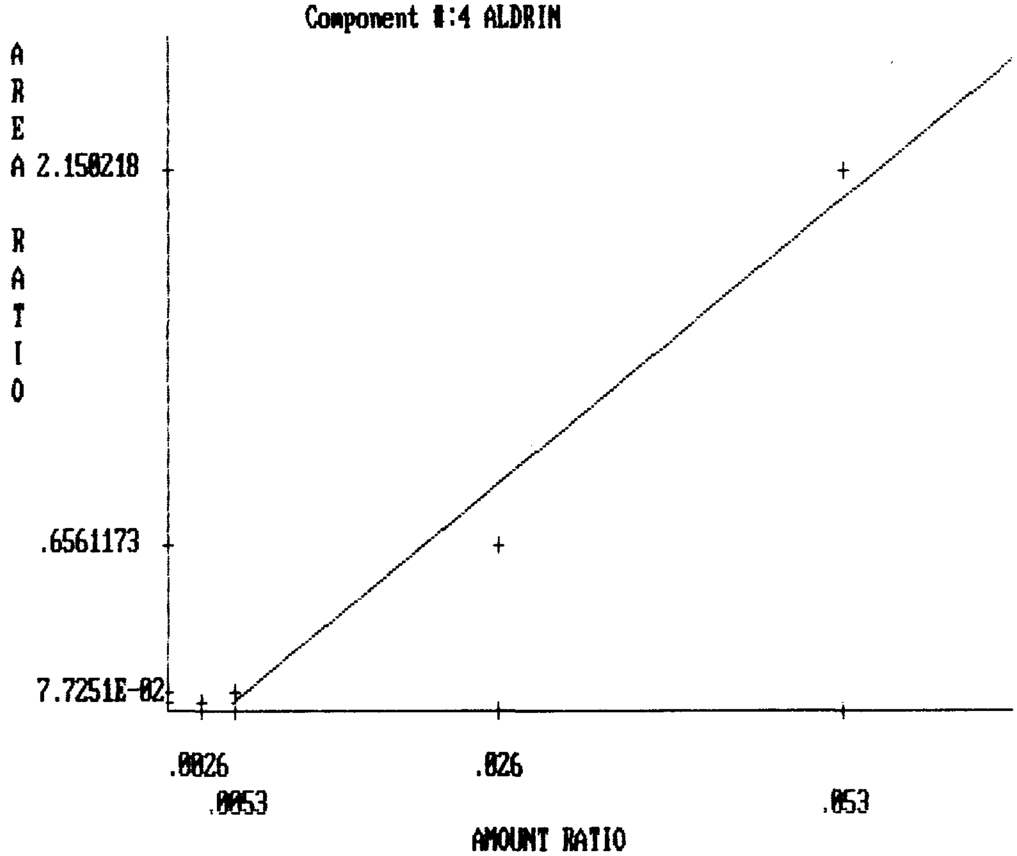
Component #:3 HEPTACHLOR



Component 3 = HEPTACHLOR
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0018	8198	0.0018	0.0176
2	0.0036	21049	0.0036	0.0463
3	0.0180	181076	0.0180	0.3615
4	0.0360	388555	0.0360	1.0523

Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 3.0027E+01 * Amt ratio + -7.6463E-02
Amt ratio = 3.3303E-02 * Area ratio + 2.5465E-03
Correlation Coefficient = 0.9789



Component 4 = ALDRIN

INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0026	14531	0.0026	0.0313
2	0.0053	35094	0.0053	0.0773
3	0.0260	328673	0.0260	0.6561
4	0.0530	793931	0.0530	2.1502

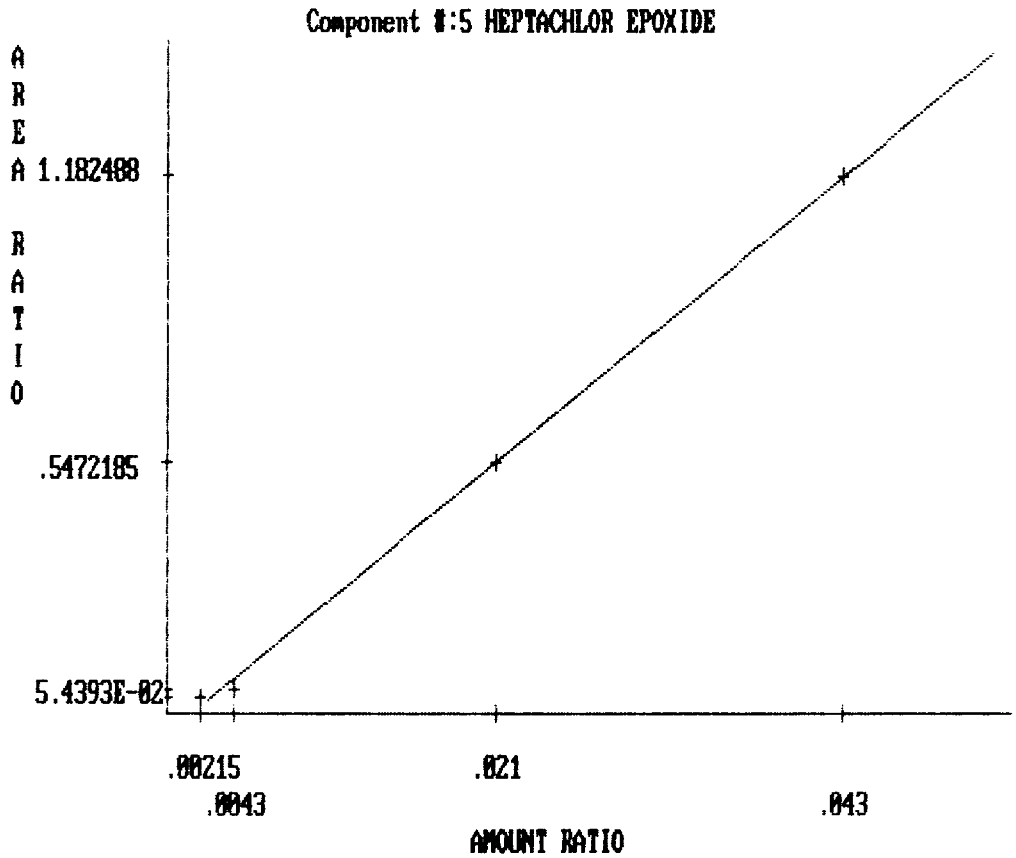
Y = SLOPE * X + INTERCEPT

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Area ratio = 4.1782E+01 * Amt ratio + -1.7900E-01

Amt ratio = 2.3934E-02 * Area ratio + 4.2842E-03

Correlation Coefficient = 0.9701



Component 5 = HEPTACHLOR EPOXIDE

INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0022	16734	0.0022	0.0360
2	0.0043	24710	0.0043	0.0544
3	0.0210	274122	0.0210	0.5472
4	0.0430	436614	0.0430	1.1825

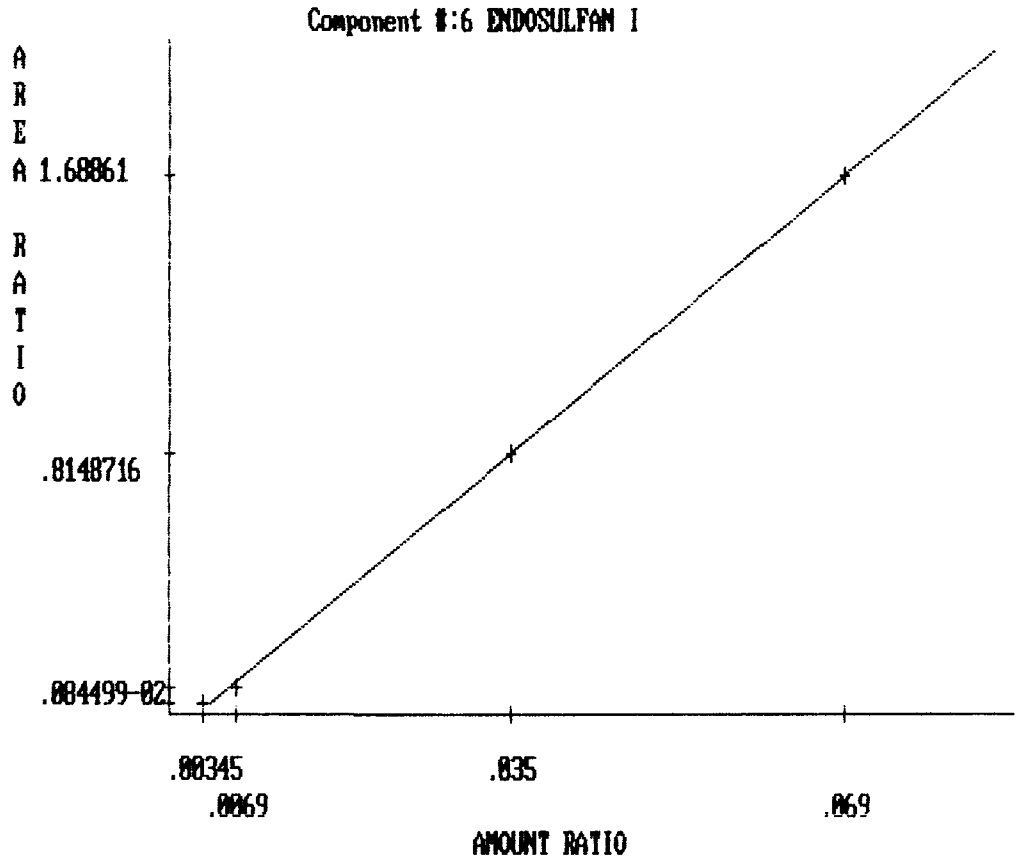
Y = SLOPE * X + INTERCEPT

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Area ratio = 2.8530E+01 * Amt ratio + -4.7464E-02

Amt ratio = 3.5051E-02 * Area ratio + 1.6636E-03

Correlation Coefficient = 0.9989



Component 6 = ENDOSULFAN I

INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0035	16415	0.0035	0.0353
2	0.0069	38387	0.0069	0.0845
3	0.0350	408199	0.0350	0.8149
4	0.0690	623491	0.0690	1.6886

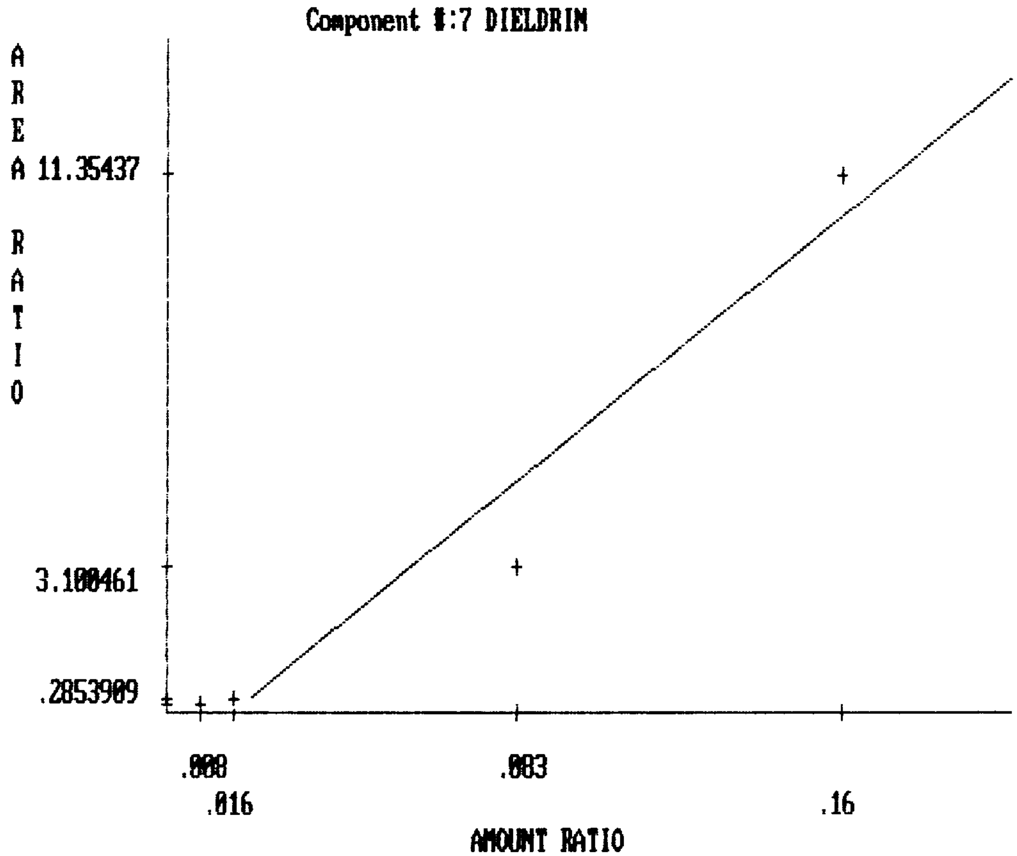
Y = SLOPE * X + INTERCEPT

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Area ratio = 2.5480E+01 * Amt ratio + -7.2586E-02

Amt ratio = 3.9246E-02 * Area ratio + 2.8487E-03

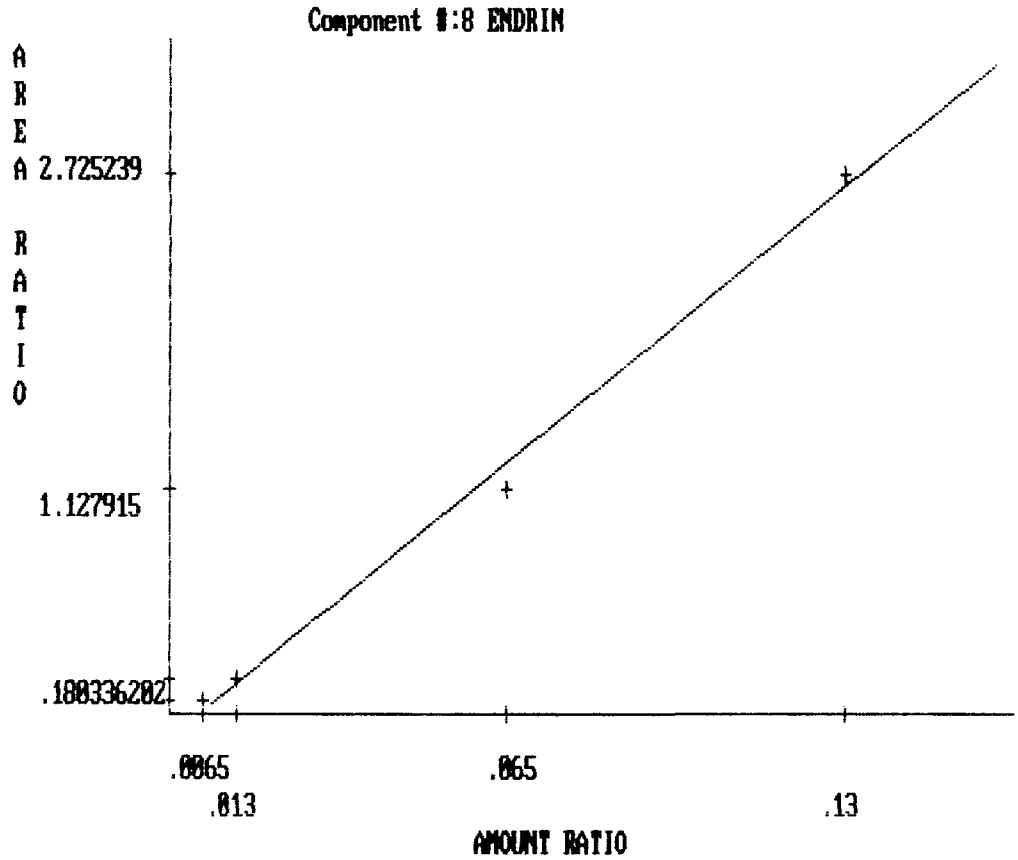
Correlation Coefficient = 0.9996



Component 7 = DIELDRIN
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0080	71899	0.0080	0.1547
2	0.0160	129649	0.0160	0.2854
3	0.0830	1553135	0.0830	3.1005
4	0.1600	4192407	0.1600	11.3544

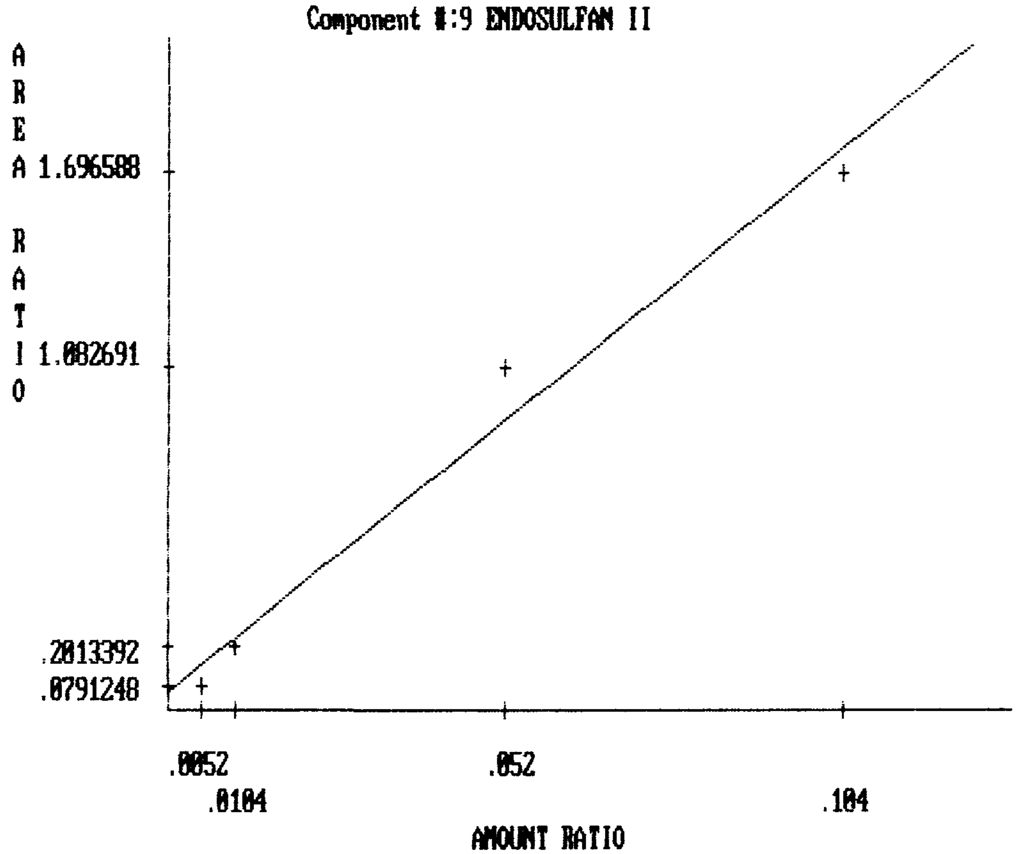
Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 7.2438E+01 * Amt ratio + -1.1115E+00
Amt ratio = 1.3805E-02 * Area ratio + 1.5344E-02
Correlation Coefficient = 0.9455



Component 8 = ENDRIN
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0065	29075	0.0065	0.0625
2	0.0130	81924	0.0130	0.1803
3	0.0650	565014	0.0650	1.1279
4	0.1300	1006248	0.1300	2.7252

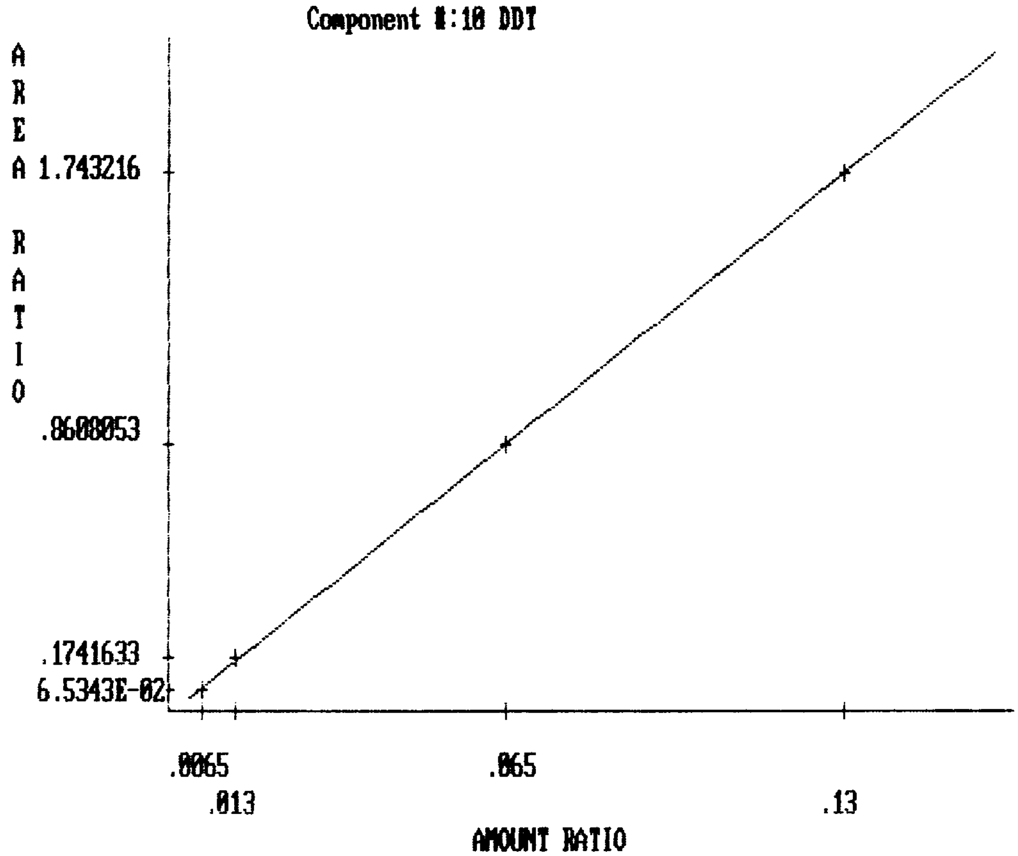
Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 2.1426E+01 * Amt ratio + -1.2496E-01
Amt ratio = 4.6672E-02 * Area ratio + 5.8321E-03
Correlation Coefficient = 0.9941



Component 9 = ENDOSULFAN II
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0052	36779	0.0052	0.0791
2	0.0104	91465	0.0104	0.2013
3	0.0520	542360	0.0520	1.0827
4	0.1040	626436	0.1040	1.6966

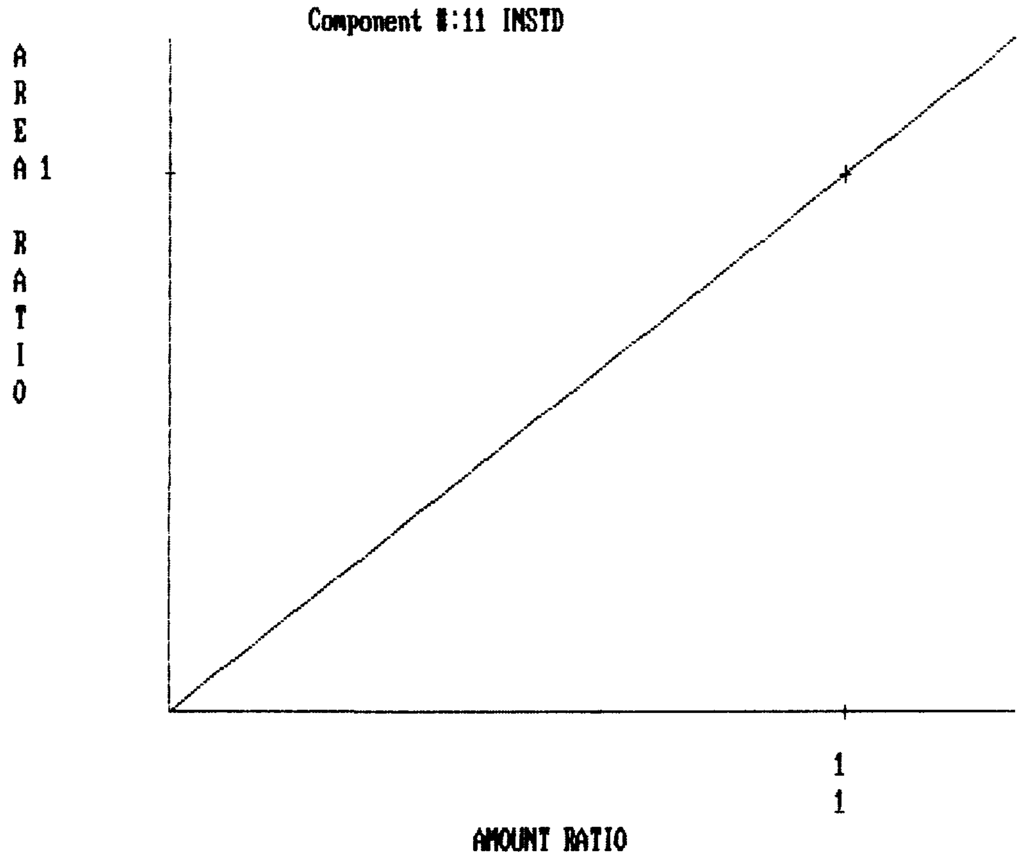
Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 1.6523E+01 * Amt ratio + 5.6106E-02
Amt ratio = 6.0522E-02 * Area ratio + -3.3957E-03
Correlation Coefficient = 0.9779



Component 10 = DDT
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0065	30374	0.0065	0.0653
2	0.0130	79120	0.0130	0.1742
3	0.0650	431209	0.0650	0.8608
4	0.1300	643653	0.1300	1.7432

Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 1.3502E+01 * Amt ratio + -1.3166E-02
Amt ratio = 7.4063E-02 * Area ratio + 9.7510E-04
Correlation Coefficient = 0.9999



Component 11 = INSTD
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	1.0000	464827	1.0000	1.0000
2	1.0000	454285	1.0000	1.0000
3	1.0000	500937	1.0000	1.0000
4	1.0000	369233	1.0000	1.0000

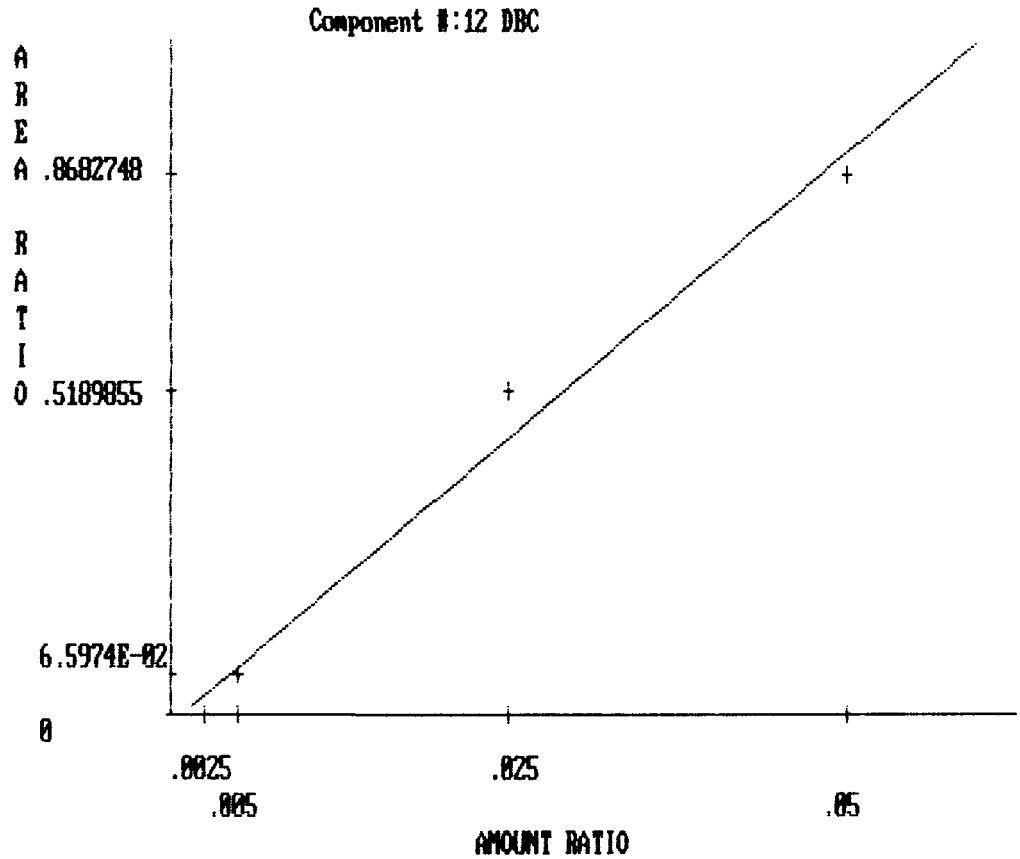
Y = SLOPE * X + INTERCEPT

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Area ratio = 1.0000E+00 * Amt ratio + 0.0000E+00

Amt ratio = 1.0000E+00 * Area ratio + 0.0000E+00

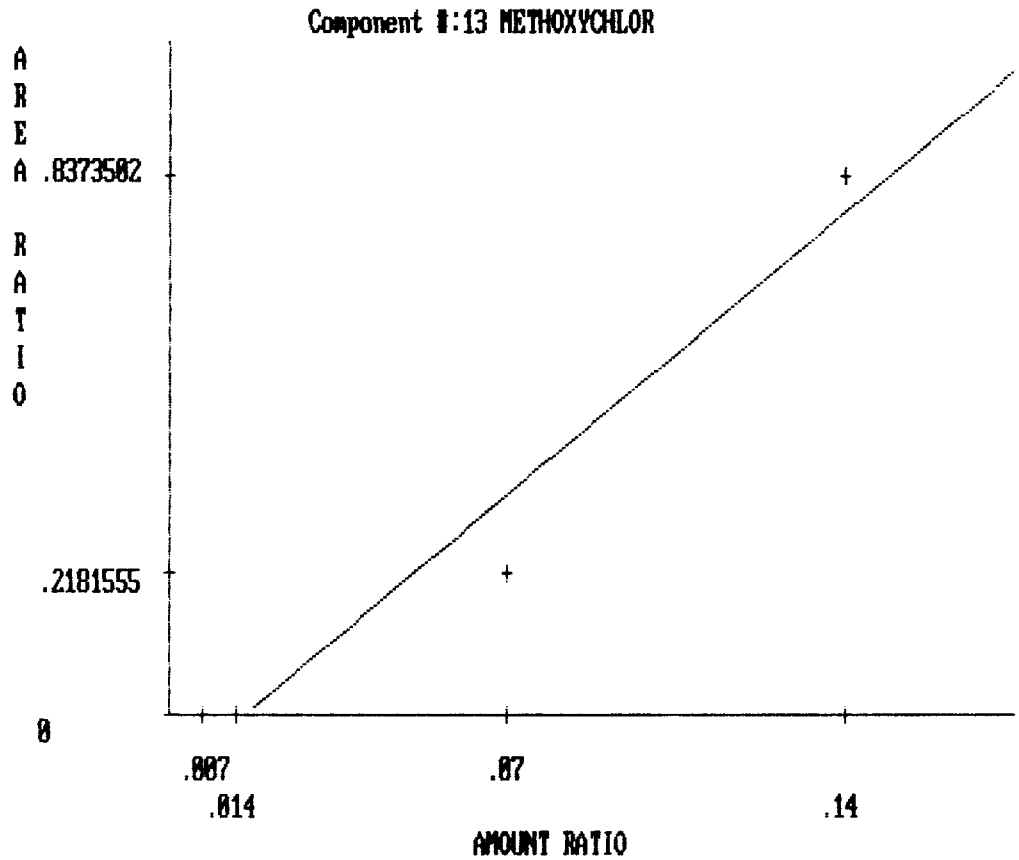
Correlation Coefficient = 0.0000



Component 12 = DBC
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0025	0	0.0025	0.0000
2	0.0050	29971	0.0050	0.0660
3	0.0250	259979	0.0250	0.5190
4	0.0500	320596	0.0500	0.8683

First Area is zero. This compound is not calibrated.



Component 13 = METHOXYCHLOR
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0070	0	0.0070	0.0000
2	0.0140	0	0.0140	0.0000
3	0.0700	109282	0.0700	0.2182
4	0.1400	309177	0.1400	0.8374

First Area is zero. This compound is not calibrated.

****** INTERNAL STANDARD TABLE ******

********** 03-06-1989 13:48:09 Version 4.1 **********

* Sample Name: STD 1242 LEVEL 1 Data File: I:FP19 *

* Date: 03-03-1989 09:38:51 Method: SAR424 03-06-1989 13:37:25 # 40 *

* Interface: 0 Cycle#: 19 Operator AK Channel#: 1 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *

* Solvent Description: NITROGEN *

* Conditions: ISOTHERMAL 200 C *

* Detector 0: ECD Conf. Detector 1: ECD Anal. *

* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE *

****

Starting Delay: 1.00 Ending retention time: 55.00

Area reject: 0 One sample per 1.002 sec.

Amount injected: 1.00 Dilution factor: 1.00

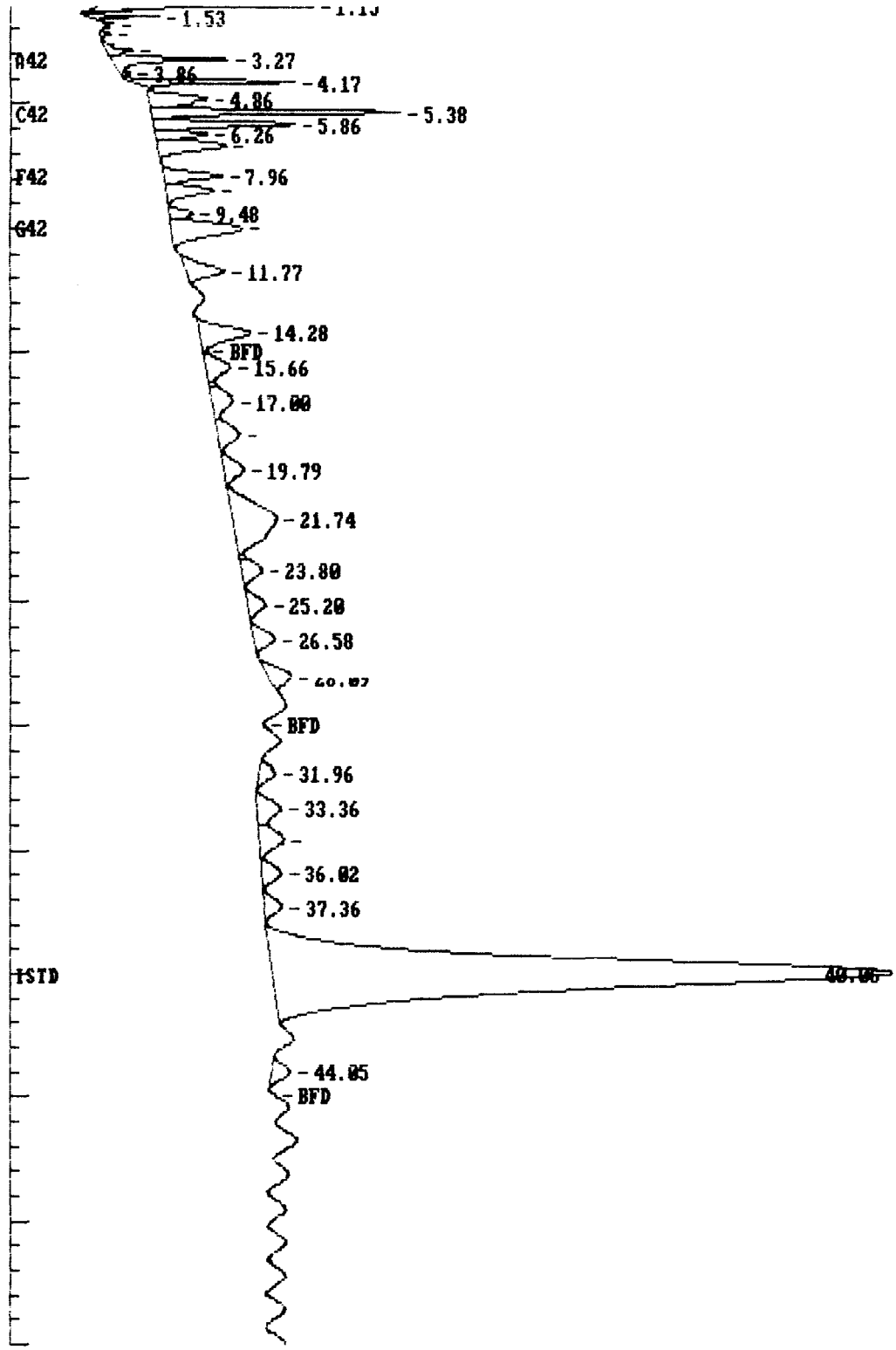
Internal Standard Amount: 1

Sample Weight: 1.000000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	3.27	A42	0.0517	13.3581%	8834	828	10.7	2	5	18	0	5.8516E-06
6	4.17	B42	0.0522	13.4925%	11853	1223	9.7	1	6	18	0	4.4051E-06
8	5.38	C42	0.0614	15.8654%	20697	1770	11.7	1	8	18	0	2.9665E-06
9	5.86	D42	0.0582	15.0475%	14462	990	14.6	2	9	18	0	4.0265E-06
11	6.76	E42	0.0502	12.9661%	12685	492	25.8	2	11	18	0	3.9558E-06
12	7.96	F42	0.0502	12.9623%	8375	435	19.3	2	12	18	0	5.9895E-06
15	10.05	G42	0.0631	16.3082%	16257	493	33.0	2	15	18	0	3.8821E-06
18	40.06	ISTD	1.0000	0.0000%	407306	4716	86.4	1	18	18	0	2.4552E-06

TOTAL AMOUNT = 0.3870

Data File = I:FP19.PTS Printed on 03-06-1989 at 13:49:55
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 6228 uv High Value: 12498 uv Scale factor: 1.0



****** INTERNAL STANDARD TABLE ******

********** 03-06-1989 13:52:35 Version 4.1 **********

* Sample Name: STD 1242 LEVEL 2 Data File: I:FP20 *
* Date: 03-03-1989 10:35:25 Method: SAR424 03-06-1989 13:37:25 # 40 *
* Interface: 0 Cycle#: 20 Operator AK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE *

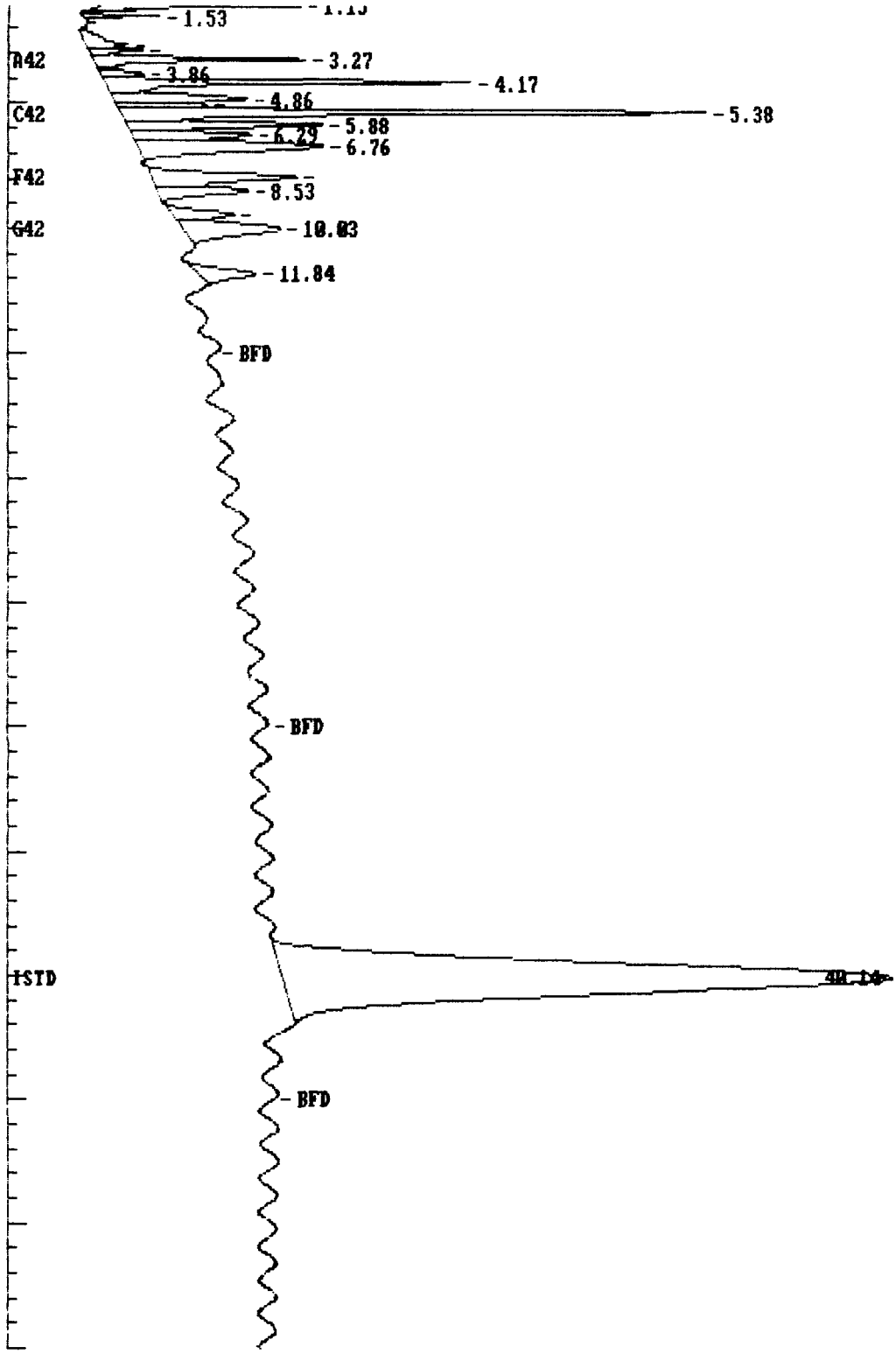
****

Starting Delay: 1.00 Ending retention time: 55.00
Area reject: 0 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Internal Standard Amount: 1
Sample Weight: 1.000000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	3.27	A42	0.1042	14.0197%	18398	1636	11.2	2	5	19	0	5.6630E-06
7	4.17	B42	0.1150	15.4710%	35526	2826	12.6	2	7	19	0	3.2364E-06
10	5.38	C42	0.1085	14.6066%	64414	4523	14.2	2	10	19	0	1.6852E-06
11	5.88	D42	0.1002	13.4797%	26022	1515	17.2	2	11	19	0	3.8497E-06
13	6.76	E42	0.1124	15.1253%	40264	1434	28.1	2	13	19	0	2.7917E-06
14	7.96	F42	0.1155	15.5396%	25096	1120	22.4	2	14	19	0	4.6016E-06
17	10.03	G42	0.0874	11.7580%	24048	742	32.4	2	17	19	0	3.6336E-06
19	40.14	ISTD	1.0000	0.0000%	404406	4700	86.0	1	19	19	0	2.4728E-06

TOTAL AMOUNT = 0.7432

Data File = I:FP20.PTS Printed on 03-06-1989 at 13:53:11
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 6159 uv High Value: 12451 uv Scale factor: 1.0

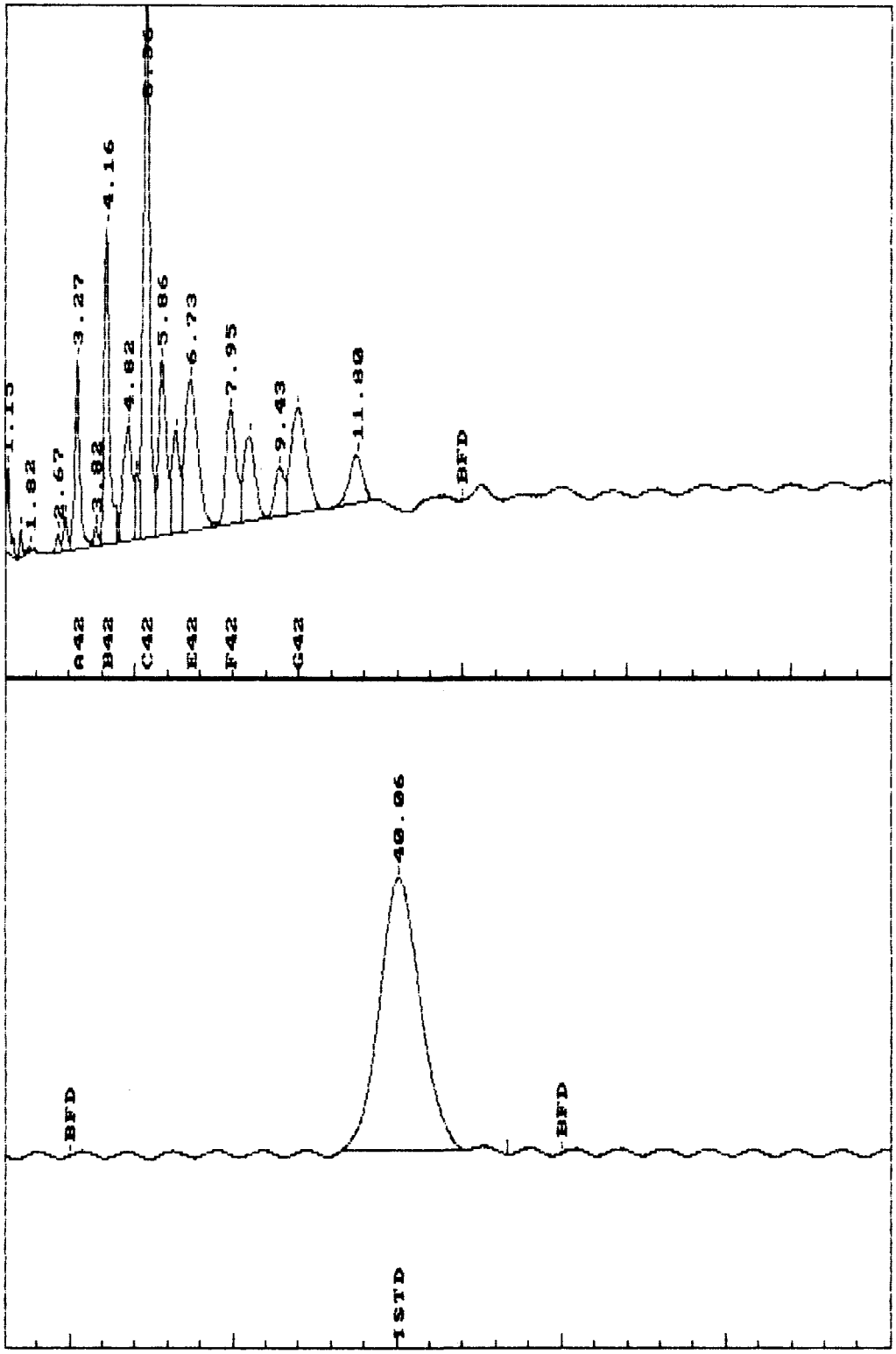


```
******    INTERNAL STANDARD TABLE    ******
******************** 03-06-1989 13:55:21 Version 4.1 **********************
* Sample Name: STD 1242 LEVEL 3                    Data File: I:FP21        *
* Date: 03-03-1989 11:32:12 Method: SAR424 03-06-1989 13:37:25  #  40      *
* Interface: 0   Cycle#:  21   Operator AK  Channel#: 1    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100             *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED             *
*              Solvent Description: NITROGEN                               *
* Conditions: ISOTHERMAL 200 C                                             *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.        *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                          *
*************************************************************************
Starting Delay:    1.00                      Ending retention time:    55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
6	3.27	A42	0.1919	14.9089%	37855	3538	10.7	2	6	20	0	5.0686E-06
8	4.16	B42	0.1767	13.7309%	64664	5972	10.8	2	8	20	0	2.7328E-06
11	5.36	C42	0.1715	13.3262%	135023	10068	13.4	2	11	20	0	1.2702E-06
12	5.86	D42	0.1874	14.5627%	55204	3274	16.9	2	12	20	0	3.3950E-06
14	6.73	E42	0.1832	14.2345%	78767	2830	27.8	2	14	20	0	2.3258E-06
15	7.95	F42	0.1791	13.9173%	45501	2141	21.3	2	15	20	0	3.9365E-06
18	10.00	G42	0.1972	15.3196%	65669	1989	33.0	2	18	20	0	3.0023E-06
20	40.06	ISTD	1.0000	0.0000%	444007	5157	86.1	1	20	20	0	2.2522E-06

TOTAL AMOUNT = 1.2870

Data File = I:FP21.PTS Printed on 03-06-1989 at 13:55:40
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 6065 uv High Value: 16562 uv Scale factor: 1.0

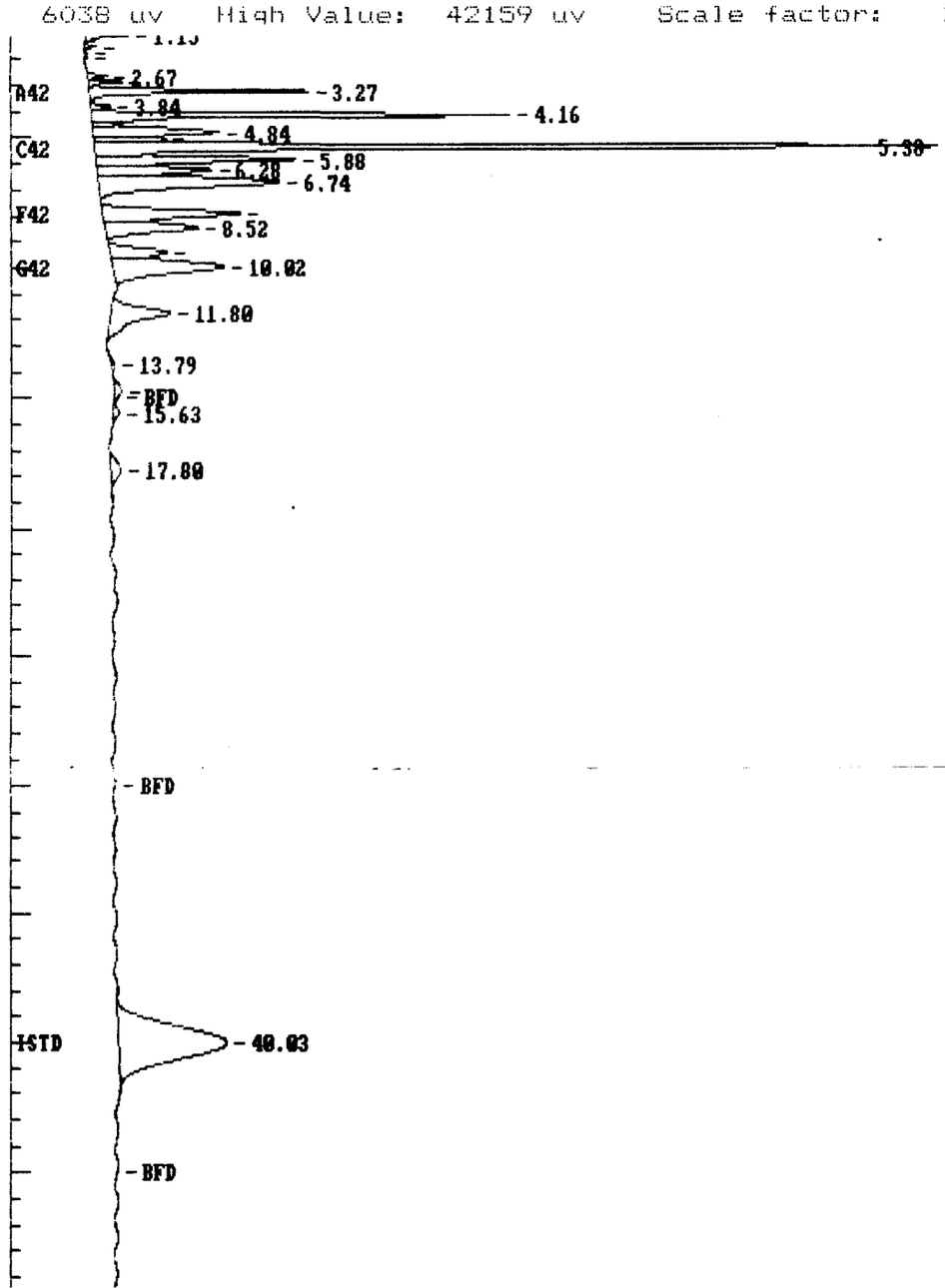


```
******   INTERNAL STANDARD TABLE   ******
******************** 03-06-1989 14:03:16 Version 4.1 **********************
* Sample Name: STD 1242 LEVEL 4                    Data File: I:FP23        *
* Date: 03-03-1989 13:25:06 Method: SAR424 03-06-1989 13:37:25  #  40      *
* Interface: 0   Cycle#:  23   Operator AK  Channel#: 1    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100             *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED             *
*              Solvent Description: NITROGEN                               *
* Conditions: ISOTHERMAL 200 C                                             *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE       1:MIXED PHASE 0    *
*************************************************************************
Starting Delay:    1.00                      Ending retention time:    55.00
Area reject:         0                       One sample per    1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

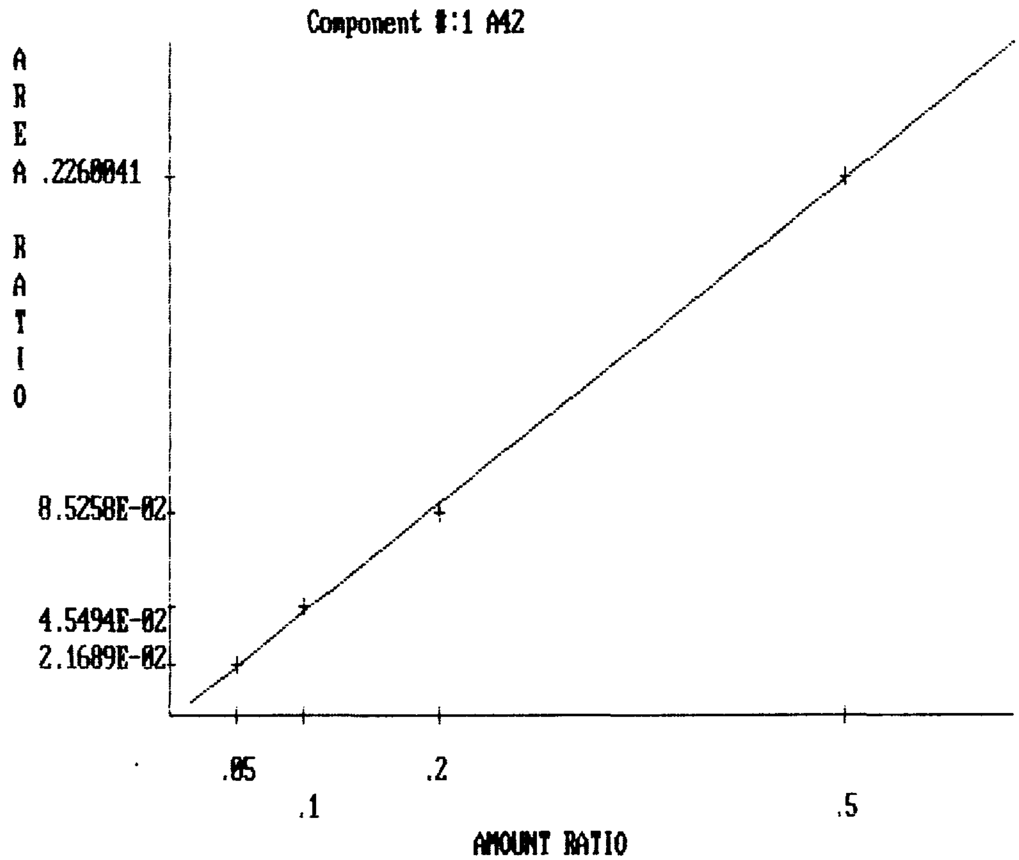
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
7	3.27	A42	0.5022	14.2163%	89321	9272	9.6	2	7	25	0	5.6229E-06
9	4.16	B42	0.5061	14.3254%	179412	17695	10.1	2	9	25	0	2.8209E-06
12	5.38	C42	0.5085	14.3947%	426604	35677	12.0	2	12	25	0	1.1921E-06
13	5.88	D42	0.5042	14.2709%	135214	8453	16.0	2	13	25	0	3.7287E-06
15	6.74	E42	0.5042	14.2723%	209616	7695	27.2	2	15	25	0	2.4055E-06
16	7.95	F42	0.5052	14.3011%	122380	5847	20.9	2	16	25	0	4.1285E-06
19	10.02	G42	0.5023	14.2193%	155620	4726	32.9	2	19	25	0	3.2281E-06
25	40.03	ISTD	1.0000	0.0000%	395218	4579	86.3	1	25	25	0	2.5303E-06

TOTAL AMOUNT = 3.5329

```
Data File = I:FP23.PTS  Printed on 03-06-1989 at 14:03:55
Start time:     1.00 min.  Stop time:    55.01 min.     Offset:    0 mv.
Low Value:     6038 uv   High Value:  42159 uv    Scale factor:    1.0
```



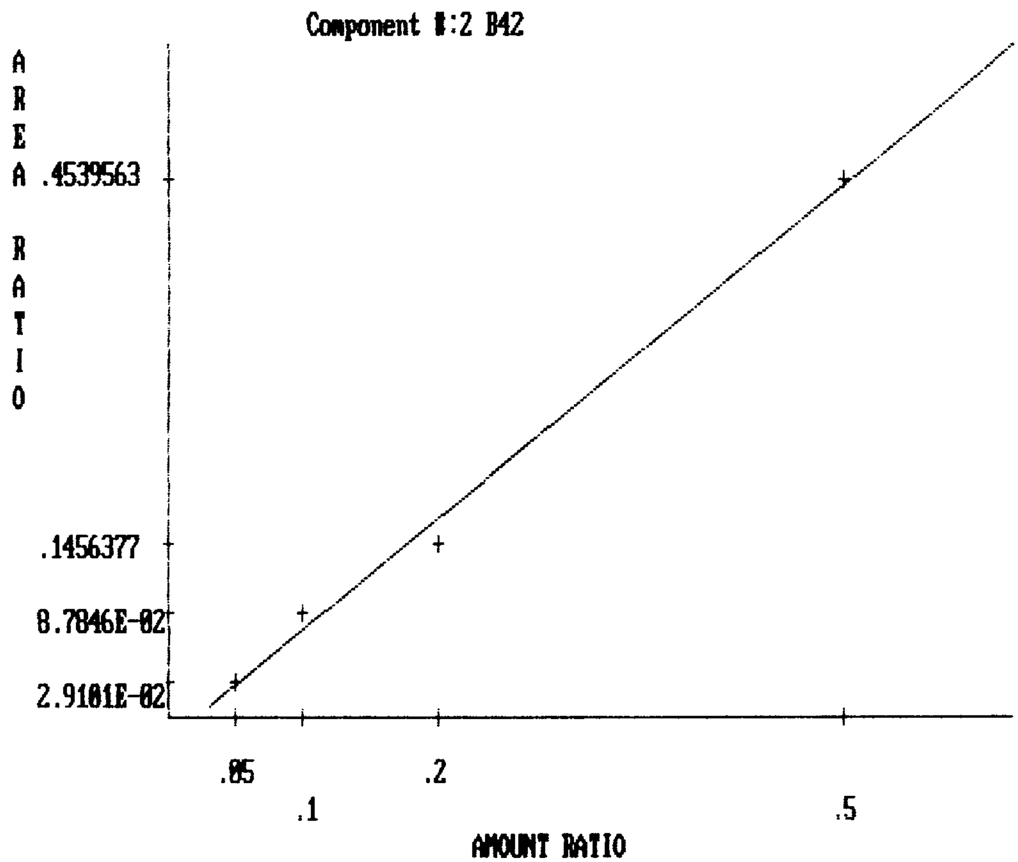
Method SAR424
Sample AR042
Operator
Run date 03-06-1989 13:37:25 version: 40
Printed on 03-06-1989 AT 13:38:15
Straight Line fit



Component 1 = A42
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0500	8834	0.0500	0.0217
2	0.1000	18398	0.1000	0.0455
3	0.2000	37855	0.2000	0.0853
4	0.5000	89321	0.5000	0.2260

Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 4.5348E-01 * Amt ratio + -1.7529E-03
Amt ratio = 2.2052E+00 * Area ratio + 3.8655E-03
Correlation Coefficient = 0.9993



Component 2 = B42

INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0500	11853	0.0500	0.0291
2	0.1000	35526	0.1000	0.0878
3	0.2000	64664	0.2000	0.1456
4	0.5000	179412	0.5000	0.4540

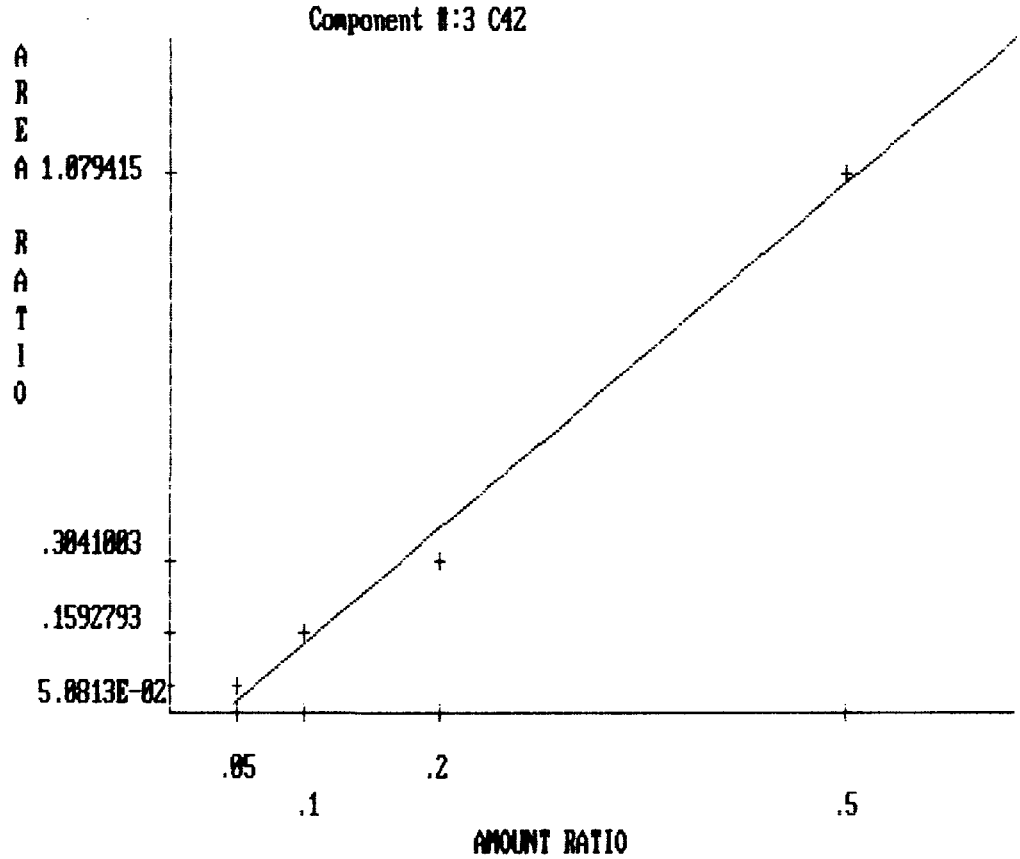
Y = SLOPE * X + INTERCEPT

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Area ratio = 9.3604E-01 * Amt ratio + -1.9774E-02

Amt ratio = 1.0683E+00 * Area ratio + 2.1125E-02

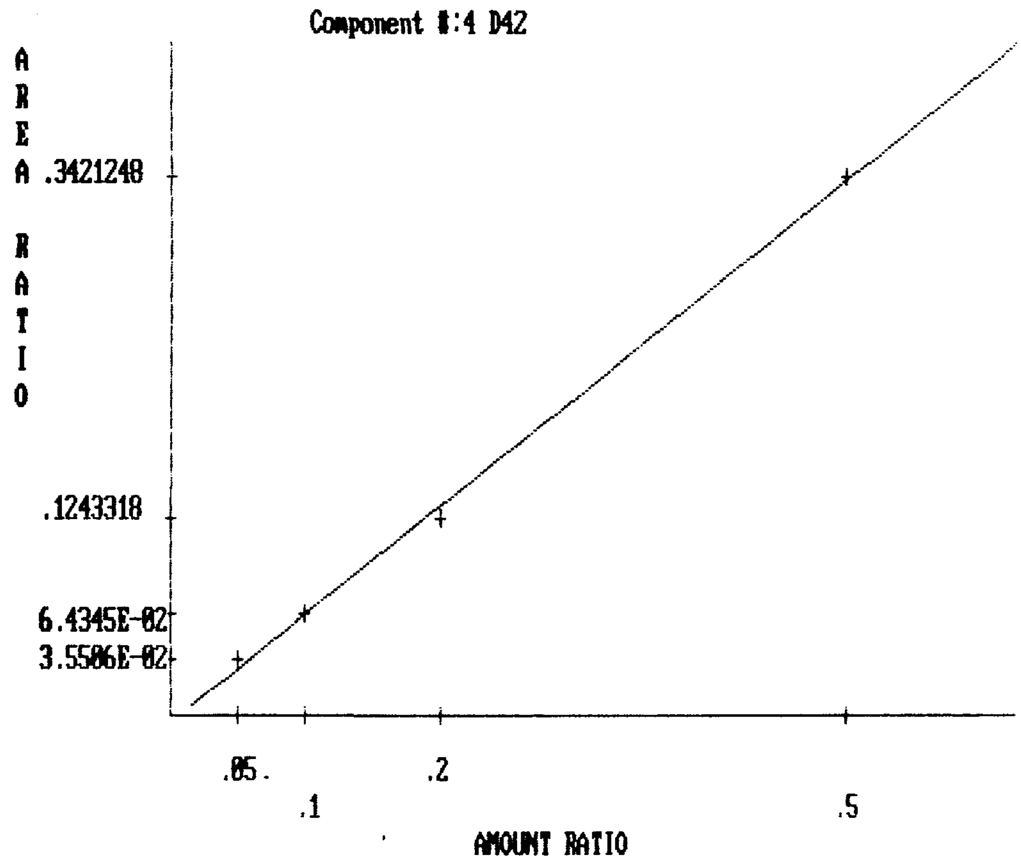
Correlation Coefficient = 0.9934



Component 3 = C42
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0500	20697	0.0500	0.0508
2	0.1000	64414	0.1000	0.1593
3	0.2000	135023	0.2000	0.3041
4	0.5000	426604	0.5000	1.0794

Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 2.3003E+00 * Amt ratio + -9.0421E-02
Amt ratio = 4.3472E-01 * Area ratio + 3.9308E-02
Correlation Coefficient = 0.9912



Component 4 = D42

INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0500	14462	0.0500	0.0355
2	0.1000	26022	0.1000	0.0643
3	0.2000	55204	0.2000	0.1243
4	0.5000	135214	0.5000	0.3421

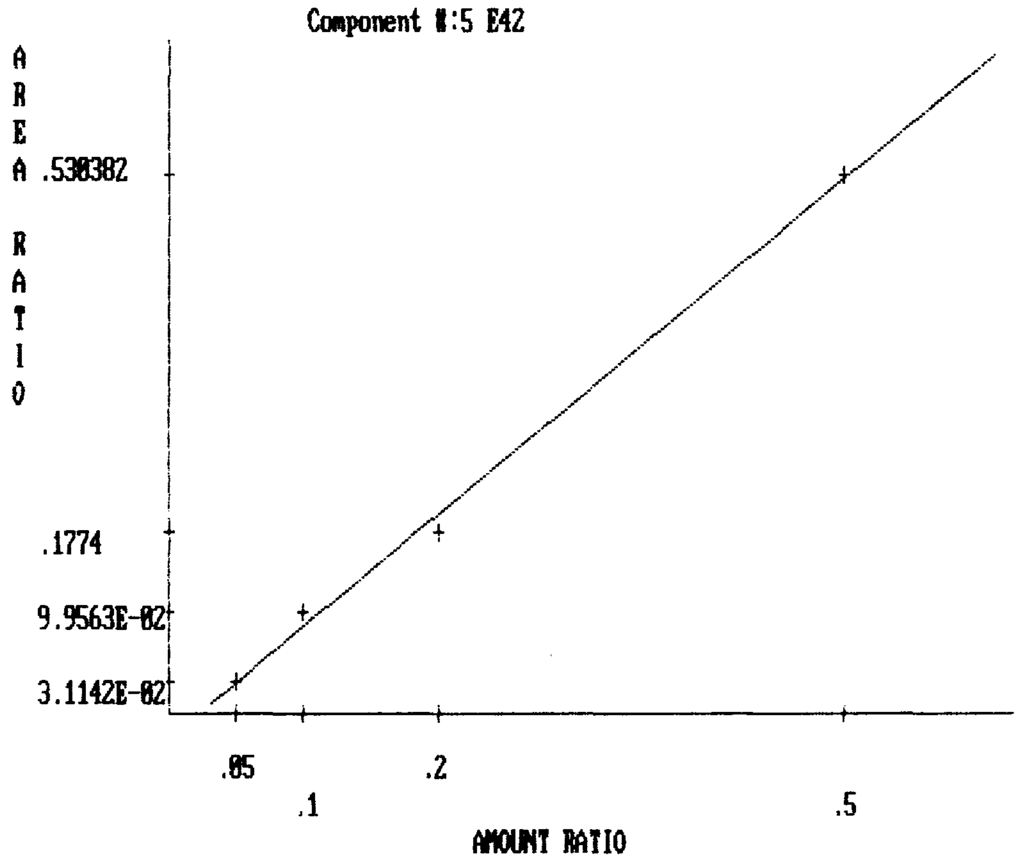
Y = SLOPE * X + INTERCEPT

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Area ratio = 6.8757E-01 * Amt ratio + -4.5320E-03

Amt ratio = 1.4544E+00 * Area ratio + 6.5914E-03

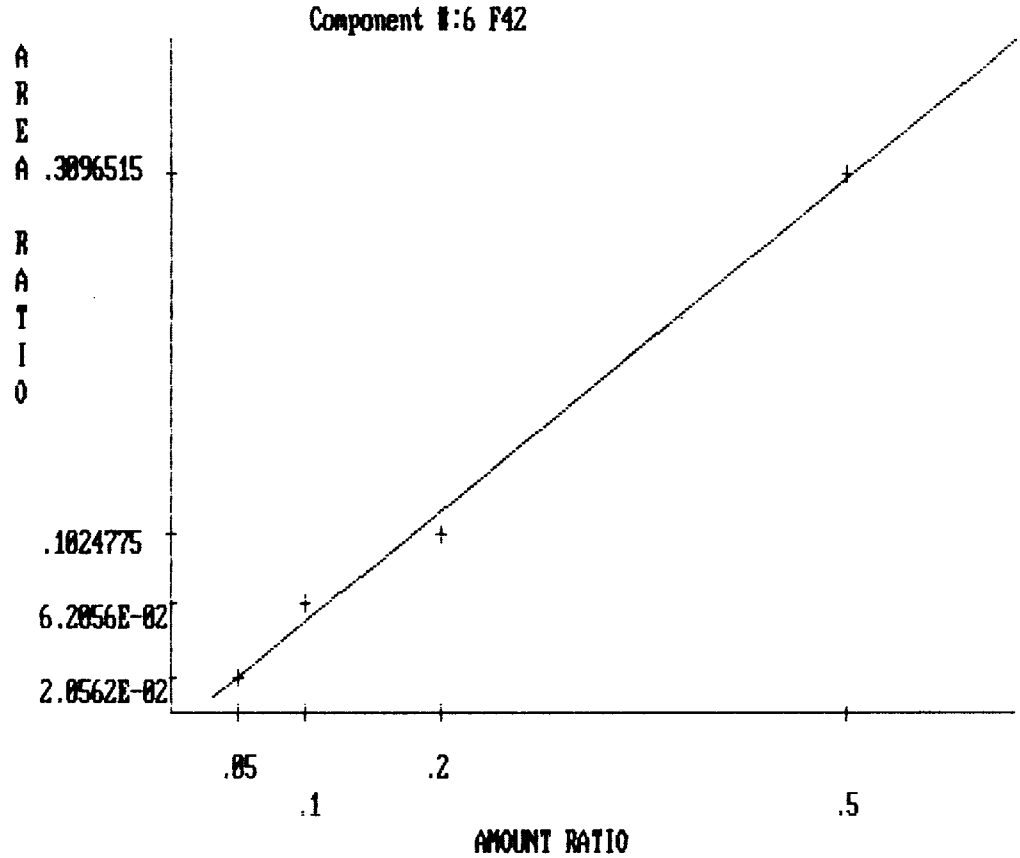
Correlation Coefficient = 0.9980



Component 5 = E42
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0500	12685	0.0500	0.0311
2	0.1000	40264	0.1000	0.0996
3	0.2000	78767	0.2000	0.1774
4	0.5000	209616	0.5000	0.5304

Y = SLOPE * X + INTERCEPT
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
Area ratio = 1.0995E+00 * Amt ratio + -2.4029E-02
Amt ratio = 9.0948E-01 * Area ratio + 2.1854E-02
Correlation Coefficient = 0.9963



Component 6 = F42
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0500	8375	0.0500	0.0206
2	0.1000	25096	0.1000	0.0621
3	0.2000	45501	0.2000	0.1025
4	0.5000	122380	0.5000	0.3097

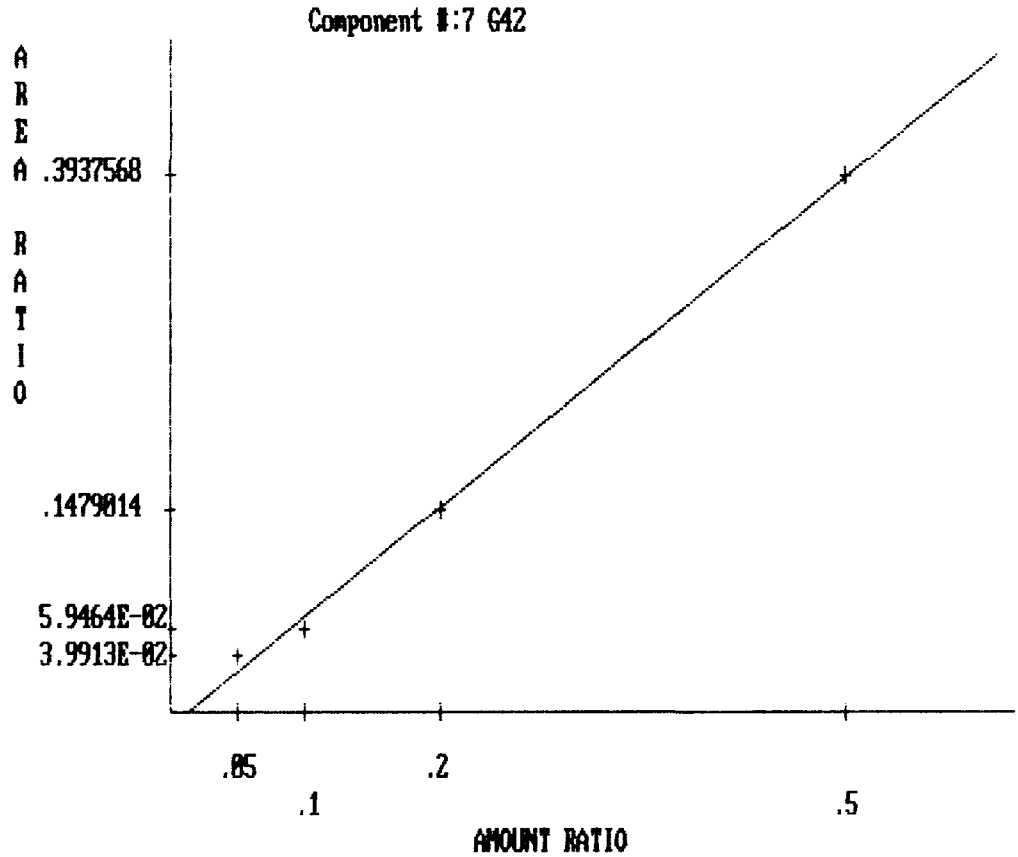
Y = SLOPE * X + INTERCEPT

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Area ratio = 6.3525E-01 * Amt ratio + -1.1304E-02

Amt ratio = 1.5742E+00 * Area ratio + 1.7794E-02

Correlation Coefficient = 0.9943



Component 7 = G42
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	0.0500	16257	0.0500	0.0399
2	0.1000	24048	0.1000	0.0595
3	0.2000	65669	0.2000	0.1479
4	0.5000	155620	0.5000	0.3938

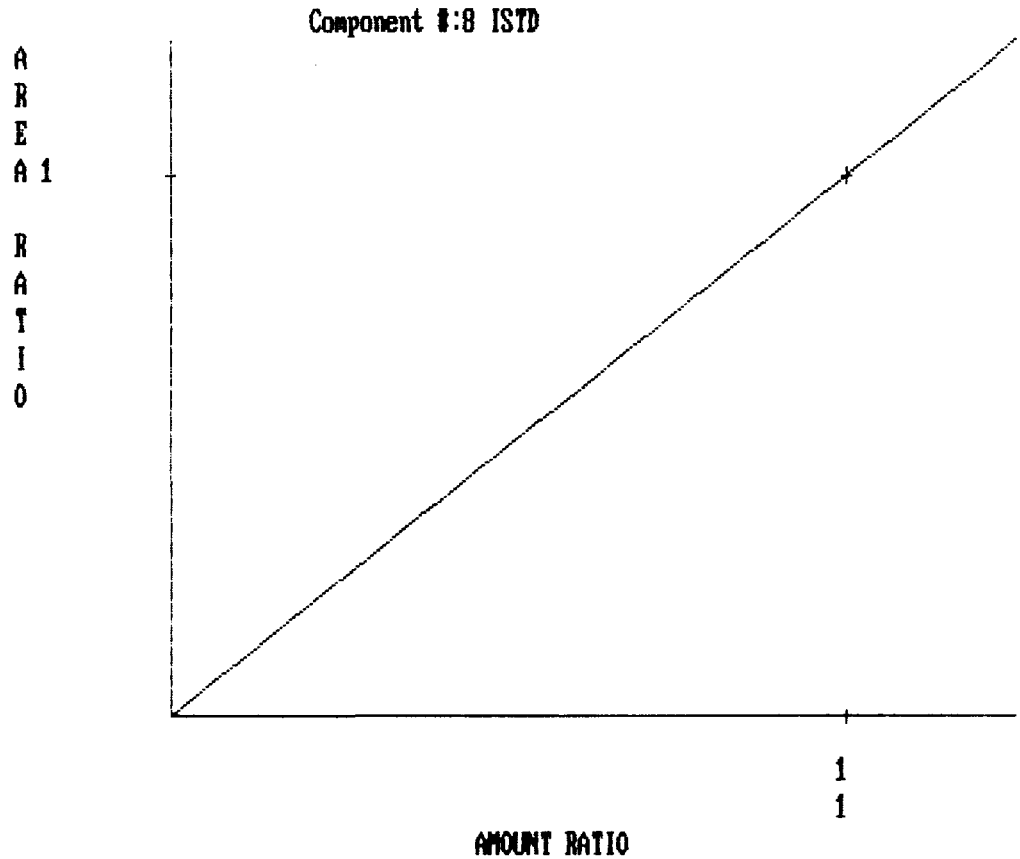
Y = SLOPE * X + INTERCEPT

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Area ratio = 8.0558E-01 * Amt ratio + -1.0928E-02

Amt ratio = 1.2413E+00 * Area ratio + 1.3565E-02

Correlation Coefficient = 0.9972



Component 8 = ISTD
INTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA	AMOUNT Ratio	AREA Ratio
1	1.0000	407306	1.0000	1.0000
2	1.0000	404406	1.0000	1.0000
3	1.0000	444007	1.0000	1.0000
4	1.0000	395218	1.0000	1.0000

Y = SLOPE * X + INTERCEPT

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Area ratio = 1.0000E+00 * Amt ratio + 0.0000E+00

Amt ratio = 1.0000E+00 * Area ratio + 0.0000E+00

Correlation Coefficient = 0.0000

Secondary Column

INTERNAL STANDARD TABLE

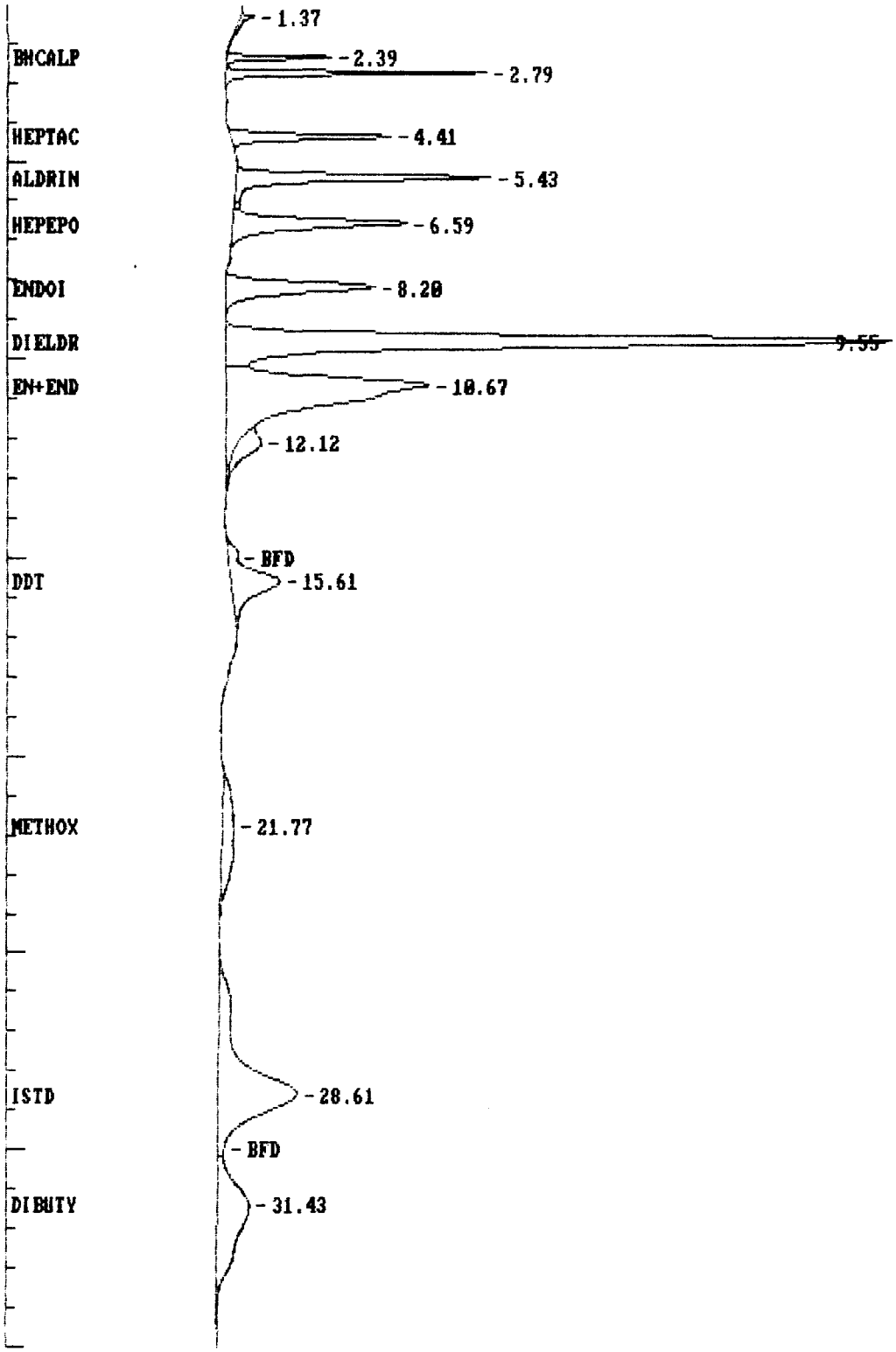
```
******************** 03-07-1989 13:29:59 Version 4.1 ********************
* Sample Name: PEST STD A LEVEL 3                Data File: I:EP22        *
* Date: 03-03-1989 12:28:36 Method: SPESACO 03-07-1989 12:41:34  #  9     *
* Interface: 0   Cycle#:  22   Operator AK  Channel#: 0    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: .01  Area Threshold: 100          *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED              *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE       1:MIXED PHASE 0   *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:    55.00
Area reject:        0                      One sample per    1.002 sec.
Amount injected:        1.00               Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	2.39	BHCALPHA	0.0100	1.4045%	6217	1023	6.1	2	2	13	0	1.6085E-06
3	2.79	LINDANE	0.0180	2.5281%	17112	2549	6.7	2	3	13	0	1.0519E-06
4	4.41	HEPTACHLOR	0.0180	2.5281%	16736	1577	10.6	1	4	13	0	1.0755E-06
5	5.43	ALDRIN	0.0260	3.6517%	32528	2498	13.0	2	5	13	0	7.9931E-07
6	6.59	HEPEPOXIDE	0.0210	2.9494%	30277	1719	17.6	2	6	13	0	6.9359E-07
7	8.20	ENDOI	0.0350	4.9157%	28827	1463	19.7	1	7	13	0	1.2141E-06
8	9.55	DIELDRIN	0.0830	11.6573%	137092	6533	21.0	2	8	13	0	6.0543E-07
9	10.67	EN+ENDOII	0.1170	16.4326%	97920	1994	49.1	3	9	13	0	1.1949E-06
11	15.61	DDT	0.0640	8.9888%	21964	476	46.1	1	11	13	0	2.9139E-06
12	21.77	METHOXYCHLOR	0.0700	9.8315%	16840	113	148.7	1	12	13	0	4.1569E-06
13	28.61	ISTD	1.0000	0.0000%	69020	769	89.8	2	13	13	0	1.4489E-05
14	31.43	DIBUTYLCHLORENDATE	0.2500	35.1124%	34808	308	112.8	2	14	13	0	7.1822E-06

TOTAL AMOUNT = 0.7120

Secondary column

Data File = I:EP22.PTS Printed on 03-07-1989 at 13:31:00
Start time: 1.00 min. Stop time: 35.00 min. Offset: 0 mv.
Low Value: 0 uv High Value: 7985 uv Scale factor: 1.0



Secondary Colm

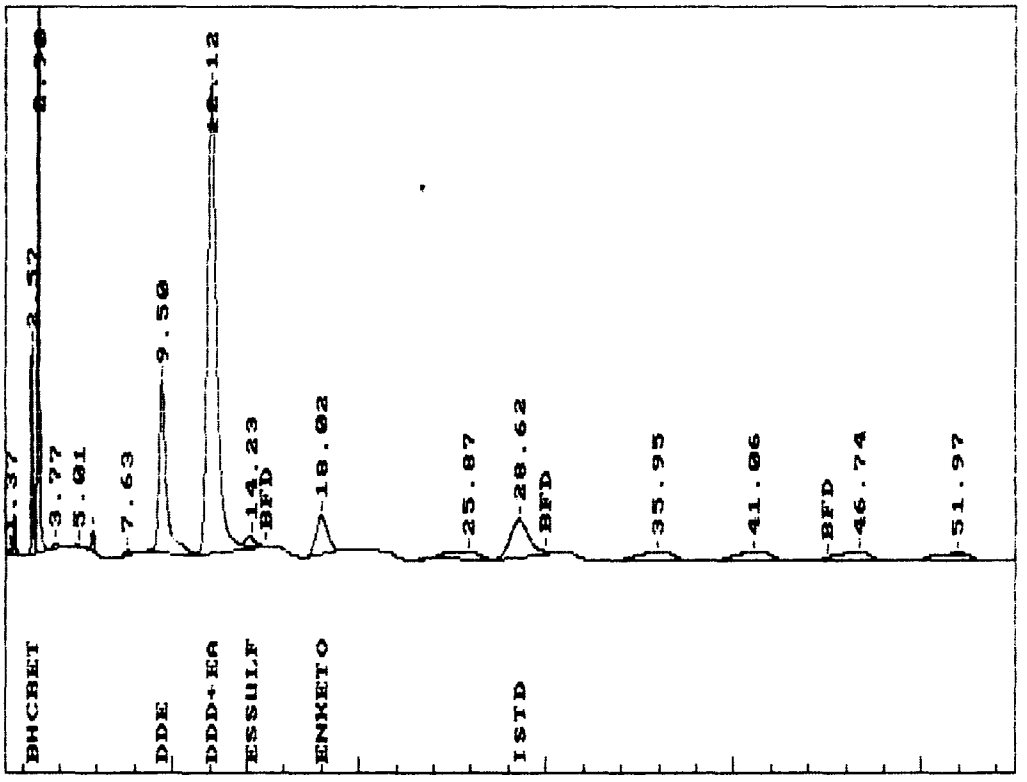
INTERNAL STANDARD TABLE

```
******************** 03-07-1989 14:30:27 Version 4.1 **********************
* Sample Name: PEST STD B LEVEL 3                Data File: I:EP16         *
* Date: 03-03-1989 06:49:12 Method: SPESBCO 03-07-1989 14:29:45  #  8      *
* Interface: 0   Cycle#:  16   Operator AK  Channel#: 0    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: .01  Area Threshold: 100           *
*************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED               *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                         *
*************************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
3	2.57	BHCBETA	0.0330	9.8507%	24896	3627	6.9	2	3	14	0	1.3255E-06
4	2.90	BHCDELTA	0.0330	9.8507%	68444	9605	7.1	2	4	14	0	4.8214E-07
9	9.50	DDE	0.0340	10.1493%	80242	2994	26.8	1	9	14	0	4.2372E-07
10	12.12	DDD+EA	0.1360	40.5970%	283772	8182	34.7	3	10	14	0	4.7926E-07
11	14.23	ESSULFATE	0.0330	9.8507%	5824	180	32.4	4	11	14	0	5.6666E-06
12	18.02	ENKETONE	0.0660	19.7015%	29126	676	43.1	1	12	14	0	2.2660E-06
14	28.62	ISTD	1.0000	0.0000%	46419	668	69.5	1	14	14	0	2.1543E-05

TOTAL AMOUNT = 0.3350

Data File = I:EP16.PTS Printed on 03-07-1989 at 14:30:45
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 0 uv High Value: 11144 uv Scale factor: 1.0



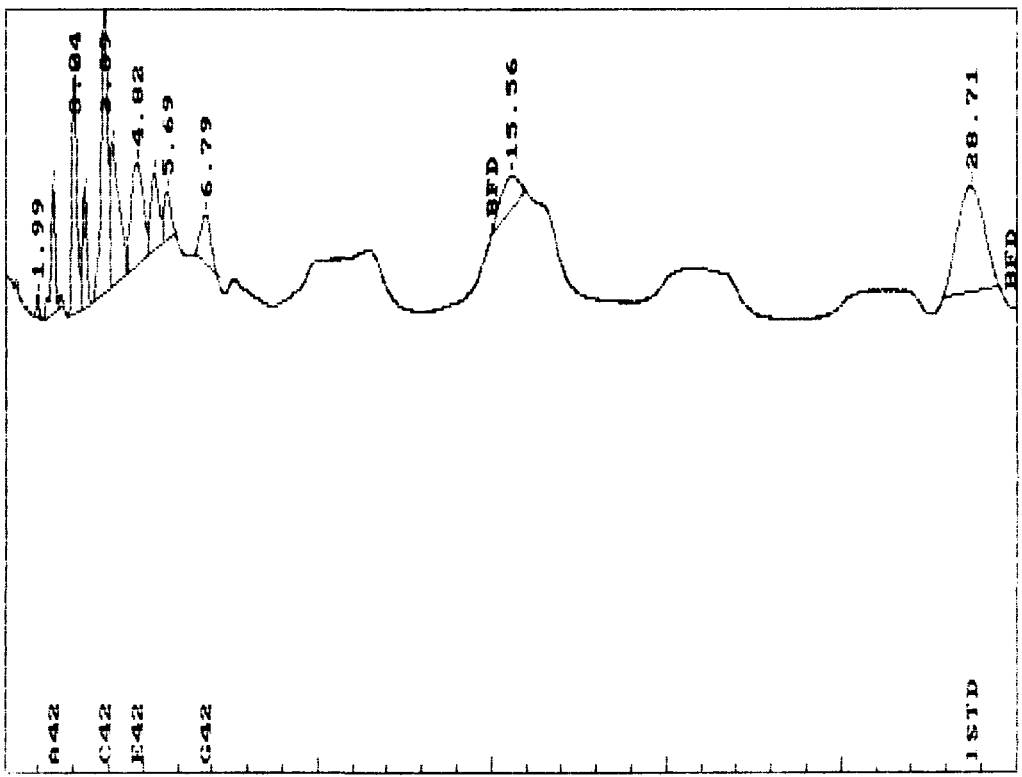
Secondary Column

```
*****     INTERNAL STANDARD TABLE     *****
******************** 03-07-1989 13:33:08 Version 4.1 ********************
* Sample Name: STD 1242 LEVEL 3                    Data File: I:EP21      *
* Date: 03-03-1989 11:32:15 Method: SCAR42 03-07-1989 13:28:20  #  14    *
* Interface: 0   Cycle#:  21   Operator AK  Channel#: 0    Vial#: N.A.   *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100           *
*************************************************************************
* Instrument Type: TRACOR                  Column Type: PACKED           *
*              Solvent Description: NITROGEN                             *
* Conditions: ISOTHERMAL 200 C                                           *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                        *
*************************************************************************
Starting Delay:    1.00                    Ending retention time:    55.00
Area reject:        0                      One sample per    1.002 sec.
Amount injected:        1.00               Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	2.44	A42	0.5000	14.2857%	4737	573	8.3	1	2	12	0	1.0554E-04
3	3.04	B42	0.5000	14.2857%	9879	1076	9.2	2	3	12	0	5.0611E-05
5	3.89	C42	0.5000	14.2857%	15847	1301	12.2	2	5	12	0	3.1551E-05
6	4.12	D42	0.5000	14.2857%	12054	650	18.5	2	6	12	0	4.1481E-05
7	4.82	E42	0.5000	14.2857%	11067	465	23.8	2	7	12	0	4.5179E-05
8	5.34	F42	0.5000	14.2857%	5881	350	16.8	2	8	12	0	8.5023E-05
10	6.79	G42	0.5000	14.2857%	4854	227	21.4	1	10	12	0	1.0301E-04
12	28.71	ISTD	1.0000	0.0000%	24657	475	51.9	1	12	12	0	4.0557E-05

TOTAL AMOUNT = 3.5000

Plot of data file: I:EP21.PTS
Date: 03-07-1989 Time: 13:34:00
Sample Name: STD 1242 LEVEL 3
Start Time= 1.02Stop Time = 30.01Min. Scale= 0Max. Scale= 2862



***** INTERNAL STANDARD TABLE *****

********** 03-06-1989 14:05:25 Version 4.1 **********

* Sample Name: PEST STD B LEVEL 3 Data File: I:FP16 *
* Date: 03-03-1989 06:49:10 Method: SPESTB 03-06-1989 11:39:11 # 67 *
* Interface: 0 Cycle#: 16 Operator AK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

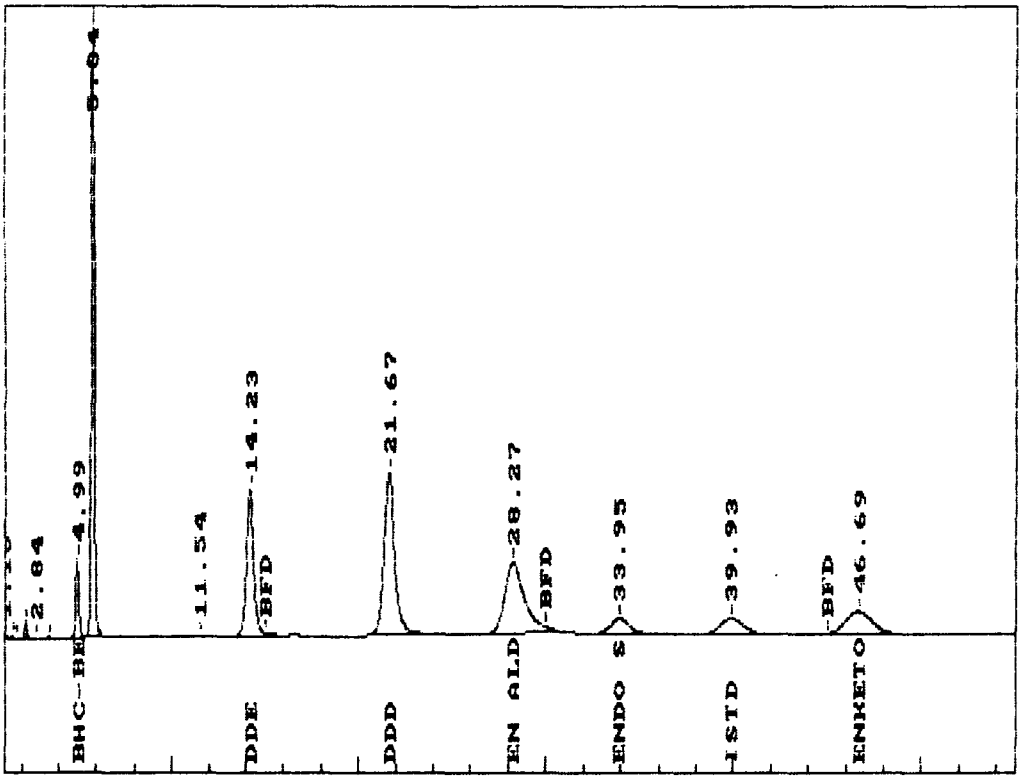
* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE *

Starting Delay: 1.00 Ending retention time: 55.00
Area reject: 0 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Internal Standard Amount: 1
Sample Weight: 1.000000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
7	4.99	BHC-BETA	0.0330	9.9698%	271091	24623	11.0	2	7	14	0	1.2173E-07
8	5.84	BHC-DELTA	0.0330	9.9698%	2263239	198771	11.4	2	8	14	0	1.4581E-08
10	14.23	DDE	0.0340	10.2719%	1223422	46157	26.5	1	10	14	0	2.7791E-08
11	21.67	DDD	0.0660	19.9396%	2053104	50854	40.4	1	11	14	0	3.2146E-08
12	28.27	EN ALDEHYDE	0.0660	19.9396%	1714610	22627	75.8	1	12	14	0	3.8493E-08
13	33.95	ENDO SULFATE	0.0330	9.9698%	354474	4926	72.0	1	13	14	0	9.3096E-08
14	39.93	ISTD	1.0000	0.0000%	417492	4929	84.7	1	14	14	0	2.3953E-06
15	46.69	ENKETONE	0.0660	19.9396%	747500	7283	102.6	1	15	14	0	8.8294E-08

TOTAL AMOUNT = 0.3310

Data File = I:FP16.PTS Printed on 03-06-1989 at 14:06:04
Start time: 1.00 min. Stop time: 55.01 min. Offset: 0 mv.
Low Value: 6773 uv High Value: 206063 uv Scale factor: 1.0



****** INTERNAL STANDARD TABLE ******

********** 03-09-1989 11:04:12 Version 4.1 **********

* Sample Name: STD 1248 0.5 Data File: I:FP38 *
* Date: 03-04-1989 03:33:20 Method: 48MET 03-09-1989 10:56:02 # 18 *
* Interface: 0 Cycle#: 38 Operator AK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE 1:MIXED PHASE 0 *

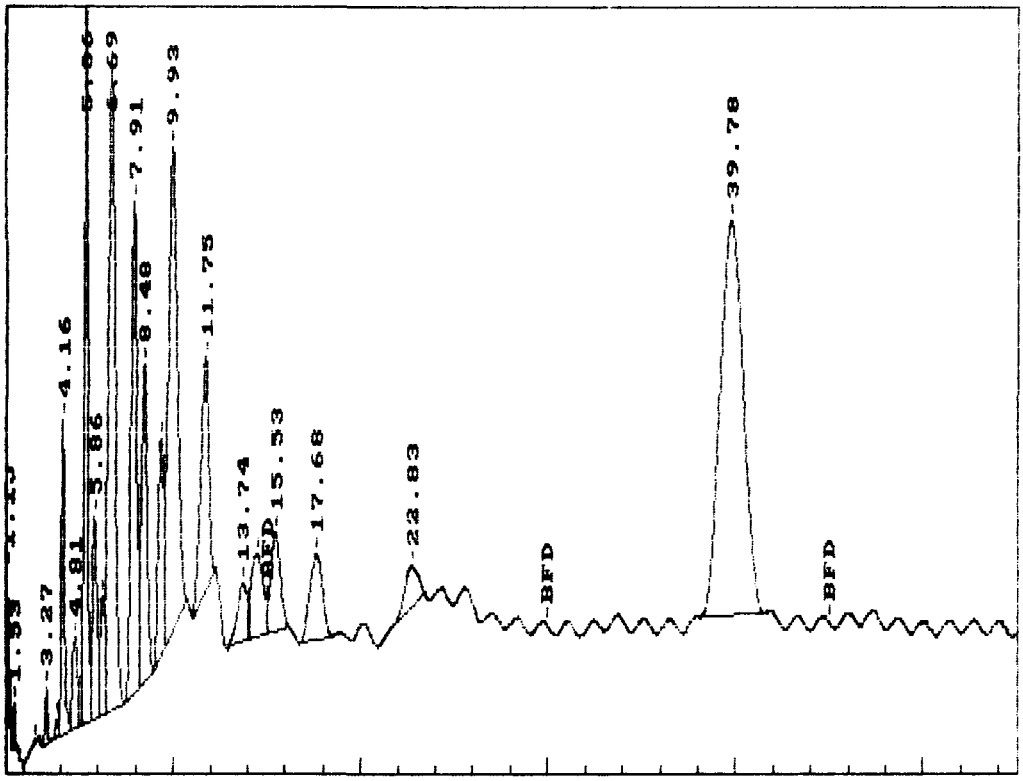
****

Starting Delay: 1.00 Ending retention time: 55.00
Area reject: 0 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Internal Standard Amount: 1
Sample Weight: 1.000000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
8	5.36	48A	0.5000	14.2857%	116316	8501	13.7	2	8	22	0	4.2986E-06
11	6.69	48B	0.5000	14.2857%	193656	7612	25.4	2	11	22	0	2.5819E-06
12	7.91	48C	0.5000	14.2857%	117136	5830	20.1	2	12	22	0	4.2686E-06
13	8.48	48D	0.5000	14.2857%	86729	3772	23.0	2	13	22	0	5.7651E-06
15	9.93	48E	0.5000	14.2857%	194344	5747	33.8	2	15	22	0	2.5728E-06
16	11.75	48F	0.5000	14.2857%	81531	2752	29.6	1	16	22	0	6.1327E-06
19	15.53	48G	0.5000	14.2857%	42701	1171	36.5	2	19	22	0	1.1709E-05
22	39.78	IN STD	1.0000	0.0000%	398070	4660	85.4	1	22	22	0	2.5121E-06

TOTAL AMOUNT = 3.5000

Plot of data file: I:FP38.PTS
Date: 03-07-1989 Time: 15:28:40
Sample Name: STD 1248
Start Time= 1.02Stop Time = 55.01Min. Scale= 6855Max. Scale= 15892

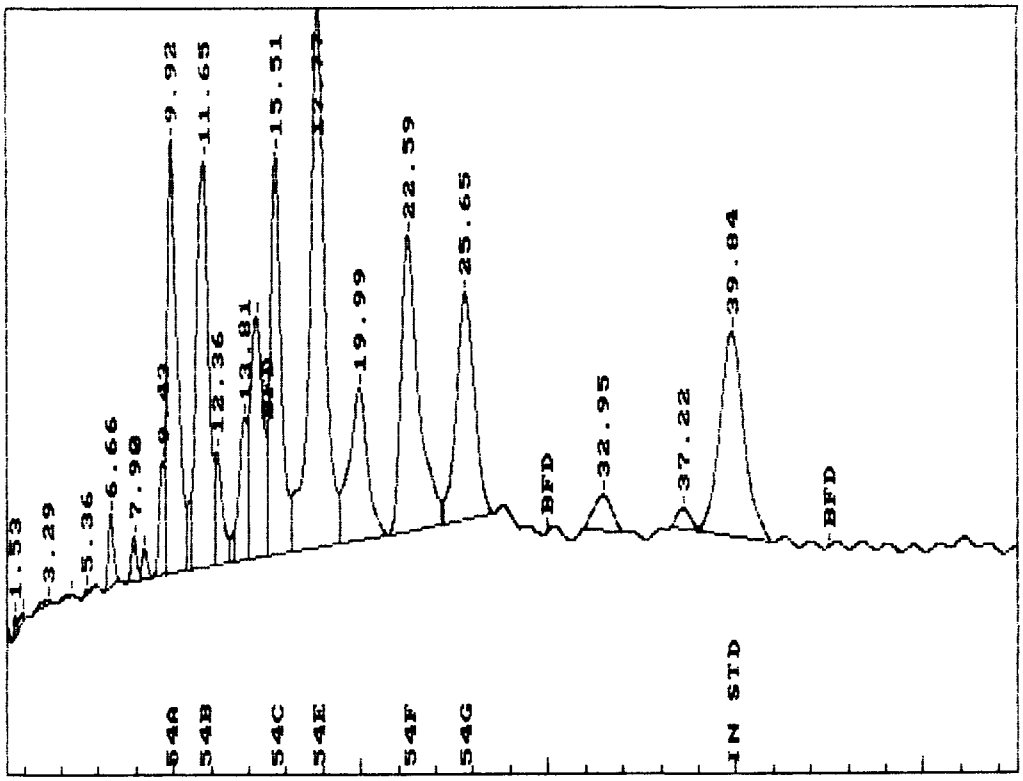


```
******      INTERNAL STANDARD TABLE      ******
******************** 03-09-1989 10:50:09 Version 4.1 ********************
* Sample Name: STD 1254 0.5                    Data File: I:FP36          *
* Date: 03-04-1989 01:40:14 Method: 54MET 03-09-1989 10:49:30  #  17      *
* Interface: 0   Cycle#:  36   Operator AK  Channel#: 1    Vial#: N.A.    *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100            *
***********************************************************************
* Instrument Type: TRACOR                Column Type: PACKED              *
*              Solvent Description: NITROGEN                              *
* Conditions: ISOTHERMAL 200 C                                            *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.      *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE       1:MIXED PHASE 0   *
***********************************************************************
Starting Delay:    1.00                      Ending retention time:   55.00
Area reject:        0                        One sample per   1.002 sec.
Amount injected:        1.00                 Dilution factor:        1.00
Internal Standard Amount:  1
Sample Weight:          1.000000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
10	9.92	54A	0.5000	16.6667%	380139	10028	37.9	2	10	22	0	1.3153E-06
11	11.65	54B	0.5000	16.6667%	432109	9444	45.8	2	11	22	0	1.1571E-06
15	15.51	54C	0.5000	16.6667%	371623	9298	40.0	2	15	22	0	1.3455E-06
16	17.77	54E	0.5000	16.6667%	712568	12542	56.8	2	16	22	0	7.0169E-07
18	22.59	54F	0.5000	16.6667%	448022	6854	65.4	2	18	22	0	1.1160E-06
19	25.65	54G	0.5000	16.6667%	354585	5257	67.4	2	19	22	0	1.4101E-06
22	39.84	IN STD	1.0000	0.0000%	430152	4772	90.1	2	22	22	0	2.3248E-06

TOTAL AMOUNT = 3.0000

Plot of data file: I:FP36.PTS
Date: 03-09-1989 Time: 10:51:57
Sample Name: STD 1254
Start Time= 1.02Stop Time = 55.01Min. Scale= 6974Max. Scale= 21728



7	46G	10.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	IN STD	41.31	39.78	[illegible]	21.08[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

All peaks were found.
Method Y:48MET updated on disk. 03-09-1989 10:56:02 version: 18

****** INTERNAL STANDARD TABLE ******

********** 03-09-1989 10:56:45 Version 4.1 **********

* Sample Name: STD 1260 0.5 Data File: I:FP37 *
* Date: 03-04-1989 02:36:47 Method: 60MET 03-09-1989 10:55:44 # 30 *
* Interface: 0 Cycle#: 37 Operator AK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

****

* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE 1:MIXED PHASE 0 *

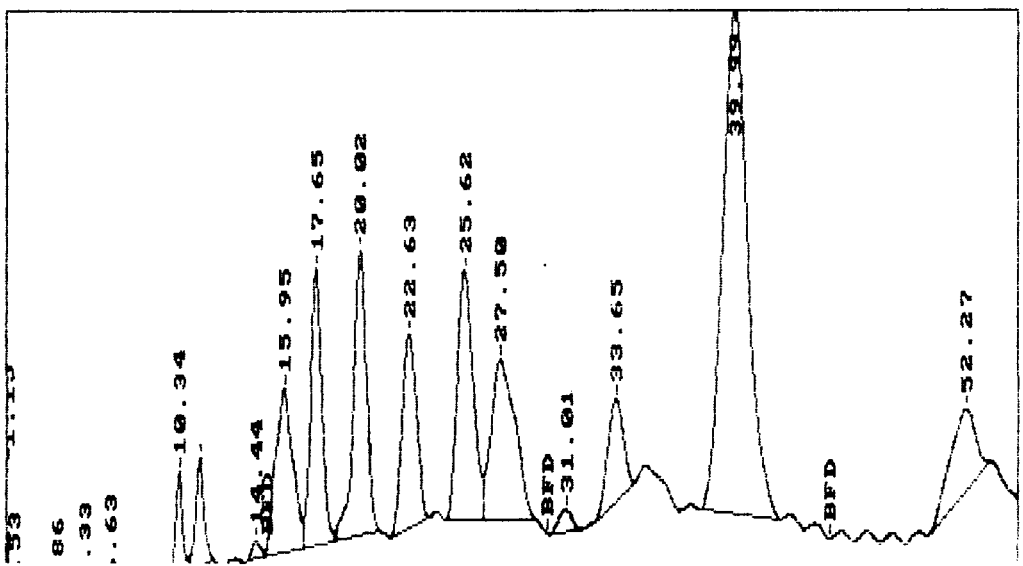
****

Starting Delay: 1.00 Ending retention time: 55.00
Area reject: 0 One sample per 1.002 sec.
Amount injected: 1.00 Dilution factor: 1.00
Internal Standard Amount: 1
Sample Weight: 1.000000

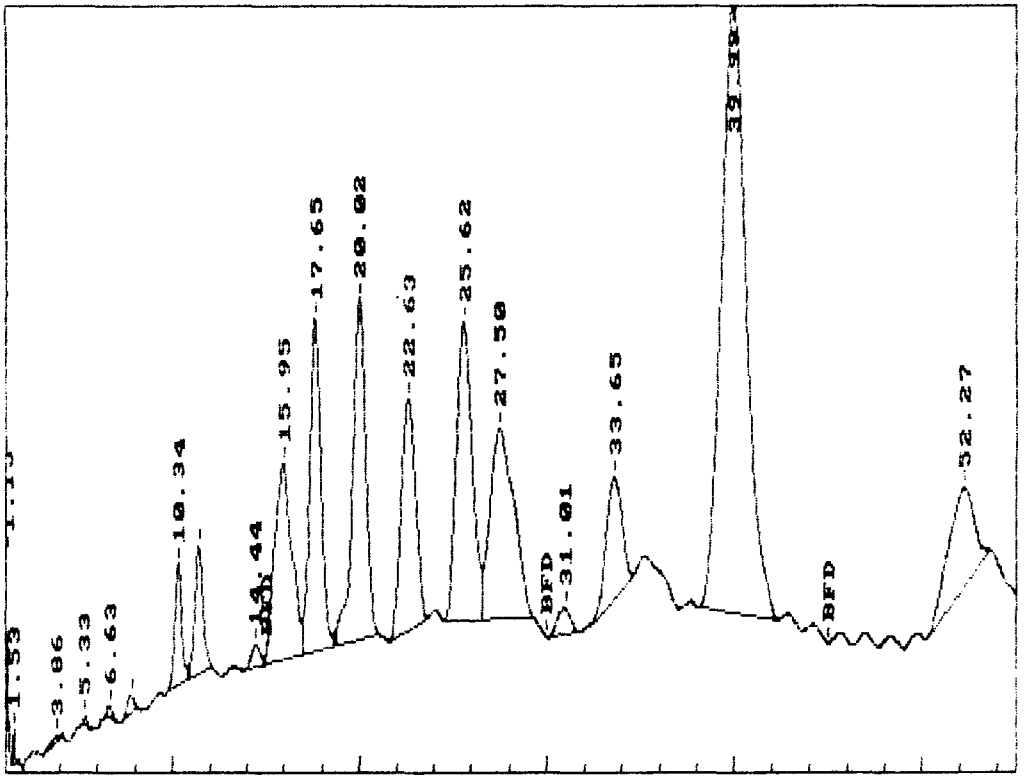
PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	HEIGHT BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
10	15.95	60A	0.5000	16.6667%	177368	2753	64.4	2	10	18	0	2.8190E-06
11	17.65	60B	0.5000	16.6667%	192419	4641	41.5	2	11	18	0	2.5985E-06
12	20.02	60C	0.5000	16.6667%	230955	4763	48.5	2	12	18	0	2.1649E-06
14	25.62	60D	0.5000	16.6667%	243980	4155	58.7	2	14	18	0	2.0493E-06
15	27.50	60E	0.5000	16.6667%	238246	2671	89.2	2	15	18	0	2.0987E-06
17	33.65	60F	0.5000	16.6667%	97970	1709	57.3	1	17	18	0	5.1036E-06
18	39.99	IN STD	1.0000	0.0000%	788830	8516	92.6	1	18	18	0	1.2677E-06

TOTAL AMOUNT = 3.0000

Plot of data file: I:FP37.PTS
Date: 03-09-1989 Time: 10:57:12
Sample Name: STD 1260
Start Time= 1.02Stop Time = 55.01Min. Scale= 7061Max. Scale= 17748



Plot of data file: I:FP37.PTS
Date: 03-07-1989 Time: 15:26:15
Sample Name: STD 1260
Start Time= 1.02Stop Time = 55.01Min. Scale= 7061Max. Scale= 17748



Primary Column

********* AREA PERCENT REPORT *********

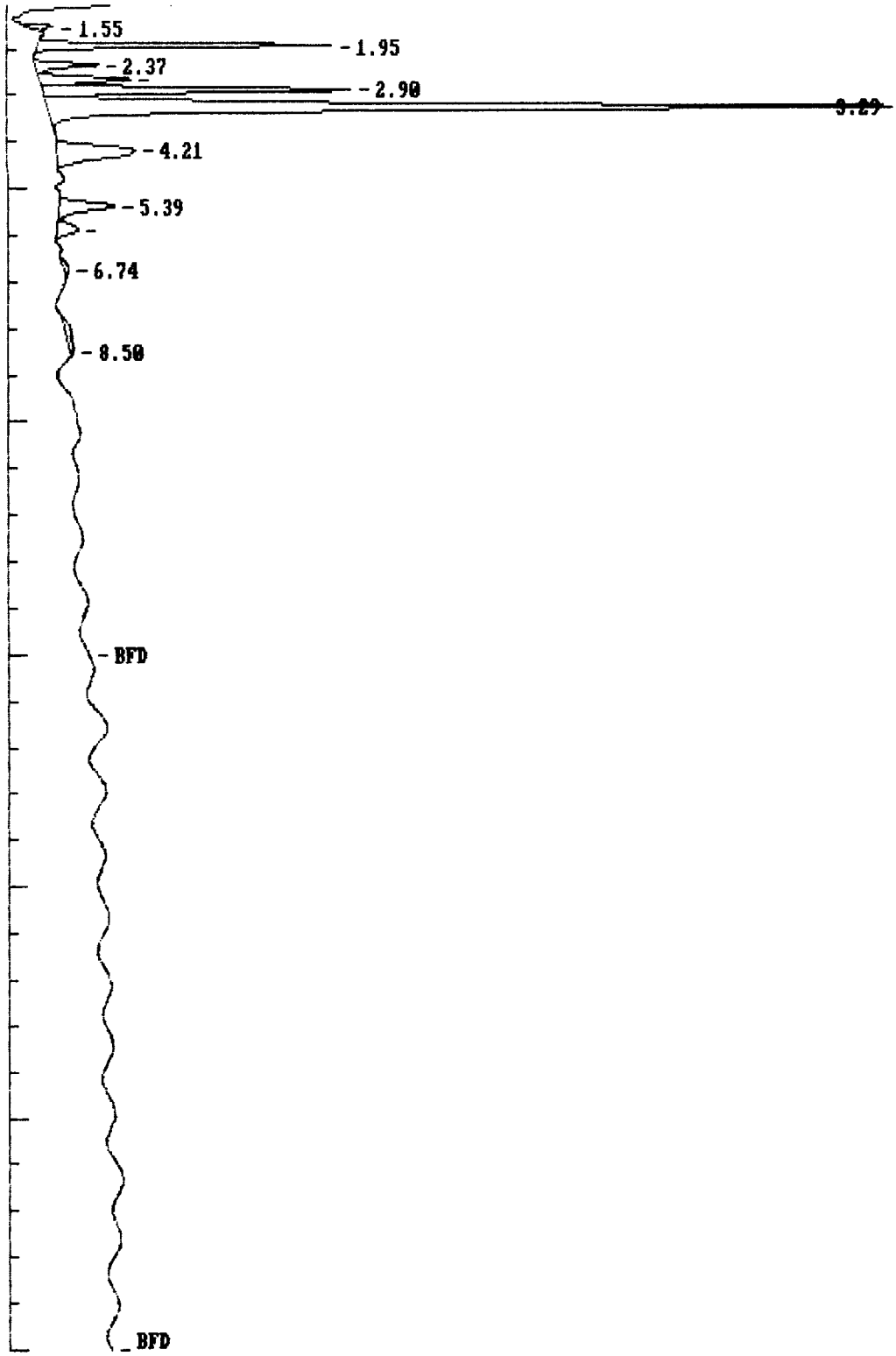
********** 03-10-1989 11:51:30 Version 4.1 **********
* Sample Name: STD 1221 Data File: k:2ak2 *
* Date: 03-10-1989 10:06:30 Method: ZERO *
* Interface: 0 Cycle#: 2 Operator AK Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *
****
* Instrument Type: TRACOR Column Type: PACKED *
* Solvent Description: NITROGEN *
* Conditions: ISOTHERMAL 200 C *
* Detector 0: ECD Conf. Detector 1: ECD Anal. *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE *
****

Starting Delay: 1.00 Run Time: 30.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.55	1760	0.5916	1	368	1.143	4.8
2	1.95	28907	9.7187	1	5123	18.777	5.6
3	2.37	7684	2.5836	2	1077	4.991	7.1
4	2.69	13255	4.4565	2	1575	8.610	8.4
5	2.90	43407	14.5940	2	5367	28.196	8.1
6	3.29	153950	51.7596	2	14717	100.000	10.5
7	4.21	25550	8.5902	1	1351	16.596	18.9
8	5.39	12745	4.2851	2	976	8.279	13.1
9	5.88	5528	1.8585	2	374	3.591	14.8
10	6.74	1091	0.3669	1	72	0.709	15.1
11	8.50	3556	1.1954	1	62	2.310	57.5

Total Area: 297433 Area Reject: 0 One sample per 1.002 sec.

Data File = k:2ak2.PTS Printed on 03-10-1989 at 11:52:04
Start time: 1.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 7336 uv High Value: 22663 uv Scale factor: 1.0



Confirmation Column

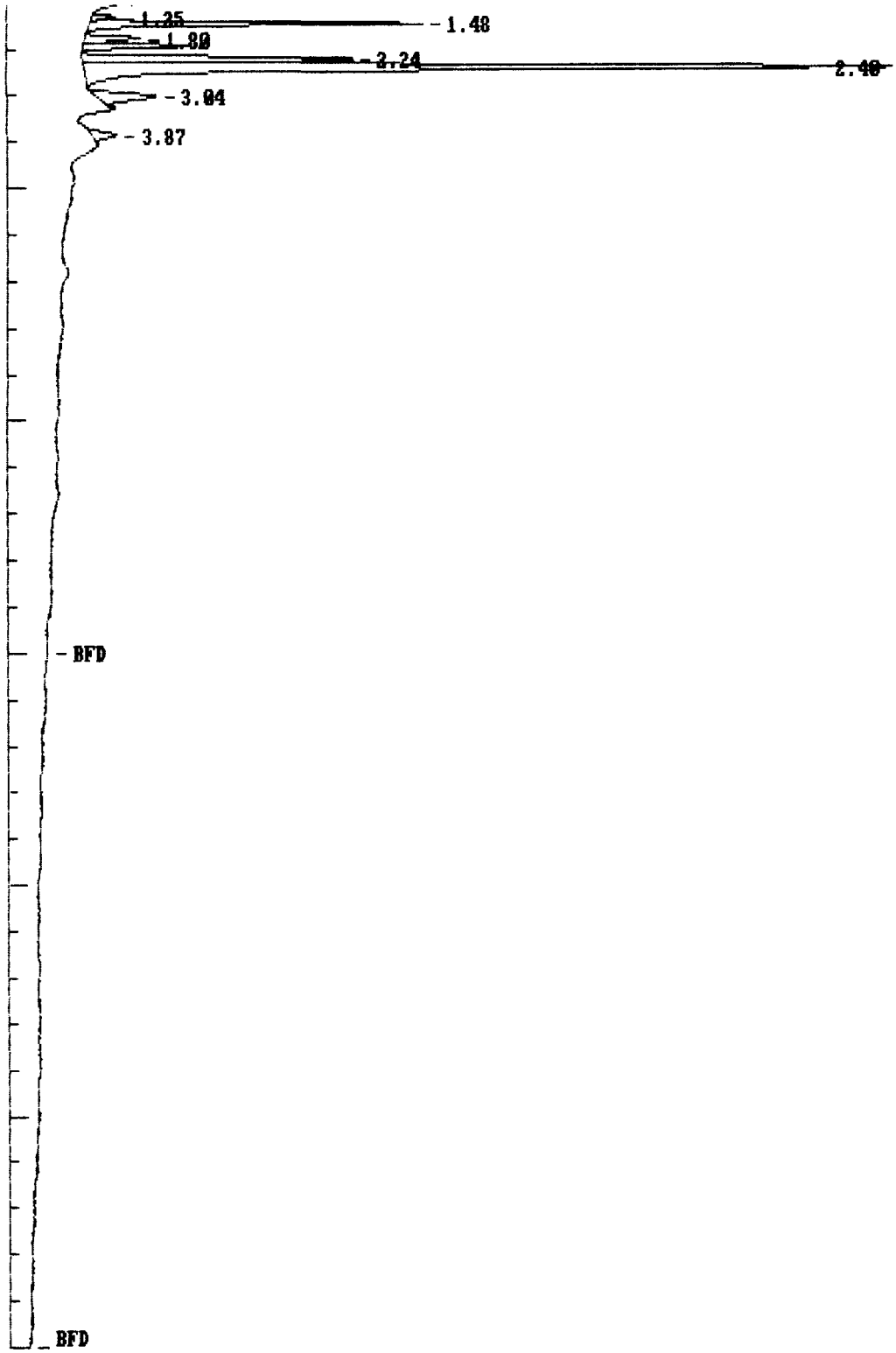
********* AREA PERCENT REPORT *********

```
******************** 03-10-1989 11:46:38 Version 4.1 **********************
* Sample Name: STD 1221                          Data File: k:lak2         *
* Date: 03-10-1989 10:06:31 Method: ZERO                                   *
* Interface: 0   Cycle#:  2    Operator AK  Channel#: 0    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100             *
****************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED               *
*              Solvent Description: NITROGEN                               *
* Conditions: ISOTHERMAL 200 C                                             *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                          *
****************************************************************************
Starting Delay:   1.00                          Run Time:   30.00
```

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.35	502	0.8276	2	116	1.441	4.3
2	1.48	8080	13.3147	2	1614	23.181	5.0
3	1.80	1585	2.6119	2	272	4.547	5.8
4	1.95	3245	5.3474	2	520	9.310	6.2
5	2.24	8534	14.0630	2	1307	24.484	6.5
6	2.40	34856	57.4386	2	3910	100.000	8.9
7	3.04	2843	4.6853	1	280	8.157	10.1
8	3.87	1039	1.7115	1	118	2.980	8.8

Total Area: 60683 Area Reject: 0 One sample per 1.002 sec.

Data File = k:lak2.PTS Printed on 03-10-1989 at 11:50:30
Start time: 1.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 2108 uv High Value: 6364 uv Scale factor: 1.0



Primary Column

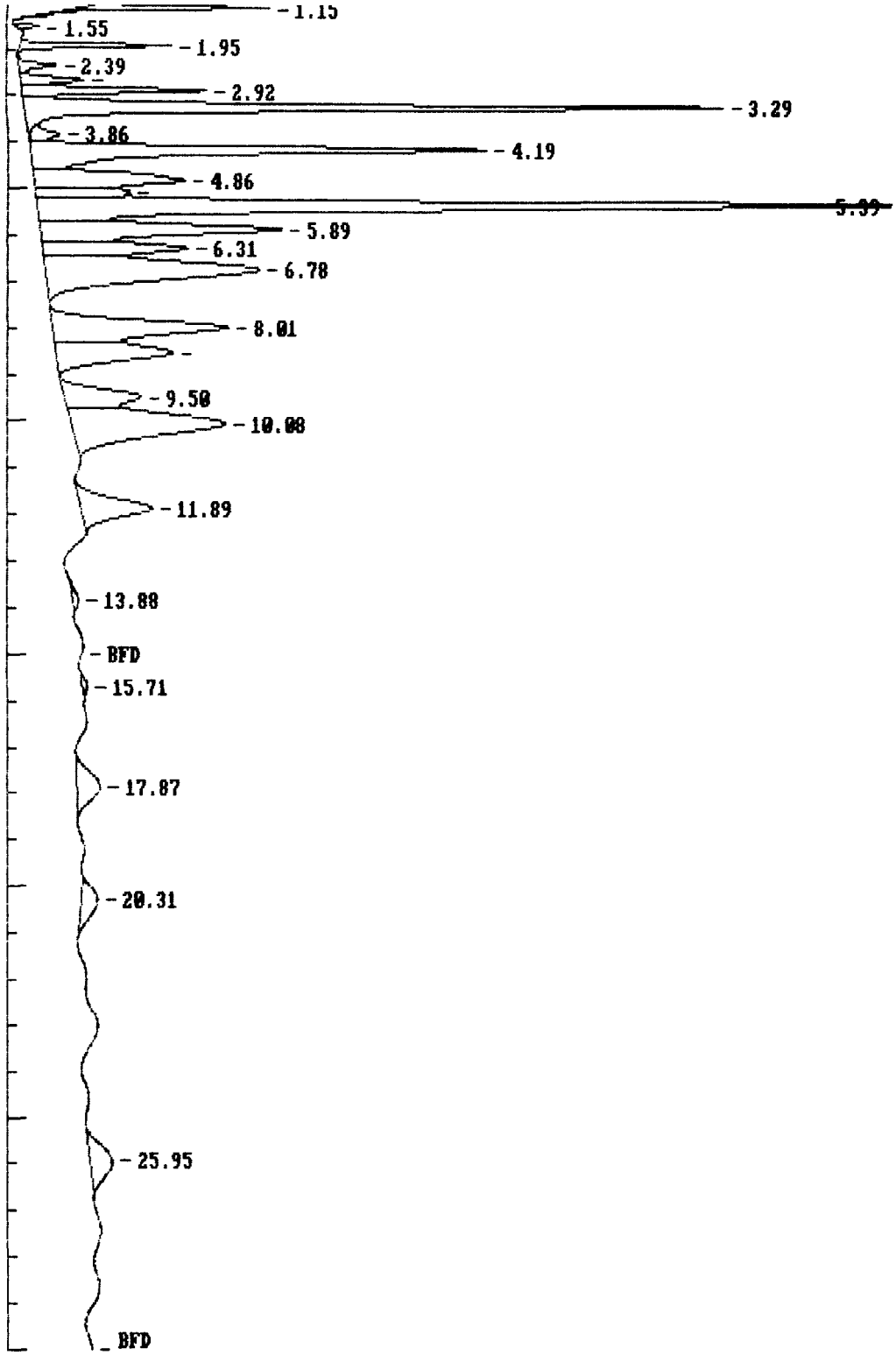
********* AREA PERCENT REPORT *********

```
******************** 03-10-1989 11:42:28 Version 4.1 **********************
* Sample Name: STD 1232                          Data File: k:2ak1         *
* Date: 03-10-1989 08:52:58 Method: ZERO                                   *
* Interface: 0   Cycle#:  1    Operator AK  Channel#: 1    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100             *
****************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED               *
*              Solvent Description: NITROGEN                               *
* Conditions: ISOTHERMAL 200 C                                             *
*            Detector 0: ECD Conf.            Detector 1: ECD Anal.        *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                          *
****************************************************************************
Starting Delay:   1.00                          Run Time:   30.00
```

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.15	30819	1.8963	1	5147	10.787	6.0
2	1.55	2324	0.1430	1	520	0.813	4.5
3	1.95	21217	1.3055	1	3848	7.426	5.5
4	2.39	6946	0.4274	2	930	2.431	7.5
5	2.69	13681	0.8418	2	1586	4.789	8.6
6	2.92	38269	2.3547	2	4647	13.395	8.2
7	3.29	177658	10.9311	3	17715	62.184	10.0
8	3.86	8759	0.5389	4	760	3.066	11.5
9	4.19	145048	8.9247	2	11558	50.770	12.5
10	4.86	70587	4.3431	2	3828	24.707	18.4
11	5.11	24919	1.5333	2	2386	8.722	10.4
12	5.39	285698	17.5788	2	21702	100.000	13.2
13	5.89	102712	6.3198	2	6140	35.951	16.7
14	6.31	60908	3.7476	2	3710	21.319	16.4
15	6.78	154204	9.4880	2	5445	53.974	28.3
16	8.01	100612	6.1906	2	4469	35.216	22.5
17	8.57	72267	4.4465	2	2973	25.295	24.3
18	9.50	40213	2.4743	2	1939	14.075	20.7
19	10.08	128713	7.9196	2	3912	45.052	32.9
20	11.89	50398	3.1009	1	1811	17.640	27.8
21	13.88	3031	0.1865	1	139	1.061	21.9
22	15.71	2482	0.1527	1	124	0.869	20.1
23	17.87	24983	1.5372	1	598	8.745	41.8
24	20.31	17042	1.0486	1	414	5.965	41.2
25	25.95	25427	1.5645	1	562	8.900	45.3
26	34.17	16329	1.0047	1	365	5.715	44.8

Total Area: 1625246 Area Reject: 0 One sample per 1.002 sec.

Data File = k:2ak1.PTS Printed on 03-10-1989 at 11:43:29
Start time: 1.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 7124 uv High Value: 29433 uv Scale factor: 1.0

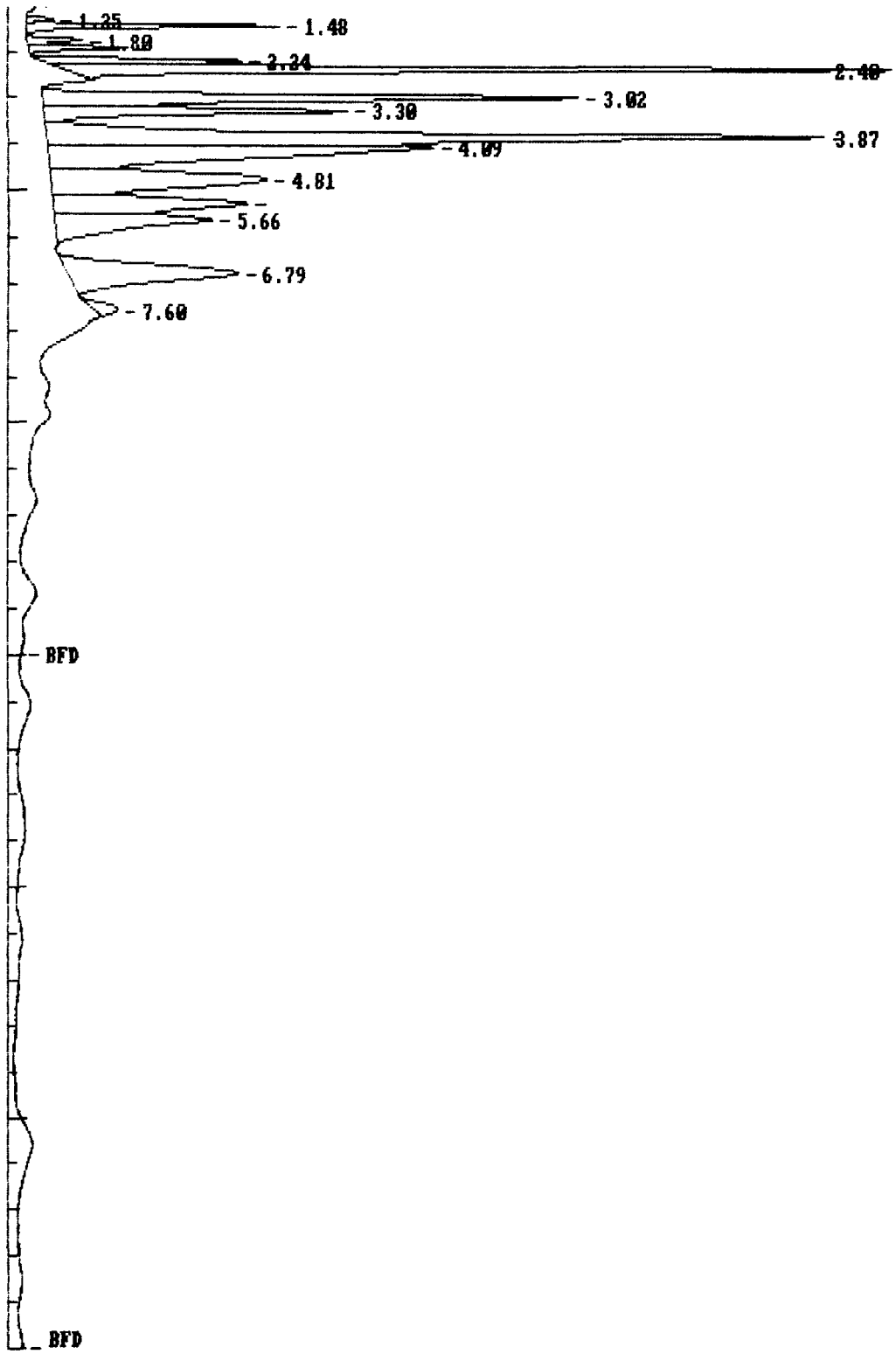


Confirmation Column

********** AREA PERCENT REPORT **********

```
******************** 03-10-1989 11:39:36 Version 4.1 **********************
* Sample Name: STD 1232                          Data File: k:1ak1         *
* Date: 03-10-1989 08:52:59 Method: ZERO                                   *
* Interface: 0   Cycle#:  1    Operator AK  Channel#: 0    Vial#: N.A.     *
* Starting Peak Width:  10   Threshold: 1  Area Threshold: 100             *
****************************************************************************
* Instrument Type: TRACOR                Column Type: PACKED               *
*              Solvent Description: NITROGEN                               *
* Conditions: ISOTHERMAL 200 C                                             *
*             Detector 0: ECD Conf.            Detector 1: ECD Anal.       *
* Misc. Information: 1:MIXED PHASE 0:SINGLE PHASE                          *
****************************************************************************
Starting Delay:    1.00                          Run Time:     0.00
```

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.35	515	0.2222	2	120	1.156	4.3
2	1.48	5746	2.4761	2	1130	12.881	5.1
3	1.80	1465	0.6312	2	244	3.284	6.0
4	1.97	2648	1.1412	2	437	5.937	6.1
5	2.24	5456	2.3515	2	875	12.232	6.2
6	2.40	28772	12.3992	2	3686	64.501	7.8
7	3.02	23329	10.0536	2	2392	52.300	9.8
8	3.30	13890	5.9858	2	1355	31.139	10.2
9	3.87	44606	19.2232	2	3473	100.000	12.8
10	4.09	32924	14.1888	2	1724	73.811	19.1
11	4.81	23244	10.0172	2	962	52.110	24.2
12	5.31	15693	6.7630	2	866	35.181	18.1
13	5.66	13660	5.8866	2	700	30.623	19.5
14	6.79	18664	8.0434	1	762	41.842	24.5
15	7.60	1432	0.6171	1	92	3.210	15.5

Total Area: 232045 Area Reject: 0 One sample per 1.002 sec.

Data File = k:lak1.PTS Printed on 03-10-1989 at 11:40:27
Start time: 1.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 1871 uv High Value: 5797 uv Scale factor: 1.0