N00158.AR.000031
NAS WILLOW GROVE
5090.3a

RESULTS OF ANALYSIS OF 30 WATER SAMPLES AND 12 SOIL SAMPLES COLLECTED AT WILLOW GROVE ON 21 AND 22 SEPTEMBER 1989

Prepared for:

Northern Division
Naval Facilities Engineering Command

Prepared by:

EA Laboratories

November 1989
Rept. #890657

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1. ANALYTICAL SUMMARY

ANALYTICAL SUMMARY

On 21 and 22 September 1989 EA Engineering, Science, and Technology, Inc. personnel collected 30 water samples and 12 soil samples at the Naval Air Station at Willow Grove. The samples were taken to EA Laboratories in Sparks, Maryland for analysis. Upon receipt at the laboratory the samples were inspected, compared with the chain-of-custody records, logged, assigned laboratory accession numbers and distributed for the analysis listed in Table . Sample NELW-1 (EA #4517) was put on hold by the project manager and later cancelled. Samples WRW-1,WRW-2, WRW-3 were cancelled by the project manager. These samples were not cancelled before certain analyses were run; these analyses are included in the data package.

Results are summarized in the appended NEESA Level C data package. Analytical concerns are discussed in the Quality Assurance Summary included at the end of each section.

Analytical control limits specified in the Plan of Action for Site Inspection NAS Willow Grove, Pennsylvania (Feb. 1988) were met.

TABLE 1 ANALYTICAL METHODS

Parameter	Method	Method Number	Matrix	Reference
SAMPLE PREPARATION				
Total Metals Digestion (FAA/ICP)	Nitric Acid - Hydrochloric Acid	CLP	W	(2)
Total Metals Digestion (GFAA)	Nitric Acid - Hydrogen Peroxide	CLP	W	(2)
ORGANICS				
Halogenated Hydrocarbon Pesticides	Gas Chromatography - ECD	CLP	W,SO	(3)
Polychlorinated Biphenyls	Gas Chromatography - ECD	CLP	W,SO	(3)
Volatile Organic Compounds	Gas Chromatography/Mass Spectrometry	CLP	W,SO	(3)
Acid Extractable Organic Compounds	Gas Chromatography/Mass Spectrometry	CLP	W,SO	(3)
Base-Neutral Extractable Organic Compounds	Gas Chromatography/Mass Spectrometry	CLP	W,SO	(3)
Total Petroleum Hydrocarbons	Spectrophotometric - Infrared	418.1	W	(1)
Total Organic Carbon	Oxidation - Infrared	42.1	W	(1)

TABLE 1 ANALYTICAL METHODS

Parameter	Method	Method Number	Matrix	Reference
METALS				
Aluminum	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Antimony	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Arsenic	Atomic Absorption - Furnace	206.2 CLP-M	W,SO	(2)
Barium	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Beryllium	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Cadmium	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Calcium	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Chromium, Total	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Cobalt	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Copper	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Iron	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Lead	Atomic Absorption - Furnace	239.2 CLP-M	W,SO	(2)
Magnesium	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)

TABLE 1 ANALYTICAL METHODS

Parameter	Method	Method Number	Matrix	Reference
Manganese	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Mercury	Atomic Absorption - Cold Vapor	245.1 CLP-M	W	(2)
Nickel	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Potassium	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Selenium	Atomic Absorption - Furnace	210.2 CLP-M	W,SO	(2)
Silver	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Sodium	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Thallium	Atomic Absorption - Furnace	24.2 CLP-M	W,SO	(2)
Vanadium	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
Zinc	Atomic Emission - ICP	200.1 CLP-M	W,SO	(2)
INORGANIC NONMETALS				
Total Cyanide	Colorimetric - Automated U.V.	335.2 CLP-M	W,SO	(2)

TABLE 1 ANALYTICAL METHODS

Matrix codes:
- A - Air
- W - Estuarine water, ground water, leachates, ocean water, surface water, and wastewater
- DW - Drinking water
- SO - Soils, sludges, sediments, wastes
- T - Animal tissue, plant tissue

References:

(1) United States Environmental Protection Agency. 1979. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-4-020. U.S. EPA, Cincinnati, Ohio.

(2) United States Environmental Protection Agency. 1987. U.S. EPA Contract Laboratory Program. Statement of Work for Inorganics Analysis. U.S. EPA, Washington, D.C.

(3) United States Environmental Protection Agency. 1987. U.S. EPA Contract Laboratory Program. Statement of Work for Organics Analysis. U.S. EPA, Washington, D.C.

2. CHAIN OF CUSTODY RECORDS

783

Chain of Custody Record

EA Laboratories
15 Loveton Circle
Sparks, MD 21152
301-771-4950

1MOA

Company Name: EA

Project Manager or Contact: Chuck Haulik

Project No.: 10388.04

Project Name: Willow Grove

Special QA Protocols (Circle): EPA-CLP | TIER I (NJ) | OTHER (SPECIFY) | USATHAMA | TIER II (NJ) | Navy Level C

Parameters for Analysis: ONHOLD

Date	Time	Grab	Comp	Sample Identification (I.D. and Matrix)	No. of Containers	ONHOLD	EA Labs Accession Number	Remarks
		✓		~~RBW-4~~	1	X		These 2 samples
9/22/89	1025	✓		NELW-1	1	X	4517	came in broken on
								9/20/89 They will be
								Placed on Hold unless
								Ben Landas NEEDS
								more sample to extract.
								They are receiving
								New EA numbers.

Sampled by: (Signature)	Title:	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gregg T. Campbell	Geologist II	9/25/89 0830	Gregg T. Campbell	9/25/89 1025	

Relinquished by: (Signature)	Date/Time	Recieved by: (Signature)	Relinquished by: (Signature)	Date/Time	Rec'd. by Lab: (Signature)
				25 Sep 89 10:30	B. Lentz

Sample Custody Notes: 16 Oct 89 890657

Sample Shipped by: (Circle) Fed. Ex. | Puro. | UPS | Other (Specify) HAND Carried

Air Bill Number:

EA 0396 6/3/88 White - EA Sample Custody Yellow - EA Lab Manager Pink - Project Manager

784

Chain of Cust dy Record

EA Laboratories
15 Loveton Circle
Sparks, MD 21152
301-771-4950

Company Name: EA

Project Manager or Contact: CHUCK HOULIK

Project No.: 10388.05

Project Name: WILLOW GROVE

Special QA Protocols (Circle): EPA-CLP, USATHAMA, TIER I (NJ), TIER II (NJ), OTHER (SPECIFY) NAVY LEVEL C

Parameters for Analysis: VOLATILES, TPH, TOC

Date	Time	Grab	Comp	Sample Identification (I.D. and Matrix)	No. of Containers	VOLATILES	TPH	TOC	EA Labs Accession Number	Remarks
9.21.89	1440	X		FTAW-1 water	4	2	1	1	4526	Duplicate #3 AND MS-MSD #3
9.21.89	1335	X		FTA W-2 water	4	2	1	1	4527	ARE the same sample
9.21.89	1430	X		FTAW-3 water	4	2	1	1	4528	AND will Recieve same
9.21.89	1325	X		FTA W-4 water	4	2	1	1	4529	EA #. GTC
9 21 89	1721	X		NFFW-1 water	4	2	1	1	4530	
9 21 89	1630	X		NFFW-5 water	4	2	1	1	4531	
9 22 89	0830	X		NFFW-2 water	4	2	1	1	4532	
9 22 89	0910	X		NFFW-7 water	4	2	1	1	4533	
9 22 89	0915	X		DUPLICATE #3 water	4	2	1	1	4534	
9 22 89	0920	X		MS-MSD #3 water	4	2	1	1		

Sampled by: (Signature)	Title:	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gregg T. Campbell	Geologist II	9/25/89 1030	Gregg T. Campbell	9/25/89 1025	

Relinquished by: (Signature)	Date/Time	Recieved by: (Signature)	Relinquished by: (Signature)	Date/Time	Rec'd. by Lab: (Signature)
				25 Sep 89 10:30	B. Lentz

Sample Custody N tes: Cooler Temps- 5°, 5°, 4°, 8°, 0°, 2°, 4°, 4°

890657

Sample Shipped by: (Circle) Fed. Ex. Puro. UPS Other (Specify) H AND Carried

Air Bill Number:

EA 0396 6/3/88 White — EA Sample Custody Yellow — EA Lab Manager Pink — Project Manager

784

Chain of Cust dy Record

EA Laboratories
15 Loveton Circle
Sparks, MD 21152
301-771-4950

Company Name: EA LOVETON

Pr ject Manager or C ntact: CHUCK HOULIK

Project No.: 04 10388.05

Pr ject Name: WILLOW GROVE

Special QA Protocols (Circle): EPA-CLP | TIER I (NJ) | OTHER (SPECIFY) NAVY LEVEL C | USATHAMA | TIER II (NJ)

Date	Time	Grab	Comp	Sample Identification (I.D. and Matrix)	No. of Containers	VOLATILES	SEMI-VOLATILES	PEST - PCB	TOC	TOTAL METALS	TPH	CYANIDE				EA Labs Accession Number	Remarks
~~9 22 89~~																	Duplicate #2 and MS-MSD #2 are the same sample and will receive same EA #.
9 22 89	1030	X		NEL SWS 2	8	2	1	1	1	1	1	1				4535	
9 22 89	1026	X		NEL SWS 3	8	2	1	1	1	1	1	1				4536	
9 22 89	1130	X		AL SWS 1	8	2	1	1	1	1	1	1				4537	
9 22 89	1132	X		AL SWS 2	8	2	1	1	1	1	1	1				4538	
9 22 89	1230	X		AL SWS 3	8	2	1	1	1	1	1	1				4539	
9 22 89	1235	X		AL SWS 4	8	2	1	1	1	1	1	1				4540	
9 22 89	1110	X		ASL SWS 1	8	2	1	1	1	1	1	1				4541	
9 22 89	1110	X		ASL SWS 2	8	2	1	1	1	1	1	1				4542	
9 22 89	1125	X		ASL SWS 3	8	2	1	1	1	1	1	1				4543	
9 22 89	1110	X		ASL SWS 4	8	2	1	1	1	1	1	1				4544	
9 22 89	1236	X		DUPLICATE #2	8	2	1	1	1	1	1	1				4545	
9 22 89	1236	X		MS-MSD #2	7	2	1	1	0	1	1	1					
9 22 89	1500	X		UG SBS-1	8	2	1	1	1	1	1	1				4546	

Sampled by: (Signature)	Title:	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gregg T. Campbell	Geologist II	9/25/89 0830	Gregg T. Campbell	9/25/89 1025	

Relinquished by: (Signature)	Date/Time	Recieved by: (Signature)	Relinquished by: (Signature)	Date/Time	Rec'd. by Lab: (Signature)
				25 Sep 89 10:30	B. Lentz

Sample Custody Notes: Cooler Temps - 5°, 5°, 4°, 8°, 0°, 2°, 4°, 4°

16 Oct 89 890657

Sample Shipped by: (Circle) Fed. Ex. Puro. UPS

Other (Specify)

Air Bill Number:

EA 0396 6/3/88 White — EA Sample Custody Yellow — EA Lab Manager Pink — Project Manager

784

Chain of Cust dy Rec rd

EA Laboratories
15 Loveton Circle
Sparks, MD 21152
301-771-4950

Company Name: EA LOVETON

Project Manager or C ntact: CHUCK HOULIK

Project No.: 10388.04 05

Project Name: WILLOW GROVE

Special QA Protocols (Circle): EPA-CLP | TIER I (NJ) | OTHER (SPECIFY) NAVY LEVEL C | USATHAMA | TIER II (NJ)

Parameters for Analysis

Date	Time	Grab	Comp	Sample Identification (I.D. and Matrix)	No. of Containers	VOLATILES	SEMI VOLATILES	PEST / PCB	TOC	TOTAL METALS	CYANIDE	TPH				EA Labs Accession Number	Remarks
9/22/89	1030	X		~~NEL SS 1~~ NEL SS 1	1	X	X	X	X	X	X	X				4547	DO MS / MSD ON
9 22 89	1020	X		NEL SS 2	1	X	X	X	X	X	X	X				4548	Doplicate # 4
9 22 89	1130	X		AL SS 1	1	X	X	X	X	X	X	X				4549	EA # 4558
9 22 89	1132	X		AL SS 2	1	X	X	X	X	X	X	X				4550	
9 22 89	1236	X		AL SS 3	1	X	X	X	X	X	X	X				4551	
9 22 89	1235	X		AL SS 4	1	X	X	X	X	X	X	X				4552	
9 22 89	1110	X		ASL SS 1	1	X	X	X	X	X	X	X				4553	
9 22 89	1110	X		ASL SS 2	1	X	X	X	X	X	X	X				4554	
9 22 89	1125	X		ASL SS 3	1	X	X	X	X	X	X	X				4555	
9 22 89	1110	X		ASL SS 4	1	X	X	X	X	X	X	X				4556	
9 22 89	1500	X		UG SS 1	1	X	X	X	X	X	X	X				4557	
9/22/89	1236	X		Duplicate #4	1	X	X	X	X	X	X	X				4558	

Sampled by: (Signature)	Title:	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gregg T. Campbell	Geologist II	9/25/89 0830	Gregg T. Campbell	9/25/89 0825	

Relinquished by: (Signature)	Date/Time	Recieved by: (Signature)	Relinquished by: (Signature)	Date/Time	Rec'd. by Lab: (Signature)
				25 Sep 89 10:30	B. Lentz

Sample Custody N tes: Cooler Temps - 5°, 5°, 4°, 8°, 0°, 2°, 4°, 4° C

16 OCT 89 890657

Sample Shipped by: (Circle) Fed. Ex. | Puro. | UPS | Other (Specify) HAND CARRIED

Air Bill Number:

784

Chain f Custody Record

EA Laboratories
15 Loveton Circle
Sparks, MD 21152
301-771-4950

Company Name: EA LOVETON

Project Manager or Contact: CHUCK HOULIK

Project No.: 10388.04 05

Project Name: WILLOW GROVE

Special QA Protocols (Circle)
EPA-CLP | TIER I (NJ) | OTHER (SPECIFY)
USATHAMA | TIER II (NJ) | NAVY LEVEL C

Parameters f r Analysis

Date	Time	Grab	Comp	Sample Identification (I.D. and Matrix)	No. of Containers	VOLATILES	SEMI-VOLATILES	PESTICIDES/PCB	TOC	TOTAL METALS	DISSOLVED METALS	CYANIDE	TPH			EA Labs Accession Number	Remarks
9 21 89	0830	X		WRW-1 water	9	2	1	1	1	1	1	1	1			4518	Dissolved metals given different EA Numbers
9 21 89	1046	X		WRW-2 water	9	2	1	1	1	1	1	1	1			4519	
9 21 89	0915	X		WRW-3 water	9	2	1	1	1	1	1	1	1			4520	
9 21 89	1200	X		ALW-2 water	9	2	1	1	1	1	1	1	1			4521	
~~9/22/89~~		~~X~~		~~NEAW-1 water~~	~~1~~			~~1~~									

Sampled by: (Signature)	Title:	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gregg T. Campbell	Geologist	9/25/89 0830	Gregg T. Campbell	9/25/89 1025	

Relinquished by: (Signature)	Date/Time	Recieved by: (Signature)	Relinquished by: (Signature)	Date/Time	Rec'd. by Lab: (Signature)
				25Sep89 10:30	B. Entz

Sample Custody N tes: Cooler Temps 5°, 5°, 8°, 0°, 4°, 2°, 4° C

16 Oct 89 890667

Sample Shipped by: (Circle)
Fed. Ex. | Puro. | UPS
Other (Specify) HAND CARRIED

Air Bill Number:

EA 0396 6/3/88 | White — EA Sample Custody | Yellow — EA Lab Manager | Pink — Project Manager

Chain of Cust dy Record

EA Laboratories
15 Loveton Circle
Sparks, MD 21152
301-771-4950

Company Name: EA

Project Manager or Contact: Chuck Houlik

Project No.: 10388.05

Pr ject Name: Willow Grove

Special QA Protocols (Circle): EPA-CLP | TIER I (NJ) | OTHER (SPECIFY) NAVY level C | USATHAMA | TIER II (NJ)

Parameters for Analysis: Dissolved METALS

Date	Time	Grab	Comp	Sample Identification (I.D. and Matrix)	No. of Containers	Dissolved METALS	EA Labs Accession Number	Remarks
9-21-89	8:30	X		WRW-1 water	1	X	4522	Dissolved METALS
	1046	X		WRW-2		X	4523	
	0915	X		WRW-3		X	4524	
	1200	X		ALW-2		X	4525	Sample custody Department had to assign Different EA numbers due to LIMS will only allow 50 test to be assigned. and with all parameters there will be more then 50 test

Sampled by: (Signature)	Title:	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Relinquished by: (Signature)	Date/Time	Recieved by: (Signature)	Relinquished by: (Signature)	Date/Time	Rec'd. by Lab: (Signature)
				25 Sep 89 10 30	B Lentz

Sample Custody N tes: 16 Oct 89 89065

Sample Shipped by: (Circle) Fed. Ex. Puro. UPS Other (Specify) Hand

Air Bill Number:

3. VOLATILES DATA

A. QC Summary

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	VBLK1	98	99	96		0
2	NELW-1	98	101	101		0
3	NELW-2	99	100	102		0
4	NELW-3	99	101	101		0
5	ALW-3	100	101	102		0
6	ALW-1	97	102	100		0
7	RR2W-2	99	102	102		0
8	RR2W-4	98	103	101		0
9	RR2W-1	99	103	102		0
10	NSLW-3	98	102	99		0
11	VBLK2	99	100	96		0
12	RR2W-3	100	103	100		0
13	9DNSLW-3B	100	104	99		0
14	9DNSLW-1	100	105	106		0
15	9DNSLW-1B	99	103	104		0
16	9DNSLW-2	98	107	108		0
17	9DNSLW-4	97	104	108		0
18	9DNSLW-4B	99	106	105		0
19	PRW-2	99	107	108		0
20	PRW-1	99	106	106		0
21	PRW-3	99	104	107		0
22	PRW-4	95	106	107		0
23	NFFW-3	97	107	105		0
24	NFFW-4	84 *	113	104		1
25	VBLK3	102	101	96		0
26	TRIP BL	101	104	93		0
27	WRW-1	99	101	100		0
28	WRW-2	101	102	97		0
29	WRW-3	99	98	103		0
30	ALW-2	104	97	106		0

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogat s dilut d out

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	FTAW-1	98	104	97		0
2	FTAW-2	99	99	100		0
3	FTAW-3	100	100	96		0
4	FTAW-4	99	98	95		0
5	VBLK4	98	99	82		0
6	NELSWS1	101	101	104		0
7	DUP#1	96	98	104		0
8	DUP#1MS	100	102	104		0
9	DUP#1MSD	102	106	103		0
10	FTAW-1 DL	97	100	105		0
11	NFFW-1	100	104	105		0
12	NFFW-5	101	100	104		0
13	NFFW-2	97	102	105		0
14	NFFW-7	104	108	103		0
15	DUP#3	98	102	105		0
16	DUP#3MS	93	103	106		0
17	DUP#3MSD	97	100	100		0
18	NELSWS2	97	92	101		0
19	NELSWS3	99	108	104		0
20	ALSWS-1	95	99	100		0
21	VBLK5	102	103	97		0
22	NFFW-5 DL	106	103	101		0
23	ALSWS-2	105	109	105		0
24	9MSLSWS1	102	109	109		0
25	9MSLSWS2	102	112	112		0
26	9MSLSWS3	102	109	110		0
27	9MSLSWS4	103	106	110		0
28	DUP#2	104	109	109		0
29	DUP#2MS	103	112	108		0
30	DUP#2MSD	103	105	109		0

	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA-1 1/87 R v.

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	UGSWS-1	101	109	111		0
2	VBLK6	101	102	100		0
3	NFFW-4 RE	104	99	104		0
4	ALSWS-3	102	102	100		0
5	ALSWS-4	104	101	102		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	VBLK1	102	99	103		0
2	NELSS-1	116	86	102		0
3	NELSS-2	114	88	109		0
4	ALSS-1	112	94	106		0
5	ALSS-2	111	93	108		0
6	ALSS-3	106	97	108		0
7	ALSS-4	104	99	106		0
8	VBLK2	101	98	97		0
9	9~~N~~SLSS-1	102	103	35 *		1
10	9~~N~~SLSS-2	106	101	105		0
11	9~~N~~SLSS-3	108	98	113		0
12	9~~N~~SLSS-1 RE	106	104	339 *		1
13	9~~N~~SLSS-4	103	104	111		0
14	UGSS-1	104	102	110		0
15	DUP#4	106	102	111		0
16	DUP#4MS	106	101	112		0
17	DUP#4MSD	108	101	109		0
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RSB 11/6/89

	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix Spike - EPA Sample No.: DUP#2

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.	0.	66.	131	61-145
Trichloroethene	50.	0.	56.	113	71-120
Benzene	50.	0.	58.	117	76-127
Toluene	50.	0.	57.	114	76-125
Chlorob nzene	50.	0.	58.	115	75-130

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.	65.	129	2	14	61-145
Trichloroethene	50.	52.	104	8	14	71-120
Benzen	50.	55.	110	6	11	76-127
Toluene	50.	58.	116	1	13	76-125
Chlorobenzene	50.	57.	115	0	13	75-130

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

* Valu s outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix Spike - EPA Sample No.: DUP#3

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	1000.	0.	1234.	123	61-145
Trichloroethene	1000.	0.	847.	85	71-120
Benzene	1000.	508.	1422.	91	76-127
Toluene	1000.	0.	1029.	103	76-125
Chlorobenzene	1000.	0.	1113.	111	75-130

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	1000.	1281.	128	4	14	61-145
Trichloroethene	1000.	882.	88	4	14	71-120
Benzene	1000.	1451.	94	3	11	76-127
Toluene	1000.	1092.	109	6	13	76-125
Chlorobenzene	1000.	1110.	111	0	13	75-130

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spik R covery: 0 out of 10 outside limits

COMMENTS:

FORM III VOA-1 1/87 Rev.

3B
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix Spike - EPA Sample No.: DUP#4 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	65.	0.	77.	120	59-172
Trichloroethene	65.	0.	64.	99	62-137
Benzene	65.	0.	77.	119	66-142
Toluene	65.	0.	73.	113	59-139
Chlorobenzene	65.	0.	68.	105	60-133

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	65.	78.	121	1	22	59-172
Trichloroethene	65.	63.	98	2	24	62-137
Benzene	65.	76.	118	1	21	66-142
Toluene	65.	76.	118	4	21	59-139
Chlorobenzene	65.	71.	109	4	21	60-133

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

FORM III VOA-2 1/87 Rev.

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID: EG736 Lab Sample ID: METHOD BLANK

Date Analyzed: 9/26/89 Time Analyzed: 11:10

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: 7002E5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	TRIP BL	EA# 4474	EG737	12:17
2	WRW-1	EA# 4518	EG741	15:02
3	WRW-2	EA# 4519	EG742	15:44
4	WRW-3	EA# 4520	EG743	16:26
5	ALW-2	EA# 4521	EG744	17:07
6	FTAW-1	EA# 4526	EG745	17:48
7	FTAW-2	EA# 4527	EG746	18:28
8	FTAW-3	EA# 4528	EG747	19:08
9	FTAW-4	EA# 4529	EG748	19:49
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COMMENTS:

FORM IV VOA 1/87 R v.

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID: EG751 Lab Sample ID: METHOD BLANK

Date Analyzed: 9/27/89 Time Analyzed: 8:39

Matrix: (soil/water) WATER Level:(low/med) LOW

In trument ID: 7002E5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	NELSWS1	EA# 4424	EG752	9:24
2	DUP#1	EA# 4477	EG753	10:04
3	DUP#1MS	EA#4477	EG754	10:45
4	DUP#1MSD	EA#4477	EG755	11:26
5	FTAW-1 DL	EA# 4526	EG756	12:06
6	NFFW-1	EA# 4530	EG757	12:47
7	NFFW-5	EA# 4531	EG758	13:27
8	NFFW-2	EA# 4532	EG759	14:07
9	NFFW-7	EA# 4533	EG760	14:48
10	DUP#3	EA# 4534	EG761	15:29
11	DUP#3MS	EA# 4534	EG762	16:09
12	DUP#3MSD	EA# 4534	EG763	16:49
13	NELSWS2	EA# 4535	EG764	17:30
14	NELSWS3	EA# 4536	EG765	18:10
15	ALSWS-1	EA# 4537	EG766	18:51
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COMMENTS:

FORM IV VOA 1/87 R v.

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID: EG769 Lab Sample ID: METHOD BLANK

Date Analyzed: 9/28/89 Time Analyzed: 9:19

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: 7002E5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	NFFW-5 DL	EA# 4531	EG770	9:59
2	ALSWS-2	EA# 4538	EG771	10:40
3	9MSLSWS1	EA# 4541	EG774	12:40
4	9MSLSWS2	EA# 4542	EG775	13:21
5	9MSLSWS3	EA# 4543	EG776	14:01
6	9MSLSWS4	EA# 4544	EG777	14:42
7	DUP#2	EA# 4545	EG778	15:23
8	DUP#2MS	EA# 4545	EG779	16:03
9	DUP#2MSD	EA# 4545	EG780	16:44
10	UGSWS-1	EA# 4546	EG781	17:24
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COMMENTS:

FORM IV VOA 1/87 R v.

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID: EG791 Lab Sample ID: METHOD BLANK

Date Analyzed: 9/30/89 Time Analyzed: 9:52

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: 7002E5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	NFFW-4 RE	EA#4463	EG792	10:33
2	ALSWS-3	EA#4539	EG793	11:14
3	ALSWS-4	EA#4540	EG794	11:54
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COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Lab File ID: EG801 Lab Sample ID: METHOD BLANK

Date Analyzed: 10/ 2/89 Time Analyzed: 11:26

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: 7002E5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	NELSS-1	EA# 4547	EG802	12:11
2	NELSS-2	EA# 4548	EG803	12:57
3	ALSS-1	EA#4549	EG804	13:43
4	ALSS-2	EA#4550	EG805	14:28
5	ALSS-3	EA#4551	EG806	15:13
6	ALSS-4	EA#4552	EG807	15:59
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COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Lab File ID: EG810 Lab Sample ID: METHOD BLANK

Date Analyzed: 10/ 3/89 Time Analyzed: 10:53

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: 7002E5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	9NSLSS-1	EA# 4553	EG811	11:39
2	9NSLSS-2	EA# 4554	EG812	12:20
3	9NSLSS-3	EA# 4555	EG813	13:00
4	9NSLSS-1 RE	EA# 4553	EG814	13:42
5	9NSLSS-4	EA# 4556	EG815	14:23
6	UGSS-1	EA# 4557	EG816	15:04
7	DUP#4	EA# 4558	EG817	15:45
8	DUP#4MS	EA# 4558	EG818	16:26
9	DUP#4MSD	EA# 4558	EG819	17:07
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COMMENTS:

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID: EG513 BFB Injection Date: 9/ 5/89

Instrument ID.: 7002E5 BFB Injection Time: 6:20

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

m/	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.0
75	30.0 - 60.0% of mass 95	50.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.7
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	87.9
175	5.0 - 9.0% of mass 174	6.9 (7.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	88.7 (100.9)1
177	5.0 - 9.0% of mass 176	6.3 (7.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50	50 PPB	EG514	9/ 5/89	6:57
2	VSTD200	200 PPB	EG515	9/ 5/89	8:13
3	VSTD150	150 PPB	EG516	9/ 5/89	8:58
4	VSTD100	100 PPB	EG517	9/ 5/89	9:44
5	VSTD20	20 PPB	EG518	9/ 5/89	10:29
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID: EG734 BFB Injection Date: 9/26/89

Instrument ID.: 7002E5 BFB Injection Time: 9:35

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.5
75	30.0 - 60.0% of mass 95	57.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	93.1
175	5.0 - 9.0% of mass 174	8.2 (8.8)1
176	Greater than 95.0%, but less than 101.0% of mass 174	91.4 (98.1)1
177	5.0 - 9.0% of mass 176	5.6 (6.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50	50 PPB	EG735	9/26/89	10:07
2	VBLK3	METHOD BLANK	EG736	9/26/89	11:10
3	TRIP BL	EA#4474	EG737	9/26/89	12:17
4	WRW-1	EA#4518	EG741	9/26/89	15:02
5	WRW-2	EA#4519	EG742	9/26/89	15:44
6	WRW-3	EA#4520	EG743	9/26/89	16:26
7	ALW-2	EA#4521	EG744	9/26/89	17:07
8	FTAW-1	EA#4526	EG745	9/26/89	17:48
9	FTAW-2	EA#4527	EG746	9/26/89	18:28
10	FTAW-3	EA#4528	EG747	9/26/89	19:08
11	FTAW-4	EA#4529	EG748	9/26/89	19:49
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab Fil ID: EG749 BFB Injection Date: 9/27/89

Instrument ID.: 7002E5 BFB Injection Time: 6:53

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.5
75	30.0 - 60.0% of mass 95	56.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.2
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	98.2
175	5.0 - 9.0% of mass 174	8.0 (8.1)1
176	Greater than 95.0%, but less than 101.0% of mass 174	92.8 (94.5)1
177	5.0 - 9.0% of mass 176	7.3 (7.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50	50 PPB	EG750	9/27/89	7:36
2	VBLK4	METHOD BLANK	EG751	9/27/89	8:39
3	NELSWS1	EA# 4424	EG752	9/27/89	9:24
4	DUP#1	EA# 4477	EG753	9/27/89	10:04
5	DUP#1MS	EA# 4477	EG754	9/27/89	10:45
6	DUP#1MSD	EA# 4477	EG755	9/27/89	11:26
7	FTAW-1 DL	EA# 4526	EG756	9/27/89	12:06
8	NFFW-1	EA# 4530	EG757	9/27/89	12:47
9	NFFW-5	EA# 4531	EG758	9/27/89	13:27
10	NFFW-2	EA# 4532	EG759	9/27/89	14:07
11	NFFW-7	EA# 4533	EG760	9/27/89	14:48
12	DUP#3	EA# 4534	EG761	9/27/89	15:29
13	DUP#3MS	EA# 4534	EG762	9/27/89	16:09
14	DUP#3MSD	EA# 4534	EG763	9/27/89	16:49
15	NELSWS2	EA# 4535	EG764	9/27/89	17:30
16	NELSWS3	EA# 4536	EG765	9/27/89	18:10
17	ALSWS-1	EA# 4537	EG766	9/27/89	18:51
18					
19					
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21					
22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID: EG767 BFB Injection Date: 9/28/89

Instrument ID.: 7002E5 BFB Injection Time: 7:34

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.4
75	30.0 - 60.0% of mass 95	56.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.6
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	96.6
175	5.0 - 9.0% of mass 174	7.8 (8.1)1
176	Greater than 95.0%, but less than 101.0% of mass 174	95.5 (98.9)1
177	5.0 - 9.0% of mass 176	6.7 (7.0)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50	50 PPB	EG768	9/28/89	8:18
2	VBLK5	METHOD BLANK	EG769	9/28/89	9:19
3	NFFW-5 DL	EA#4531	EG770	9/28/89	9:59
4	ALSWS-2	EA#4538	EG771	9/28/89	10:40
5	9MSLSWS1	EA#4541	EG774	9/28/89	12:40
6	9MSLSWS2	EA#4542	EG775	9/28/89	13:21
7	9MSLSWS3	EA#4543	EG776	9/28/89	14:01
8	9MSLSWS4	EA#4544	EG777	9/28/89	14:42
9	DUP#2	EA#4545	EG778	9/28/89	15:23
10	DUP#2MS	EA#4545	EG779	9/28/89	16:03
11	DUP#2MSD	EA#4545	EG780	9/28/89	16:44
12	UGSWS-1	EA#4546	EG781	9/28/89	17:24
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22					

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5A
VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID: EG789 BFB Injection Date: 9/30/89

Instrument ID.: 7002E5 BFB Injection Time: 8:19

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

m/	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.7
75	30.0 - 60.0% of mass 95	55.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.5
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	83.5
175	5.0 - 9.0% of mass 174	6.4 (7.6)1
176	Greater than 95.0%, but less than 101.0% of mass 174	80.3 (96.2)1
177	5.0 - 9.0% of mass 176	6.1 (7.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50	50 PPB	EG790	9/30/89	8:46
2	VBLK6	METHOD BLANK	EG791	9/30/89	9:52
3	NFFW-4 RE	EA# 4463	EG792	9/30/89	10:33
4	ALSWS-3	EA# 4539	EG793	9/30/89	11:14
5	ALSWS-4	EA# 4540	EG794	9/30/89	11:54
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Lab File ID: EG795 BFB Injection Date: 10/ 2/89

Instrument ID.: 7002E5 BFB Injection Time: 7:04

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.2
75	30.0 - 60.0% of mass 95	53.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.4
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	81.9
175	5.0 - 9.0% of mass 174	6.5 (8.0)1
176	Greater than 95.0%, but less than 101.0% of mass 174	80.8 (98.7)1
177	5.0 - 9.0% of mass 176	6.2 (7.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50	50PPB	EG796	10/ 2/89	7:36
2	VSTD200	200PPB	EG797	10/ 2/89	8:24
3	VSTD150	150PPB	EG798	10/ 2/89	9:10
4	VSTD100	100PPB	EG799	10/ 2/89	9:55
5	VSTD20	20PPB	EG800	10/ 2/89	10:41
6	VBLK1	METHOD BLANK	EG801	10/ 2/89	11:26
7	NELSS-1	EA# 4547	EG802	10/ 2/89	12:11
8	NELSS-2	EA# 4548	EG803	10/ 2/89	12:57
9	ALSS-1	EA# 4549	EG804	10/ 2/89	13:43
10	ALSS-2	EA# 4550	EG805	10/ 2/89	14:28
11	ALSS-3	EA# 4551	EG806	10/ 2/89	15:13
12	ALSS-4	EA# 4552	EG807	10/ 2/89	15:59
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Lab File ID: EG808 BFB Injection Date: 10/ 3/89

Instrument ID.: 7002E5 BFB Injection Time: 9:22

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.1
75	30.0 - 60.0% of mass 95	59.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.9
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	85.7
175	5.0 - 9.0% of mass 174	6.1 (7.1)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.2 (99.4)1
177	5.0 - 9.0% of mass 176	6.1 (7.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50	50 PPB	EG809	10/ 3/89	9:53
2	VBLK2	METHOD BLANK	EG810	10/ 3/89	10:53
3	9 NSLSS-1	EA# 4553	EG811	10/ 3/89	11:39
4	9 NSLSS-2	EA# 4554	EG812	10/ 3/89	12:20
5	9 NSLSS-3	EA# 4555	EG813	10/ 3/89	13:00
6	9 NSLSS-1 RE	EA# 4553	EG814	10/ 3/89	13:42
7	9 NSLSS-4	EA# 4556	EG815	10/ 3/89	14:23
8	UGSS-1	EA# 4557	EG816	10/ 3/89	15:04
9	DUP#4	EA# 4558	EG817	10/ 3/89	15:45
10	DUP#4MS	EA# 4558	EG818	10/ 3/89	16:26
11	DUP#4MSD	EA# 4558	EG819	10/ 3/89	17:07
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RSB 11/6/89

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2 021

B. Sample Data

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WRW-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4518

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG741

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	10.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WRW-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4518

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG741

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
4.				
5.				
6.				
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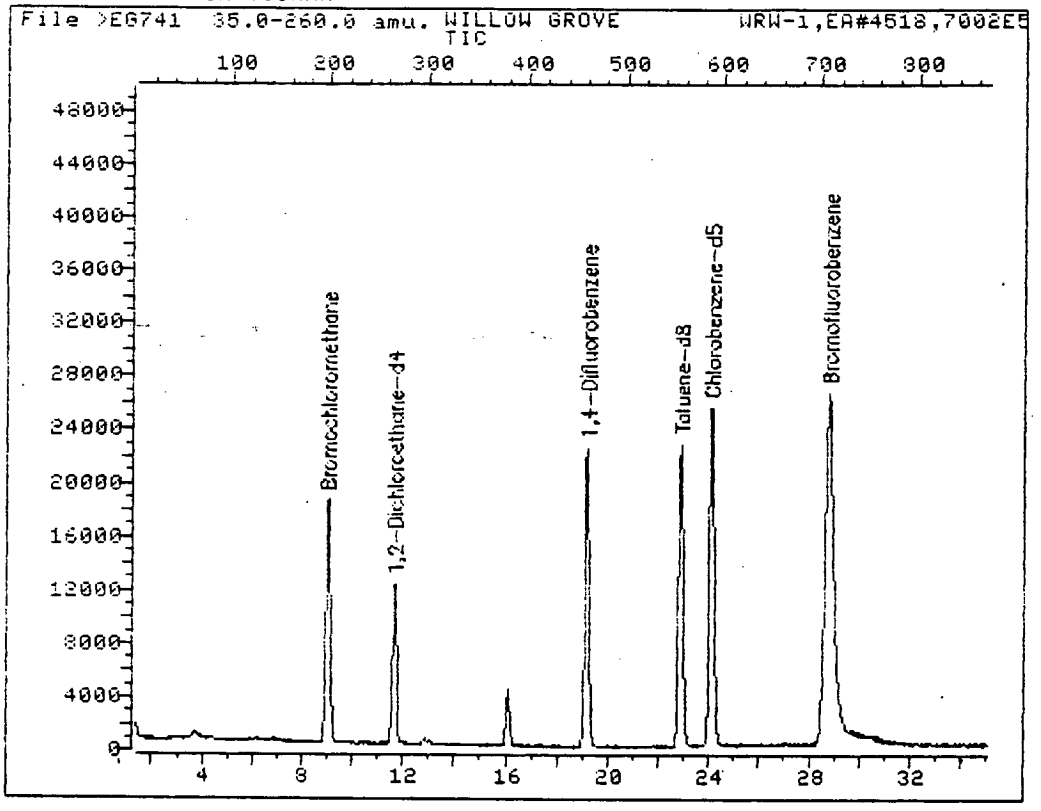
TOTAL ION CHROMATOGRAM



Data File: >EG741::W3 Quant Output File: ^EG741::QT
Name: WILLOW GROVE
Misc: WRW-1,EA#4518,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Operator ID: CARL
Quant Time: 890926 15:38
Injected at: 890926 15:02

QUANT REPORT

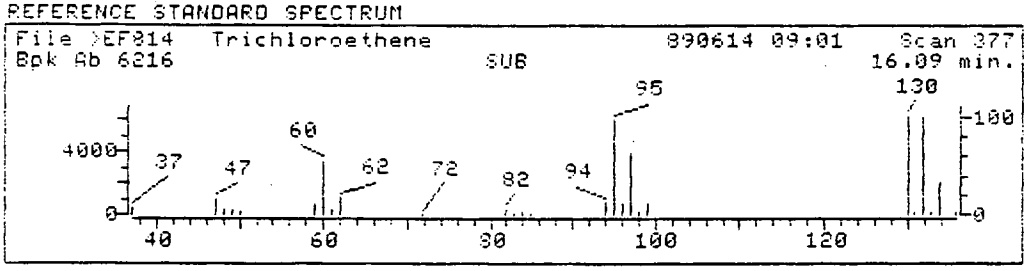
Operator ID: CARL Quant Rev: 6 Quant Time: 890926 15:38
Output File: ^EG741::QT Injected at: 890926 15:02
Data File: >EG741::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: WRW-1,EA#4518,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

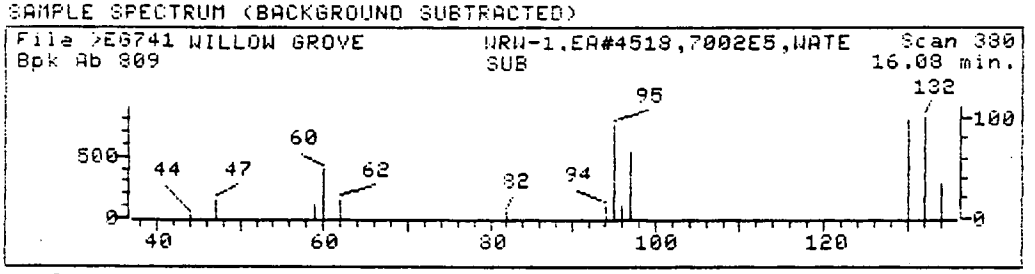
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.03	128.0	30009	50.00	UG/L	94
13)	1,2-Dichloroethane-d4	11.66	65.0	59246	49.81	UG/L	87
15)	*1,4-Difluorobenzene	19.18	114.0	108132	50.00	UG/L	91
23)	Trichloroethene	16.08	130.0	9451	9.69	UG/L	94
29)	*Chlorobenzene-d5	24.10	117.0	104430	50.00	UG/L	95
35)	Toluene-d8	22.90	98.0	108285	49.69	UG/L	99
40)	Bromofluorobenzene	28.79	95.0	101212	50.69	UG/L	95

* Compound is ISTD

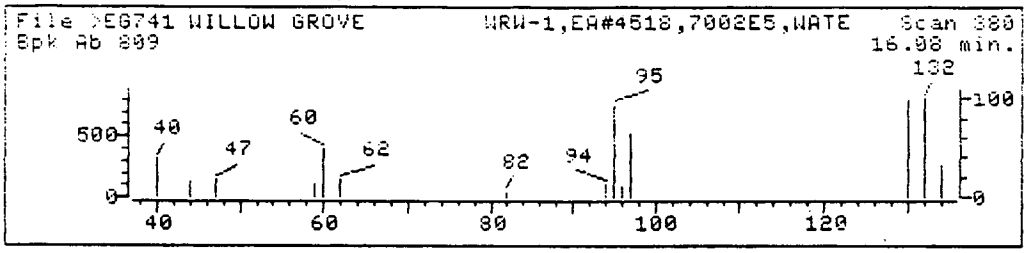
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG741::W3 Quant Output File: ^EG741::QT
Name: WILLOW GROVE
Misc: WRW-1,EA#4518,7002E5,WATER,5ML
Quant Time: 890926 15:38 Quant ID File: EVOA::BD
Injected at: 890926 15:02 Last Calibration: 890926 10:54

Compound No: 23
Compound Name: Trichloroethene
Scan Number: 380
Retention Time: 16.08 min.
Quant Ion: 130.0
Area: 9451
Concentration: 9.69 UG/L
q-value: 94

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WRW-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4519

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG742

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WRW-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4519

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG742

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
4.				
5.				
6.				
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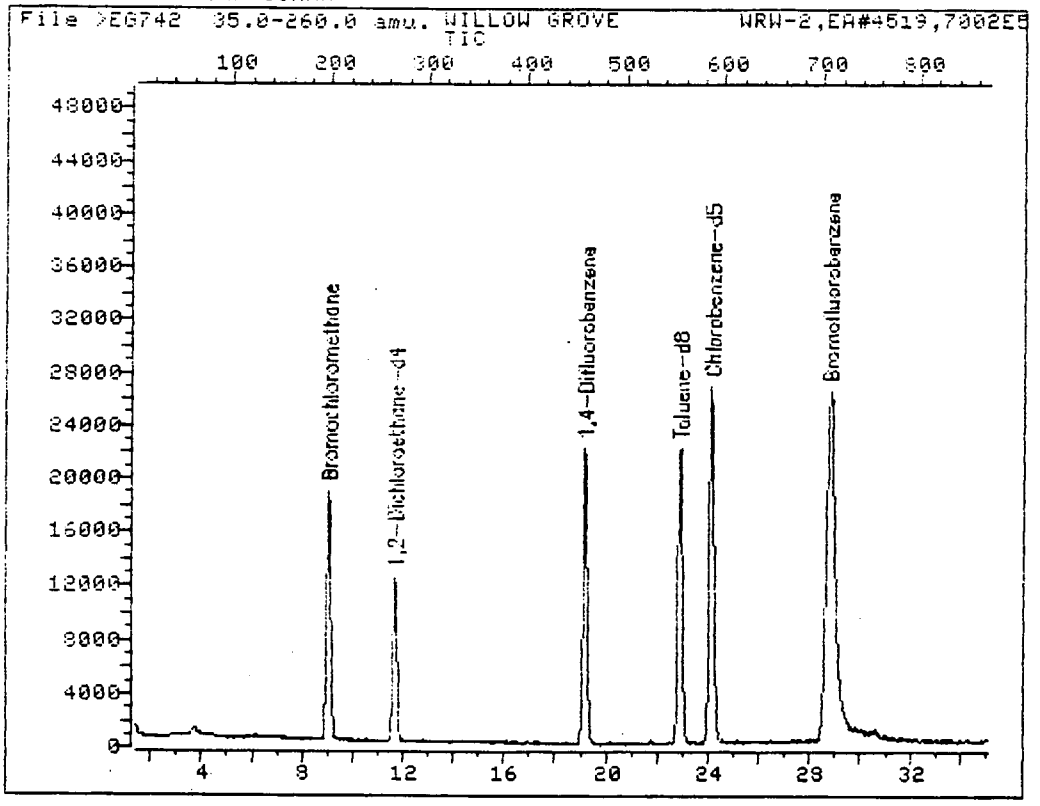
TOTAL ION CHROMATOGRAM



Data File: >EG742::W3 Quant Output File: ^EG742::QT
Name: WILLOW GROVE
Misc: WRW-2,EA#4519,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Operator ID: CARL
Quant Time: 890926 16:20
Injected at: 890926 15:44

QUANT REPORT

Operator ID: CARL
Output File: ^EG742::QT
Data File: >EG742::W3
Name: WILLOW GROVE
Misc: WRW-2,EA#4519,7002E5,WATER,5ML

Quant Rev: 6
Quant Time: 890926 16:20
Injected at: 890926 15:44
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.05	128.0	30000	50.00	UG/L	89
13)	1,2-Dichloroethane-d4	11.68	65.0	57956	48.74	UG/L	91
15)	*1,4-Difluorobenzene	19.16	114.0	106241	50.00	UG/L	93
29)	*Chlorobenzene-d5	24.12	117.0	104224	50.00	UG/L	99
35)	Toluene-d8	22.88	98.0	109428	50.32	UG/L	97
40)	Bromofluorobenzene	28.77	95.0	101352	50.86	UG/L	95

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WRW-3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4520

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG743

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	4.	J
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WRW-3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4520

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG743

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
4.				
5.				
6.				
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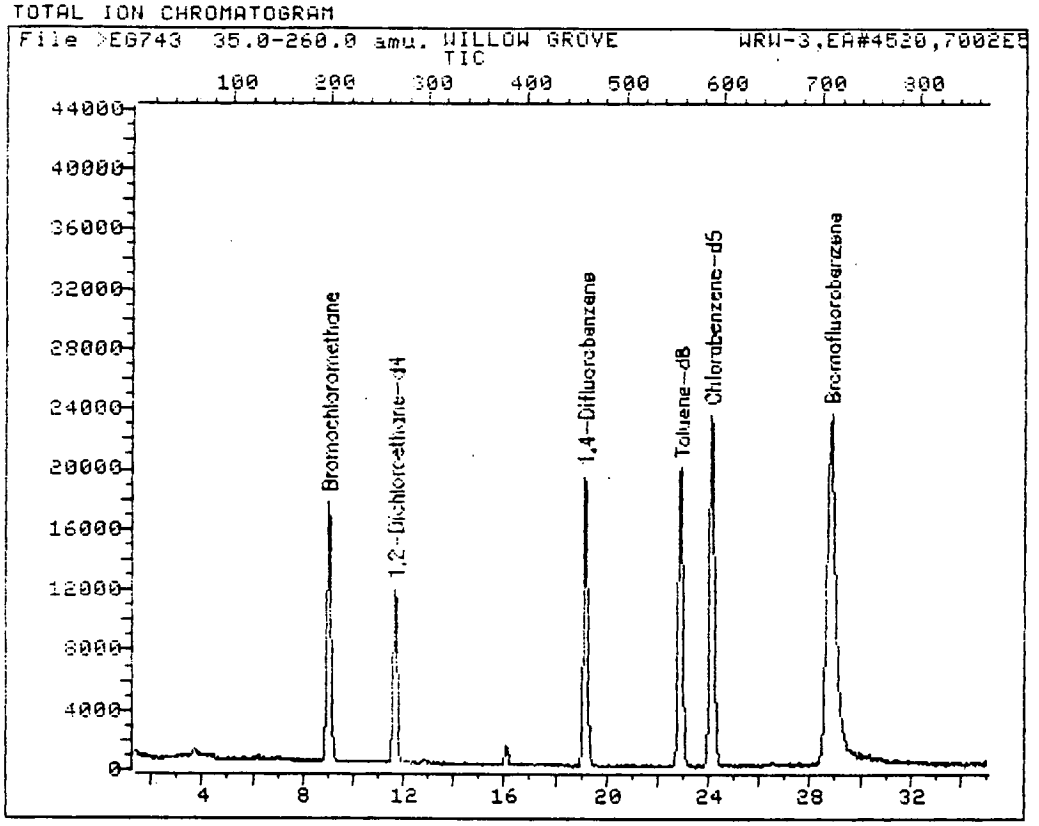
27.				
28.				
29.				
30.				

TOTAL ION CHROMATOGRAM



Data File: >EG743::W3 Quant Output File: ^EG743::QT
Name: WILLOW GROVE
Misc: WRW-3,EA#4520,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Op rator ID: CARL
Quant Time: 890926 17:02
Injected at: 890926 16:26

QUANT REPORT

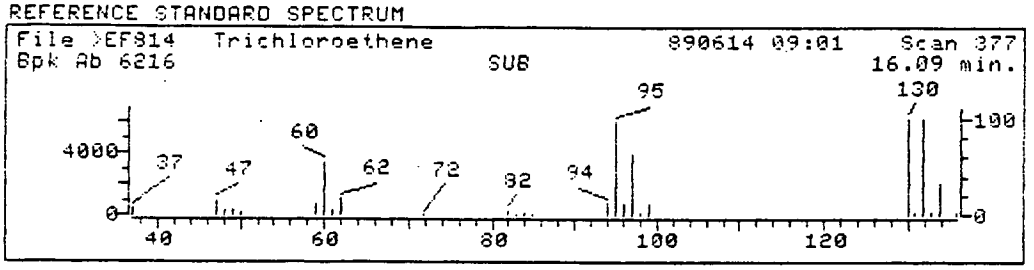
Operator ID: CARL Quant Rev: 6 Quant Time: 890926 17:02
Output File: ^EG743::QT Injected at: 890926 16:26
Data File: >EG743::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: WRW-3,EA#4520,7002E5,WATER,5ML

ID File: EVOA::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

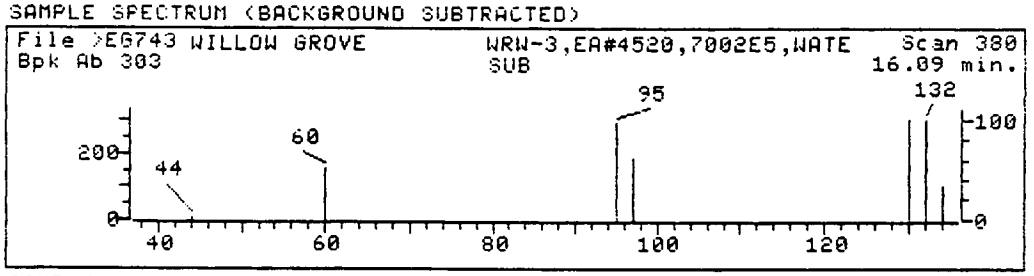
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.04	128.0	27042	50.00	UG/L	88
13)	1,2-Dichloroethane-d4	11.67	65.0	55335	51.63	UG/L	87
15)	*1,4-Difluorobenzene	19.15	114.0	94759	50.00	UG/L	91
23)	Trichloroethene	16.09	130.0	3299	3.86	UG/L	94
29)	*Chlorobenzene-d5	24.11	117.0	94259	50.00	UG/L	95
35)	Toluene-d8	22.91	98.0	97639	49.64	UG/L	99
40)	Bromofluorobenzene	28.84	95.0	88377	49.04	UG/L	91

* Compound is ISTD

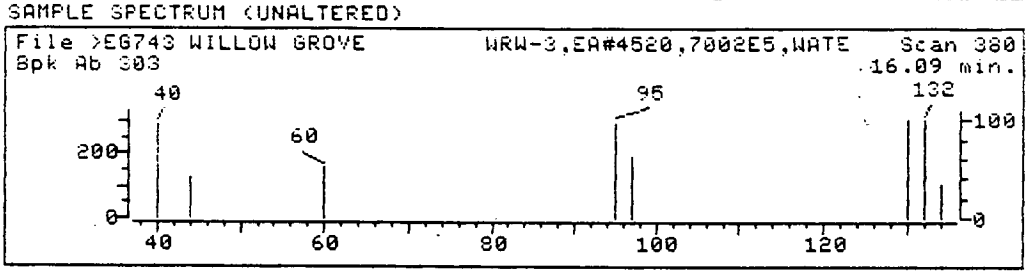
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG743::W3 Quant Output File: ^EG743::QT
Name: WILLOW GROVE
Misc: WRW-3,EA#4520,7002E5,WATER,5ML
Quant Time: 890926 17:02 Quant ID File: EVOA::BD
Injected at: 890926 16:26 Last Calibration: 890926 10:54

Compound No: 23
Compound Name: Trichloroethene
Scan Number: 380
Retention Time: 16.09 min.
Quant Ion: 130.0
Area: 3299
Concentration: 3.86 UG/L
q-value: 94

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALW-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4521

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG744

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALW-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4521

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG744

Lev 1: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
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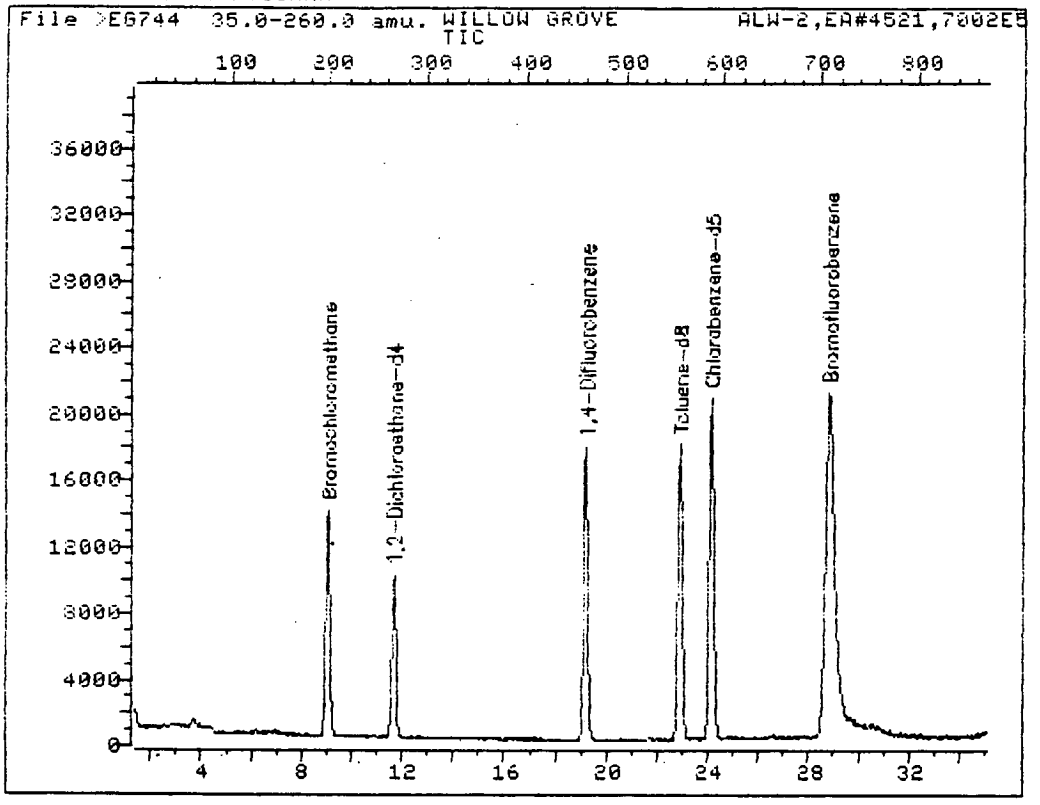
TOTAL ION CHROMATOGRAM



Data File: >EG744::W3 Quant Output File: ^EG744::QT
Name: WILLOW GROVE
Misc: ALW-2,EA#4521,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Operator ID: CARL
Quant Time: 890926 17:43
Injected at: 890926 17:07

QUANT REPORT

Operator ID: CARL
Output File: ^EG744::QT
Data File: >EG744::W3
Name: WILLOW GROVE
Misc: ALW-2,EA#4521,7002E5,WATER,5ML

Quant Rev: 6
Quant Time: 890926 17:43
Injected at: 890926 17:07
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.07	128.0	22723	50.00	UG/L	89
13)	1,2-Dichloroethane-d4	11.71	65.0	47602	52.85	UG/L	86
15)	*1,4-Difluorobenzene	19.19	114.0	86457	50.00	UG/L	90
29)	*Chlorobenzene-d5	24.15	117.0	80835	50.00	UG/L	97
35)	Toluene-d8	22.91	98.0	87422	51.83	UG/L	98
40)	Bromofluorobenzene	28.84	95.0	74805	48.40	UG/L	93

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FTAW-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4526

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG745

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	560.	E
75-34-3	1,1-Dichloroethane	290.	E
540-59-0	1,2-Dichloroethene (total)	65.	
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	1800.	E
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	2.	J
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	280.	E
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	4.	J
71-43-2	Benzene	44.	
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	31.	
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FTAW-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4526

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG745

Lev l: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN HYDROCARBON	14.15	6.	J
2.	- -	UNKNOWN HYDROCARBON	18.80	7.	J
3.	565-59-3	Pentane, 2,3-dimethyl- (8CI9	19.93	6.	J
4.	- -	UNKNOWN HYDROCARBON	21.17	7.	J
5.	62016-14-2	Octane, 2,5,6-trimethyl- (9C	22.41	20.	J
6.					
7.					
8.					
9.					
10.					
11.					
12.					
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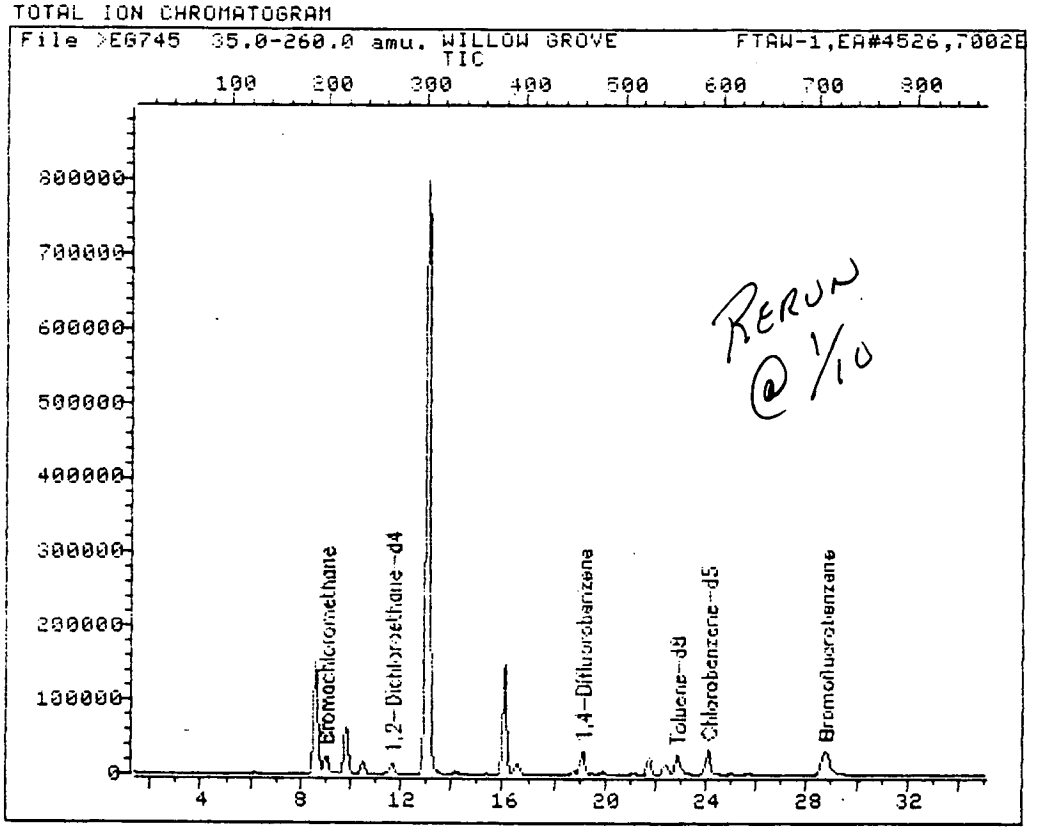
29.					
30.					

TOTAL ION CHROMATOGRAM



Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Operator ID: CARL
Quant Time: 890926 18:24
Injected at: 890926 17:48

QUANT REPORT

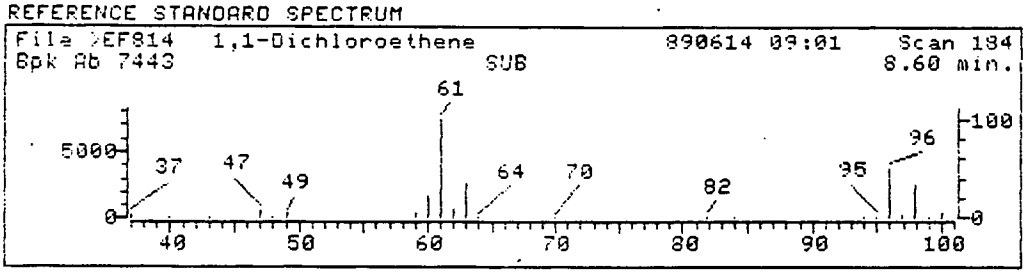
Operator ID: CARL Quant Rev: 6 Quant Time: 890926 18:24
Output File: ^EG745::QT Injected at: 890926 17:48
Data File: >EG745::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

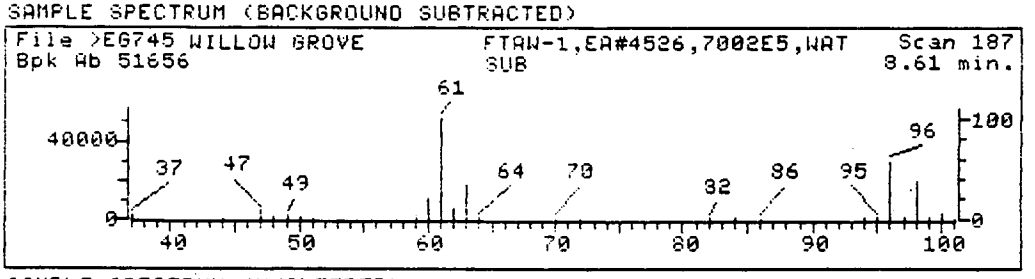
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.04	128.0	34536	50.00	UG/L	93
9)	1,1-Dichloroethene	8.61	96.0	339713	557.23	UG/L	91
10)	1,1-Dichloroethane	9.85	63.0	314438	286.61	UG/L	96
11)	1,2-Dichloroethene (total)	10.51	96.0	38558	64.55	UG/L	91
13)	1,2-Dichloroethane-d4	11.67	65.0	66634	48.68	UG/L	86
15)	*1,4-Difluorobenzene	19.15	114.0	119848	50.00	UG/L	91
17)	1,1,1-Trichloroethane	13.07	97.0	3340593	1780.35	UG/L	81
20)	Bromodichloromethane	13.07	83.0	4786	2.49	UG/L	95
23)	Trichloroethene	16.09	130.0	300096	277.73	UG/L	95
25)	1,1,2-Trichloroethane	16.79	97.0	3370	3.88	UG/L	89
26)	Benzene	16.60	78.0	58005	43.50	UG/L	95
29)	*Chlorobenzene-d5	24.11	117.0	120523	50.00	UG/L	97
32)	Tetrachloroethene	21.75	164.0	36242	30.61	UG/L	96
35)	Toluene-d8	22.87	98.0	123381	49.06	UG/L	99
40)	Bromofluorobenzene	28.76	95.0	119251	51.75	UG/L	98

* Compound is ISTD

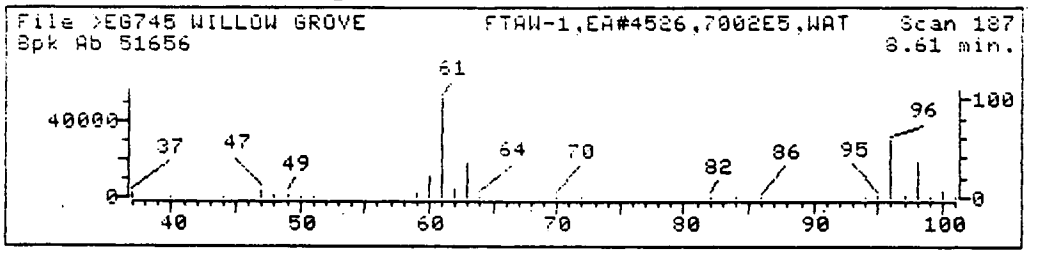
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



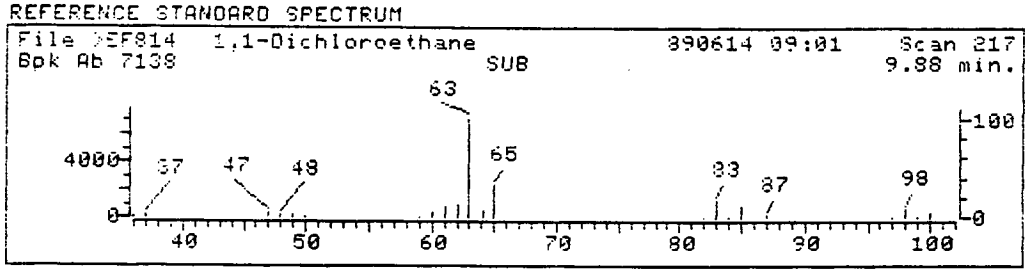
SAMPLE SPECTRUM (UNALTERED)



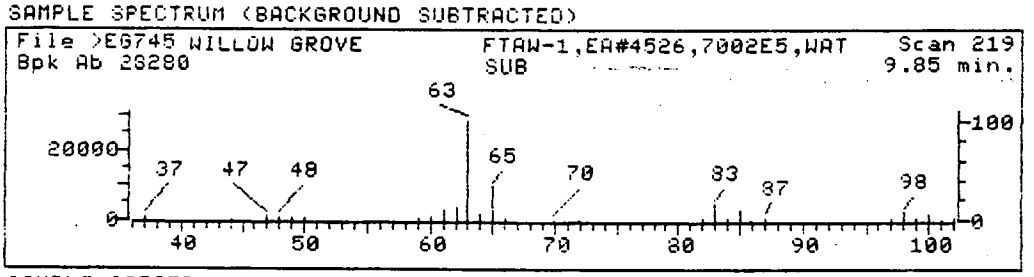
Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML
Quant Time: 890926 18:24 Quant ID File: EVOA::BD
Injected at: 890926 17:48 Last Calibration: 890926 10:54

Compound No: 9
Compound Name: 1,1-Dichloroethene
Scan Number: 187
Retention Time: 8.61 min.
Quant Ion: 96.0
Area: 339713
Concentration: 557.23 UG/L
q-value: 91

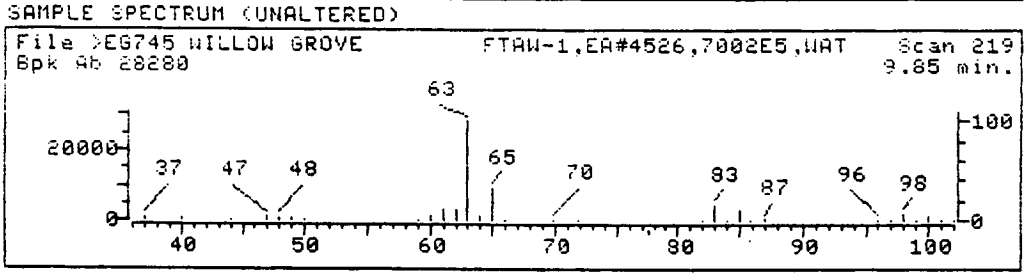
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



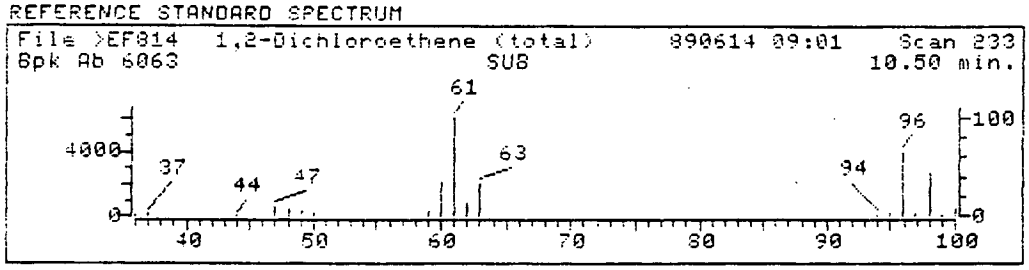
SAMPLE SPECTRUM (UNALTERED)



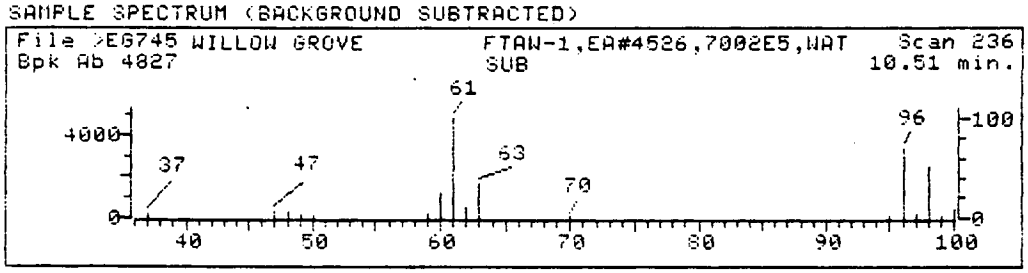
Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML
Quant Time: 890926 18:24 Quant ID File: EVOA::BD
Injected at: 890926 17:48 Last Calibration: 890926 10:54

Compound No: 10
Compound Name: 1,1-Dichloroethane
Scan Number: 219
Retention Time: 9.85 min.
Quant Ion: 63.0
Area: 314438
Concentration: 286.61 UG/L
q-value: 96

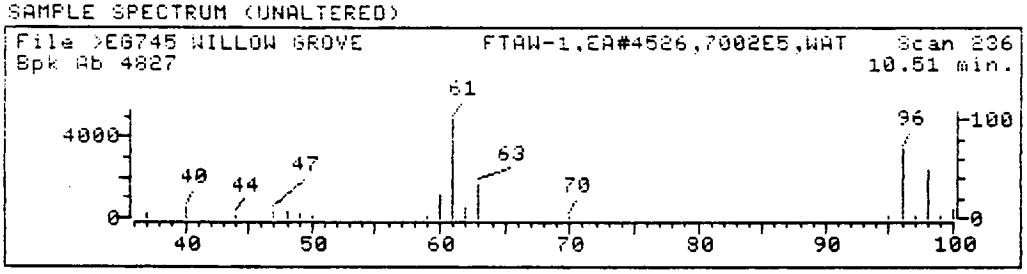
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



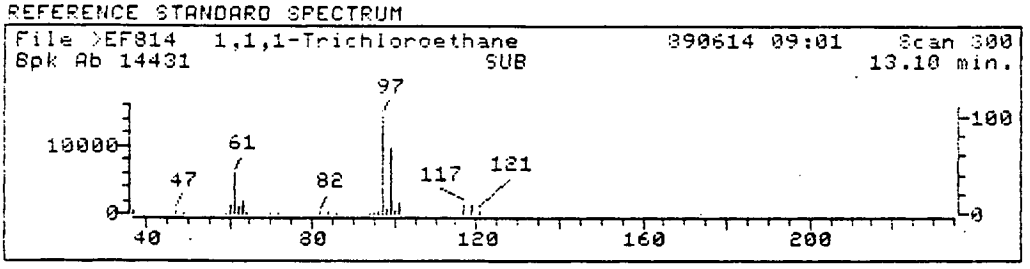
SAMPLE SPECTRUM (UNALTERED)



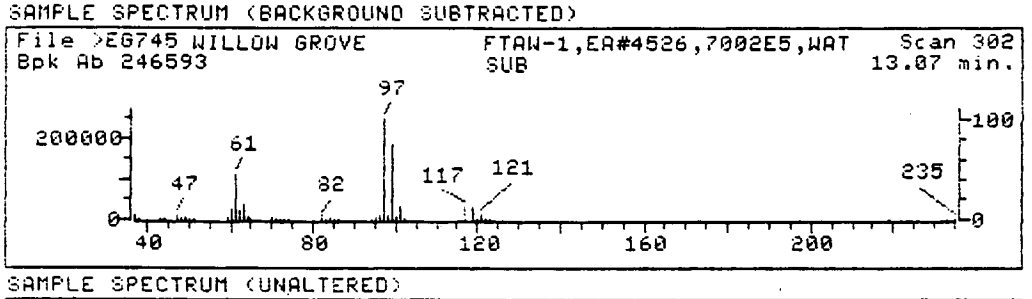
Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML
Quant Time: 890926 18:24 Quant ID File: EVOA::BD
Injected at: 890926 17:48 Last Calibration: 890926 10:54

Compound No: 11
Compound Name: 1,2-Dichloroethene (total)
Scan Number: 236
Retention Time: 10.51 min.
Quant Ion: 96.0
Area: 38558
Concentration: 64.55 UG/L
q-value: 91

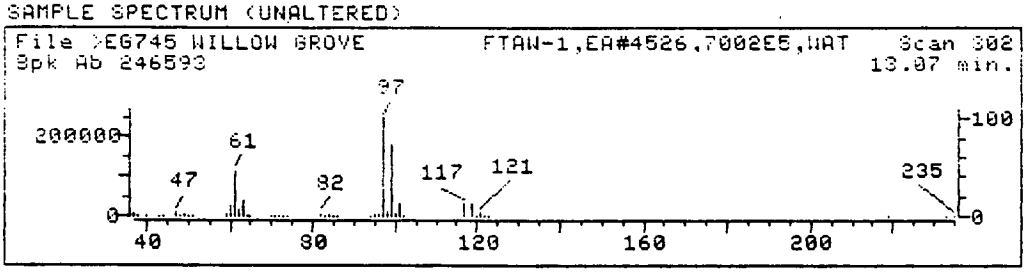
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



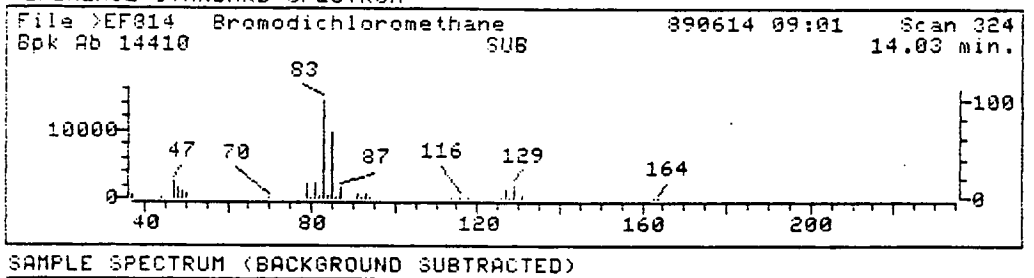
SAMPLE SPECTRUM (UNALTERED)



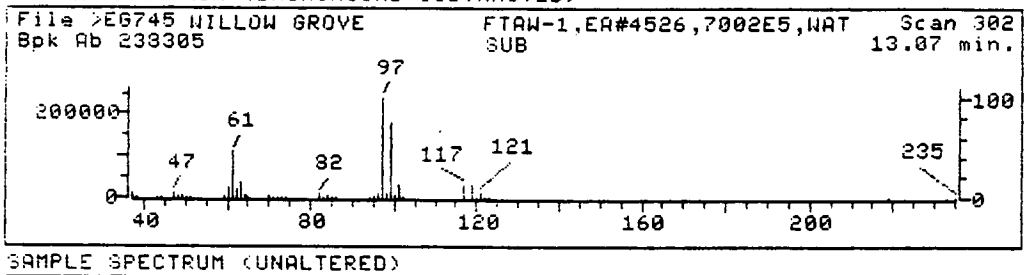
Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML
Quant Time: 890926 18:24 Quant ID File: EVOA::BD
Injected at: 890926 17:48 Last Calibration: 890926 10:54

Compound No: 17
Compound Name: 1,1,1-Trichloroethane
Scan Number: 302
R tention Time: 13.07 min.
Quant Ion: 97.0
Area: 3340593
Concentration: 1780.35 UG/L
q-value: 81

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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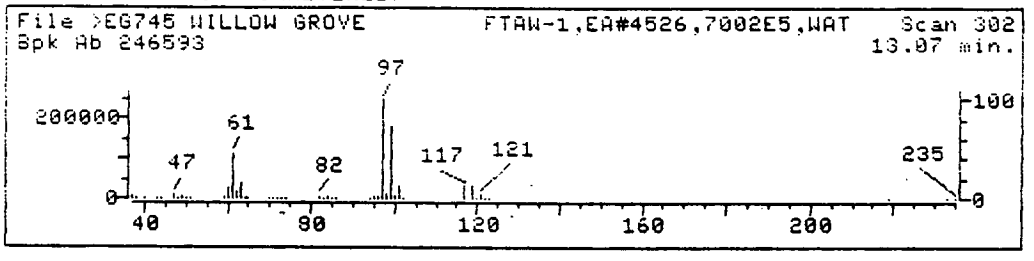
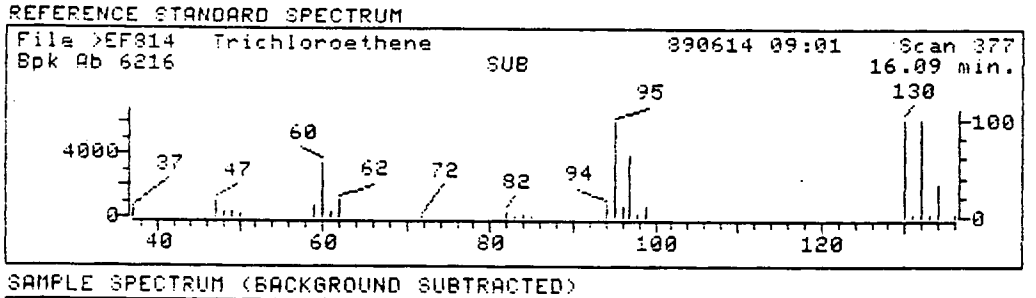


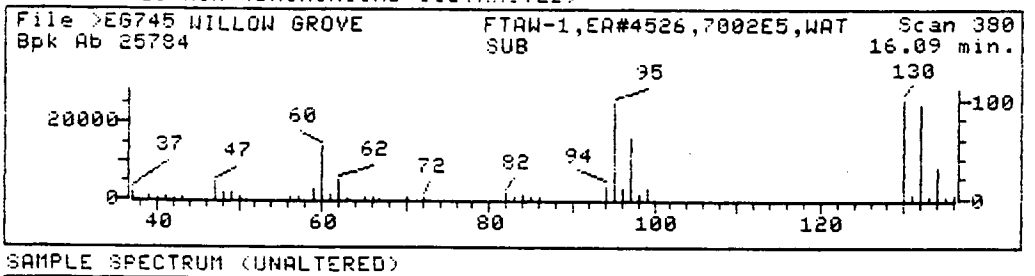
Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML
Quant Time: 890926 18:24 Quant ID File: EVOA::BD
Injected at: 890926 17:48 Last Calibration: 890926 10:54

Compound No: 20
Compound Name: Bromodichloromethane
Scan Number: 302
Retention Time: 13.07 min.
Quant Ion: 83.0
Area: 4786
Concentration: 2.49 UG/L
q-value: 95

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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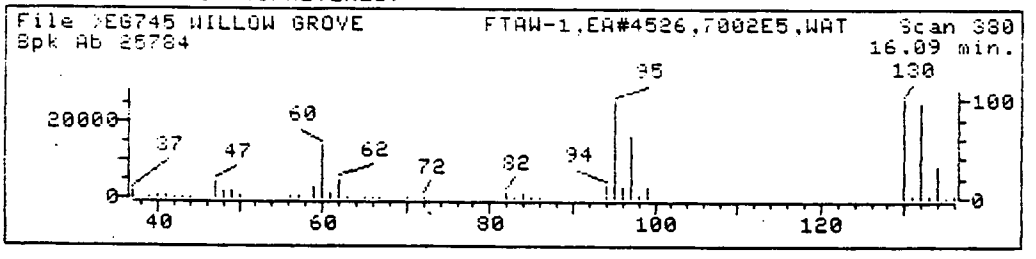
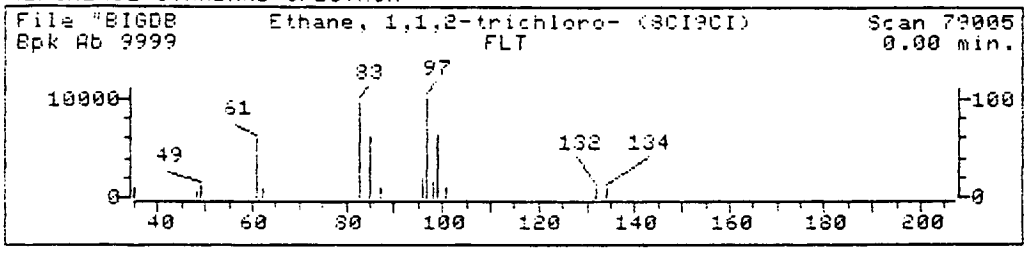


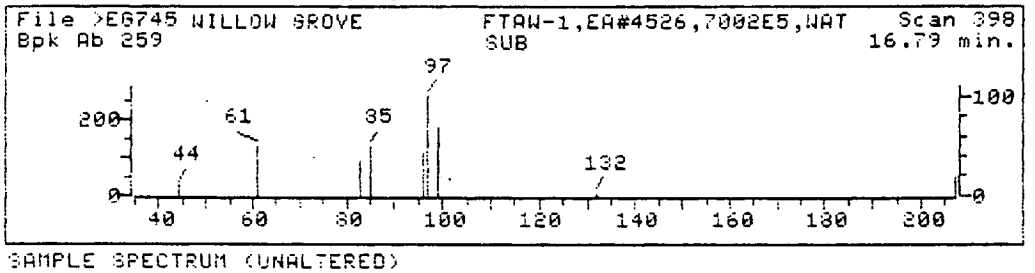
Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML
Quant Time: 890926 18:24 Quant ID File: EVOA::BD
Injected at: 890926 17:48 Last Calibration: 890926 10:54

Compound No: 23
Compound Name: Trichloroethene
Scan Number: 380
Retention Time: 16.09 min.
Quant Ion: 130.0
Area: 300096
Concentration: 277.73 UG/L
q-value: 95

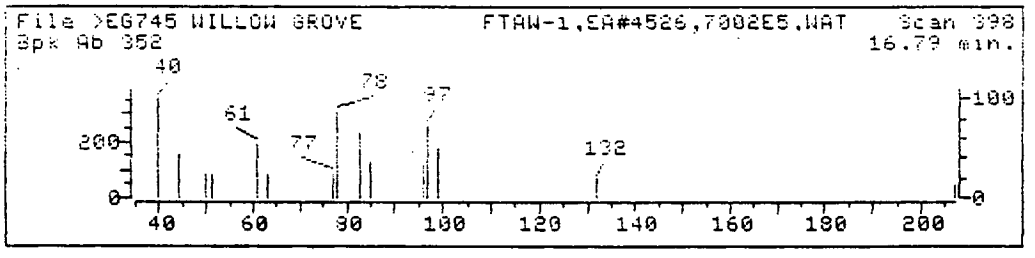
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



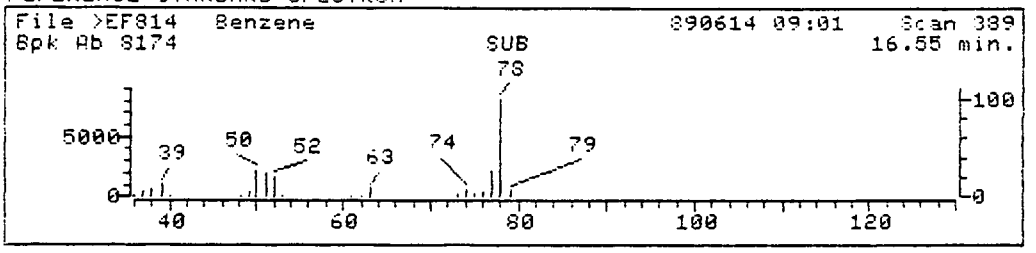
SAMPLE SPECTRUM (UNALTERED)



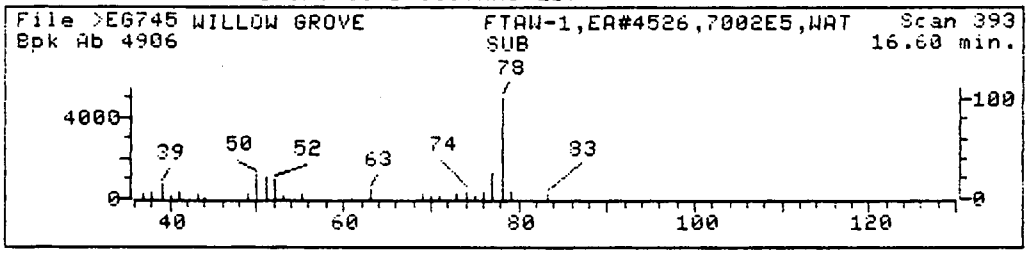
Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML
Quant Time: 890926 18:24 Quant ID File: EVOA::BD
Injected at: 890926 17:48 Last Calibration: 890926 10:54

Compound No: 25
Compound Name: 1,1,2-Trichloroethane
Scan Number: 398
Retention Time: 16.79 min.
Quant Ion: 97.0
Area: 3370
Concentration: 3.88 UG/L
q-value: 89

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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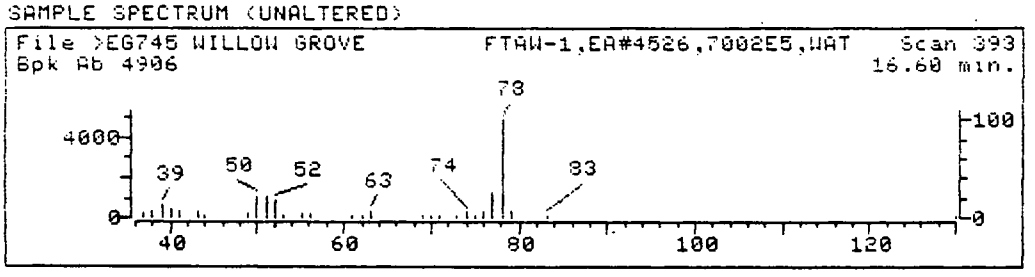
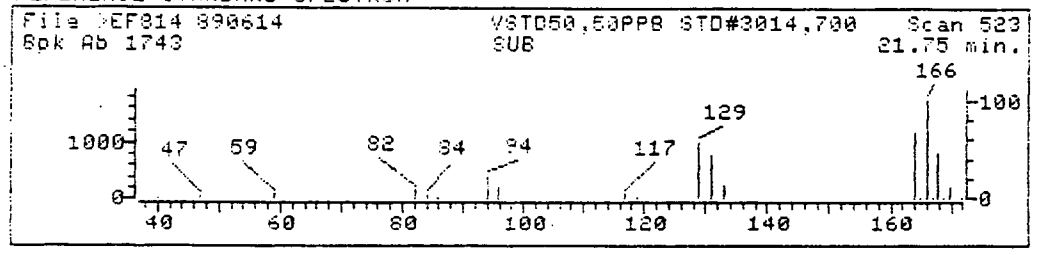


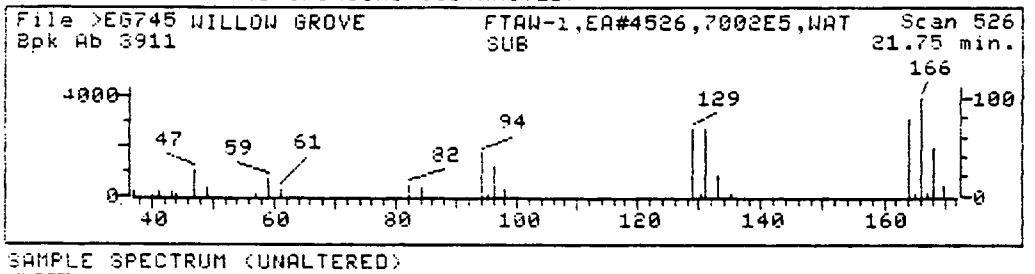
Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML
Quant Time: 890926 18:24 Quant ID File: EVOA::BD
Injected at: 890926 17:48 Last Calibration: 890926 10:54

Compound No: 26
Compound Name: Benzene
Scan Number: 393
Retention Time: 16.60 min.
Quant Ion: 78.0
Area: 58005
Concentration: 43.50 UG/L
q-value: 95

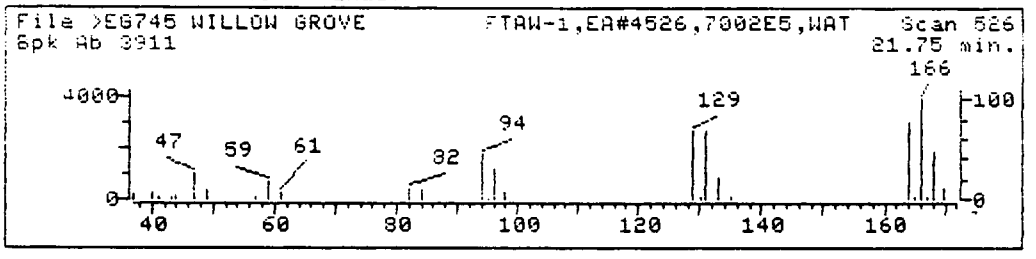
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

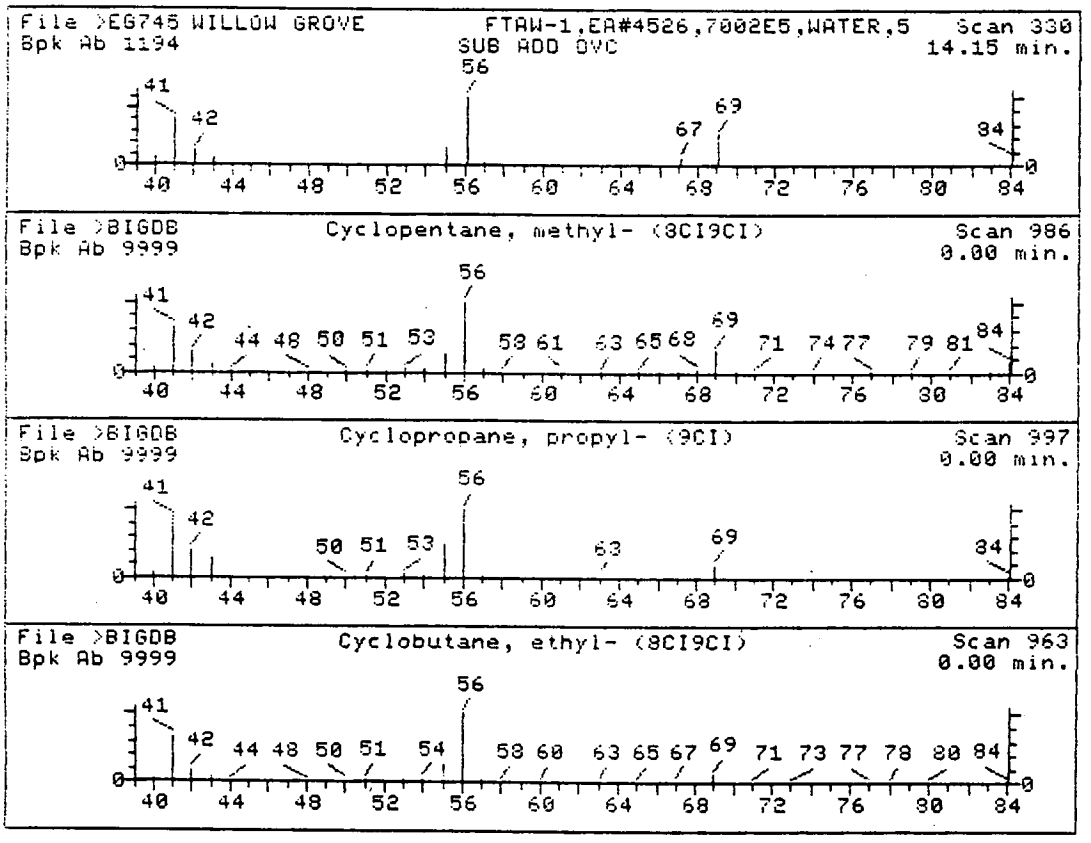


SAMPLE SPECTRUM (UNALTERED)



Data File: >EG745::W3 Quant Output File: ^EG745::QT
Name: WILLOW GROVE
Misc: FTAW-1,EA#4526,7002E5,WATER,5ML
Quant Time: 890926 18:24 Quant ID File: EVOA::BD
Injected at: 890926 17:48 Last Calibration: 890926 10:54

Compound No: 32
Compound Name: Tetrachloroethene
Scan Number: 526
Retention Time: 21.75 min.
Quant Ion: 164.0
Area: 36242
Concentration: 30.61 UG/L
q-value: 96



Retention time = 14.15 UNKNOWN HYDROCARBON

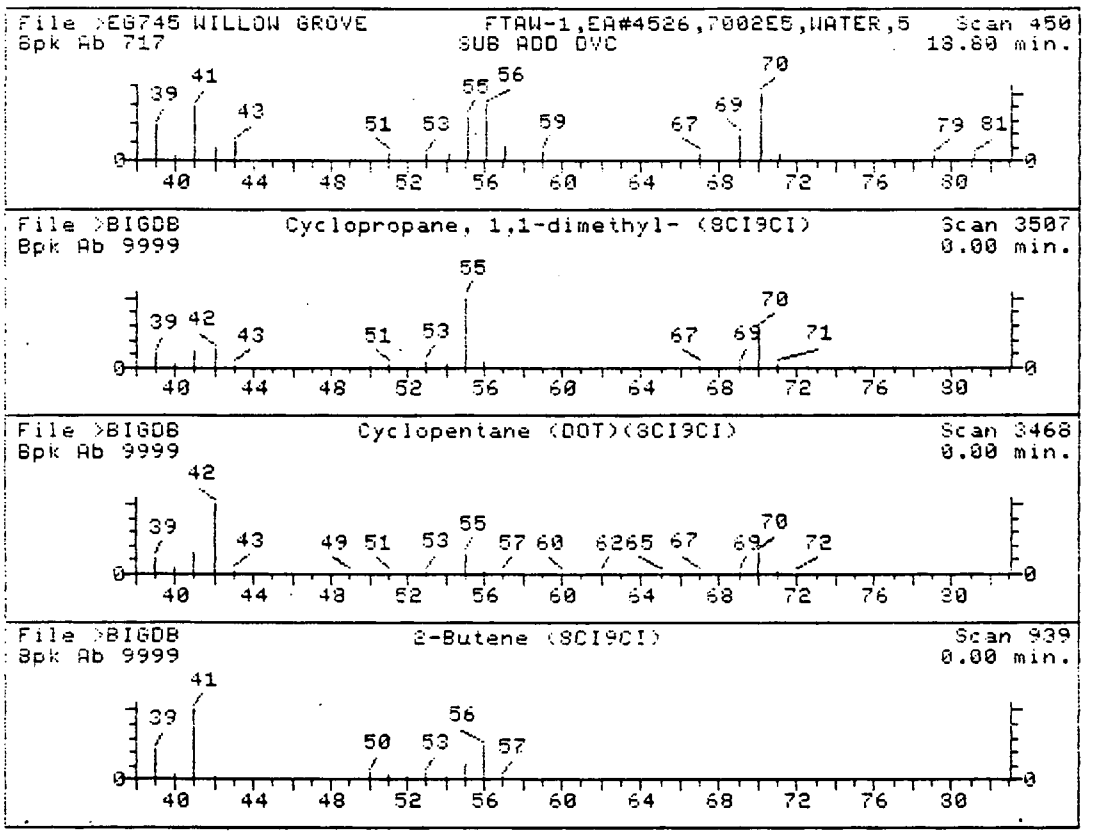
Area = 46944.00 Tentative Concentration is 6.00

1.	Cyclopentane, methyl- (8CI9CI)	84	C6H12
2.	Cyclopropane, propyl- (9CI)	84	C6H12
3.	Cyclobutane, ethyl- (8CI9CI)	84	C6H12
4.	1H-Tetrazole, 5-methyl- (8CI9CI)	84	C2H4N4
5.	3-Penten-2-one, (E)- (8CI9CI)	84	C5H8O
6.	1-Butene, 2,3-dimethyl- (8CI9CI)	84	C6H12
7.	1-Butene, 3,3-dimethyl- (8CI9CI)	84	C6H12

Sample file: >EG745 Spectrum #: 330
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	48*	96377	986	"BIGDB	40	47	2	0	71	22	17	19
2.	41*	2415727	997	"BIGDB	23	65	3	0	78	22	17	14

3.	40*	4806615	963	"BIGDB	35	48	2	0	100	30	14	17
4.	31*	4076362	998	"BIGDB	38	46	2	0	98	43	8	19
5.	20*	3102338	3421	"BIGDB	29	68	3	0	52	54	5	13
6.	15*	563780	5674	"BIGDB	20	50	2	0	48	58	3	13
7.	15*	558372	3420	"BIGDB	27	62	3	0	50	56	3	13



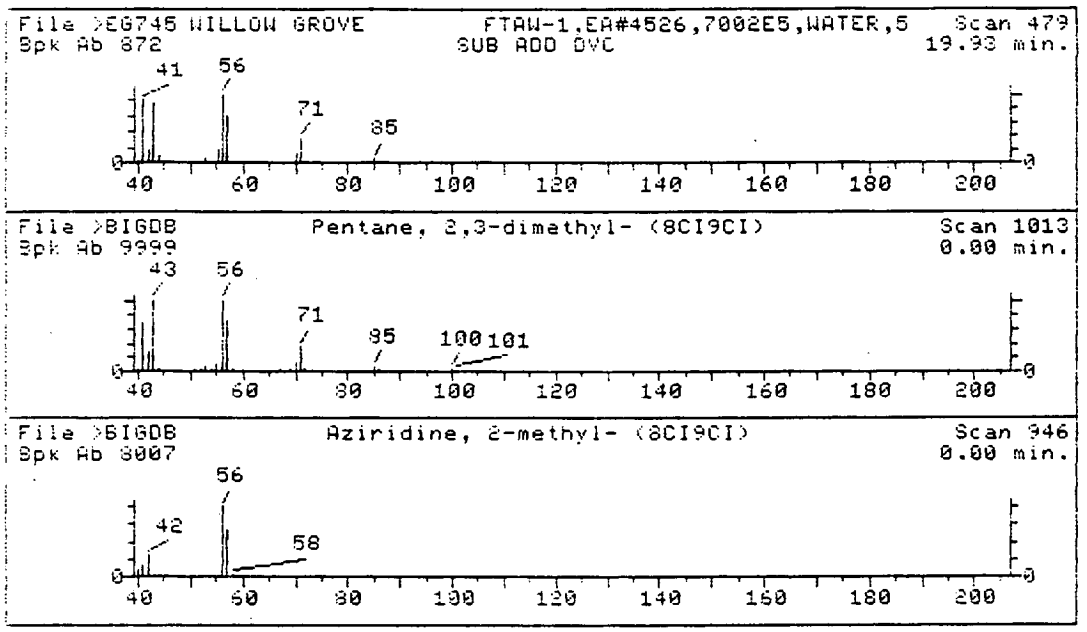
Retention time = 18.80 UNKNOWN HYDROCARBON

Area = 58989.00 Tentative Concentration is 7.00

1.	Cyclopropane, 1,1-dimethyl- (8CI9CI)	70	C5H10
2.	Cyclopentane (DOT)(8CI9CI)	70	C5H10
3.	2-Butene (8CI9CI)	56	C4H8
4.	Cyclobutane, 1,1,2,3,3-pentamethyl- (9CI)	126	C9H18
5.	2-Propenal	56	C3H4O
6.	2-Butenal, (Z)- (9CI)	70	C4H6O

Sample file: >EG745 Spectrum #: 450
Search sp ed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	27*	1630940	3507	"BIGDB	26	57	3	0	184	38	10	13
2.	25*	287923	3468	"BIGDB	21	53	2	0	231	49	7	13
3.	25*	107017	939	"BIGDB	24	57	3	0	122	48	7	12
4.	15	57905869	3519	"BIGDB	26	46	0	0	100	60	3	13
5.	11*	7	17	PRIPOL	24	62	1	0	108	65	2	14
6.	11*	15798648	3514	"BIGDB	26	79	3	0	83	65	2	13



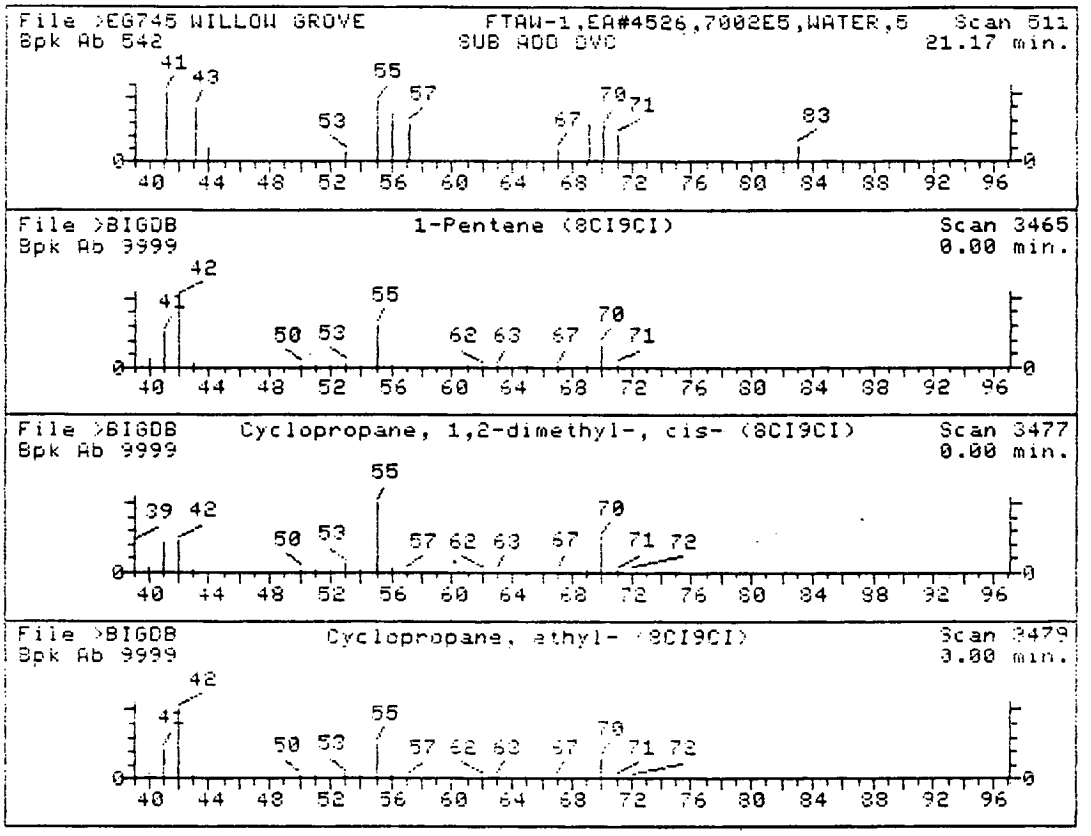
Retention time = 19.93

Area = 51087.00 Tentative Concentration is 6.00

1. Pentane, 2,3-dimethyl- (8CI9CI) 100 C7H16
2. Aziridine, 2-methyl- (8CI9CI) 57 C3H7N

Sample file: >EG745 Spectrum #: 479
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	78	565593	1013	"BIGDB	49	46	2	0	78	3	55	13
2.	25*	75558	946	"BIGDB	22	45	2	0	71	47	7	13



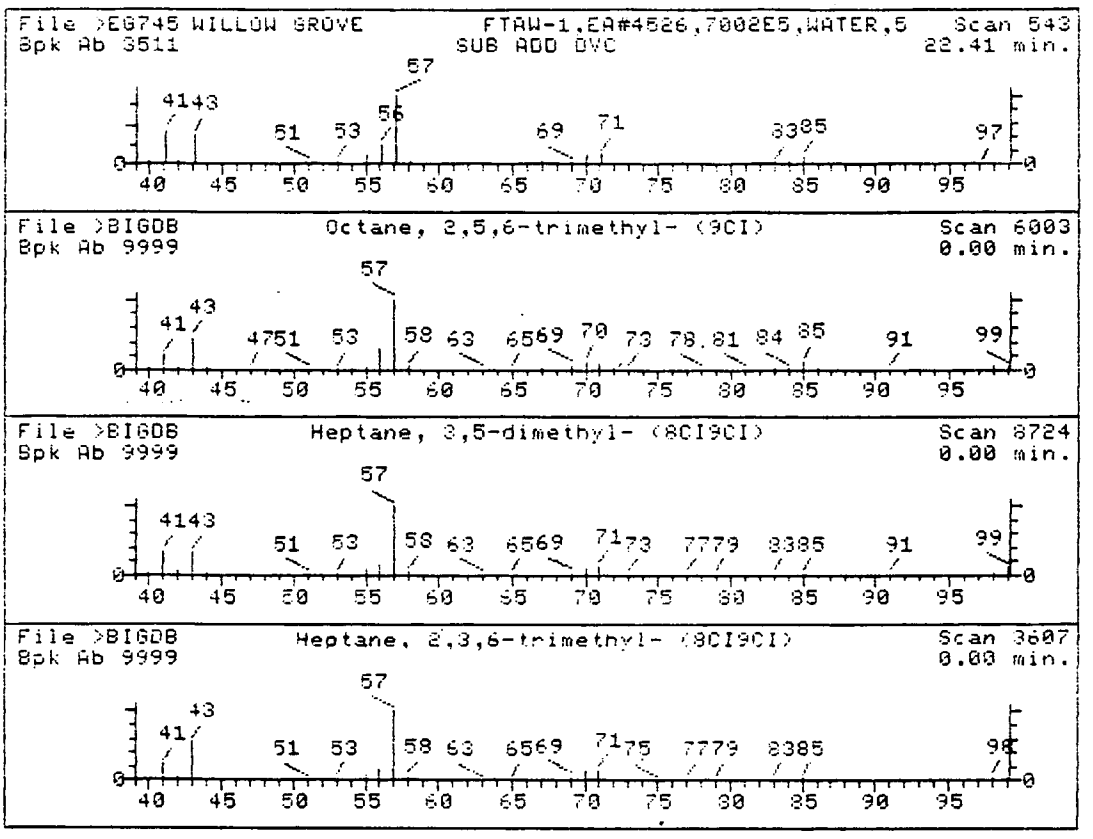
Retention time = 21.17 UNKNOWN HYDROCARBON

Area = 57680.00 Tentative Concentration is 7.00

1. 1-Pentene (8CI9CI) 70 C5H10
2. Cyclopropane, 1,2-dimethyl-, cis- (8CI9CI) 70 C5H10
3. Cyclopropane, ethyl- (8CI9CI) 70 C5H10
4. Cyclopropane, 1,2-dimethyl-, trans- (8CI9CI) 70 C5H10
5. Aziridine, 2,2-dimethyl- (8CI9CI) 71 C4H9N

Sample file: >EG745 Spectrum #: 511
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	25*	109671	3465	"BIGDB	25	61	3	0	113	50	7	13
2.	25*	930187	3477	"BIGDB	22	69	3	0	86	50	7	12
3.	20*	1191964	3479	"BIGDB	25	61	2	0	132	51	5	14
4.	15*	2402064	3481	"BIGDB	20	70	2	0	86	56	3	13
5.	15*	2658244	973	"BIGDB	23	86	3	0	82	58	3	12



Retention time = 22.41

Area = 203447.0 Tentative Concentration is 19.00

1.	Octane, 2,5,6-trimethyl- (9CI)	156	C11H24
2.	Heptane, 3,5-dimethyl- (8CI9CI)	128	C9H20
3.	Heptane, 2,3,6-trimethyl- (8CI9CI)	142	C10H22
4.	Heptane, 2,3,5-trimethyl- (8CI9CI)	142	C10H22
5.	Pentane, 2,2,3,4-tetramethyl- (8CI9CI)	128	C9H20
6.	Pentane, 3-ethyl-2,2-dimethyl- (8CI9CI)	128	C9H20
7.	Hexane, 4-ethyl-2-methyl- (8CI9CI)	128	C9H20

Sample file: >EG745 Spectrum #: 543
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	78	62016142	6003	"BIGDB	56	31	2	0	95	5	55	19
2.	52	926829	8724	"BIGDB	40	42	2	0	100	18	20	14
3.	52	4032933	3607	"BIGDB	40	42	2	0	100	16	20	14
4.	52	20278857	1203	"BIGDB	37	39	2	0	100	20	20	12
5.	52	1186534	1016	"BIGDB	49	37	2	0	67	20	20	17
6.	35	16747323	971	"BIGDB	36	43	2	0	100	26	14	12
7.	25	3074757	8735	"BIGDB	43	46	2	0	56	46	7	13

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FTAW-1 DL

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4526

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG756

L vel: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	100.	U
74-83-9	Bromomethane	100.	U
75-01-4	Vinyl Chloride	100.	U
75-00-3	Chloroethane	100.	U
75-09-2	Methylene Chloride	50.	U
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	50.	U
75-35-4	1,1-Dichloroethene	460.	D
75-34-3	1,1-Dichloroethane	270.	D
540-59-0	1,2-Dichloroethene (total)	57.	D
67-66-3	Chloroform	50.	U
107-06-2	1,2-Dichloroethane	50.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	1300.	D
56-23-5	Carbon Tetrachloride	50.	U
108-05-4	Vinyl Acetate	100.	U
75-27-4	Bromodichloromethane	50.	U
78-87-5	1,2-Dichloropropane	50.	U
10061-01-5	cis-1,3-Dichloropropene	50.	U
79-01-6	Trichloroethene	190.	D
124-48-1	Dibromochloromethane	50.	U
79-00-5	1,1,2-Trichloroethane	50.	U
71-43-2	Benzene	25.	J D
10061-02-6	trans-1,3-Dichloropropene	50.	U
75-25-2	Bromoform	50.	U
108-10-1	4-Methyl-2-Pentanone	100.	U
591-78-6	2-Hexanone	100.	U
127-18-4	Tetrachloroethene	25.	J D
79-34-5	1,1,2,2-Tetrachloroethane	50.	U
108-88-3	Toluene	50.	U
108-90-7	Chlorobenzene	50.	U
100-41-4	Ethylbenzene	50.	U
100-42-5	Styrene	50.	U
1330-20-7	Xylen (total)	50.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FTAW-1 DL

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4526

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG756

Lev l: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 10.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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27.				
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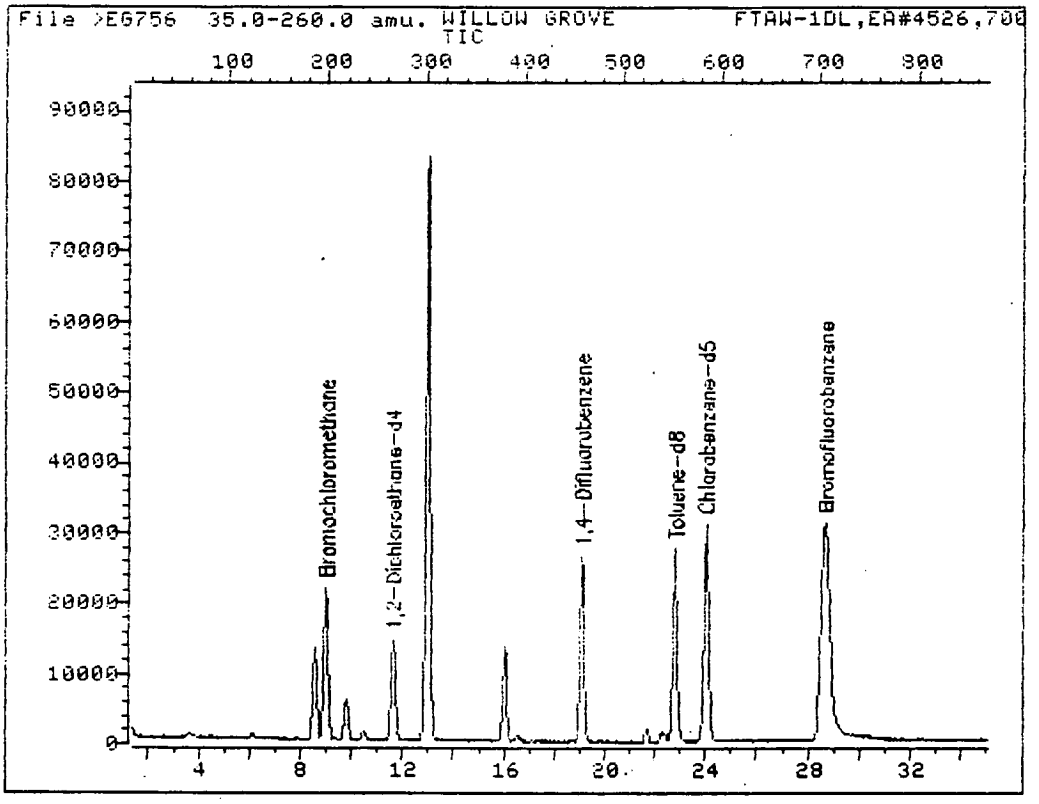
29.				
30.				

TOTAL ION CHROMATOGRAM



Data File: >EG756::W3 Quant Output File: ^EG756::QT
Name: WILLOW GROVE
Misc: FTAW-1DL,EA#4526,7002E5,WATER,5ML (1/10 DIL)

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 12:42
Injected at: 890927 12:06

QUANT REPORT

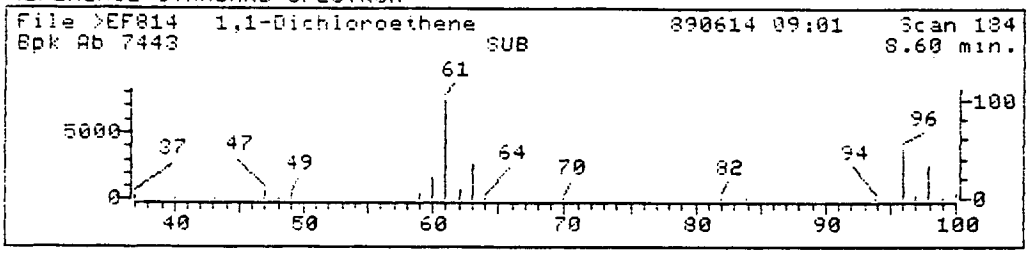
Operator ID: CARL Quant Rev: 6 Quant Time: 890927 12:42
Output File: ^EG756::QT Injected at: 890927 12:06
Data File: >EG756::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: FTAW-1DL,EA#4526,7002E5,WATER,5ML (1/10 DIL)

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

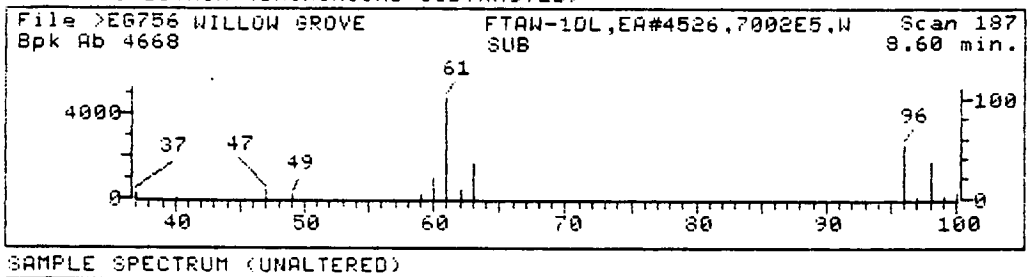
	Compound	R.T.	Q. ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	128.0	35331	50.00	UG/L	94
9)	1,1-Dichloroethene	8.60	96.0	28073	46.46	UG/L	94
10)	1,1-Dichloroethane	9.80	63.0	29114	26.53	UG/L	91
11)	1,2-Dichloroethene (total)	10.50	96.0	3527	5.67	UG/L	92
13)	1,2-Dichloroethane-d4	11.62	65.0	69783	52.55	UG/L	87
15)	*1,4-Difluorobenzene	19.10	114.0	124428	50.00	UG/L	90
17)	1,1,1-Trichloroethane	13.02	97.0	333527	132.23	UG/L	95
23)	Trichloroethene	16.04	130.0	28005	19.27	UG/L	92
26)	Benzene	16.54	78.0	4738	2.54	UG/L	88
29)	*Chlorobenzene-d5	24.02	117.0	126180	50.00	UG/L	95
32)	Tetrachloroethene	21.70	164.0	3254	2.53	UG/L	88
35)	Toluene-d8	22.82	98.0	128213	48.33	UG/L	98
40)	Bromofluorobenzene	28.67	95.0	118545	49.79	UG/L	99

* Compound is ISTD

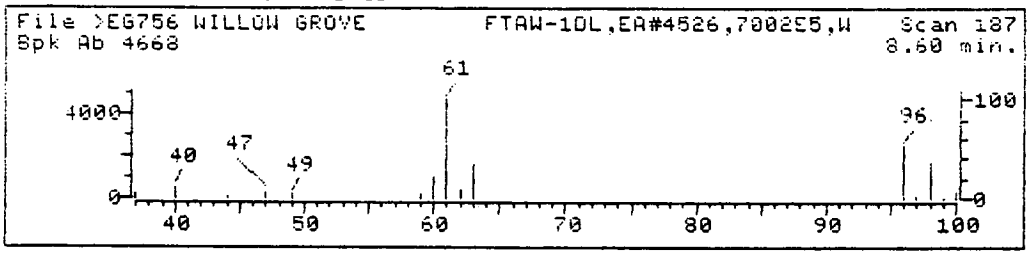
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



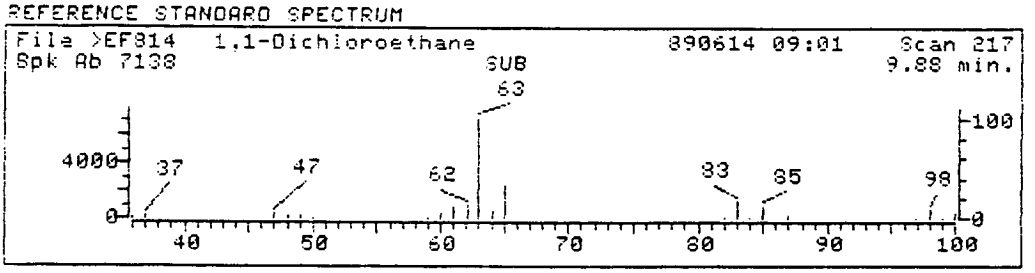
SAMPLE SPECTRUM (UNALTERED)



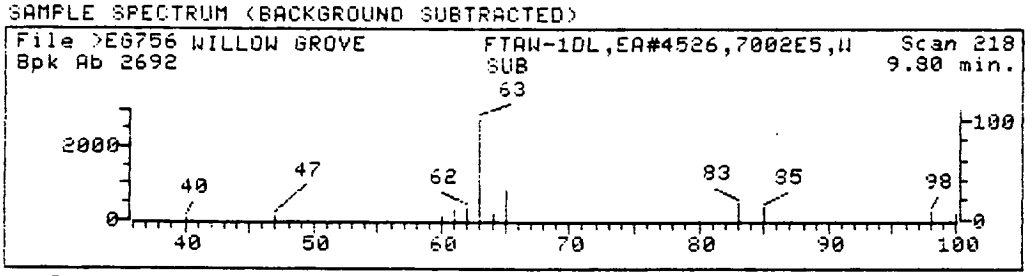
Data File: >EG756::W3 Quant Output File: ^EG756::QT
Name: WILLOW GROVE
Misc: FTAW-1DL,EA#4526,7002E5,WATER,5ML (1/10 DIL)
Quant Time: 890927 12:42 Quant ID File: EVOA::BD
Injected at: 890927 12:06 Last Calibration: 890927 08:24

Compound No: 9
Compound Name: 1,1-Dichloroethene
Scan Number: 187
R tention Time: 8.60 min.
Quant Ion: 96.0
Area: 28073
Concentration: 46.46 UG/L
q-value: 94

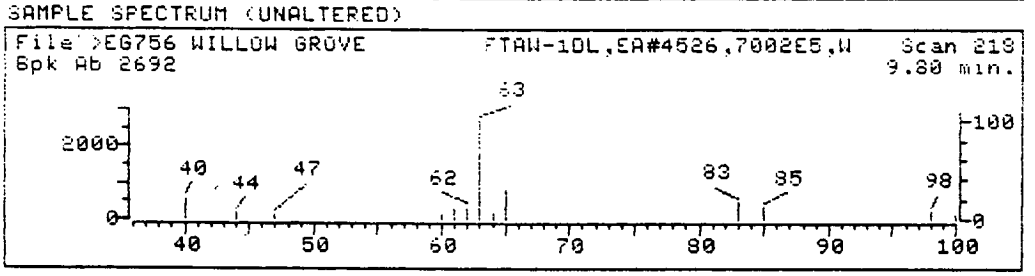
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



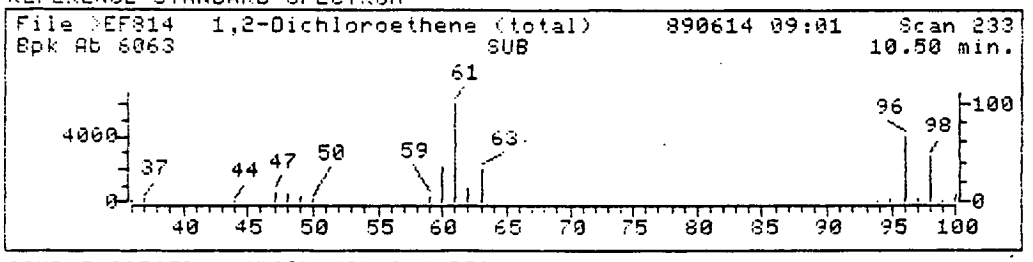
SAMPLE SPECTRUM (UNALTERED)



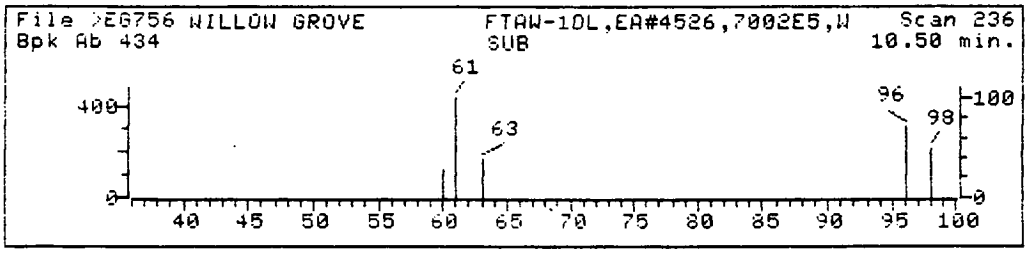
Data File: >EG756::W3 Quant Output File: ^EG756::QT
Name: WILLOW GROVE
Misc: FTAW-1DL,EA#4526,7002E5,WATER,5ML (1/10 DIL)
Quant Time: 890927 12:42 Quant ID File: EVDA::BD
Injected at: 890927 12:06 Last Calibration: 890927 08:24

Compound No: 10
Compound Name: 1,1-Dichloroethane
Scan Number: 218
Retention Time: 9.80 min.
Quant Ion: 63.0
Area: 29114
Conc ntration: 26.53 UG/L
q-value: 91

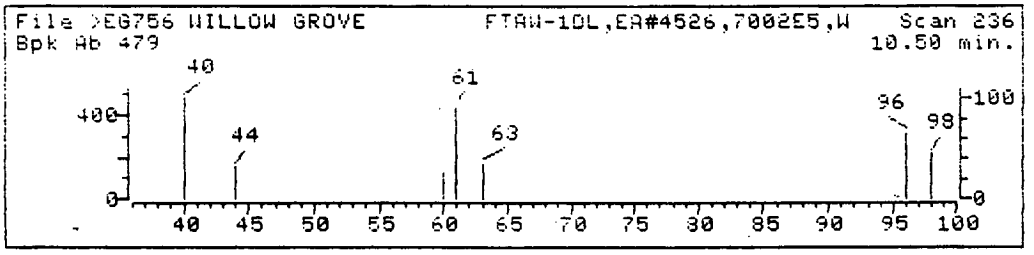
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



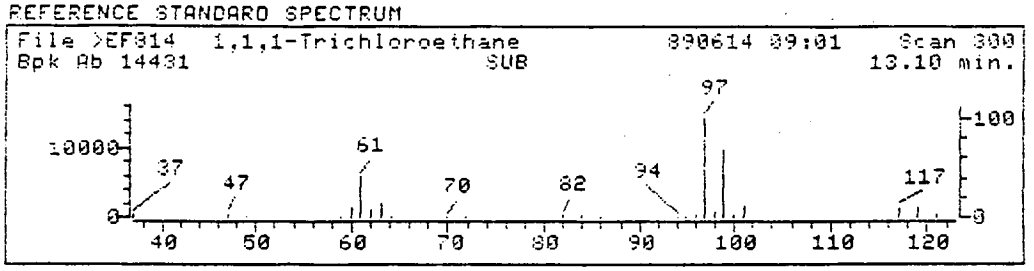
SAMPLE SPECTRUM (UNALTERED)



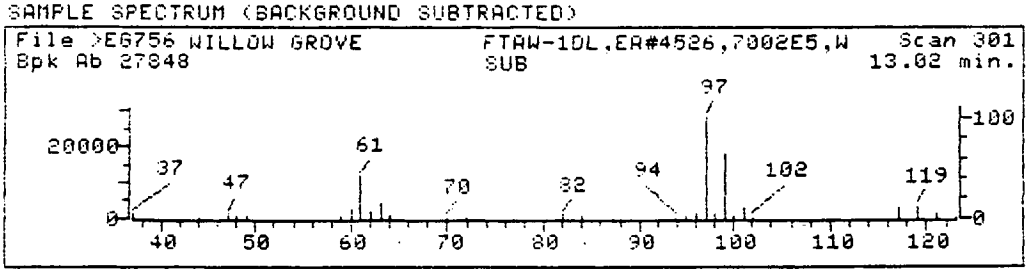
Data File: >EG756::W3 Quant Output File: ^EG756::QT
Name: WILLOW GROVE
Misc: FTAW-1DL,EA#4526,7002E5,WATER,5ML (1/10 DIL)
Quant Time: 890927 12:42 Quant ID File: EVOA::BD
Injected at: 890927 12:06 Last Calibration: 890927 08:24

Compound No: 11
Compound Name: 1,2-Dichloroethene (total)
Scan Number: 236
Retention Time: 10.50 min.
Quant Ion: 96.0
Area: 3527
Concentration: 5.67 UG/L
q-value: 92

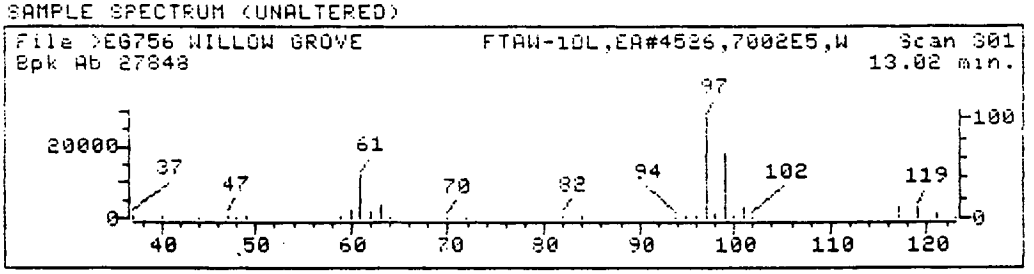
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



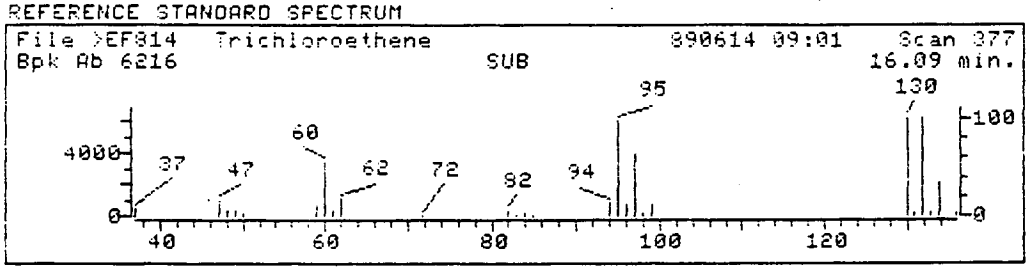
SAMPLE SPECTRUM (UNALTERED)



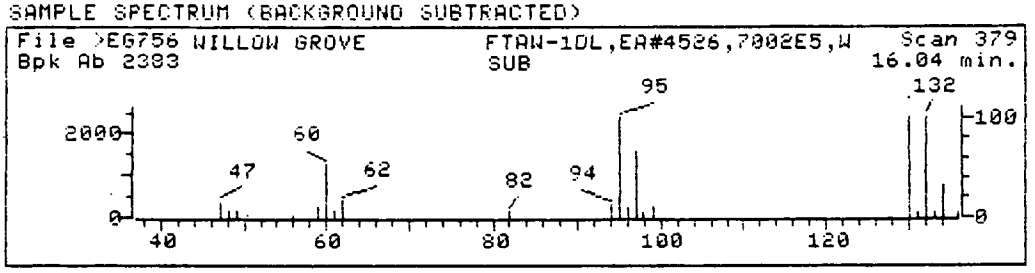
Data File: >EG756::W3 Quant Output File: ^EG756::QT
Name: WILLOW GROVE
Misc: FTAW-1DL,EA#4526,7002E5,WATER,5ML (1/10 DIL)
Quant Time: 890927 12:42 Quant ID File: EVOA::BD
Injected at: 890927 12:06 Last Calibration: 890927 08:24

Compound No: 17
Compound Name: 1,1,1-Trichloroethane
Scan Number: 301
Retention Time: 13.02 min.
Quant Ion: 97.0
Area: 333527
Concentration: 132.23 UG/L
q-value: 95

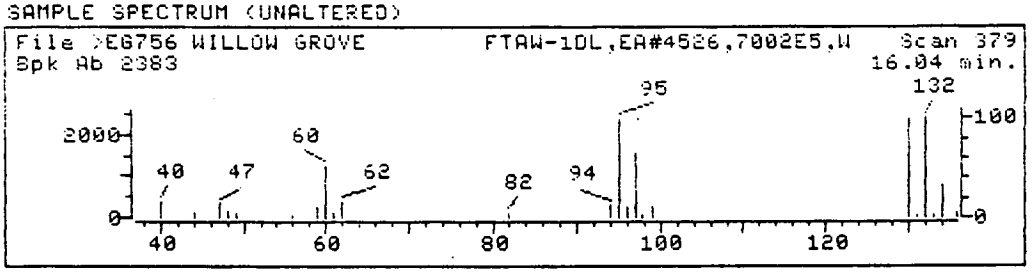
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



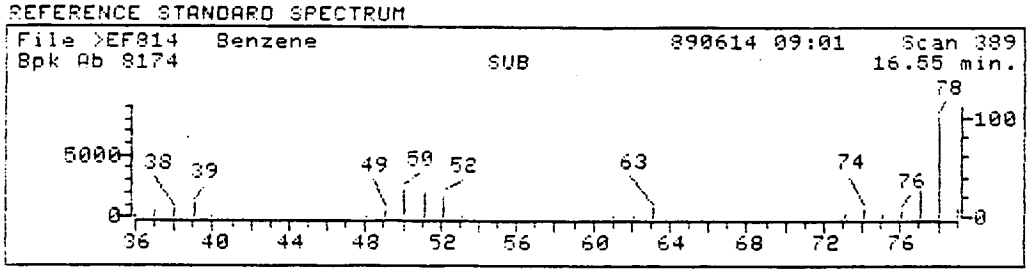
SAMPLE SPECTRUM (UNALTERED)



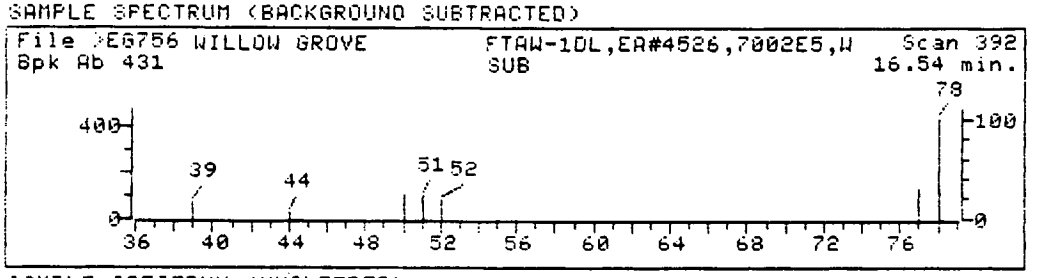
Data File: >EG756::W3 Quant Output File: ^EG756::QT
Name: WILLOW GROVE
Misc: FTAW-1DL,EA#4526,7002E5,WATER,5ML (1/10 DIL)
Quant Time: 890927 12:42 Quant ID File: EVOA::BD
Injected at: 890927 12:06 Last Calibration: 890927 08:24

Compound No: 23
Compound Name: Trichloroethene
Scan Number: 379
Retention Time: 16.04 min.
Quant Ion: 130.0
Area: 28005
Concentration: 19.27 UG/L
q-value: 92

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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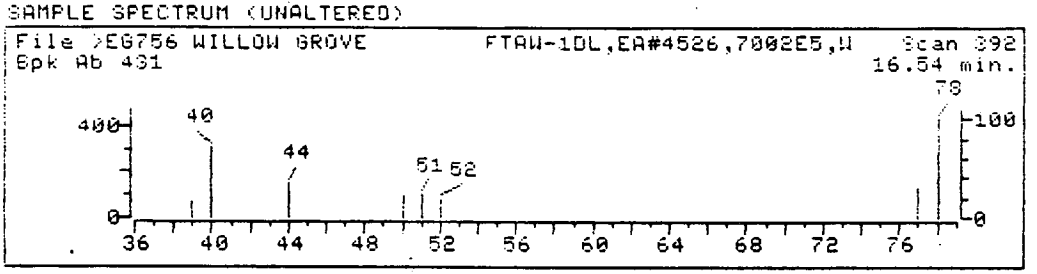
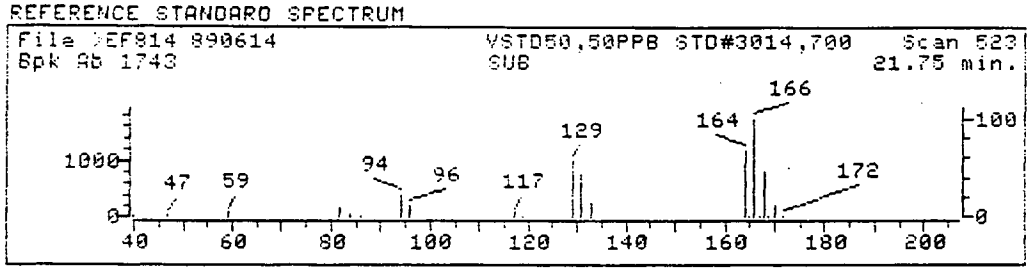


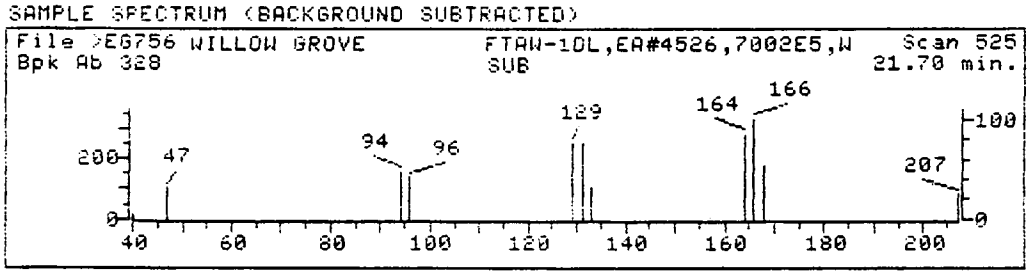
Data File: >EG756::W3 Quant Output File: ^EG756::QT
Name: WILLOW GROVE
Misc: FTAW-1DL,EA#4526,7002E5,WATER,5ML (1/10 DIL)
Quant Time: 890927 12:42 Quant ID File: EVOA::BD
Injected at: 890927 12:06 Last Calibration: 890927 08:24

Compound No: 26
Compound Name: Benzene
Scan Number: 392
Retention Time: 16.54 min.
Quant Ion: 78.0
Area: 4738
Concentration: 2.54 UG/L
q-value: 88

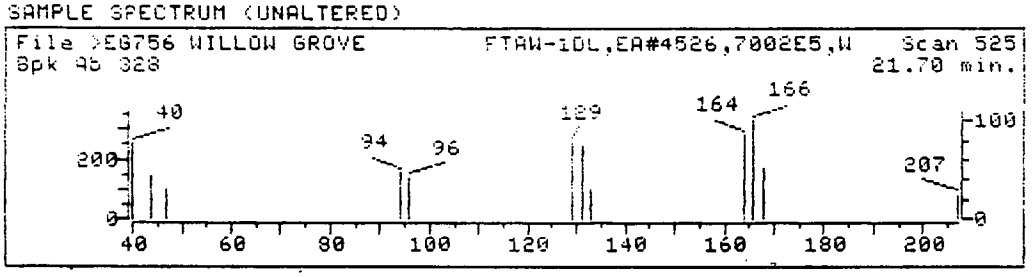
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG756::W3 Quant Output File: ^EG756::QT
Name: WILLOW GROVE
Misc: FTAW-1DL,EA#4526,7002E5,WATER,5ML (1/10 DIL)
Quant Time: 890927 12:42 Quant ID File: EVOA::BD
Injected at: 890927 12:06 Last Calibration: 890927 08:24

Compound No: 32
Compound Name: Tetrachloroethene
Scan Number: 525
Retention Time: 21.70 min.
Quant Ion: 164.0
Area: 3254
Concentration: 2.53 UG/L
q-value: 88

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FTAW-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4527

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG746

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	2.	J
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	8.	
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzen	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FTAW-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4527

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG746

Lev l: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
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15.				
16.				
17.				
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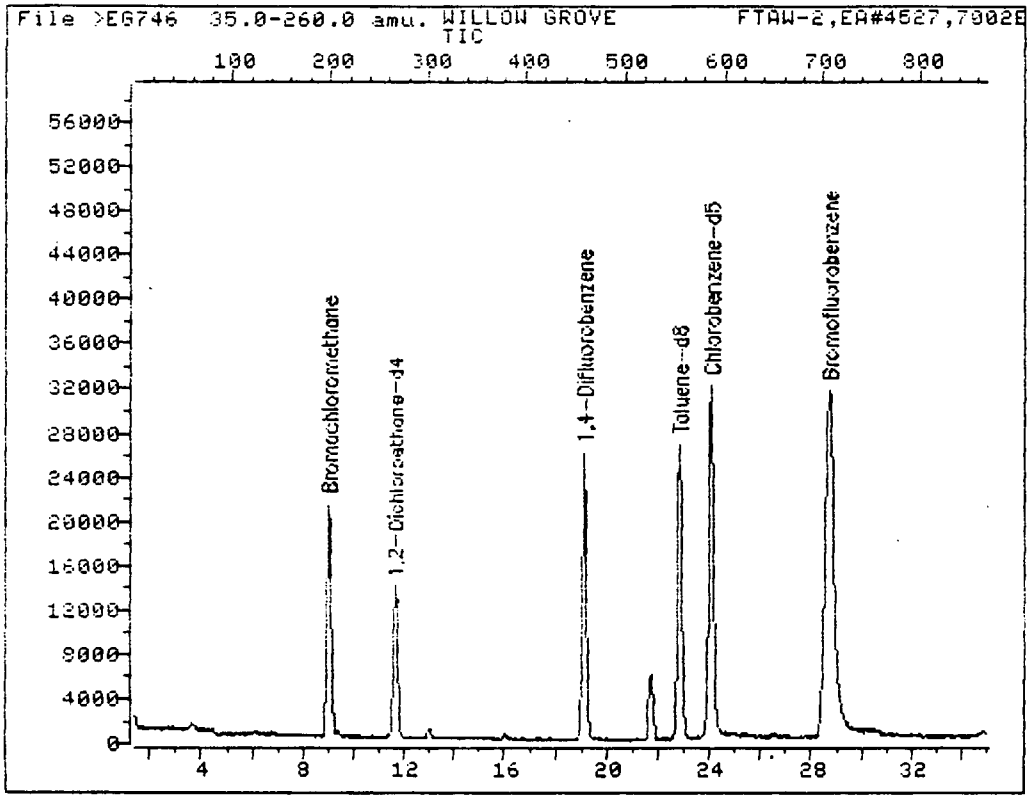
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ION CHROMATOGRAM



Data File: >EG746::W3 Quant Output File: ^EG746::QT
Name: WILLOW GROVE
Misc: FTAW-2,EA#4527,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Operator ID: CARL
Quant Time: 890926 19:04
Injected at: 890926 18:28

QUANT REPORT

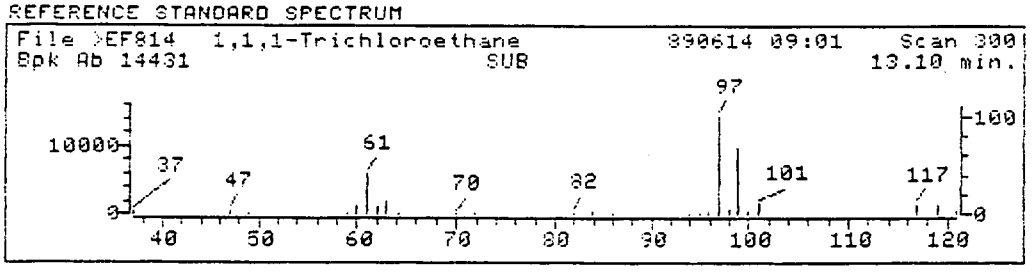
Operator ID: CARL Quant Rev: 6 Quant Time: 890926 19:04
Output File: ^EG746::QT Injected at: 890926 18:28
Data File: >EG746::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: FTAW-2,EA#4527,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

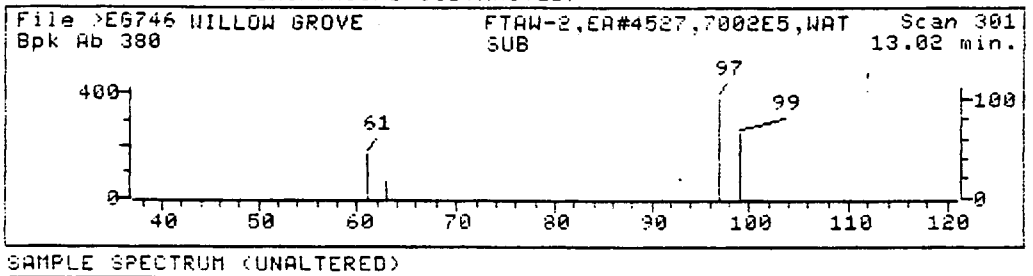
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.03	128.0	34114	50.00	UG/L	92
13)	1,2-Dichloroethane-d4	11.63	65.0	67742	50.10	UG/L	86
15)	*1,4-Difluorobenzene	19.11	114.0	127080	50.00	UG/L	91
17)	1,1,1-Trichloroethane	13.02	97.0	4349	2.19	UG/L	93
29)	*Chlorobenzene-d5	24.07	117.0	125520	50.00	UG/L	97
32)	Tetrachloroethene	21.70	164.0	9737	7.90	UG/L	95
35)	Toluene-d8	22.83	98.0	129786	49.55	UG/L	99
40)	Bromofluorobenzene	28.72	95.0	119153	49.65	UG/L	98

* Compound is ISTD

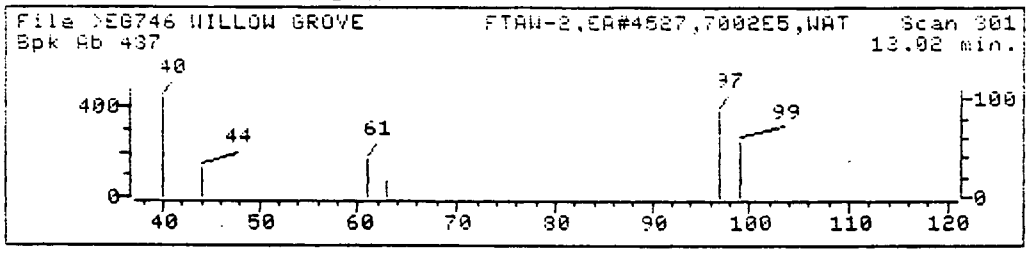
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



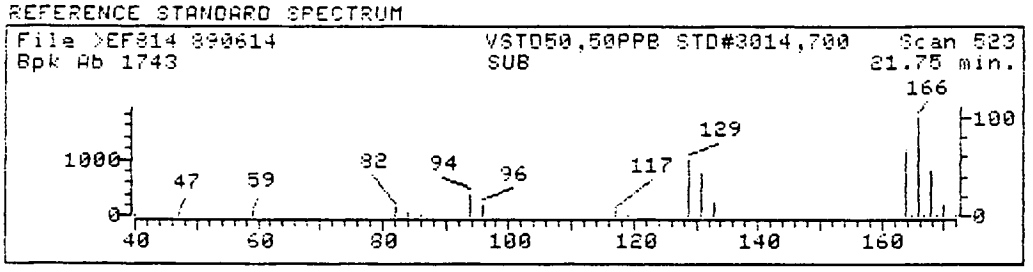
SAMPLE SPECTRUM (UNALTERED)



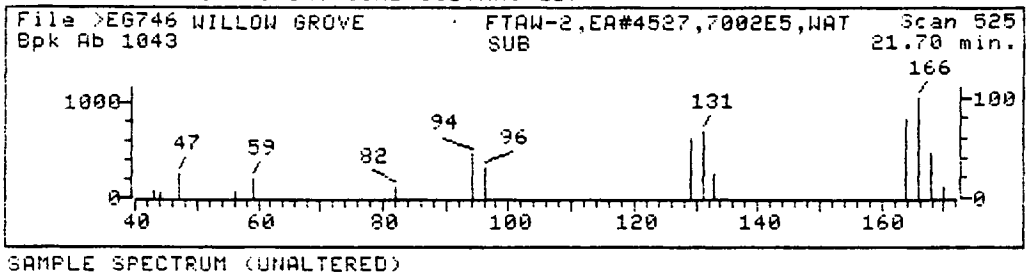
Data File: >EG746::W3 Quant Output File: ^EG746::QT
Name: WILLOW GROVE
Misc: FTAW-2,EA#4527,7002E5,WATER,5ML
Quant Time: 890926 19:04 Quant ID File: EVOA::BD
Injected at: 890926 18:28 Last Calibration: 890926 10:54

Compound No: 17
Compound Name: 1,1,1-Trichloroethane
Scan Number: 301
Retention Time: 13.02 min.
Quant Ion: 97.0
Area: 4349
Concentration: 2.19 UG/L
q-value: 93

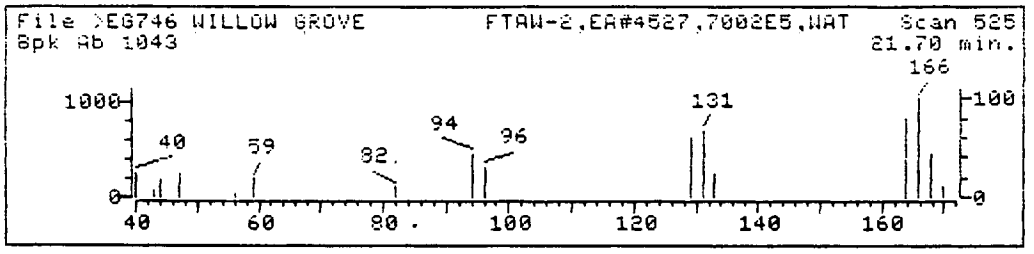
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG746::W3 Quant Output File: ^EG746::QT
Name: WILLOW GROVE
Misc: FTAW-2,EA#4527,7002E5,WATER,5ML
Quant Time: 890926 19:04 Quant ID File: EVOA::BD
Injected at: 890926 18:28 Last Calibration: 890926 10:54

Compound No: 32
Compound Name: Tetrachloroethene
Scan Number: 525
Retention Time: 21.70 min.
Quant Ion: 164.0
Area: 9737
Concentration: 7.90 UG/L
q-value: 95

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FTAW-3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4528

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG747

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	3.	J
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FTAW-3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4528

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG747

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
4.				
5.				
6.				
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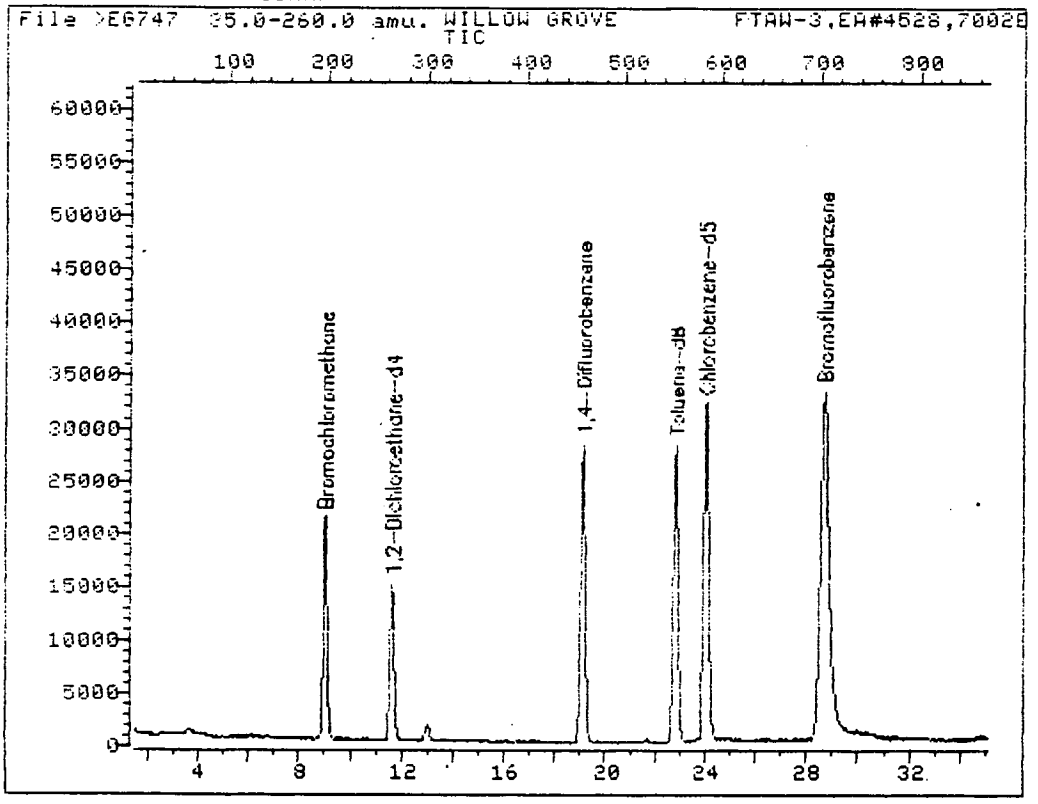
TOTAL ION CHROMATOGRAM



Data File: >EG747::W3 Quant Output File: ^EG747::QT
Name: WILLOW GROVE
Misc: FTAW-3,EA#4528,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Operator ID: CARL
Quant Time: 890926 19:44
Injected at: 890926 19:08

QUANT REPORT

Operator ID: CARL
Output File: ^EG747::QT
Data File: >EG747::W3
Name: WILLOW GROVE
Misc: FTAW-3,EA#4528,7002E5,WATER,5ML

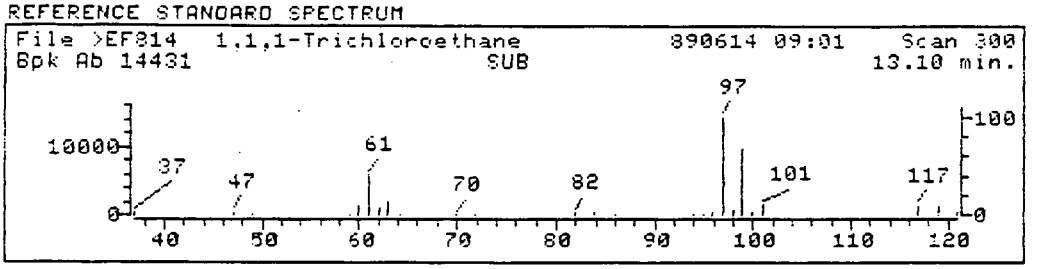
Quant Rev: 6
Quant Time: 890926 19:44
Injected at: 890926 19:08
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

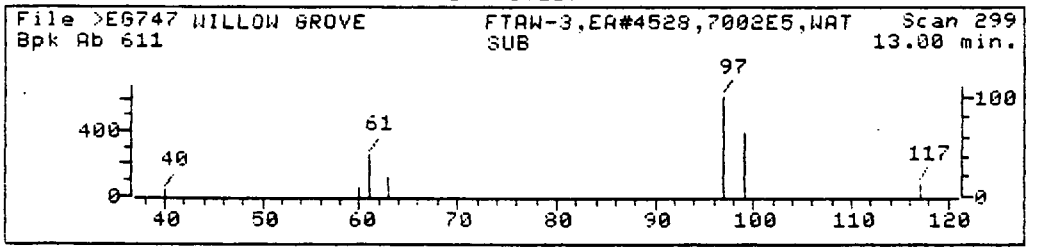
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	36428	50.00	UG/L	96
13)	1,2-Dichloroethane-d4	11.64	65.0	69448	48.10	UG/L	86
15)	*1,4-Difluorobenzene	19.12	114.0	134413	50.00	UG/L	90
17)	1,1,1-Trichloroethane	13.00	97.0	6969	3.31	UG/L	94
29)	*Chlorobenzene-d5	24.04	117.0	128982	50.00	UG/L	95
35)	Toluene-d8	22.84	98.0	134398	49.94	UG/L	97
40)	Bromofluorobenzene	28.69	95.0	123301	50.00	UG/L	96

* Compound is ISTD

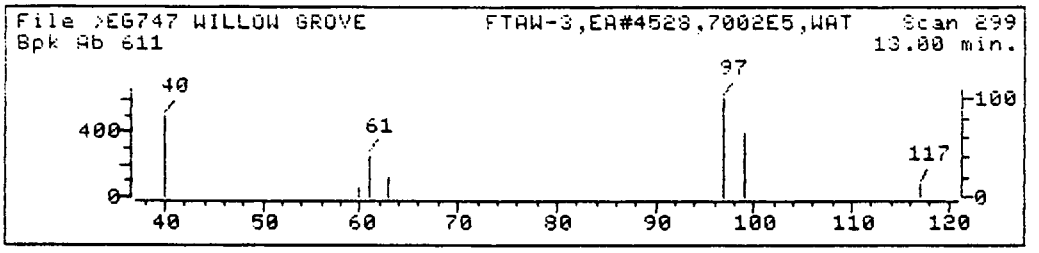
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG747::W3 Quant Output File: ^EG747::QT
Name: WILLOW GROVE
Misc: FTAW-3,EA#4528,7002E5,WATER,5ML
Quant Time: 890926 19:44 Quant ID File: EVOA::BD
Injected at: 890926 19:08 Last Calibration: 890926 10:54

Compound No: 17
Compound Name: 1,1,1-Trichloroethane
Scan Number: 299
Retention Time: 13.00 min.
Quant Ion: 97.0
Area: 6969
Concentration: 3.31 UG/L
q-value: 94

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FTAW-4

Lab Nam : EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4529

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG748

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	18.	
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FTAW-4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4529

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG748

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		None Detected			
2.					
3.					
4.					
5.					
6.					
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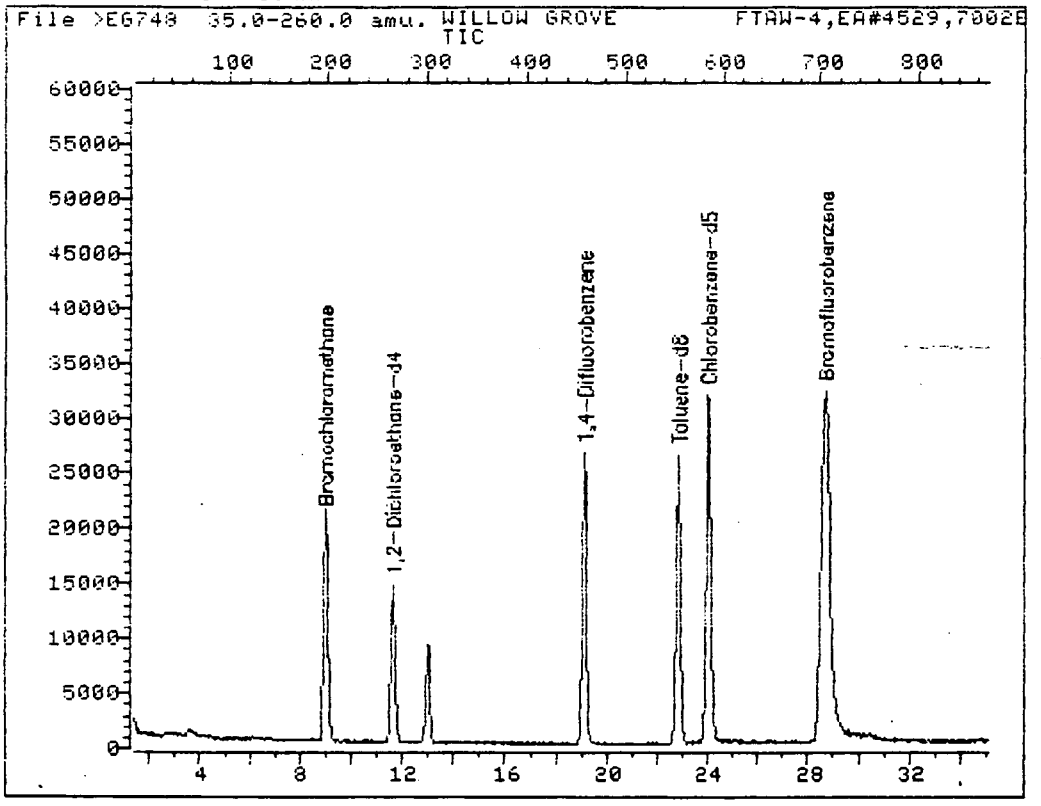
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG748::W3 Quant Output File: ^EG748::QT
Name: WILLOW GROVE
Misc: FTAW-4,EA#4529,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Operator ID: CARL
Quant Time: 890926 20:24
Injected at: 890926 19:49

QUANT REPORT

Operator ID: CARL
Output File: ^EG748::QT
Data File: >EG748::W3
Name: WILLOW GROVE
Misc: FTAW-4,EA#4529,7002E5,WATER,5ML

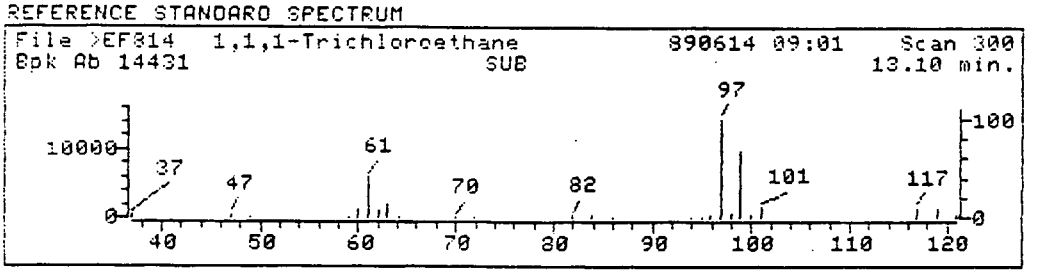
Quant Rev: 6
Quant Time: 890926 20:24
Injected at: 890926 19:49
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

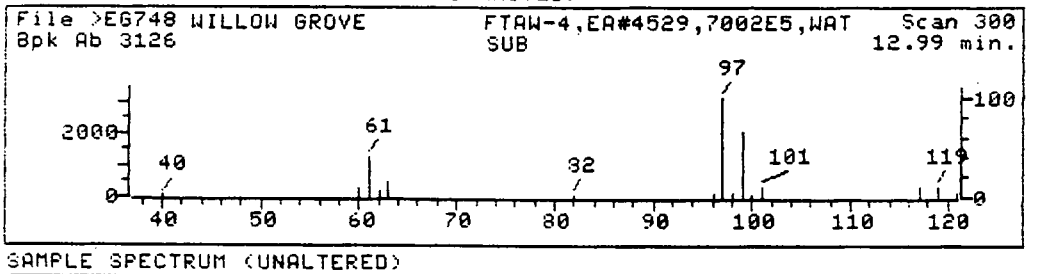
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	35830	50.00	UG/L	97
13)	1,2-Dichloroethane-d4	11.63	65.0	67273	47.37	UG/L	87
15)	*1,4-Difluorobenzene	19.11	114.0	128577	50.00	UG/L	89
17)	1,1,1-Trichloroethane	12.99	97.0	36563	18.16	UG/L	92
29)	*Chlorobenzene-d5	24.03	117.0	126815	50.00	UG/L	96
35)	Toluene-d8	22.83	98.0	130362	49.27	UG/L	99
40)	Bromofluorobenzene	28.68	95.0	118926	49.05	UG/L	93

* Compound is ISTD

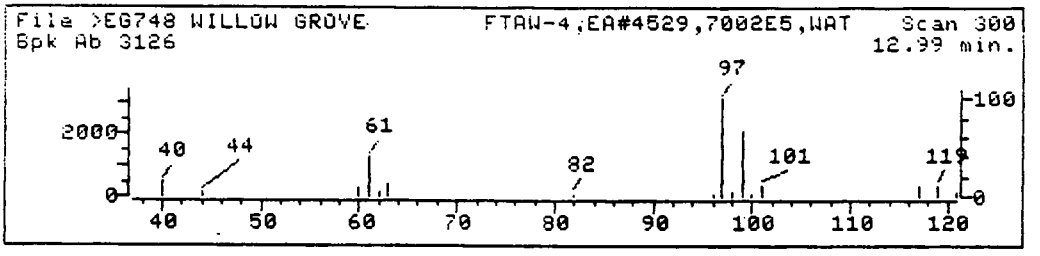
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG748::W3 Quant Output File: ^EG748::QT
Name: WILLOW GROVE
Misc: FTAW-4,EA#4529,7002E5,WATER,5ML
Quant Time: 890926 20:24 Quant ID File: EVOA::BD
Injected at: 890926 19:49 Last Calibration: 890926 10:54

Compound No: 17
Compound Name: 1,1,1-Trichloroethane
Scan Number: 300
Retention Time: 12.99 min.
Quant Ion: 97.0
Area: 36563
Concentration: 18.16 UG/L
q-value: 92

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NFFW-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4530

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG757

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 50.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500.	U
74-83-9	Bromomethane	500.	U
75-01-4	Vinyl Chloride	500.	U
75-00-3	Chloroethane	500.	U
75-09-2	Methylene Chloride	250.	U
67-64-1	Acetone	500.	U
75-15-0	Carbon Disulfide	250.	U
75-35-4	1,1-Dichloroethene	250.	U
75-34-3	1,1-Dichloroethane	250.	U
540-59-0	1,2-Dichloroethene (total)	250.	U
67-66-3	Chloroform	250.	U
107-06-2	1,2-Dichloroethane	250.	U
78-93-3	2-Butanone	2900.	
71-55-6	1,1,1-Trichloroethane	250.	U
56-23-5	Carbon Tetrachloride	250.	U
108-05-4	Vinyl Acetate	500.	U
75-27-4	Bromodichloromethane	250.	U
78-87-5	1,2-Dichloropropane	250.	U
10061-01-5	cis-1,3-Dichloropropene	250.	U
79-01-6	Trichloroethene	250.	U
124-48-1	Dibromochloromethane	250.	U
79-00-5	1,1,2-Trichloroethane	250.	U
71-43-2	Benzene	250.	U
10061-02-6	trans-1,3-Dichloropropene	250.	U
75-25-2	Bromoform	250.	U
108-10-1	4-Methyl-2-Pentanone	500.	U
591-78-6	2-Hexanone	500.	U
127-18-4	Tetrachloroethene	250.	U
79-34-5	1,1,2,2-Tetrachloroethane	250.	U
108-88-3	Toluene	250.	U
108-90-7	Chlorobenzene	250.	U
100-41-4	Ethylbenzene	250.	U
100-42-5	Styren	250.	U
1330-20-7	Xyl n (total)	250.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NFFW-1

Lab Name: EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4530

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG757

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 50.00

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	78-78-4	Butane, 2-methyl- (8CI9CI)	11.05	400.	J
2.	926-82-9	Heptane, 3,5-dimethyl- (8CI9	22.33	700.	J
3.					
4.					
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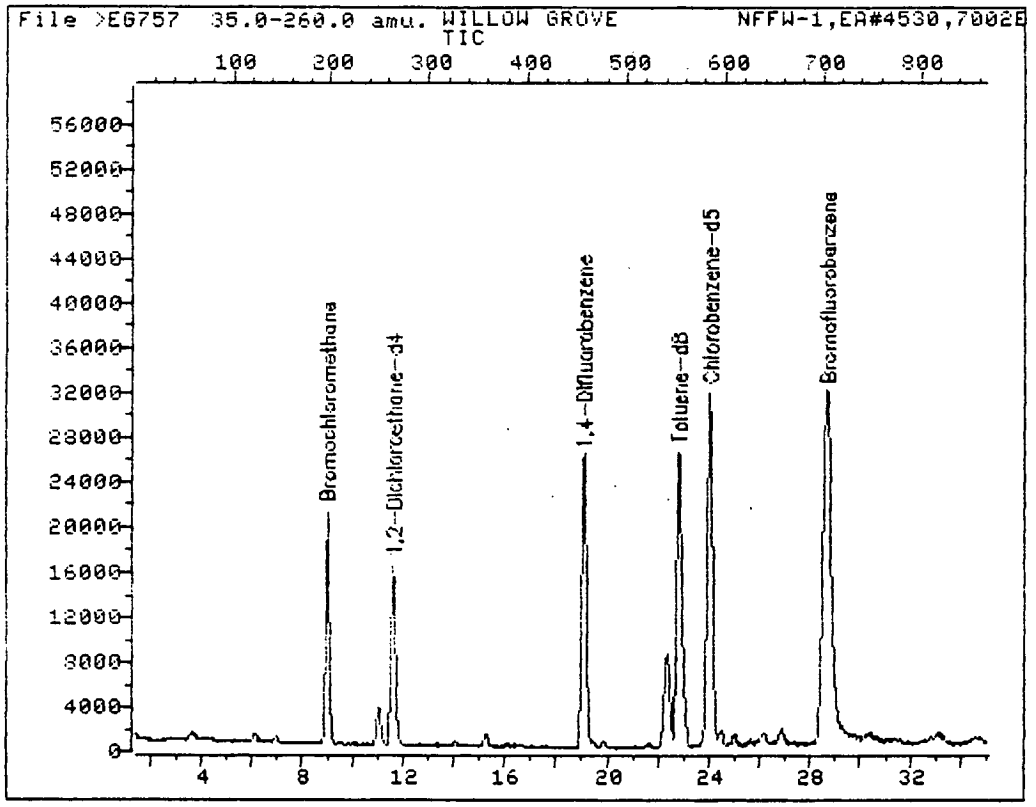
TOTAL ION CHROMATOGRAM



Data File: >EG757::W3 Quant Output File: ^EG757::QT
Name: WILLOW GROVE
Misc: NFFW-1,EA#4530,7002E5,WATER,5ML (1/50 DIL)

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 13:23
Injected at: 890927 12:47

QUANT REPORT

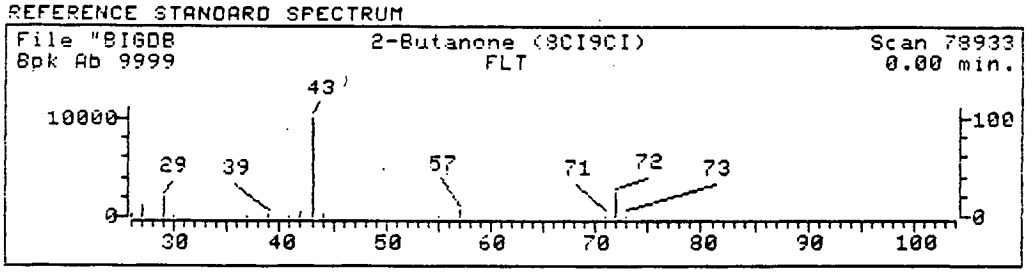
Operator ID: CARL Quant Rev: 6 Quant Time: 890927 13:23
Output File: ^EG757::QT Injected at: 890927 12:47
Data File: >EG757::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NFFW-1,EA#4530,7002E5,WATER,5ML (1/50 DIL)

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

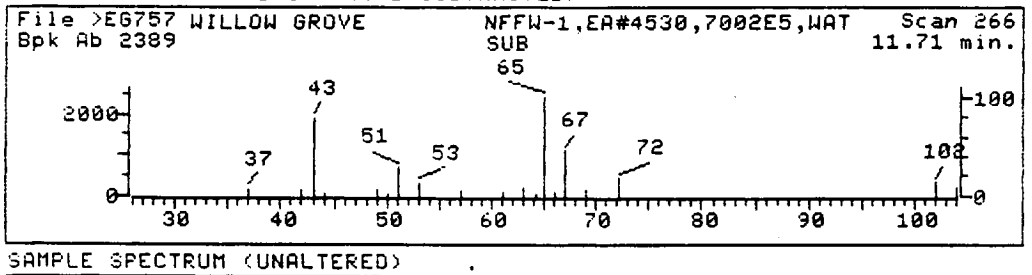
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	34662	50.00	UG/L	95
13)	1,2-Dichloroethane-d4	11.63	65.0	68287	52.42	UG/L	88
15)	*1,4-Difluorobenzene	19.07	114.0	126878	50.00	UG/L	91
16)	2-Butanone	11.71	72.0	4590	57.24	UG/L	93
29)	*Chlorobenzene-d5	24.04	117.0	121638	50.00	UG/L	99
35)	Toluene-d8	22.79	98.0	127620	49.90	UG/L	96
40)	Bromofluorobenzene	28.69	95.0	118853	51.78	UG/L	97

* Compound is ISTD

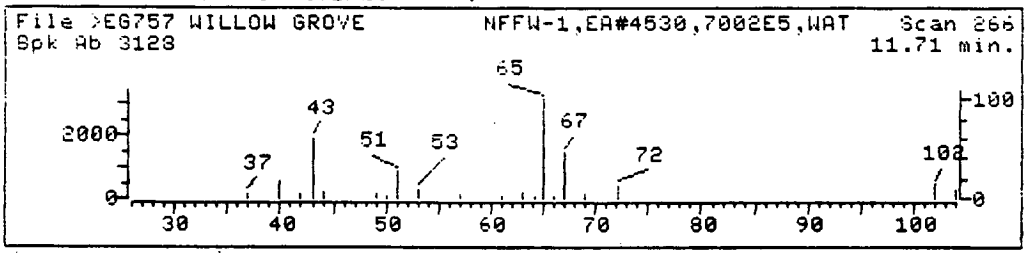
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

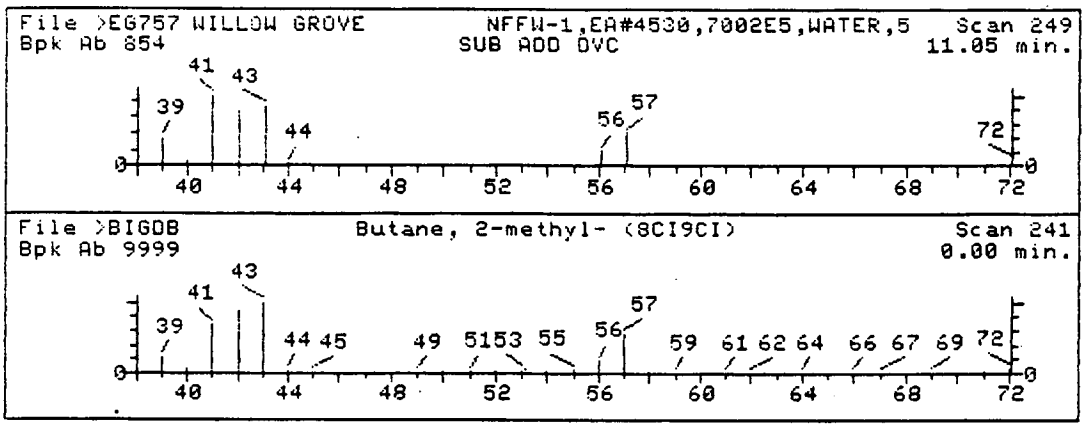


SAMPLE SPECTRUM (UNALTERED)



Data File: >EG757::W3 Quant Output File: ^EG757::QT
Name: WILLOW GROVE
Misc: NFFW-1,EA#4530,7002E5,WATER,5ML (1/50 DIL)
Quant Time: 890927 13:23 Quant ID File: EVOA::BD
Injected at: 890927 12:47 Last Calibration: 890927 08:24

Compound No: 16
Compound Name: 2-Butanone
Scan Number: 266
Retention Time: 11.71 min.
Quant Ion: 72.0
Area: 4590
Concentration: 57.24 UG/L
q-value: 93



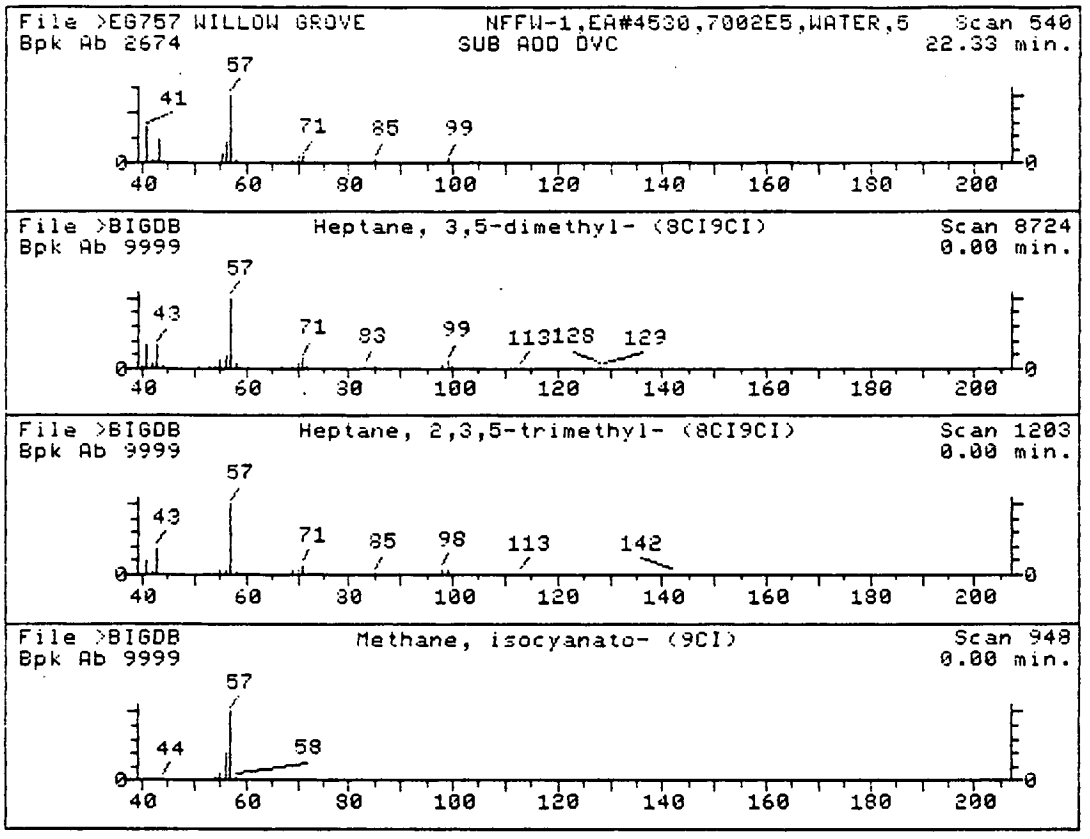
Retention time = 11.05

Area = 39514.00 Tentative Concentration is 9.00

1 Butane, 2-methyl- (8CI9CI) 72 C5H12

Sample file: >EG757 Spectrum #: 249
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	43*	78784	241	"BIGDB	27	59	2	0	83	24	17	14



Retention time = 22.33

Area = 122123.0 Tentative Concentration is 15.00

1.	Heptane, 3,5-dimethyl- (8CI9CI)	128	C9H20
2.	Heptane, 2,3,5-trimethyl- (8CI9CI)	142	C10H22
3.	Methane, isocyanato- (9CI)	57	C2H3NO
4.	Pentane, 2,2,3,4-tetramethyl- (8CI9CI)	128	C9H20

Sample file: >EG757 Spectrum #: 540
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	60	926829	8724	"BIGDB	44	38	2	0	75	14	30	14
2.	52	20278857	1203	"BIGDB	37	39	2	0	75	16	20	12
3.	43*	624839	948	"BIGDB	23	41	1	0	79	25	17	14
4.	32	1186534	1016	"BIGDB	45	41	2	0	54	35	12	15

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NFFW-5

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4531

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG758

L v l: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	560.	E
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	350.	E
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NFFW-5

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4531

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG758

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN HYDROCARBON	12.63	10.	J
2.	763-29-1	1-Pentene, 2-methyl- (8CI9CI	13.40	10.	J
3.	96-37-7	Cyclopentane, methyl- (8CI9C	14.10	20.	J
4.	79-29-8	Butane, 2,3-dimethyl- (8CI9C	15.30	50.	J
5.	- -	UNKNOWN HYDROCARBON	16.12	10.	J
6.	- -	UNKNOWN HYDROCARBON	16.47	9.	J
7.	- -	UNKNOWN HYDROCARBON	18.71	9.	J
8.	565-59-3	Pentane, 2,3-dimethyl- (8CI9	19.88	20.	J
9.	- -	UNKNOWN HYDROCARBON	21.12	5.	J
10.	62016-14-2	Octane, 2,5,6-trimethyl- (9C	22.36	100.	J
11.	1071-81-4	Hexane, 2,2,5,5-tetramethyl-	26.85	10.	J
12.					
13.					
14.					
15.					
16.					
17.					
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21.					
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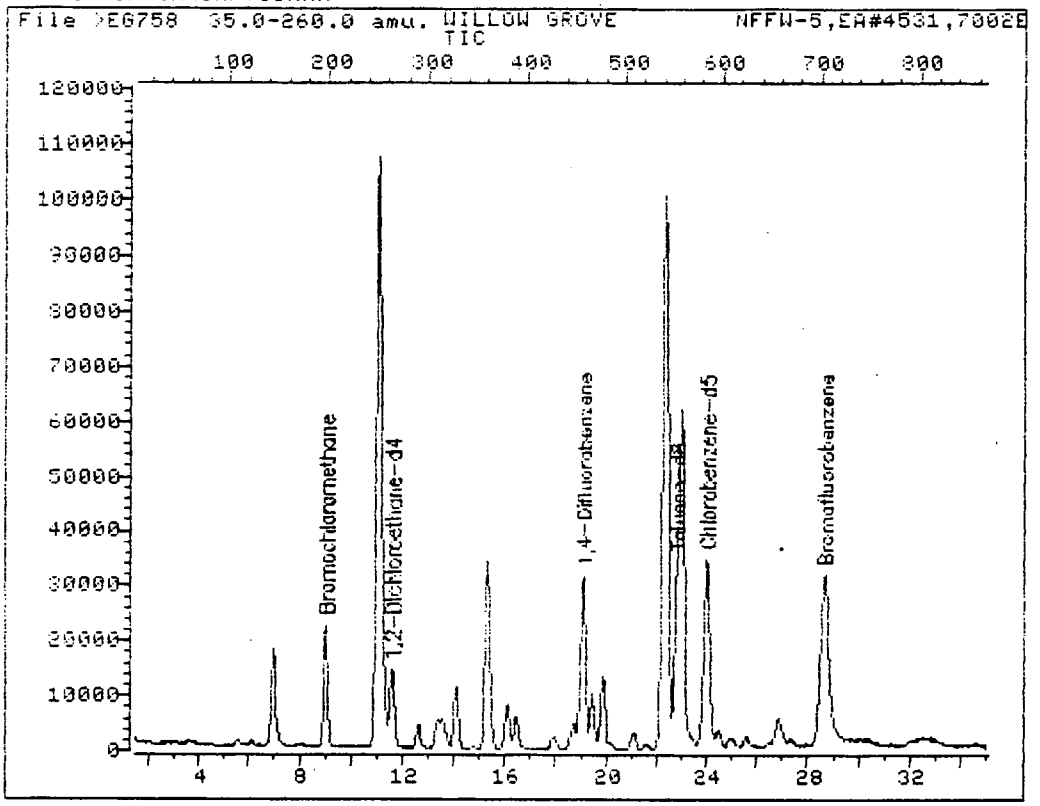
29.					
30.					

TOTAL ION CHROMATOGRAM



Data File: >EG758::W3 Quant Output File: ^EG758::QT
Name: WILLOW GROVE
Misc: NFFW-5,EA#4531,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 14:03
Injected at: 890927 13:27

QUANT REPORT

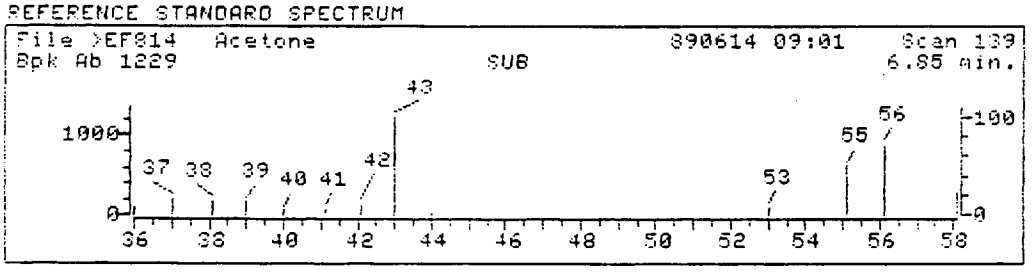
Operator ID: CARL Quant Rev: 6 Quant Time: 890927 14:03
Output File: ^EG758::QT Injected at: 890927 13:27
Data File: >EG758::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NFFW-5,EA#4531,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

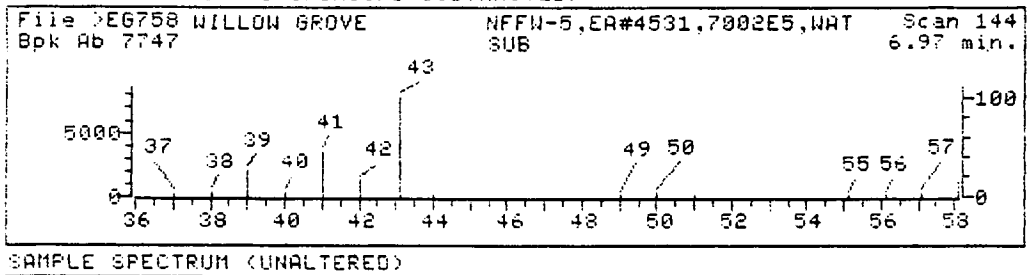
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	128.0	34420	50.00	UG/L	91
7)	Acetone	6.97	43.0	102383	560.24	UG/L	78
13)	1,2-Dichloroethane-d4	11.62	65.0	67350	52.06	UG/L	89
15)	*1,4-Difluorobenzene	19.10	114.0	125083	50.00	UG/L	91
16)	2-Butanone	11.08	72.0	27272	345.00	UG/L	77
29)	*Chlorobenzene-d5	24.02	117.0	121669	50.00	UG/L	96
35)	Toluene-d8	22.82	98.0	129437	50.60	UG/L	99
40)	Bromofluorobenzene	28.68	95.0	114973	50.08	UG/L	95

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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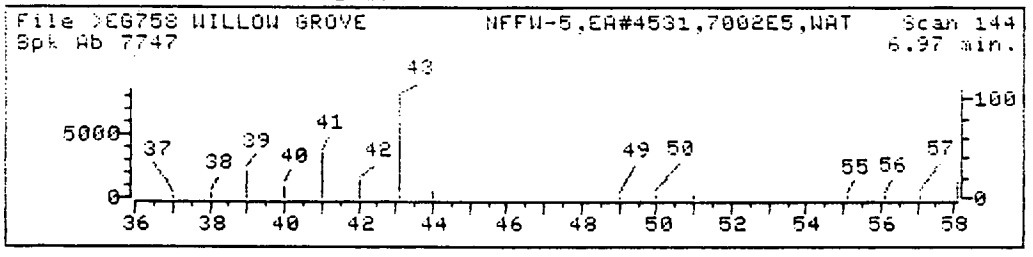
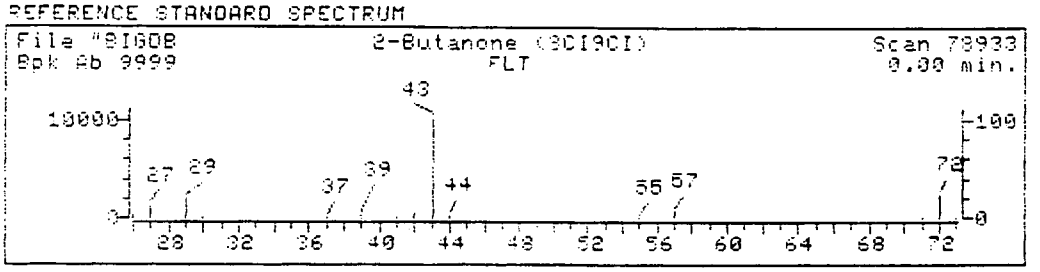


Data File: >EG758::W3 Quant Output File: ^EG758::QT
Name: WILLOW GROVE
Misc: NFFW-5,EA#4531,7002E5,WATER,5ML
Quant Time: 890927 14:03 Quant ID File: EVOA::BD
Injected at: 890927 13:27 Last Calibration: 890927 08:24

Compound No: 7
Compound Name: Acetone
Scan Number: 144
Retention Time: 6.97 min.
Quant Ion: 43.0
Area: 102383
Concentration: 560.24 UG/L
q-value: 78

REFERENCE STANDARD SPECTRUM



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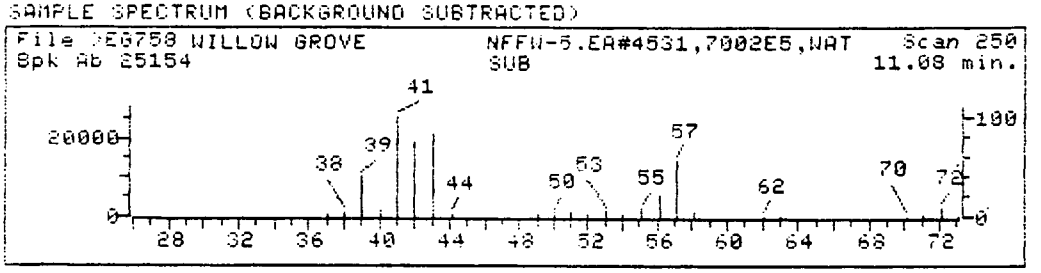

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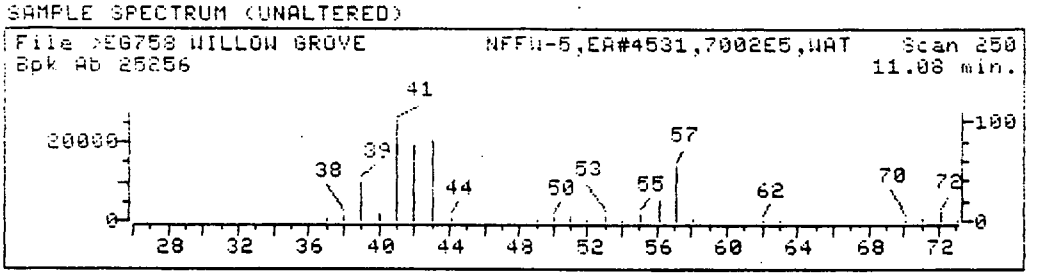
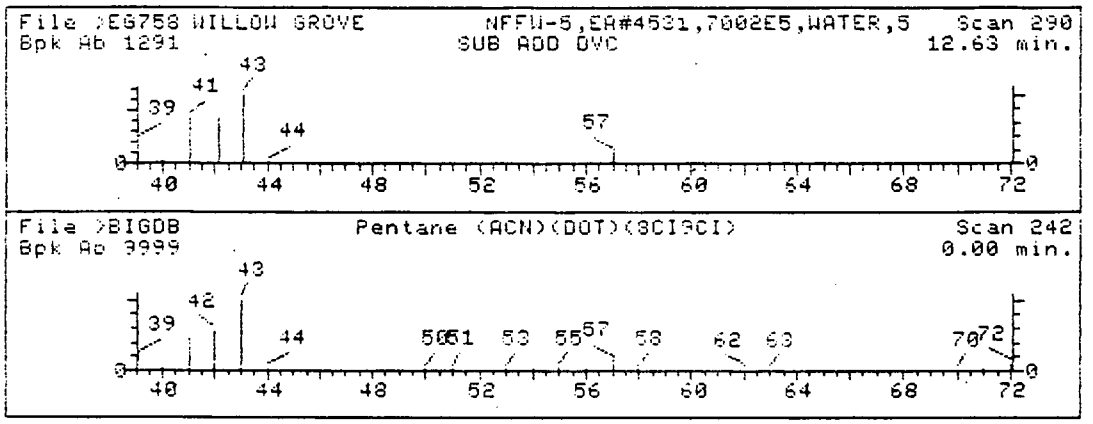


Data File: >EG758::W3 Quant Output File: ^EG758::QT
Name: WILLOW GROVE
Misc: NFFW-5,EA#4531,7002E5,WATER,5ML
Quant Time: 890927 14:03 Quant ID File: EVOA::BD
Injected at: 890927 13:27 Last Calibration: 890927 08:24

Compound No: 16
Compound Name: 2-Butanone
Scan Number: 250
Retention Time: 11.08 min.
Quant Ion: 72.0
Area: 27272
Concentration: 345.00 UG/L
q-value: 77



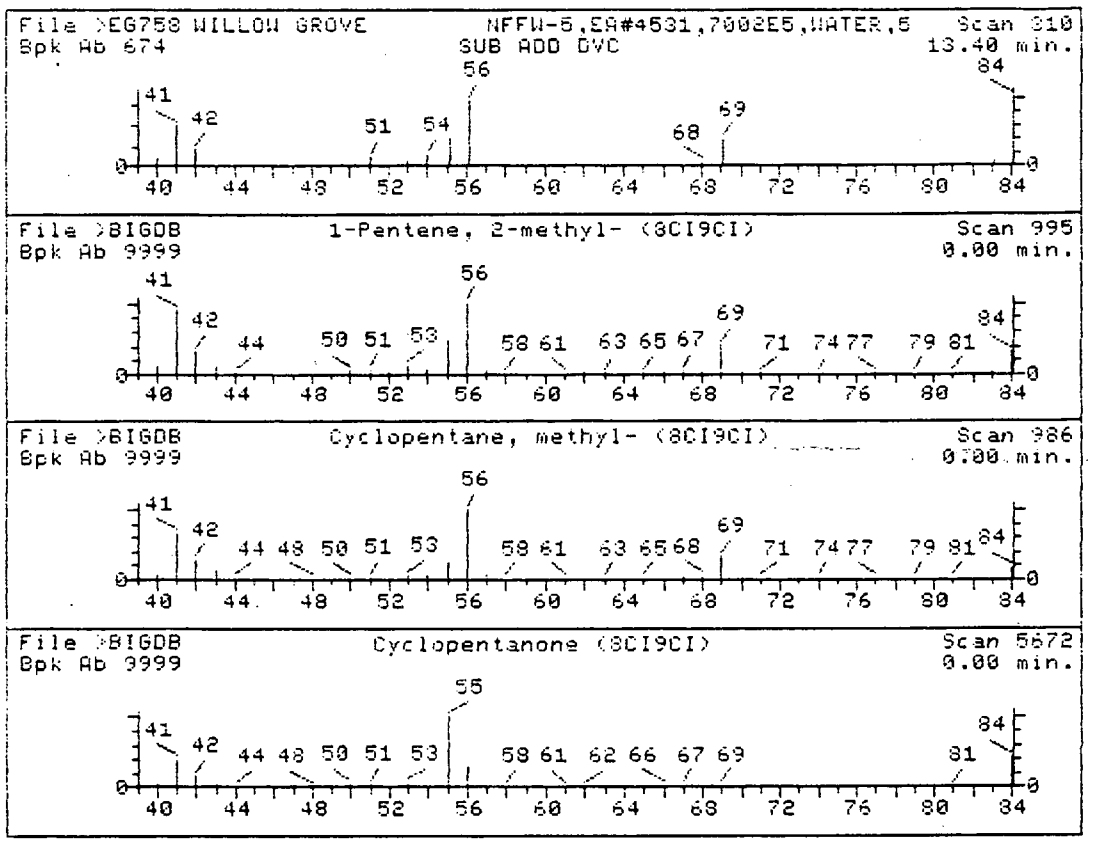
Retention time = 12.63 UNKNOWN HYDROCARBON

Area = 48571.00 Tentative Concentration is 10.00

1. Pentane (ACN)(DOT)(8CI9CI) 72 C5H12

Sample file: >EG758 Spectrum #: 290
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	28*	109660	242	"BIGDB	31	53	3	0	119	40	10	14



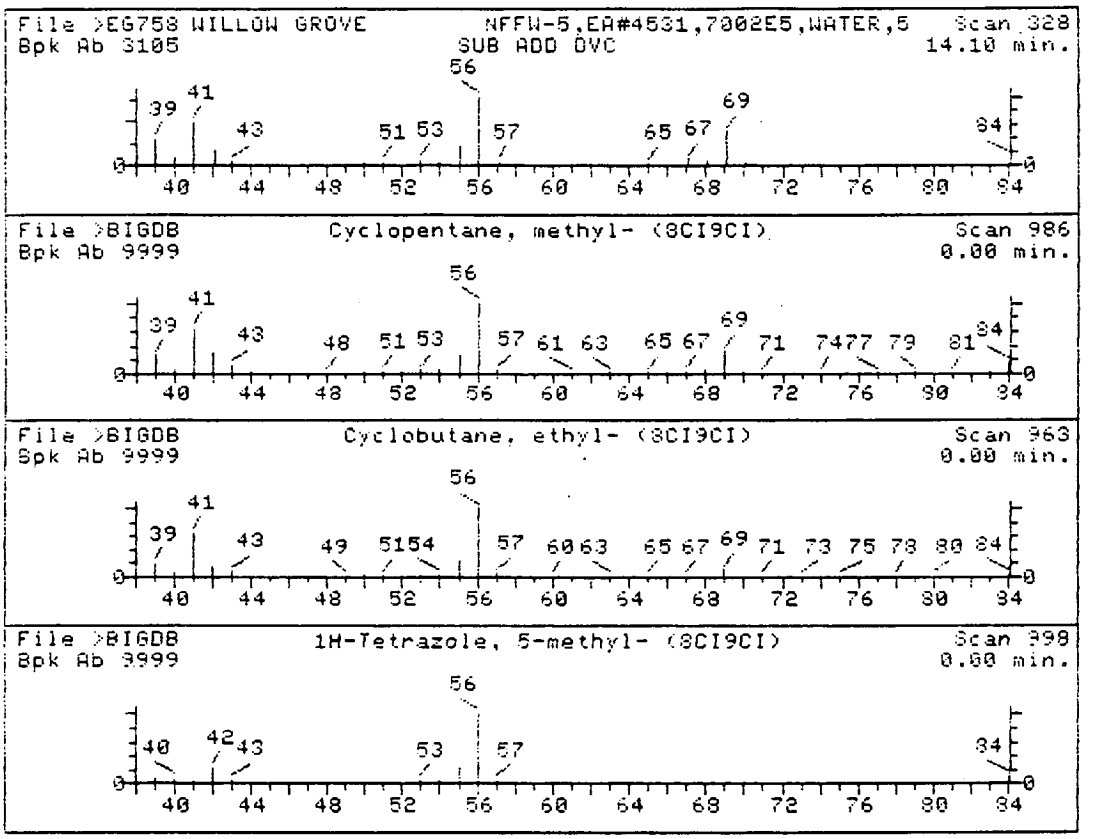
Retention time = 13.40

Area = 63266.00 Tentative Concentration is 13.00

1.	1-Pentene, 2-methyl- (8CI9CI)	84 C6H12
2.	Cyclopentane, methyl- (8CI9CI)	84 C6H12
3.	Cyclopentanone (8CI9CI)	84 C5H8O
4.	1-Hexene (8CI9CI)	84 C6H12
5.	Pentane, 3-methylene- (9CI)	84 C6H12
6.	Cyclopropane, 1-ethyl-1-methyl- (9CI)	84 C6H12
7.	Cyclopropane, propyl- (9CI)	84 C6H12

Sample file: >EG758 Spectrum #: 310
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	40*	763291	995	"BIGDB	50	51	2	0	66	31	16	23
2.	30*	96377	986	"BIGDB	32	55	2	0	89	40	10	16
3.	26*	120923	5672	"BIGDB	24	60	3	0	238	36	10	12
4.	20*	592416	990	"BIGDB	25	75	3	0	59	54	5	13
5.	15*	760214	5684	"BIGDB	24	63	2	0	43	60	3	14
6.	15*	53778431	5708	"BIGDB	25	71	2	0	53	57	3	14
7.	15*	2415727	997	"BIGDB	20	68	2	0	61	60	3	13



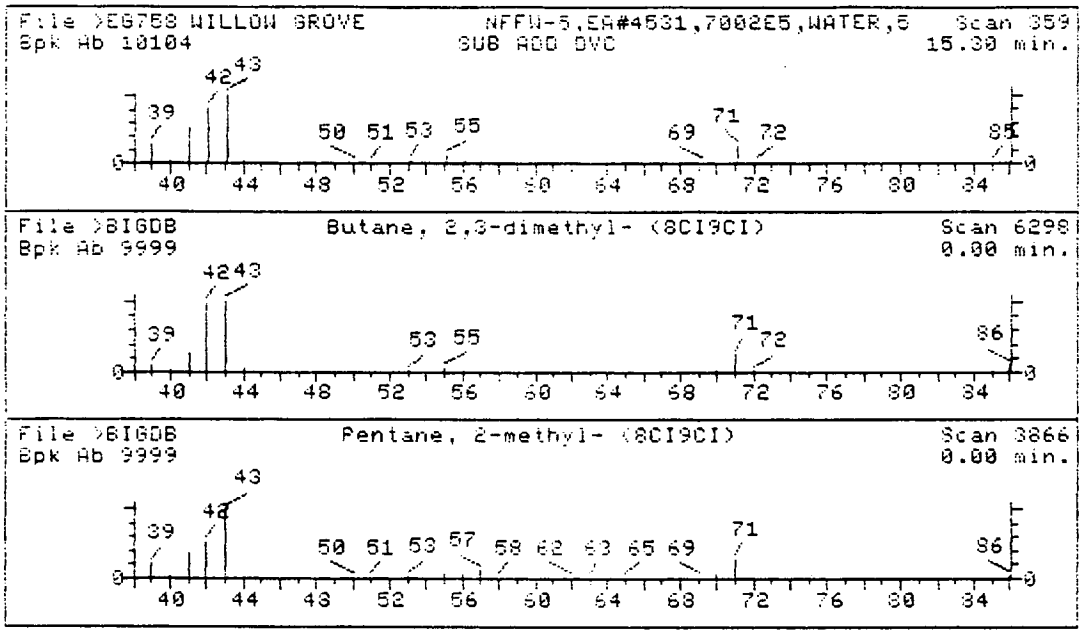
Retention time = 14.10

Area = 136437.0 Tentative Concentration is 17.00

1.	Cyclopentane, methyl- (8CI9CI)	84 C6H12
2.	Cyclobutane, ethyl- (8CI9CI)	84 C6H12
3.	1H-Tetrazole, 5-methyl- (8CI9CI)	84 C2H4N4
4.	Cyclopropane, (1-methylethyl)- (9CI)	84 C6H12
5.	Cyclobutane (8CI9CI)	56 C4H8
6.	Oxetane, 3,3-dimethyl- (9CI)	86 C5H10O
7.	1-Propene, 2-methyl- (9CI)	56 C4H8

Sample file: >EG758 Spectrum #: 328
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	66*	96377	986	"BIGDB	54	33	1	0	78	18	31	49
2.	46*	4806615	963	"BIGDB	33	50	0	0	87	34	20	30
3.	45*	4076362	998	"BIGDB	43	41	2	0	100	26	19	23
4.	38*	3638355	962	"BIGDB	29	54	0	0	85	32	16	21
5.	35*	287230	941	"BIGDB	37	42	2	0	145	34	12	18
6.	27	6921353	952	"BIGDB	26	48	0	0	78	36	10	13
7.	20*	115117	940	"BIGDB	23	50	2	0	102	55	5	13



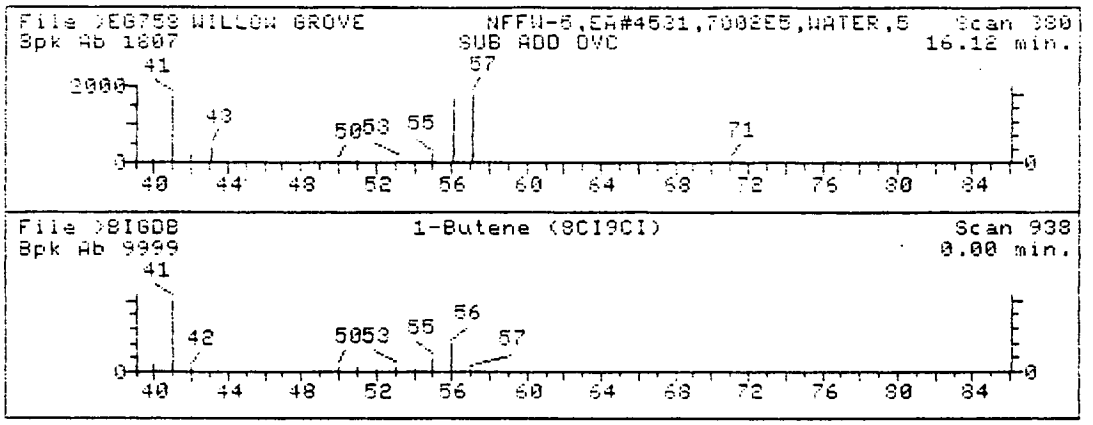
Retention time = 15.30

Area = 447213.0 Tentative Concentration is 54.00

1. Butane, 2,3-dimethyl- (8CI9CI) 86 C6H14
2. Pentane, 2-methyl- (8CI9CI) 86 C6H14

Sample file: >EG758 Spectrum #: 359
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	43*	79298	6298	"BIGDB	29	53	0	0	58	29	19	21
2.	36*	107835	3866	"BIGDB	22	64	2	0	92	28	14	13



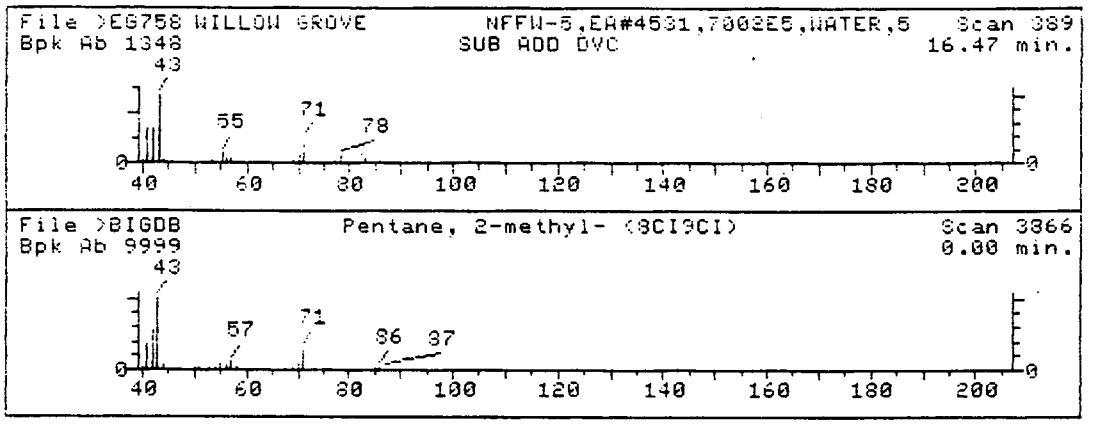
Retention time = 16.12 UNKNOWN HYDROCARBON

Area = 98222.00 Tentative Concentration is 12.00

1. 1-Butene (8CI9CI) 56 C4H8

Sample file: >EG758 Spectrum #: 380
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	15*	106989	938	"BIGDB	22	57	2	0	71	57	3	13



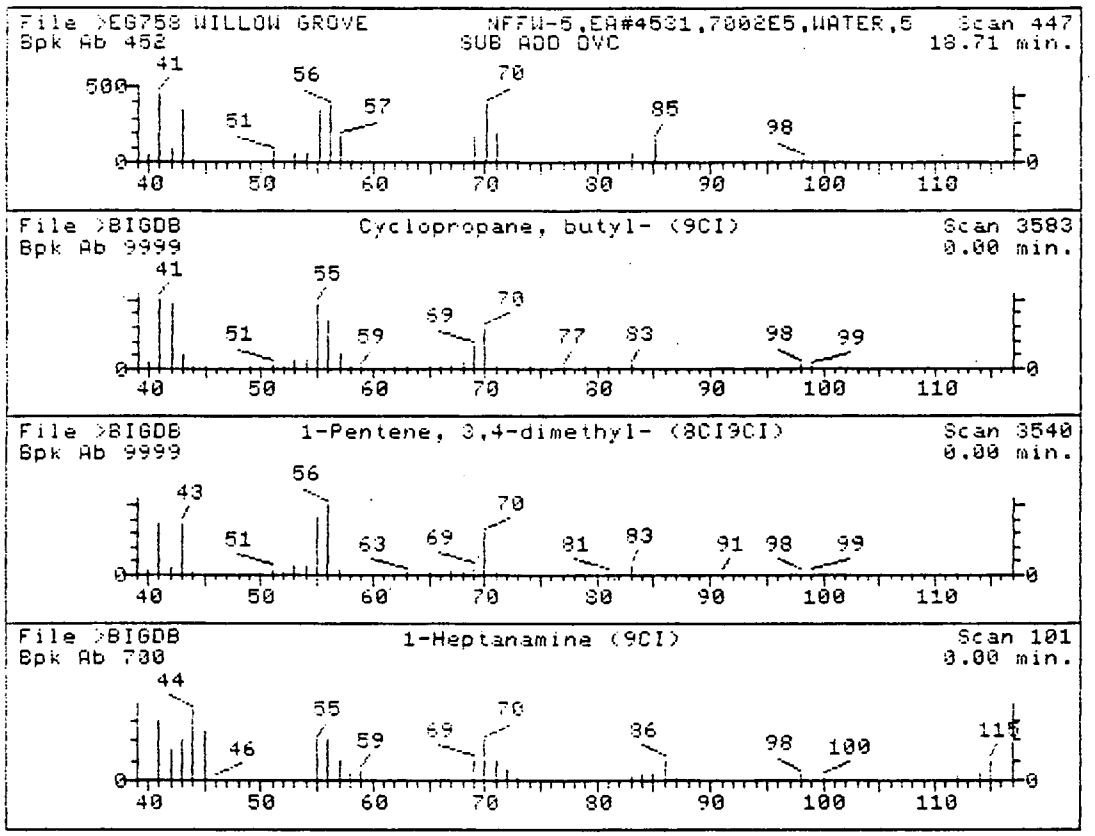
Retention time = 16.47 UNKNOWN HYDROCARBON

Area = 76281.00 Tentative Concentration is 9.00

1. Pentane, 2-methyl- (8CI9CI) 86 C6H14

Sample file: >EG758 Spectrum #: 389
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	58*	107835	3866	"BIGDB	46	40	2	0	97	16	25	26



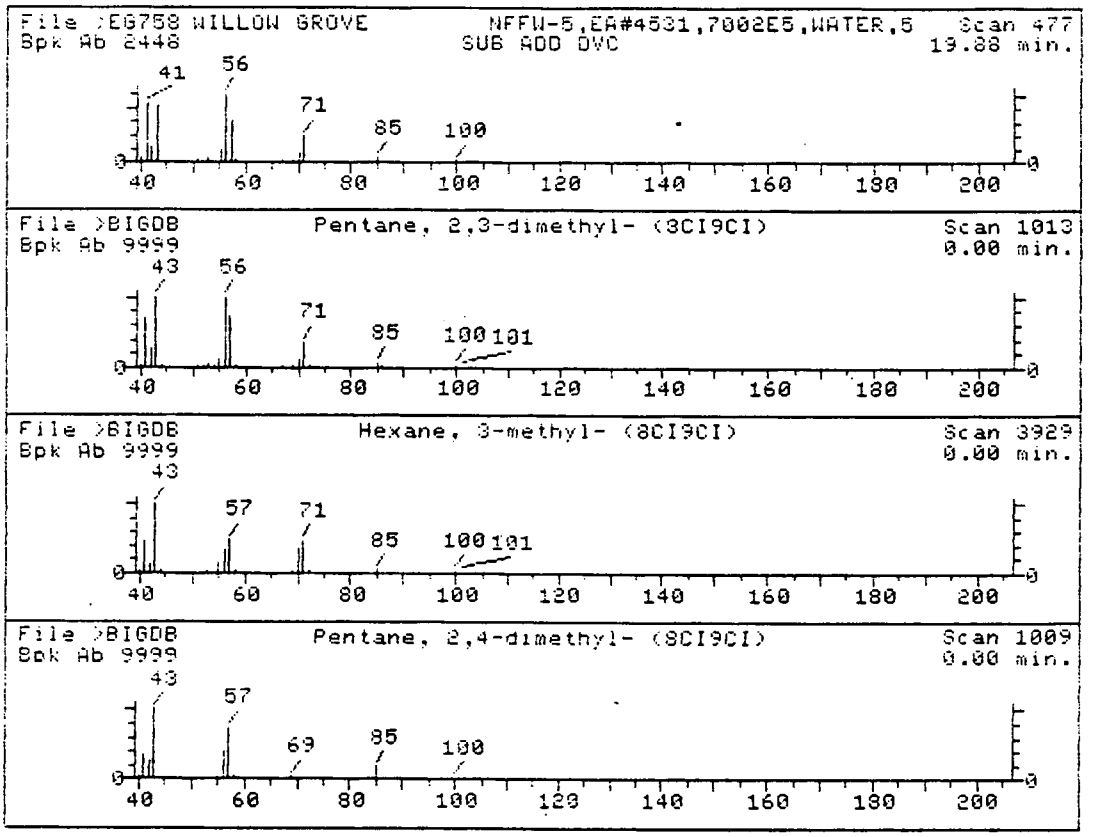
Retention time = 18.71 UNKNOWN HYDROCARBON

Area = 70617.00 Tentative Concentration is 9.00

1.	Cyclopropane, butyl- (9CI)	98	C7H14
2.	1-Pentene, 3,4-dimethyl- (8CI9CI)	98	C7H14
3.	1-Heptanamine (9CI)	115	C7H17N
4.	Aziridine, 2,2-dimethyl- (8CI9CI)	71	C4H9N
5.	5-Hexyn-1-ol (8CI9CI)	98	C6H10O
6.	2-Butenal (9CI)	70	C4H6O
7.	2-Propenal, 2-methyl- (9CI)	70	C4H6O

Sample file: >EG758 Spectrum #: 447
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	33*	930574	3583	"BIGDB	47	61	1	0	80	41	12	24
2.	30*	7385786	3540	"BIGDB	43	61	1	0	83	45	12	21
3.	29	111682	101	"BIGDB	35	38	2	0	0	34	12	12
4.	28*	2658244	973	"BIGDB	30	79	2	0	101	37	10	14
5.	15*	928905	3567	"BIGDB	25	39	2	0	71	59	3	14
6.	15*	4170303	3484	"BIGDB	35	59	2	0	91	59	3	15
7.	15*	78853	3492	"BIGDB	29	59	2	0	91	59	3	14



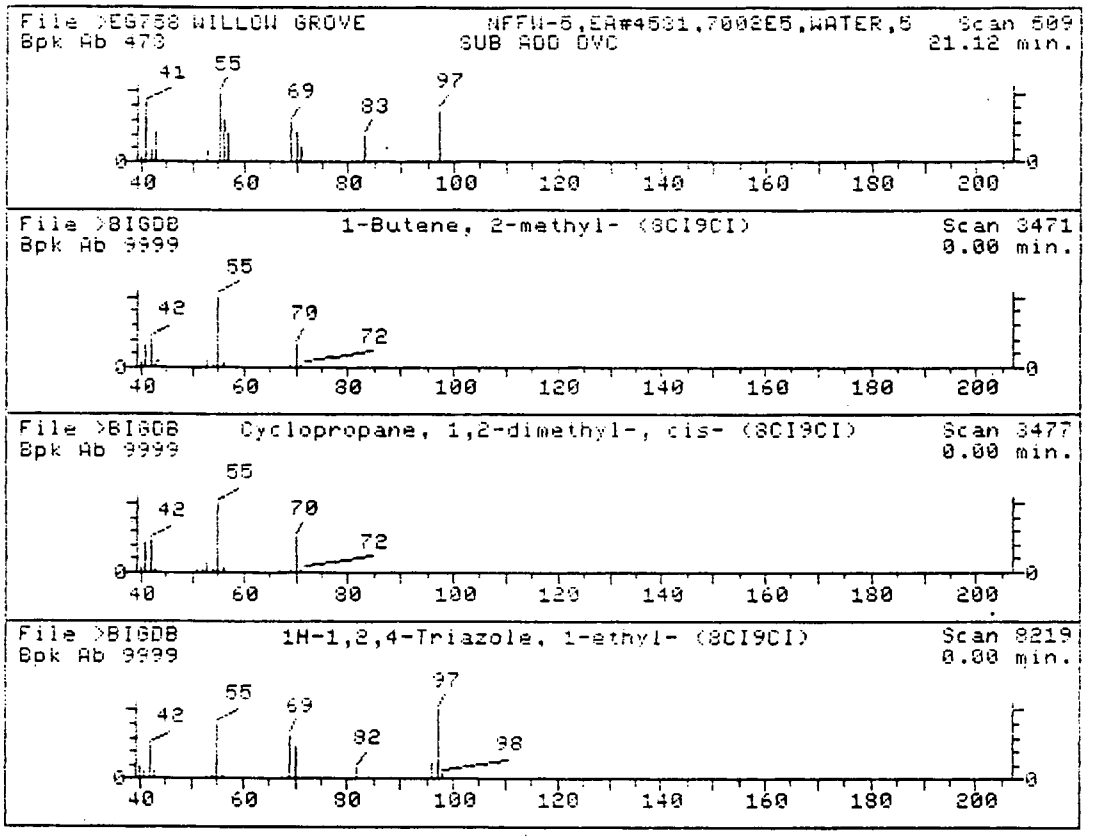
Retention time = 19.88

Area = 184718.0 Tentative Concentration is 22.00

1.	Pentane, 2,3-dimethyl- (8CI9CI)	100	C7H16
2.	Hexane, 3-methyl- (8CI9CI)	100	C7H16
3.	Pentane, 2,4-dimethyl- (8CI9CI)	100	C7H16
4.	Butane, 2,2-dimethyl- (8CI9CI)	86	C6H14
5.	Aziridine, 2-methyl- (8CI9CI)	57	C3H7N
6.	Pentane, 3-ethyl- (8CI9CI)	100	C7H16
7.	Hexane, 2-methyl- (8CI9CI)	100	C7H16

Sample file: >EG758 Spectrum #: 477
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84*	565593	1013	"BIGDB	56	39	0	0	75	10	55	67
2.	38*	589344	3929	"BIGDB	28	65	1	0	82	28	14	15
3.	26*	108087	1009	"BIGDB	29	55	2	0	83	45	8	14
4.	25	75832	3877	"BIGDB	31	61	0	0	53	49	7	16
5.	20*	75558	946	"BIGDB	26	41	1	0	78	55	5	14
6.	20*	617787	3504	"BIGDB	28	55	1	0	75	51	5	15
7.	15*	591764	6010	"BIGDB	23	63	2	0	58	57	3	13



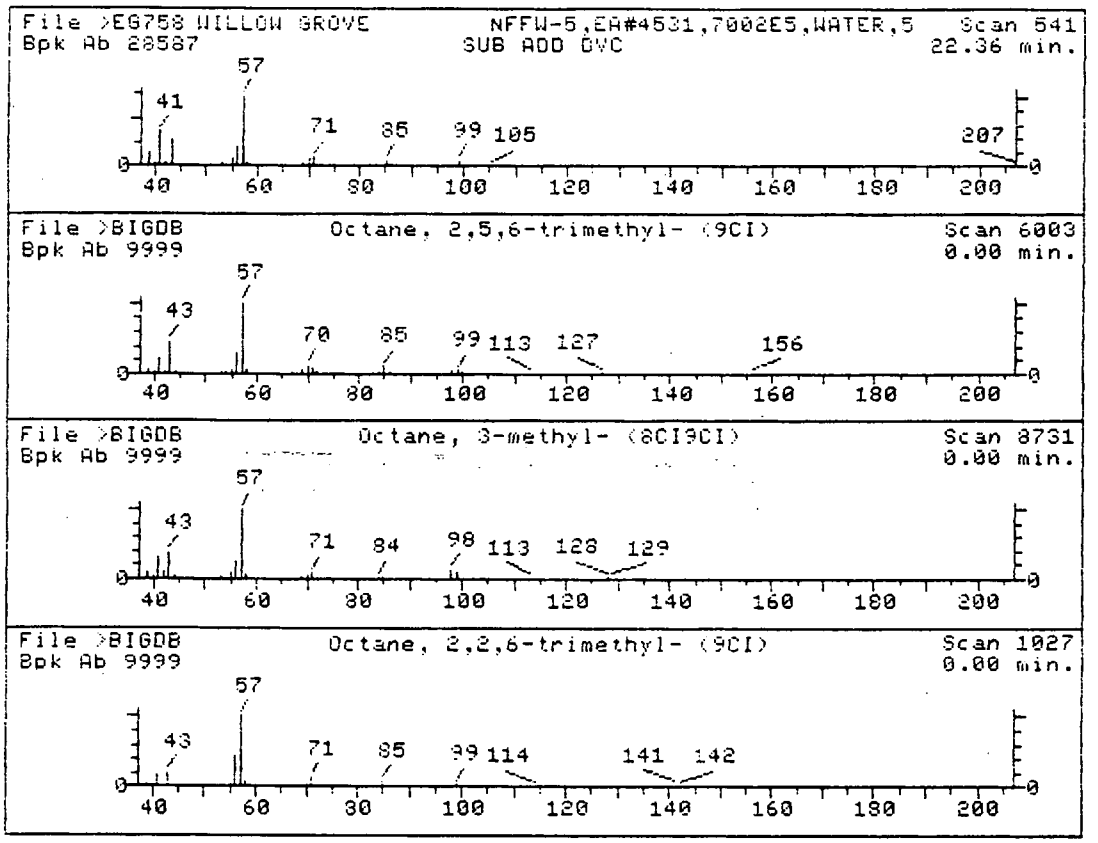
Retention time = 21.12 UNKNOWN HYDROCARBON

Area = 42395.00 Tentative Concentration is 5.00

1.	1-Butene, 2-methyl- (8CI9CI)	70 C5H10
2.	Cyclopropane, 1,2-dimethyl-, cis- (8CI9CI)	70 C5H10
3.	1H-1,2,4-Triazole, 1-ethyl- (8CI9CI)	97 C4H7N3
4.	Cyclopropane, 1,2-dimethyl-, trans- (8CI9CI)	70 C5H10
5.	Cyclopropane, 1,1-dimethyl- (8CI9CI)	70 C5H10

Sample file: >EG758 Spectrum #: 509
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	563462	3471	"BIGDB	23	57	2	0	100	55	5	13
2.	20*	930187	3477	"BIGDB	28	63	3	0	84	55	5	13
3.	15*	16778704	8219	"BIGDB	24	72	3	0	75	58	3	12
4.	15*	2402064	3481	"BIGDB	20	70	2	0	78	60	3	13
5.	11*	1630940	3507	"BIGDB	22	61	2	0	74	64	2	13



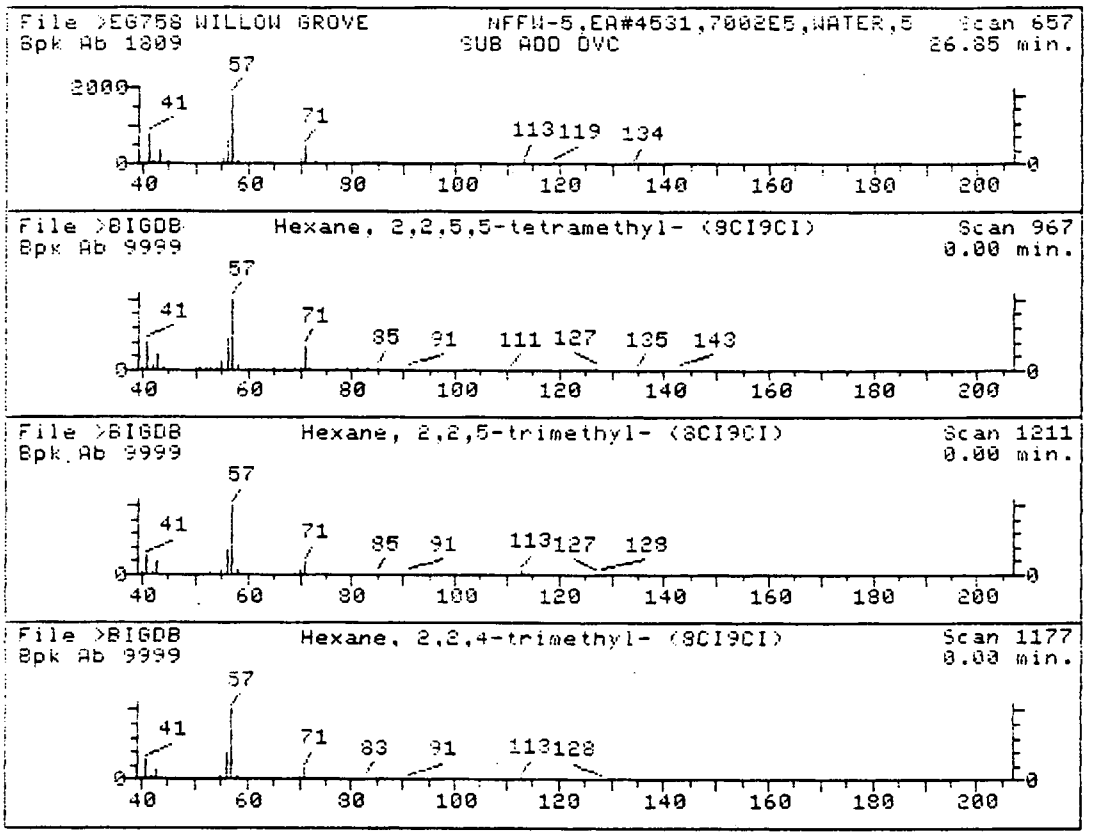
Retention time = 22.36

Area = 1436819. Tentative Concentration is 140.00

1.	Octane, 2,5,6-trimethyl- (9CI)	156	C11H24
2.	Octane, 3-methyl- (8CI9CI)	128	C9H20
3.	Octane, 2,2,6-trimethyl- (9CI)	156	C11H24
4.	Heptane, 2,3,5-trimethyl- (8CI9CI)	142	C10H22
5.	Heptane, 3,5-dimethyl- (8CI9CI)	128	C9H20
6.	Heptane, 2,3,6-trimethyl- (8CI9CI)	142	C10H22
7.	Heptane, 2,5-dimethyl- (8CI9CI)	128	C9H20

Sample file: >EG758 Spectrum #: 541
Search speed: 2 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	78	62016142	6003	"BIGDB	41	46	2	0	83	1	55	13
2.	78	2216333	8731	"BIGDB	37	47	2	0	100	5	55	12
3.	70	62016288	1027	"BIGDB	39	38	1	0	71	10	42	14
4.	60	20278857	1203	"BIGDB	42	34	2	0	91	15	30	14
5.	60	926829	8724	"BIGDB	44	38	2	0	91	15	30	14
6.	60	4032933	3607	"BIGDB	42	40	1	0	69	15	30	15
7.	52	2216300	8730	"BIGDB	38	48	2	0	75	17	20	12



Retention time = 26.85

Area = 121670.0 Tentative Concentration is 12.00

1.	Hexane, 2,2,5,5-tetramethyl- (8CI9CI)	142	C10H22
2.	Hexane, 2,2,5-trimethyl- (8CI9CI)	128	C9H20
3.	Hexane, 2,2,4-trimethyl- (8CI9CI)	128	C9H20
4.	Methane, isocyanato- (9CI)	57	C2H3NO
5.	Butane, 2,2,3,3-tetramethyl- (8CI9CI)	114	C8H18

Sample file: >EG758 Spectrum #: 657
Search speed: 2 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	60	1071814	967	"BIGDB	47	32	2	0	77	13	30	16
2.	60	3522949	1211	"BIGDB	47	32	2	0	93	15	30	16
3.	52	16747265	1177	"BIGDB	36	41	2	0	93	16	20	12
4.	37*	624839	948	"BIGDB	22	42	1	0	87	30	14	14
5.	35	594821	1200	"BIGDB	35	37	2	0	100	28	14	12

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NFFW-5 DL

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4531

Sampl wt/vol: 5.0 (g/mL) ML Lab File ID: EG770

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	50.	U
74-83-9	Bromomethane	50.	U
75-01-4	Vinyl Chloride	50.	U
75-00-3	Chloroethane	50.	U
75-09-2	Methylene Chloride	25.	U
67-64-1	Acetone	320.	D
75-15-0	Carbon Disulfide	25.	U
75-35-4	1,1-Dichloroethene	25.	U
75-34-3	1,1-Dichloroethane	25.	U
540-59-0	1,2-Dichloroethene (total)	25.	U
67-66-3	Chloroform	25.	U
107-06-2	1,2-Dichloroethane	25.	U
78-93-3	2-Butanone	190.	D
71-55-6	1,1,1-Trichloroethane	25.	U
56-23-5	Carbon Tetrachloride	25.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	25.	U
78-87-5	1,2-Dichloropropane	25.	U
10061-01-5	cis-1,3-Dichloropropene	25.	U
79-01-6	Trichloroethene	25.	U
124-48-1	Dibromochloromethane	25.	U
79-00-5	1,1,2-Trichloroethane	25.	U
71-43-2	Benzene	25.	U
10061-02-6	trans-1,3-Dichloropropene	25.	U
75-25-2	Bromoform	25.	U
108-10-1	4-Methyl-2-Pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	25.	U
79-34-5	1,1,2,2-Tetrachloroethane	25.	U
108-88-3	Toluene	25.	U
108-90-7	Chlorobenzene	25.	U
100-41-4	Ethylbenzene	25.	U
100-42-5	Styrene	25.	U
1330-20-7	Xylen (total)	25.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NFFW-5 DL

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4531

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG770

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 5.00

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	107-83-5	Pentane, 2-methyl- (8CI9CI)	15.29	50.	J
2.	2216-33-3	Octane, 3-methyl- (8CI9CI)	22.26	200.	J
3.					
4.					
5.					
6.					
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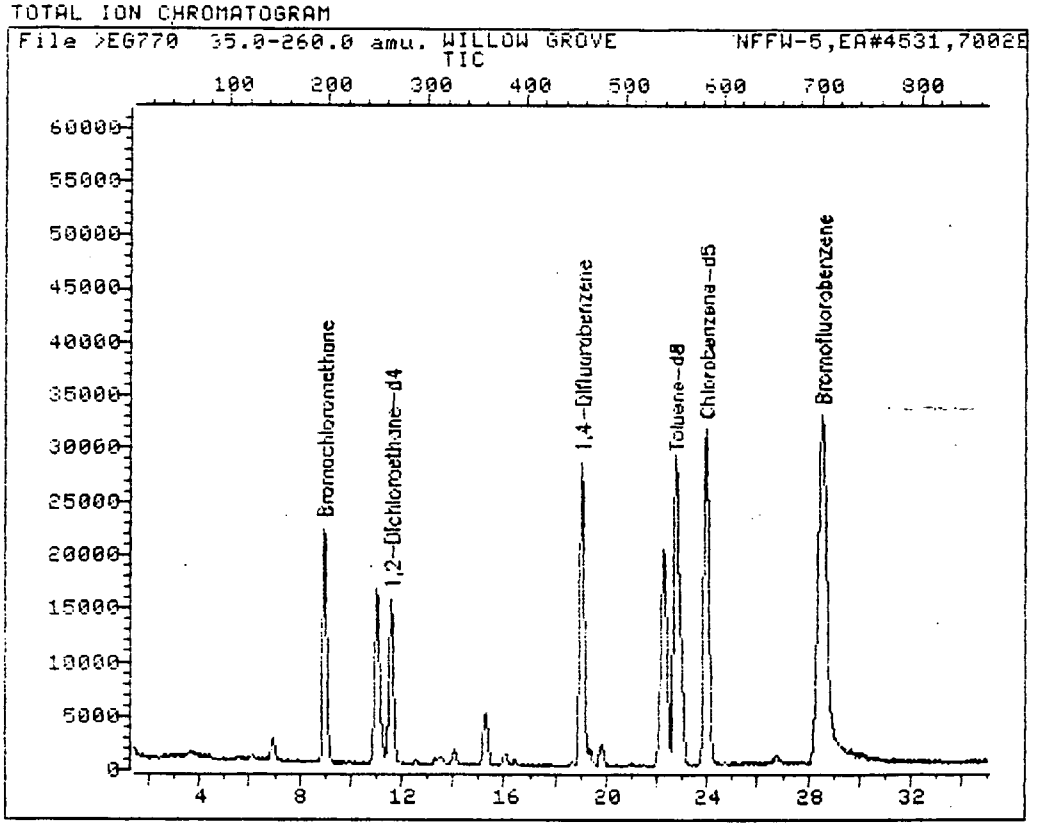
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG770::W3 Quant Output File: ^EG770::QT
Name: WILLOW GROVE
Misc: NFFW-5,EA#4531,7002E5,WATER,5ML (1/5 DIL)

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 10:35
Injected at: 890928 09:59

QUANT REPORT

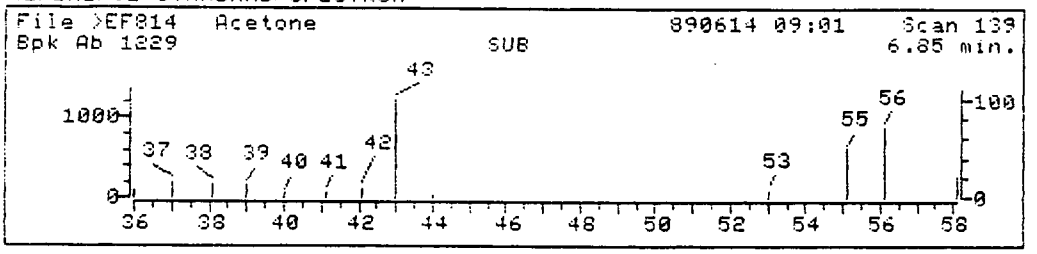
Operator ID: CARL Quant Rev: 6 Quant Time: 890928 10:35
Output File: ^EG770::QT Injected at: 890928 09:59
Data File: >EG770::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NFFW-5,EA#4531,7002E5,WATER,5ML (1/5 DIL)

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

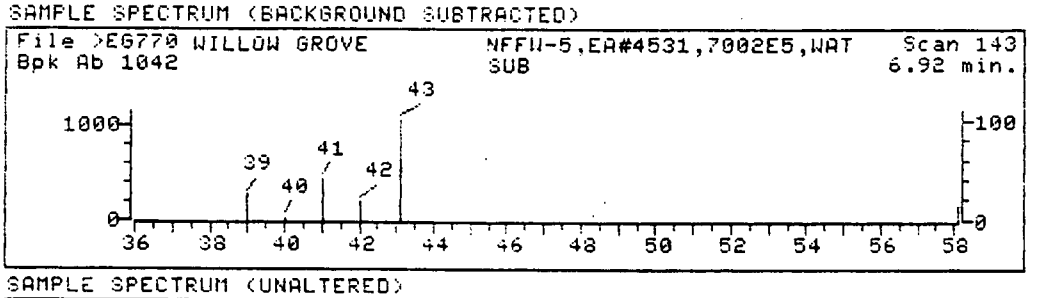
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.97	128.0	36871	50.00	UG/L	95
7)	Acetone	6.92	43.0	13866	64.60	UG/L	80
13)	1,2-Dichloroethane-d4	11.61	65.0	71557	50.56	UG/L	87
15)	*1,4-Difluorobenzene	19.05	114.0	131061	50.00	UG/L	90
16)	2-Butanone	11.03	72.0	3637	37.76	UG/L	77
29)	*Chlorobenzene-d5	23.97	117.0	127192	50.00	UG/L	98
35)	Toluene-d8	22.73	98.0	134230	52.78	UG/L	97
40)	Bromofluorobenzene	28.54	95.0	121807	51.47	UG/L	98

* Compound is ISTD

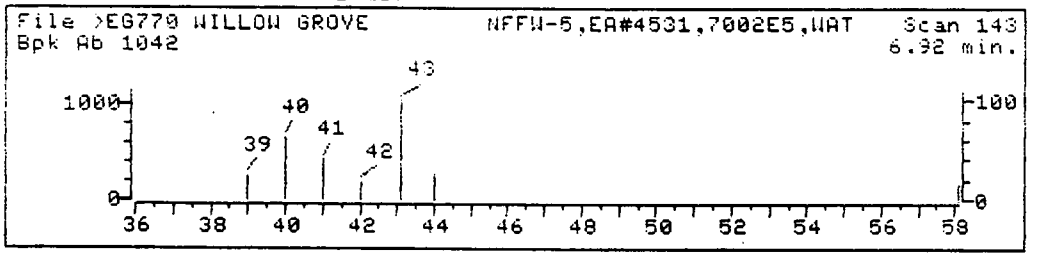
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



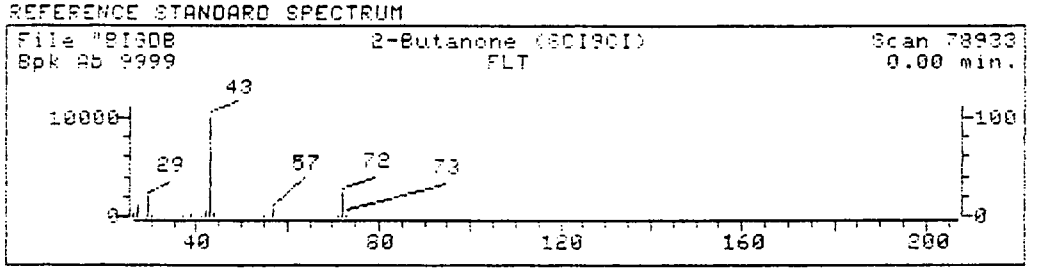
SAMPLE SPECTRUM (UNALTERED)



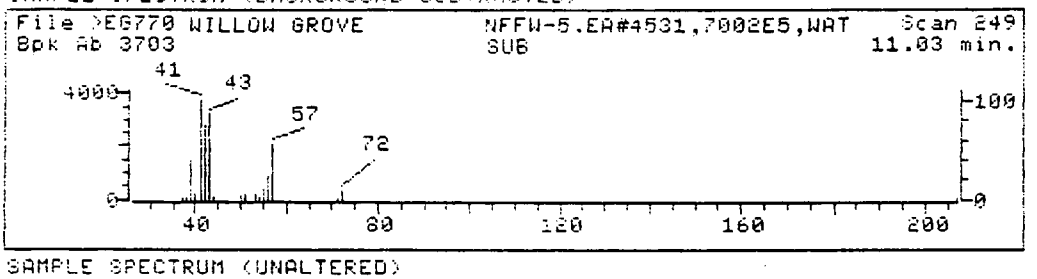
Data File: >EG770::W3 Quant Output File: ^EG770::QT
Name: WILLOW GROVE
Misc: NFFW-5,EA#4531,7002E5,WATER,5ML (1/5 DIL)
Quant Time: 890928 10:35 Quant ID File: EVOA::BD
Injected at: 890928 09:59 Last Calibration: 890928 09:06

Compound No: 7
Compound Name: Acetone
Scan Number: 143
Retention Time: 6.92 min.
Quant Ion: 43.0
Area: 13866
Concentration: 64.60 UG/L
q-value: 80

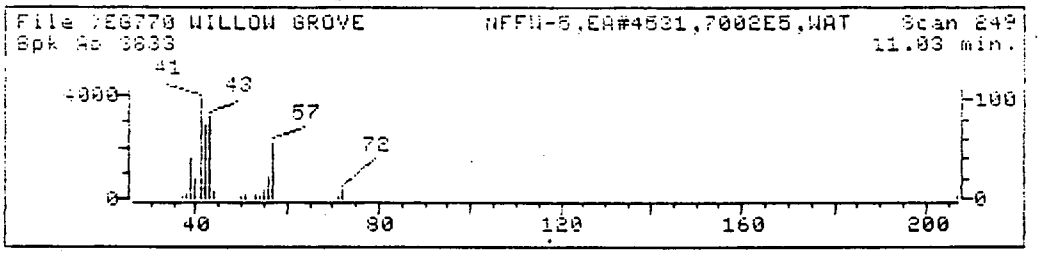
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

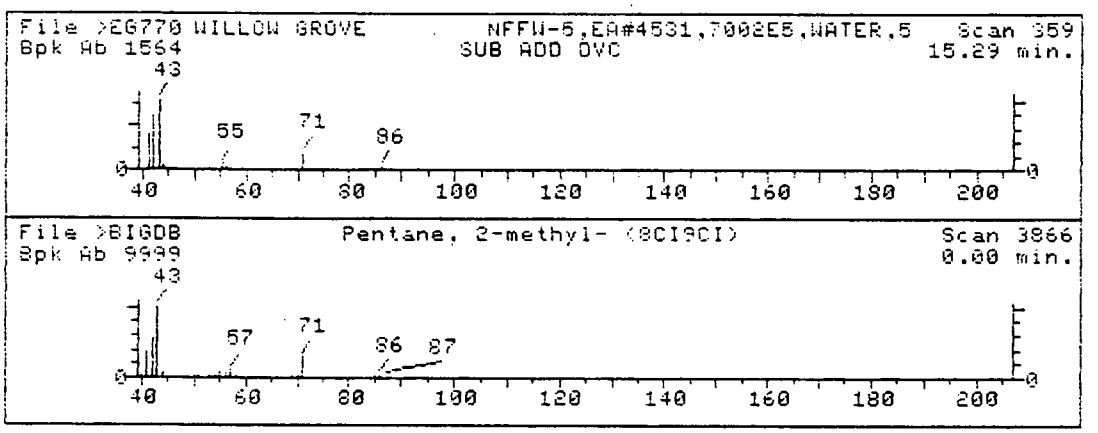


SAMPLE SPECTRUM (UNALTERED)



Data File: >EG770::W3 Quant Output File: ^EG770::QT
Name: WILLOW GROVE
Misc: NFFW-5,EA#4531,7002E5,WATER,5ML (1/5 DIL)
Quant Time: 890928 10:35 Quant ID File: EVOA::BD
Injected at: 890928 09:59 Last Calibration: 890928 09:06

Compound No: 16
Compound Name: 2-Butanone
Scan Number: 249
Retention Time: 11.03 min.
Quant Ion: 72.0
Area: 3637
Concentration: 37.76 UG/L
q-value: 77



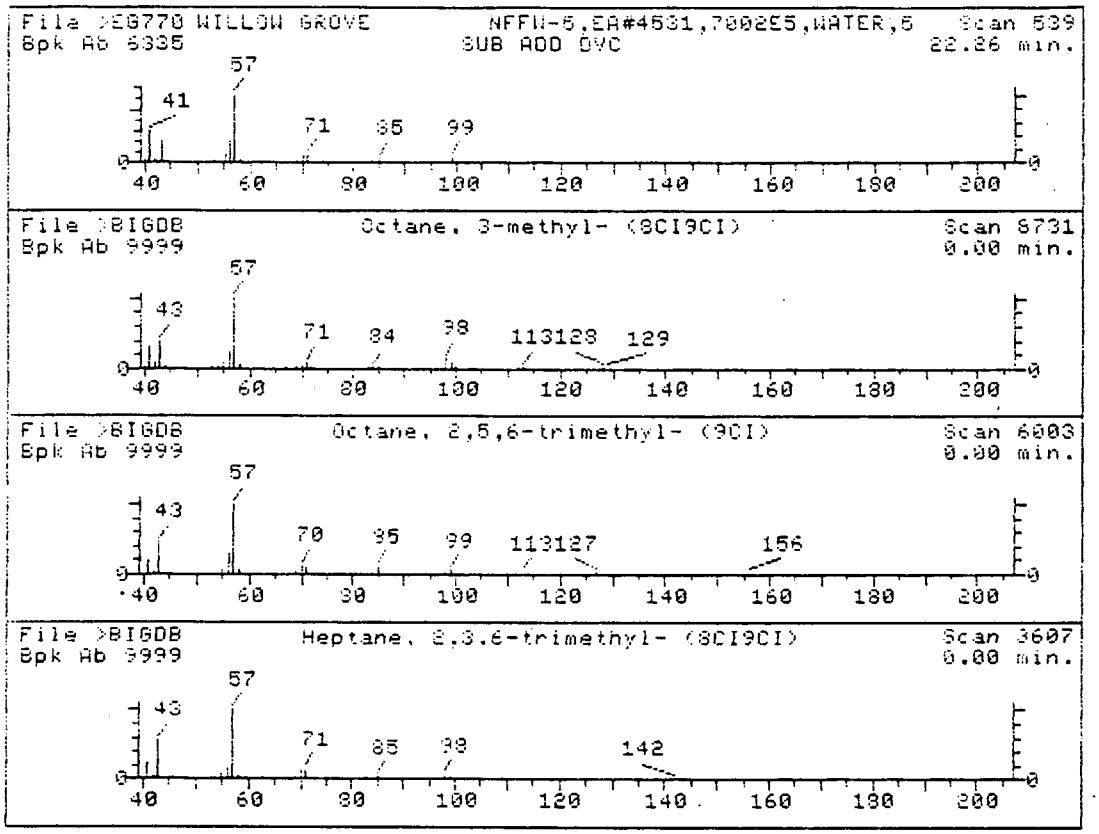
Retention time = 15.29

Area = 63899.00 Tentative Concentration is 10.00

1. Pentane, 2-methyl- (8CI9CI) 86 C6H14

Sample file: >EG770 Spectrum #: 359
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	78*	107835	3866	"BIGDB	33	53	3	0	100	3	55	14



Retention time = 22.26

Area = 297982.0 Tentative Concentration is 35.00

1.	Octane, 3-methyl- (8CI9CI)	128	C9H20
2.	Octane, 2,5,6-trimethyl- (9CI)	156	C11H24
3.	Heptane, 2,3,6-trimethyl- (8CI9CI)	142	C10H22
4.	Decane, 2,5-dimethyl- (8CI9CI)	170	C12H26
5.	Heptane, 3,5-dimethyl- (8CI9CI)	128	C9H20
6.	Heptane, 2,3,5-trimethyl- (8CI9CI)	142	C10H22
7.	Heptane, 2,5-dimethyl- (8CI9CI)	128	C9H20

Sample file: >EG770 Spectrum #: 539
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	78	2216333	8731	"BIGDB	37	47	2	0	100	5	55	12
2.	70	62016142	6003	"BIGDB	41	46	2	0	73	6	42	13
3.	60	4032933	3607	"BIGDB	38	44	2	0	78	15	30	13
4.	60	17312504	8753	"BIGDB	40	49	2	0	72	13	30	12
5.	60	926829	8724	"BIGDB	44	38	2	0	81	15	30	14
6.	52	20278857	1203	"BIGDB	37	39	2	0	81	17	20	12
7.	52	2216300	8730	"BIGDB	43	43	2	0	67	17	20	14

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NFFW-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4532

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG759

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 50.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	500.	U
74-83-9	Bromomethane	500.	U
75-01-4	Vinyl Chloride	500.	U
75-00-3	Chloroethane	500.	U
75-09-2	Methylene Chloride	250.	U
67-64-1	Acetone	500.	U
75-15-0	Carbon Disulfide	250.	U
75-35-4	1,1-Dichloroethene	250.	U
75-34-3	1,1-Dichloroethane	250.	U
540-59-0	1,2-Dichloroethene (total)	250.	U
67-66-3	Chloroform	250.	U
107-06-2	1,2-Dichloroethane	250.	U
78-93-3	2-Butanone	1300.	
71-55-6	1,1,1-Trichloroethane	250.	U
56-23-5	Carbon Tetrachloride	250.	U
108-05-4	Vinyl Acetate	500.	U
75-27-4	Bromodichloromethane	250.	U
78-87-5	1,2-Dichloropropane	250.	U
10061-01-5	cis-1,3-Dichloropropene	250.	U
79-01-6	Trichloroethene	250.	U
124-48-1	Dibromochloromethane	250.	U
79-00-5	1,1,2-Trichloroethane	250.	U
71-43-2	Benzene	410.	
10061-02-6	trans-1,3-Dichloropropene	250.	U
75-25-2	Bromoform	250.	U
108-10-1	4-Methyl-2-Pentanone	500.	U
591-78-6	2-Hexanone	500.	U
127-18-4	Tetrachloroethene	250.	U
79-34-5	1,1,2,2-Tetrachloroethane	250.	U
108-88-3	Toluene	250.	U
108-90-7	Chlorobenzene	250.	U
100-41-4	Ethylbenzene	650.	
100-42-5	Styrene	250.	U
1330-20-7	Xylene (total)	1900.	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NFFW-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4532

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG759

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 50.00

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	78-78-4	Butane, 2-methyl- (8CI9CI)	11.06	1000.	J
2.	2216-33-3	Octane, 3-methyl- (8CI9CI)	22.34	1000.	J
3.	95-47-6	Benzene, 1,2-dimethyl- (9CI)	31.49	300.	J
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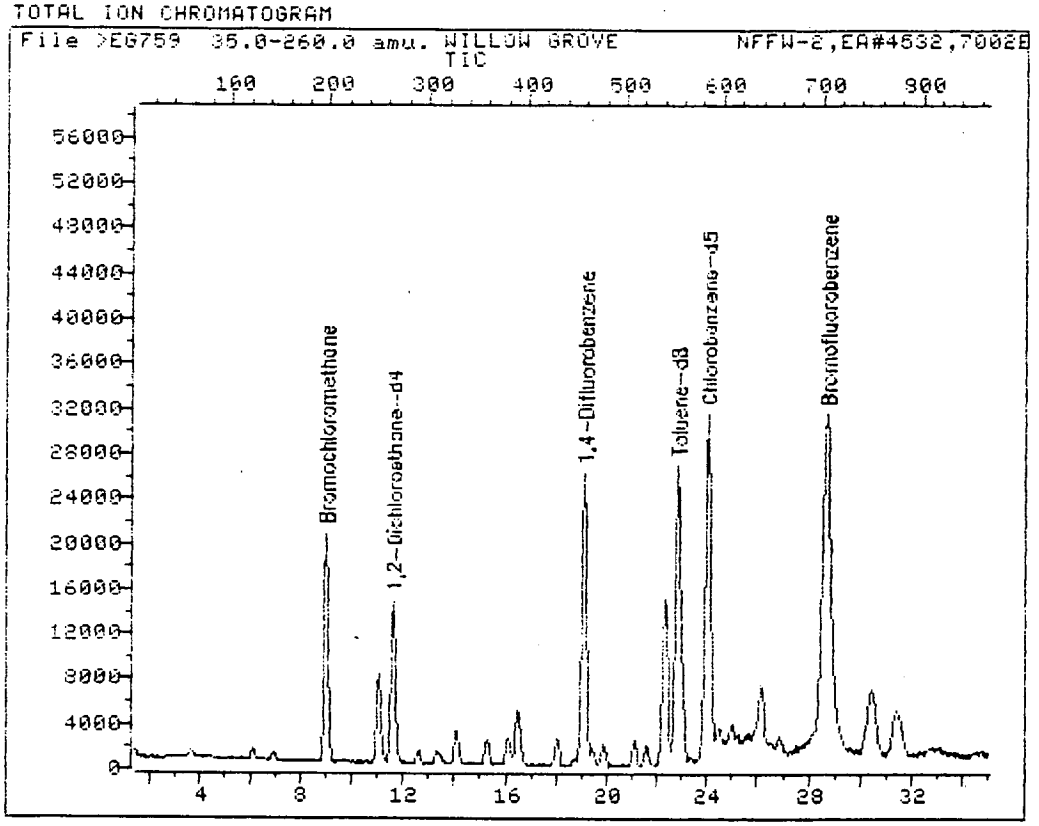
TOTAL ION CHROMATOGRAM



Data File: >EG759::W3 Quant Output File: ^EG759::QT
Name: WILLOW GROVE
Misc: NFFW-2,EA#4532,7002E5,WATER,5ML (1/50 DIL)

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 14:43
Injected at: 890927 14:07

QUANT REPORT

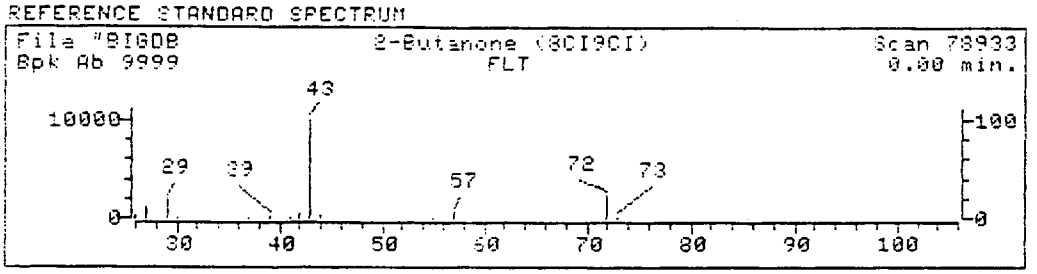
Operator ID: CARL Quant Rev: 6 Quant Time: 890927 14:43
Output File: ^EG759::QT Injected at: 890927 14:07
Data File: >EG759::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NFFW-2,EA#4532,7002E5,WATER,5ML (1/50 DIL)

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

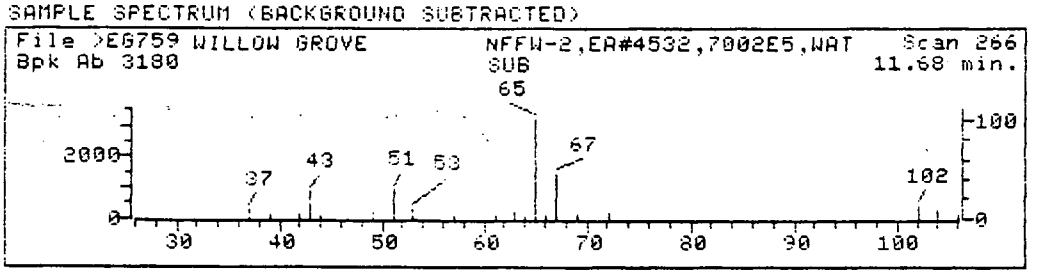
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.01	128.0	33247	50.00	UG/L	95
13)	1,2-Dichloroethane-d4	11.64	65.0	65535	52.45	UG/L	87
15)	*1,4-Difluorobenzene	19.12	114.0	118769	50.00	UG/L	91
16)	2-Butanone	11.68	72.0	2006	26.73	UG/L	92
26)	Benzene	16.52	78.0	14737	8.29	UG/L	87
29)	*Chlorobenzene-d5	24.04	117.0	117819	50.00	UG/L	98
35)	Toluene-d8	22.84	98.0	120056	48.47	UG/L	99
37)	Ethylbenzene	26.14	106.0	11251	13.06	UG/L	96
39)	Xylene (total)	30.44	106.0	37101M	37.18	UG/L	96
40)	Bromofluorobenzene	28.69	95.0	113192	50.92	UG/L	96

* Compound is ISTD

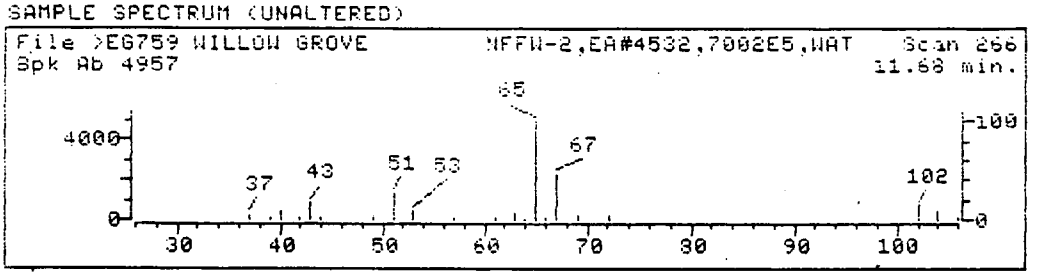
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



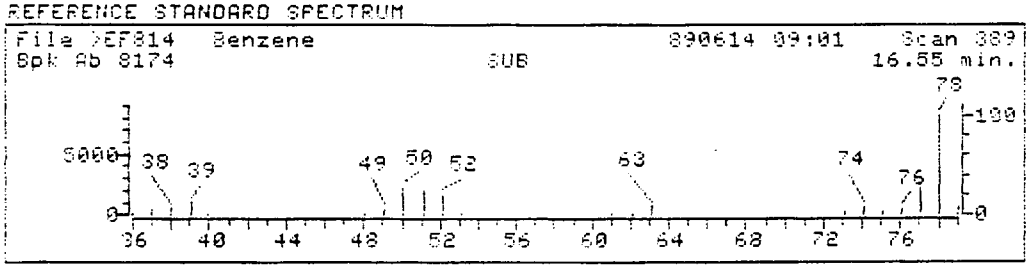
SAMPLE SPECTRUM (UNALTERED)



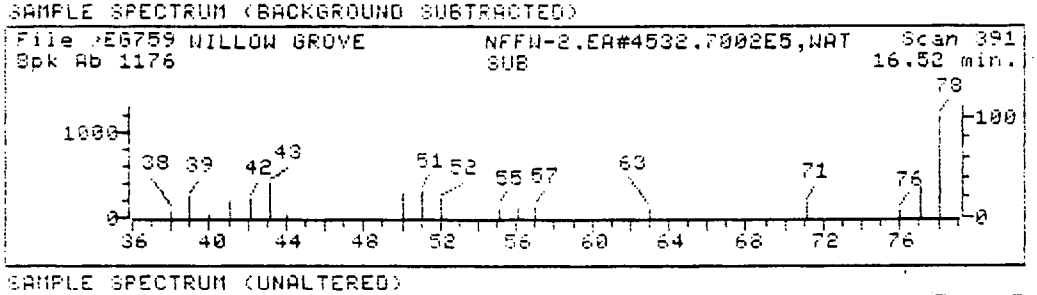
Data File: >EG759::W3 Quant Output File: ^EG759::QT
Name: WILLOW GROVE
Misc: NFFW-2,EA#4532,7002E5,WATER,5ML (1/50 DIL)
Quant Time: 890927 14:43 Quant ID File: EVOA::BD
Injected at: 890927 14:07 Last Calibration: 890927 08:24

Compound No: 16
Compound Name: 2-Butanone
Scan Number: 266
Retention Time: 11.68 min.
Quant Ion: 72.0
Area: 2006
Concentration: 26.73 UG/L
q-value: 92

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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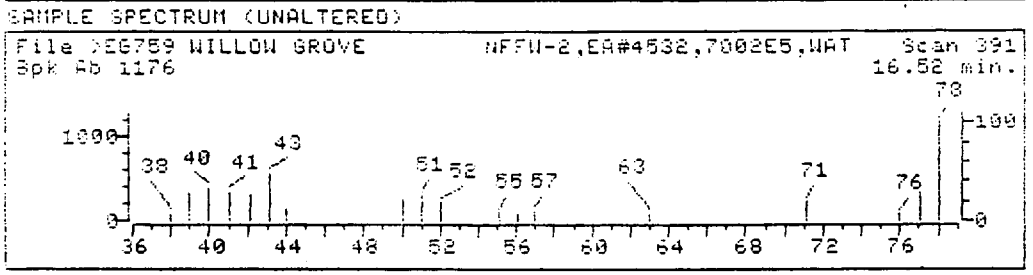
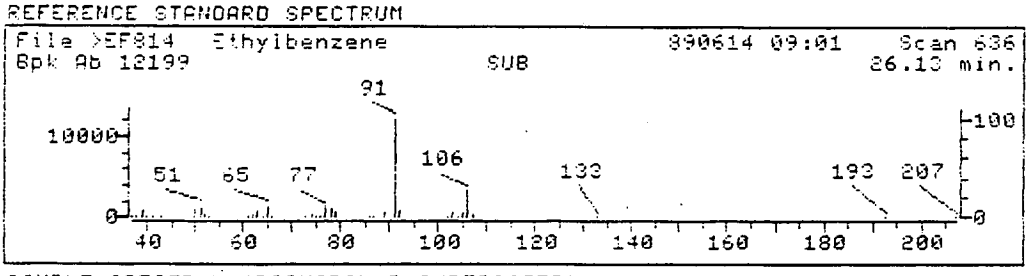


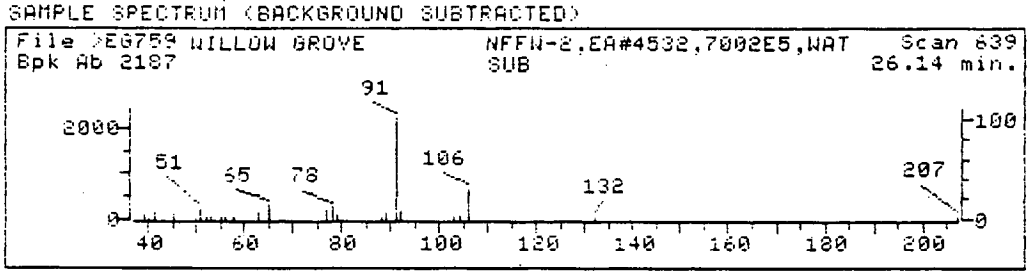
Data File: >EG759::W3 Quant Output File: >EG759::QT
Name: WILLOW GROVE
Misc: NFFW-2,EA#4532,7002E5,WATER,5ML (1/50 DIL)
Quant Time: 890927 14:43 Quant ID File: EVOA::BD
Injected at: 890927 14:07 Last Calibration: 890927 08:24

Compound No: 26
Compound Name: Benzene
Scan Number: 391
Retention Time: 16.52 min.
Quant Ion: 78.0
Area: 14737
Concentration: 8.29 UG/L
q-value: 87

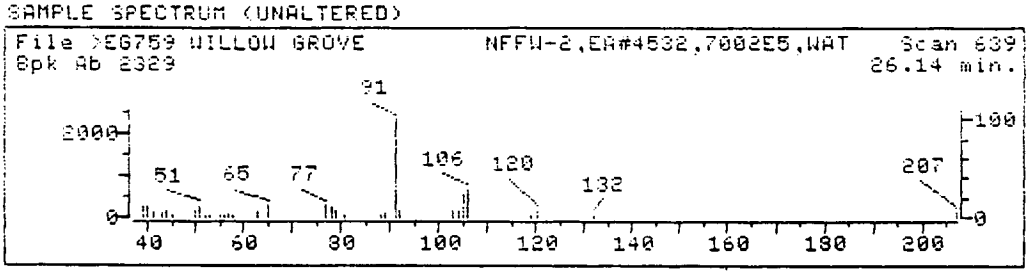
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



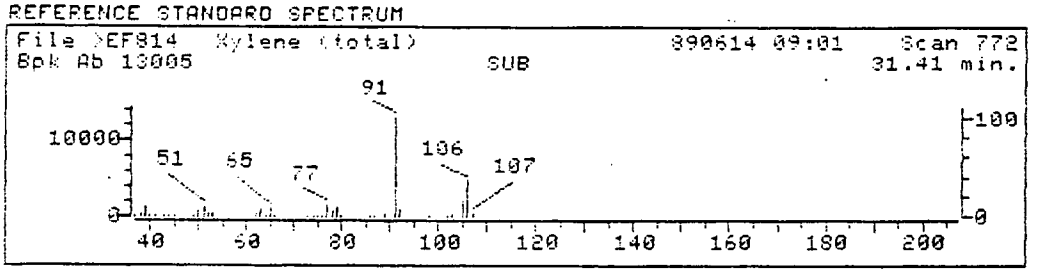
SAMPLE SPECTRUM (UNALTERED)



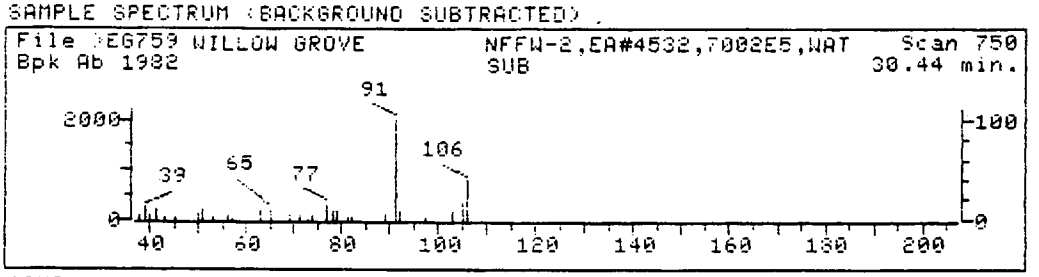
Data File: >EG759::W3 Quant Output File: ^EG759::QT
Name: WILLOW GROVE
Misc: NFFW-2,EA#4532,7002E5,WATER,5ML (1/50 DIL)
Quant Time: 890927 14:43 Quant ID File: EVOA::BD
Injected at: 890927 14:07 Last Calibration: 890927 08:24

Compound No: 37
Compound Name: Ethylbenzene
Scan Number: 639
Retention Time: 26.14 min.
Quant Ion: 106.0
Area: 11251
Concentration: 13.06 UG/L
q-value: 96

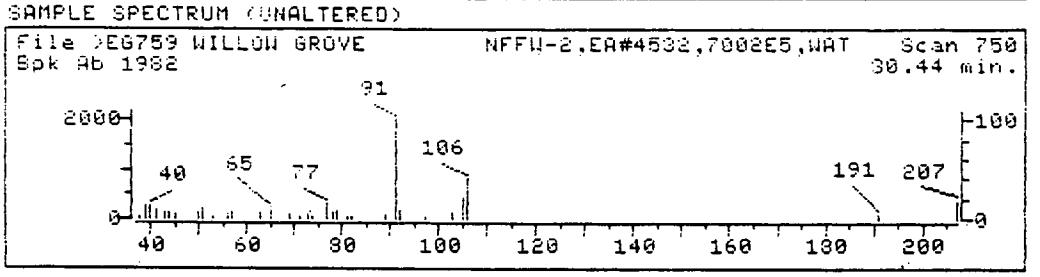
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

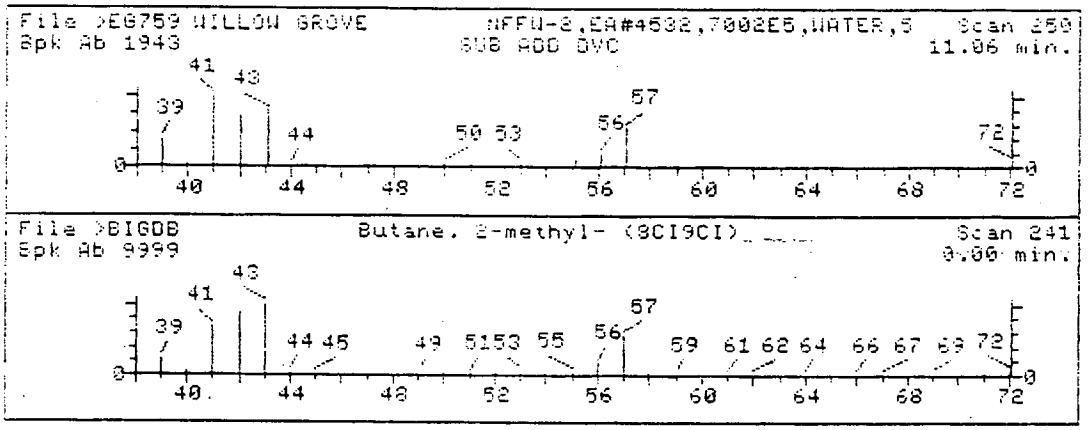


SAMPLE SPECTRUM (UNALTERED)



Data File: >EG759::W3 Quant Output File: ^EG759::QT
Name: WILLOW GROVE
Misc: NFFW-2,EA#4532,7002E5,WATER,5ML (1/50 DIL)
Quant Time: 890927 14:43 Quant ID File: EVOA::BD
Injected at: 890927 14:07 Last Calibration: 890927 08:24

Compound No: 39
Compound Name: Xylene (total)
Scan Number: 750
Retention Time: 30.44 min.
Quant Ion: 106.0
Area: 19613
Concentration: ~~19.65~~ UG/L
q-value: 92 37.18



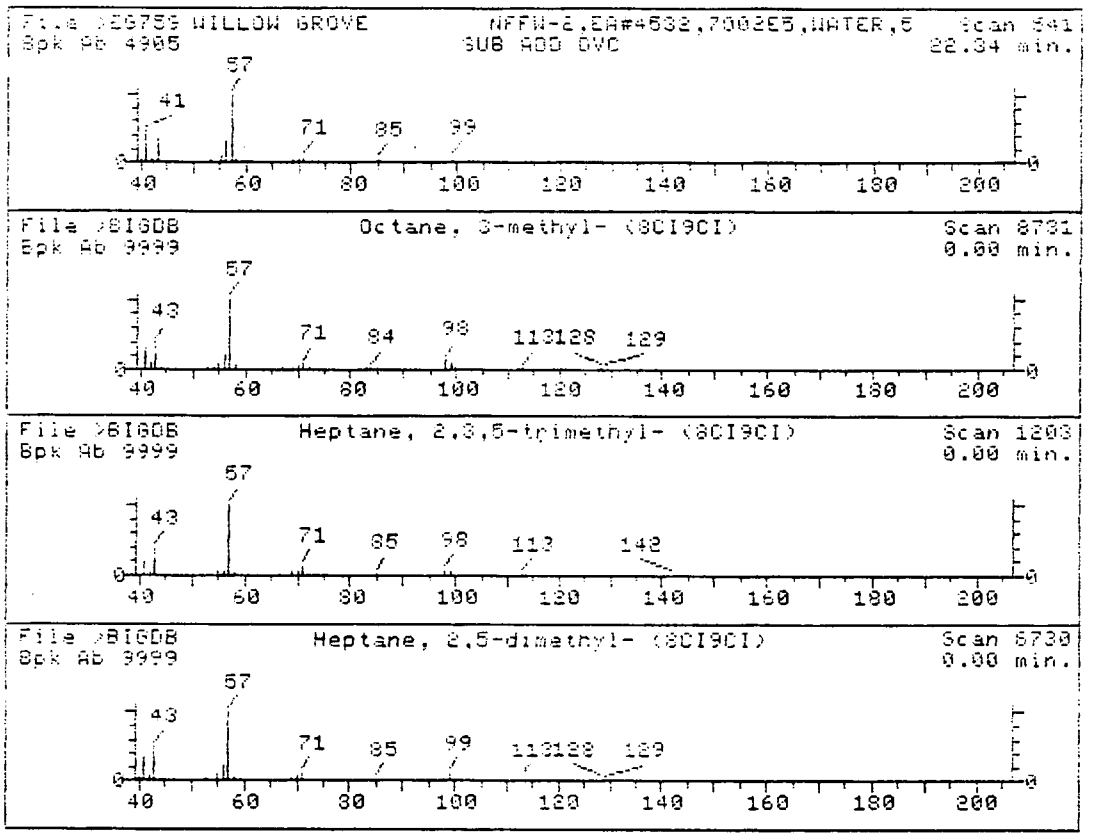
Retention time = 11.06

Area = 93628.00 Tentative Concentration is 20.00

(1) Butane, 2-methyl- (8CI9CI) 72 C5H12

Sample file: >EG759 Spectrum #: 250
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	40*	78784	241	"BIGDB	31	55	1	0	80	27	14	17



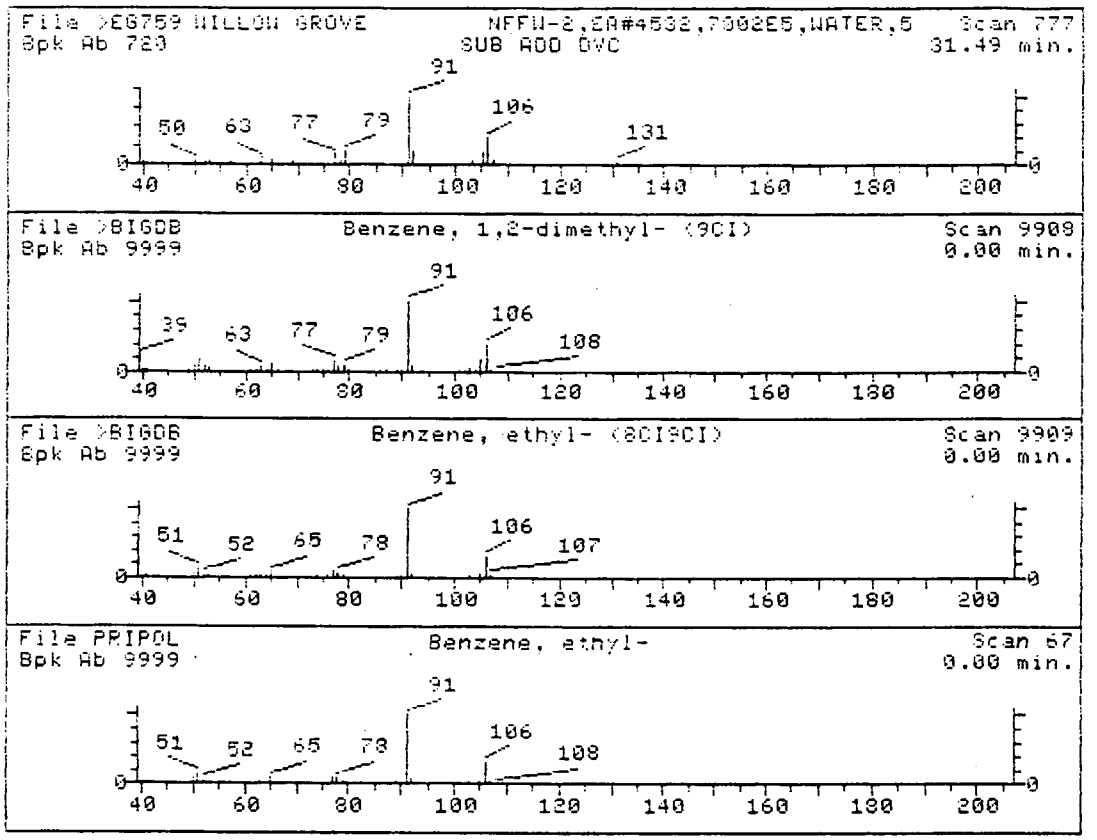
Retention time = 22.34

Area = 224945.0 Tentative Concentration is 26.00

1.	Octane, 3-methyl- (8CI9CI)	128	C9H20
2.	Heptane, 2,3,5-trimethyl- (8CI9CI)	142	C10H22
3.	Heptane, 2,5-dimethyl- (8CI9CI)	128	C9H20
4.	Decane, 2,5-dimethyl- (8CI9CI)	170	C12H26
5.	Pentane, 2,2,4-trimethyl- (8CI9CI)	114	C8H18
6.	Methane, isocyanato- (9CI)	57	C2H3NO
7.	Pentane, 2,2,3-trimethyl- (8CI9CI)	114	C8H18

Sample file: >EG759 Spectrum #: 541
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	70	2216333	8731	"BIGDB	41	43	2	0	100	7	42	14
2.	52	20278857	1203	"BIGDB	35	41	2	0	91	20	20	12
3.	52	2216300	8730	"BIGDB	39	47	2	0	67	16	20	13
4.	52	17312504	8753	"BIGDB	45	44	2	0	73	16	20	14
5.	52	540841	1198	"BIGDB	37	37	1	0	97	16	20	14
6.	43*	624839	948	"BIGDB	23	41	1	0	80	23	17	14
7.	38	564023	955	"BIGDB	42	33	1	0	100	27	14	15



Retention time = 31.49

Area = 50763.00 Tentative Concentration is 6.00

1.	Benzene, 1,2-dimethyl- (9CI)	106 C8H10
2.	Benzene, ethyl- (8CI9CI)	106 C8H10
3.	Benzene, ethyl-	106 C8H10
4.	Cyclopentene, 1-ethenyl-3-methylene- (9CI)	106 C8H10
5.	Benzene, 1,3-dimethyl- (9CI)	106 C8H10

Sample file: >EG759 Spectrum #: 777
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52*	95476	9908	"BIGDB	35	57	3	0	99	20	20	13
2.	36*	100414	9909	"BIGDB	30	54	3	0	100	27	14	13
3.	35*	67	165	PRIPOL	24	58	3	0	100	29	14	12
4.	27*	61142072	9924	"BIGDB	36	54	3	0	48	37	10	13
5.	27*	108383	9919	"BIGDB	26	66	3	0	60	40	10	13

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NFFW-7

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: 64# 4533

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG760

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 20.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	200.	U
74-83-9	Bromomethane	200.	U
75-01-4	Vinyl Chloride	200.	U
75-00-3	Chloroethane	200.	U
75-09-2	Methylene Chloride	100.	U
67-64-1	Acetone	1800.	
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dichloroethene	100.	U
75-34-3	1,1-Dichloroethane	100.	U
540-59-0	1,2-Dichloroethene (total)	100.	U
67-66-3	Chloroform	100.	U
107-06-2	1,2-Dichloroethane	100.	U
78-93-3	2-Butanone	200.	U
71-55-6	1,1,1-Trichloroethane	100.	U
56-23-5	Carbon Tetrachloride	100.	U
108-05-4	Vinyl Acetate	200.	U
75-27-4	Bromodichloromethane	100.	U
78-87-5	1,2-Dichloropropane	100.	U
10061-01-5	cis-1,3-Dichloropropene	100.	U
79-01-6	Trichloroethene	100.	U
124-48-1	Dibromochloromethane	100.	U
79-00-5	1,1,2-Trichloroethane	100.	U
71-43-2	Benzene	500.	
10061-02-6	trans-1,3-Dichloropropene	100.	U
75-25-2	Bromoform	100.	U
108-10-1	4-Methyl-2-Pentanone	200.	U
591-78-6	2-Hexanone	200.	U
127-18-4	Tetrachloroethene	100.	U
79-34-5	1,1,2,2-Tetrachloroethane	100.	U
108-88-3	Toluene	100.	U
108-90-7	Chlorobenzene	100.	U
100-41-4	Ethylbenzene	390.	
100-42-5	Styr ne	100.	U
1330-20-7	Xylene (total)	510.	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NFFW-7

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4533

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG760

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 20.00

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	78-78-4	Butane, 2-methyl- (8CI9CI)	11.08	900.	J
2.	763-29-1	1-Pentene, 2-methyl- (8CI9CI	13.40	200.	J
3.	4806-61-5	Cyclobutane, ethyl- (8CI9CI)	14.10	200.	J
4.	107-83-5	Pentane, 2-methyl- (8CI9CI)	15.30	200.	J
5.	- -	UNKNOWN HYDROCARBON	16.12	200.	J
6.	565-59-3	Pentane, 2,3-dimethyl- (8CI9	19.88	100.	J
7.	- -	UNKNOWN HYDROCARBON	21.12	100.	J
8.	2216-33-3	Octane, 3-methyl- (8CI9CI)	22.36	1000.	J
9.					
10.					
11.					
12.					
13.					
14.					
15.					
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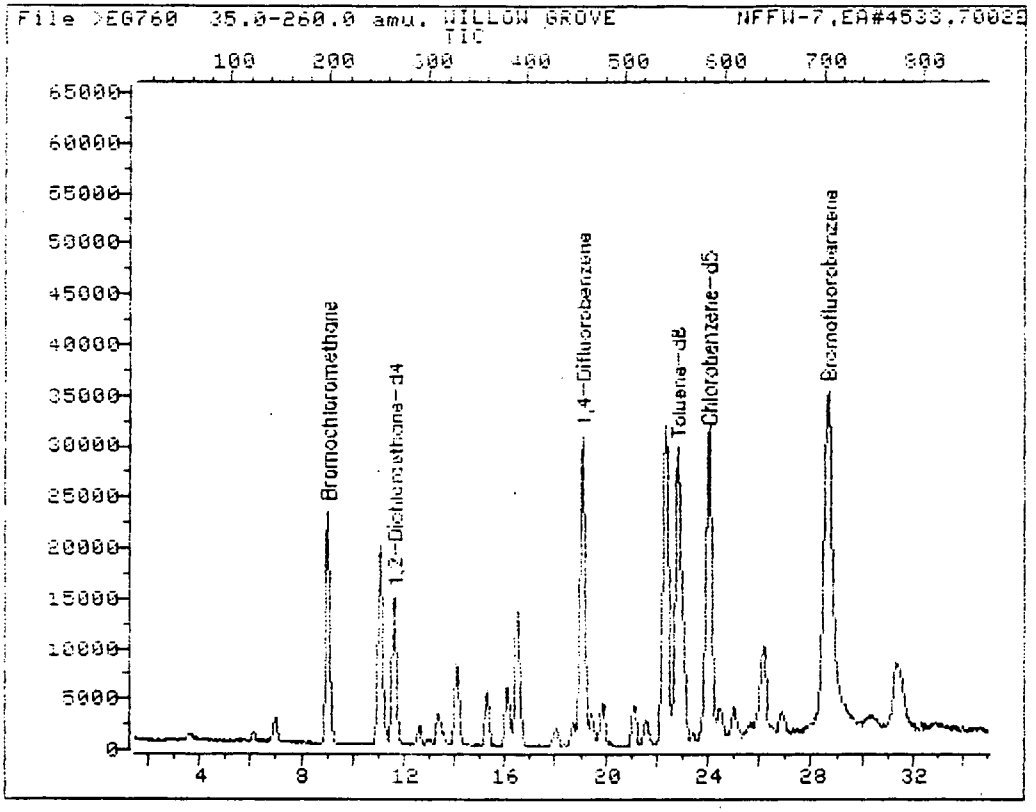
30.					

FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG760::W3 Quant Output File: ^EG760::QT
Name: WILLOW GROVE
Misc: NFFW-7,EA#4533,7002E5,WATER,5ML (1/20 DIL)

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 15:24
Injected at: 890927 14:48

QUANT REPORT

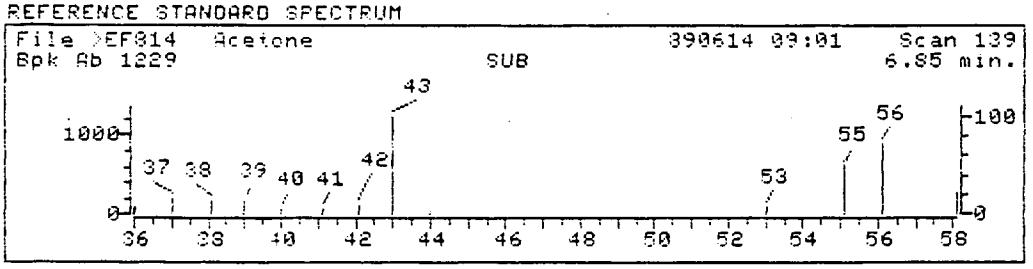
Operator ID: CARL Quant Rev: 6 Quant Time: 890927 15:24
Output File: ^EG760::QT Injected at: 890927 14:48
Data File: >EG760::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NFFW-7,EA#4533,7002E5,WATER,5ML (1/20 DIL)

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

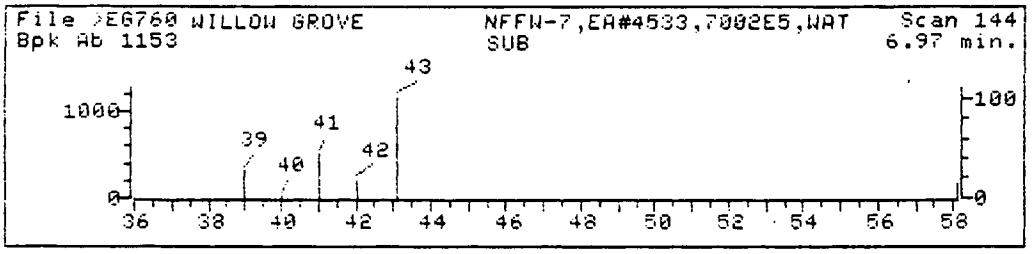
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	128.0	34946	50.00	UG/L	93
7)	Acetone	6.97	43.0	16291	87.80	UG/L	78
13)	1,2-Dichloroethane-d4	11.66	65.0	67419	51.33	UG/L	86
15)	*1,4-Difluorobenzene	19.10	114.0	129954	50.00	UG/L	92
26)	Benzene	16.54	78.0	48905	25.14	UG/L	93
29)	*Chlorobenzene-d5	24.02	117.0	120897	50.00	UG/L	97
35)	Toluene-d8	22.82	98.0	131632	51.79	UG/L	97
37)	Ethylbenzene	26.12	106.0	17242	19.50	UG/L	95
39)	Xylene (total)	31.43	106.0	26202	25.59	UG/L	95
40)	Bromofluorobenzene	28.68	95.0	123394	54.09	UG/L	96

* Compound is ISTD

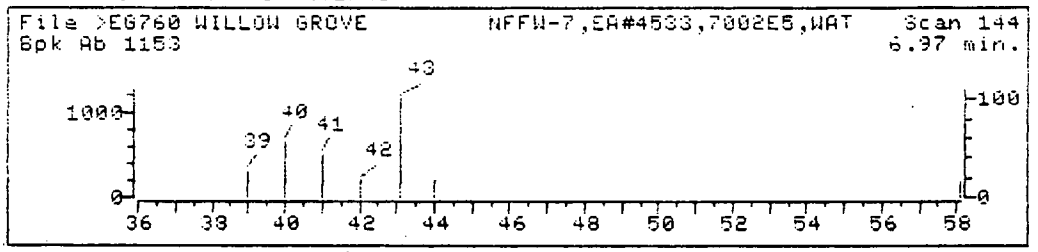
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



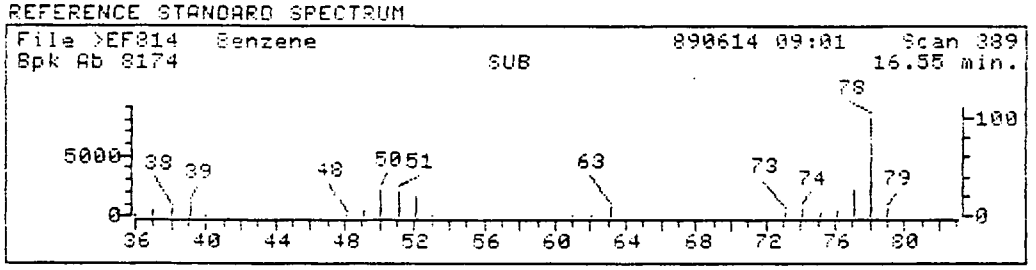
SAMPLE SPECTRUM (UNALTERED)



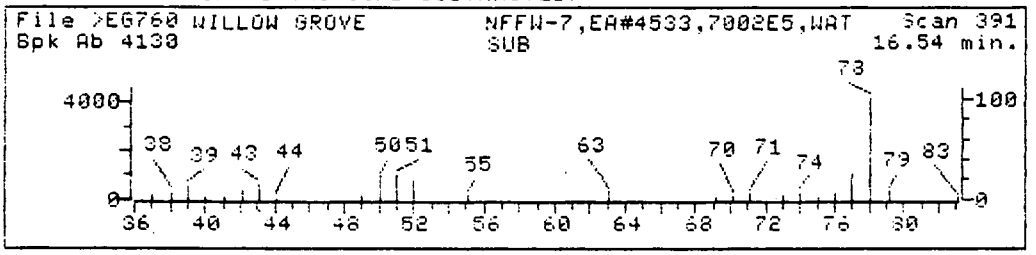
Data File: >EG760::W3 Quant Output File: ^EG760::QT
Name: WILLOW GROVE
Misc: NFFW-7,EA#4533,7002E5,WATER,5ML (1/20 DIL)
Quant Time: 890927 15:24 Quant ID File: EVOA::BD
Injected at: 890927 14:48 Last Calibration: 890927 08:24

Compound No: 7
Compound Name: Acetone
Scan Number: 144
Retention Time: 6.97 min.
Quant Ion: 43.0
Area: 16291
Concentration: 87.80 UG/L
q-value: 78

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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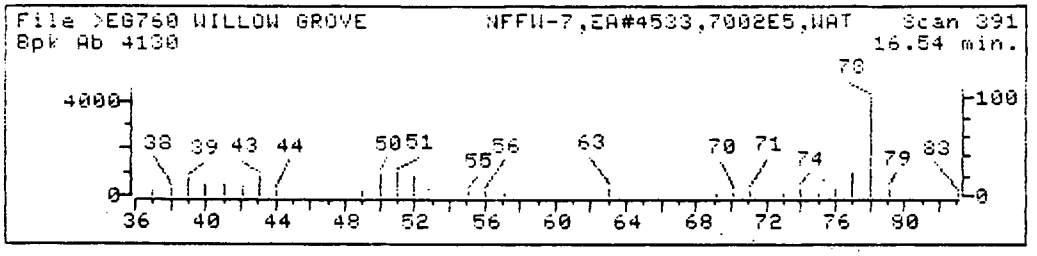
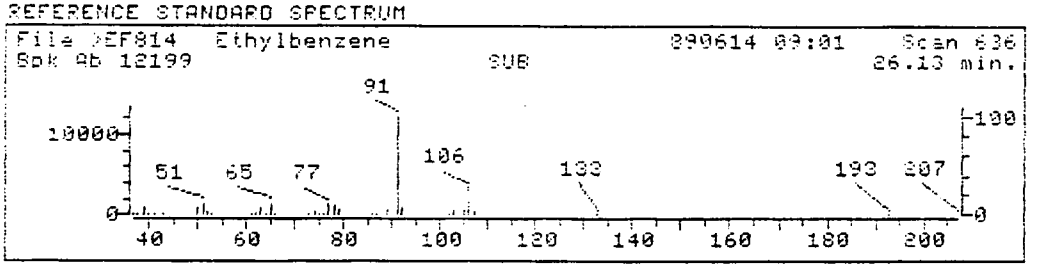


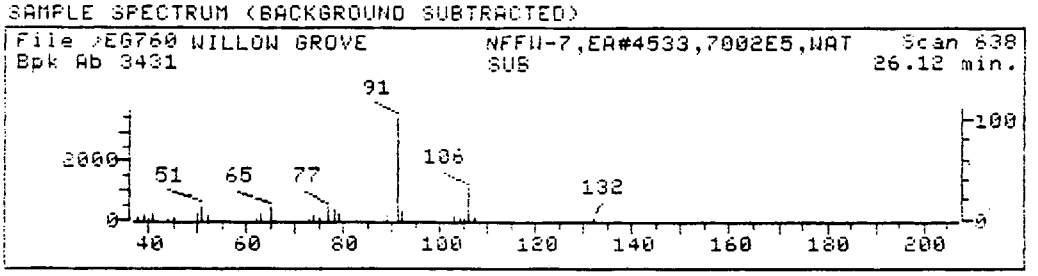
Data File: >EG760::W3 Quant Output File: ^EG760::QT
Name: WILLOW GROVE
Misc: NFFW-7,EA#4533,7002E5,WATER,5ML (1/20 DIL)
Quant Time: 890927 15:24 Quant ID File: EVOA::BD
Injected at: 890927 14:48 Last Calibration: 890927 08:24

Compound No: 26
Compound Name: Benzene
Scan Number: 391
Retention Time: 16.54 min.
Quant Ion: 78.0
Area: 48905
Concentration: 25.14 UG/L
q-value: 93

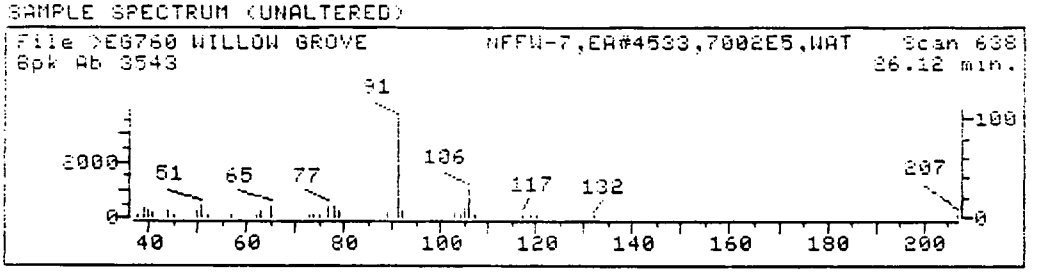
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



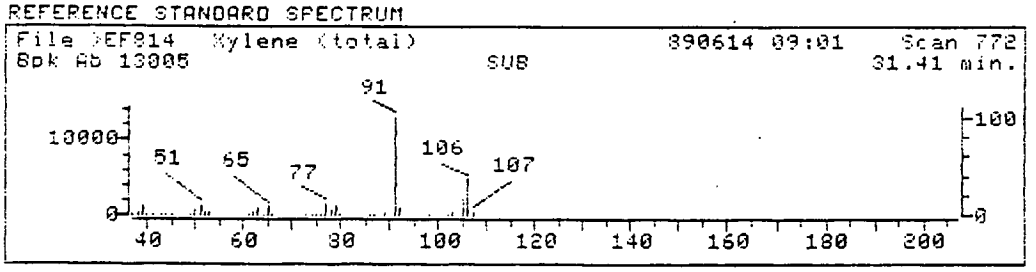
SAMPLE SPECTRUM (UNALTERED)



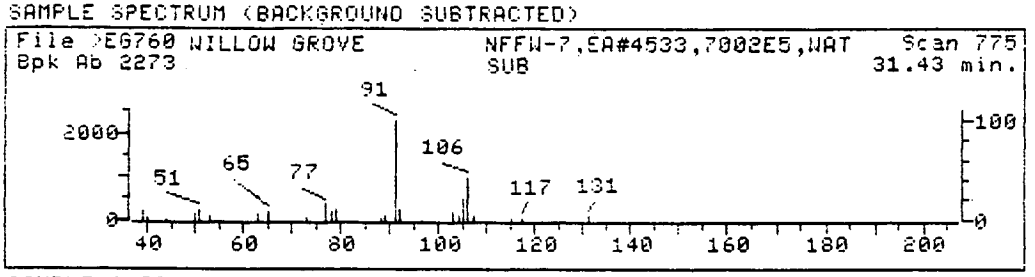
Data File: >EG760::W3 Quant Output File: ^EG760::QT
Name: WILLOW GROVE
Misc: NFFW-7,EA#4533,7002E5,WATER,5ML (1/20 DIL)
Quant Time: 890927 15:24 Quant ID File: EVOA::BD
Injected at: 890927 14:48 Last Calibration: 890927 08:24

Compound No: 37
Compound Name: Ethylbenzene
Scan Number: 638
Retention Time: 26.12 min.
Quant Ion: 106.0
Area: 17242
Concentration: 19.50 UG/L
q-value: 95

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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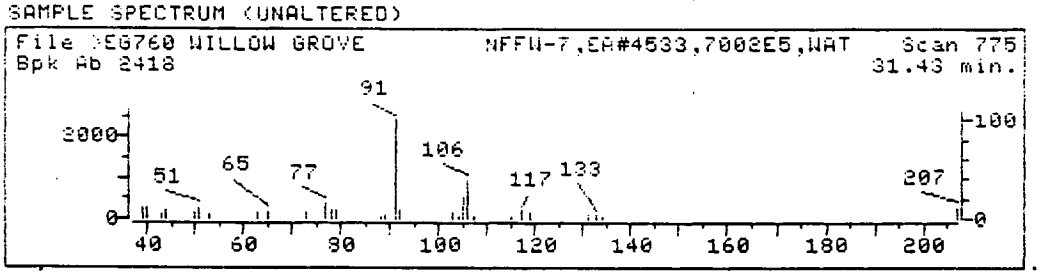
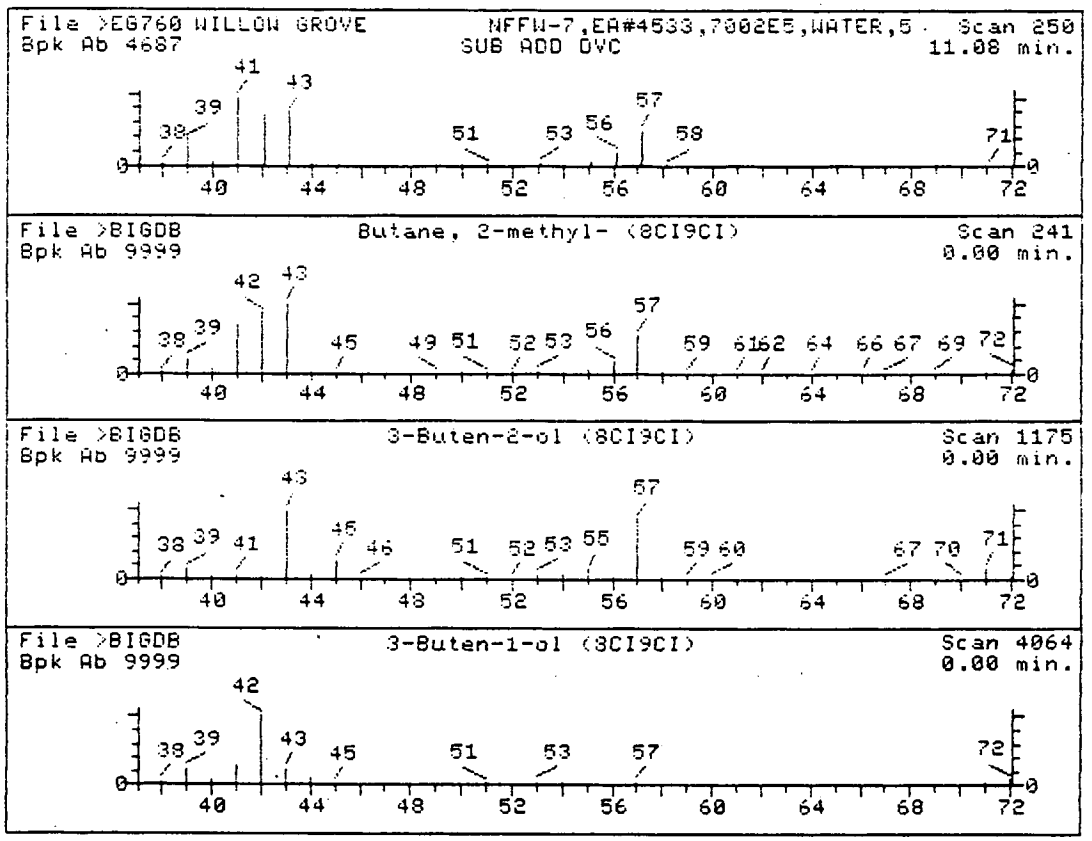


Data File: >EG760::W3 Quant Output File: ^EG760::QT
Name: WILLOW GROVE
Misc: NFFW-7,EA#4533,7002E5,WATER,5ML (1/20 DIL)
Quant Time: 890927 15:24 Quant ID File: EVOA::8D
Injected at: 890927 14:48 Last Calibration: 890927 08:24

Compound No: 39
Compound Name: Xylene (total)
Scan Number: 775
Retention Time: 31.43 min.
Quant Ion: 106.0
Area: 26202
Concentration: 25.59 UG/L
q-value: 95



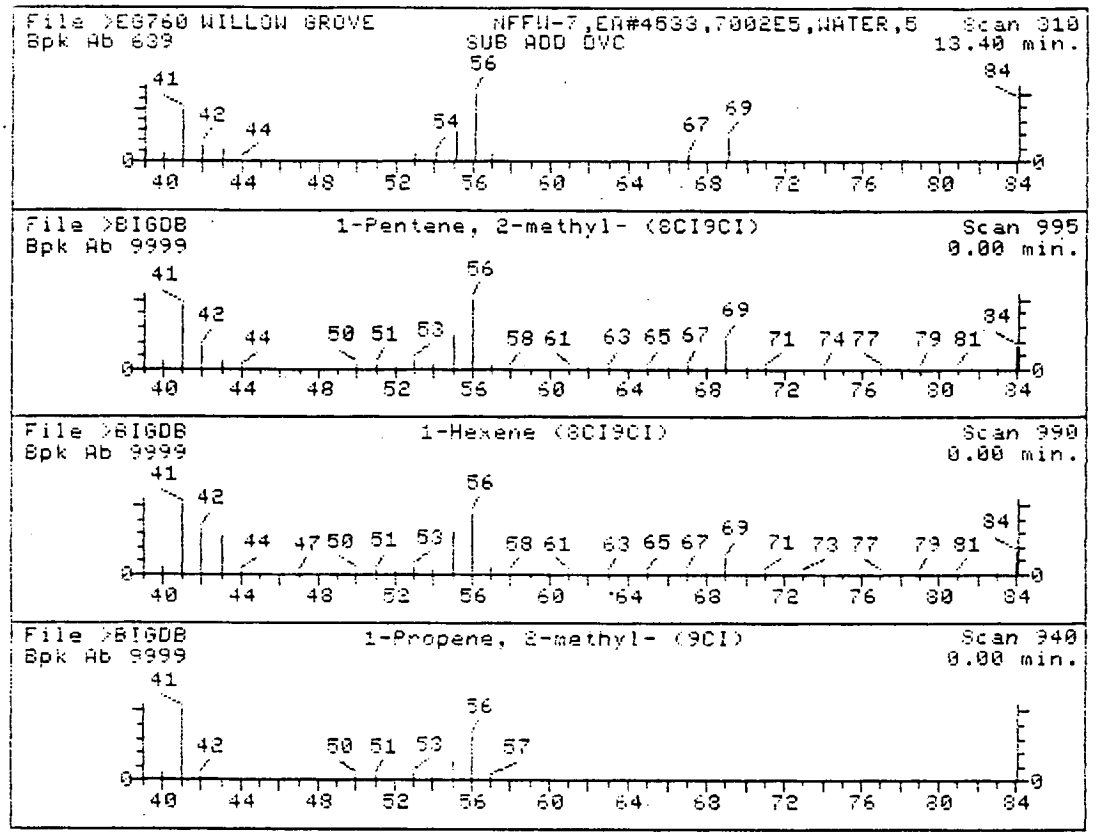
Retention time = 11.08

Area = 241490.0 Tentative Concentration is 47.00

1. Butane, 2-methyl- (8CI9CI) 72 C5H12
2. 3-Buten-2-ol (8CI9CI) 72 C4H8O
3. 3-Buten-1-ol (8CI9CI) 72 C4H8O

Sample file: >EG760 Spectrum #: 250
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	59*	78784	241	"BIGDB	35	51	0	0	79	23	27	36
2.	20*	598323	1175	"BIGDB	21	64	2	0	62	54	5	13
3.	11*	627270	4064	"BIGDB	33	49	2	0	74	64	2	16



Retention time = 13.40

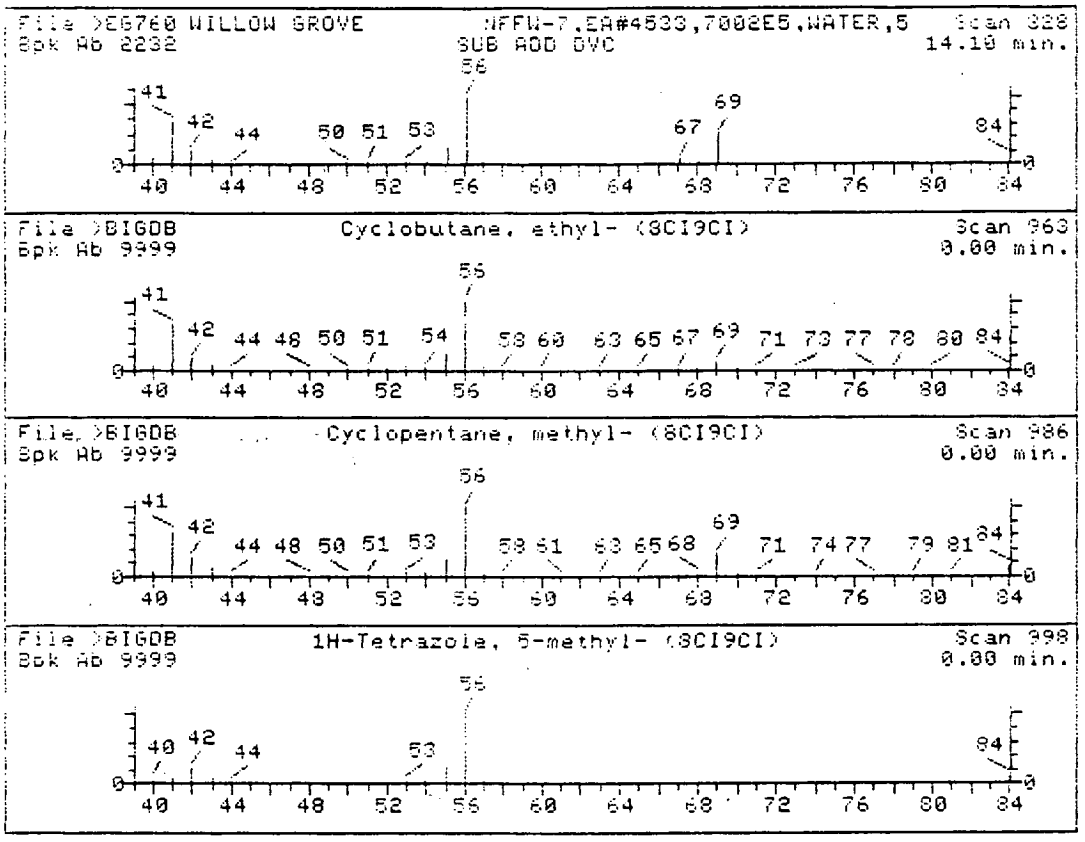
Area = 44067.00 Tentative Concentration is 9.00

1.	1-Pentene, 2-methyl- (8CI9CI)	84 C6H12
2.	1-Hexene (8CI9CI)	84 C6H12
3.	1-Propene, 2-methyl- (9CI)	56 C4H8
4.	2-Butene, (Z)- (8CI9CI)	56 C4H8
5.	Cyclopentane, methyl- (8CI9CI)	84 C6H12
6.	Cyclopropane, propyl- (9CI)	84 C6H12
7.	Pentane, 3-methylene- (9CI)	84 C6H12

Sample file: >EG760 Spectrum #: 310

Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	45*	763291	995	"BIGDB	50	51	2	0	75	27	19	23
2.	27*	592416	990	"BIGDB	30	70	3	0	71	39	10	13
3.	26*	115117	940	"BIGDB	23	50	3	0	129	38	10	12
4.	26*	590181	942	"BIGDB	22	57	3	0	152	37	10	12
5.	20*	96377	986	"BIGDB	27	60	2	0	85	51	5	14
6.	15*	2415727	997	"BIGDB	25	63	1	0	58	60	3	14
7.	15*	760214	5684	"BIGDB	26	76	3	0	58	58	3	13



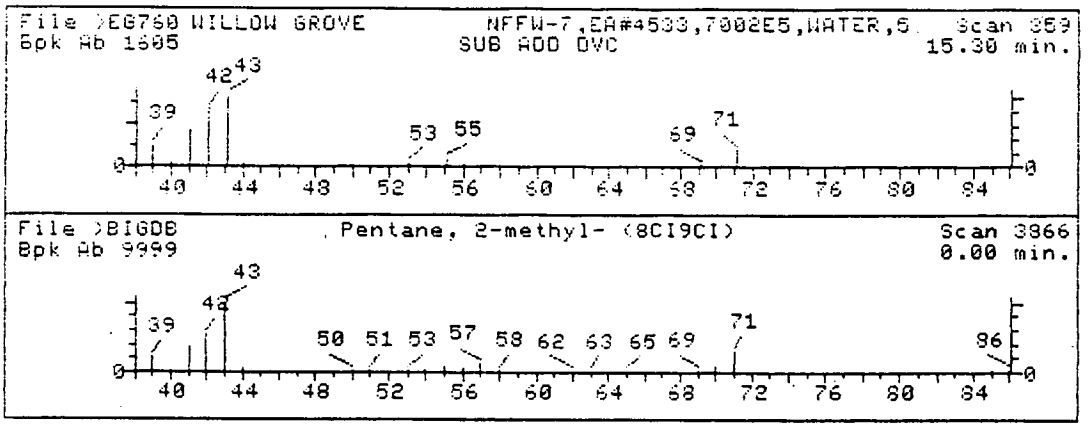
Retention time = 14.10

Area = 93134.00 Tentative Concentration is 12.00

1.	Cyclobutane, ethyl- (8CI9CI)	84 C6H12
2.	Cyclopentane, methyl- (8CI9CI)	84 C6H12
3.	1H-Tetrazole, 5-methyl- (8CI9CI)	84 C2H4N4
4.	Cyclopropane, (1-methylethyl)- (9CI)	84 C6H12
5.	Oxetane, 3,3-dimethyl- (9CI)	86 C5H10O
6.	Cyclopropane, propyl- (9CI)	84 C6H12
7.	1-Butene, 2,3-dimethyl- (8CI9CI)	84 C6H12

Sample file: >EG760 Spectrum #: 328
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	65*	4806615	963	"BIGDB	45	38	0	0	93	35	24	57
2.	59*	96377	986	"BIGDB	50	37	2	0	73	25	27	31
3.	38*	4076362	998	"BIGDB	43	41	1	0	95	40	14	25
4.	29*	3638355	962	"BIGDB	24	59	0	0	85	42	8	17
5.	25	6921353	952	"BIGDB	26	48	0	0	78	48	7	13
6.	15*	2415727	997	"BIGDB	20	68	1	0	51	59	3	14
7.	11*	563780	5674	"BIGDB	24	46	2	0	49	65	2	14



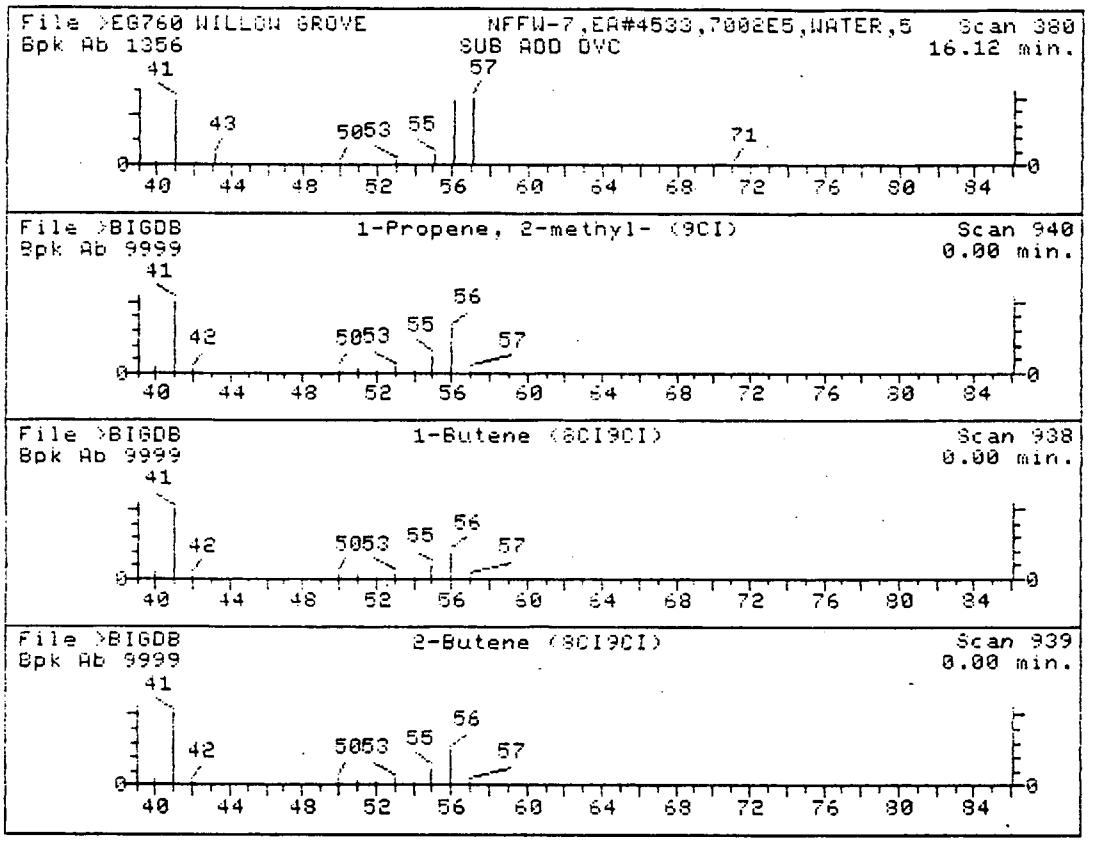
Retention time = 15.30

Area = 60670.00 Tentative Concentration is 8.00

1 Pentane, 2-methyl- (8CI9CI) 86 C6H14

Sample file: >EG760 Spectrum #: 359
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	41*	107835	3866	"BIGDB	24	62	3	0	100	25	17	12



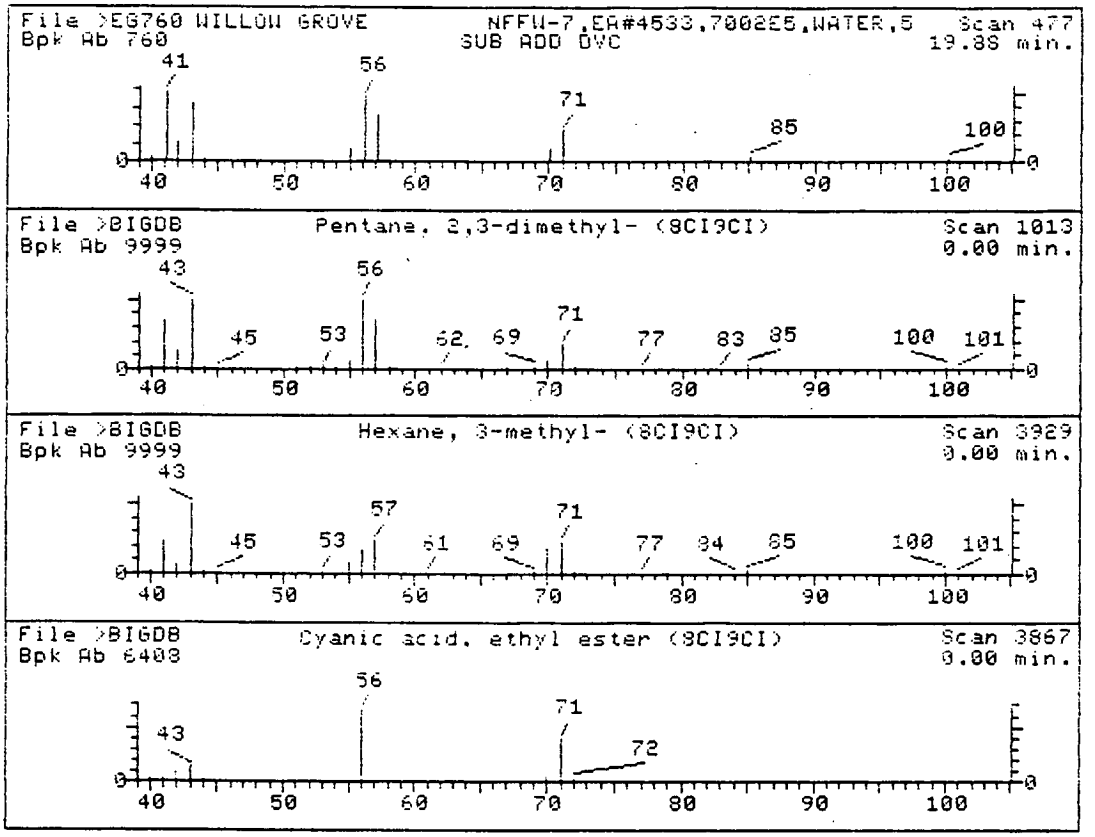
Retention time = 16.12 UNKNOWN HYDROCARBON

Area = 66381.00 Tentative Concentration is 8.00

1. 1-Propene, 2-methyl- (9CI) 56 C4H8
2. 1-Butene (8CI9CI) 56 C4H8
3. 2-Butene (8CI9CI) 56 C4H8

Sample file: >EG760 Spectrum #: 380
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	26*	115117	940	"BIGDB	28	45	2	0	66	43	8	14
2.	20*	106989	938	"BIGDB	27	52	2	0	68	52	5	14
3.	20*	107017	939	"BIGDB	27	54	2	0	68	52	5	14



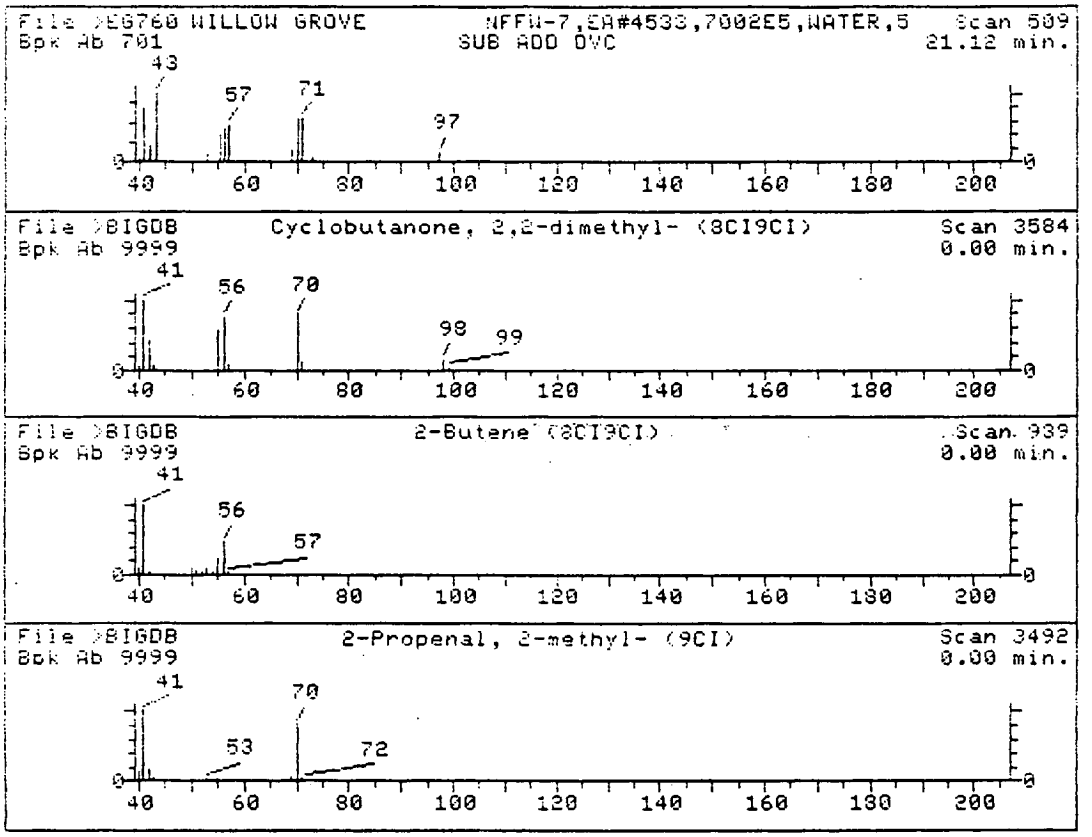
Retention time = 19.88

Area = 49913.00 Tentative Concentration is 6.00

1.	Pentane, 2,3-dimethyl- (8CI9CI)	100	C7H16
2.	Hexane, 3-methyl- (8CI9CI)	100	C7H16
3.	Cyanic acid, ethyl ester (8CI9CI)	71	C3H5NO
4.	Pentane, 2,4-dimethyl- (8CI9CI)	100	C7H16
5.	Aziridine, 2-methyl- (8CI9CI)	57	C3H7N
6.	Pentane, 3-ethyl- (8CI9CI)	100	C7H16
7.	Hexane, 2-methyl- (8CI9CI)	100	C7H16

Sample file: >EG760 Spectrum #: 477
S arch speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	60*	565593	1013	"BIGDB	40	55	2	0	85	15	30	18
2.	30*	589344	3929	"BIGDB	25	68	3	0	85	33	12	13
3.	25*	627485	3867	"BIGDB	22	52	1	0	116	50	7	14
4.	25*	108087	1009	"BIGDB	20	64	2	0	85	43	8	13
5.	20*	75558	946	"BIGDB	25	42	1	0	75	51	5	14
6.	20*	617787	3504	"BIGDB	23	60	3	0	85	55	5	12
7.	20*	591764	6010	"BIGDB	23	63	2	0	75	51	5	13



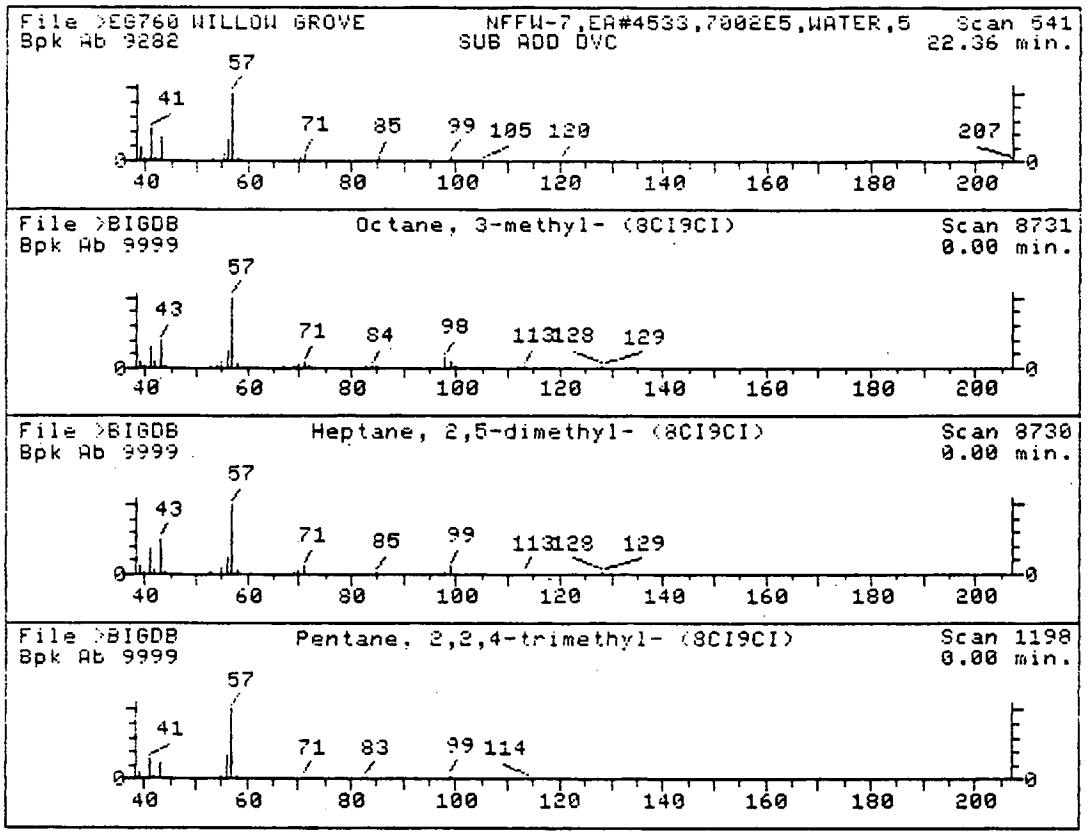
Retention time = 21.12 UNKNOWN HYDRO CARBON

Area = 53392.00 Tentative Concentration is 7.00

1.	Cyclobutanone, 2,2-dimethyl- (8CI9CI)	98 C6H10O
2.	2-Butene (8CI9CI)	56 C4H8
3.	2-Propenal, 2-methyl- (9CI)	70 C4H6O
4.	Furan, 2,5-dihydro- (8CI9CI)	70 C4H6O
5.	2-Butenal (9CI)	70 C4H6O
6.	1-Propen-1-one, 2-methyl- (9CI)	70 C4H6O

Sample file: >EG760 Spectrum #: 509
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25	1192149	3584	"BIGDB	43	42	2	0	55	50	7	14
2.	11*	107017	939	"BIGDB	26	55	2	0	77	62	2	14
3.	11*	78853	3492	"BIGDB	22	66	2	0	65	62	2	13
4.	11*	1708298	3508	"BIGDB	24	74	3	0	50	65	2	12
5.	11*	4170303	3484	"BIGDB	22	72	3	0	65	63	2	12
6.	11*	598265	3472	"BIGDB	20	73	2	0	68	65	2	13



Retention time = 22.36

Area = 446392.0 Tentative Concentration is 48.00

1.	Octane, 3-methyl- (8CI9CI)	128	C9H20
2.	Heptane, 2,5-dimethyl- (8CI9CI)	128	C9H20
3.	Pentane, 2,2,4-trimethyl- (8CI9CI)	114	C8H18
4.	Heptane, 3,5-dimethyl- (8CI9CI)	128	C9H20
5.	Hexane, 2,2-dimethyl- (8CI9CI)	114	C8H18
6.	Butane, 2,2,3,3-tetramethyl- (8CI9CI)	114	C8H18
7.	Heptane, 2,3,5-trimethyl- (8CI9CI)	142	C10H22

Sample file: >EG760 Spectrum #: 541
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	78	2216333	8731	"BIGDB	37	47	2	0	100	5	55	12
2.	60	2216300	8730	"BIGDB	43	43	2	0	70	14	30	14
3.	52	540841	1198	"BIGDB	35	39	0	0	95	18	20	18
4.	52	926829	8724	"BIGDB	39	43	2	0	77	16	20	13
5.	52	590738	1199	"BIGDB	28	44	0	0	97	18	20	14
6.	52	594821	1200	"BIGDB	28	44	0	0	100	16	20	14
7.	52	20278857	1203	"BIGDB	41	35	2	0	77	16	20	14

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP#3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4534

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG761

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 20.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	200.	U
74-83-9	Bromomethane	200.	U
75-01-4	Vinyl Chloride	200.	U
75-00-3	Chloroethane	200.	U
75-09-2	Methylene Chloride	100.	U
67-64-1	Acetone	1900.	
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dichloroethene	100.	U
75-34-3	1,1-Dichloroethane	100.	U
540-59-0	1,2-Dichloroethene (total)	100.	U
67-66-3	Chloroform	100.	U
107-06-2	1,2-Dichloroethane	100.	U
78-93-3	2-Butanone	1600.	
71-55-6	1,1,1-Trichloroethane	100.	U
56-23-5	Carbon Tetrachloride	100.	U
108-05-4	Vinyl Acetate	200.	U
75-27-4	Bromodichloromethane	100.	U
78-87-5	1,2-Dichloropropane	100.	U
10061-01-5	cis-1,3-Dichloropropene	100.	U
79-01-6	Trichloroethene	100.	U
124-48-1	Dibromochloromethane	100.	U
79-00-5	1,1,2-Trichloroethane	100.	U
71-43-2	Benzene	510.	
10061-02-6	trans-1,3-Dichloropropene	100.	U
75-25-2	Bromoform	100.	U
108-10-1	4-Methyl-2-Pentanone	200.	U
591-78-6	2-Hexanone	200.	U
127-18-4	Tetrachloroethene	100.	U
79-34-5	1,1,2,2-Tetrachloroethane	100.	U
108-88-3	Toluene	100.	U
108-90-7	Chlorobenzene	100.	U
100-41-4	Ethylbenzene	440.	
100-42-5	Styren	100.	U
1330-20-7	Xylene (total)	490.	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DUP#3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4534

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG761

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 20.00

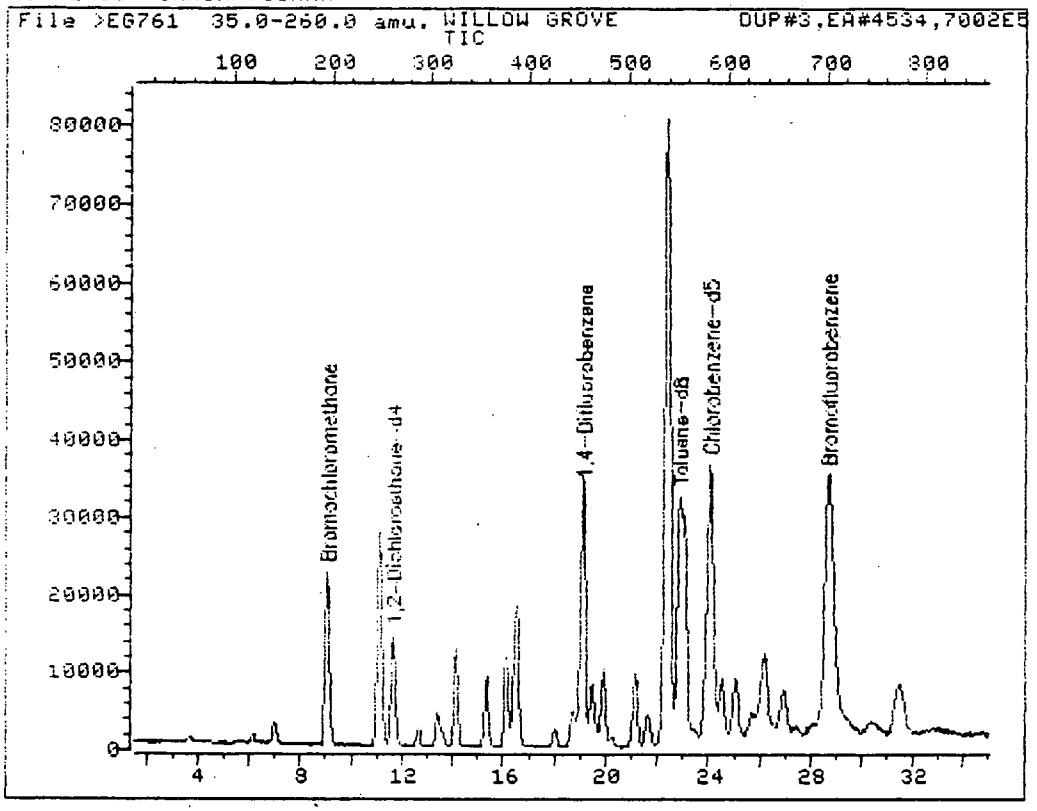
Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	12.64	100.	J
2.	763-29-1	1-Pentene, 2-methyl- (8CI9CI	13.45	300.	J
3.	4806-61-5	Cyclobutane, ethyl- (8CI9CI)	14.15	300.	J
4.	107-83-5	Pentane, 2-methyl- (8CI9CI)	15.35	300.	J
5.	- -	UNKNOWN	16.16	300.	J
6.	- -	UNKNOWN	18.76	200.	J
7.	- -	UNKNOWN	19.92	200.	J
8.	589-34-4	Hexane, 3-methyl- (8CI9CI)	21.16	300.	J
9.	17302-37-3	Decane, 2,2-dimethyl- (8CI9C	22.36	2000.	J
10.	- -	UNKNOWN HYDROCARBON	25.04	200.	J
11.	3522-94-9	Hexane, 2,2,5-trimethyl- (8C	26.94	100.	J
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I VOA-TIC 1/87 R v.

TOTAL ION CHROMATOGRAM



Data File: >EG761::W3 Quant Output File: ^EG761::QT
Name: WILLOW GROVE
Misc: DUP#3,EA#4534,7002E5,WATER,5ML (1/20 DIL)

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 16:05
Injected at: 890927 15:29

QUANT REPORT

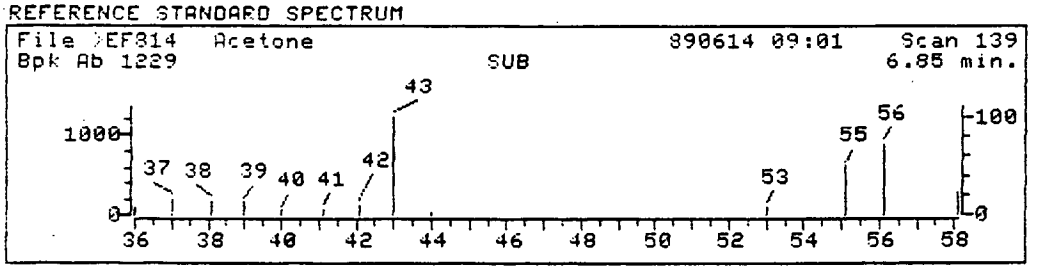
Operator ID: CARL Quant R v: 6 Quant Time: 890927 16:05
Output File: ^EG761::QT Injected at: 890927 15:29
Data File: >EG761::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: DUP#3,EA#4534,7002E5,WATER,5ML (1/20 DIL)

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.07	128.0	34456	50.00	UG/L	92
7)	Acetone	6.98	43.0	17448	95.38	UG/L	80
13)	1,2-Dichloroethane-d4	11.67	65.0	68020	52.52	UG/L	87
15)	*1,4-Difluorobenzene	19.15	114.0	129232	50.00	UG/L	91
16)	2-Butanone	11.09	72.0	6497	79.55	UG/L	78
26)	Benzene	16.59	78.0	49176	25.42	UG/L	93
29)	*Chlorobenzene-d5	24.07	117.0	128594	50.00	UG/L	96
35)	Toluene-d8	22.87	98.0	132367	48.96	UG/L	97
37)	Ethylbenzene	26.20	106.0	20640	21.95	UG/L	97
39)	Xylene (total)	31.48	106.0	26895	24.69	UG/L	94
40)	Bromofluorobenzene	28.68	95.0	123889	51.06	UG/L	99

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



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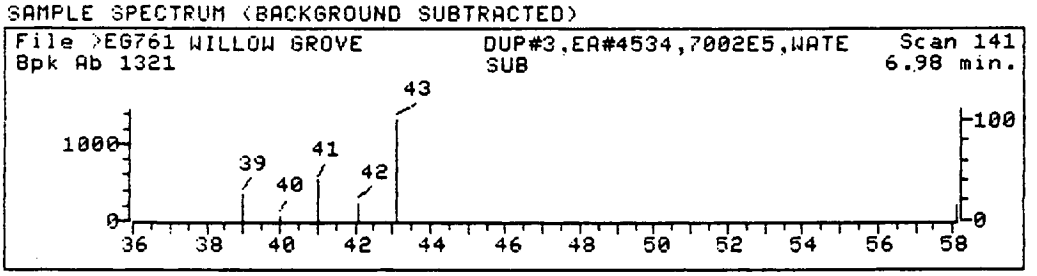

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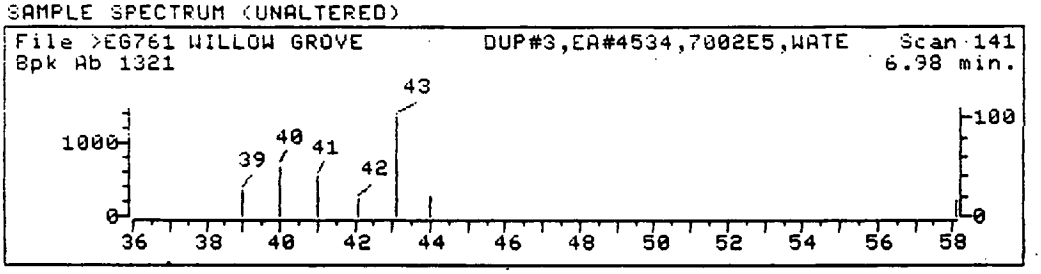
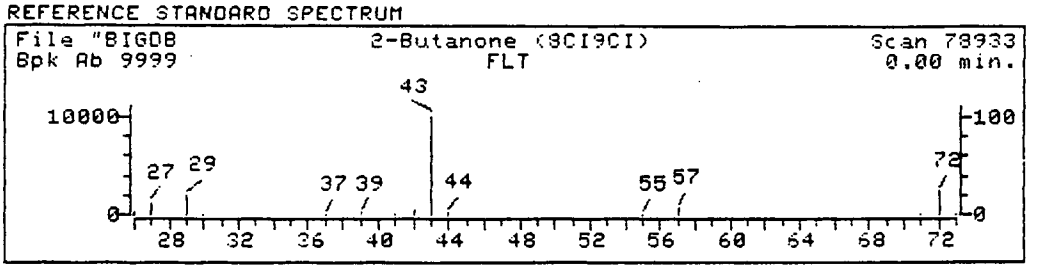


Data File: >EG761::W3 Quant Output File: ^EG761::QT
Name: WILLOW GROVE
Misc: DUP#3,EA#4534,7002E5,WATER,5ML (1/20 DIL)
Quant Time: 890927 16:05 Quant ID File: EVOA::BD
Injected at: 890927 15:29 Last Calibration: 890927 08:24

Compound No: 7
Compound Name: Acetone
Scan Number: 141
Retention Time: 6.98 min.
Quant Ion: 43.0
Area: 17448
Concentration: 95.38 UG/L
q-value: 80

REFERENCE STANDARD SPECTRUM



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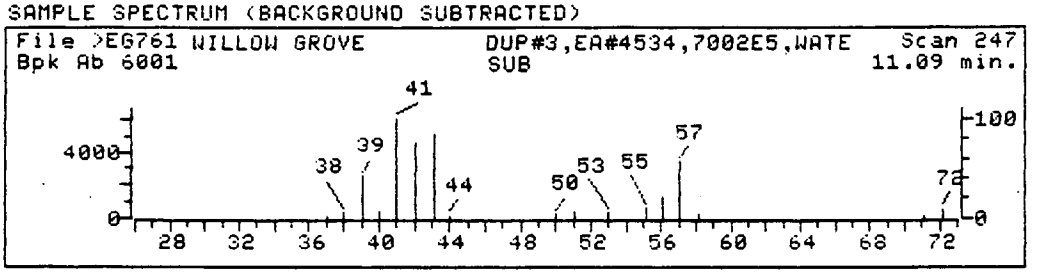

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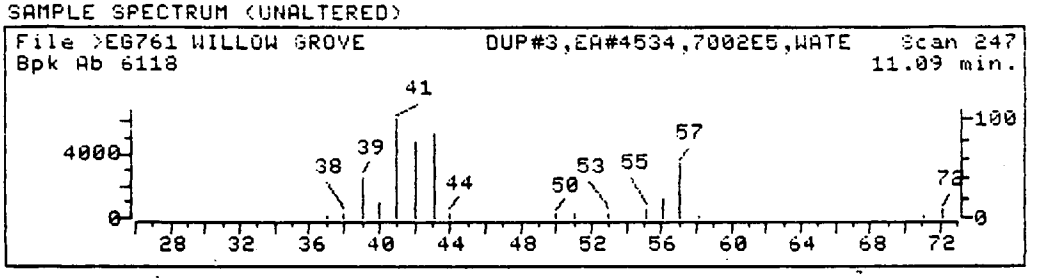
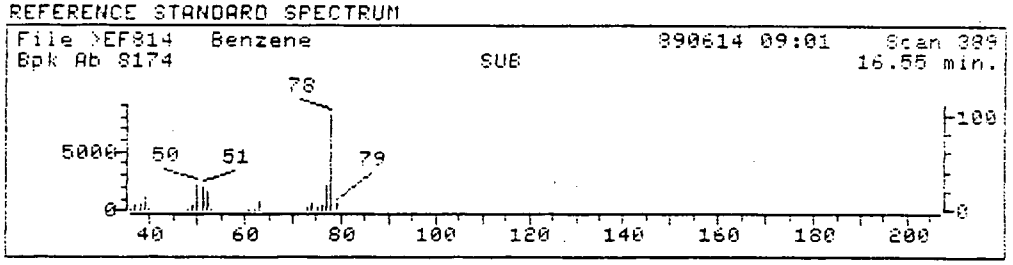


Data File: >EG761::W3 Quant Output File: ^EG761::QT
Name: WILLOW GROVE
Misc: DUP#3,EA#4534,7002E5,WATER,5ML (1/20 DIL)
Quant Time: 890927 16:05 Quant ID File: EVOA::BD
Injected at: 890927 15:29 Last Calibration: 890927 08:24

Compound No: 16
Compound Name: 2-Butanone
Scan Number: 247
Retention Time: 11.09 min.
Quant Ion: 72.0
Area: 6497
Concentration: 79.55 UG/L
q-value: 78

REFERENCE STANDARD SPECTRUM



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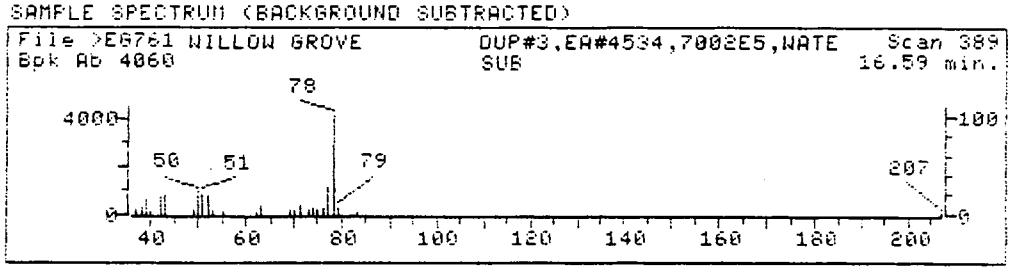

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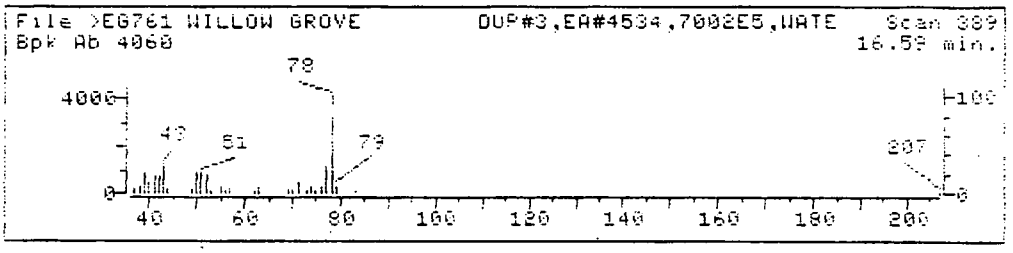
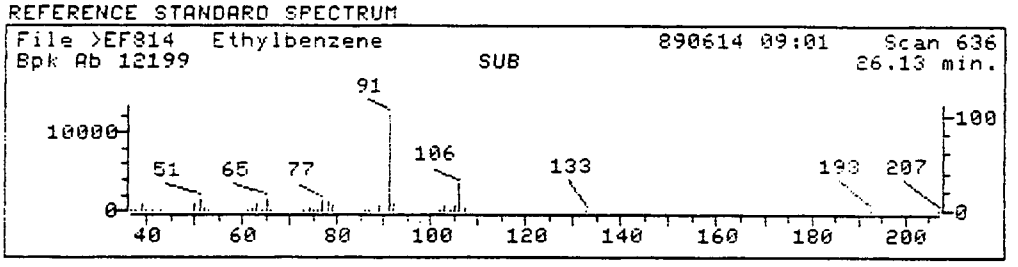


Data File: >EG761::W3 Quant Output File: >EG761::QT
Name: WILLOW GROVE
Misc: DUP#3,EA#4534,7002E5,WATER,5ML (1/20 DIL)
Quant Time: 890927 16:09 Quant ID File: EVDA::BD
Injected at: 890927 15:29 Last Calibration: 890927 08:24

Compound No: 26
Compound Name: Benzene
Scan Number: 389
Retention Time: 16.59 min.
Quant Ion: 78.0
Area: 49176
Concentration: 25.40 UG/L
q-value: 93

REFERENCE STANDARD SPECTRUM



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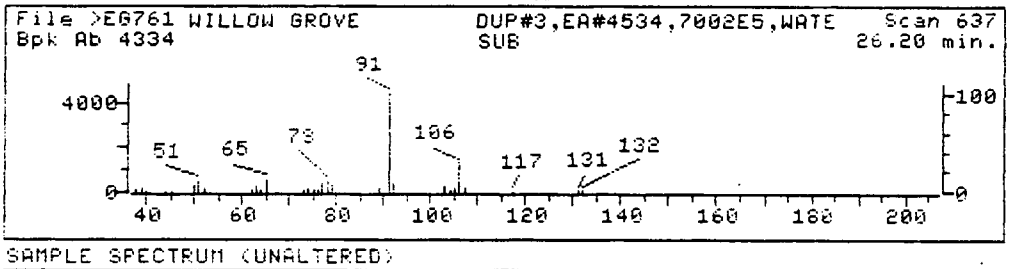

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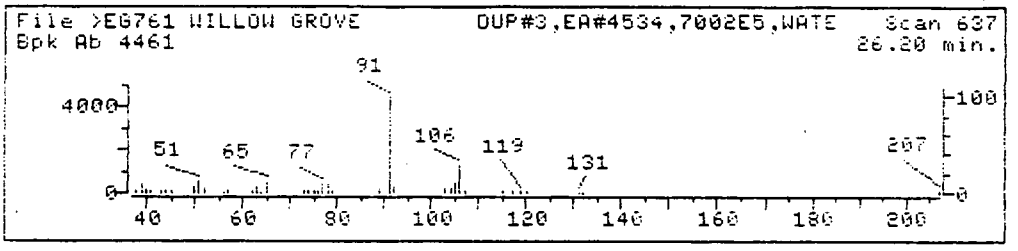
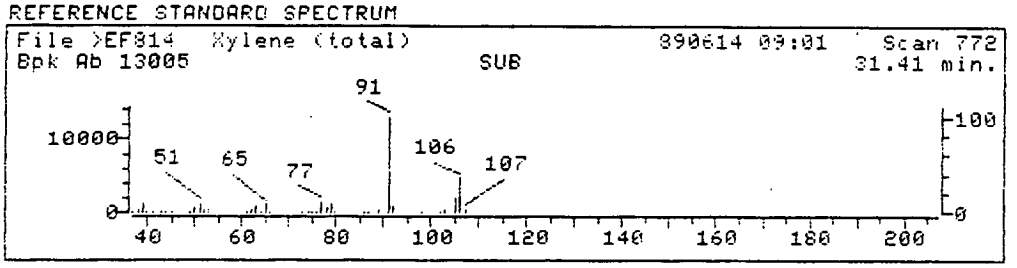


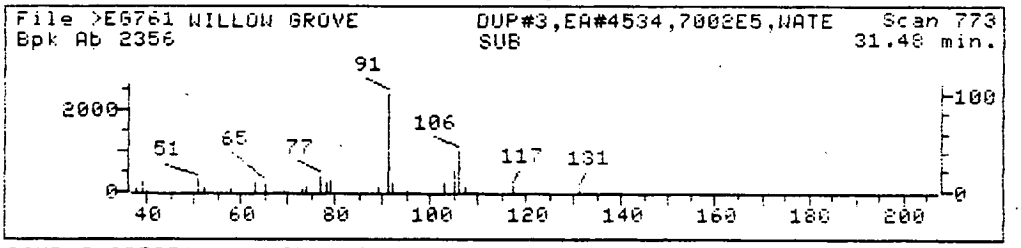
Data File: >EG761::W3 Quant Output File: ^EG761::QT
Name: WILLOW GROVE
Misc: DUP#3,EA#4534,7002E5,WATER,5ML (1/20 DIL)
Quant Time: 890927 16:05 Quant ID File: EVOA::BD
Injected at: 890927 15:29 Last Calibration: 890927 08:24

Compound No: 37
Compound Name: Ethylbenzene
Scan Number: 637
Retention Time: 26.20 min.
Quant Ion: 106.0
Area: 20640
Concentration: 21.95 UG/L
q-value: 97

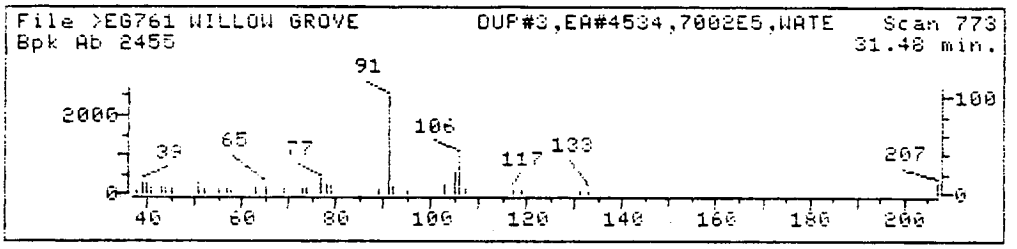
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

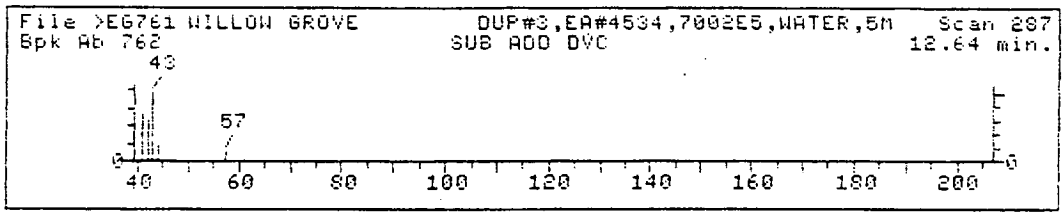


SAMPLE SPECTRUM (UNALTERED)



Data File: >EG761::W3 Quant Output File: ^EG761::QT
Name: WILLOW GROVE
Misc: DUP#3,EA#4534,7002E5,WATER,5ML (1/20 DIL)
Quant Time: 890927 16:05 Quant ID File: EVOA::BD
Injected at: 890927 15:29 Last Calibration: 890927 08:24

Compound No: 39
Compound Name: Xylene (total)
Scan Number: 773
Retention Time: 31.48 min.
Quant Ion: 106.0
Area: 26895
Concentration: 24.69 UG/L
q-value: 94

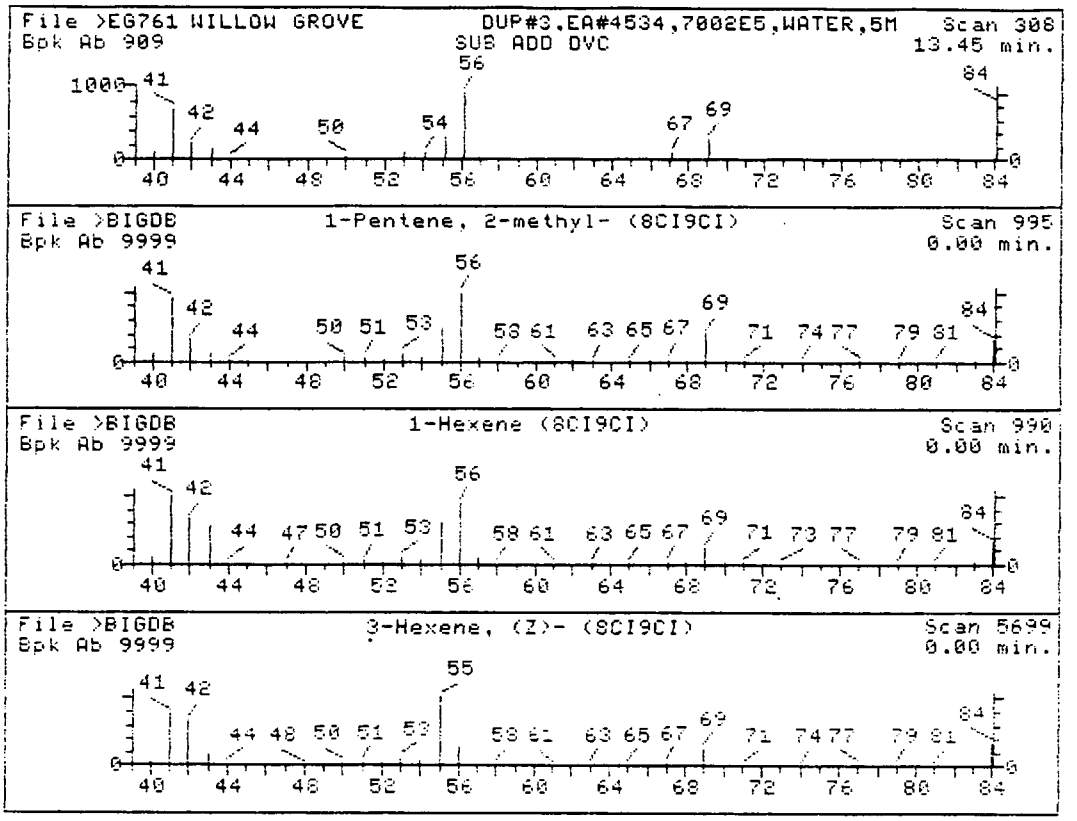


Retention time = 12.64 UNKNOWN

Area = 17204.00 Tentative Concentration is 5.00

Sample file: >EG761 Spectrum #: 287

No data base entries were retrieved.



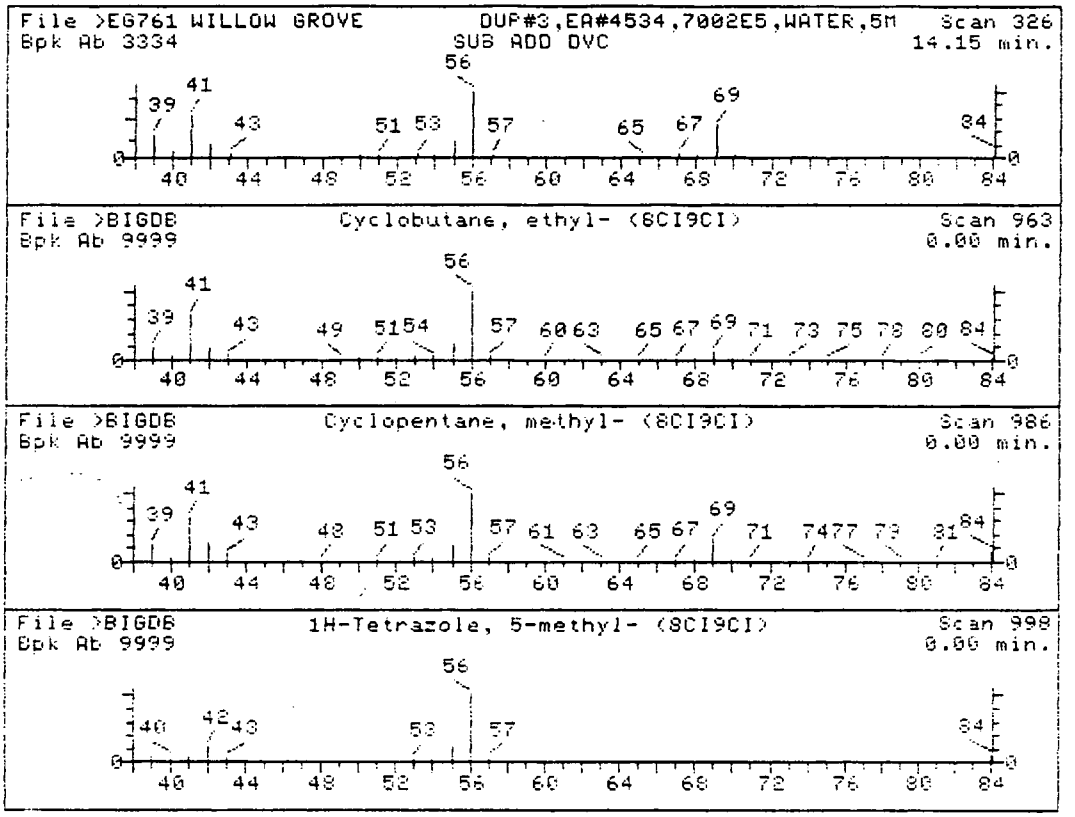
Retention time = 13.45

Area = 69675.00 Tentative Concentration is 14.00

1.	1-Pentene, 2-methyl- (8CI9CI)	84 C6H12
2.	1-Hexene (8CI9CI)	84 C6H12
3.	3-Hexene, (Z)- (8CI9CI)	84 C6H12
4.	Cyclopentane, methyl- (8CI9CI)	84 C6H12
5.	3-Hexene, (E)- (8CI9CI)	84 C6H12
6.	2-Hexene, (Z)- (8CI9CI)	84 C6H12
7.	6-Oxabicyclo[3.1.0]hexane (8CI9CI)	84 C5H8O

Sample file: >EG761 Spectrum #: 308
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	45*	763291	995	"BIGDB	50	51	2	0	76	26	19	23
2.	42*	592416	990	"BIGDB	33	67	3	0	76	24	17	13
3.	27*	7642093	5699	"BIGDB	28	72	3	0	99	39	10	13
4.	26*	96377	986	"BIGDB	27	60	2	0	91	41	8	14
5.	26*	13269528	5702	"BIGDB	23	74	3	0	93	40	10	12
6.	26*	7688213	5700	"BIGDB	23	76	3	0	128	36	10	12
7.	25*	285676	59	"BIGDB	26	79	3	0	90	49	7	13



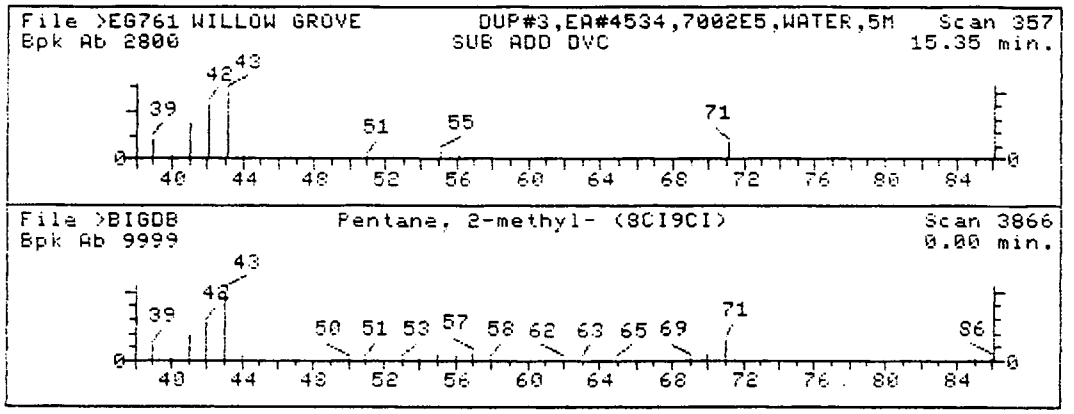
Retention time = 14.15

Area = 139912.0 Tentative Concentration is 15.00

1.	Cyclobutane, ethyl- (8CI9CI)	84 C6H12
2.	Cyclopentane, methyl- (8CI9CI)	84 C6H12
3.	1H-Tetrazole, 5-methyl- (8CI9CI)	84 C2H4N4
4.	Cyclopropane, (1-methylethyl)- (9CI)	84 C6H12
5.	Oxetane, 3,3-dimethyl- (9CI)	86 C5H10O
6.	Cyclopropane, propyl- (9CI)	84 C6H12
7.	2-Pentene, 3-methyl-, (Z)- (8CI9CI)	84 C6H12

Sample file: >EG761 Spectrum #: 326
Search speed: 2 Tilting option: 5 No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	D.	#FLG	TILT	%	CON	C_I	R_IN
1.	69*	4806615	963	"BIGDB	49	3-	2	0	98	33	26	61
2.	66*	96377	986	"BIGDB	54	37	1	0	70	18	31	49
3.	48*	4076362	998	"BIGDB	47	37	1	0	82	33	20	32
4.	34*	3638355	962	"BIGDB	29	54	0	0	88	36	14	21
5.	25	6921353	952	"BIGDB	26	49	0	0	81	47	7	13
6.	15*	2415727	997	"BIGDB	20	68	1	0	52	56	3	14
7.	11	922623	5687	"BIGDB	47	43	2	0	57	61	1	12



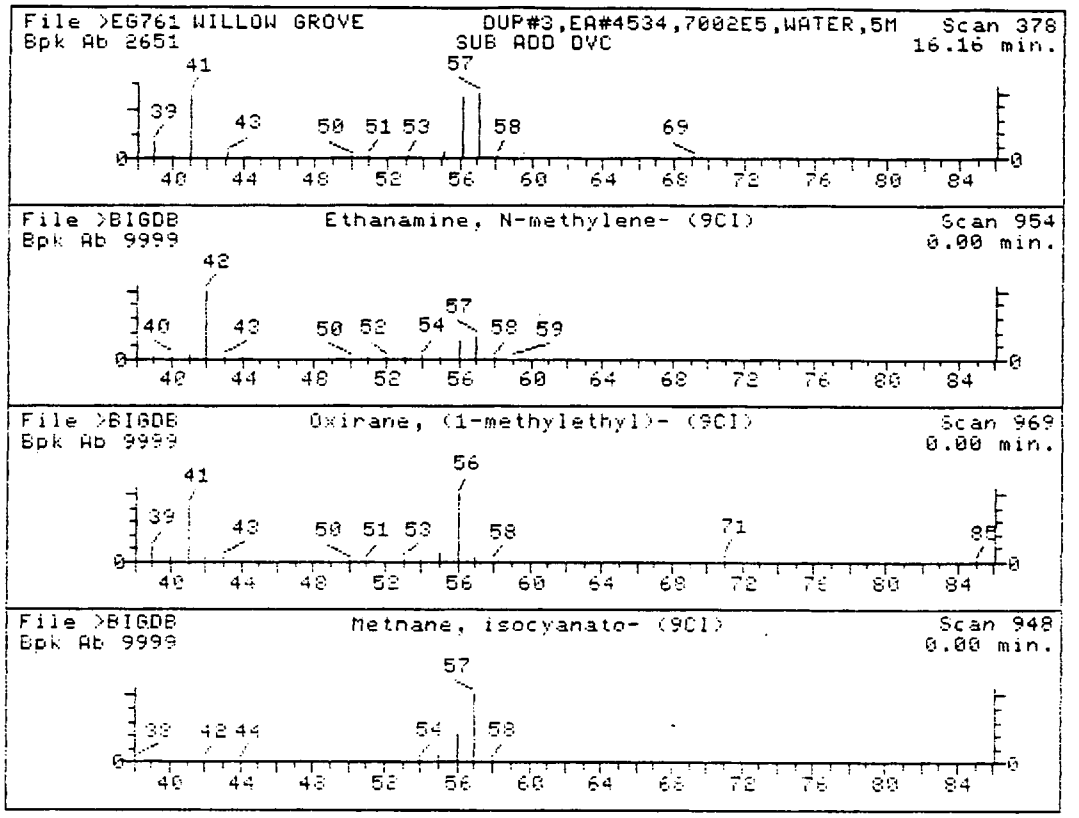
Retention time = 15.35

Area = 114774.0 Tentative Concentration is 13.00

1 Pentane, 2-methyl- (8CI9CI) 86 C6H14

Sample file: >EG761 Spectrum #: 357
Search speed: 2 Tilting option: 3 No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	W	DX	#FLG	TILT	%	CON	C_I	R_IV
1.	52*	107835	3866	"BIGDB	29	57	3	0	100	19	20	13



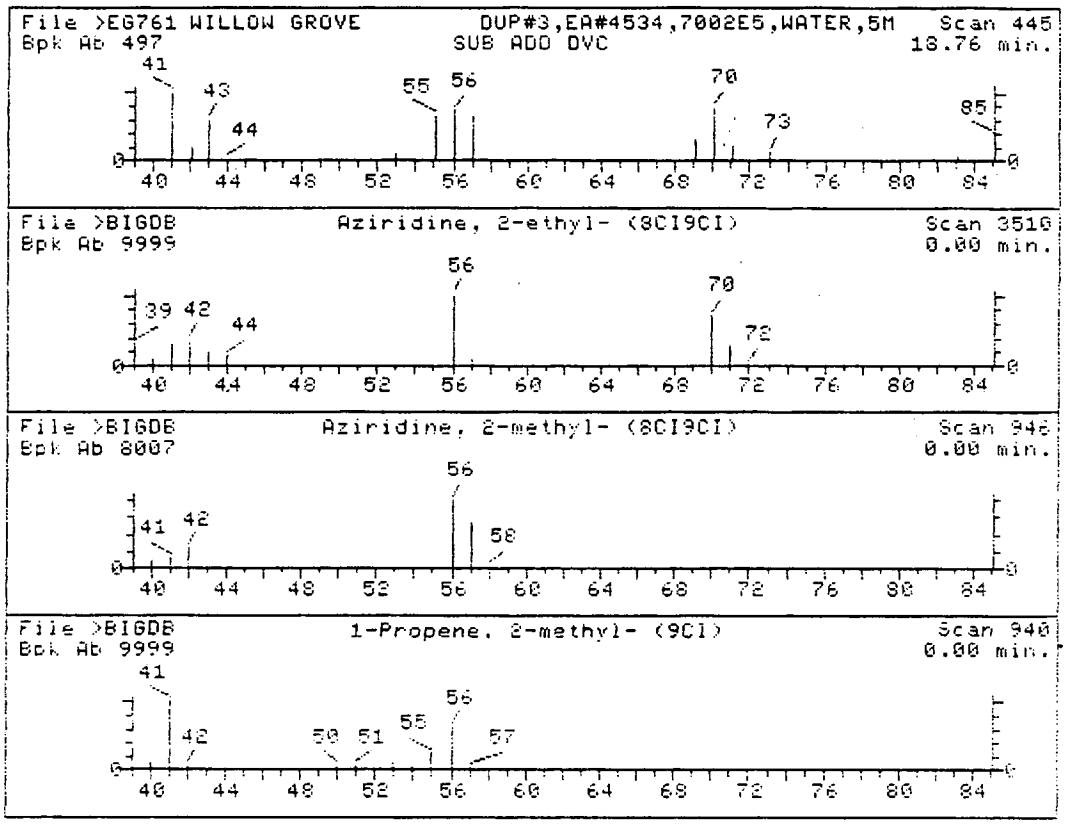
Retention time = 16.16 UNKNOWN

Area = 137842.0 Tentative Concentration is 15.00

1. Ethanamine, N-methylene- (9CI) 97 C3H7N
2. Oxirane, (1-methylethyl)- (9CI) 86 C5H10O
3. Methane, isocyanato- (9CI) 57 C2H3NO

Sample file: >EG761 Spectrum #: 378
Search speed: 2 Tilting option: 3 No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	F_IN
1.	36*	43729971	954	"BIGDB	22	53	2	0	299	30	14	13
2.	31*	1438148	969	"BIGDB	27	49	2	0	86	33	12	14
3.	20*	624839	948	"BIGDB	22	42	2	0	100	52	5	13



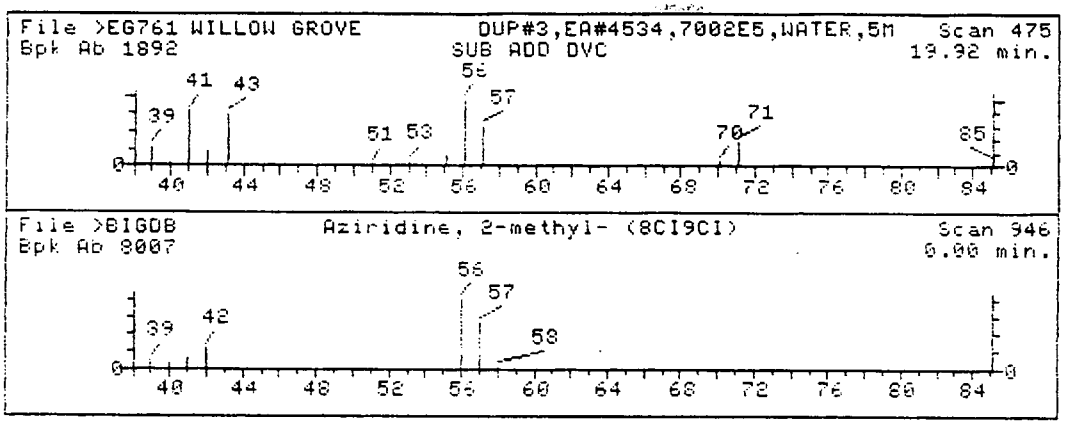
Retention time = 18.76 UNKNOWN

Area = 70495.00 Tentative Concentration is 8.00

1. Aziridine, 2-ethyl- (8CI9CI)	71	C4H9N
2. Aziridine, 2-methyl- (8CI9CI)	57	C3H7N
3. 1-Propene, 2-methyl- (9CI)	56	C4H8
4. 2-Butene, (Z)- (8CI9CI)	56	C4H8
5. 2-Butene, (E)- (8CI9CI)	56	C4H8
6. 2-Propenal, 2-methyl- (9CI)	70	C4H6O

Sample file: >EG761 Spectrum #: 445
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#PLG	TILT	%	CON	C_I	R_I%
1.	25*	2549679	3510	"BIGDB	23	75	2	0	96	46	7	13
2.	20*	75558	946	"BIGDB	22	45	2	0	72	55	5	13
3.	15*	115117	940	"BIGDB	23	50	2	0	100	57	3	13
4.	15*	590181	942	"BIGDB	23	56	2	0	100	57	3	13
5.	15*	624646	943	"BIGDB	23	56	2	0	100	57	3	13
6.	15*	78853	3492	"BIGDB	22	66	2	0	68	58	3	13



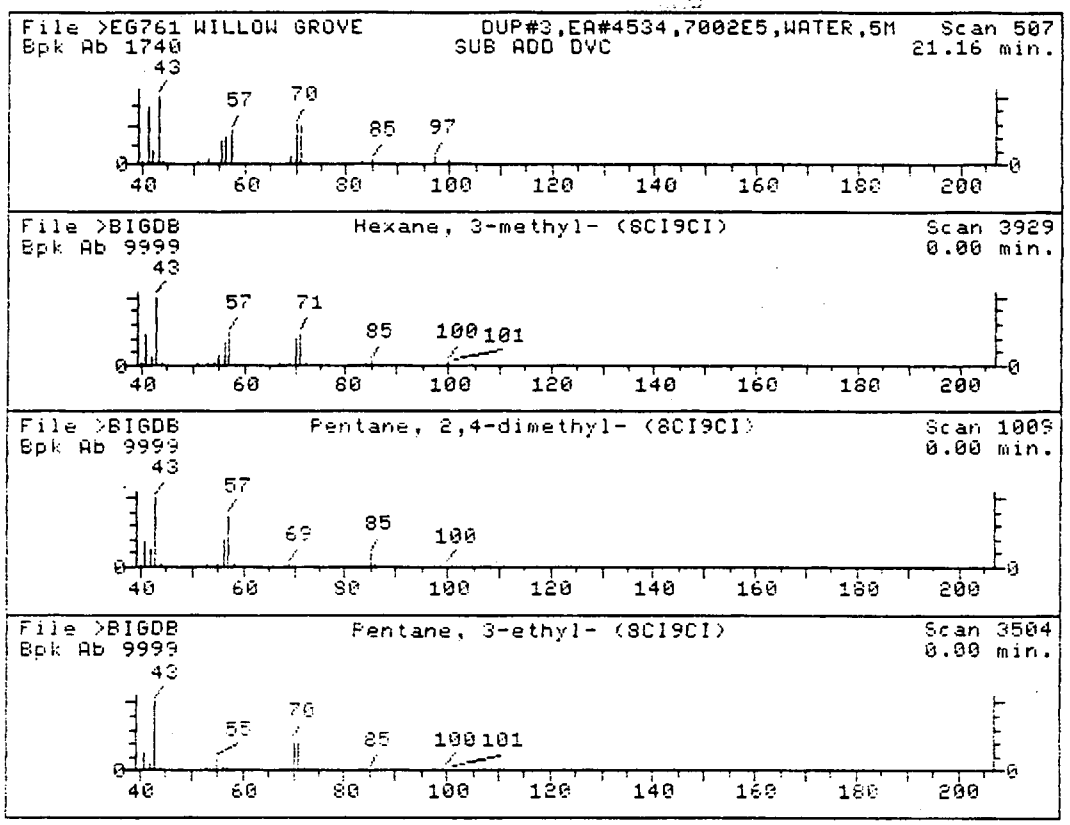
Retention time = 19.92 UNKNOWN

Area = 112716.9 Tentative Concentration is 12.00

1. Aziridine, 2-methyl- (8CI9CI) 57 C3H7N

Sample file: >EG761 Spectrum #: 475
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	W	DW	#FLG	TILT	%	CON	C_I	F_IV
1.	29*	75558	946	"BIGDB	22	45	2	0	75	50	7	17



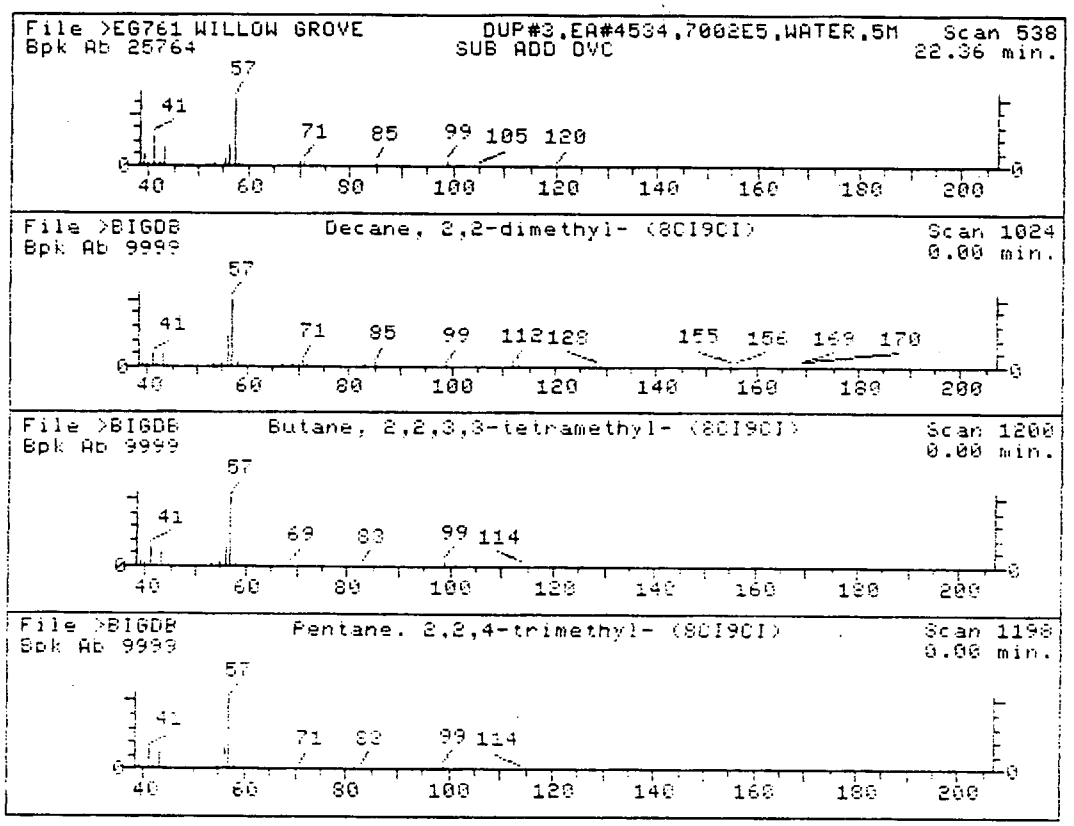
Retention time = 21.16

Area = 129884.0 Tentative Concentration is 14.00

1.	Hexane, 3-methyl- (8CI9CI)	100	C7H16
2.	Pentane, 2,4-dimethyl- (8CI9CI)	100	C7H16
3.	Pentane, 3-ethyl- (8CI9CI)	100	C7H16
4.	Pentane, 2,3-dimethyl- (8CI9CI)	100	C7H16
5.	Furan, tetrahydro-2,4-dimethyl-, trans- (9CI)	100	C6H12O
6.	Propane, 1-(ethenyloxy)-2-methyl- (9CI)	100	C6H12O
7.	Cyanic acid, propyl ester (8CI9CI)	85	C4H7NO

Sample file: >EG761 Spectrum #: 507
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DM	#FLG	TILT	%	CON	C_I	R_IV
1.	48*	589344	3929	"BIGDB	40	53	2	0	100	23	17	19
2.	25*	108087	1009	"BIGDB	29	55	2	0	67	47	7	14
3.	20*	617787	3504	"BIGDB	27	56	1	0	100	53	3	15
4.	20*	565593	1013	"BIGDB	30	65	2	0	69	55	5	14
5.	15*	39168020	6023	"BIGDB	26	72	3	0	56	59	3	13
6.	15*	109539	1071	"BIGDB	27	74	2	0	62	57	3	14
7.	11*	1768361	1017	"BIGDB	20	70	1	0	40	63	2	14



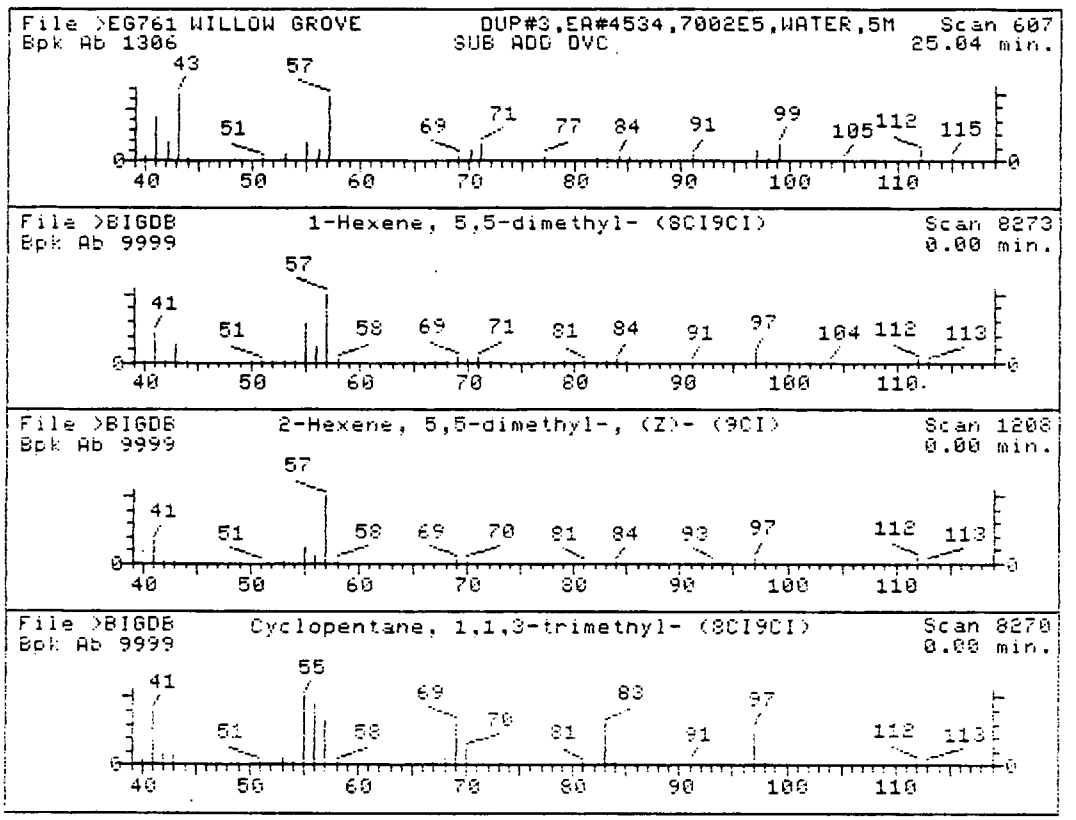
Retention time = 22.36

Area = 1170089. Tentative Concentration is 99.00

1.	Decane, 2,2-dimethyl- (8CI9CI)	170 C12H26
2.	Butane, 2,2,3,3-tetramethyl- (8CI9CI)	114 C8H18
3.	Pentane, 2,2,4-trimethyl- (8CI9CI)	114 C8H18
4.	Heptane, 2,2,4,6,6-pentamethyl- (8CI9CI)	170 C12H26
5.	Hexane, 2,2,5,5-tetramethyl- (8CI9CI)	142 C10H22
6.	Hexane, 2,2-dimethyl- (8CI9CI)	114 C8H18
7.	Heptane, 2,3,5-trimethyl- (8CI9CI)	142 C10H22

Sample file: >EG761 Spectrum #: 538
Search speed: 2 Tilting option: 8 No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	70	17302373	1024	"BIGDB	42	33	2	0	73	7	42	14
2.	60	594821	1200	"BIGDB	32	40	0	0	100	15	30	17
3.	60	540841	1198	"BIGDB	32	42	0	0	81	15	30	17
4.	60	13475826	1186	"BIGDB	42	33	2	0	87	11	30	14
5.	60	1071814	967	"BIGDB	40	39	2	0	71	15	30	14
6.	60	590738	1199	"BIGDB	36	36	0	0	100	15	30	19
7.	52	20278857	1203	"BIGDB	35	41	2	0	80	16	20	12



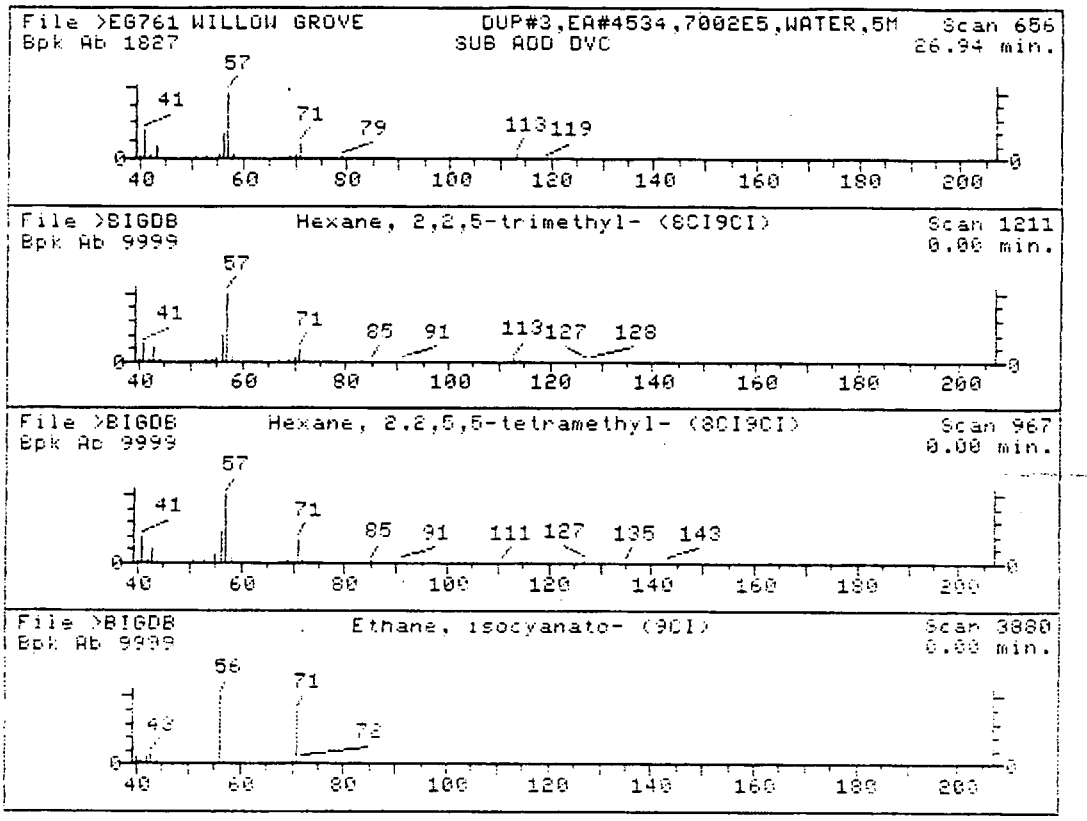
Retention time = 25.04 UNKNOWN HYDROCARBON

Area = 114150.0 Tentative Concentration is 10.00

1. 1-Hexene, 5,5-dimethyl- (8CI9CI) 112 C8H16
2. 2-Hexene, 5,5-dimethyl-, (Z)- (9CI) 112 C8H16
3. Cyclopentane, 1,1,3-trimethyl- (8CI9CI) 112 C8H16
4. 1-Pentene, 2,4,4-trimethyl- (8CI9CI) 112 C8H16

Sample file: >EG761 Spectrum #: 607
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DW	#FLG	TILT	%	CON	C_I	R_IV
1.	29*	7116861	8273	"BIGDB	24	59	3	0	96	35	12	12
2.	28*	39761610	1208	"BIGDB	28	46	2	0	96	38	10	14
3.	15*	4516692	8270	"BIGDB	22	88	3	0	84	57	3	12
4.	11*	107391	10757	"BIGDB	26	59	2	0	57	62	2	14



Retention time = 26.94

Area = 84228.00 Tentative Concentration is 7.00

1. Hexane, 2,2,5-trimethyl- (8CI9CI) 128 C9H20
2. Hexane, 2,2,5,5-tetramethyl- (8CI9CI) 142 C10H22
3. Ethane, isocyanato- (9CI) 71 C3H5NO

Sample file: >EG761 Spectrum #: 656
Search speed: 2 Tilting option: 3 No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	%	DN	#FLG	TILT	%	CON	C_I	R_IU
1.	70	3522949	1211	"BIGDB	46	33	1	0	94	6	42	16
2.	60	1071814	967	"BIGDB	41	38	2	0	69	11	30	14
3.	11*	109900	3880	"BIGDB	22	37	1	0	30	64	2	14

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NELSWS2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4535

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG764

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NELSWS2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4535

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG764

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1071-81-4	Hexane, 2,2,5,5-tetramethyl-	22.33	10.	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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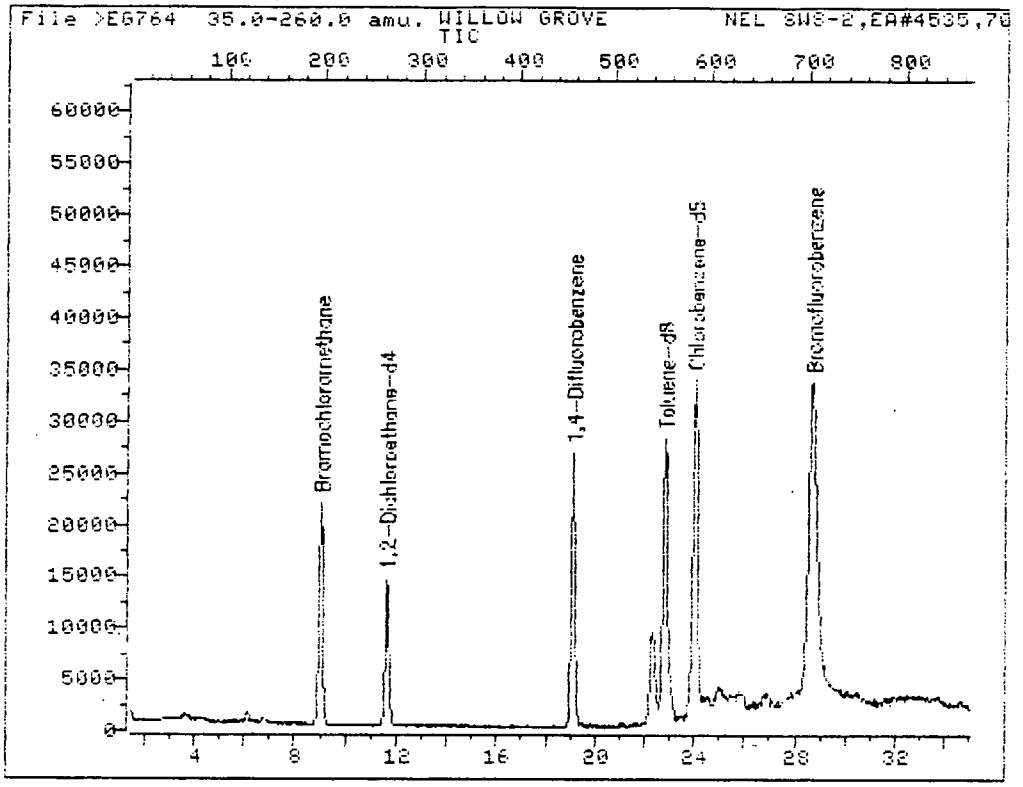
30.					

FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG764::W3 Quant Output File: ^EG764::QT
Name: WILLOW GROVE
Misc: NEL SWS-2,EA#4535,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 18:06
Injected at: 890927 17:30

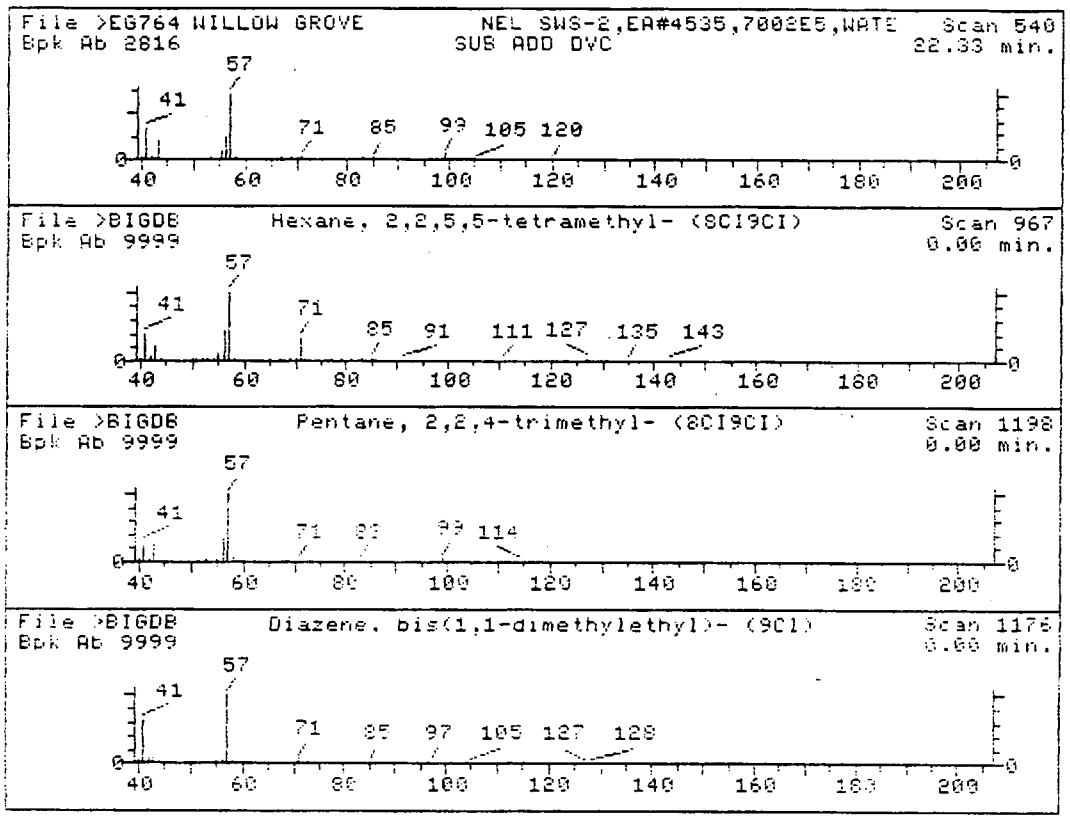
QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890927 18:06
Output File: ^EG764::QT Injected at: 890927 17:30
Data File: >EG764::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NEL SWS-2,EA#4535,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.04	128.0	36137	50.00	UG/L	93
13)	1,2-Dichloroethane-d4	11.64	65.0	68640	50.54	UG/L	86
15)	*1,4-Difluorobenzene	19.11	114.0	126528	50.00	UG/L	91
29)	*Chlorobenzene-d5	24.04	117.0	128733	50.00	UG/L	95
35)	Toluene-d8	22.84	98.0	131299	48.51	UG/L	98
40)	Bromofluorobenzene	28.69	95.0	111461	45.89	UG/L	96

* Compound is ISTD



Retention time = 22.33

Area = 137102.0 Tentative Concentration is 15.00

1.	Hexane, 2,2,5,5-tetramethyl- (8CI9CI)	142 C10H22
2.	Pentane, 2,2,4-trimethyl- (8CI9CI)	114 C8H18
3.	Diazene, bis(1,1-dimethylethyl)- (9CI)	142 C8H18N2
4.	1-Hexene, 4-methyl- (8CI9CI)	98 C7H14
5.	Cyanic acid, sec-butyl ester (8CI)	99 C5H9NO

Sample file: :EG764 Spectrum #: 540
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DX	#FLG	TILT	%	CON	C_I	R_IW
1.	70	1071814	967	"BIGDB	38	41	2	0	74	10	42	13
2.	52	540841	1198	"BIGDB	36	38	1	0	100	18	20	13
3.	15	927877	1176	"BIGDB	26	45	0	0	64	60	3	13
4.	11	3769231	1052	"BIGDB	36	42	1	0	38	61	2	13

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NELSWS3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4586

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG765

Lev l: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NELSWS3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4536

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG765

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
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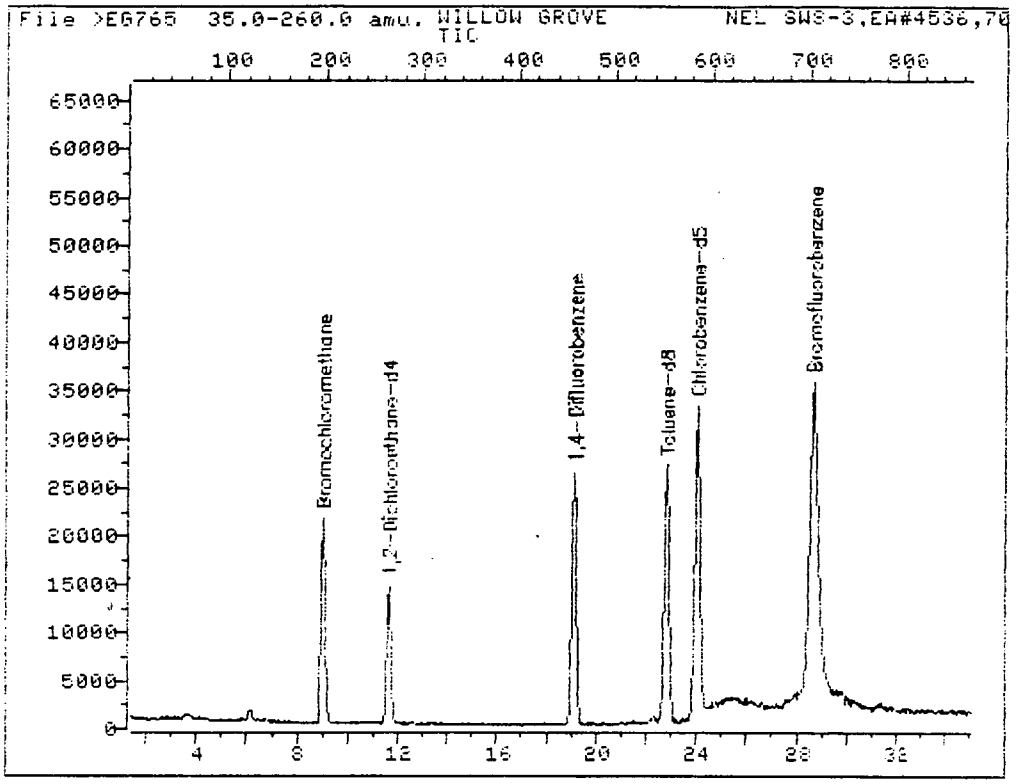
TOTAL ION CHROMATOGRAM



Data File: >EG765::W3 Quant Output File: ^EG765::QT
Name: WILLOW GROVE
Misc: NEL SWS-3,EA#4536,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 18:46
Injected at: 890927 18:10

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890927 18:46
Output File: ^EG765::QT Injected at: 890927 18:10
Data File: >EG765::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NEL SWS-3,EA#4536,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.01	128.0	34779	50.00	UG/L	94
13)	1,2-Dichloroethane-d4	11.65	65.0	67719	51.81	UG/L	87
15)	*1,4-Difluorobenzene	19.12	114.0	128902	50.00	UG/L	90
29)	*Chlorobenzene-d5	24.05	117.0	122396	50.00	UG/L	99
35)	Toluene-d8	22.81	98.0	127709	49.63	UG/L	99
40)	Bromofluorobenzene	28.66	95.0	124466	53.89	UG/L	99

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALSWS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4537

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG766

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALSWS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA #4537

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG766

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
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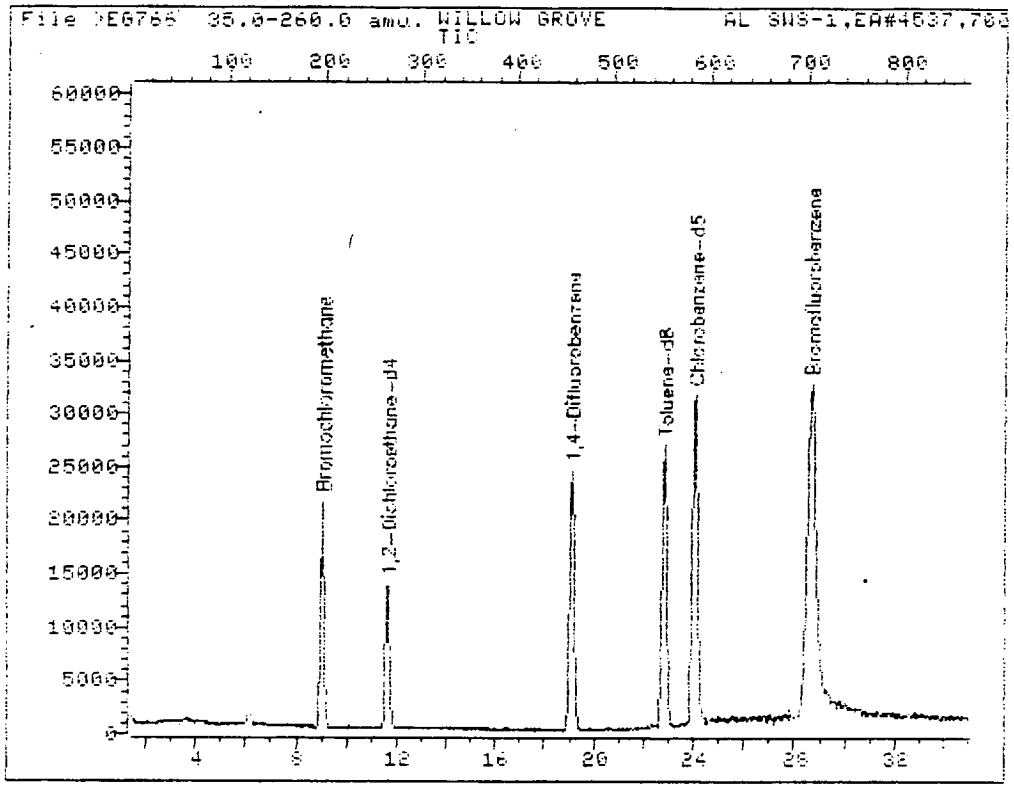
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG766::W3 Quant Output File: ^EG766::QT
Name: WILLOW GROVE
Misc: AL SWS-1,EA#4537,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 19:07
Injected at: 890927 18:51

QUANT REPORT

Operator ID: CARL
Output File: ^EG766::QT
Data File: >EG766::W3
Name: WILLOW GROVE
Misc: AL SWS-1,EA#4537,7002E5,WATER,5ML

Quant Rev: 6
Quant Time: 890927 19:27
Injected at: 890927 18:51
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.03	128.0	34881	50.00	UG/L	93
13)	1,2-Dichloroethane-d4	11.66	65.0	65646	50.07	UG/L	86
15)	*1,4-Difluorobenzene	19.10	114.0	122276	50.00	UG/L	91
29)	*Chlorobenzene-d5	24.06	117.0	125229	50.00	UG/L	94
35)	Toluene-d8	22.82	98.0	124899	47.44	UG/L	99
40)	Bromofluorobenzene	28.68	95.0	117515	49.73	UG/L	97

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALSWS-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4538

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG771

Lev l: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALSWS-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4538

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG771

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
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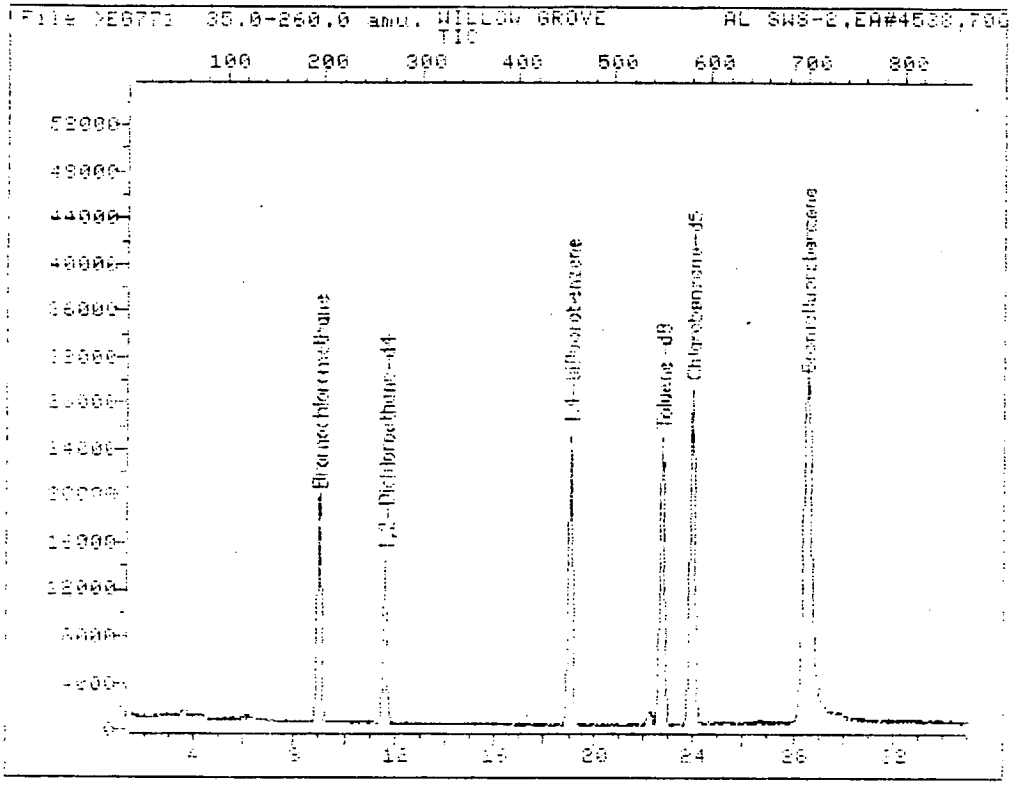
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG771::W3 Quant Output File: ^EG771::OT
Name: WILLOW GROVE
Misc: AL SWS-2,EA#4530,700ZE5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 700ZE5
Last Calibration: 890920 09:06

Operator: ID: CARL
Quant Time: 890920 11:[illegible]
Injected at: 890920 [illegible]

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890928 11:16
Output File: ^EG771::QT Injected at: 890928 10:40
Data File: >EG771::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: AL SWS-2,EA#4538,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.98	128.0	32979	50.00	UG/L	95
13)	1,2-Dichloroethane-d4	11.61	65.0	66346	52.41	UG/L	87
15)	*1,4-Difluorobenzene	19.05	114.0	119316	50.00	UG/L	91
29)	*Chlorobenzene-d5	23.97	117.0	113382	50.00	UG/L	95
35)	Toluene-d8	22.77	98.0	119111	52.54	UG/L	99
40)	Bromofluorobenzene	28.51	95.0	114910	54.47	UG/L	99

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALSWS-3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4539

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG793

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALSWS-3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4539

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG793

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
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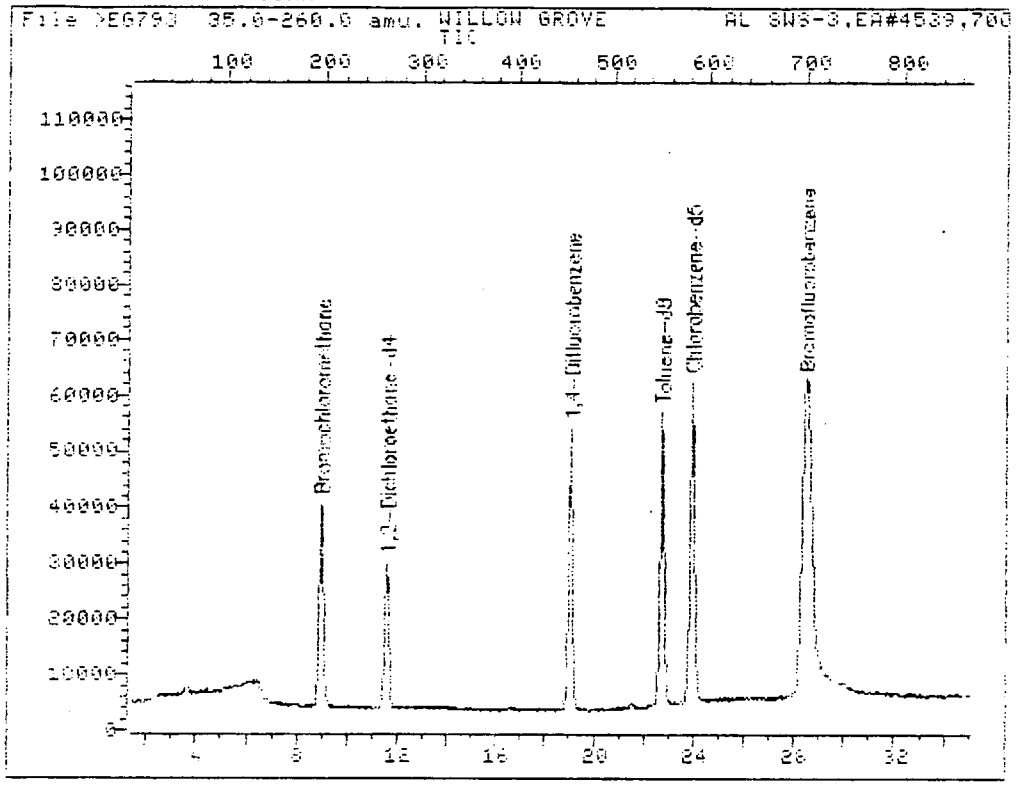
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG793::W3 Quant Output File: ^EG793::QT
Name: WILLOW GROVE
Misc: AL SWS-3,EA#4539,7002E5,WATER,5ML

Id File: EVDA::BD
Title: CLP protocol-9pt calibration, 7002E5
Last Calibration: 890930 09:35

Operator ID: CARL
Quant Time: 890930 11:5[illegible]
Injected at: 890930 11:1[illegible]

QUANT REPORT

Operator ID: CARL Quant R v: 6 Quant Time: 890930 11:50
Output File: ^EG793::QT Injected at: 890930 11:14
Data File: >EG793::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: AL SWS-3,EA#4539,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890930 09:35

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.96	128.0	60310	50.00	UG/L	85
13)	1,2-Dichloroethane-d4	11.60	65.0	120764	50.12	UG/L	88
15)	*1,4-Difluorobenzene	19.04	114.0	237440	50.00	UG/L	91
29)	*Chlorobenzene-d5	23.93	117.0	227553	50.00	UG/L	97
35)	Toluene-d8	22.72	98.0	247710	51.24	UG/L	99
40)	Bromofluorobenzene	28.46	95.0	224481	50.90	UG/L	87

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALSWS-4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4540

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG794

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALSWS-4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4540

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG794

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. - -	UNKNOWN HYDROCARBON	22.27	10.	J
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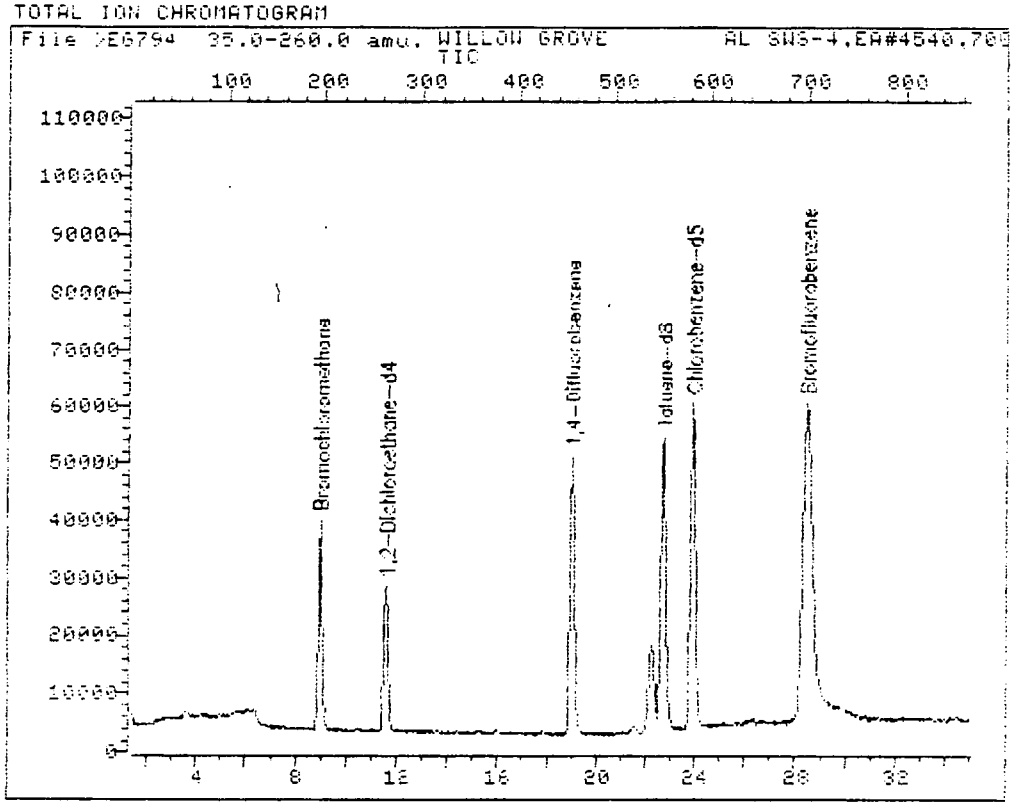
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG794::W3 Quant Output File: ^EG794::QT.
Name: WILLOW GROVE
Misc: AL SWS-4,EA#4540,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890930 09:35

Operator ID: DARL
Quant Time: 890930 12:30
Injected at: 890930 11:54

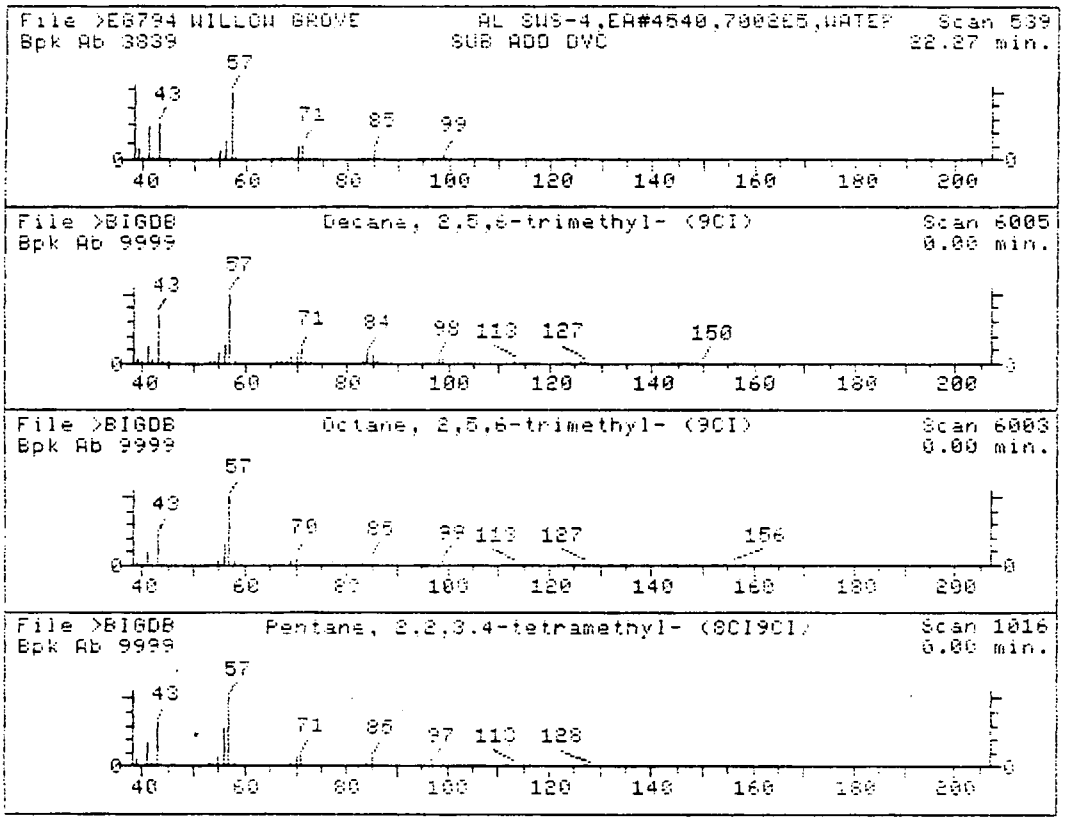
QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890930 12:30
Output File: ^EG794::QT Injected at: 890930 11:54
Data File: >EG794::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: AL SWS-4,EA#4540,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890930 09:35

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.98	128.0	58160	50.00	UG/L	83
13)	1,2-Dichloroethane-d4	11.62	65.0	118900	51.17	UG/L	88
15)	*1,4-Difluorobenzene	19.02	114.0	229374	50.00	UG/L	90
29)	*Chlorobenzene-d5	23.94	117.0	217917	50.00	UG/L	96
35)	Toluene-d8	22.74	98.0	240117	51.86	UG/L	98
40)	Bromofluorobenzene	28.48	95.0	212351	50.28	UG/L	85

* Compound is ISTD



Retention time = 22.27 UNKNOWN HYDROCARBON

Area = 223473.0 Tentative Concentration : 15.00

1. Decane, 2,5,6-trimethyl- (9CI) 184 C13H28
2. Octane, 2,5,6-trimethyl- (9CI) 156 C11H24
3. Pentane, 2,2,3,4-tetramethyl- (8CI9CI) 128 C9H20
4. Heptane, 2,3,6-trimethyl- (8CI9CI) 142 C10H22
5. Pentane, 2,2-dimethyl- (8CI9CI) 100 C7H16
6. Methane, isocyanato- (9CI) 57 C2H3NO
7. Butane, 2,2,3-trimethyl- (8CI9CI) 100 C7H16

Sample file: >EG794 Spectrum #: 539
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	M	DM	#FLG	TILT	%	CON	I_1	P_1
1.	76	62108033	6005	"BIGDB	53	47	2	4	78	7	42	11
2.	60	62016142	6003	"BIGDB	47	44	2	3	98	1-	30	13

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HG9NSLSWS1

Lab Name: EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4541

Sampl wt/vol: 5.0 (g/mL) ML Lab File ID: EG774

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BW9 NSLSWS1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4541

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG774

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
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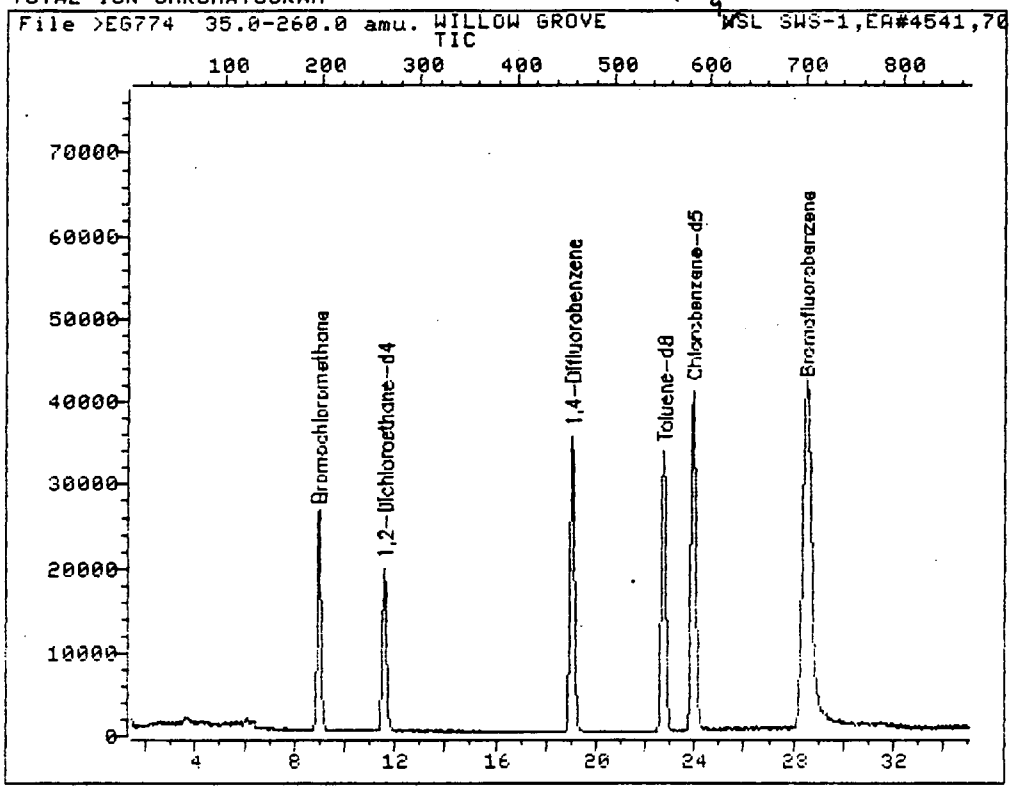
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG774::W3 Quant Output File: ^EG774::QT
Name: WILLOW GROVE
Misc: WSL SWS-1,EA#4541,7002E5,WATER,5ML

Id File: EVDA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 13:16
Injected at: 890928 12:40

QUANT REPORT

Op rator ID: CARL Quant Rev: 6 Quant Time: 890928 13:16
Output File: ^EG774::QT Inject d at: 890928 12:40
Data File: >EG774::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: MSL SWS-1,EA#4541,7002E5,WATER,5ML
ID Fil : EVOA::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.97	128.0	44851	50.00	UG/L	93
13)	1,2-Dichloroethane-d4	11.60	65.0	94037	54.62	UG/L	87
15)	*1,4-Difluorobenzene	19.04	114.0	165044	50.00	UG/L	90
29)	*Chlorobenzene-d5	23.96	117.0	159057	50.00	UG/L	97
35)	Toluene-d8	22.76	98.0	162879	51.21	UG/L	98
40)	Bromofluorobenzene	28.50	95.0	160850	54.36	UG/L	99

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MSLSWS2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4542

Sampl wt/vol: 5.0 (g/mL) ML Lab File ID: EG775

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B6 9 MSLSWS2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4542

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG775

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
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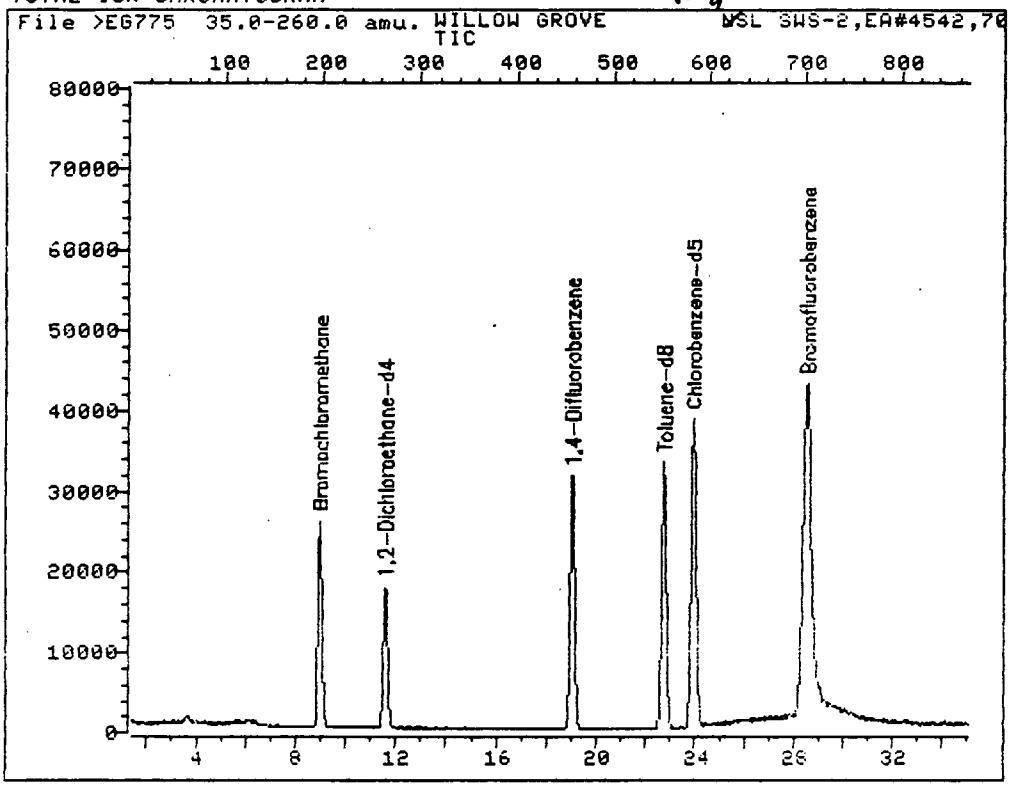
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG775::W3 Quant Output File:_^EG775::QT
Name: WILLOW GROVE
Misc: WSL SWS-2,EA#4542,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 13:57
Injected at: 890928 13:21

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890928 13:57
Output File: ^EG775::QT Inj cted at: 890928 13:21
Data File: >EG775::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc:9NSL SWS-2,EA#4542,7002E5,WATER,5ML
ID Fil : EVOA::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.99	128.0	41408	50.00	UG/L	95
13)	1,2-Dichloroethane-d4	11.59	65.0	88817	55.88	UG/L	85
15)	*1,4-Difluorobenzene	19.03	114.0	151505	50.00	UG/L	90
29)	*Chlorobenzene-d5	23.95	117.0	152169	50.00	UG/L	96
35)	Toluene-d8	22.75	98.0	155698	51.17	UG/L	99
40)	Bromofluorobenzene	28.56	95.0	158481	55.98	UG/L	94

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WSLSWS3

Lab Nam : EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4543

Sampl wt/vol: 5.0 (g/mL) ML Lab File ID: EG776

L vel: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NSLSWS3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4543

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG776

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
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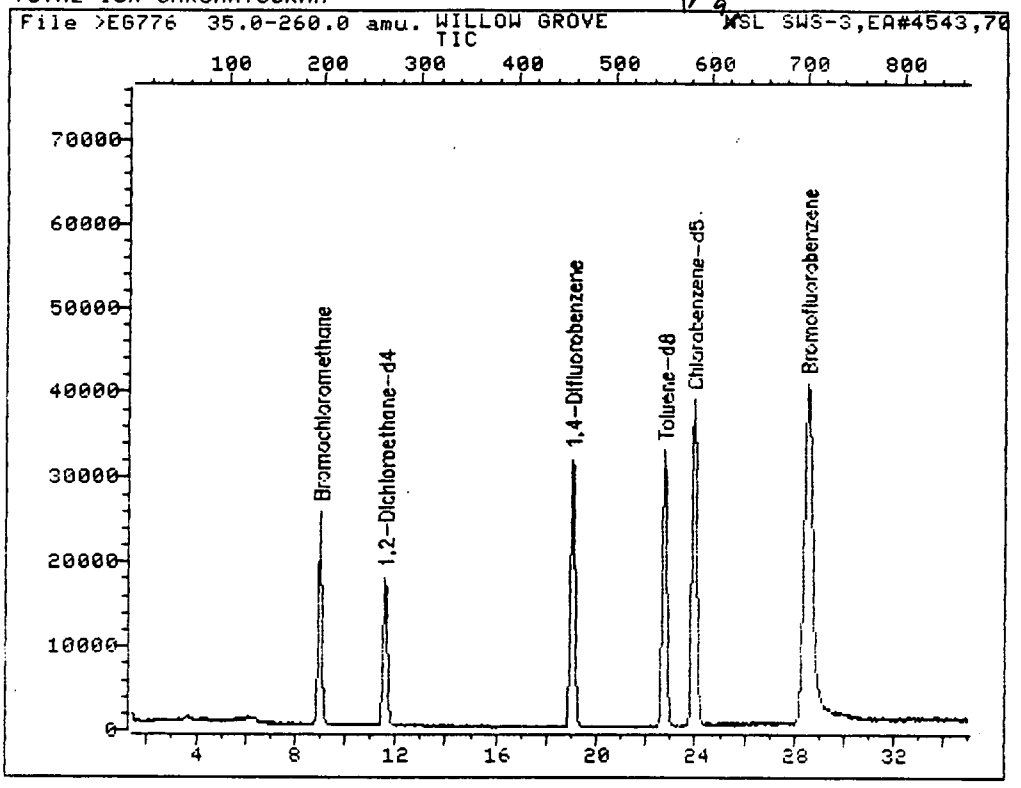
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG776::W3 Quant Output File: ^EG776::QT
Name: WILLOW GROVE
Misc: MSL SWS-3,EA#4543,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 14:50
Injected at: 890928 14:01

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Tim : 890928 14:50
Output Fil : ^EG776::QT Inj ct d at: 890928 14:01
Data File: >EG776::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: 9MSL SWS-3,EA#4543,7002E5,WATER,5ML
BC
ID Fil : EVOA::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	41148	50.00	UG/L	94
13)	1,2-Dichloroethane-d4	11.60	65.0	86659	54.87	UG/L	85
15)	*1,4-Difluorobenzene	19.04	114.0	151290	50.00	UG/L	90
29)	*Chlorobenzene-d5	23.96	117.0	150106	50.00	UG/L	98
35)	Toluene-d8	22.76	98.0	153675	51.20	UG/L	99
40)	Bromofluorobenzene	28.53	95.0	152589	54.64	UG/L	97

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NSLSWS4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4544

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG777

Lev l: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B60 9NSLSWS4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4544

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG777

L vel: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
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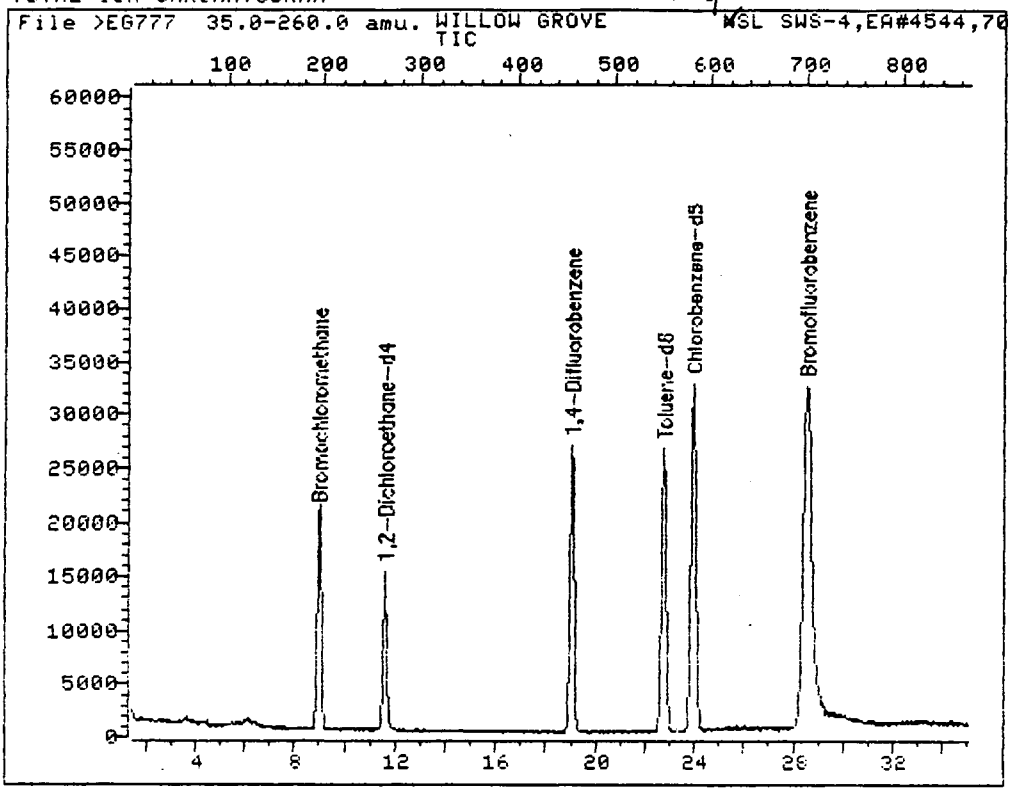
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG777::W3 Quant Output File: ^EG777::QT
Name: WILLOW GROVE
Misc: WSL SWS-4,EA#4544,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 15:18
Injected at: 890928 14:42

QUANT REPORT

Op rator ID: CARL Quant R v: 6 Quant Time: 890928 15:18
Output File: ^EG777::QT Injected at: 890928 14:42
Data Fil : >EG777::W3 Dilution Factor: 1.00000
Nam : WILLOW GROVE
Misc: WSL SWS-4,EA#4544,7002E5,WATER,5ML
ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.97	128.0	34665	50.00	UG/L	95
13)	1,2-Dichloroethane-d4	11.60	65.0	72973	54.84	UG/L	84
15)	*1,4-Difluorobenzene	19.04	114.0	125082	50.00	UG/L	90
29)	*Chlorobenzene-d5	23.97	117.0	124221	50.00	UG/L	97
35)	Toluene-d8	22.76	98.0	127805	51.45	UG/L	99
40)	Bromofluorobenzene	28.54	95.0	122597	53.05	UG/L	95

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP#2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4545

Sampl wt/vol: 5.0 (g/mL) ML Lab File ID: EG778

L vel: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DUP#2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA # 4545

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG778

L v l: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
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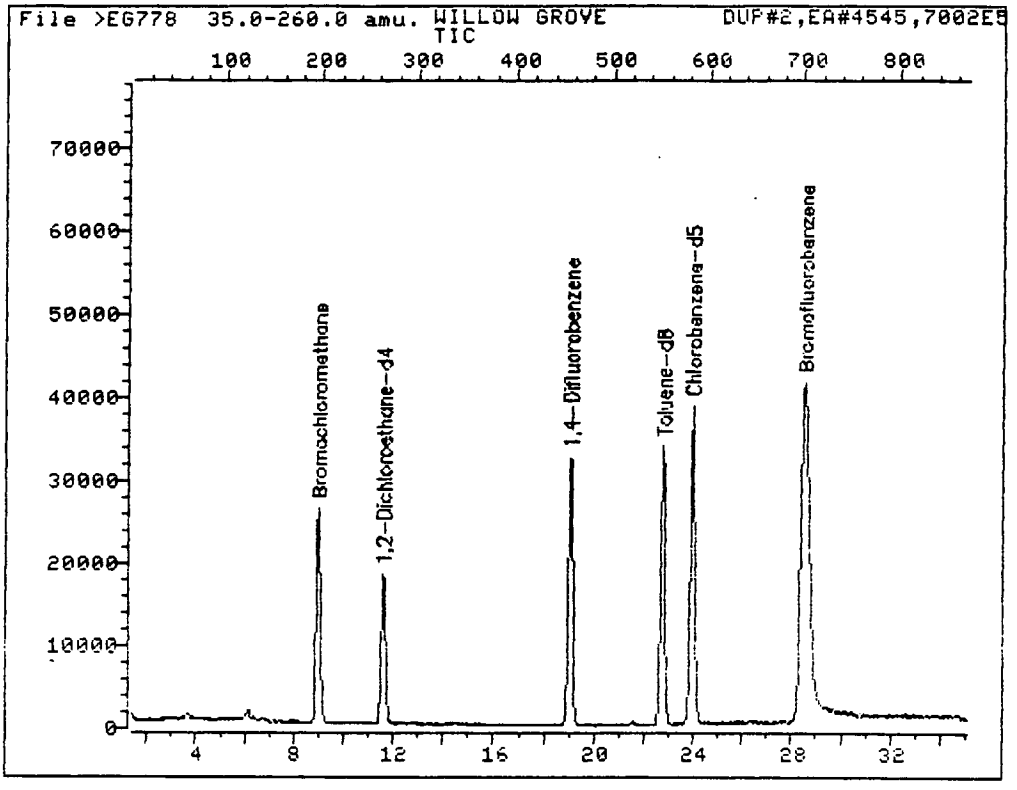
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG778::W3 Quant Output File: ^EG778::QT
Name: WILLOW GROVE
Misc: DUP#2,EA#4545,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 15:59
Injected at: 890928 15:23

QUANT REPORT

Operator ID: CARL
Output File: ^EG778::QT
Data File: >EG778::W3
Name: WILLOW GROVE
Misc: DUP#2,EA#4545,7002E5,WATER,5ML

Quant R v: 6
Quant Time: 890928 15:59
Injected at: 890928 15:23
Dilution Factor: 1.00000

ID Fil : EVOA::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	42270	50.00	UG/L	93
13)	1,2-Dichloroethane-d4	11.59	65.0	88451	54.52	UG/L	85
15)	*1,4-Difluorobenzene	19.03	114.0	155636	50.00	UG/L	90
29)	*Chlorobenzene-d5	23.96	117.0	152325	50.00	UG/L	97
35)	Toluene-d8	22.75	98.0	158658	52.09	UG/L	99
40)	Bromofluorobenzene	28.53	95.0	154648	54.57	UG/L	97

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

UGSWS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4546

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG781

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

UGSWS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA# 4546

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG781

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
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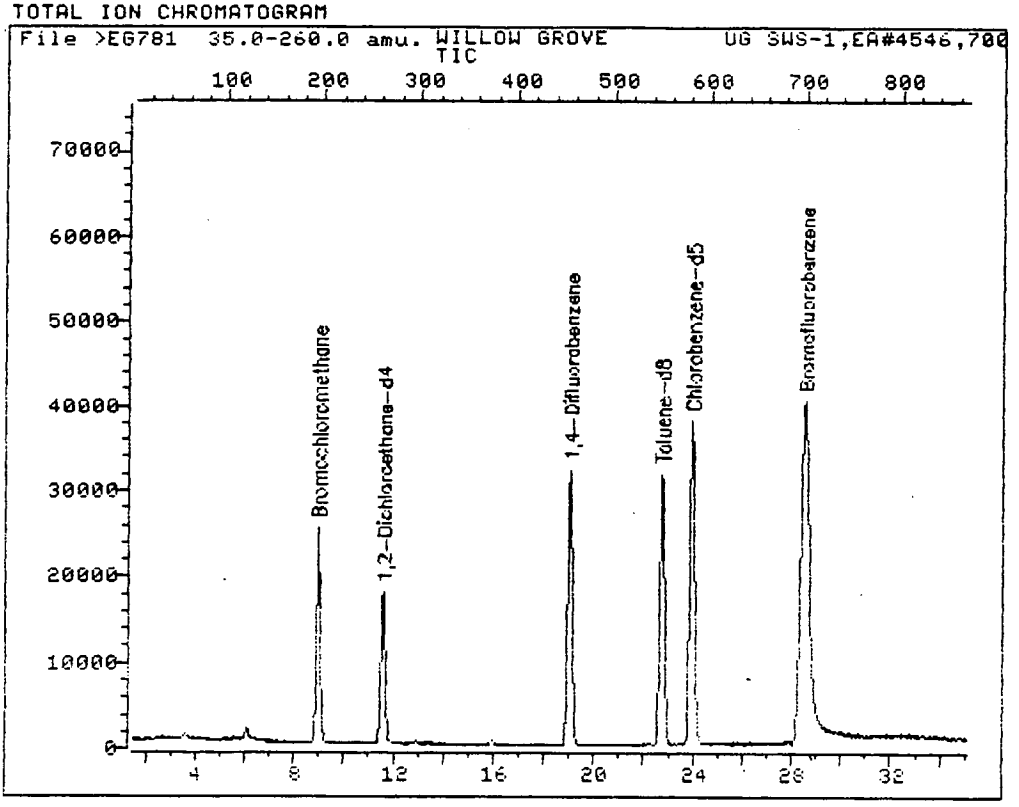
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG781::W3 Quant Output File: ^EG781::QT
Name: WILLOW GROVE
Misc: UG SWS-1,EA#4546,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 18:00
Injected at: 890928 17:24

QUANT REPORT

Operator ID: CARL Quant R v: 6 Quant Time: 890928 18:00
Output Fil : ^EG781::QT Inj ct d at: 890928 17:24
Data File: >EG781::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: UG SWS-1,EA#4546,7002E5,WATER,5ML

ID File: EVOA::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.98	128.0	40951	50.00	UG/L	96
13)	1,2-Dichloroethane-d4	11.61	65.0	86961	55.32	UG/L	83
15)	*1,4-Difluorobenzene	19.05	114.0	150938	50.00	UG/L	89
29)	*Chlorobenzene-d5	23.97	117.0	148250	50.00	UG/L	97
35)	Toluene-d8	22.73	98.0	149050	50.28	UG/L	99
40)	Bromofluorobenzene	28.55	95.0	150569	54.59	UG/L	95

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NELSS-1

Lab Nam : EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4547

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG802

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 53. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	21.	U
74-83-9	Bromomethane	21.	U
75-01-4	Vinyl Chloride	21.	U
75-00-3	Chloroethane	21.	U
75-09-2	Methylene Chloride	89.	
67-64-1	Acetone	58.	
75-15-0	Carbon Disulfide	11.	U
75-35-4	1,1-Dichloroethene	11.	U
75-34-3	1,1-Dichloroethane	11.	U
540-59-0	1,2-Dichloroethene (total)	11.	U
67-66-3	Chloroform	11.	U
107-06-2	1,2-Dichloroethane	11.	U
78-93-3	2-Butanone	21.	U
71-55-6	1,1,1-Trichloroethane	11.	U
56-23-5	Carbon Tetrachloride	11.	U
108-05-4	Vinyl Acetate	21.	U
75-27-4	Bromodichloromethane	11.	U
78-87-5	1,2-Dichloropropane	11.	U
10061-01-5	cis-1,3-Dichloropropene	11.	U
79-01-6	Trichloroethene	11.	U
124-48-1	Dibromochloromethane	11.	U
79-00-5	1,1,2-Trichloroethane	11.	U
71-43-2	Benzene	11.	U
10061-02-6	trans-1,3-Dichloropropene	11.	U
75-25-2	Bromoform	11.	U
108-10-1	4-Methyl-2-Pentanone	21.	U
591-78-6	2-Hexanone	21.	U
127-18-4	Tetrachloroethene	11.	U
79-34-5	1,1,2,2-Tetrachloroethane	11.	U
108-88-3	Toluene	11.	U
108-90-7	Chlorobenzene	11.	U
100-41-4	Ethylbenzene	11.	U
100-42-5	Styrene	11.	U
1330-20-7	Xylene (total)	11.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NELSS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA # 4547

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG802

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 53. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None detected			
2.				
3.				
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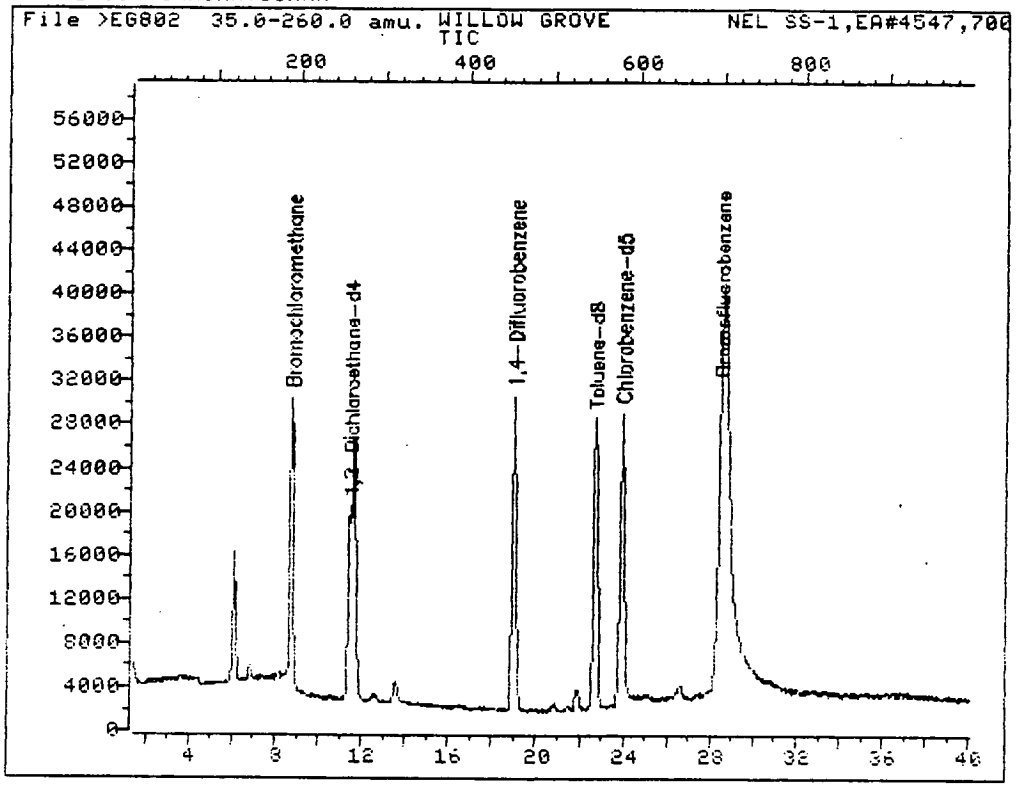
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG802::W3 Quant Output File: ^EG802::QT
Name: WILLOW GROVE
Misc: NEL SS-1,EA#4547,7002E5,SOIL,5GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

Operator ID: CARL
Quant Time: 891002 12:52
Injected at: 891002 12:11

QUANT REPORT

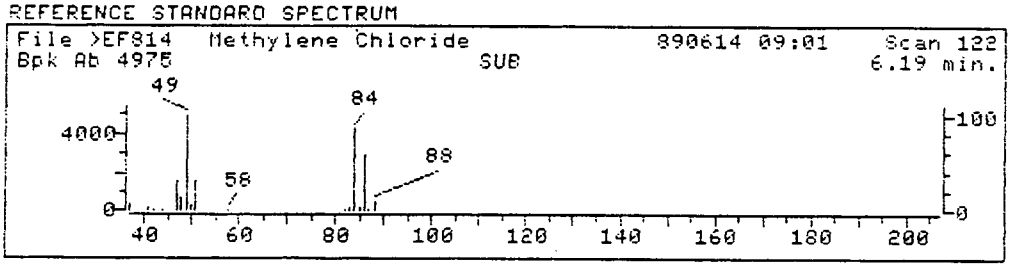
Operator ID: CARL Quant Rev: 6 Quant Time: 891002 12:52
Output File: ^EG802::QT Injected at: 891002 12:11
Data File: >EG802::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NEL SS-1,EA#4547,7002E5,SOIL,5GM

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

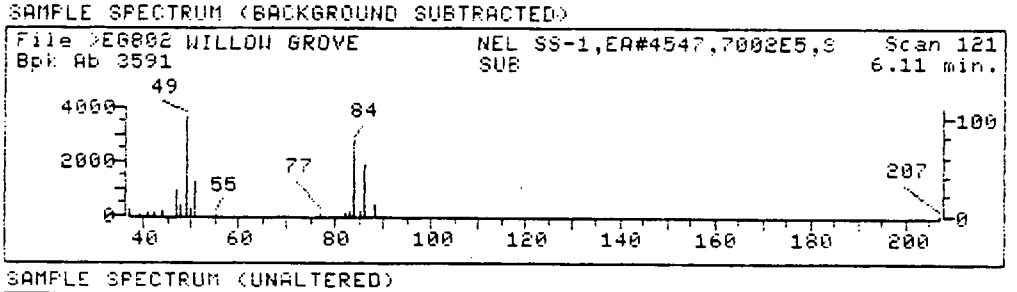
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.78	128.0	37343	50.00	UG/KG	84
6)	Methylene Chloride	6.11	84.0	27352	42.32	UG/KG	99
7)	Acetone	6.84	43.0	8903	27.51	UG/KG	92
13)	1,2-Dichloroethane-d4	11.49	65.0	77723	50.97	UG/KG	86
15)	*1,4-Difluorobenzene	19.01	114.0	133044	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.93	117.0	101547	50.00	UG/KG	98
35)	Toluene-d8	22.69	98.0	127360	58.09	UG/KG	98
40)	Bromofluorobenzene	28.47	95.0	84451	42.77	UG/KG	92

* Compound is ISTD

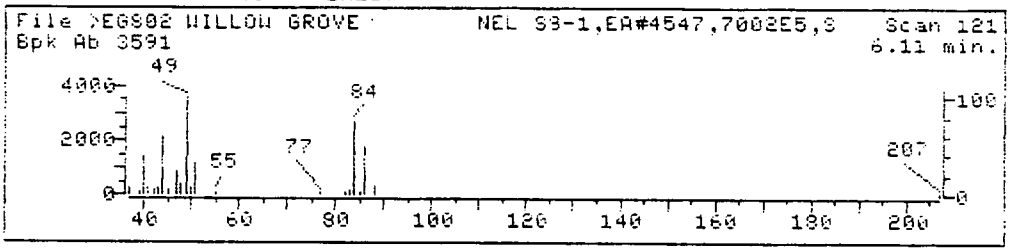
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



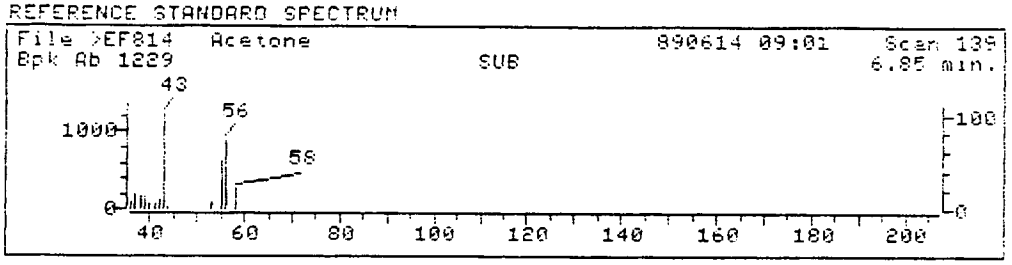
SAMPLE SPECTRUM (UNALTERED)



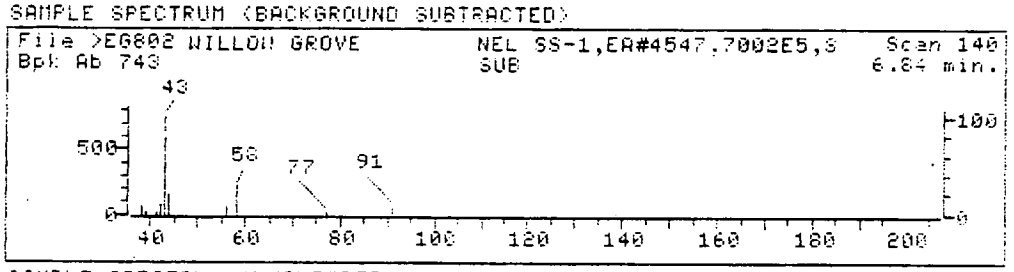
Data File: >EG802::W3 Quant Output File: >EG802::QT
Name: WILLOW GROVE
Misc: NEL SS-1,EA#4547,7002E5,SOIL,5GM
Quant Time: 891002 12:52 Quant ID File: EVOAS::BD
Injected at: 891002 12:11 Last Calibration: 891002 11:57

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 121
Retention Time: 6.11 min.
Quant Ion: 84.0
Area: 27392
Concentration: 42.32 UG/KG
q-value: 99

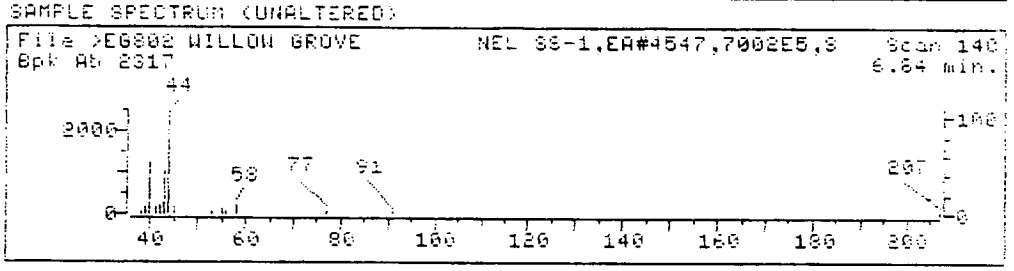
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG802::W3 Quant Output File: ^EG802::QT
Name: WILLOW GROVE
Misc: NEL SS-1,EA#4547,7002E5,SOIL,5GM
Quant Time: 891002 12:52 Quant ID File: EVOAS::BD
Injected at: 891002 12:11 Last Calibration: 891002 11:57

Compound No: 7
Compound Name: Acetone
Scan Number: 140
Retention Time: 6.84 min.
Quant Ion: 43.0
Area: 8903
Concentration: 27.51 UG/KG
q-value: 92

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NELSS-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4548

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG803

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 54. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	22.	U
74-83-9	Bromomethane	22.	U
75-01-4	Vinyl Chloride	22.	U
75-00-3	Chloroethane	22.	U
75-09-2	Methylene Chloride	31.	
67-64-1	Acetone	62.	
75-15-0	Carbon Disulfide	11.	U
75-35-4	1,1-Dichloroethene	11.	U
75-34-3	1,1-Dichloroethane	11.	U
540-59-0	1,2-Dichloroethene (total)	11.	U
67-66-3	Chloroform	11.	U
107-06-2	1,2-Dichloroethane	11.	U
78-93-3	2-Butanone	22.	U
71-55-6	1,1,1-Trichloroethane	11.	U
56-23-5	Carbon Tetrachloride	11.	U
108-05-4	Vinyl Acetate	22.	U
75-27-4	Bromodichloromethane	11.	U
78-87-5	1,2-Dichloropropane	11.	U
10061-01-5	cis-1,3-Dichloropropene	11.	U
79-01-6	Trichloroethene	11.	U
124-48-1	Dibromochloromethane	11.	U
79-00-5	1,1,2-Trichloroethane	11.	U
71-43-2	Benzene	11.	U
10061-02-6	trans-1,3-Dichloropropene	11.	U
75-25-2	Bromoform	11.	U
108-10-1	4-Methyl-2-Pentanone	22.	U
591-78-6	2-Hexanone	22.	U
127-18-4	Tetrachloroethene	11.	U
79-34-5	1,1,2,2-Tetrachloroethane	11.	U
108-88-3	Toluene	11.	U
108-90-7	Chlorobenzene	11.	U
100-41-4	Ethylbenzene	11.	U
100-42-5	Styrene	11.	U
1330-20-7	Xylene (total)	11.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NELSS-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4548

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG803

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 54. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None detected			
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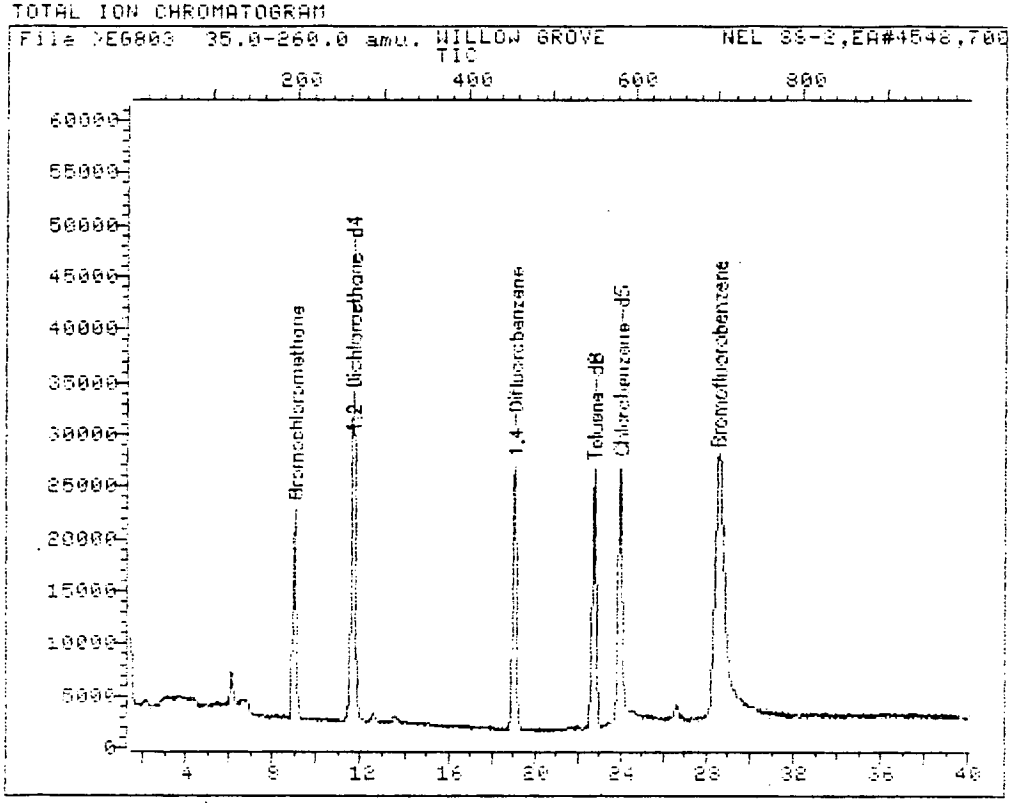
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG803::W3 Quant Output File: >EG803::QT
Name: WILLOW GROVE
Misc: NEL SS-2,EA#4548,7002E5,SOIL,5GM

Is File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

Operator ID: CARL
Quant Time: 891002 17:38
Injected at: 891002 12:57

QUANT REPORT

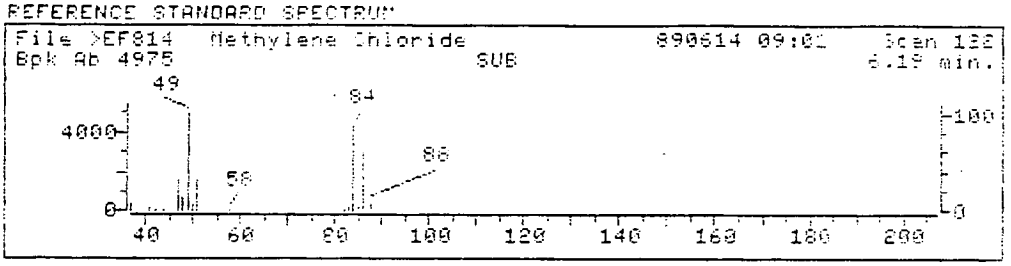
Operator ID: CARL Quant Rev: 6 Quant Time: 891002 13:38
Output File: ^EG803::QT Injected at: 891002 12:57
Data File: >EG803::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NEL SS-2,EA#4548,7002E5,SOIL,5GM

ID File: EVDAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

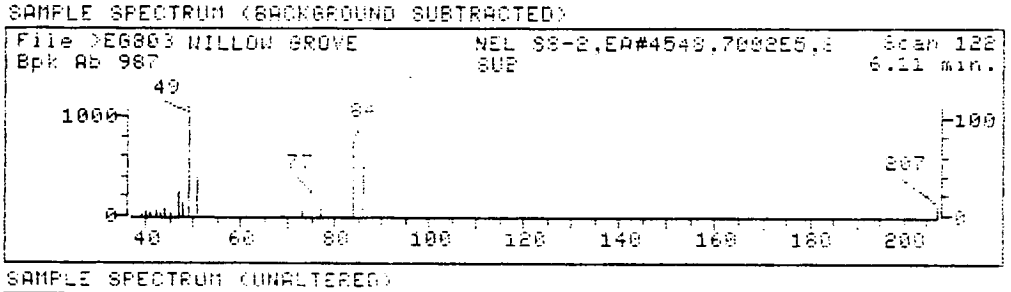
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.98	128.0	30099	50.00	UG/KG	89
6)	Methylene Chloride	6.11	84.0	7372	14.15	UG/KG	98
7)	Acetone	6.81	43.0	7462	28.61	UG/KG	93
13)	1,2-Dichloroethane-d4	11.61	65.0	67109	54.60	UG/KG	87
15)	*1,4-Difluorobenzene	19.06	114.0	117888	50.00	UG/KG	91
29)	*Chlorobenzene-d5	23.98	117.0	93934	50.00	UG/KG	96
35)	Toluene-d8	22.74	98.0	115792	57.10	UG/KG	98
40)	Bromofluorobenzene	28.51	95.0	80641	44.15	UG/KG	89

* Compound is ISTD

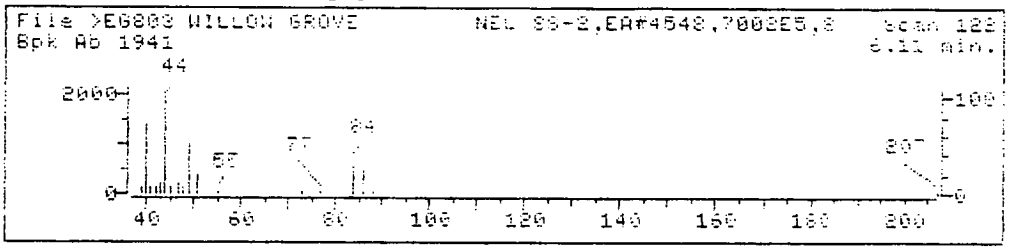
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



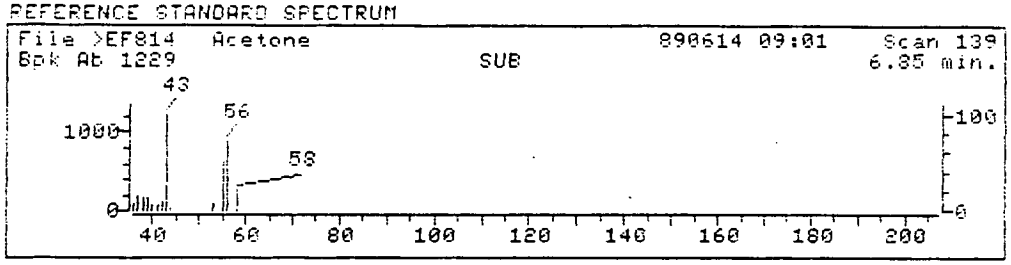
SAMPLE SPECTRUM (UNALTERED)



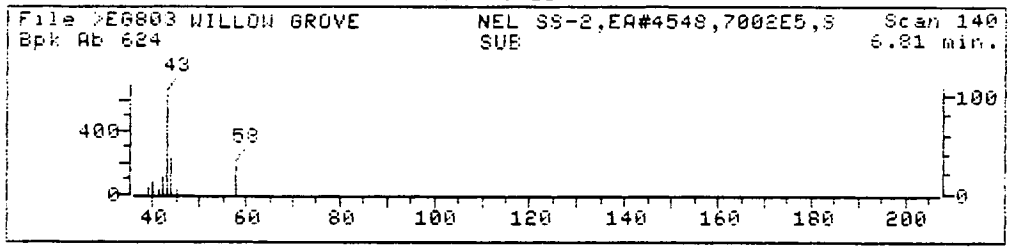
Data File: >EG803::W3 Quant Output File: ^EG803::QT
Name: WILLOW GROVE
Misc: NEL SS-2,EA#4548,7002E5,SOIL,5GM
Quant Time: 891002 13:38 Quant ID File: EVOAS::BD
Injected at: 891002 12:57 Last Calibration: 891002 11:57

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 122
Retention Time 6.11 min.
Quant Ion: 84.0
Area: 7771
Concentration: 14.13 UG/KG
q-value: 90

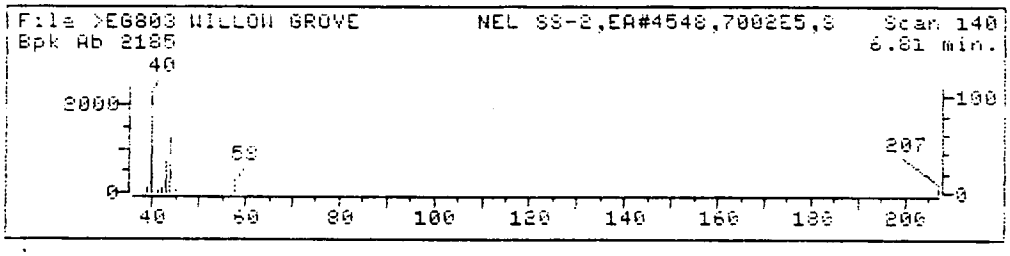
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG803::W3 Quant Output File: ^EG803::QT
Name: WILLOW GROVE
Misc: NEL SS-2,EA#4548,7002E5,SOIL,5GM
Quant Time: 891002 13:38 Quant ID File: EVOAS::BD
Injected at: 891002 12:57 Last Calibration: 891002 11:57

Compound No: 7
Compound Name: Acetone
Scan Number: 140
Retention Time: 6.81 min.
Quant Ion: 43.0
Area: 7462
Concentration: 28.61 UG/KG
q-value: 93

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALSS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4549

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG804

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 35. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15.	U
74-83-9	Bromomethane	15.	U
75-01-4	Vinyl Chloride	15.	U
75-00-3	Chloroethane	15.	U
75-09-2	Methylene Chloride	64.	
67-64-1	Acetone	38.	
75-15-0	Carbon Disulfide	8.	U
75-35-4	1,1-Dichloroethene	8.	U
75-34-3	1,1-Dichloroethane	8.	U
540-59-0	1,2-Dichloroethene (total)	8.	U
67-66-3	Chloroform	8.	U
107-06-2	1,2-Dichloroethane	8.	U
78-93-3	2-Butanone	15.	U
71-55-6	1,1,1-Trichloroethane	8.	U
56-23-5	Carbon Tetrachloride	8.	U
108-05-4	Vinyl Acetate	15.	U
75-27-4	Bromodichloromethane	8.	U
78-87-5	1,2-Dichloropropane	8.	U
10061-01-5	cis-1,3-Dichloropropene	8.	U
79-01-6	Trichloroethene	8.	U
124-48-1	Dibromochloromethane	8.	U
79-00-5	1,1,2-Trichloroethane	8.	U
71-43-2	Benzene	8.	U
10061-02-6	trans-1,3-Dichloropropene	8.	U
75-25-2	Bromoform	8.	U
108-10-1	4-Methyl-2-Pentanone	15.	U
591-78-6	2-Hexanone	15.	U
127-18-4	Tetrachloroethene	8.	U
79-34-5	1,1,2,2-Tetrachloroethane	8.	U
108-88-3	Toluene	8.	U
108-90-7	Chlorobenzene	8.	U
100-41-4	Ethylbenzene	8.	U
100-42-5	Styrene	8.	U
1330-20-7	Xylene (total)	8.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALSS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4549

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG804

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 35. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		None detected			
2.					
3.					
4.					
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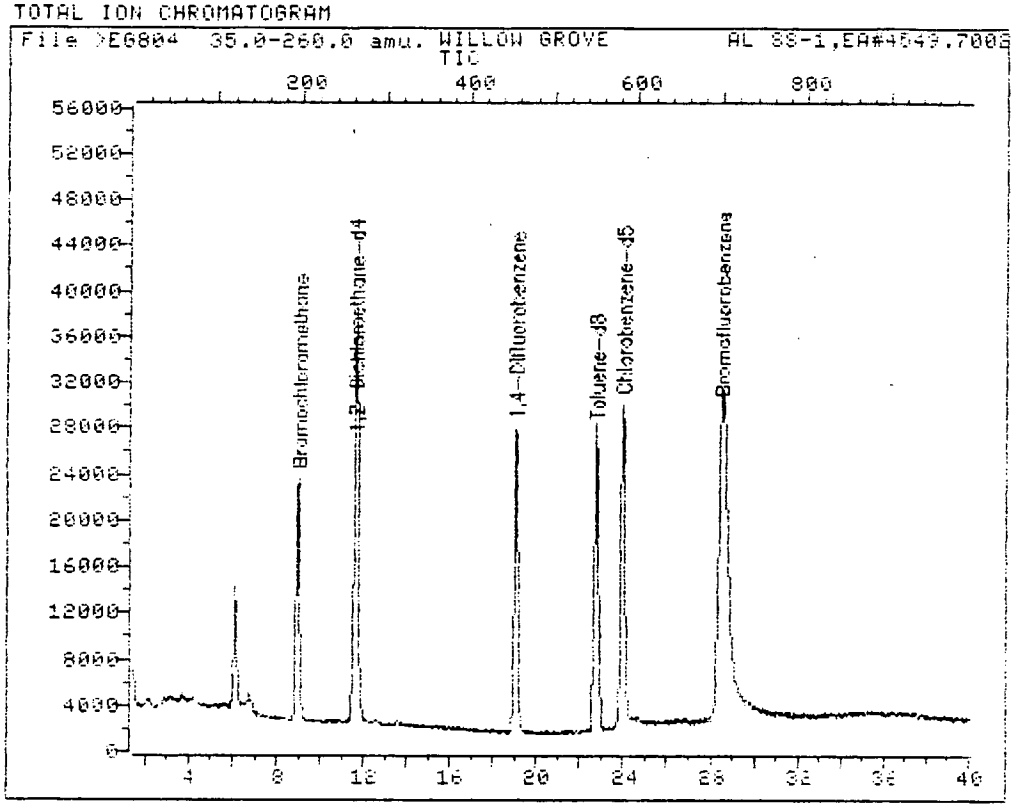
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG804::W3 Quant Output File: >EG804::QT
Name: WILLOW GROVE
Misc: AL SS-1,EA#4549,7002E9,SOIL,5GM

Id File: EWDAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

Operator ID: CARL
Quant Time: 891002 14:24
Injected at: 891002 13:47

QUANT REPORT

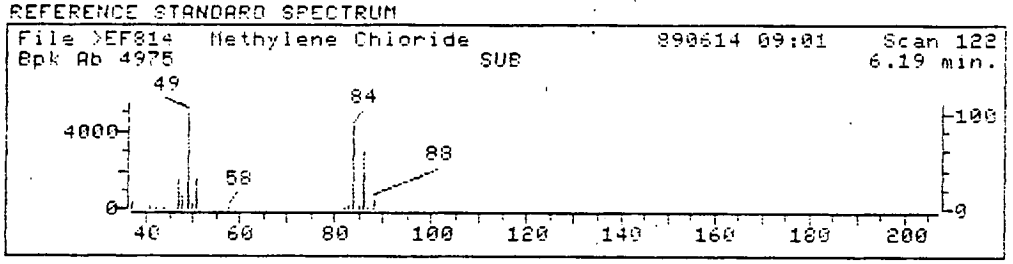
Operator ID: CARL Quant Rev: 6 Quant Time: 891002 14:24
Output File: ^EG804::QT Injected at: 891002 13:43
Data File: >EG804::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: AL SS-1,EA#4549,7002E5,SOIL,5GM

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

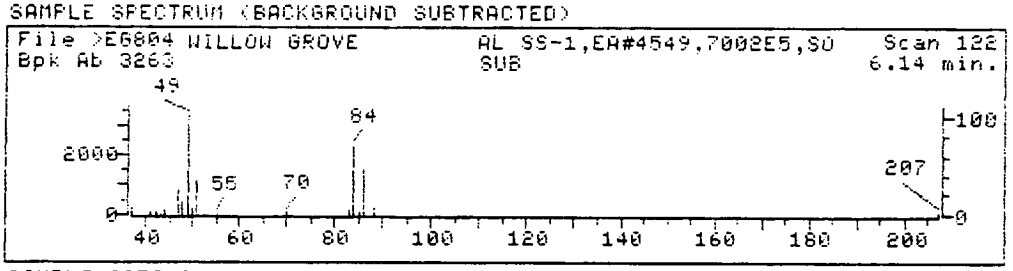
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.01	128.0	31955	50.00	UG/KG	84
6)	Methylene Chloride	6.14	84.0	22970	41.53	UG/KG	94
7)	Acetone	6.84	43.0	6835	24.68	UG/KG	99
13)	1,2-Dichloroethane-d4	11.61	65.0	68949	52.84	UG/KG	88
15)	*1,4-Difluorobenzene	19.05	114.0	121439	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.97	117.0	104457	50.00	UG/KG	97
35)	Toluene-d8	22.73	98.0	126275	55.99	UG/KG	98
40)	Bromofluorobenzene	28.51	95.0	95871	47.20	UG/KG	89

* Compound is ISTD

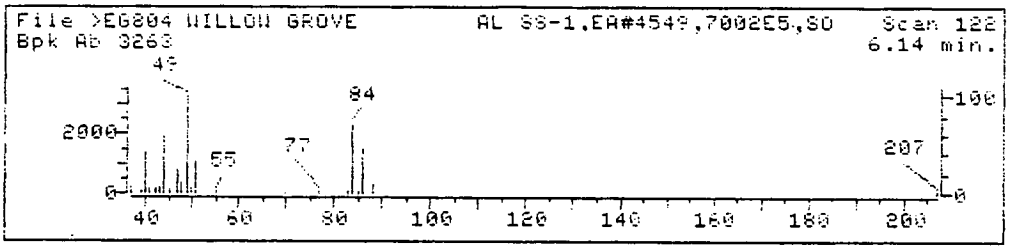
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



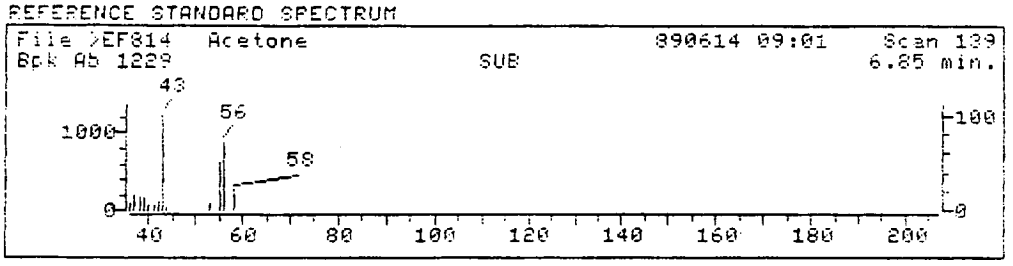
SAMPLE SPECTRUM (UNALTERED)



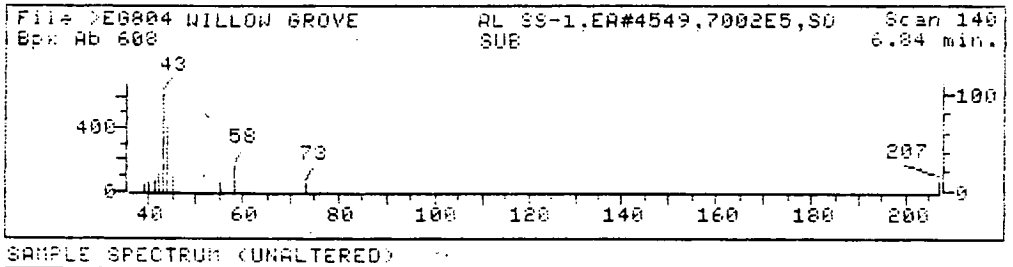
Data File: >EG804::W3 Quant Output File: ^EG804::QT
Name: WILLOW GROVE
Misc: AL SS-1,EA#4549,7002E5,SOIL,5GM
Quant Time: 891002 14:24 Quant ID File: EVDA5::BD
Injected at: 891002 13:43 Last Calibration: 891002 11:57

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 122
Retention Time: 6.14 min.
Quant Ion: 84.0
Area: 22970
Concentration: 41.53 UG/KG
q-value: 94

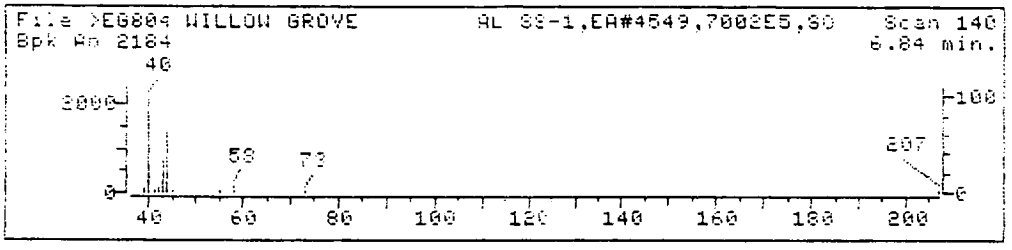
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG804::W3 Quant Output File: ^EG804::QT
Name: WILLOW GROVE
Misc: AL SS-1,EA#4549,7002E5,SOIL,5GM
Quant Time: 891002 14:24 Quant ID File: EVOAS::BD
Injected at: 891002 13:43 Last Calibration: 891002 11:57

Compound No: 7
Compound Name: Acetone
Scan Number: 140
Retention Time: 6.84 min.
Quant Ion: 43.0
Area: 6835
Concentration: 24.68 UG/KG
q-value: 99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALSS-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4550

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG805

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 42. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	17.	U
74-83-9	Bromomethane	17.	U
75-01-4	Vinyl Chloride	17.	U
75-00-3	Chloroethane	17.	U
75-09-2	Methylene Chloride	47.	
67-64-1	Acetone	63.	
75-15-0	Carbon Disulfide	9.	U
75-35-4	1,1-Dichloroethene	9.	U
75-34-3	1,1-Dichloroethane	9.	U
540-59-0	1,2-Dichloroethene (total)	9.	U
67-66-3	Chloroform	9.	U
107-06-2	1,2-Dichloroethane	9.	U
78-93-3	2-Butanone	17.	U
71-55-6	1,1,1-Trichloroethane	9.	U
56-23-5	Carbon Tetrachloride	9.	U
108-05-4	Vinyl Acetate	17.	U
75-27-4	Bromodichloromethane	9.	U
78-87-5	1,2-Dichloropropane	9.	U
10061-01-5	cis-1,3-Dichloropropene	9.	U
79-01-6	Trichloroethene	9.	U
124-48-1	Dibromochloromethane	9.	U
79-00-5	1,1,2-Trichloroethane	9.	U
71-43-2	Benzene	9.	U
10061-02-6	trans-1,3-Dichloropropene	9.	U
75-25-2	Bromoform	9.	U
108-10-1	4-Methyl-2-Pentanone	17.	U
591-78-6	2-Hexanone	17.	U
127-18-4	Tetrachloroethene	9.	U
79-34-5	1,1,2,2-Tetrachloroethane	9.	U
108-88-3	Toluene	9.	U
108-90-7	Chlorobenzene	9.	U
100-41-4	Ethylbenzene	9.	U
100-42-5	Styrene	9.	U
1330-20-7	Xylene (total)	9.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALSS-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA#4550

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG805

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 42. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None detected			
2.				
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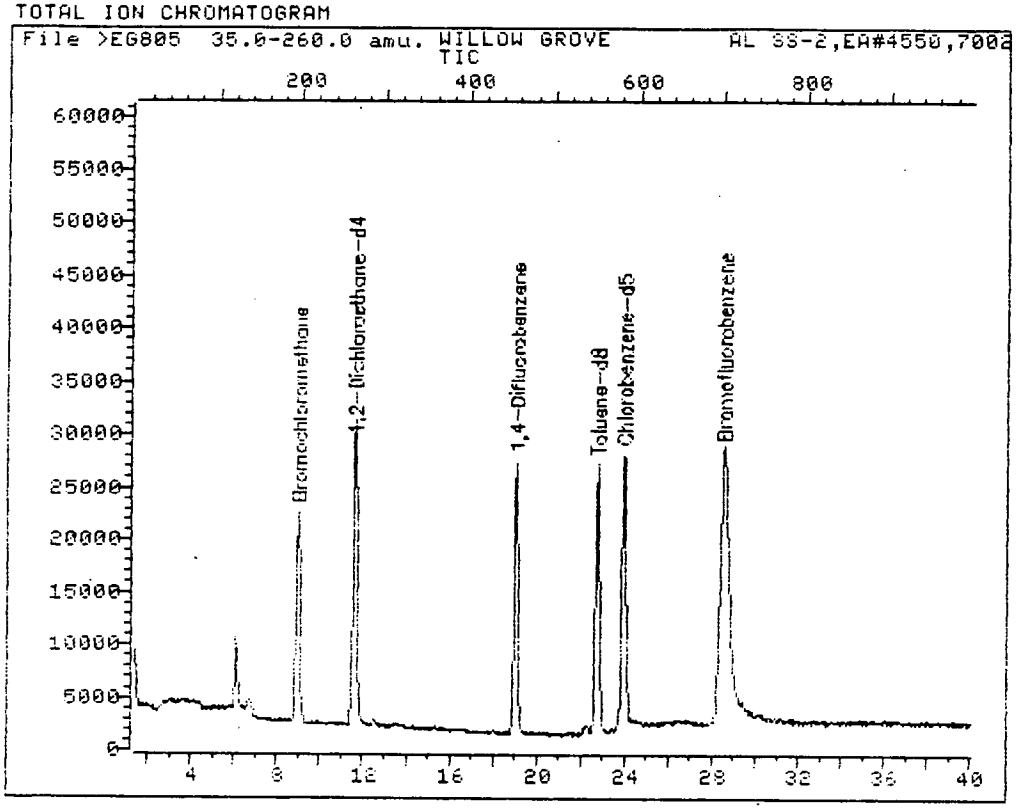
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG805::W3 Quant Output File: ^EG805::QT
Name: WILLOW GROVE
Misc: AL SS-2,EA#4550,7002E5,SOIL,5GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

Operator ID: CARL
Quant Time: 891002 15:09
Injected at: 891002 14:28

QUANT REPORT

Operator ID: CARL
Output File: ^EG805::QT
Data File: >EG805::W3
Name: WILLOW GROVE
Misc: AL SS-2,EA#4550,7002E5,SOIL,5GM

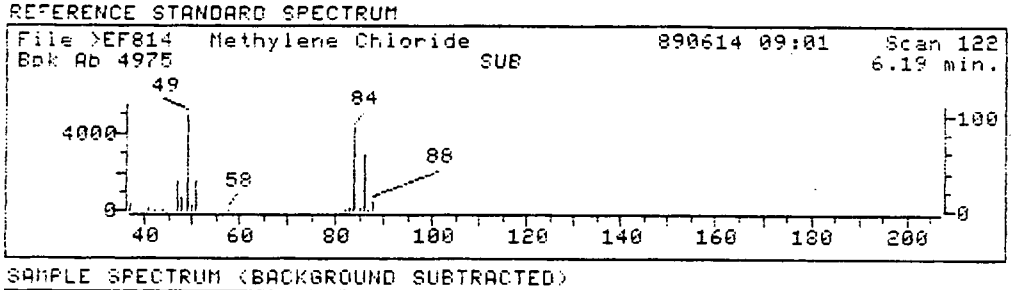
Quant Rev: 6
Quant Time: 891002 15:09
Injected at: 891002 14:28
Dilution Factor: 1.00000

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

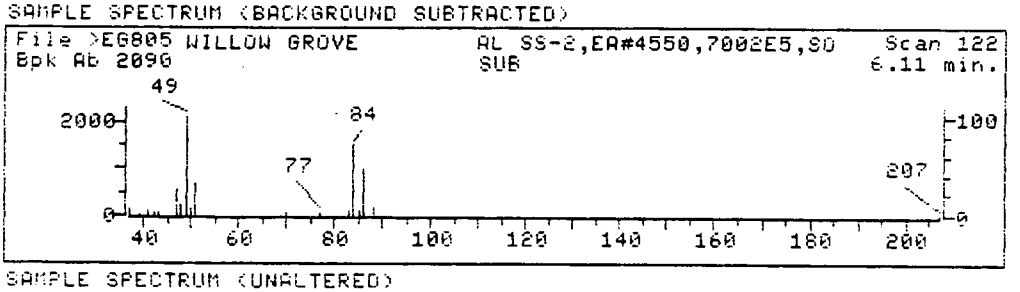
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.98	128.0	30778	50.00	UG/KG	87
6)	Methylene Chloride	6.11	84.0	14463	27.15	UG/KG	95
7)	Acetone	6.77	43.0	9723	36.45	UG/KG	99
13)	1,2-Dichloroethane-d4	11.62	65.0	67745	53.90	UG/KG	87
15)	*1,4-Difluorobenzene	19.06	114.0	116739	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.94	117.0	99171	50.00	UG/KG	98
35)	Toluene-d8	22.74	98.0	118710	55.44	UG/KG	98
40)	Bromofluorobenzene	28.51	95.0	89928	46.64	UG/KG	89

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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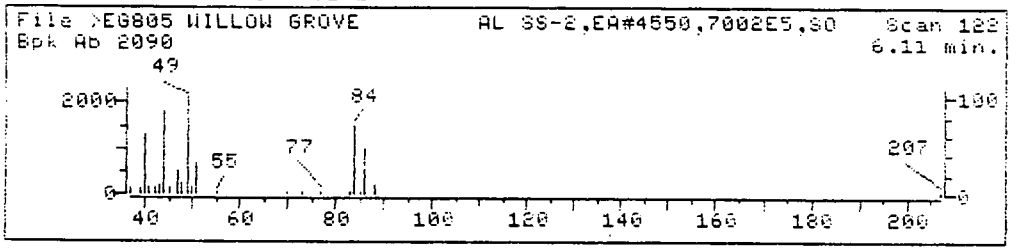
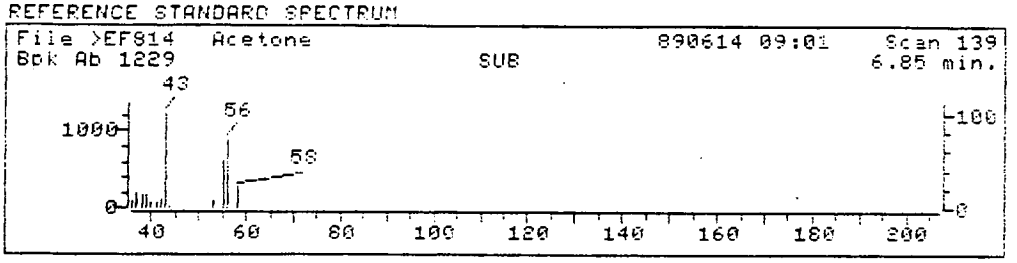


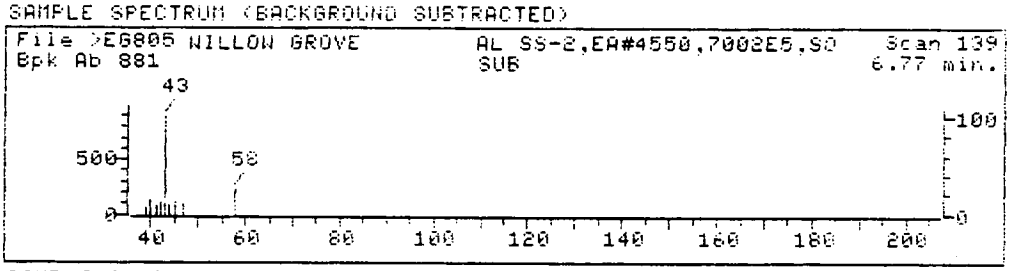
Data File: >EG805::W3 Quant Output File: ^EG805::QT
Name: WILLOW GROVE
Misc: AL SS-2,EA#4550,7002E5,SOIL,5GM
Quant Time: 891002 15:09 Quant ID File: EVDAS::BD
Injected at: 891002 14:28 Last Calibration: 891002 11:57

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 122
Retention Time: 6.11 min.
Quant Ion: 84.0
Area: 14463
Concentration: 27.15 UG/KG
Q-value: 95

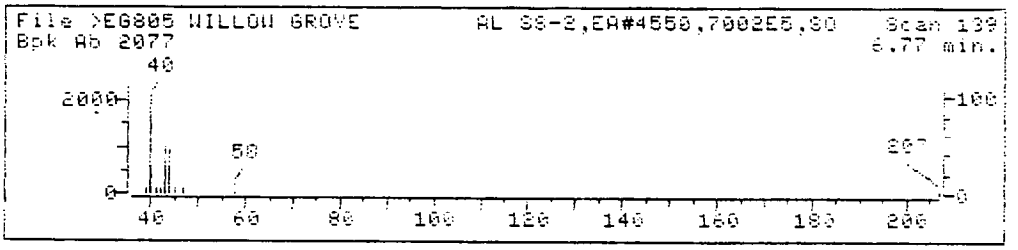
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG805::W3 Quant Output File: ^EG805::QT'
Name: WILLOW GROVE
Misc: AL SS-2,EA#4550,7002E5,SOIL,5GM
Quant Time: 891002 15:09 Quant ID File: EVOAS::SO
Injected at: 891002 14:28 Last Calibration: 891002 11:57

Compound No: 7
Compound Name: Acetone
Scan Number: 137
Retention time: 6.77 min.
Quant Ion: 43.0
Area: 9703
Concentration: 36.47 UG/KG
q-value: 99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALSS-3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4551

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG806

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	17.	
67-64-1	Acetone	20.	
75-15-0	Carbon Disulfide	7.	U
75-35-4	1,1-Dichloroethene	7.	U
75-34-3	1,1-Dichloroethane	7.	U
540-59-0	1,2-Dichloroethene (total)	7.	U
67-66-3	Chloroform	7.	U
107-06-2	1,2-Dichloroethane	7.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	7.	U
56-23-5	Carbon Tetrachloride	7.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	7.	U
78-87-5	1,2-Dichloropropane	7.	U
10061-01-5	cis-1,3-Dichloropropene	7.	U
79-01-6	Trichloroethene	7.	U
124-48-1	Dibromochloromethane	7.	U
79-00-5	1,1,2-Trichloroethane	7.	U
71-43-2	Benzene	7.	U
10061-02-6	trans-1,3-Dichloropropene	7.	U
75-25-2	Bromoform	7.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	7.	U
79-34-5	1,1,2,2-Tetrachloroethane	7.	U
108-88-3	Toluene	7.	U
108-90-7	Chlorobenzene	7.	U
100-41-4	Ethylbenzene	7.	U
100-42-5	Styrene	7.	U
1330-20-7	Xylene (total)	7.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALSS-3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4551

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG806

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None detected			
2.				
3.				
4.				
5.				
6.				
7.				
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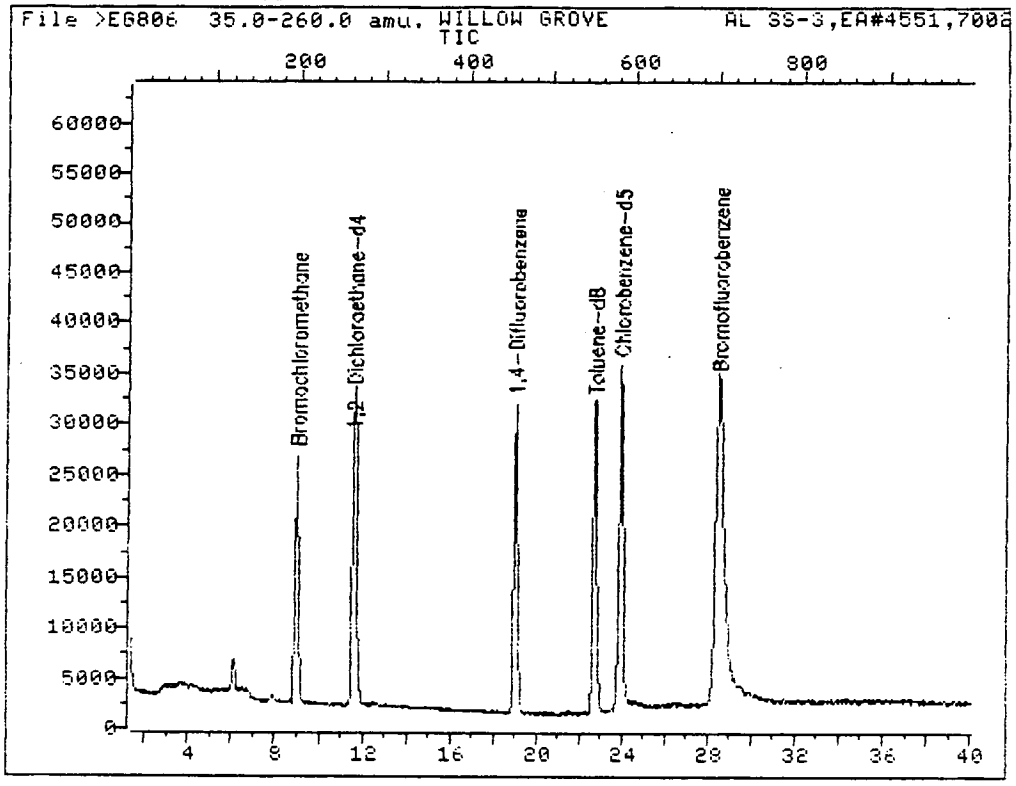
30.				

FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG806::W3 Quant Output File: ^EG806::QT
Name: WILLOW GROVE
Misc: AL SS-3,EA#4551,7002E5,SOIL,5GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

Operator ID: CARL
Quant Time: 891002 15:54
Injected at: 891002 15:13

QUANT REPORT

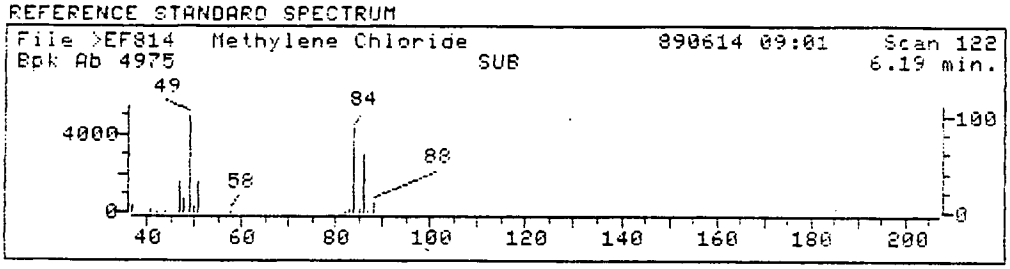
Operator ID: CARL Quant Rev: 6 Quant Time: 891002 15:54
Output File: ^EG806::QT Injected at: 891002 15:13
Data File: >EG806::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: AL SS-3,EA#4551,7002E5,SOIL,5GM

ID File: EVDAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

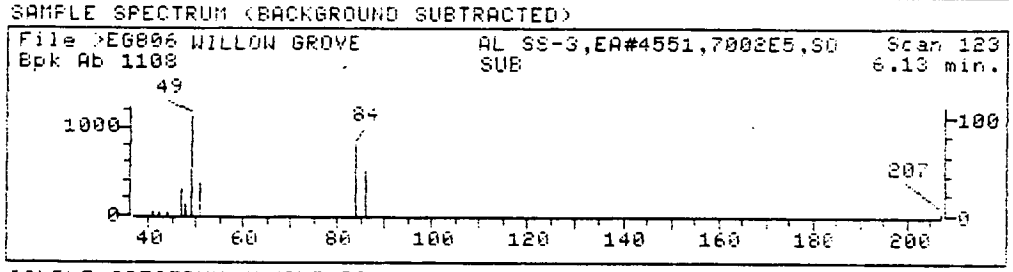
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	35855	50.00	UG/KG	84
6)	Methylene Chloride	6.13	84.0	8056	12.98	UG/KG	94
7)	Acetone	6.79	43.0	4861	15.64	UG/KG	95
13)	1,2-Dichloroethane-d4	11.59	65.0	79036	53.98	UG/KG	88
15)	*1,4-Difluorobenzene	19.03	114.0	138552	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.96	117.0	124693	50.00	UG/KG	97
35)	Toluene-d8	22.71	98.0	142964	53.10	UG/KG	99
40)	Bromofluorobenzene	28.49	95.0	117812	48.59	UG/KG	86

* Compound is ISTD

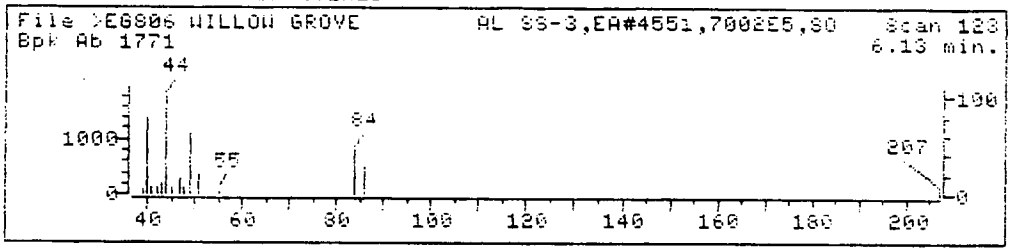
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



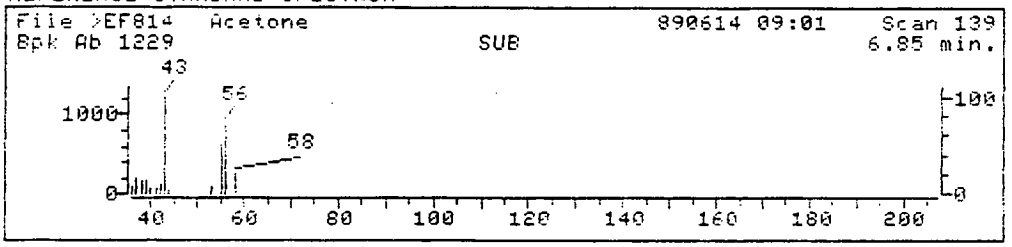
SAMPLE SPECTRUM (UNALTERED)



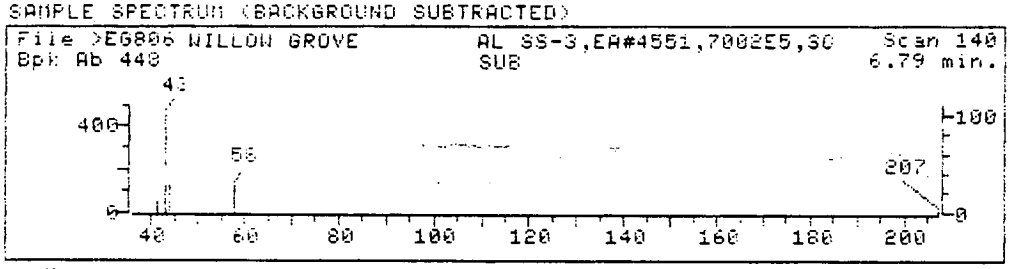
Data File: >EG806::W3 Quant Output File: ^EG806::QT
Name: WILLOW GROVE
Misc: AL SS-3,EA#4551,7002E5,SOIL,5GM
Quant Time: 891002 15:54 Quant ID File: EVOAS::BD
Injected at: 891002 15:13 Last Calibration: 891002 11:57

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 123
Retention Time: 6.13 min.
Quant Ion: 84.0
Area: 3056
Concentration: 12.98 UG/KG
q-value: 94

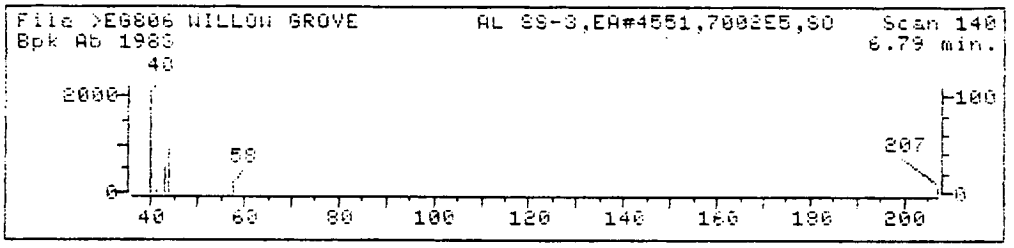
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG806::W3 Quant Output File: ^EG806::QT
Name: WILLOW GROVE
Misc: AL SS-3,EA#4551,7002E5,SOIL,5GM
Quant Time: 891002 15:54 Quant ID File: EVDAS::BD
Injected at: 891002 15:13 Last Calibration: 891002 11:57

Compound No: 7
Compound Name: Acetone
Scan Number: 140
Retention Time: 6.79 min.
Quant Ion: 43.0
Area: 4361
Concentration: 15.64 UG/KG
q-value: 95

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALSS-4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4552

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG807

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 47. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	19.	U
74-83-9	Bromomethane	19.	U
75-01-4	Vinyl Chloride	19.	U
75-00-3	Chloroethane	19.	U
75-09-2	Methylene Chloride	41.	
67-64-1	Acetone	23.	
75-15-0	Carbon Disulfide	9.	U
75-35-4	1,1-Dichloroethene	9.	U
75-34-3	1,1-Dichloroethane	9.	U
540-59-0	1,2-Dichloroethene (total)	9.	U
67-66-3	Chloroform	9.	U
107-06-2	1,2-Dichloroethane	9.	U
78-93-3	2-Butanone	19.	U
71-55-6	1,1,1-Trichloroethane	9.	U
56-23-5	Carbon Tetrachloride	9.	U
108-05-4	Vinyl Acetate	19.	U
75-27-4	Bromodichloromethane	9.	U
78-87-5	1,2-Dichloropropane	9.	U
10061-01-5	cis-1,3-Dichloropropene	9.	U
79-01-6	Trichloroethene	9.	U
124-48-1	Dibromochloromethane	9.	U
79-00-5	1,1,2-Trichloroethane	9.	U
71-43-2	Benzene	9.	U
10061-02-6	trans-1,3-Dichloropropene	9.	U
75-25-2	Bromoform	9.	U
108-10-1	4-Methyl-2-Pentanone	19.	U
591-78-6	2-Hexanone	19.	U
127-18-4	Tetrachloroethene	9.	U
79-34-5	1,1,2,2-Tetrachloroethane	9.	U
108-88-3	Toluene	9.	U
108-90-7	Chlorobenzene	9.	U
100-41-4	Ethylbenzene	9.	U
100-42-5	Styrene	9.	U
1330-20-7	Xylene (total)	9.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALSS-4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4552

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG807

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 47. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None detected			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
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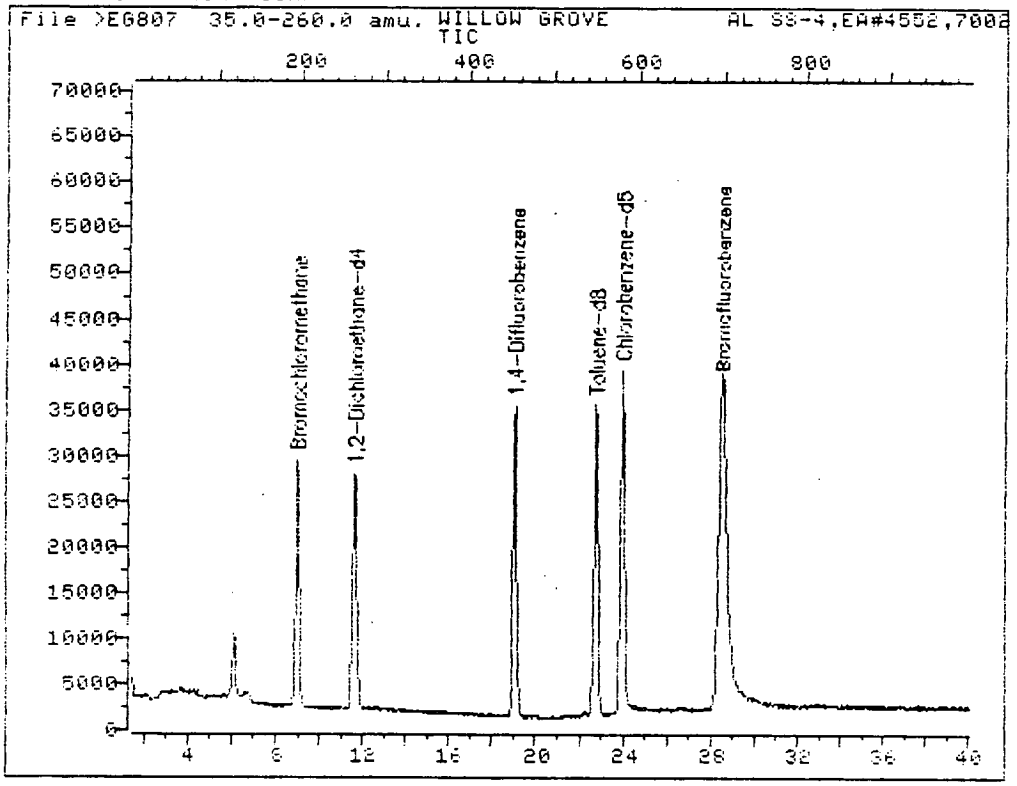
29.				
30.				

FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG807::W3 Quant Output File: ^EG807::QT
Name: WILLOW GROVE
Misc: AL SS-4,EA#4552,7002E5,SOIL,5GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

Operator ID: CARL
Quant Time: 891002 16:57
Injected at: 891002 15:59

QUANT REPORT

Operator ID: CARL
Output File: ^EG807::QT
Data File: >EG807::W3
Name: WILLOW GROVE
Misc: AL SS-4,EA#4552,7002E5,SOIL,5GM

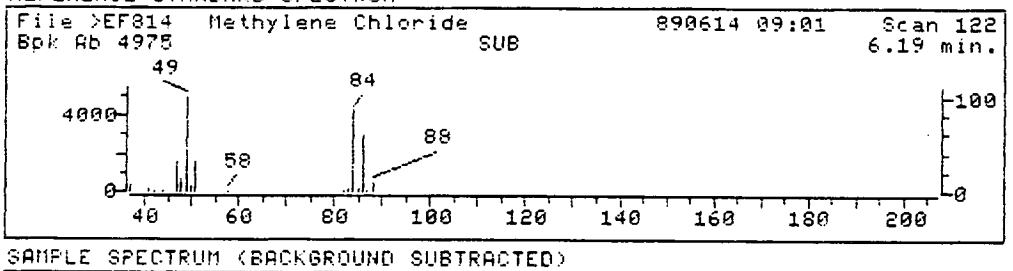
Quant Rev: 6
Quant Time: 891002 16:57
Injected at: 891002 15:59
Dilution Factor: 1.00000

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

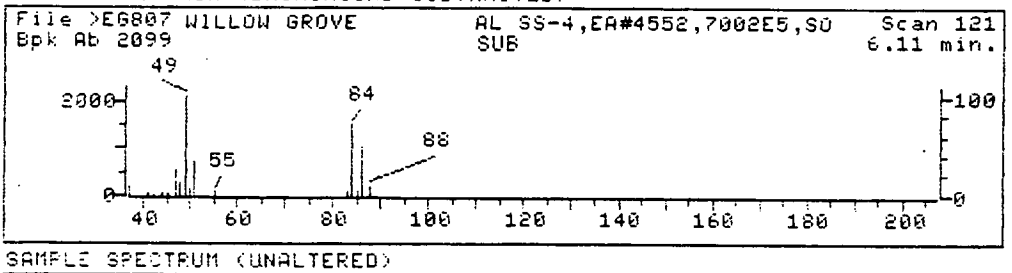
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.98	128.0	39348	50.00	UG/KG	84
6)	Methylene Chloride	6.11	84.0	14981	22.00	UG/KG	96
7)	Acetone	6.77	43.0	4111	12.06	UG/KG	93
13)	1,2-Dichloroethane-d4	11.62	65.0	84839	52.80	UG/KG	88
15)	*1,4-Difluorobenzene	19.06	114.0	154665	50.00	UG/KG	91
29)	*Chlorobenzene-d5	23.94	117.0	140859	50.00	UG/KG	94
35)	Toluene-d8	22.74	98.0	157768	51.88	UG/KG	98
40)	Bromofluorobenzene	28.47	95.0	135354	49.42	UG/KG	87

* Compound is ISTD

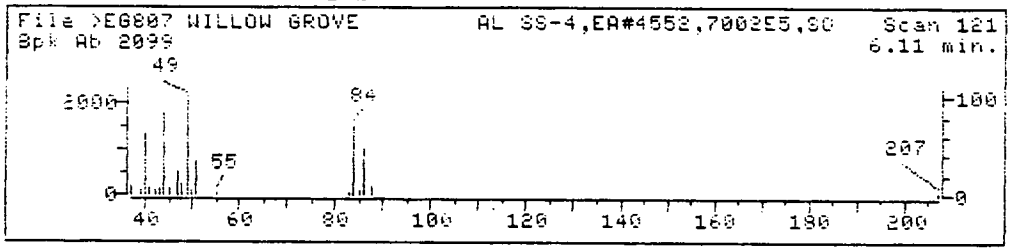
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



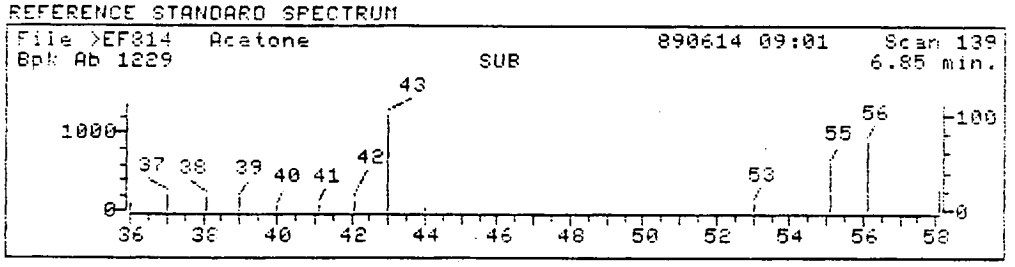
SAMPLE SPECTRUM (UNALTERED)



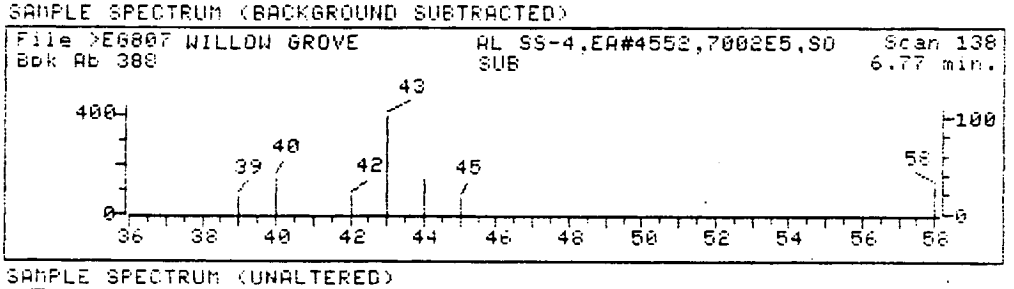
Data File: >EG807::W3 Quant Output File: ^EG807::QT
Name: WILLOW GROVE
Misc: AL SS-4,EA#4552,7002E5,SOIL,5GM
Quant Time: 891002 16:57 Quant ID File: EVOAS::BD
Injected at: 891002 15:59 Last Calibration: 891002 11:57

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 121
Retention Time: 6.11 min.
Quant Ion: 84.0
Area: 14981
Concentration: 22.00 UG/KG
q-value: 96

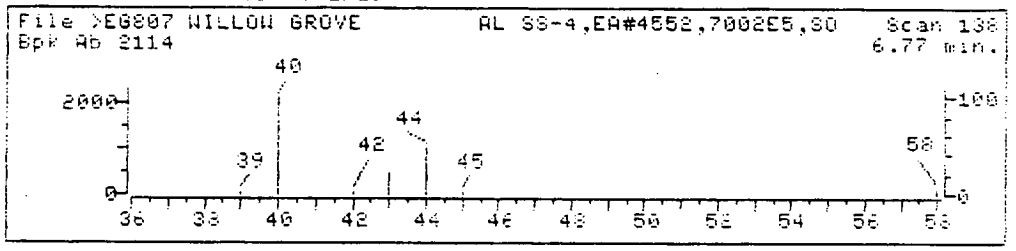
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG807::W3 Quant Output File: ^EG807::QT
Name: WILLOW GROVE
Misc: AL SS-4,EA#4552,7002E5,SOIL,5GM
Quant Time: 891002 16:57 Quant ID File: EVOAS::BD
Injected at: 891002 15:59 Last Calibration: 891002 11:57

Compound No: 7
Compound Name: Acetone
Scan Number: 138
Retention Time: 6.77 min.
Quant Ion: 43.0
Area: 4111
Concentration: 12.06 UG/KG
q-value: 93

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9NSLSS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: RSB 11/6/89 SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4553

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG811

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	64.	
67-64-1	Acetone	70.	
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

9NSLSS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4553

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG811

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
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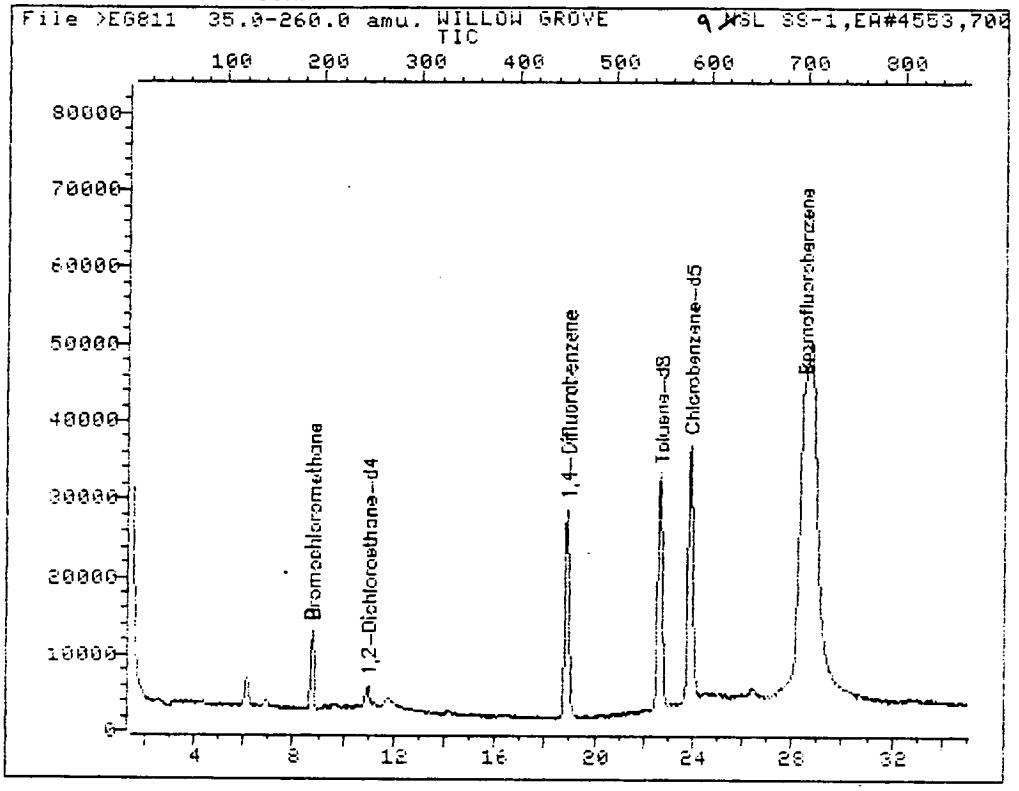
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG811::W3 Quant Output File: ^EG811::QT
Name: WILLOW GROVE
Misc: 9 WSL SS-1,EA#4553,7002E5,SOIL,5GM
RSB
Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891003 12:15
Injected at: 891003 11:39

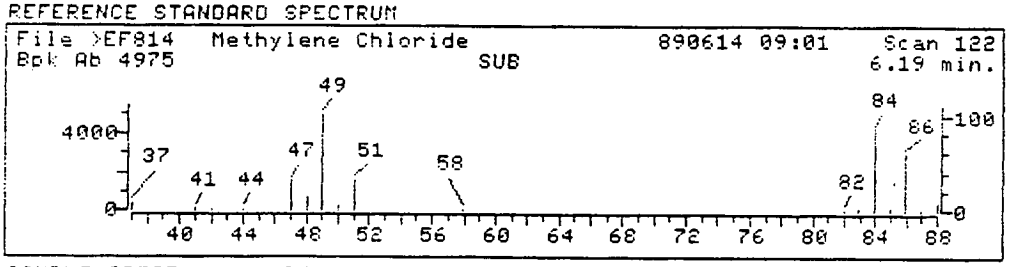
QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 891003 12:15
Output File: ^EG811::QT Injected at: 891003 11:39
Data File: >EG811::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: ~~RSL~~ RSB SS-1,EA#4553,7002E5,SOIL,5GM
ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

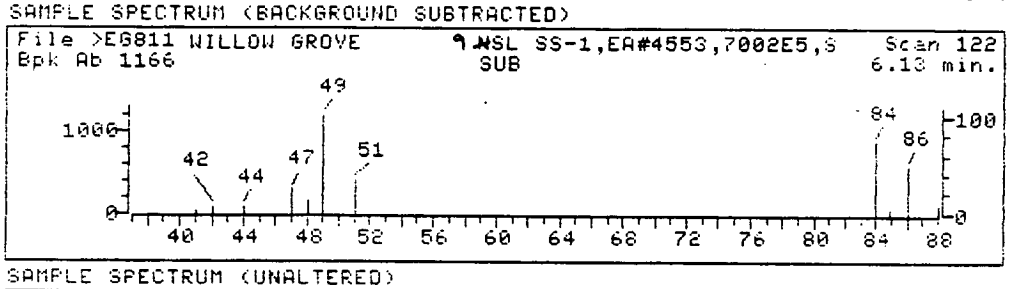
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.76	128.0	12170	50.00	UG/KG	91
6)	Methylene Chloride	6.13	84.0	9218	49.04	UG/KG	99
7)	Acetone	6.94	43.0	6435	54.33	UG/KG	97
13)	1,2-Dichloroethane-d4	11.01	65.0	8564	17.30	UG/KG	84
15)	*1,4-Difluorobenzene	18.88	114.0	124316	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.91	117.0	123748	50.00	UG/KG	95
35)	Toluene-d8	22.67	98.0	138129	51.14	UG/KG	98
40)	Bromofluorobenzene	28.45	95.0	124886	51.51	UG/KG	83

* Compound is ISTD

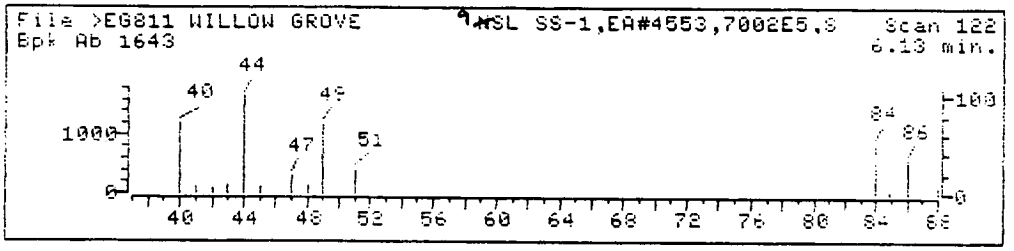
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



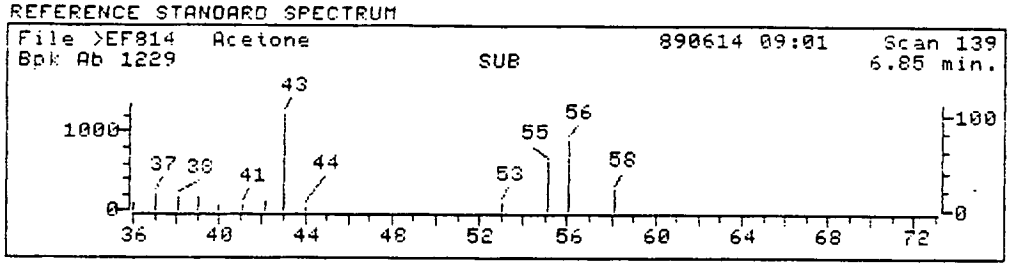
SAMPLE SPECTRUM (UNALTERED)



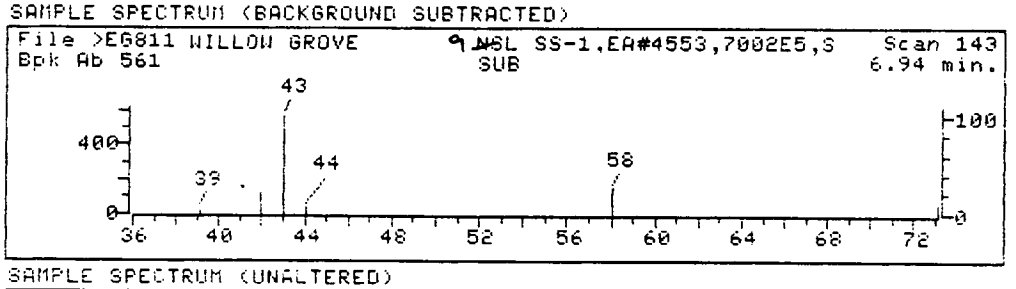
Data File: >EG811::W3 Quant Output File: ^EG811::QT
Name: WILLOW GROVE
Misc: 9WSL SS-1,EA#4553,7002E5,SOIL,5GM
Quant Time: 891003 12:15 Quant ID File: EVOAS::BD
Injected at: 891003 11:39 Last Calibration: 891003 10:40

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 122
Retention Time: 6.13 min.
Quant Ion: 84.0
Area: 9218
Concentration: 49.04 UG/KG
q-value: 99

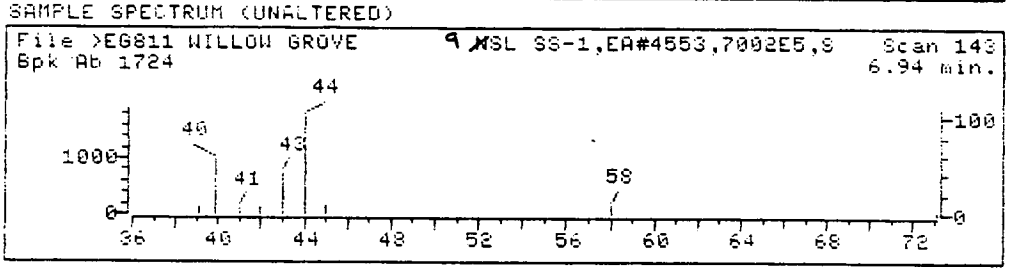
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG811::W3 Quant Output File: ^EG811::QT
Name: WILLOW GROVE
Misc: 9 MSL SS-1,EA#4553,7002E5,SOIL,5GM
Quant Time: 891003 12:15 Quant ID File: EVOAS::BD
Injected at: 891003 11:39 Last Calibration: 891003 10:40

Compound No: 7
Compound Name: Acetone
Scan Number: 143
Retention Time: 6.94 min.
Quant Ion: 43.0
Area: 6435
Concentration: 54.33 UG/KG
q-value: 97

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9NSLSS-1 RE

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4553

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG814

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	100.	
67-64-1	Acetone	88.	
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

9MSLSS-1 RE

Lab Name: EAENG Contract: 10388.05 RSB 11/6/89

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA # 4553

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG814

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. - -	UNKNOWN	9.87	40.	J
2.				
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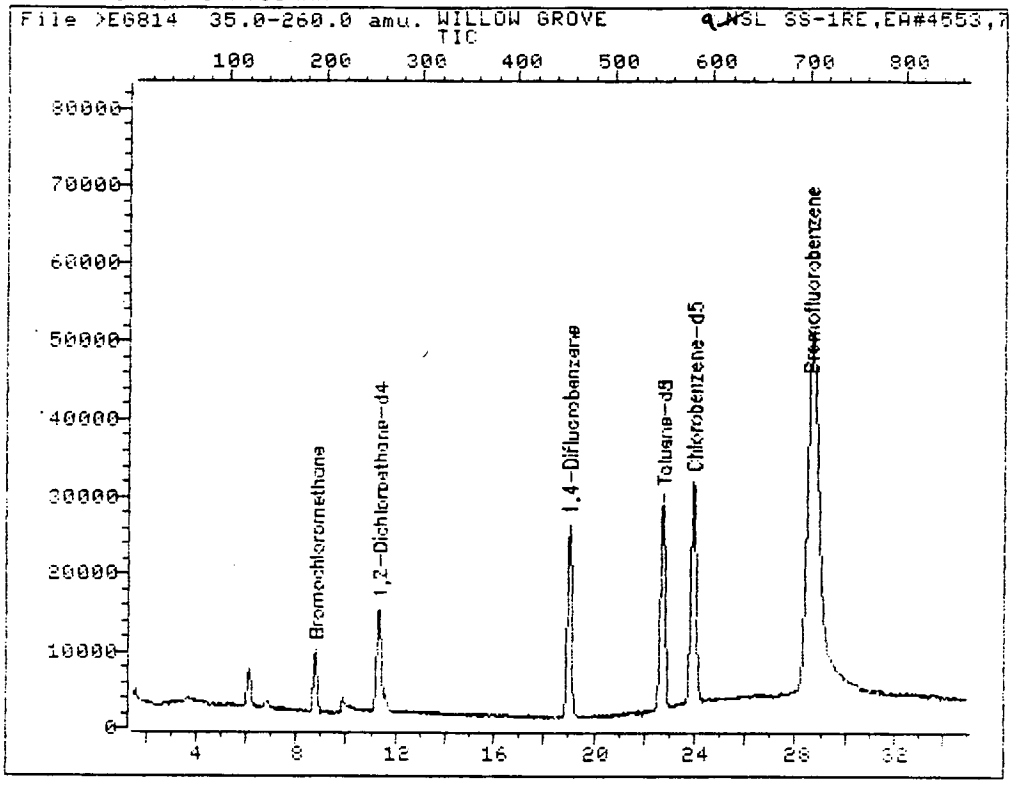
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG814::W3 Quant Output File: ^EG814::QT
Name: WILLOW GROVE
Misc: 9 WSL SS-1RE,EA#4553,7002E5,SOIL,5GM
RSD 11/6/89
Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891003 14:58
Injected at: 891003 13:42

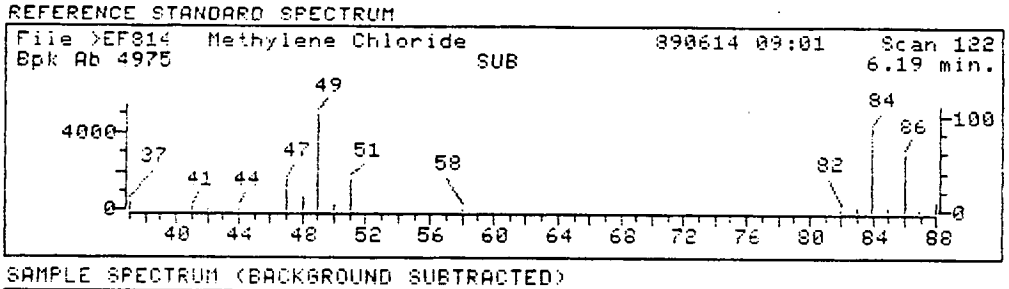
QUANT REPORT

Operator ID: CARL Quant R v: 6 Quant Time: 891003 14:58
Output File: ^EG814::QT Injected at: 891003 13:42
Data File: >EG814::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: ~~WSL~~ RSD SS-1RE,EA#4553,7002E5,SOIL,5GM
ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

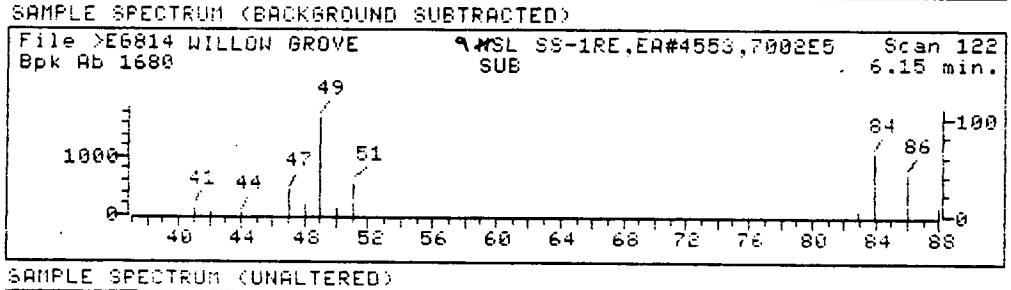
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.78	128.0	9000	50.00	UG/KG	83
6)	Methylene Chloride	6.15	84.0	10814	77.80	UG/KG	87
7)	Acetone	6.84	43.0	5957	68.01	UG/KG	92
13)	1,2-Dichloroethane-d4	11.34	65.0	62046	169.53	UG/KG	89
15)	*1,4-Difluorobenzene	19.01	114.0	110823	50.00	UG/KG	92
29)	*Chlorobenzene-d5	23.94	117.0	106370	50.00	UG/KG	99
35)	Toluene-d8	22.73	98.0	123576	53.22	UG/KG	98
40)	Bromofluorobenzene	28.55	95.0	108247	51.94	UG/KG	83

* Compound is ISTD

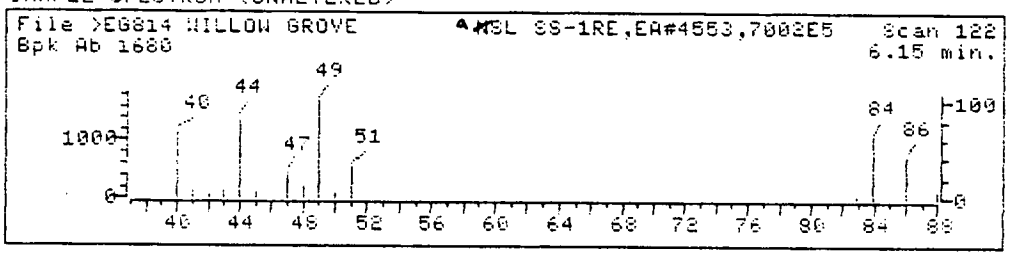
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



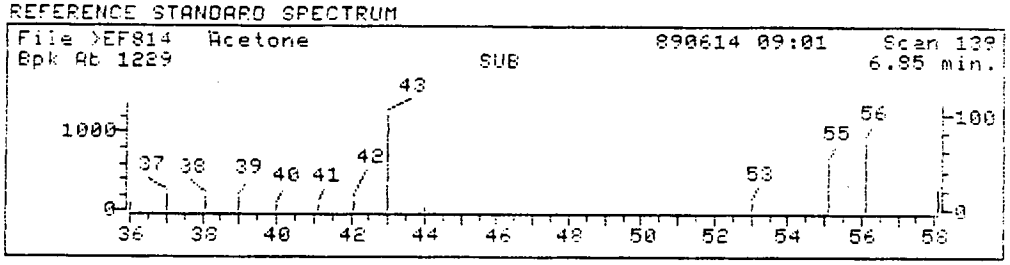
SAMPLE SPECTRUM (UNALTERED)



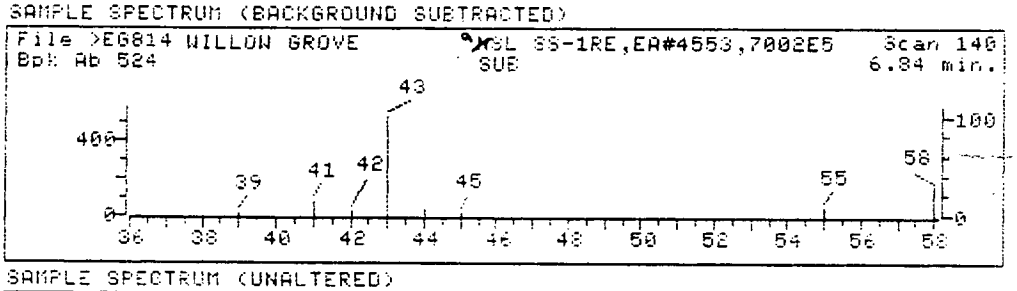
Data File: >EG814::W3 Quant Output File: ^EG814::QT
Name: WILLOW GROVE
Misc: MSL SS-1RE,EA#4553,7002E5,SOIL,5GM
Quant Time: 891003 14:58 Quant ID File: EVOAS::BD
Injected at: 891003 13:42 Last Calibration: 891003 10:40

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 122
Retention Time: 6.15 min.
Quant Ion: 84.0
Area: 10814
Concentration: 77.80 UG/KG
q-value: 87

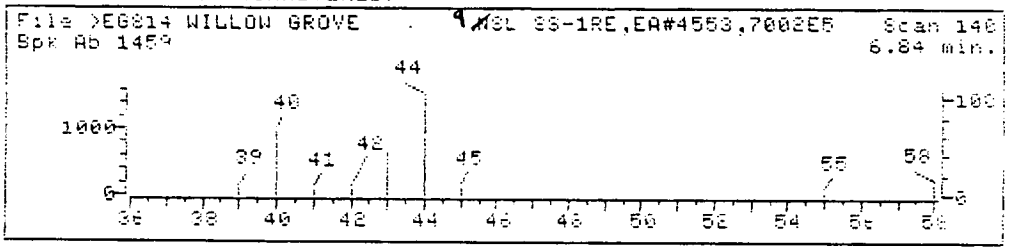
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

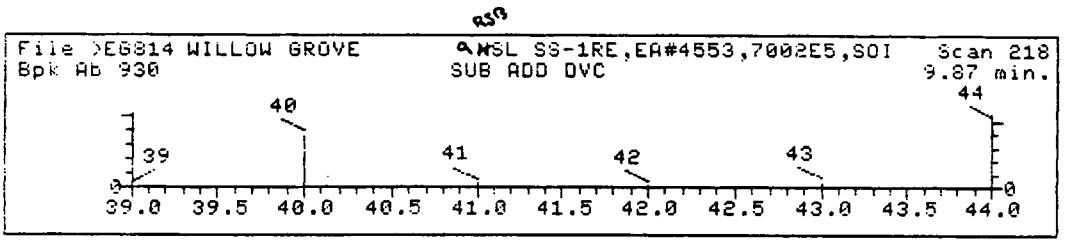


SAMPLE SPECTRUM (UNALTERED)



Data File: >EG814::W3 Quant Output File: >EG814::OT
Name: WILLOW GROVE
Misc: MSL SS-1RE,EA#4553,7002E5,SOIL,5GM
Quant Time: 891003 14:58 Quant ID File: EVOAS::BD
Injected at: 891003 13:42 Last Calibration: 891003 10:40

Compound No: 7
Compound Name: Acetone
Scan Number: 140
Retention Time: 6.84 min.
Quant Ion: 43.0
Area: 5957
Concentration: 68.01 UG/KG
q-value: 92



Retention time = 9.87 UNKNOWN

Area = 45603.00 Tentative Concentration is 30.00

Sample file: >EG814 Spectrum #: 218

No data base entries were retrieved.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9NSLSS-2

Lab Name: EAENG Contract: 10388.05

RSB 11/6/89

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA#4554

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG812

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 27. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14.	U
74-83-9	Bromomethane	14.	U
75-01-4	Vinyl Chloride	14.	U
75-00-3	Chloroethane	14.	U
75-09-2	Methylene Chloride	56.	
67-64-1	Acetone	32.	
75-15-0	Carbon Disulfide	7.	U
75-35-4	1,1-Dichloroethene	7.	U
75-34-3	1,1-Dichloroethane	7.	U
540-59-0	1,2-Dichloroethene (total)	7.	U
67-66-3	Chloroform	7.	U
107-06-2	1,2-Dichloroethane	7.	U
78-93-3	2-Butanone	14.	U
71-55-6	1,1,1-Trichloroethane	7.	U
56-23-5	Carbon Tetrachloride	7.	U
108-05-4	Vinyl Acetate	14.	U
75-27-4	Bromodichloromethane	7.	U
78-87-5	1,2-Dichloropropane	7.	U
10061-01-5	cis-1,3-Dichloropropene	7.	U
79-01-6	Trichloroethene	7.	U
124-48-1	Dibromochloromethane	7.	U
79-00-5	1,1,2-Trichloroethane	7.	U
71-43-2	Benzene	7.	U
10061-02-6	trans-1,3-Dichloropropene	7.	U
75-25-2	Bromoform	7.	U
108-10-1	4-Methyl-2-Pentanone	14.	U
591-78-6	2-Hexanone	14.	U
127-18-4	Tetrachloroethene	7.	U
79-34-5	1,1,2,2-Tetrachloroethane	7.	U
108-88-3	Toluene	7.	U
108-90-7	Chlorobenzene	7.	U
100-41-4	Ethylbenzene	7.	U
100-42-5	Styrene	7.	U
1330-20-7	Xylene (total)	7.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NSLSS-2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4554

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG812

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 27. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
4.				
5.				
6.				
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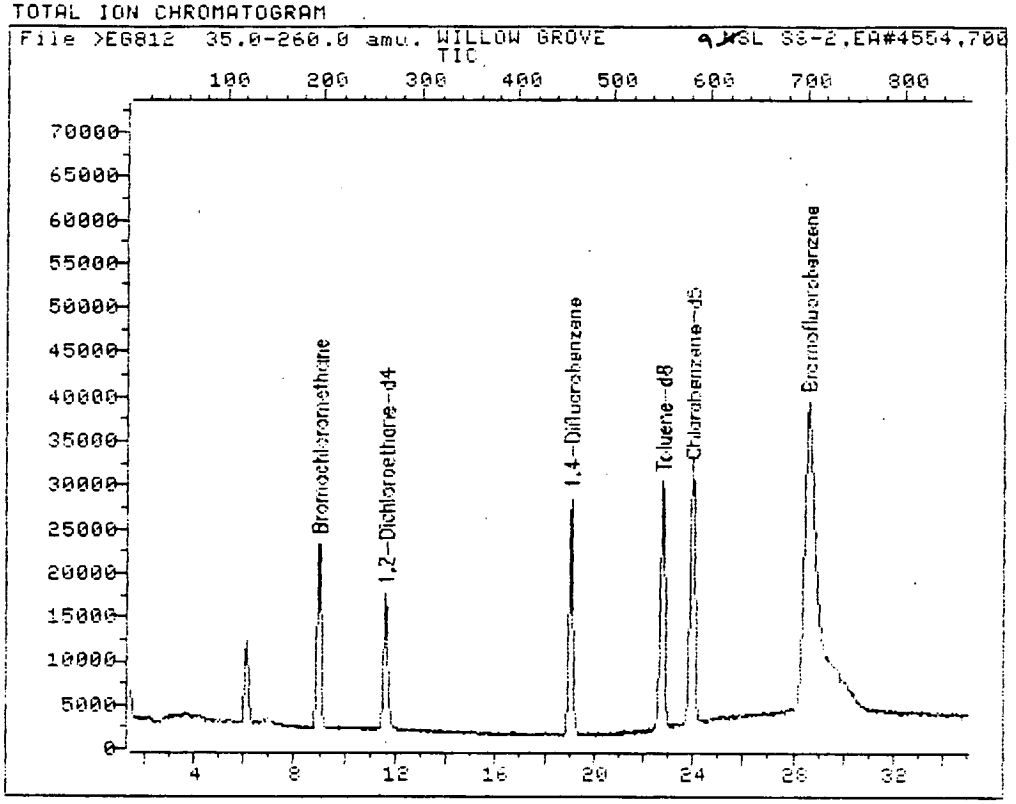
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG812::W3 Quant Output File: ^EG812::QT
Name: WILLOW GROVE
Misc: 9WSL SS-2,EA#4554,7002E5,SOIL,5GM
RSB
Id File: EVDAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891003 12:58
Injected at: 891003 12:23

QUANT REPORT

Operator ID: CARL
Output File: ^EG812::QT
Data File: >EG812::W3
Name: WILLOW GROVE
Misc: MSL SS-2,EA#4554,7002E5,SOIL,5GM

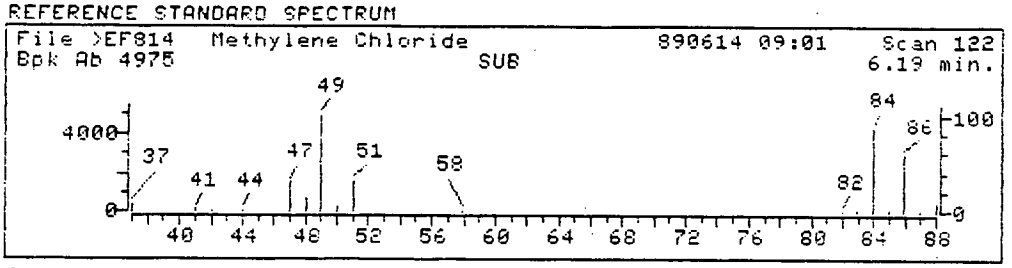
Quant Rev: 6
Quant Time: 891003 12:56
Injected at: 891003 12:20
Dilution Factor: 1.00000

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

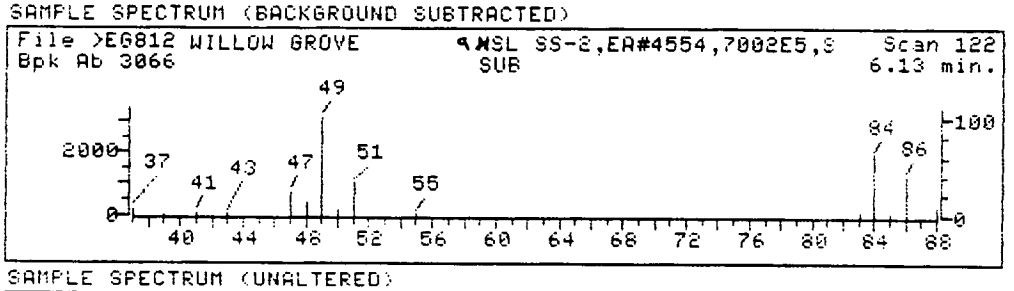
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.96	128.0	30320	50.00	UG/KG	78
6)	Methylene Chloride	6.13	84.0	19252	41.11	UG/KG	86
7)	Acetone	6.87	43.0	6872	23.29	UG/KG	87
13)	1,2-Dichloroethane-d4	11.60	65.0	64688	52.46	UG/KG	89
15)	*1,4-Difluorobenzene	19.08	114.0	120758	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.96	117.0	111428	50.00	UG/KG	97
35)	Toluene-d8	22.76	98.0	128764	52.94	UG/KG	99
40)	Bromofluorobenzene	28.57	95.0	110688	50.70	UG/KG	87

* Compound is ISTD

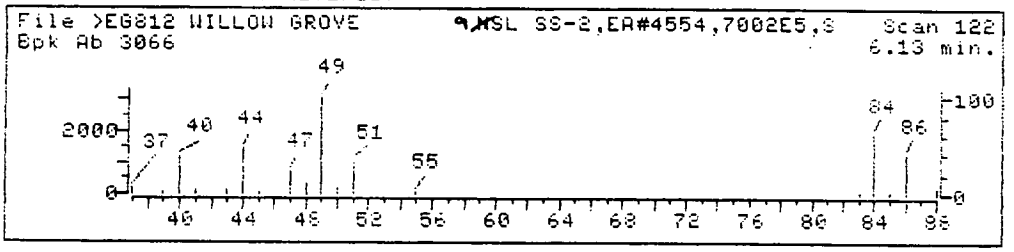
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



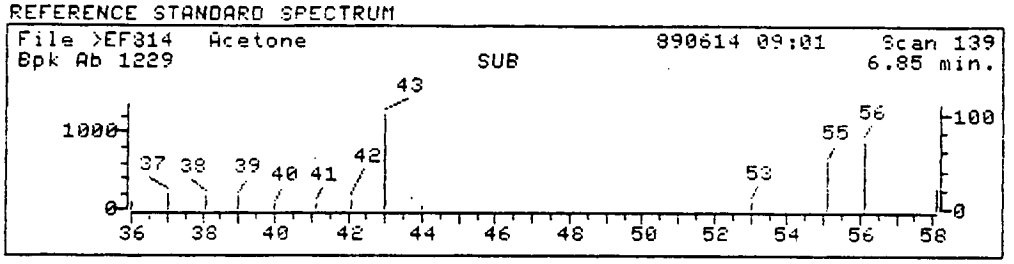
SAMPLE SPECTRUM (UNALTERED)



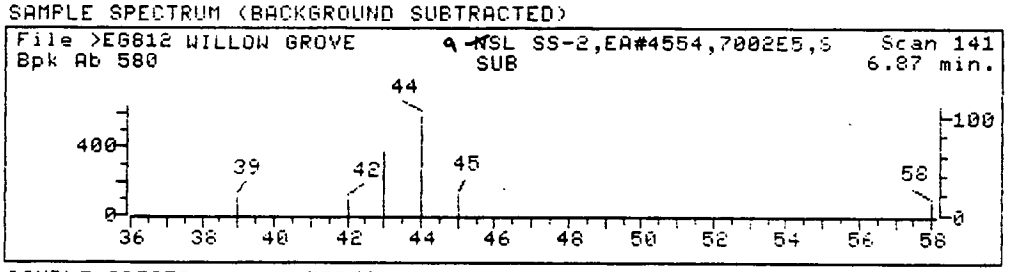
Data File: >EG812::W3 Quant Output File: ^EG812::QT
Name: WILLOW GROVE
Misc: ~~N~~SL SS-2,EA#4554,7002E5,SOIL,5GM
Quant Time: 891003 12:56 Quant ID File: EVOAS::BD
Injected at: 891003 12:20 Last Calibration: 891003 10:40

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 122
Retention Time: 6.13 min.
Quant Ion: 84.0
Area: 19252
Concentration: 41.11 UG/KG
q-value: 86

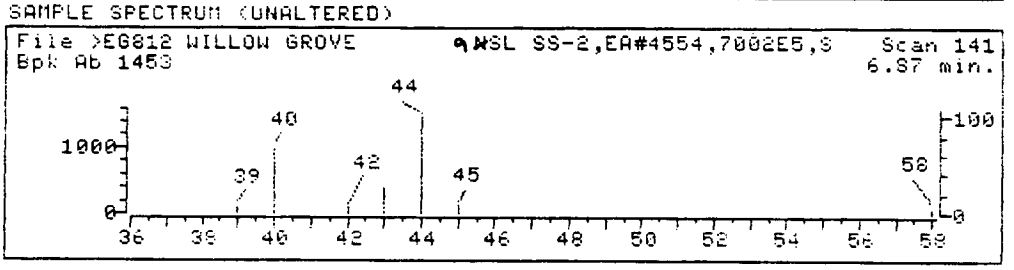
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG812::W3 Quant Output File: ^EG812::QT
Name: WILLOW GROVE
Misc: q MSL SS-2,EA#4554,7002E5,SOIL,5GM
Quant Time: 891003 12:56 Quant ID File: EVOAS::BD
Injected at: 891003 12:20 Last Calibration: 891003 10:40

Compound No: 7
Compound Name: Acetone
Scan Number: 141
Retention Time: 6.87 min.
Quant Ion: 43.0
Area: 6872
Concentration: 23.29 UG/KG
q-value: 87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NSLSS-3

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA#4555

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG813

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 41. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	17.	U
74-83-9	Bromomethane	17.	U
75-01-4	Vinyl Chloride	17.	U
75-00-3	Chloroethane	17.	U
75-09-2	Methylene Chloride	39.	
67-64-1	Acetone	39.	
75-15-0	Carbon Disulfide	9.	U
75-35-4	1,1-Dichloroethene	9.	U
75-34-3	1,1-Dichloroethane	9.	U
540-59-0	1,2-Dichloroethene (total)	9.	U
67-66-3	Chloroform	9.	U
107-06-2	1,2-Dichloroethane	9.	U
78-93-3	2-Butanone	17.	U
71-55-6	1,1,1-Trichloroethane	9.	U
56-23-5	Carbon Tetrachloride	9.	U
108-05-4	Vinyl Acetate	17.	U
75-27-4	Bromodichloromethane	9.	U
78-87-5	1,2-Dichloropropane	9.	U
10061-01-5	cis-1,3-Dichloropropene	9.	U
79-01-6	Trichloroethene	9.	U
124-48-1	Dibromochloromethane	9.	U
79-00-5	1,1,2-Trichloroethane	9.	U
71-43-2	Benzene	9.	U
10061-02-6	trans-1,3-Dichloropropene	9.	U
75-25-2	Bromoform	9.	U
108-10-1	4-Methyl-2-Pentanone	17.	U
591-78-6	2-Hexanone	17.	U
127-18-4	Tetrachloroethene	9.	U
79-34-5	1,1,2,2-Tetrachloroethane	9.	U
108-88-3	Toluene	9.	U
108-90-7	Chlorobenzene	9.	U
100-41-4	Ethylbenzene	9.	U
100-42-5	Styrene	9.	U
1330-20-7	Xylene (total)	9.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

9NSLSS-3
RSG

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA#4555

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG813

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 41. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Detected			
2.				
3.				
4.				
5.				
6.				
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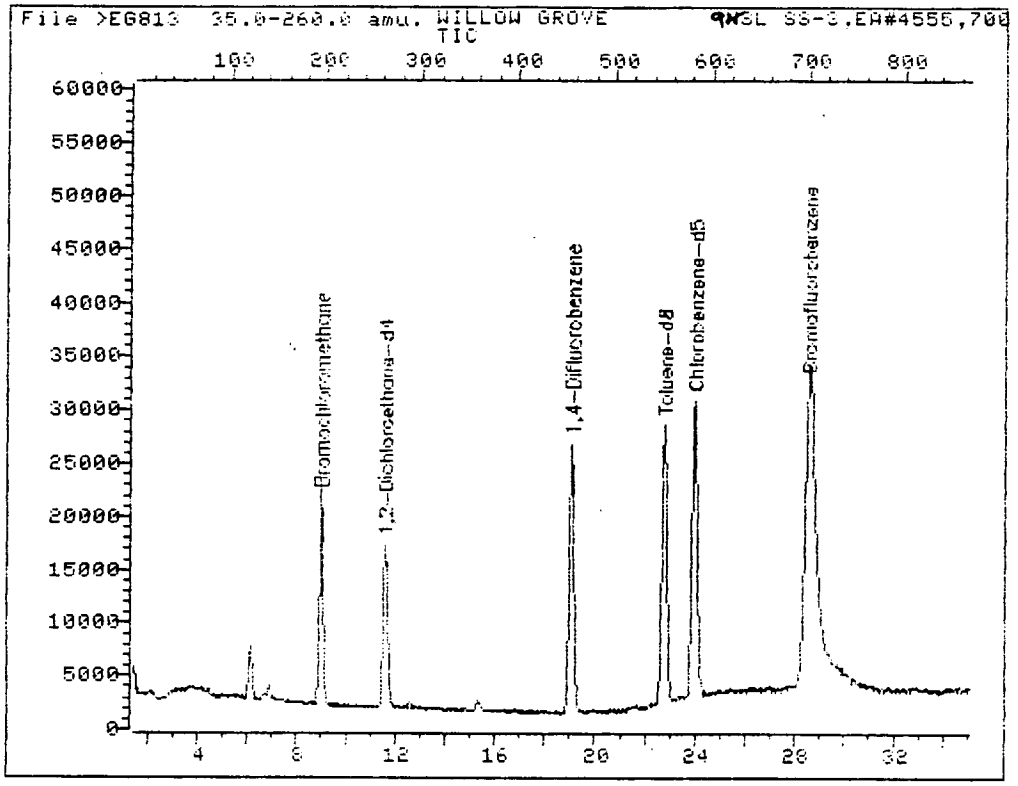
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG813::W3 Quant Output File: ^EG813::QT
Name: WILLOW GROVE
Misc: 9~~W~~SL SS-3,EA#4555,7002E5,SOIL,5GM
RSB

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891003 13:36
Injected at: 891003 13:00

QUANT REPORT

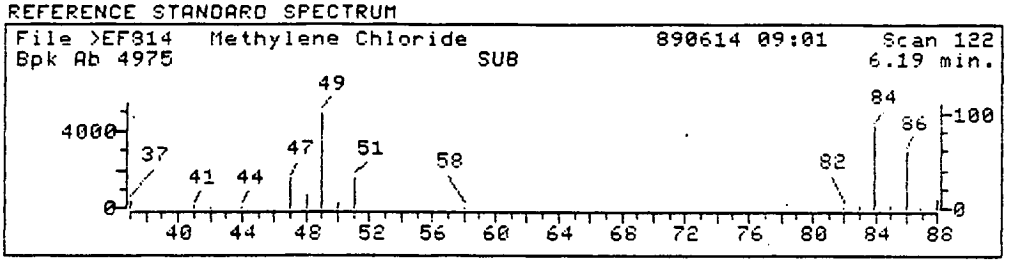
Operator ID: CARL Quant Rev: 6 Quant Time: 891003 13:36
Output File: ^EG813::QT Injected at: 891003 13:00
Data File: >EG813::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: ~~q~~SL SS-3,EA#4555,7002E5,SOIL,5GM

ID File: EVOAS::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

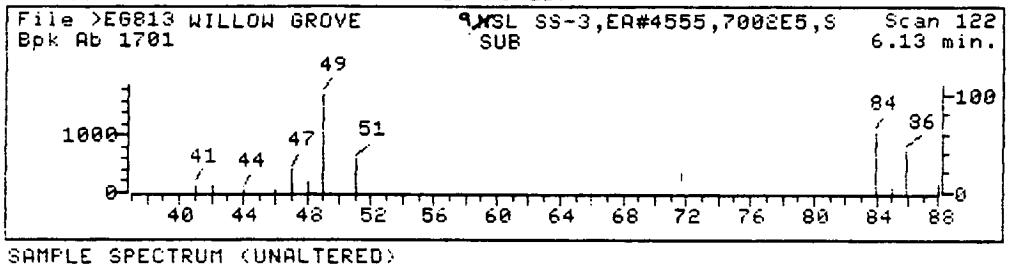
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.96	128.0	28977	50.00	UG/KG	82
6)	Methylene Chloride	6.13	84.0	10288	22.99	UG/KG	85
7)	Ac tone	6.87	43.0	6507	23.07	UG/KG	96
13)	1,2-Dichloroethane-d4	11.60	65.0	66681	56.59	UG/KG	85
15)	*1,4-Difluorobenzene	19.08	114.0	114660	50.00	UG/KG	90
29)	*Chlorobenzene-d5	24.00	117.0	103208	50.00	UG/KG	97
35)	Toluene-d8	22.76	98.0	121492	53.93	UG/KG	98
40)	Bromofluorobenzene	28.53	95.0	99457	49.18	UG/KG	86

* Compound is ISTD

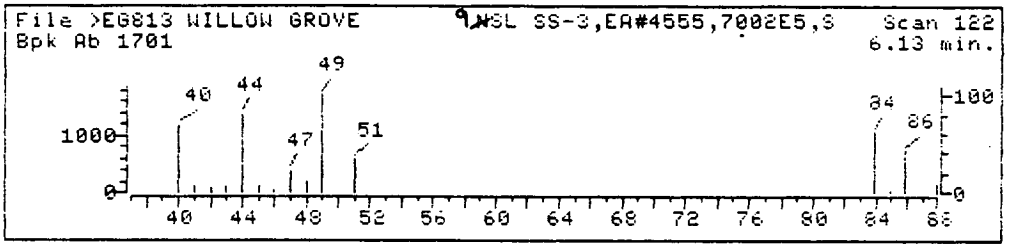
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



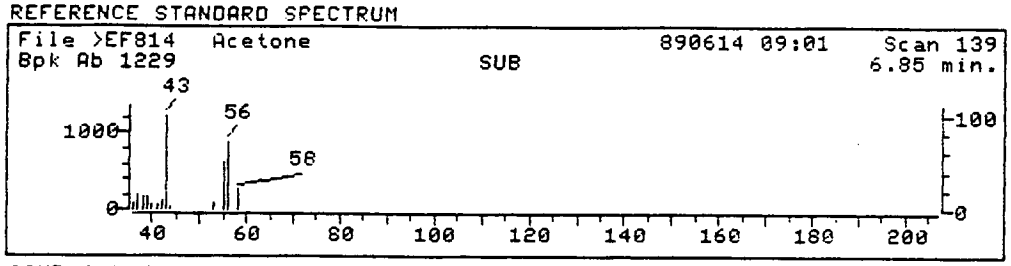
SAMPLE SPECTRUM (UNALTERED)



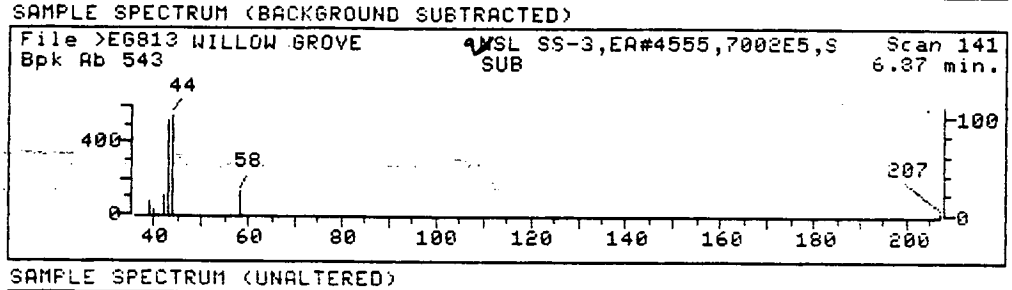
Data File: >EG813::W3 Quant Output File: ^EG813::QT
Name: WILLOW GROVE
Misc:¶WSL SS-3,EA#4555,7002E5,SOIL,5GM
Quant Time: 891003 13:36 Quant ID File: EVOAS::BD
Injected at: 891003 13:00 Last Calibration: 891003 10:40

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 122
Retention Time: 6.13 min.
Quant Ion: 84.0
Area: 10288
Concentration: 22.99 UG/KG
q-value: 85

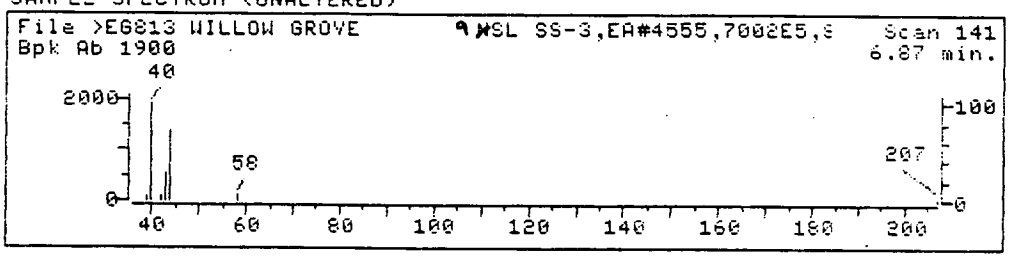
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG813::W3 Quant Output File: ^EG813::QT
Name: WILLOW GROVE
Misc: MSL SS-3,EA#4555,7002E5,SOIL,5GM
Quant Time: 891003 13:36 Quant ID File: EVOAS::BD
Injected at: 891003 13:00 Last Calibration: 891003 10:40

Compound No: 7
Compound Name: Acetone
Scan Number: 141
Retention Time: 6.87 min.
Quant Ion: 43.0
Area: 6507
Concentration: 23.07 UG/KG
q-value: 96

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9NSLSS-4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4556

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG815

Lev 1: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 26. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	25.	
67-64-1	Acetone	13.	U
75-15-0	Carbon Disulfide	7.	U
75-35-4	1,1-Dichloroethene	7.	U
75-34-3	1,1-Dichloroethane	7.	U
540-59-0	1,2-Dichloroethene (total)	7.	U
67-66-3	Chloroform	7.	U
107-06-2	1,2-Dichloroethane	7.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	7.	U
56-23-5	Carbon Tetrachloride	7.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	7.	U
78-87-5	1,2-Dichloropropane	7.	U
10061-01-5	cis-1,3-Dichloropropene	7.	U
79-01-6	Trichloroethene	7.	U
124-48-1	Dibromochloromethane	7.	U
79-00-5	1,1,2-Trichloroethane	7.	U
71-43-2	Benzene	7.	U
10061-02-6	trans-1,3-Dichloropropene	7.	U
75-25-2	Bromoform	7.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	7.	U
79-34-5	1,1,2,2-Tetrachloroethane	7.	U
108-88-3	Toluene	7.	U
108-90-7	Chlorobenzene	7.	U
100-41-4	Ethylbenzene	7.	U
100-42-5	Styrene	7.	U
1330-20-7	Xylene (total)	7.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

9 NSLSS-4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4556

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG815

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 26. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None detected			
2.				
3.				
4.				
5.				
6.				
7.				
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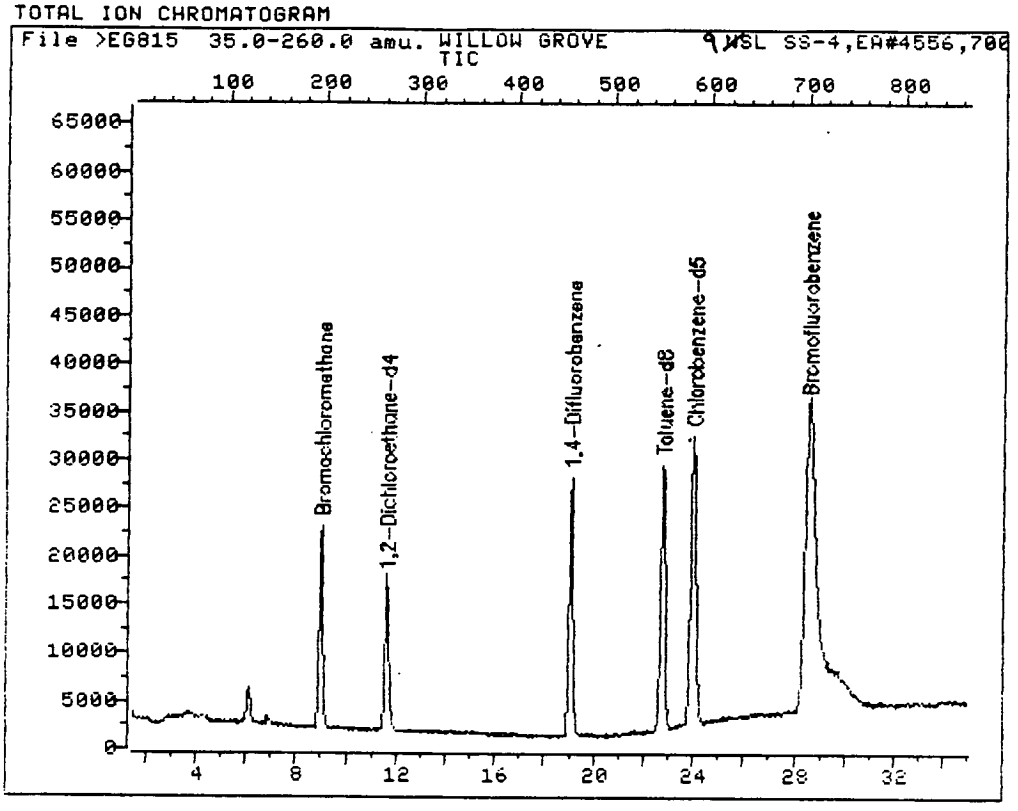
30.				

FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG815::W3 Quant Output File: ^EG815::QT
Name: WILLOW GROVE
Misc: 9WSL SS-4,EA#4556,7002E5,SOIL,5GM
RSB

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891003 15:01
Injected at: 891003 14:23

QUANT REPORT

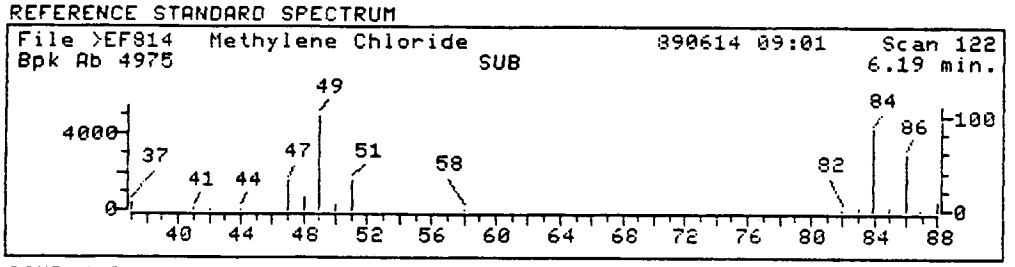
Operator ID: CARL
Output File: ^EG815::QT
Data Fil : >EG815::W3
Name: WILLOW GROVE
Misc: 9NSL SS-4,EA#4556,7002E5,SOIL,5GM
RSB
ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Quant Rev: 6
Quant Time: 891003 15:01
Injected at: 891003 14:23
Dilution Factor: 1.00000

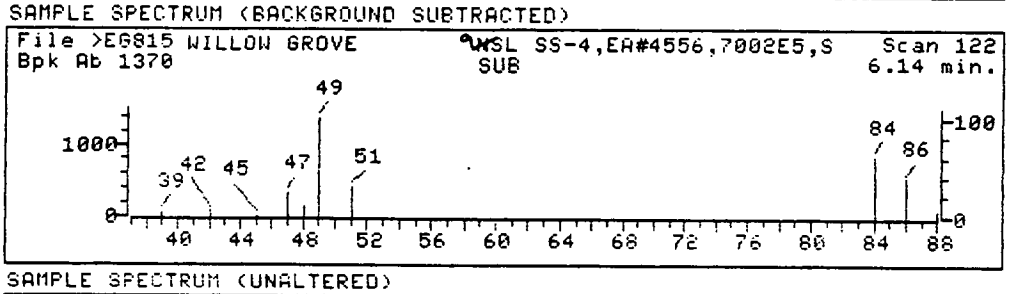
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.01	128.0	29895	50.00	UG/KG	71
6)	Methylene Chloride	6.14	84.0	8419	18.23	UG/KG	85
13)	1,2-Dichloroethane-d4	11.60	65.0	67699	55.69	UG/KG	88
15)	*1,4-Difluorobenzene	19.08	114.0	117029	50.00	UG/KG	91
29)	*Chlorobenzene-d5	24.00	117.0	110735	50.00	UG/KG	94
35)	Toluene-d8	22.76	98.0	124816	51.64	UG/KG	98
40)	Bromofluorobenzene	28.54	95.0	113137	52.15	UG/KG	84

* Compound is ISTD

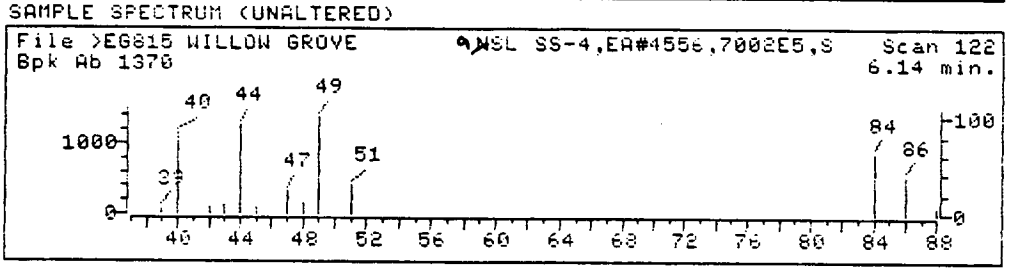
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG815::W3 Quant Output File: ^EG815::QT
Name: WILLOW GROVE
Misc: WSL SS-4,EA#4556,7002E5,SOIL,5GM
Quant Time: 891003 15:01 Quant ID File: EVOAS::BD
Injected at: 891003 14:23 Last Calibration: 891003 10:40

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 122
Retention Time: 6.14 min.
Quant Ion: 84.0
Area: 8419
Concentration: 18.23 UG/KG
q-value: 85

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

UGSS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4557

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG816

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 26. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	7.	
67-64-1	Acetone	18.	
75-15-0	Carbon Disulfide	7.	U
75-35-4	1,1-Dichloroethene	7.	U
75-34-3	1,1-Dichloroethane	7.	U
540-59-0	1,2-Dichloroethene (total)	7.	U
67-66-3	Chloroform	7.	U
107-06-2	1,2-Dichloroethane	7.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	7.	U
56-23-5	Carbon Tetrachloride	7.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	7.	U
78-87-5	1,2-Dichloropropane	7.	U
10061-01-5	cis-1,3-Dichloropropene	7.	U
79-01-6	Trichloroethene	7.	U
124-48-1	Dibromochloromethane	7.	U
79-00-5	1,1,2-Trichloroethane	7.	U
71-43-2	Benzene	7.	U
10061-02-6	trans-1,3-Dichloropropene	7.	U
75-25-2	Bromoform	7.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	7.	U
79-34-5	1,1,2,2-Tetrachloroethane	7.	U
108-88-3	Toluene	7.	U
108-90-7	Chlorobenzene	7.	U
100-41-4	Ethylbenzene	7.	U
100-42-5	Styrene	7.	U
1330-20-7	Xylene (total)	7.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

UGSS-1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA#4557

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG816

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 26. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None detected			
2.				
3.				
4.				
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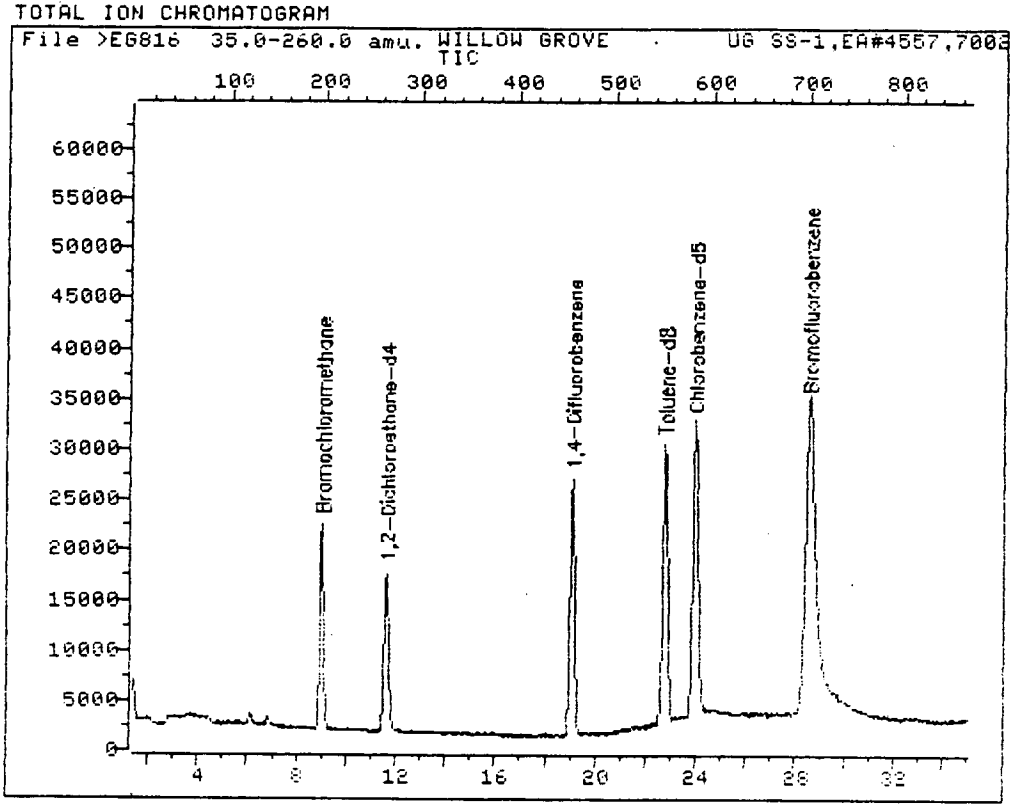
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG816::W3 Quant Output File: ^EG816::QT
Name: WILLOW GROVE
Misc: UG SS-1,EA#4557,7002E5,SOIL,5GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891003 15:43
Injected at: 891003 15:04

QUANT REPORT

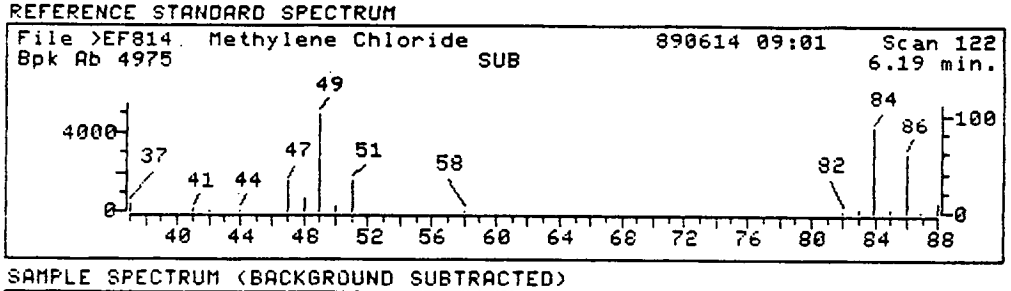
Operator ID: CARL Quant Rev: 6 Quant Time: 891003 15:43
Output File: ^EG816::QT Inj cted at: 891003 15:04
Data File: >EG816::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: UG SS-1,EA#4557,7002E5,SOIL,5GM

ID File: EVOAS::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

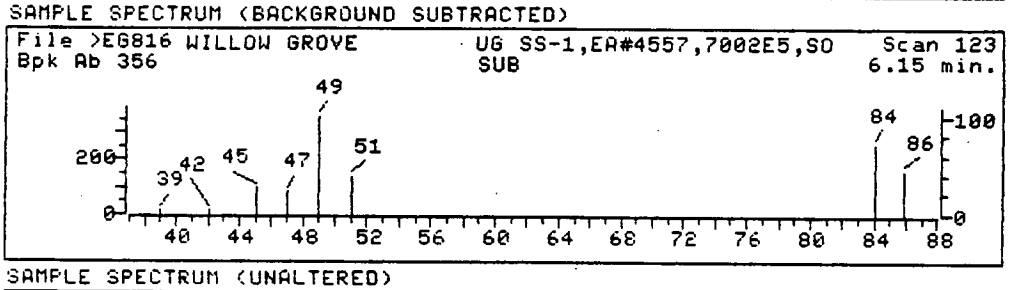
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	128.0	28765	50.00	UG/KG	72
6)	Methylene Chloride	6.15	84.0	2388	5.38	UG/KG	95
7)	Acetone	6.85	43.0	3673	13.12	UG/KG	96
13)	1,2-Dichloroethane-d4	11.65	65.0	64573	55.20	UG/KG	86
15)	*1,4-Difluorobenzene	19.10	114.0	112508	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.98	117.0	110004	50.00	UG/KG	98
35)	Toluene-d8	22.78	98.0	124269	51.76	UG/KG	98
40)	Bromofluorobenzene	28.55	95.0	109821	50.95	UG/KG	82

* Compound is ISTD

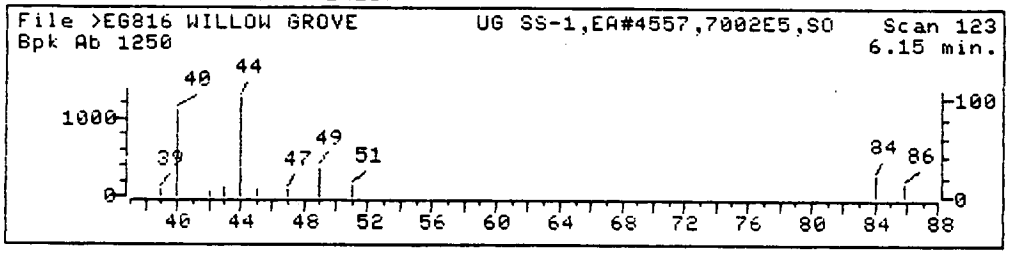
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



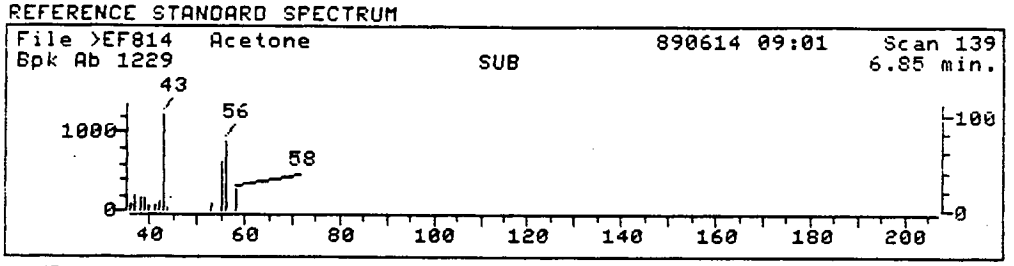
SAMPLE SPECTRUM (UNALTERED)



Data File: >EG816::W3 Quant Output File: ^EG816::QT
Name: WILLOW GROVE
Misc: UG SS-1,EA#4557,7002E5,SOIL,5GM
Quant Time: 891003 15:43 Quant ID File: EVDAS::BD
Injected at: 891003 15:04 Last Calibration: 891003 10:40

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 123
Retention Time: 6.15 min.
Quant Ion: 84.0
Area: 2388
Concentration: 5.38 UG/KG
q-value: 95

REFERENCE STANDARD SPECTRUM



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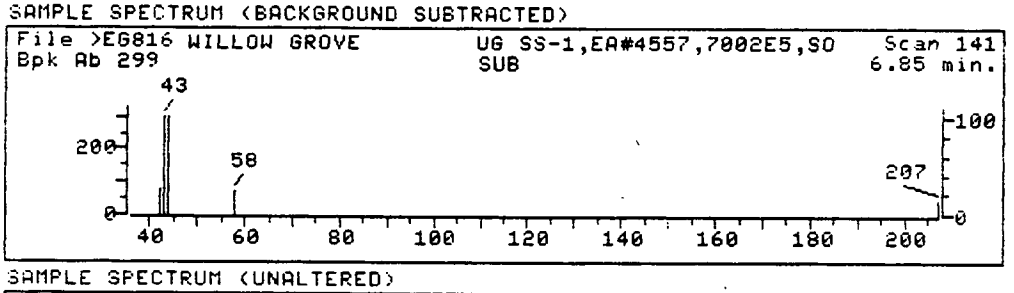
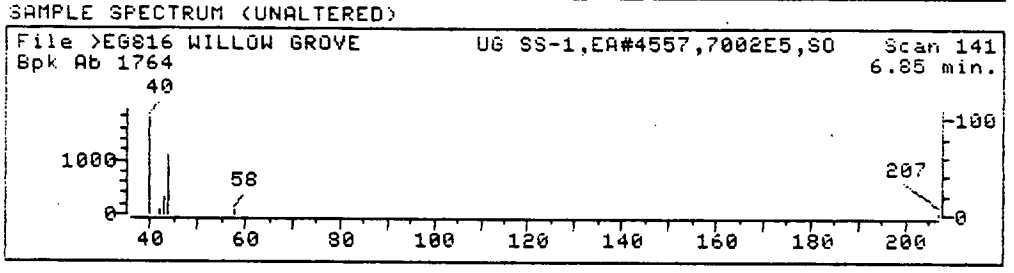


SAMPLE SPECTRUM (UNALTERED)



Data File: >EG816::W3 Quant Output File: ^EG816::QT
Name: WILLOW GROVE
Misc: UG SS-1,EA#4557,7002E5,SOIL,5GM
Quant Time: 891003 15:43 Quant ID File: EVDAS::BD
Injected at: 891003 15:04 Last Calibration: 891003 10:40

Compound No: 7
Compound Name: Acetone
Scan Number: 141
Retention Time: 6.85 min.
Quant Ion: 43.0
Area: 3673
Concentration: 13.12 UG/KG
q-value: 96

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP#4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4558

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG817

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	10.	
67-64-1	Acetone	13.	U
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DUP#4

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA#4558

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG817

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None detected			
2.				
3.				
4.				
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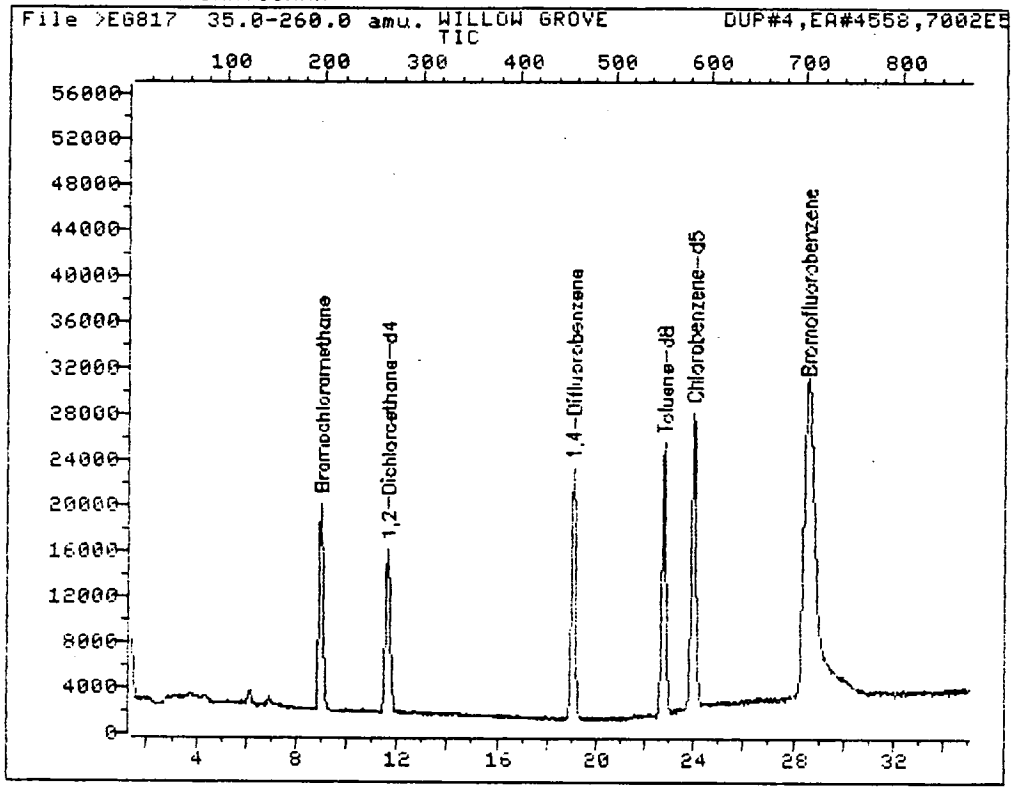
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG817::W3 Quant Output File: ^EG817::QT
Name: WILLOW GROVE
Misc: DUP#4,EA#4558,7002E5,SOIL,5GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891003 16:21
Injected at: 891003 15:45

QUANT REPORT

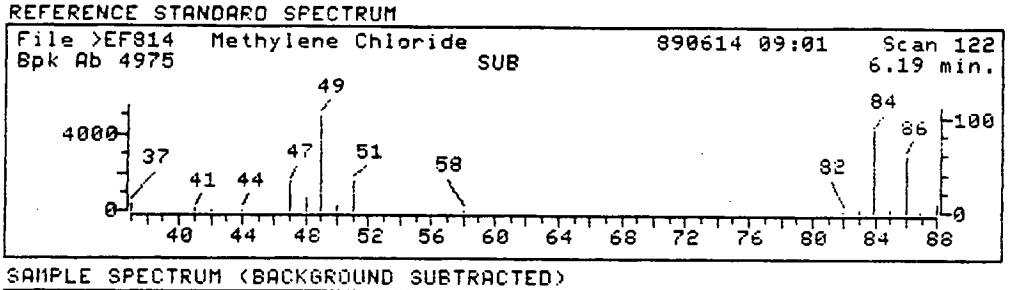
Operator ID: CARL Quant Rev: 6 Quant Tim : 891003 16:21
Output File: ^EG817::QT Injected at: 891003 15:45
Data File: >EG817::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: DUP#4,EA#4558,7002E5,SOIL,5GM

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

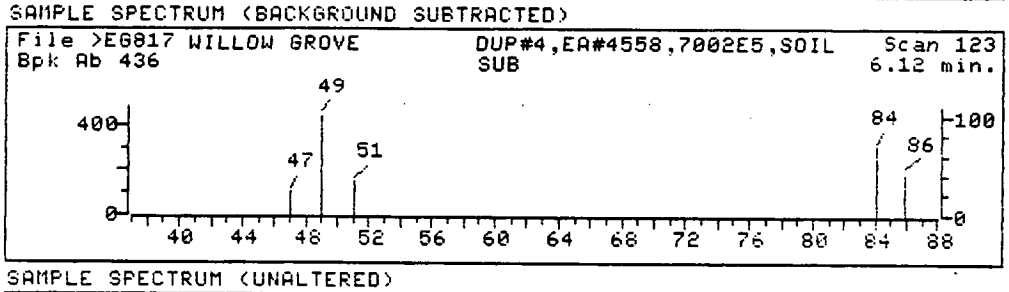
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.99	128.0	25907	50.00	UG/KG	74
6)	Methylene Chloride	6.12	84.0	3034	7.58	UG/KG	91
13)	1,2-Dichloroethane-d4	11.62	65.0	58507	55.53	UG/KG	87
15)	*1,4-Difluorobenzene	19.06	114.0	100802	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.99	117.0	93727	50.00	UG/KG	96
35)	Toluene-d8	22.79	98.0	108298	52.94	UG/KG	99
40)	Bromofluorobenzene	28.56	95.0	93506	50.92	UG/KG	85

* Compound is ISTD

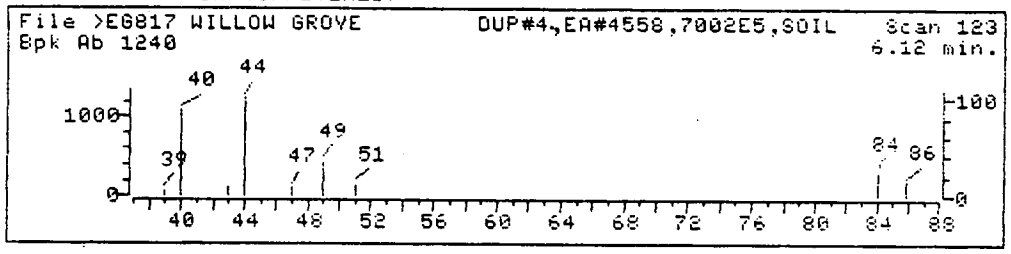
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EG817::W3 Quant Output File: ^EG817::QT
Name: WILLOW GROVE
Misc: DUP#4,EA#4558,7002E5,SOIL,5GM
Quant Time: 891003 16:21 Quant ID File: EVOAS::BD
Injected at: 891003 15:45 Last Calibration: 891003 10:40

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 123
Retention Time: 6.12 min.
Quant Ion: 84.0
Area: 3034
Concentration: 7.58 UG/KG
q-value: 91

C. Standards Data

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Instrument ID: 7002E5 Calibration Date(s): 9/ 5/89 9/ 5/89

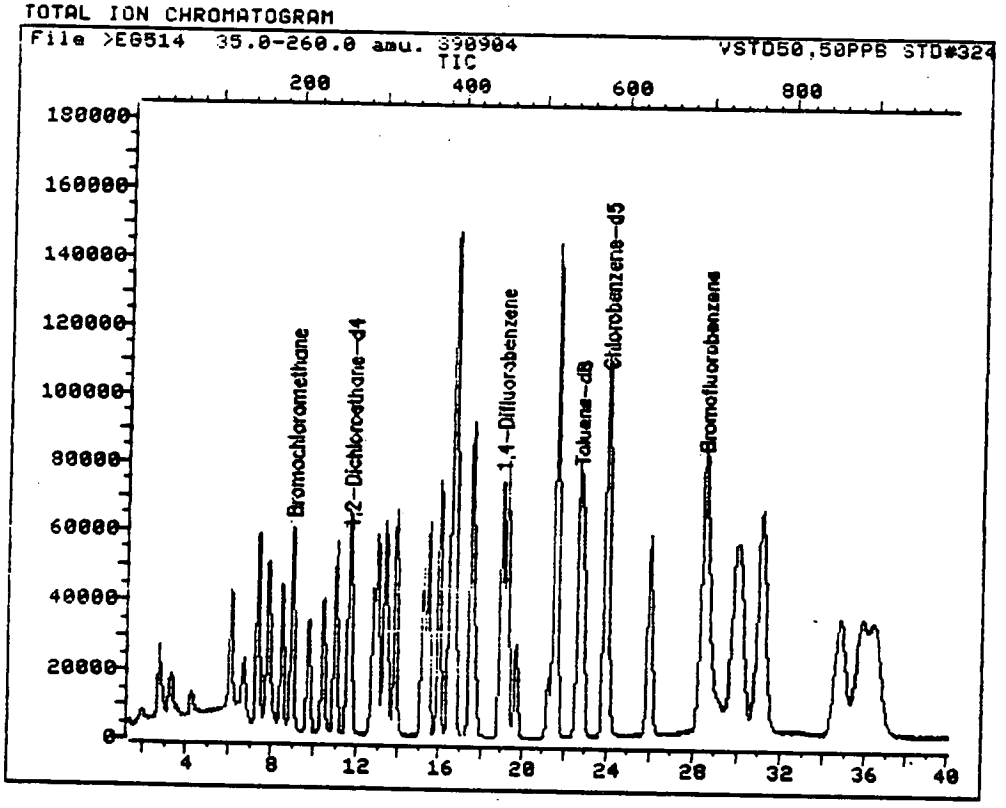
Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

Min $\overline{RRF}$ for SPCC(#) = .300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = EG518 RRF50 = EG514
RRF100= EG517 RRF150= EG516 RRF200= EG515

COMPOUND	RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane #	.456	.453	.464	.481	.456	.462	2.4#
Bromomethane	.884	.765	.804	.803	.675	.786	9.6
Vinyl Chloride *	.653	.660	.695	.711	.608	.666	6.0*
Chloroethane	.310	.421	.417	.361	.401	.382	12.2
M thylene Chloride	.801	.826	.838	.843	.773	.816	3.6
Ac tone	.248	.335	.248	.220	.271	.265	16.3
Carbon Disulfide	2.196	2.237	2.471	2.514	2.312	2.346	6.0
1,1-Dichloroethene *	.899	.944	.997	1.010	.898	.950	5.6*
1,1-Dichloroethane #	1.625	1.574	1.716	1.761	1.578	1.651	5.1#
1,2-Dichloroethene (total)	.931	.931	1.061	1.080	.963	.993	7.3
Chloroform *	2.392	2.387	2.658	2.627	2.413	2.495	5.4*
1,2-Dichloroethane	1.734	1.681	1.896	1.892	1.766	1.794	5.4
2-Butanone	.018	.034	.026	.025	.030	.027	21.4
1,1,1-Trichloroethane	.622	.605	.713	.701	.672	.663	7.2
Carbon Tetrachloride	.599	.618	.702	.676	.640	.647	6.5
Vinyl Acetate	.366	.436	.444	.434	.496	.435	10.6
Bromodichloromethane	.703	.705	.796	.791	.779	.755	6.2
1,2-Dichloropropane *	.256	.278	.290	.289	.279	.279	4.9*
cis-1,3-Dichloropropene	.458	.496	.527	.526	.523	.506	5.9
Trichloroethene	.412	.431	.444	.442	.428	.431	3.0
Dibromochloromethane	.678	.784	.798	.771	.767	.759	6.2
1,1,2-Trichloroethane	.298	.356	.348	.337	.338	.335	6.6
Benzene	.592	.620	.681	.672	.658	.645	5.9
trans-1,3-Dichloropropene	.432	.476	.510	.502	.495	.483	6.5
Bromoform #	.660	.722	.743	.731	.742	.720	4.8#
4-M thyl-2-Pentanone	.271	.351	.291	.308	.327	.310	10.0
2-H xanone	.190	.253	.205	.220	.238	.221	11.4
T trachloroethene	.485	.467	.512	.508	.452	.485	5.3
1,1,2,2-Tetrachloroethane #	.584	.652	.649	.613	.656	.631	5.0#
Toluene *	.558	.523	.610	.612	.561	.573	6.6*
Chlorobenzene #	.809	.808	.885	.891	.824	.844	4.9#
Ethylbenzene *	.373	.344	.407	.412	.366	.380	7.5*
Styrene	.821	.763	.895	.896	.797	.834	7.1
Xylene (total)	.458	.412	.489	.493	.434	.457	7.6
Toluene-d8	1.137	1.100	1.134	1.159	1.095	1.125	2.4
Bromofluorobenzene	.876	.877	.897	.890	.876	.883	1.1
1,2-Dichloro thane-d4	1.666	1.708	1.796	1.876	1.848	1.779	5.0

TOTAL ION CHROMATOGRAM



Data File: >EG514::W2 Quant Output File: ^EG514::QT
Name: 890904
Misc: VSTD50,50PPB STD#3247,7002E5

Id File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

Operator ID: CARL
Quant Time: 890905 11:25
Injected at: 890905 06:57

QUANT REPORT

Operator ID: CARL
Output File: ^EG514::QT
Data File: >EG514::W2
Name: 890904
Misc: VSTD50,50PPB STD#3247,7002E5

Quant Rev: 6
Quant Time: 890905 11:25
Injected at: 890905 06:57
Dilution Factor: 1.00000

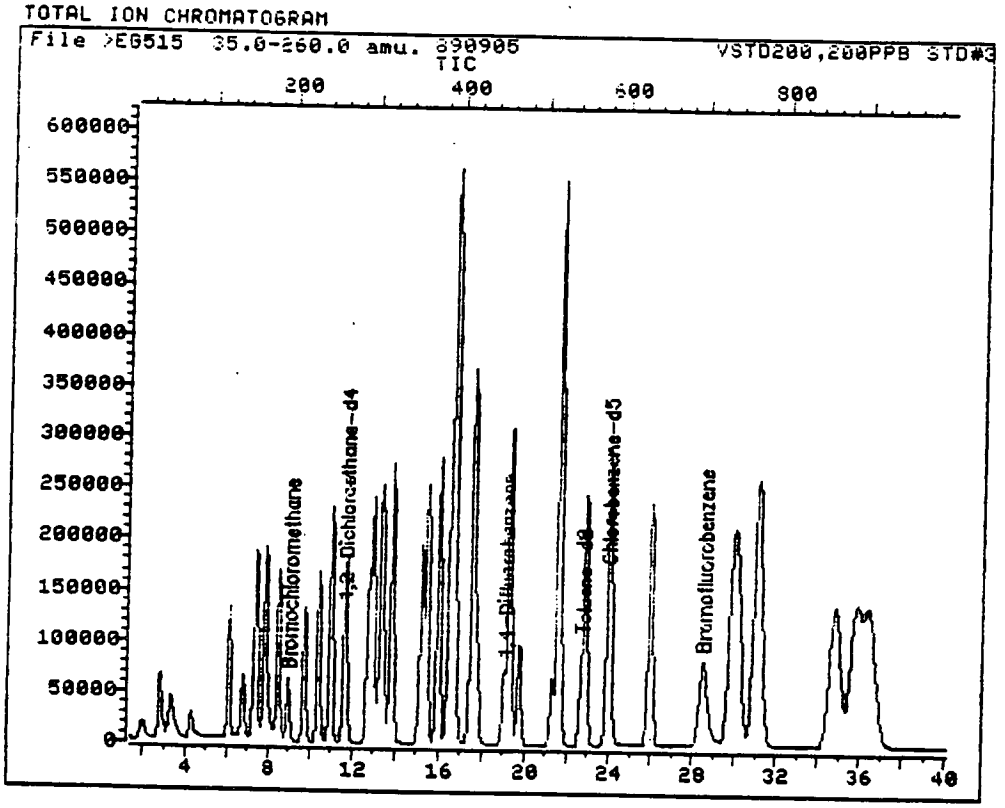
ID File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.96	128.0	107133	50.00	ug/L	96
2)	Chloromethane	1.98	50.0	48506	50.00	ug/L	96
3)	Bromomethane	2.76	94.0	81995	50.00	ug/L	95
4)	Dichlorodifluoromethane	3.26	85.0	52290	50.00	ug/L	96
5)	Vinyl Chloride	3.34	62.0	70734	50.00	ug/L	96
6)	Chloroethane	4.27	64.0	45145	50.00	ug/L	98
8)	Methylene Chloride	6.09	84.0	88506	50.00	ug/L	82
10)	Acetone	6.79	43.0	35843	50.00	ug/L	97
11)	Acrolein	6.71	56.0	51750	300.00	ug/L	82
12)	Carbon Disulfide	7.37	76.0	239645	50.00	ug/L	100
13)	Acrylonitrile	7.37	53.0	142655	300.00	ug/L	92
14)	Trichlorofluoromethane	7.88	101.0	298214	50.00	ug/L	93
15)	1,1-Dichloroethene	8.50	96.0	101187	50.00	ug/L	88
16)	1,1-Dichloroethane	9.78	63.0	168591	50.00	ug/L	97
18)	Trans-1,2-Dichloroethene	10.44	96.0	99707	50.00	ug/L	93
19)	Chloroform	10.98	83.0	255749	50.00	ug/L	93
20)	1,2-Dichloroethane-d4	11.60	65.0	183005	50.00	ug/L	96
21)	1,2-Dichloroethane	11.71	62.0	180057	50.00	ug/L	97
22)	*1,4-Difluorobenzene	19.00	114.0	374804	50.00	ug/L	91
23)	2-Butanone	11.68	72.0	12579	50.00	ug/L	82
24)	Methyl tertiary butyl ether	12.76	73.0	225577	50.00	ug/L	87
25)	1,1,1-Trichloroethane	12.96	97.0	226731	50.00	ug/L	93
26)	Carbon Tetrachloride	13.30	117.0	231677	50.00	ug/L	85
27)	Vinyl Acetate	13.50	43.0	163364	50.00	ug/L	92
28)	Bromodichloromethane	13.85	83.0	264242	50.00	ug/L	93
29)	1,2-Dichloropropane	15.20	63.0	104374	50.00	ug/L	94
30)	cis-1,3-Dichloropropene	15.44	75.0	237869	50.00	ug/L	94
31)	Trichloroethene	15.98	130.0	161724	50.00	ug/L	70
32)	Dibromochloromethane	16.60	129.0	293919	50.00	ug/L	99
33)	1,1,2-Trichloroethane	16.72	97.0	133464	50.00	ug/L	95
34)	Benzene	16.48	78.0	232351	50.00	ug/L	93
35)	Trans-1,3-Dichloropropene	16.72	75.0	128569	50.00	ug/L	93
36)	1,2-Dibromoethane	17.57	107.0	234608	50.00	ug/L	93
37)	Diisopropyl ether	17.53	45.0	235768	50.00	ug/L	93
38)	2-Chloroethylvinylether	17.76	63.0	57344	50.00	ug/L	95
39)	Bromoform	19.27	173.0	270510	50.00	ug/L	97
40)	*Chlorobenzene-d5	23.93	117.0	321704	50.00	ug/L	95
41)	4-Methyl-2-Pentanone	19.74	43.0	112912	50.00	ug/L	92
42)	2-Hexanone	21.29	43.0	81451	50.00	ug/L	93
43)	Tetrachloroethene	21.60	164.0	150194	50.00	ug/L	89
44)	1,1,2,2-Tetrachloroethane	21.60	83.0	209797	50.00	ug/L	92
45)	Toluene	22.88	92.0	168092	50.00	ug/L	96
46)	Toluene-d8	22.69	98.0	353830	50.00	ug/L	98

	Compound	R.T.	Q ion	Area	Conc	Units	q
47)	Chlorobenzene	24.04	112.0	259942	50.00	ug/L	94
48)	Ethylbenzene	25.98	106.0	110804	50.00	ug/L	99
49)	Styrene	29.90	104.0	245381	50.00	ug/L	98
50)	m-Xylene	30.13	106.0	136451	50.00	ug/L	94
51)	o&p-Xylenes	31.14	106.0	261350	100.00	ug/L	88
52)	1,3-Dichlorobenzene	34.82	146.0	313417	50.00	ug/L	94
53)	1,2-Dichlorobenzene	35.87	146.0	320510M	50.00	ug/L	89
54)	1,4-Dichlorobenzene	36.38	146.0	317036M	50.00	ug/L	95
55)	Bromofluorobenzene	28.46	95.0	282252	50.00	ug/L	87

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >EG515::W2 Quant Output File: ^EG515::QT
Name: 890905
Misc: VSTD200,200PPB STD#3248,7002E5

Id File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

Operator ID: CARL
Quant Time: 890905 08:53
Injected at: 890905 08:13

QUANT REPORT

Operator ID: CARL
Output File: ^EG515::QT
Data File: >EG515::W2
Name: 890905
Misc: VSTD200,200PPB STD#3248,7002E5

Quant Rev: 6
Quant Time: 890905 08:53
Injected at: 890905 08:13
Dilution Factor: 1.00000

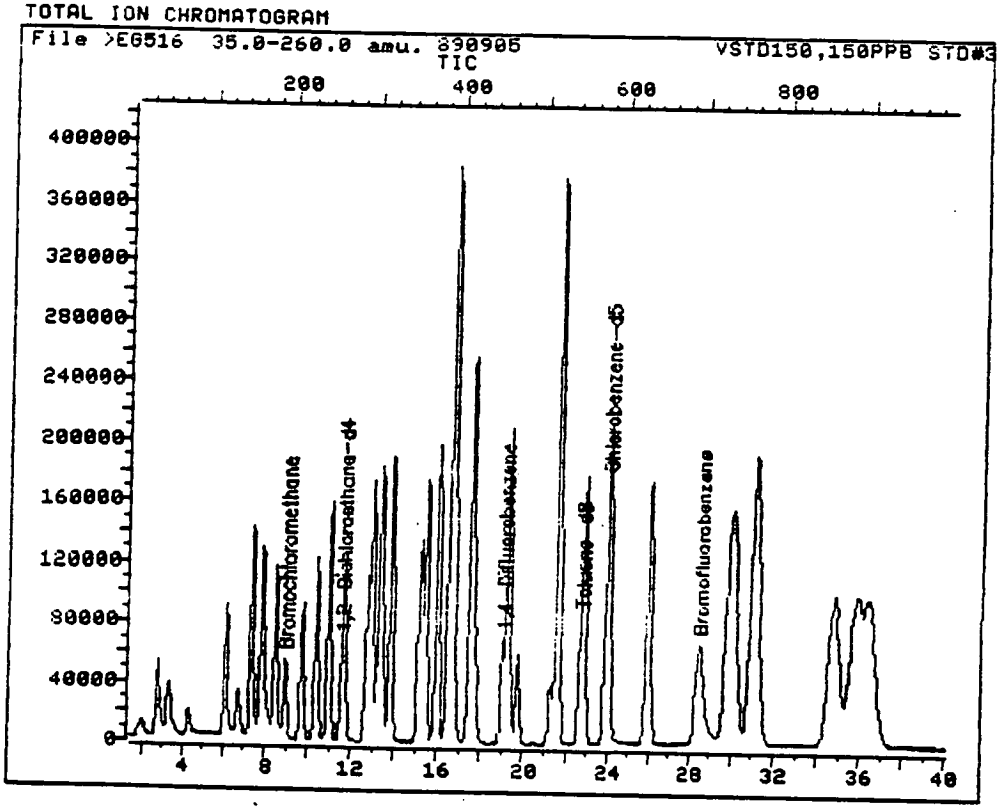
ID File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.99	128.0	106318M	50.00	ug/L	
2)	Chloromethane	1.97	50.0	193854	201.35	ug/L	97
3)	Bromomethane	2.79	94.0	287185	176.46	ug/L	92
4)	Dichlorodifluoromethane	3.25	85.0	169814	163.62	ug/L	96
5)	Vinyl Chloride	3.37	62.0	258693	184.26	ug/L	95
6)	Chloroethane	4.30	64.0	170433	190.21	ug/L	97
8)	Methylene Chloride	6.12	84.0	328682	187.11	ug/L	82
10)	Acetone	6.86	43.0	115450	162.28	ug/L	96
11)	Acrolein	6.78	56.0	246861	1442.04	ug/L	86
12)	Carbon Disulfide	7.36	76.0	983297	206.73	ug/L	100
13)	Acrylonitrile	7.44	53.0	525435	1113.44	ug/L	93
14)	Trichlorofluoromethane	7.87	101.0	1186358	200.43	ug/L	94
15)	1,1-Dichloroethene	8.53	96.0	381778	190.09	ug/L	92
16)	1,1-Dichloroethane	9.77	63.0	671270	200.61	ug/L	96
18)	Trans-1,2-Dichloroethene	10.43	96.0	409498	206.92	ug/L	91
19)	Chloroform	11.01	83.0	1026130	202.15	ug/L	94
20)	1,2-Dichloroethane-d4	11.63	65.0	196431	54.08	ug/L	96
21)	1,2-Dichloroethane	11.70	62.0	750929	210.12	ug/L	97
22)	*1,4-Difluorobenzene	19.03	114.0	364858	50.00	ug/L	91
23)	2-Butanone	11.67	72.0	43728	178.55	ug/L	83
24)	Methyl tertiary butyl ether	12.75	73.0	912851	207.85	ug/L	86
25)	1,1,1-Trichloroethane	12.98	97.0	981073	222.25	ug/L	92
26)	Carbon Tetrachloride	13.33	117.0	934632	207.21	ug/L	87
27)	Vinyl Acetate	13.49	43.0	723804	227.57	ug/L	90
28)	Bromodichloromethane	13.88	83.0	1137453	221.10	ug/L	92
29)	1,2-Dichloropropane	15.19	63.0	407605	200.58	ug/L	94
30)	cis-1,3-Dichloropropene	15.43	75.0	976078	210.76	ug/L	94
31)	Trichloroethene	15.97	130.0	623950	198.16	ug/L	67
32)	Dibromochloromethane	16.63	129.0	1119100	195.57	ug/L	99
33)	1,1,2-Trichloroethane	16.71	97.0	493194	189.80	ug/L	95
34)	Benzene	16.47	78.0	960876	212.41	ug/L	93
35)	Trans-1,3-Dichloropropene	16.71	75.0	520590	207.97	ug/L	93
36)	1,2-Dibromoethane	17.60	107.0	927088	202.97	ug/L	93
37)	Diisopropyl ether	17.52	45.0	962230	209.63	ug/L	93
38)	2-Chloroethylvinylether	17.75	63.0	238550	213.67	ug/L	97
39)	Bromoform	19.27	173.0	1083375	205.71	ug/L	97
40)	*Chlorobenzene-d5	23.92	117.0	318337	50.00	ug/L	97
41)	4-Methyl-2-Pentanone	19.73	43.0	416777	186.51	ug/L	93
42)	2-Hexanone	21.28	43.0	303152	188.06	ug/L	93
43)	Tetrachloroethene	21.59	164.0	576101	193.81	ug/L	89
44)	1,1,2,2-Tetrachloroethane	21.59	83.0	835184	201.15	ug/L	95
45)	Toluene	22.87	92.0	714522	214.79	ug/L	95
46)	Toluene-d8	22.72	98.0	348578	49.78	ug/L	97

	Compound	R.T.	Q ion	Area	Conc	Units	q
47)	Chlorobenzene	24.04	112.0	1049527	204.01	ug/L	95
48)	Ethylbenzene	26.01	106.0	466681	212.82	ug/L	98
49)	Styrene	29.85	104.0	1015013	209.01	ug/L	98
50)	m-Xylene	30.13	106.0	569319	210.82	ug/L	95
51)	o&p-Xylenes	31.10	106.0	1088902	421.05	ug/L	88
52)	1,3-Dichlorobenzene	34.74	146.0	1276654	205.82	ug/L	95
53)	1,2-Dichlorobenzene	35.87	146.0	1327542M	209.29	ug/L	89
54)	1,4-Dichlorobenzene	36.37	146.0	1279971M	204.00	ug/L	96
55)	Bromofluorobenzene	28.50	95.0	278955	49.94	ug/L	91

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >EG516::W2 Quant Output File: ^EG516::QT
Name: 890905
Misc: VSTD150,150PPB STD#3249,7002E5

Id File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

Operator ID: CARL
Quant Time: 890905 09:39
Injected at: 890905 08:58

QUANT REPORT

Operator ID: CARL
Output File: ^EG516::QT
Data File: >EG516::W2
Name: 890905
Misc: VSTD150,150PPB STD#3249,7002E5

Quant Rev: 6
Quant Time: 890905 09:39
Injected at: 890905 08:58
Dilution Factor: 1.00000

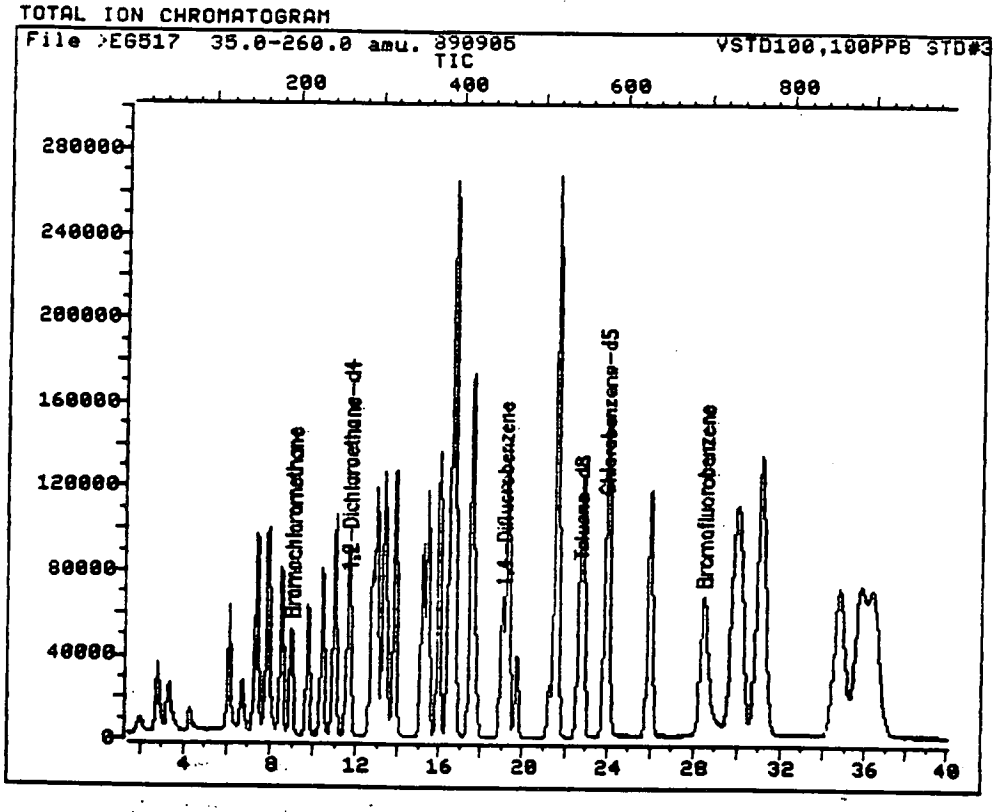
ID File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.98	128.0	90895	50.00	ug/L	95
2)	Chloromethane	1.96	50.0	131040	159.21	ug/L	95
3)	Bromomethane	2.74	94.0	218951	157.37	ug/L	92
4)	Dichlorodifluoromethane	3.24	85.0	149646	168.65	ug/L	94
5)	Vinyl Chloride	3.32	62.0	193790	161.46	ug/L	98
6)	Chloroethane	4.29	64.0	98556	128.65	ug/L	99
8)	Methylene Chloride	6.11	84.0	229808	153.02	ug/L	85
10)	Acetone	6.81	43.0	60148	98.89	ug/L	99
11)	Acrolein	6.69	56.0	136541	932.94	ug/L	83
12)	Carbon Disulfide	7.35	76.0	685443	168.56	ug/L	100
13)	Acrylonitrile	7.39	53.0	308604	764.92	ug/L	94
14)	Trichlorofluoromethane	7.86	101.0	851676	168.30	ug/L	93
15)	1,1-Dichloroethene	8.52	96.0	275504	160.45	ug/L	91
16)	1,1-Dichloroethane	9.76	63.0	480322	167.90	ug/L	96
18)	Trans-1,2-Dichloroethene	10.41	96.0	294406	174.01	ug/L	94
19)	Chloroform	11.00	83.0	716464	165.09	ug/L	97
20)	1,2-Dichloroethane-d4	11.58	65.0	170486	54.90	ug/L	93
21)	1,2-Dichloroethane	11.69	62.0	516023	168.89	ug/L	96
22)	*1,4-Difluorobenzene	19.02	114.0	331625	50.00	ug/L	91
23)	2-Butanone	11.66	72.0	25229	113.34	ug/L	86
24)	Methyl tertiary butyl ether	12.74	73.0	585581	146.70	ug/L	87
25)	1,1,1-Trichloroethane	12.93	97.0	697868	173.94	ug/L	93
26)	Carbon Tetrachloride	13.32	117.0	672830	164.12	ug/L	84
27)	Vinyl Acetate	13.48	43.0	431665	149.32	ug/L	95
28)	Bromodichloromethane	13.83	83.0	787330	168.38	ug/L	94
29)	1,2-Dichloropropane	15.18	63.0	287866	155.86	ug/L	93
30)	cis-1,3-Dichloropropene	15.42	75.0	669865	159.14	ug/L	94
31)	Trichloroethene	15.96	130.0	438909M	153.37	ug/L	
32)	Dibromochloromethane	16.62	129.0	766768	147.42	ug/L	98
33)	1,1,2-Trichloroethane	16.70	97.0	335034	141.86	ug/L	93
34)	Benzene	16.46	78.0	668560	162.60	ug/L	93
35)	Trans-1,3-Dichloropropene	16.70	75.0	359519	158.02	ug/L	94
36)	1,2-Dibromoethane	17.55	107.0	643213	154.93	ug/L	94
37)	Diisopropyl ether	17.51	45.0	684848	164.15	ug/L	93
38)	2-Chloroethylvinylether	17.74	63.0	157701	155.41	ug/L	98
39)	Bromoform	19.29	173.0	727713	152.02	ug/L	99
40)	*Chlorobenzene-d5	23.95	117.0	273607	50.00	ug/L	96
41)	4-Methyl-2-Pentanone	19.76	43.0	253033	131.75	ug/L	93
42)	2-Hexanone	21.27	43.0	180467	130.26	ug/L	93
43)	Tetrachloroethene	21.58	164.0	417316	163.35	ug/L	89
44)	1,1,2,2-Tetrachloroethane	21.58	83.0	503497	141.09	ug/L	88
45)	Toluene	22.86	92.0	502022	175.58	ug/L	96
46)	Toluene-d8	22.71	98.0	317007	52.67	ug/L	99

	Compound	R.T.	Q ion	Area	Conc	Units	q
47)	Chlorobenzene	24.02	112.0	731045	165.34	ug/L	93
48)	Ethylbenzene	26.00	106.0	338215	179.45	ug/L	99
49)	Styrene	29.86	104.0	735418	176.19	ug/L	97
50)	m-Xylene	30.17	106.0	416319	179.37	ug/L	95
51)	o&p-Xylenes	31.10	106.0	798452	359.22	ug/L	87
52)	1,3-Dichlorobenzene	34.78	146.0	932766	174.96	ug/L	95
53)	1,2-Dichlorobenzene	35.91	146.0	979466M	179.66	ug/L	90
54)	1,4-Dichlorobenzene	36.45	146.0	922133M	171.00	ug/L	95
55)	Bromofluorobenzene	28.46	95.0	243578	50.73	ug/L	86

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >EG517::W2 Quant Output File: ^EG517::QT
Name: 890905
Misc: VSTD100,100PPB STD#3250,7002E5

Id File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

Operator ID: CARL
Quant Time: 890905 10:25
Injected at: 890905 09:44

QUANT REPORT

Operator ID: CARL
Output File: ^EG517::QT
Data File: >EG517::W2
Name: 890905
Misc: VSTD100,100PPB STD#3250,7002E5

Quant Rev: 6
Quant Time: 890905 10:25
Injected at: 890905 09:44
Dilution Factor: 1.00000

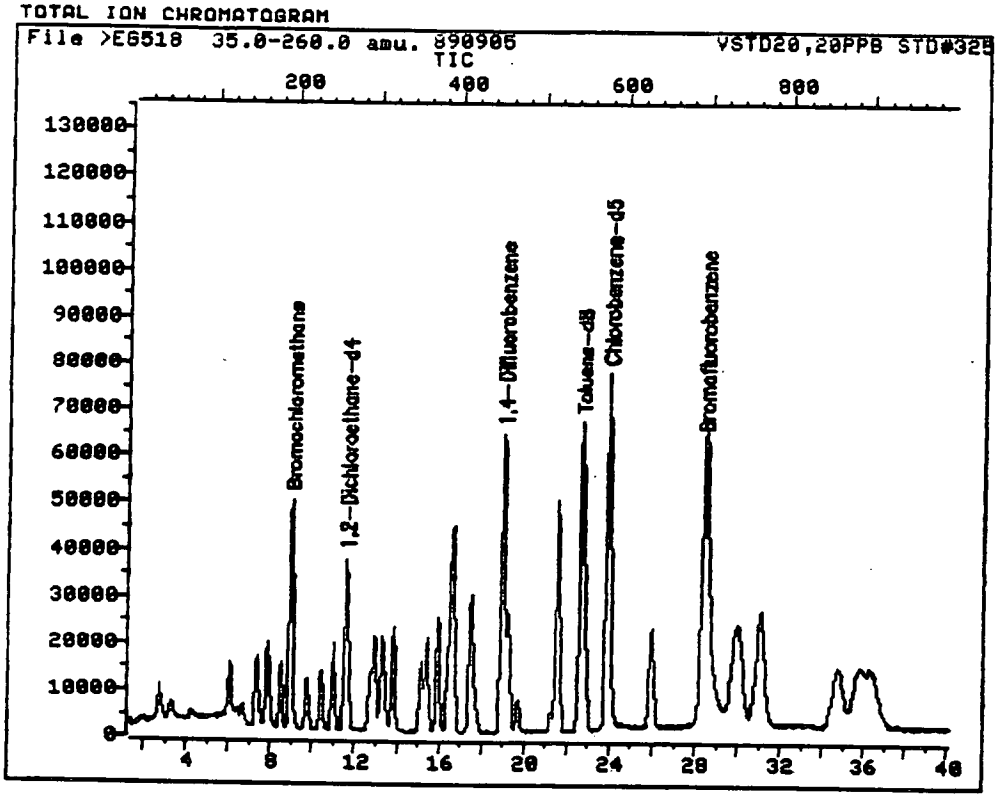
ID File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.98	128.0	90714	50.00	ug/L	97
2)	Chloromethane	2.00	50.0	84104	102.38	ug/L	97
3)	Bromomethane	2.77	94.0	145782	104.99	ug/L	94
4)	Dichlorodifluoromethane	3.24	85.0	99951	112.87	ug/L	94
5)	Vinyl Chloride	3.36	62.0	126156	105.32	ug/L	99
6)	Chloroethane	4.29	64.0	75638	98.93	ug/L	97
8)	Methylene Chloride	6.11	84.0	152049	101.44	ug/L	84
10)	Acetone	6.77	43.0	45083	74.27	ug/L	97
11)	Acrolein	6.69	56.0	93625	640.98	ug/L	85
12)	Carbon Disulfide	7.35	76.0	448382	110.48	ug/L	100
13)	Acrylonitrile	7.35	53.0	205345	509.99	ug/L	93
14)	Trichlorofluoromethane	7.89	101.0	582958	115.43	ug/L	91
15)	1,1-Dichloroethene	8.51	96.0	180840	105.53	ug/L	92
16)	1,1-Dichloroethane	9.75	63.0	311298	109.03	ug/L	95
18)	Trans-1,2-Dichloroethene	10.41	96.0	192451	113.97	ug/L	92
19)	Chloroform	10.99	83.0	482192	111.33	ug/L	95
20)	1,2-Dichloroethane-d4	11.61	65.0	162935	52.57	ug/L	92
21)	1,2-Dichloroethane	11.69	62.0	343937	112.79	ug/L	97
22)	*1,4-Difluorobenzene	19.02	114.0	329117	50.00	ug/L	90
23)	2-Butanone	11.65	72.0	16927	76.62	ug/L	80
24)	Methyl tertiary butyl ether	12.74	73.0	418908	105.74	ug/L	87
25)	1,1,1-Trichloroethane	12.97	97.0	469009	117.79	ug/L	93
26)	Carbon Tetrachloride	13.32	117.0	462028	113.56	ug/L	83
27)	Vinyl Acetate	13.47	43.0	292555	101.97	ug/L	93
28)	Bromodichloromethane	13.86	83.0	523629	112.84	ug/L	93
29)	1,2-Dichloropropane	15.18	63.0	190846	104.12	ug/L	95
30)	cis-1,3-Dichloropropene	15.41	75.0	444345	106.37	ug/L	94
31)	Trichloroethene	15.95	130.0	292466	102.97	ug/L	71
32)	Dibromochloromethane	16.61	129.0	525009	101.71	ug/L	96
33)	1,1,2-Trichloroethane	16.69	97.0	228782	97.61	ug/L	94
34)	Benzene	16.46	78.0	448270	109.85	ug/L	93
35)	Trans-1,3-Dichloropropene	16.69	75.0	241792	107.09	ug/L	93
36)	1,2-Dibromoethane	17.54	107.0	432102	104.87	ug/L	95
37)	Diisopropyl ether	17.51	45.0	455613	110.04	ug/L	93
38)	2-Chloroethylvinylether	17.74	63.0	100609	99.90	ug/L	95
39)	Bromoform	19.29	173.0	489181	102.97	ug/L	98
40)	*Chlorobenzene-d5	23.90	117.0	282016	50.00	ug/L	94
41)	4-Methyl-2-Pentanone	19.72	43.0	164177	82.93	ug/L	94
42)	2-Hexanone	21.27	43.0	115569	80.93	ug/L	94
43)	Tetrachloroethene	21.58	164.0	288735	109.65	ug/L	93
44)	1,1,2,2-Tetrachl roethane	21.58	83.0	366045	99.51	ug/L	89
45)	Toluene	22.86	92.0	343909	116.69	ug/L	97
46)	Toluene-d8	22.70	98.0	319724	51.54	ug/L	98

	Compound	R.T.	Q ion	Area	Conc	Units	q
47)	Chlorobenzene	24.02	112.0	499328	109.56	ug/L	95
48)	Ethylbenzene	25.96	106.0	229365	118.07	ug/L	97
49)	Styrene	29.84	104.0	504666	117.30	ug/L	99
50)	m-Xylene	30.15	106.0	284963	119.11	ug/L	95
51)	o&p-Xylenes	31.08	106.0	542017	236.58	ug/L	87
52)	1,3-Dichlorobenzene	34.76	146.0	673973	122.65	ug/L	95
53)	1,2-Dichlorobenzene	35.77	146.0	705409M	125.53	ug/L	93
54)	1,4-Dichlorobenzene	36.35	146.0	636861M	114.57	ug/L	97
55)	Bromofluorobenzene	28.44	95.0	252878	51.10	ug/L	89

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >EG518::W2 Quant Output File: ^EG518::QT
Name: 890905
Misc: VSTD20,20PPB STD#3251,7002E5

Id File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

Operator ID: CARL
Quant Time: 890905 11:10
Injected at: 890905 10:29

3 306

QUANT REPORT

Operator ID: CARL
Output File: ^EG518::QT
Data File: >EG518::W2
Name: 890905
Misc: VSTD20,20PPB STD#3251,7002E5

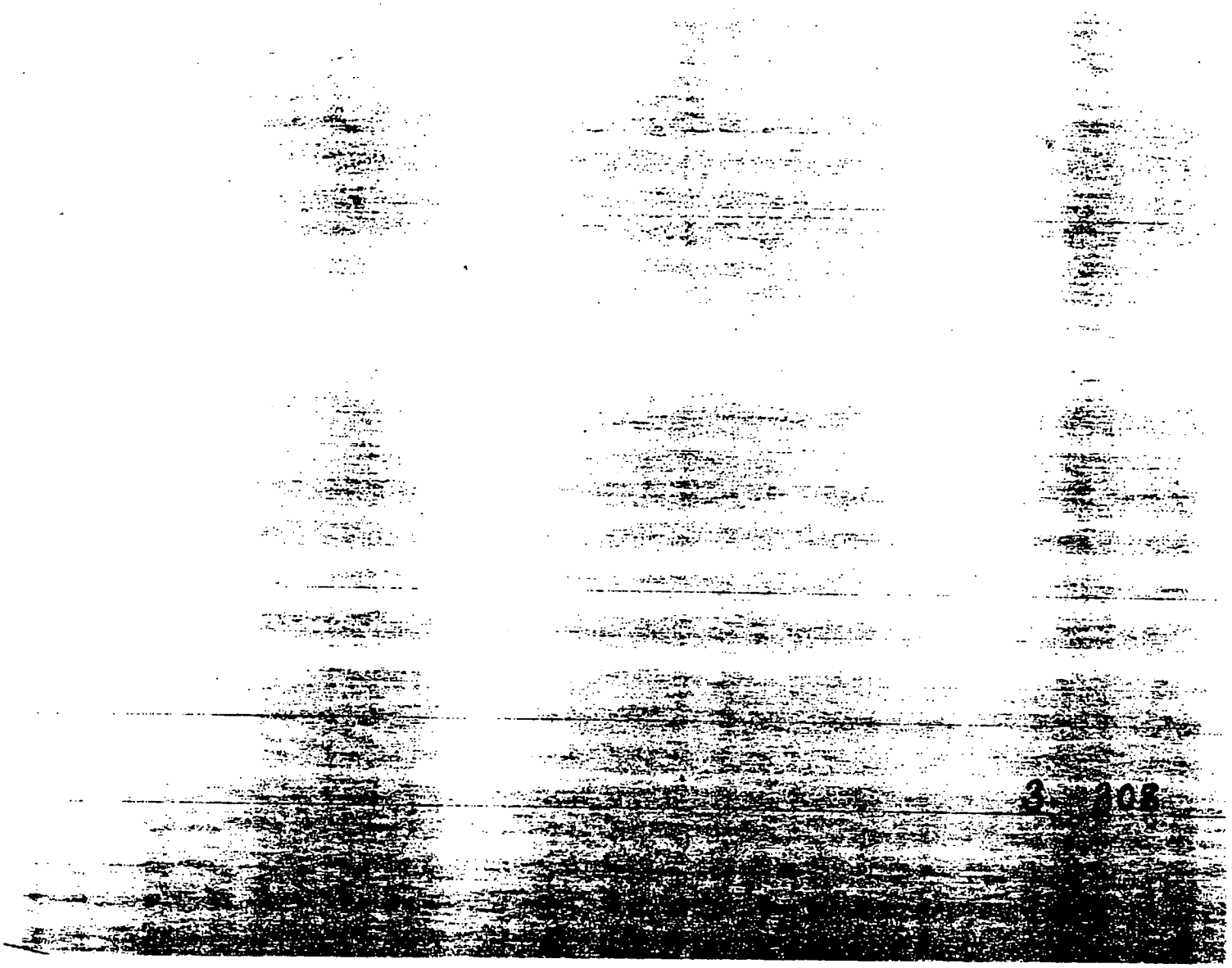
Quant Rev: 6
Quant Time: 890905 11:10
Injected at: 890905 10:29
Dilution Factor: 1.00000

ID File: ALL::SC
Title: EA Priority Pollutant IDfile
Last Calibration: 890905 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	Bromochloromethane	8.99	128.0	87874	50.00	ug/L	93
2)	Chloromethane	1.93	50.0	16026	20.14	ug/L	93
3)	Bromomethane	2.75	94.0	31072	23.10	ug/L	98
4)	Dichlorodifluoromethane	3.25	85.0	17661	20.59	ug/L	99
5)	Vinyl Chloride	3.33	62.0	22963	19.79	ug/L	93
6)	Chloroethane	4.26	64.0	10900	14.72	ug/L	97
8)	Methylene Chloride	6.08	84.0	28140	19.38	ug/L	77
10)	Acetone	6.70	43.0	8714	14.82	ug/L	87
11)	Acrolein	6.66	56.0	17836	126.06	ug/L	88
12)	Carbon Disulfide	7.36	76.0	77195	19.64	ug/L	100
13)	Acrylonitrile	7.32	53.0	35712	91.56	ug/L	94
14)	Trichlorofluoromethane	7.86	101.0	104884	21.44	ug/L	95
15)	1,1-Dichloroethene	8.52	96.0	31613	19.04	ug/L	91
16)	1,1-Dichloroethane	9.76	63.0	57113	20.65	ug/L	95
18)	Trans-1,2-Dichloroethene	10.38	96.0	32708	20.00	ug/L	89
19)	Chloroform	11.00	83.0	84067	20.04	ug/L	97
20)	1,2-Dichloroethane-d4	11.59	65.0	146386	48.76	ug/L	91
21)	1,2-Dichloroethane	11.70	62.0	60940	20.63	ug/L	99
22)	*1,4-Difluorobenzene	18.99	114.0	324214	50.00	ug/L	90
23)	2-Butanone	11.66	72.0	2381	10.94	ug/L	62
24)	Methyl tertiary butyl ether	12.71	73.0	70085	17.96	ug/L	89
25)	1,1,1-Trichloroethane	12.94	97.0	80702	20.57	ug/L	97
26)	Carbon Tetrachloride	13.33	117.0	77706	19.39	ug/L	90
27)	Vinyl Acetate	13.48	43.0	47451	16.79	ug/L	96
28)	Bromodichloromethane	13.83	83.0	91125	19.93	ug/L	96
29)	1,2-Dichloropropane	15.19	63.0	33200	18.39	ug/L	94
30)	cis-1,3-Dichloropropene	15.42	75.0	76049	18.48	ug/L	95
31)	Trichloroethene	15.96	130.0	53411	19.09	ug/L	70
32)	Dibromochloromethane	16.59	129.0	87878	17.28	ug/L	98
33)	1,1,2-Trichloroethane	16.66	97.0	38694	16.76	ug/L	96
34)	Benzene	16.47	78.0	76716	19.08	ug/L	96
35)	Trans-1,3-Dichloropropene	16.70	75.0	40328	18.13	ug/L	97
36)	1,2-Dibromoethane	17.55	107.0	74167	18.27	ug/L	93
37)	Diisopropyl ether	17.48	45.0	80596	19.76	ug/L	92
38)	2-Chloroethylvinylether	17.75	63.0	16609	16.74	ug/L	98
39)	Bromoform	19.26	173.0	85584	18.29	ug/L	96
40)	*Chlorobenzene-d5	23.91	117.0	275023	50.00	ug/L	97
41)	4-Methyl-2-Pentanone	19.73	43.0	29867	15.47	ug/L	92
42)	2-Hexanone	21.28	43.0	20896	15.00	ug/L	93
43)	T trachloroethene	21.59	164.0	53305	20.76	ug/L	90
44)	1,1,2,2-Tetrachloroethane	21.59	83.0	64199	17.90	ug/L	87
45)	Toluene	22.87	92.0	61434	21.38	ug/L	96
46)	T luene-d8	22.67	98.0	312772	51.70	ug/L	99

	Compound	R.T.	Q ion	Area	Conc	Units	q
47)	Chlorobenzene	24.03	112.0	89051	20.04	ug/L	94
48)	Ethylbenzene	25.97	106.0	40979	21.63	ug/L	97
49)	Styrene	29.84	104.0	90265	21.51	ug/L	99
50)	m-Xylene	30.12	106.0	51838	22.22	ug/L	98
51)	o&p-Xylenes	31.09	106.0	99379	44.48	ug/L	89
52)	1,3-Dichlorobenzene	34.73	146.0	120230	22.44	ug/L	96
53)	1,2-Dichlorobenzene	35.86	146.0	111782M	20.40	ug/L	
54)	1,4-Dichlorobenzene	36.36	146.0	122220M	22.55	ug/L	
55)	Bromofluorobenzene	28.41	95.0	240862	49.91	ug/L	85

* Compound is ISTD



6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Instrument ID: 7002E5 Calibration Date(s): 10/ 2/89 10/ 2/89

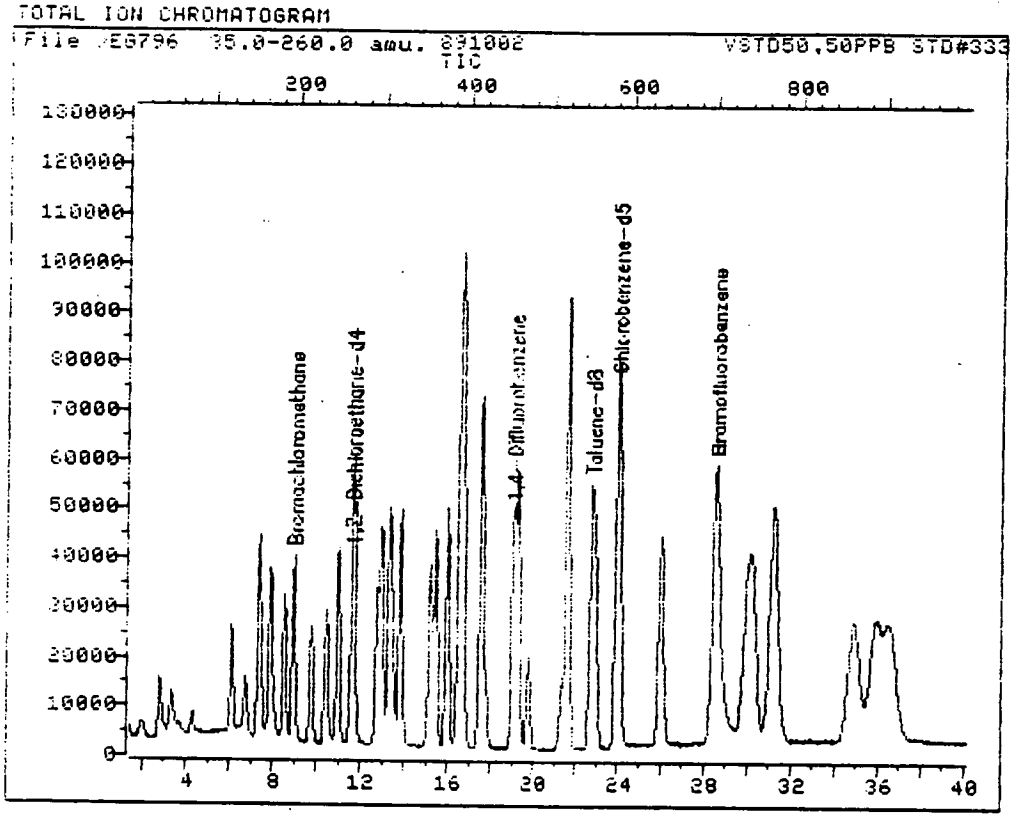
Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

Min $\overline{RRF}$ for SPCC(#) = .300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = EG800 RRF50 = EG796
RRF100= EG799 RRF150= EG798 RRF200= EG797

COMPOUND	RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane #	.650	.581	.707	.706	.685	.666	7.9#
Bromomethane	.959	.800	.944	.889	.849	.888	7.4
Vinyl Chloride *	.828	.751	.905	.888	.901	.855	7.7*
Chloroethane	.478	.442	.516	.515	.515	.493	6.7
Methylene Chloride	.951	.865	.951	.946	.934	.930	3.9
Acetone	.382	.433	.307	.306	.285	.343	18.3
Carbon Disulfide	2.938	2.682	3.208	3.075	3.142	3.009	6.9
1,1-Dichloroethene *	1.173	1.043	1.226	1.229	1.222	1.178	6.7*
1,1-Dichloroethane #	2.283	2.084	2.440	2.417	2.375	2.320	6.2#
1,2-Dichloroethene (total)	1.143	1.057	1.223	1.216	1.214	1.170	6.1
Chloroform *	3.239	2.962	3.399	3.395	3.380	3.275	5.7*
1,2-Dichloroethane	2.303	2.206	2.466	2.505	2.459	2.388	5.3
2-Butanone	.677	.139	.048	.056	.049	.194	140.8
1,1,1-Trichloroethane	.784	.772	.849	.876	.843	.825	5.4
Carbon Tetrachloride	.809	.813	.881	.904	.864	.854	4.9
Vinyl Acetate	.537	.596	.620	.645	.604	.600	6.7
Bromodichloromethane	.824	.858	.908	.944	.904	.888	5.2
1,2-Dichloropropane *	.360	.345	.380	.390	.375	.370	4.8*
cis-1,3-Dichloropropene	.561	.575	.612	.634	.621	.600	5.2
Trichloroethene	.459	.462	.477	.491	.472	.472	2.7
Dibromochloromethane	.857	.910	.895	.939	.886	.897	3.3
1,1,2-Trichloroethane	.376	.387	.381	.392	.374	.382	1.9
Benzene	.733	.729	.779	.789	.772	.761	3.6
trans-1,3-Dichloropropene	.525	.562	.576	.599	.582	.569	4.9
Bromoform #	.721	.822	.785	.830	.792	.790	5.5#
4-Methyl-2-Pentanone	.354	.428	.370	.378	.342	.374	8.8
2-Hexanone	.247	.314	.252	.264	.228	.261	12.4
Tetrachloroethene	.456	.448	.489	.476	.465	.467	3.5
1,1,2,2-Tetrachloroethane #	.598	.659	.632	.627	.592	.621	4.4#
Toluene *	.545	.539	.601	.596	.590	.574	5.2*
Chlorobenzene #	.811	.819	.870	.876	.874	.850	3.8#
Ethylbenzene *	.371	.365	.407	.404	.404	.390	5.2*
Styrene	.793	.790	.854	.856	.850	.828	4.1
Xylene (total)	.450	.446	.489	.487	.490	.472	4.7
Toluene-d8	1.087	1.080	1.118	1.106	1.093	1.097	1.4
Bromofluorobenzene	.966	.972	.974	.979	.983	.975	.7
1,2-Dichloroethane-d4	2.128	2.042	2.222	2.328	2.301	2.204	5.4

TOTAL ION CHROMATOGRAM



Data File: >EG796::W3 Quant Output File: ^EG796::QT
Name: 891002
Misc: VSTD50,50PPB STD#3330,7002E5

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

Operator ID: CARL
Quant Time: 891002 08:40
Injected at: 891002 07:36

QUANT REPORT

Operator ID: CARL
Output File: EG796::QT
Data File: EG796::W3
Name: 891002
Misc: VSTD50,50PPB STD#3330,7002E5

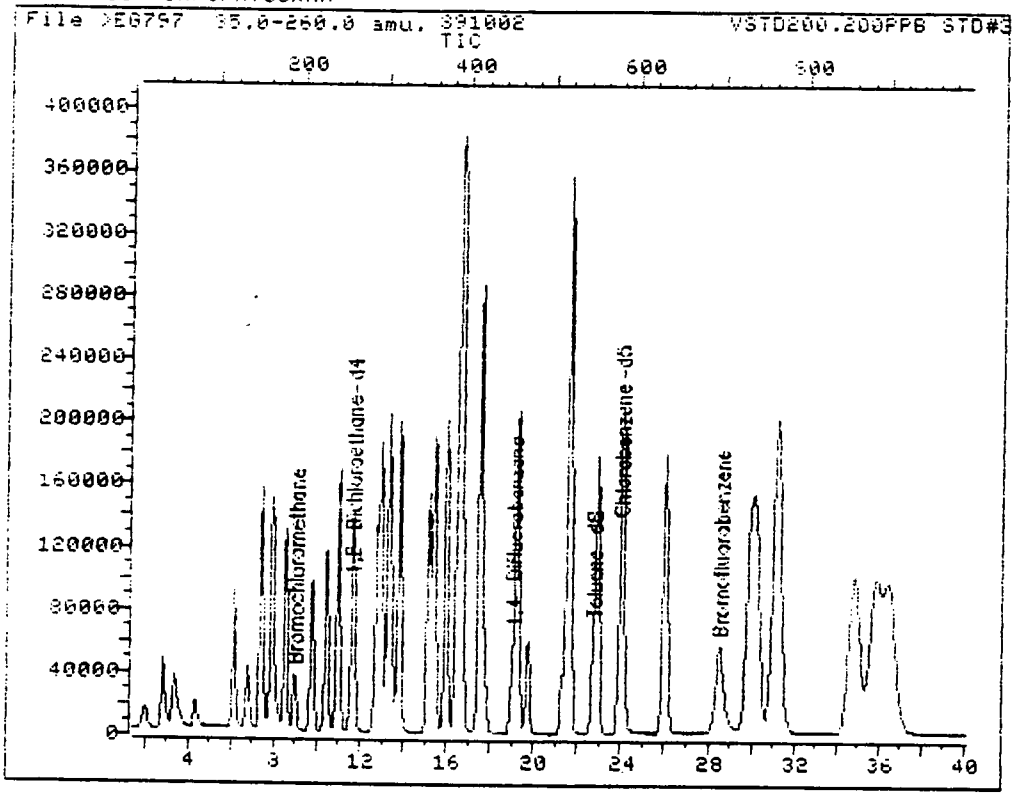
Quant Rev: 6
Quant Time: 891002 08:40
Injected at: 891002 07:36
Dilution Factor: 1.00000

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	59125	50.00	UG/KG	97
2)	Chloromethane	1.98	50.0	34365	50.00	UG/KG	97
3)	Bromomethane	2.80	94.0	47293	50.00	UG/KG	92
4)	Vinyl Chloride	3.38	62.0	44390	50.00	UG/KG	96
5)	Chloroethane	4.35	64.0	26141	50.00	UG/KG	97
6)	Methylene Chloride	6.13	84.0	51166	50.00	UG/KG	95
7)	Acetone	6.83	43.0	25619	51.14	UG/KG	97
8)	Carbon Disulfide	7.41	76.0	158561	50.00	UG/KG	100
9)	1,1-Dichloroethene	8.57	96.0	61684	50.00	UG/KG	93
10)	1,1-Dichloroethane	9.77	63.0	123245	50.00	UG/KG	96
11)	1,2-Dichloroethene (total)	10.47	96.0	62499	50.00	UG/KG	75
12)	Chloroform	11.01	83.0	175100	50.00	UG/KG	95
13)	1,2-Dichloroethane-d4	11.60	65.0	120715	50.00	UG/KG	92
14)	1,2-Dichloroethane	11.71	62.0	130449	50.00	UG/KG	97
15)	*1,4-Difluorobenzene	19.04	114.0	221900	50.00	UG/KG	90
16)	2-Butanone	11.71	72.0	30742	50.00	UG/KG	95
17)	1,1,1-Trichloroethane	12.99	97.0	171311	50.00	UG/KG	95
18)	Carbon Tetrachloride	13.34	117.0	180370	50.00	UG/KG	86
19)	Vinyl Acetate	13.53	43.0	132219	50.00	UG/KG	99
20)	Bromodichloromethane	13.84	83.0	190431	50.00	UG/KG	93
21)	1,2-Dichloropropane	15.20	63.0	76511	50.00	UG/KG	92
22)	cis-1,3-Dichloropropene	15.43	75.0	163289	54.00	UG/KG	96
23)	Trichloroethene	15.98	130.0	102490	50.00	UG/KG	95
24)	Dibromochloromethane	16.60	129.0	202008	50.00	UG/KG	97
25)	1,1,2-Trichloroethane	16.71	97.0	85926	50.00	UG/KG	96
26)	Benzene	16.52	78.0	161713	50.00	UG/KG	93
27)	trans-1,3-Dichloropropene	16.71	75.0	89739	36.00	UG/KG	96
28)	Bromoform	19.27	173.0	182460	50.00	UG/KG	99
29)	*Chlorobenzene-d5	23.96	117.0	214682	50.00	UG/KG	97
30)	4-Methyl-2-Pentanone	19.78	43.0	91818	50.00	UG/KG	92
31)	2-Hexanone	21.33	43.0	67477	50.00	UG/KG	90
32)	Tetrachloroethene	21.64	164.0	96153	50.00	UG/KG	96
33)	1,1,2,2-Tetrachloroethane	21.60	83.0	141383	50.00	UG/KG	93
34)	Toluene	22.91	92.0	115644	50.00	UG/KG	95
35)	Toluene-d8	22.76	98.0	231750	50.00	UG/KG	98
36)	Chlorobenzene	24.08	112.0	175779	50.00	UG/KG	92
37)	Ethylbenzene	26.02	106.0	78427	50.00	UG/KG	98
38)	Styrene	30.01	104.0	169513	50.00	UG/KG	91
39)	Xylene (total)	31.25	106.0	287053M	150.00	UG/KG	92
40)	Bromofluorobenzene	28.57	95.0	208704	50.00	UG/KG	88

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >EG797::W3 Quant Output File: ^EG797::QT
Name: 891002
Misc: VSTD200,200PPB STD#3331,7002E5

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

Operator ID: CARL
Quant Time: 891002 09:05
Injected at: 891002 08:24

QUANT REPORT

Operator ID: CARL
Output File: ^EG797::QT
Data File: >EG797::W3
Name: 891002
Misc: VSTD200,200PPB STD#3331,7002E5

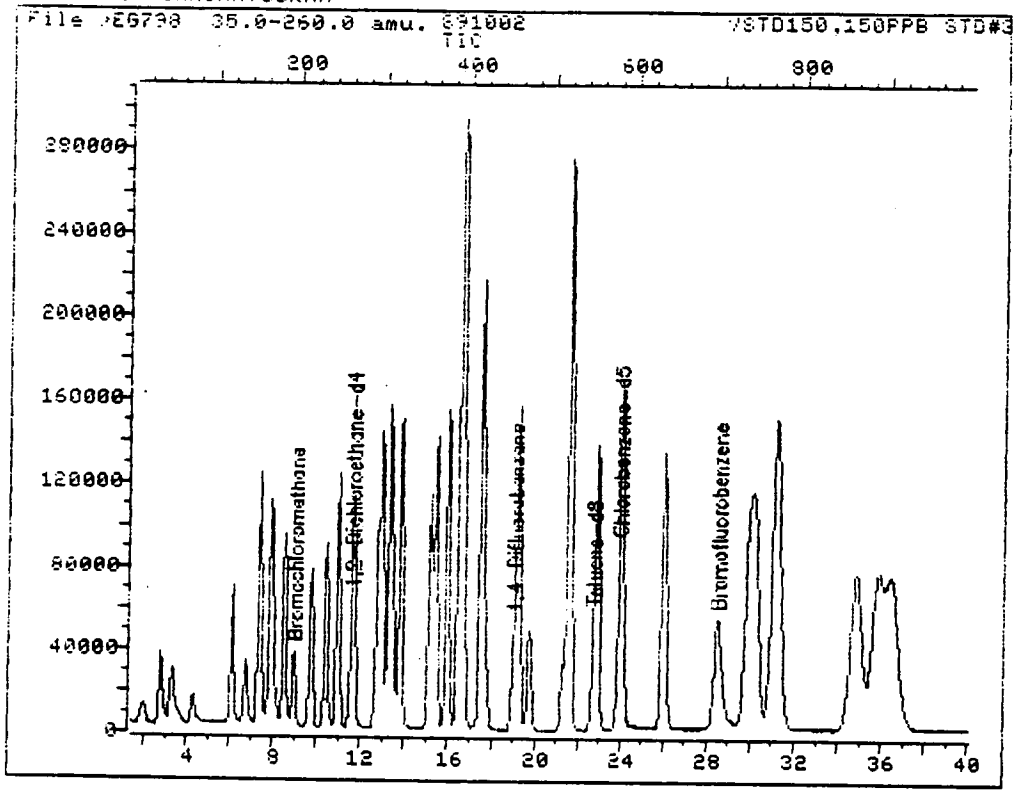
Quant Rev: 6
Quant Time: 891002 09:05
Injected at: 891002 08:24
Dilution Factor: 1.00000

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.99	128.0	53902	50.00	UG/KG	96
2)	Chloromethane	2.01	50.0	147594	235.55	UG/KG	96
3)	Bromomethane	2.82	94.0	183144	212.39	UG/KG	98
4)	Vinyl Chloride	3.41	62.0	194360	240.14	UG/KG	96
5)	Chloroethane	4.38	64.0	110949	232.78	UG/KG	99
6)	Methylene Chloride	6.16	84.0	201475	215.96	UG/KG	99
7)	Acetone	6.86	43.0	61422	134.48	UG/KG	99
8)	Carbon Disulfide	7.40	76.0	677456	234.33	UG/KG	100
9)	1,1-Dichloroethene	8.56	96.0	263515	234.30	UG/KG	94
10)	1,1-Dichloroethane	9.80	63.0	512019	227.85	UG/KG	95
11)	1,2-Dichloroethene (total)	10.46	96.0	261716	229.66	UG/KG	73
12)	Chloroform	11.01	83.0	728676	228.24	UG/KG	92
13)	1,2-Dichloroethane-d4	11.63	65.0	124003M	56.34	UG/KG	88
14)	1,2-Dichloroethane	11.70	62.0	530216	222.92	UG/KG	96
15)	*1,4-Difluorobenzene	19.07	114.0	217152	50.00	UG/KG	90
16)	2-Butanone	11.70	72.0	42860	71.23	UG/KG	98
17)	1,1,1-Trichloroethane	12.98	97.0	731834	218.27	UG/KG	93
18)	Carbon Tetrachloride	13.33	117.0	750237	212.52	UG/KG	84
19)	Vinyl Acetate	13.53	43.0	524241	202.58	UG/KG	97
20)	Bromodichloromethane	13.84	83.0	784856	210.58	UG/KG	95
21)	1,2-Dichloropropane	15.19	63.0	325687	217.49	UG/KG	91
22)	cis-1,3-Dichloropropene	15.43	75.0	689889	276.31	UG/KG	95
23)	Trichloroethene	15.97	130.0	409837	204.31	UG/KG	92
24)	Dibromochloromethane	16.59	129.0	769445	194.61	UG/KG	98
25)	1,1,2-Trichloroethane	16.71	97.0	324974	193.24	UG/KG	95
26)	Benzene	16.47	78.0	670708	211.91	UG/KG	95
27)	trans-1,3-Dichloropropene	16.71	75.0	363791	149.13	UG/KG	99
28)	Bromoform	19.27	173.0	688284	192.74	UG/KG	98
29)	*Chlorobenzene-d5	23.96	117.0	206166	50.00	UG/KG	96
30)	4-Methyl-2-Pentanone	19.77	43.0	282059	159.94	UG/KG	91
31)	2-Hexanone	21.32	43.0	188335	145.32	UG/KG	87
32)	Tetrachloroethene	21.63	164.0	383687	207.76	UG/KG	95
33)	1,1,2,2-Tetrachloroethane	21.59	83.0	488205	179.79	UG/KG	93
34)	Toluene	22.91	92.0	486903	219.21	UG/KG	97
35)	Toluene-d8	22.75	98.0	225341	50.63	UG/KG	98
36)	Chlorobenzene	24.07	112.0	720843	213.51	UG/KG	95
37)	Ethylbenzene	26.05	106.0	333409	221.34	UG/KG	99
38)	Styrene	29.93	104.0	700681	215.21	UG/KG	91
39)	Xylene (total)	31.17	106.0	1211605M	659.28	UG/KG	92
40)	Bromofluorobenzene	28.53	95.0	202578	50.54	UG/KG	87

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >EG798::W3 Quant Output File: ^EG798::QT
Name: 891002
Misc: VSTD150,150PPB STD#3332,7002E5

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

Operator ID: CARL
Quant Time: 891002 09:50
Injected at: 891002 09:10

QUANT REPORT

Operator ID: CARL
Output File: ^EG798::QT
Data File: >EG798::W3
Name: 891002
Misc: VSTD150,150PPB STD#3332,7002E5

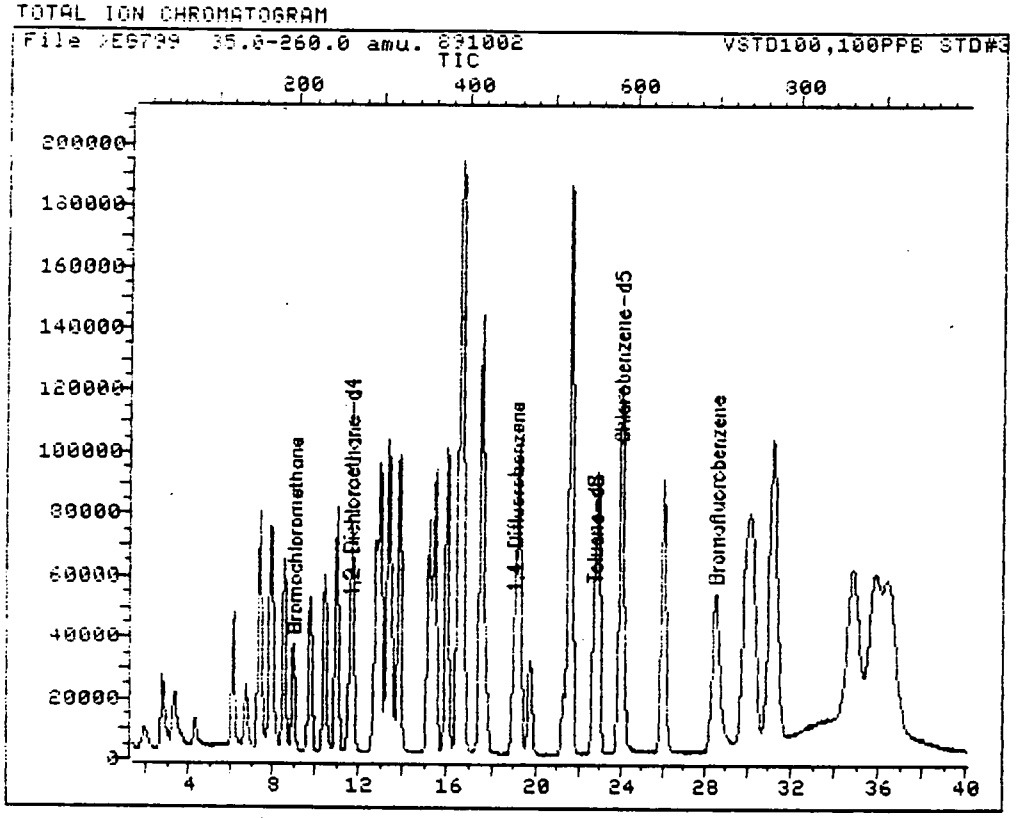
Quant Rev: 6
Quant Time: 891002 09:50
Injected at: 891002 09:10
Dilution Factor: 1.00000

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	54367	50.00	UG/KG	92
2)	Chloromethane	1.98	50.0	115133	182.18	UG/KG	98
3)	Bromomethane	2.80	94.0	144975	166.69	UG/KG	94
4)	Vinyl Chloride	3.38	62.0	144868	177.46	UG/KG	97
5)	Chloroethane	4.35	64.0	84056	174.84	UG/KG	98
6)	Methylene Chloride	6.13	84.0	154364	164.05	UG/KG	98
7)	Acetone	6.83	43.0	49969	108.47	UG/KG	97
8)	Carbon Disulfide	7.41	76.0	501500	171.98	UG/KG	100
9)	1,1-Dichloroethene	8.54	96.0	200392	176.65	UG/KG	93
10)	1,1-Dichloroethane	9.78	63.0	394205	173.92	UG/KG	94
11)	1,2-Dichloroethene (total)	10.44	96.0	198325	172.55	UG/KG	74
12)	Chloroform	10.98	83.0	553694	171.94	UG/KG	94
13)	1,2-Dichloroethane-d4	11.60	65.0	126555	57.01	UG/KG	88
14)	1,2-Dichloroethane	11.71	62.0	408638	170.33	UG/KG	97
15)	*1,4-Difluorobenzene	19.04	114.0	210994	50.00	UG/KG	91
16)	2-Butanone	11.68	72.0	35419	60.58	UG/KG	95
17)	1,1,1-Trichloroethane	12.96	97.0	554686	170.26	UG/KG	93
18)	Carbon Tetrachloride	13.34	117.0	572085	166.78	UG/KG	83
19)	Vinyl Acetate	13.50	43.0	408533	162.48	UG/KG	98
20)	Bromodichloromethane	13.85	83.0	597375	164.96	UG/KG	92
21)	1,2-Dichloropropane	15.20	63.0	246726	169.57	UG/KG	93
22)	cis-1,3-Dichloropropene	15.44	75.0	513880	211.82	UG/KG	97
23)	Trichloroethene	15.98	130.0	310542	159.33	UG/KG	90
24)	Dibromochloromethane	16.56	129.0	594074	154.64	UG/KG	98
25)	1,1,2-Trichloroethane	16.72	97.0	247903	151.71	UG/KG	96
26)	Benzene	16.48	78.0	499728	162.50	UG/KG	94
27)	trans-1,3-Dichloropropene	16.72	75.0	273039	115.19	UG/KG	99
28)	Bromoform	19.24	173.0	525417	151.42	UG/KG	96
29)	*Chlorobenzene-d5	23.93	117.0	204859	50.00	UG/KG	97
30)	4-Methyl-2-Pentanone	19.78	43.0	232050	132.42	UG/KG	90
31)	2-Hexanone	21.33	43.0	162510	126.19	UG/KG	88
32)	Tetrachloroethene	21.64	164.0	292705	159.51	UG/KG	99
33)	1,1,2,2-Tetrachloroethane	21.56	83.0	385297	142.79	UG/KG	93
34)	Toluene	22.92	92.0	366548	166.08	UG/KG	95
35)	Toluene-d8	22.73	98.0	226505	51.21	UG/KG	99
36)	Chlorobenzene	24.08	112.0	538251	160.45	UG/KG	92
37)	Ethylbenzene	26.02	106.0	247996	165.69	UG/KG	99
38)	Styrene	29.94	104.0	526065	162.61	UG/KG	93
39)	Xylene (total)	31.18	106.0	897978M	491.74	UG/KG	91
40)	Bromofluorobenzene	28.50	95.0	200658	50.38	UG/KG	92

* Compound is ISTD

TOTAL ION CHROMATOGRAM



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Name: 891002
Misc: VSTD100,100PPB STD#3333,7002E5

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

Operator ID: CARL
Quant Time: 891002 10:36
Injected at: 891002 09:55

QUANT REPORT

Operator ID: CARL
Output File: ^EG799::QT
Data File: >EG799::W3
Name: 891002
Misc: VSTD100,100PPB STD#3333,7002E5

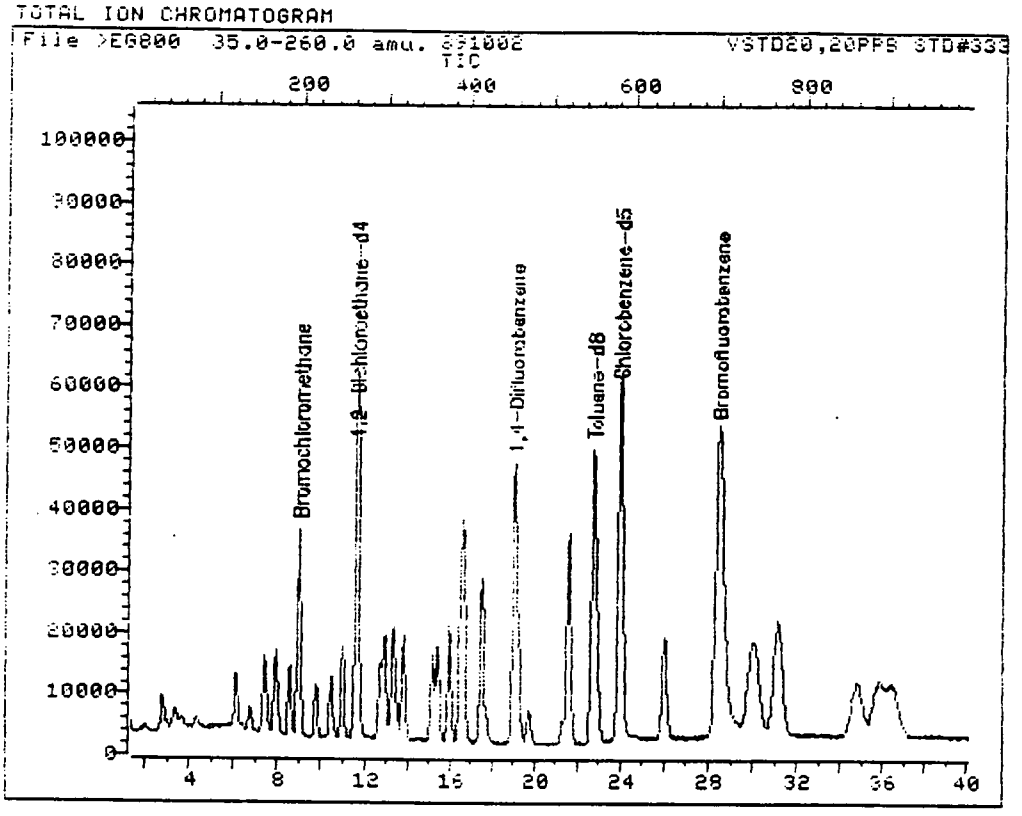
Quant Rev: 6
Quant Time: 891002 10:36
Injected at: 891002 09:55
Dilution Factor: 1.00000

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	53569	50.00	UG/KG	92
2)	Chloromethane	1.99	50.0	75774	121.68	UG/KG	96
3)	Bromomethane	2.80	94.0	101113	117.99	UG/KG	92
4)	Vinyl Chloride	3.38	62.0	96942	120.52	UG/KG	98
5)	Chloroethane	4.35	64.0	55281	116.70	UG/KG	96
6)	Methylene Chloride	6.13	84.0	101869	109.87	UG/KG	99
7)	Acetone	6.79	43.0	32916	72.52	UG/KG	99
8)	Carbon Disulfide	7.41	76.0	343723	119.63	UG/KG	100
9)	1,1-Dichloroethene	8.54	96.0	131328	117.49	UG/KG	93
10)	1,1-Dichloroethane	9.78	63.0	261463	117.08	UG/KG	95
11)	1,2-Dichloroethene (total)	10.44	96.0	130998	115.67	UG/KG	75
12)	Chloroform	11.02	83.0	364115	114.76	UG/KG	93
13)	1,2-Dichloroethane-d4	11.60	65.0	119019	54.41	UG/KG	90
14)	1,2-Dichloroethane	11.72	62.0	264234	111.78	UG/KG	96
15)	*1,4-Difluorobenzene	19.04	114.0	214063	50.00	UG/KG	90
16)	2-Butanone	11.68	72.0	20444	34.47	UG/KG	97
17)	1,1,1-Trichloroethane	12.96	97.0	363381	109.94	UG/KG	90
18)	Carbon Tetrachloride	13.34	117.0	377353	108.43	UG/KG	91
19)	Vinyl Acetate	13.50	43.0	265522	104.09	UG/KG	98
20)	Bromodichloromethane	13.85	83.0	388571	105.76	UG/KG	94
21)	1,2-Dichloropropane	15.20	63.0	162798	110.28	UG/KG	93
22)	cis-1,3-Dichloropropene	15.44	75.0	335134	136.16	UG/KG	95
23)	Trichloroethene	15.98	130.0	204058	103.19	UG/KG	92
24)	Dibromochloromethane	16.60	129.0	383060	98.28	UG/KG	97
25)	1,1,2-Trichloroethane	16.72	97.0	162973	98.31	UG/KG	93
26)	Benzene	16.48	78.0	333418	106.86	UG/KG	94
27)	trans-1,3-Dichloropropene	16.72	75.0	177602	73.86	UG/KG	99
28)	Bromoform	19.24	173.0	336128	95.48	UG/KG	97
29)	*Chlorobenzene-d5	23.97	117.0	202704	50.00	UG/KG	96
30)	4-Methyl-2-Pentanone	19.78	43.0	150000	86.51	UG/KG	92
31)	2-Hexanone	21.33	43.0	102161	80.17	UG/KG	89
32)	Tetrachloroethene	21.64	164.0	198314	109.22	UG/KG	98
33)	1,1,2,2-Tetrachloroethane	21.60	83.0	256131	95.93	UG/KG	93
34)	Toluene	22.92	92.0	243550	111.52	UG/KG	96
35)	Toluene-d8	22.73	98.0	226697	51.80	UG/KG	98
36)	Chlorobenzene	24.08	112.0	352551	106.21	UG/KG	92
37)	Ethylbenzene	26.02	106.0	164877	111.33	UG/KG	99
38)	Styrene	29.90	104.0	346378	108.21	UG/KG	93
39)	Xylene (total)	31.18	106.0	594600M	329.07	UG/KG	93
40)	Bromofluorobenzene	28.50	95.0	197379	50.08	UG/KG	92

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >EG800::W3 Quant Output File: ^EG800::QT
Name: 891002
Misc: VSTD20,20PPB STD#3334,7002E5

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

Operator ID: CARL
Quant Time: 891002 11:21
Injected at: 891002 10:41

QUANT REPORT

Operator ID: CARL
Output File: ^EG800::QT
Data File: >EG800::W3
Name: 891002
Misc: VSTD20,20PPB STD#3334,7002E5

Quant Rev: 6
Quant Time: 891002 11:21
Injected at: 891002 10:41
Dilution Factor: 1.00000

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.01	128.0	52032	50.00	UG/KG	88
2)	Chloromethane	1.99	50.0	13523	22.36	UG/KG	92
3)	Bromomethane	2.81	94.0	19958	23.98	UG/KG	94
4)	Vinyl Chloride	3.39	62.0	17233	22.06	UG/KG	98
5)	Chloroethane	4.32	64.0	9939	21.60	UG/KG	97
6)	Methylene Chloride	6.10	84.0	19783	21.97	UG/KG	94
7)	Acetone	6.80	43.0	7958	18.05	UG/KG	92
8)	Carbon Disulfide	7.42	76.0	61138	21.91	UG/KG	100
9)	1,1-Dichloroethene	8.58	96.0	24404	22.48	UG/KG	94
10)	1,1-Dichloroethane	9.78	63.0	47518	21.91	UG/KG	94
11)	1,2-Dichloroethene (total)	10.44	96.0	23785	21.62	UG/KG	77
12)	Chloroform	10.98	83.0	67414	21.87	UG/KG	95
13)	1,2-Dichloroethane-d4	11.60	65.0	110731	52.12	UG/KG	89
14)	1,2-Dichloroethane	11.72	62.0	47940	20.88	UG/KG	97
15)	*1,4-Difluorobenzene	19.05	114.0	209311	50.00	UG/KG	90
16)	2-Butanone	11.68	72.0	56675	97.72	UG/KG	99
17)	1,1,1-Trichloroethane	12.96	97.0	65676	20.32	UG/KG	92
18)	Carbon Tetrachloride	13.31	117.0	67741	19.91	UG/KG	87
19)	Vinyl Acetate	13.50	43.0	44976	18.03	UG/KG	97
20)	Bromodichloromethane	13.85	83.0	69027	19.21	UG/KG	92
21)	1,2-Dichloropropane	15.17	63.0	30102	20.85	UG/KG	96
22)	cis-1,3-Dichloropropene	15.44	75.0	60071	24.96	UG/KG	95
23)	Trichloroethene	15.98	130.0	38462	19.89	UG/KG	90
24)	Dibromochloromethane	16.57	129.0	71782	18.84	UG/KG	98
25)	1,1,2-Trichloroethane	16.68	97.0	31518	19.44	UG/KG	97
26)	Benzene	16.49	78.0	61407	20.13	UG/KG	94
27)	trans-1,3-Dichloropropene	16.68	75.0	31675	13.47	UG/KG	99
28)	Bromoform	19.24	173.0	60374	17.54	UG/KG	97
29)	*Chlorobenzene-d5 ,	23.93	117.0	203221	50.00	UG/KG	97
30)	4-Methyl-2-Pentanone	19.74	43.0	28760	16.54	UG/KG	91
31)	2-Hexanone	21.29	43.0	20082	15.72	UG/KG	91
32)	Tetrachloroethene	21.60	164.0	37061	20.36	UG/KG	99
33)	1,1,2,2-Tetrachloroethane	21.57	83.0	48591	18.15	UG/KG	92
34)	Toluene	22.92	92.0	44342	20.25	UG/KG	92
35)	Toluene-d8	22.73	98.0	220890	50.34	UG/KG	99
36)	Chlorobenzene	24.05	112.0	65909	19.80	UG/KG	92
37)	Ethylbenzene	26.02	106.0	30160	20.31	UG/KG	98
38)	Styrene	29.90	104.0	64444	20.08	UG/KG	93
39)	Xylene (total)	31.14	106.0	109761M	60.59	UG/KG	92
40)	Bromofluorobenzene	28.47	95.0	196277	49.67	UG/KG	88

* Compound is ISTD

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Nam : EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Instrum nt ID: 7002E5 Calibration Date: 9/28/89 Time: 8:18

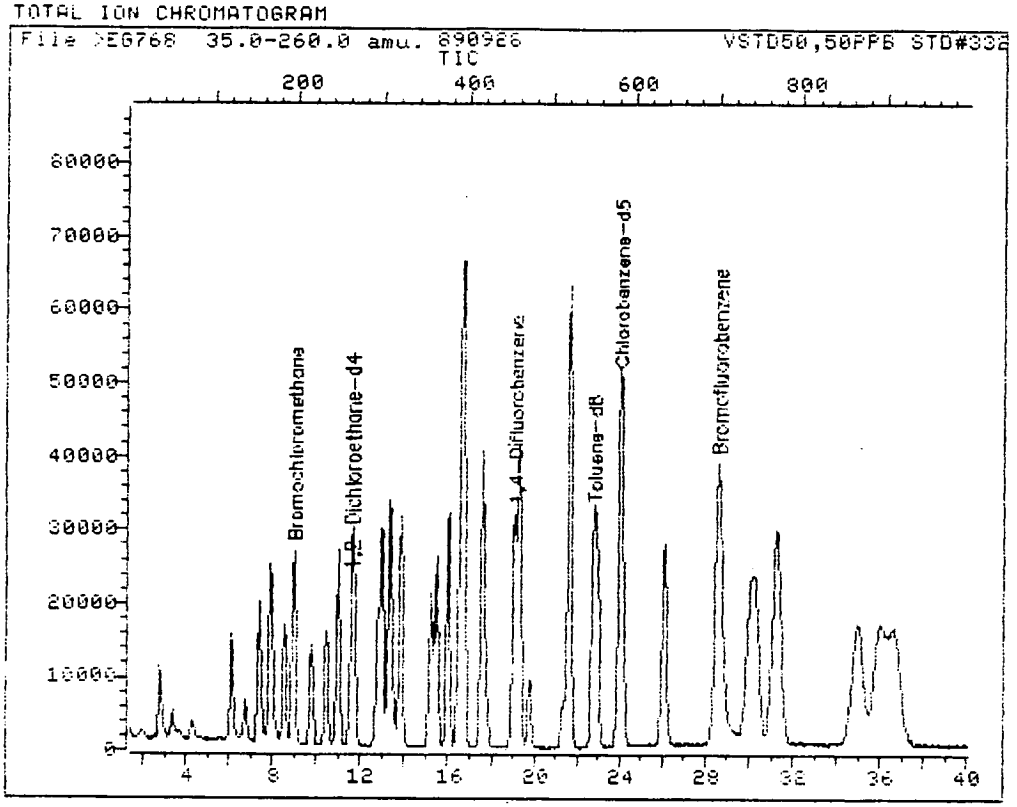
Lab File ID: EG768 Init. Calib. Date(s): 9/ 5/89 9/ 5/89

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = .300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND	RRF	RRF50	%D
Chloromethane #	.462	.323	29.9 #
Bromomethane	.786	.829	5.5
Vinyl Chloride *	.666	.535	19.6 *
Chloroethane	.382	.361	5.6
Methylene Chloride	.816	.842	3.2
Acetone	.265	.291	10.0
Carbon Disulfide	2.346	1.647	29.8
1,1-Dichloroethene *	.950	.823	13.4 *
1,1-Dichloroethane #	1.651	1.513	8.4 #
1,2-Dichloroethene (total)	.993	.870	12.4
Chloroform *	2.495	2.621	5.0 *
1,2-Dichloroethane	1.794	1.959	9.2
2-Butanone	.027	.037	38.2
1,1,1-Trichloroethane	.663	.818	23.4
Carbon Tetrachloride	.647	.875	35.2
Vinyl Acetate	.435	.401	7.8
Bromodichloromethane	.755	.846	12.0
1,2-Dichloropropane *	.279	.260	6.8 *
cis-1,3-Dichloropropene	.506	.501	1.1
Trichloroethene	.431	.469	8.7
Dibromochloromethane	.759	.978	28.8
1,1,2-Trichloroethane	.335	.371	10.5
Benzene	.645	.595	7.7
trans-1,3-Dichloropropene	.483	.514	6.4
Bromoform #	.720	.937	30.1 #
4-Methyl-2-Pentanone	.310	.286	7.8
2-Hexanone	.221	.204	7.9
Tetrachloroethene	.485	.455	6.1
1,1,2,2-Tetrachloroethane #	.631	.541	14.3 #
Toluene *	.573	.458	20.0 *
Chlorobenzene #	.844	.751	11.0 #
Ethylbenzene *	.380	.340	10.6 *
Styrene	.834	.720	13.7
Xylene (total)	.457	.401	12.3
Toluene-d8	1.125	1.000	11.1
Bromofluorobenzene	.883	.930	5.3
1,2-Dichloroethane-d4	1.779	1.919	7.9

TOTAL ION CHROMATOGRAM



Data File: >EG768::W3 Quant Output File: ^EG768::QT
Name: 890928
Misc: VSTD50,50PPB STD#3320,7002E5

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 09:07
Injected at: 890928 08:16

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890928 09:07
Output File: ^EG768::QT Injected at: 890928 08:18
Data File: >EG768::W3 Dilution Factor: 1.00000
Name: 890928
Misc: VSTD50,50PPB STD#3320,7002E5

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	44503	50.00	UG/L	97
2)	Chloromethane	1.98	50.0	14396	50.00	UG/L	99
3)	Bromomethane	2.80	94.0	36898	50.00	UG/L	92
4)	Vinyl Chloride	3.38	62.0	23801	50.00	UG/L	99
5)	Chloroethane	4.35	64.0	16047	50.00	UG/L	97
6)	Methylene Chloride	6.13	84.0	37476	50.00	UG/L	96
7)	Acetone	6.79	43.0	12954	50.00	UG/L	99
8)	Carbon Disulfide	7.41	76.0	73312	50.00	UG/L	100
9)	1,1-Dichloroethene	8.57	96.0	36617	50.00	UG/L	94
10)	1,1-Dichloroethane	9.77	63.0	67317	50.00	UG/L	98
11)	1,2-Dichloroethene (total)	10.43	96.0	38709	50.00	UG/L	93
12)	Chloroform	11.01	83.0	116650	50.00	UG/L	96
13)	1,2-Dichloroethane-d4	11.59	65.0	85410	50.00	UG/L	89
14)	1,2-Dichloroethane	11.71	62.0	87173	50.00	UG/L	97
15)	*1,4-Difluorobenzene	19.08	114.0	146505	50.00	UG/L	90
16)	2-Butanone	11.71	72.0	5384	50.00	UG/L	89
17)	1,1,1-Trichloroethane	12.99	97.0	119797	50.00	UG/L	93
18)	Carbon Tetrachloride	13.34	117.0	128206	50.00	UG/L	86
19)	Vinyl Acetate	13.49	43.0	58757	50.00	UG/L	96
20)	Bromodichloromethane	13.88	83.0	123899	50.00	UG/L	92
21)	1,2-Dichloropropane	15.20	63.0	38039	50.00	UG/L	94
22)	cis-1,3-Dichloropropene	15.47	75.0	93875	64.00	UG/L	95
23)	Trichloroethene	16.01	130.0	68637	50.00	UG/L	99
24)	Dibromochloromethane	16.59	129.0	143289	50.00	UG/L	99
25)	1,1,2-Trichloroethane	16.71	97.0	54307	50.00	UG/L	97
26)	Benzene	16.52	78.0	87172	50.00	UG/L	92
27)	trans-1,3-Dichloropropene	16.71	75.0	54231	36.00	UG/L	95
28)	Bromoform	19.27	173.0	137219	50.00	UG/L	99
29)	*Chlorobenzene-d5	24.00	117.0	149088	50.00	UG/L	96
30)	4-Methyl-2-Pentanone	19.77	43.0	42577	50.00	UG/L	97
31)	2-Hexanone	21.32	43.0	30356	50.00	UG/L	89
32)	Tetrachloroethene	21.63	164.0	67896	50.00	UG/L	97
33)	1,1,2,2-Tetrachloroethane	21.59	83.0	80585	50.00	UG/L	97
34)	Toluene	22.95	92.0	68315	50.00	UG/L	92
35)	Toluene-d8	22.76	98.0	149061	50.00	UG/L	98
36)	Chlorobenzene	24.11	112.0	111947	50.00	UG/L	98
37)	Ethylbenzene	26.09	106.0	50791	50.00	UG/L	99
38)	Styrene	30.04	104.0	107307	50.00	UG/L	92
39)	Xylene (total)	31.25	106.0	179270M	150.00	UG/L	99
40)	Bromofluorobenzene	28.57	95.0	138685	50.00	UG/L	97

* Compound is ISTD

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Instrum nt ID: 7002E5 Calibration Date: 9/30/89 Time: 8:46

Lab File ID: EG790 Init. Calib. Date(s): 9/ 5/89 9/ 5/89

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

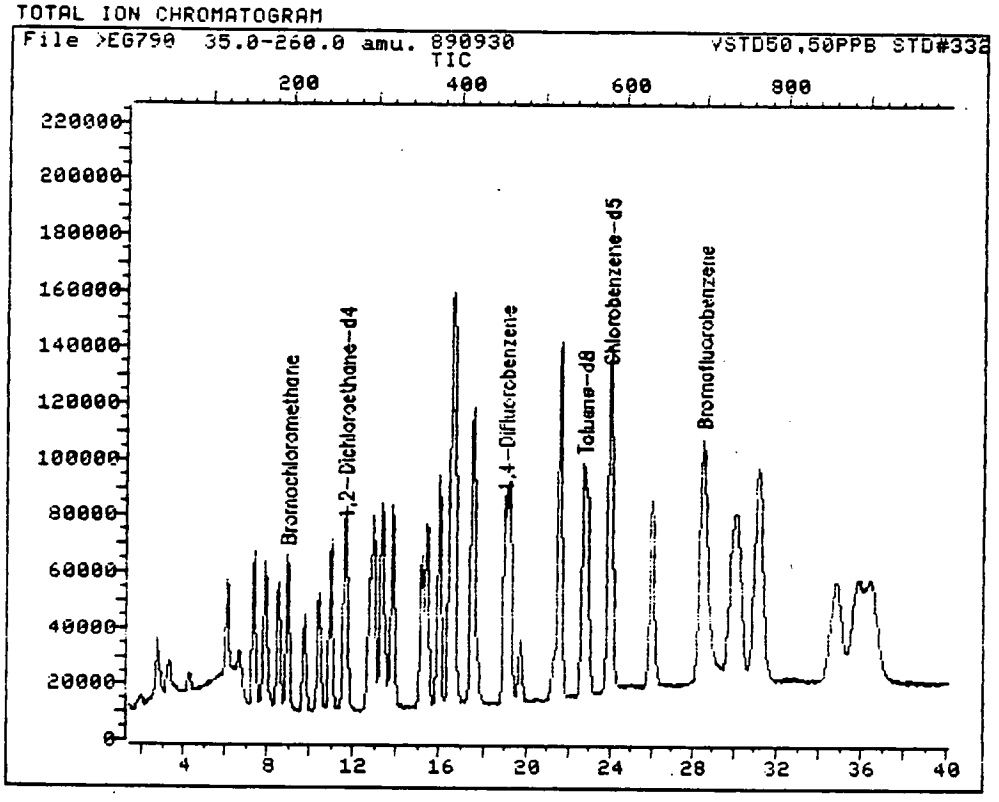
Min RRF50 for SPCC(#) = .300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND		$\overline{RRF}$	RRF50	%D	
Chloromethane	#	.462	.608	31.8	#
Bromomethane		.786	.863	9.7	
Vinyl Chloride	*	.666	.746	12.1	*
Chloroethane		.382	.489	28.1	
Methylene Chloride		.816	.865	6.0	
Acetone		.265	.409	54.5	
Carbon Disulfide		2.346	2.769	18.0	
1,1-Dichloroethene	*	.950	1.092	14.9	*
1,1-Dichloroethane	#	1.651	2.008	21.6	#
1,2-Dichloroethene (total)		.993	1.123	13.1	
Chloroform	*	2.495	2.958	18.5	*
1,2-Dichloroethane		1.794	2.150	19.9	
2-Butanone		.027	.076	185.9	
1,1,1-Trichloroethane		.663	.794	19.8	
Carbon Tetrachloride		.647	.817	26.3	
Vinyl Acetate		.435	.459	5.5	
Bromodichloromethane		.755	.840	11.3	
1,2-Dichloropropane	*	.279	.324	16.3	*
cis-1,3-Dichloropropene		.506	.566	12.0	
Trichloroethene		.431	.516	19.7	
Dibromochloromethane		.759	.893	17.6	
1,1,2-Trichloroethane		.335	.357	6.4	
Benzene		.645	.734	13.9	
trans-1,3-Dichloropropene		.483	.559	15.7	
Bromoform	#	.720	.749	4.0	#
4-Methyl-2-Pentanone		.310	.286	7.7	
2-Hexanone		.221	.214	3.3	
Tetrachloroethene		.485	.449	7.4	
1,1,2,2-Tetrachloroethane	#	.631	.420	33.4	#
Toluene	*	.573	.545	4.9	*
Chlorobenzene	#	.844	.817	3.1	#
Ethylbenzene	*	.380	.366	3.9	*
Styrene		.834	.796	4.5	
Xylene (total)		.457	.453	.9	
Toluene-d8		1.125	1.062	5.6	
Bromofluorobenzene		.883	.969	9.7	
1,2-Dichloroethane-d4		1.779	1.998	12.3	

FORM VII VOA

1/87 R v.

TOTAL ION CHROMATOGRAM



Data File: >EG790::W3 Quant Output File: ^EG790::QT
Name: 890930
Misc: VSTD50,50PPB STD#3329,7002E5

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890930 09:35

Operator ID: CARL
Quant Time: 890930 09:43
Injected at: 890930 08:46

QUANT REPORT

Operator ID: CARL
Output File: ^EG790::QT
Data File: >EG790::W3
Name: 890930
Misc: VSTD50,50PPB STD#3329,7002E5

Quant Rev: 6
Quant Time: 890930 09:43
Injected at: 890930 08:46
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890930 09:35

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.97	128.0	91246	50.00	UG/L	86
2)	Chloromethane	1.98	50.0	55514	50.00	UG/L	93
3)	Bromomethane	2.76	94.0	78709	50.00	UG/L	94
4)	Vinyl Chloride	3.34	62.0	68083	50.00	UG/L	98
5)	Chloroethane	4.31	64.0	44663	50.00	UG/L	94
6)	Methylene Chloride	6.10	84.0	78902	50.00	UG/L	88
7)	Acetone	6.80	43.0	37301	50.00	UG/L	98
8)	Carbon Disulfide	7.38	76.0	252656	50.00	UG/L	100
9)	1,1-Dichloroethene	8.54	96.0	99601	50.00	UG/L	93
10)	1,1-Dichloroethane	9.78	63.0	183242	50.00	UG/L	96
11)	1,2-Dichloroethene (total)	10.44	96.0	102437	50.00	UG/L	90
12)	Chloroform	10.98	83.0	269877	50.00	UG/L	94
13)	1,2-Dichloroethane-d4	11.61	65.0	182269	50.00	UG/L	90
14)	1,2-Dichloroethane	11.68	62.0	196194	50.00	UG/L	99
15)	*1,4-Difluorobenzene	19.02	114.0	344648	50.00	UG/L	91
16)	2-Butanone	11.68	72.0	26201	50.00	UG/L	95
17)	1,1,1-Trichloroethane	12.92	97.0	273728	50.00	UG/L	92
18)	Carbon Tetrachloride	13.31	117.0	281674	50.00	UG/L	85
19)	Vinyl Acetate	13.51	43.0	158229	50.00	UG/L	96
20)	Bromodichloromethane	13.82	83.0	289511	50.00	UG/L	95
21)	1,2-Dichloropropane	15.17	63.0	111688	50.00	UG/L	94
22)	cis-1,3-Dichloropropene	15.41	75.0	249898	64.00	UG/L	96
23)	Trichloroethene	15.99	130.0	177947	50.00	UG/L	91
24)	Dibromochloromethane	16.57	129.0	307739	50.00	UG/L	98
25)	1,1,2-Trichloroethane	16.69	97.0	122923	50.00	UG/L	96
26)	Benzene	16.49	78.0	252939	50.00	UG/L	94
27)	trans-1,3-Dichloropropene	16.69	75.0	138745	36.00	UG/L	96
28)	Bromoform	19.25	173.0	258082	50.00	UG/L	98
29)	*Chlorobenzene-d5	23.95	117.0	340537	50.00	UG/L	93
30)	4-Methyl-2-Pentanone	19.75	43.0	97397	50.00	UG/L	95
31)	2-Hexanone	21.31	43.0	72863	50.00	UG/L	90
32)	Tetrachloroethene	21.62	164.0	152826	50.00	UG/L	98
33)	1,1,2,2-Tetrachloroethane	21.58	83.0	143084	50.00	UG/L	94
34)	Toluene	22.90	92.0	185518	50.00	UG/L	96
35)	Toluene-d8	22.74	98.0	361765	50.00	UG/L	97
36)	Chlorobenzene	24.06	112.0	278293	50.00	UG/L	94
37)	Ethylbenzene	26.00	106.0	124560	50.00	UG/L	99
38)	Styrene	29.89	104.0	271222	50.00	UG/L	95
39)	Xylene (total)	31.17	106.0	462879M	150.00	UG/L	91
40)	Bromofluorobenzene	28.49	95.0	330014	50.00	UG/L	84

* Compound is ISTD

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Nam : EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Instrum nt ID: 7002E5 Calibration Date: 9/26/89 Time: 10:07

Lab Fil ID: EG735 Init. Calib. Date(s): 9/ 5/89 9/ 5/89

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

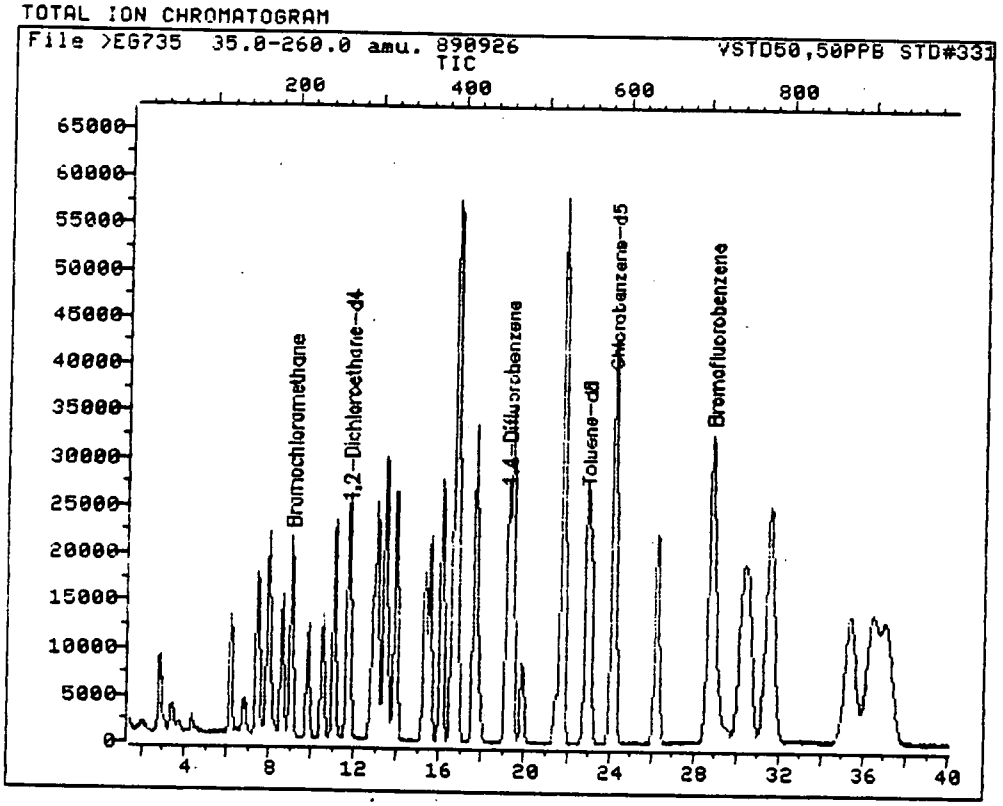
Min RRF50 for SPCC(#) = .300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND	RRF	RRF50	%D
Chloromethane #	.462	.351	24.0 #
Bromomethane	.786	.834	6.1
Vinyl Chloride *	.666	.557	16.3 *
Chloroethane	.382	.354	7.3
Methylene Chloride	.816	.852	4.4
Acetone	.265	.262	1.1
Carbon Disulfide	2.346	1.738	25.9
1,1-Dichloroethene *	.950	.883	7.1 *
1,1-Dichloroethane #	1.651	1.588	3.8 #
1,2-Dichloroethene (total)	.993	.865	12.9
Chloroform *	2.495	2.730	9.4 *
1,2-Dichloroethane	1.794	1.970	9.8
2-Butanone	.027	.043	60.7
1,1,1-Trichloroethane	.663	.783	18.1
Carbon Tetrachloride	.647	.876	35.3
Vinyl Acetate	.435	.396	9.0
Bromodichloromethane	.755	.801	6.1
1,2-Dichloropropane *	.279	.258	7.3 *
cis-1,3-Dichloropropene	.506	.467	7.6
Trichloroethene	.431	.451	4.5
Dibromochloromethane	.759	.939	23.7
1,1,2-Trichloroethane	.335	.362	8.0
Benzene	.645	.556	13.7
trans-1,3-Dichloropropene	.483	.484	.2
Bromoform #	.720	.894	24.3 #
4-Methyl-2-Pentanone	.310	.320	3.3
2-Hexanone	.221	.233	5.2
Tetrachloroethene	.485	.491	1.3
1,1,2,2-Tetrachloroethane #	.631	.588	6.8 #
Toluene *	.573	.490	14.4 *
Chlorobenzene #	.844	.803	4.9 #
Ethylbenzene *	.380	.353	7.2 *
Styrene	.834	.733	12.2
Xylene (total)	.457	.418	8.5
Toluene-d8	1.125	1.043	7.3
Bromofluorobenzene	.883	.956	8.2
1,2-Dichloroethane-d4	1.779	1.982	11.4

FORM VII VOA

1/87 R v.

TOTAL ION CHROMATOGRAM



Data File: >EG735::W3 Quant Output File: ^EG735::QT
Name: 890926
Misc: VSTD50,50PPB STD#3315,7002E5

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Operator ID: CARL
Quant Time: 890926 10:54
Injected at: 890926 10:07

QUANT REPORT

Operator ID: CARL
Output File: ^EG735::QT
Data File: >EG735::W3
Name: 890926
Misc: VSTD50,50PPB STD#3315,7002E5

Quant Rev: 6
Quant Time: 890926 10:54
Injected at: 890926 10:07
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.04	128.0	37495	50.00	UG/L	95
2)	Chloromethane	2.02	50.0	13159	50.00	UG/L	96
3)	Bromomethane	2.84	94.0	31275	50.00	UG/L	87
4)	Vinyl Chloride	3.42	62.0	20897	50.00	UG/L	97
5)	Chloroethane	4.39	64.0	13282M	50.00	UG/L	92
6)	Methylene Chloride	6.21	84.0	31931	50.00	UG/L	95
7)	Acetone	6.90	43.0	9809	50.00	UG/L	96
8)	Carbon Disulfide	7.45	76.0	65148	50.00	UG/L	100
9)	1,1-Dichloroethene	8.61	96.0	33094	50.00	UG/L	91
10)	1,1-Dichloroethane	9.85	63.0	59554	50.00	UG/L	94
11)	1,2-Dichloroethene (total)	10.51	96.0	32426	50.00	UG/L	94
12)	Chloroform	11.09	83.0	102361	50.00	UG/L	98
13)	1,2-Dichloroethane-d4	11.71	65.0	74306	50.00	UG/L	89
14)	1,2-Dichloroethane	11.79	62.0	73848	50.00	UG/L	98
15)	*1,4-Difluorobenzene	19.15	114.0	131277	50.00	UG/L	89
16)	2-Butanone	11.79	72.0	5609	50.00	UG/L	91
17)	1,1,1-Trichloroethane	13.07	97.0	102765	50.00	UG/L	94
18)	Carbon Tetrachloride	13.41	117.0	114986	50.00	UG/L	85
19)	Vinyl Acetate	13.61	43.0	51964	50.00	UG/L	96
20)	Bromodichloromethane	13.96	83.0	105157	50.00	UG/L	93
21)	1,2-Dichloropropane	15.31	63.0	33914	50.00	UG/L	94
22)	cis-1,3-Dichloropropene	15.55	75.0	78549	64.00	UG/L	95
23)	Trichloroethene	16.09	130.0	59179	50.00	UG/L	97
24)	Dibromochloromethane	16.71	129.0	123290	50.00	UG/L	98
25)	1,1,2-Trichloroethane	16.83	97.0	47538	50.00	UG/L	94
26)	Benzene	16.59	78.0	73027	50.00	UG/L	94
27)	trans-1,3-Dichloropropene	16.83	75.0	45741	36.00	UG/L	95
28)	Bromoform	19.38	173.0	117403	50.00	UG/L	97
29)	*Chlorobenzene-d5	24.11	117.0	121143	50.00	UG/L	98
30)	4-Methyl-2-Pentanone	19.89	43.0	38781	50.00	UG/L	94
31)	2-Hexanone	21.48	43.0	28202	50.00	UG/L	89
32)	Tetrachloroethene	21.79	164.0	59506	50.00	UG/L	94
33)	1,1,2,2-Tetrachloroethane	21.75	83.0	71256	50.00	UG/L	96
34)	Toluene	23.10	92.0	59402	50.00	UG/L	96
35)	Toluene-d8	22.87	98.0	126389	50.00	UG/L	96
36)	Chlorobenzene	24.23	112.0	97230	50.00	UG/L	96
37)	Ethylbenzene	26.24	106.0	42749	50.00	UG/L	94
38)	Styrene	30.27	104.0	88778	50.00	UG/L	93
39)	Xylene (total)	31.59	106.0	152072M	150.00	UG/L	92
40)	Bromofluorobenzen	28.80	95.0	115811	50.00	UG/L	98

* Compound is ISTD

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Nam : EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Instrum nt ID: 7002E5 Calibration Date: 9/27/89 Time: 7:36

Lab File ID: EG750 Init. Calib. Date(s): 9/ 5/89 9/ 5/89

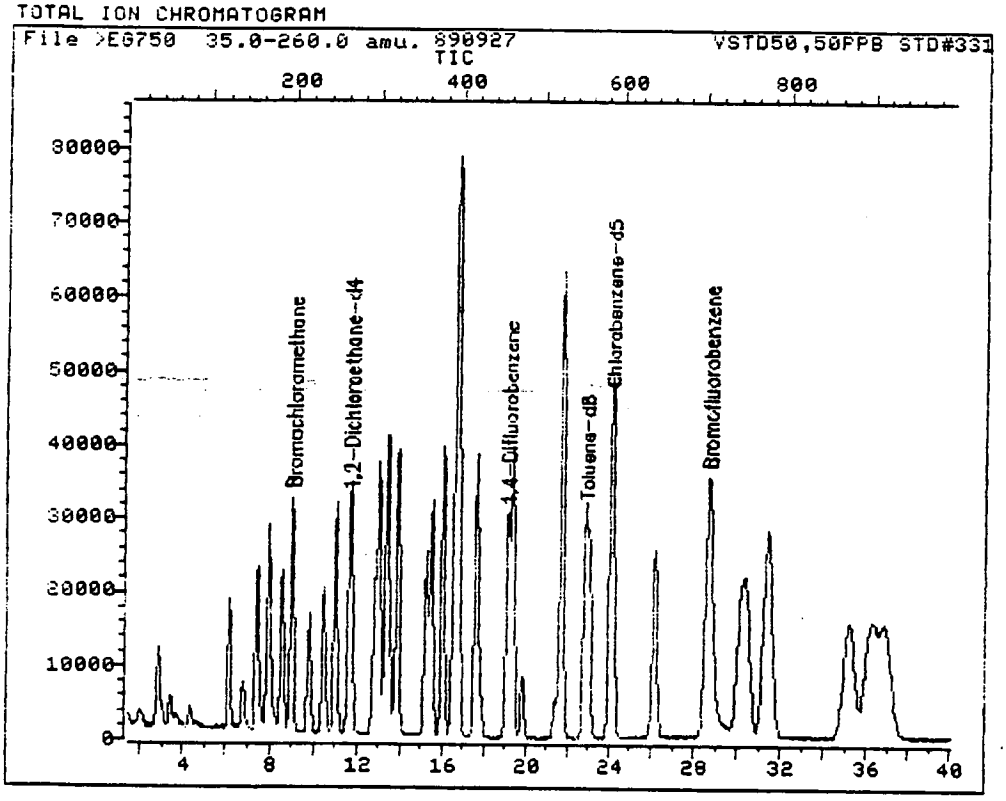
Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = .300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND		$\overline{RRF}$	RRF50	%D	
Chloromethane	#	.462	.383	17.1	#
Bromomethane		.786	.764	2.8	
Vinyl Chloride	*	.666	.542	18.5	*
Chloroethane		.382	.351	8.2	
Methylene Chloride		.816	.779	4.6	
Acetone		.265	.265	.3	
Carbon Disulfide		2.346	1.684	28.2	
1,1-Dichloroethene	*	.950	.855	10.0	*
1,1-Dichloroethane	#	1.651	1.553	5.9	#
1,2-Dichloroethene (total)		.993	.880	11.4	
Chloroform	*	2.495	2.607	4.5	*
1,2-Dichloroethane		1.794	1.941	8.2	
2-Butanone		.027	.032	18.8	
1,1,1-Trichloroethane		.663	1.014	52.9	
Carbon Tetrachloride		.647	1.096	69.3	
Vinyl Acetate		.435	.493	13.2	
Bromodichloromethane		.755	1.054	39.7	
1,2-Dichloropropane	*	.279	.331	18.9	*
cis-1,3-Dichloropropene		.506	.614	21.3	
Trichloroethene		.431	.584	35.4	
Dibromochloromethane		.759	1.196	57.6	
1,1,2-Trichloroethane		.335	.444	32.4	
Benzene		.645	.749	16.1	
trans-1,3-Dichloropropene		.483	.607	25.6	
Bromoform	#	.720	.898	24.8	#
4-Methyl-2-Pentanone		.310	.269	13.0	
2-Hexanone		.221	.195	12.0	
Tetrachloroethene		.485	.510	5.2	
1,1,2,2-Tetrachloroethane	#	.631	.561	11.1	#
Toluene	*	.573	.491	14.3	*
Chlorobenzene	#	.844	.788	6.6	#
Ethylbenzene	*	.380	.366	3.9	*
Styrene		.834	.739	11.4	
Xylene (total)		.457	.424	7.4	
Toluene-d8		1.125	1.051	6.6	
Bromofluorobenzene		.883	.943	6.8	
1,2-Dichloro thane-d4		1.779	1.879	5.7	

FORM VII VOA

TOTAL ION CHROMATOGRAM



Data File: >EG750::W3 Quant Output File: ^EG750::QT
Name: 890927
Misc: VSTD50,50PPB STD#3318,7002E5

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 08:25
Injected at: 890927 07:36

QUANT REPORT

Operator ID: CARL
Output File: ^EG750::QT
Data File: >EG750::W3
Name: 890927
Misc: VSTD50,50PPB STD#3318,7002E5

Quant Rev: 6
Quant Time: 890927 08:25
Injected at: 890927 07:36
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.03	128.0	53675	50.00	UG/L	95
2)	Chloromethane	2.02	50.0	20546	50.00	UG/L	98
3)	Bromomethane	2.79	94.0	41030	50.00	UG/L	90
4)	Vinyl Chloride	3.41	62.0	29107M	50.00	UG/L	96
5)	Chloroethane	4.34	64.0	18827M	50.00	UG/L	94
6)	Methylene Chloride	6.16	84.0	41795	50.00	UG/L	96
7)	Acetone	6.82	43.0	14249	50.00	UG/L	99
8)	Carbon Disulfide	7.44	76.0	90367	50.00	UG/L	100
9)	1,1-Dichloroethene	8.60	96.0	45902	50.00	UG/L	94
10)	1,1-Dichloroethane	9.84	63.0	83359	50.00	UG/L	97
11)	1,2-Dichloroethene (total)	10.50	96.0	47218	50.00	UG/L	92
12)	Chloroform	11.05	83.0	139935	50.00	UG/L	95
13)	1,2-Dichloroethane-d4	11.67	65.0	100868	50.00	UG/L	90
14)	1,2-Dichloroethane	11.74	62.0	104198	50.00	UG/L	97
15)	*1,4-Difluorobenzene	19.11	114.0	144848	50.00	UG/L	90
16)	2-Butanone	11.74	72.0	4577	50.00	UG/L	93
17)	1,1,1-Trichloroethane	13.02	97.0	146809	50.00	UG/L	91
18)	Carbon Tetrachloride	13.37	117.0	158689	50.00	UG/L	84
19)	Vinyl Acetate	13.57	43.0	71352	50.00	UG/L	99
20)	Bromodichloromethane	13.88	83.0	152739	50.00	UG/L	91
21)	1,2-Dichloropropane	15.27	63.0	47984	50.00	UG/L	94
22)	cis-1,3-Dichloropropene	15.50	75.0	113819	64.00	UG/L	95
23)	Trichloroethene	16.05	130.0	84584	50.00	UG/L	97
24)	Dibromochloromethane	16.67	129.0	173299	50.00	UG/L	99
25)	1,1,2-Trichloroethane	16.78	97.0	64327	50.00	UG/L	94
26)	Benzene	16.55	78.0	108434	50.00	UG/L	94
27)	trans-1,3-Dichloropropene	16.78	75.0	63299	36.00	UG/L	95
28)	Bromoform	19.34	173.0	130129	50.00	UG/L	96
29)	*Chlorobenzene-d5	24.07	117.0	137558	50.00	UG/L	95
30)	4-Methyl-2-Pentanone	19.84	43.0	37068	50.00	UG/L	95
31)	2-Hexanone	21.39	43.0	26777	50.00	UG/L	90
32)	Tetrachloroethene	21.71	164.0	70161	50.00	UG/L	98
33)	1,1,2,2-Tetrachloroethane	21.67	83.0	77161	50.00	UG/L	91
34)	Toluene	23.02	92.0	67504	50.00	UG/L	94
35)	Toluene-d8	22.83	98.0	144602	50.00	UG/L	97
36)	Chlorobenzene	24.19	112.0	108327	50.00	UG/L	99
37)	Ethylbenzene	26.16	106.0	50304	50.00	UG/L	96
38)	Styrene	30.16	104.0	101688	50.00	UG/L	94
39)	Xylene (total)	31.44	106.0	174773M	150.00	UG/L	93
40)	Bromofluorobenzene	28.69	95.0	129776	50.00	UG/L	98

* Compound is ISTD

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Instrum nt ID: 7002E5 Calibration Date: 10/ 3/89 Time: 9:53

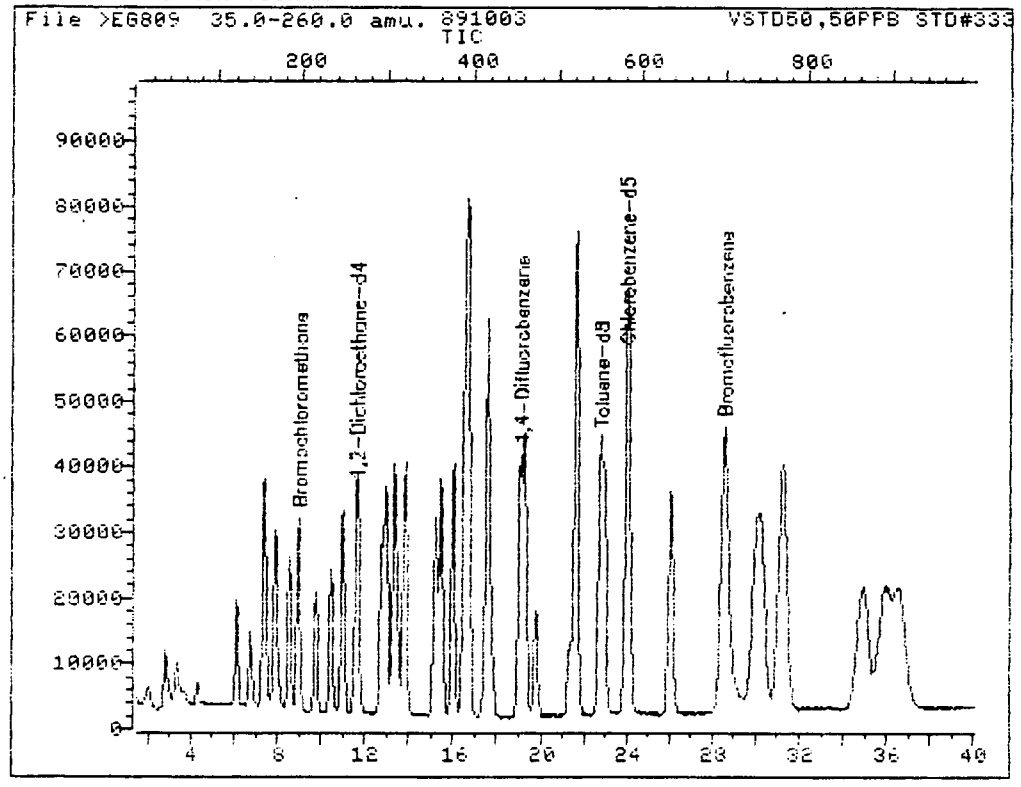
Lab File ID: EG809 Init. Calib. Date(s): 10/ 2/89 10/ 2/89

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = .300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND		$\overline{RRF}$	RRF50	%D	
Chloromethane	#	.666	.619	7.1	#
Bromomethane		.888	.749	15.6	
Vinyl Chloride	*	.855	.776	9.2	*
Chloroethane		.493	.460	6.6	
Methylene Chloride		.930	.772	16.9	
Acetone		.343	.487	42.0	
Carbon Disulfide		3.009	2.812	6.5	
1,1-Dichloroethene	*	1.178	1.064	9.7	*
1,1-Dichloroethane	#	2.320	2.173	6.3	#
1,2-Dichloroethene (total)		1.170	1.093	6.6	
Chloroform	*	3.275	2.960	9.6	*
1,2-Dichloroethane		2.388	2.220	7.0	
2-Butanone		.194	.042	78.2	
1,1,1-Trichloroethane		.825	.753	8.7	
Carbon Tetrachloride		.854	.790	7.5	
Vinyl Acetate		.600	.713	18.7	
Bromodichloromethane		.888	.859	3.2	
1,2-Dichloropropane	*	.370	.373	1.0	*
cis-1,3-Dichloropropene		.600	.586	2.4	
Trichloroethene		.472	.457	3.3	
Dibromochloromethane		.897	.878	2.2	
1,1,2-Trichloroethane		.382	.381	.3	
Benzene		.761	.754	.8	
trans-1,3-Dichloropropene		.569	.558	1.8	
Bromoform	#	.790	.796	.7	#
4-Methyl-2-Pentanone		.374	.524	40.1	
2-Hexanone		.261	.345	32.2	
Tetrachloroethene		.467	.444	4.9	
1,1,2,2-Tetrachloroethane	#	.621	.687	10.6	#
Toluene	*	.574	.548	4.5	*
Chlorobenzene	#	.850	.813	4.3	#
Ethylbenzene	*	.390	.374	4.2	*
Styrene		.828	.779	5.9	
Xylene (total)		.472	.444	6.1	
Toluene-d8		1.097	1.091	.5	
Bromofluorobenzene		.975	.980	.5	
1,2-Dichloroethane-d4		2.204	2.033	7.7	

TOTAL ION CHROMATOGRAM



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Name: 891003
Misc: VSTD50,50PPB STD#3337,7002E5

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891003 10:44
Injected at: 891003 09:53

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 891003 10:44
Output File: ^EG809::QT Injected at: 891003 09:53
Data File: >EG809::W3 Dilution Factor: 1.00000
Name: 891003
Misc: VSTD50,50PPB STD#3337,7002E5

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	46582	50.00	UG/KG	84
2)	Chloromethane	1.99	50.0	28812	50.00	UG/KG	96
3)	Bromomethane	2.76	94.0	34901	50.00	UG/KG	92
4)	Vinyl Chloride	3.38	62.0	36138	50.00	UG/KG	94
5)	Chloroethane	4.31	64.0	21446	50.00	UG/KG	95
6)	Methylene Chloride	6.13	84.0	35972	50.00	UG/KG	96
7)	Acetone	6.79	43.0	22669	50.00	UG/KG	98
8)	Carbon Disulfide	7.41	76.0	130981	50.00	UG/KG	100
9)	1,1-Dichloroethene	8.58	96.0	49579	50.00	UG/KG	95
10)	1,1-Dichloroethane	9.78	63.0	101242	50.00	UG/KG	96
11)	1,2-Dichloroethene (total)	10.47	96.0	50925	50.00	UG/KG	73
12)	Chloroform	11.02	83.0	137901	50.00	UG/KG	93
13)	1,2-Dichloroethane-d4	11.64	65.0	94716	50.00	UG/KG	91
14)	1,2-Dichloroethane	11.72	62.0	103411	50.00	UG/KG	97
15)	*1,4-Difluorobenzene	19.08	114.0	175583	50.00	UG/KG	90
16)	2-Butanone	11.72	72.0	7406	50.00	UG/KG	99
17)	1,1,1-Trichloroethane	12.99	97.0	132225	50.00	UG/KG	94
18)	Carbon Tetrachloride	13.34	117.0	138661	50.00	UG/KG	82
19)	Vinyl Acetate	13.50	43.0	125115	50.00	UG/KG	97
20)	Bromodichloromethane	13.85	83.0	150797	50.00	UG/KG	92
21)	1,2-Dichloropropane	15.20	63.0	65578	50.00	UG/KG	97
22)	cis-1,3-Dichloropropene	15.44	75.0	131698	64.00	UG/KG	96
23)	Trichloroethene	16.02	130.0	80161	50.00	UG/KG	94
24)	Dibromochloromethane	16.60	129.0	154093	50.00	UG/KG	99
25)	1,1,2-Trichloroethane	16.72	97.0	66895	50.00	UG/KG	99
26)	Benzene	16.52	78.0	132465	50.00	UG/KG	93
27)	trans-1,3-Dichloropropene	16.72	75.0	70605	36.00	UG/KG	98
28)	Bromoform	19.27	173.0	139759	50.00	UG/KG	98
29)	*Chlorobenzene-d5	23.97	117.0	169274	50.00	UG/KG	96
30)	4-Methyl-2-Pentanone	19.78	43.0	88748	50.00	UG/KG	88
31)	2-Hexanone	21.33	43.0	58444	50.00	UG/KG	87
32)	Tetrachloroethene	21.64	164.0	75142	50.00	UG/KG	95
33)	1,1,2,2-Tetrachloroethane	21.60	83.0	116329	50.00	UG/KG	93
34)	Toluene	22.96	92.0	92842	50.00	UG/KG	94
35)	Toluene-d8	22.76	98.0	184740	50.00	UG/KG	99
36)	Chlorobenzene	24.08	112.0	137646	50.00	UG/KG	93
37)	Ethylbenzene	26.06	106.0	63290	50.00	UG/KG	98
38)	Styrene	29.97	104.0	131898	50.00	UG/KG	92
39)	Xylene (total)	31.22	106.0	225312M	150.00	UG/KG	92
40)	Bromofluorobenzene	28.54	95.0	165831	50.00	UG/KG	92

* Compound is ISTD

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID (Standard): EG735 Date Analyzed: 9/26/89

Instrument ID: 7002E5 Time Analyzed: 10:07

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	37495.	9.04	131277.	19.15	121143.	24.11
	UPPER LIMIT	74990.	9.54	262554.	19.65	242286.	24.61
	LOWER LIMIT	18748.	8.54	65639.	18.65	60572.	23.61
	EPA SAMPLE NO.						
1	VBLK3	37347.	9.04	125229.	19.15	115270.	24.11
2	TRIP BL	44009.	9.04	119244.	19.15	113344.	24.11
3	WRW-1	30009.	9.03	108132.	19.18	104430.	24.10
4	WRW-2	30000.	9.05	106241.	19.16	104224.	24.12
5	WRW-3	27042.	9.04	94759.	19.15	94259.	24.11
6	ALW-2	22723.	9.07	86457.	19.19	80835.	24.15
7	FTAW-1	34536.	9.04	119848.	19.15	120523.	24.11
8	FTAW-2	34114.	9.03	127080.	19.11	125520.	24.07
9	FTAW-3	36428.	9.00	134413.	19.12	128982.	24.04
10	FTAW-4	35830.	9.00	128577.	19.11	126815.	24.03
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID (Standard): EG750 Date Analyzed: 9/27/89

Instrum nt ID: 7002E5 Time Analyzed: 7:36

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	53675.	9.03	144848.	19.11	137558.	24.07
	UPPER LIMIT	107350.	9.53	289696.	19.61	275116.	24.57
	LOWER LIMIT	26838.	8.53	72424.	18.61	68779.	23.57
	EPA SAMPLE NO.						
1	VBLK4	50326.	9.04	136591.	19.11	133287.	24.07
2	NELSWS1	37402.	9.00	128853.	19.11	126010.	24.03
3	DUP#1	33363.	9.00	118191.	19.10	118507.	24.03
4	DUP#1MS	33617.	9.04	119925.	19.11	114610.	24.07
5	DUP#1MSD	31829.	9.02	123437.	19.10	111174.	24.06
6	FTAW-1 DL	35331.	9.02	124428.	19.10	126180.	24.02
7	NFFW-1	34662.	9.00	126878.	19.07	121638.	24.04
8	NFFW-5	34420.	9.02	125083.	19.10	121669.	24.02
9	NFFW-2	33247.	9.01	118769.	19.12	117819.	24.04
10	NFFW-7	34946.	9.02	129954.	19.10	120897.	24.02
11	DUP#3	34456.	9.07	129232.	19.15	128594.	24.07
12	DUP#3MS	34864.	9.03	127231.	19.07	128770.	24.03
13	DUP#3MSD	35385.	9.05	119715.	19.13	128306.	24.05
14	NELSWS2	36137.	9.04	126528.	19.11	128733.	24.04
15	NELSWS3	34779.	9.01	128902.	19.12	122396.	24.05
16	ALSWS-1	34881.	9.03	122276.	19.10	125229.	24.06
17							
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19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA

1/87 Rev.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID (Standard): EG768 Date Analyzed: 9/28/89

Instrument ID: 7002E5 Time Analyzed: 8:18

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	44503.	9.00	146505.	19.08	149088.	24.00
	UPPER LIMIT	89006.	9.50	293010.	19.58	298176.	24.50
	LOWER LIMIT	22252.	8.50	73253.	18.58	74544.	23.50
	EPA SAMPLE NO.						
1	VBLK5	42910.	9.01	145153.	19.05	142081.	23.97
2	NFFW-5 DL	36871.	8.97	131061.	19.05	127192.	23.97
3	ALSWS-2	32979.	8.98	119316.	19.05	113382.	23.97
4	9WSLSWS1	44851.	8.97	165044.	19.04	159057.	23.96
5	9WSLSWS2	41408.	8.99	151505.	19.03	152169.	23.95
6	9WSLSWS3	41148.	9.00	151290.	19.04	150106.	23.96
7	9WSLSWS4	34665.	8.97	125082.	19.04	124221.	23.97
8	DUP#2	42270.	9.00	155636.	19.03	152325.	23.96
9	DUP#2MS	41806.	8.99	149677.	19.03	146338.	23.95
10	DUP#2MSD	40775.	9.01	152429.	19.05	151109.	23.97
11	UGSWS-1	40951.	8.98	150938.	19.05	148250.	23.97
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA 1/87 Rev.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Lab File ID (Standard): EG790 Date Analyzed: 9/30/89

Instrum nt ID: 7002E5 Time Analyzed: 8:46

Matrix:(soil/water) WATER Level:(low/med): LOW Column:(pack/cap) PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	91246.	8.97	344648.	19.02	340537.	23.95
	UPPER LIMIT	182492.	9.47	689296.	19.52	681074.	24.45
	LOWER LIMIT	45623.	8.47	172324.	18.52	170269.	23.45
	EPA SAMPLE NO.						
1	VBLK6	66199.	9.00	256598.	19.04	245164.	23.97
2	NFFW-4 RE	60793.	8.97	250995.	19.01	240735.	23.93
3	ALSWS-3	60310.	8.96	237440.	19.04	227553.	23.93
4	ALSWS-4	58160.	8.98	229374.	19.02	217917.	23.94
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Lab File ID (Standard): EG796 Date Analyzed: 10/ 2/89

Instrument ID: 7002E5 Time Analyzed: 7:36

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	59125.	9.00	221900.	19.04	214682.	23.96
	UPPER LIMIT	118250.	9.50	443800.	19.54	429364.	24.46
	LOWER LIMIT	29563.	8.50	110950.	18.54	107341.	23.46
	EPA SAMPLE NO.						
1	VBLK1	52385.	9.00	214373.	19.04	205535.	23.96
2	NELSS-1	37343.	8.78	133044.	19.01	101547.*	23.93
3	NELSS-2	30099.	8.98	117888.	19.06	93934.*	23.98
4	ALSS-1	31955.	9.01	121439.	19.05	104457.*	23.97
5	ALSS-2	30778.	8.98	116739.	19.06	99171.*	23.94
6	ALSS-3	35855.	9.00	138552.	19.03	124693.	23.96
7	ALSS-4	39348.	8.98	154665.	19.06	140859.	23.94
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Lab File ID (Standard): EG809 Date Analyzed: 10/ 3/89

Instrument ID: 7002E5 Time Analyzed: 9:53

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	46582.	9.00	175583.	19.08	169274.	23.97
	UPPER LIMIT	93164.	9.50	351166.	19.58	338548.	24.47
	LOWER LIMIT	23291.	8.50	87792.	18.58	84637.	23.47
	EPA SAMPLE NO.						
1	VBLK2	44355.	9.01	171541.	19.08	166257.	24.01
2	NSLSS-1	12170.*	8.76	124316.	18.88	123748.	23.91
3	NSLSS-2	30320.	8.96	120758.	19.08	111428.	23.96
4	NSLSS-3	28977.	8.96	114660.	19.08	103208.	24.00
5	NSLSS-1 RE	9000.*	8.78	110823.	19.01	106370.	23.94
6	NSLSS-4	29895.	9.01	117029.	19.08	110735.	24.00
7	UGSS-1	28765.	9.02	112508.	19.10	110004.	23.98
8	DUP#4	25907.	8.99	100802.	19.06	93727.	23.99
9	DUP#4MS	24336.	9.02	90172.	19.10	85821.	24.02
10	DUP#4MSD	25811.	9.00	100808.	19.07	91507.	24.00
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA 1/87 Rev.

D. Raw QC Data

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG801

Lev l: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK1

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG801

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 10/ 2/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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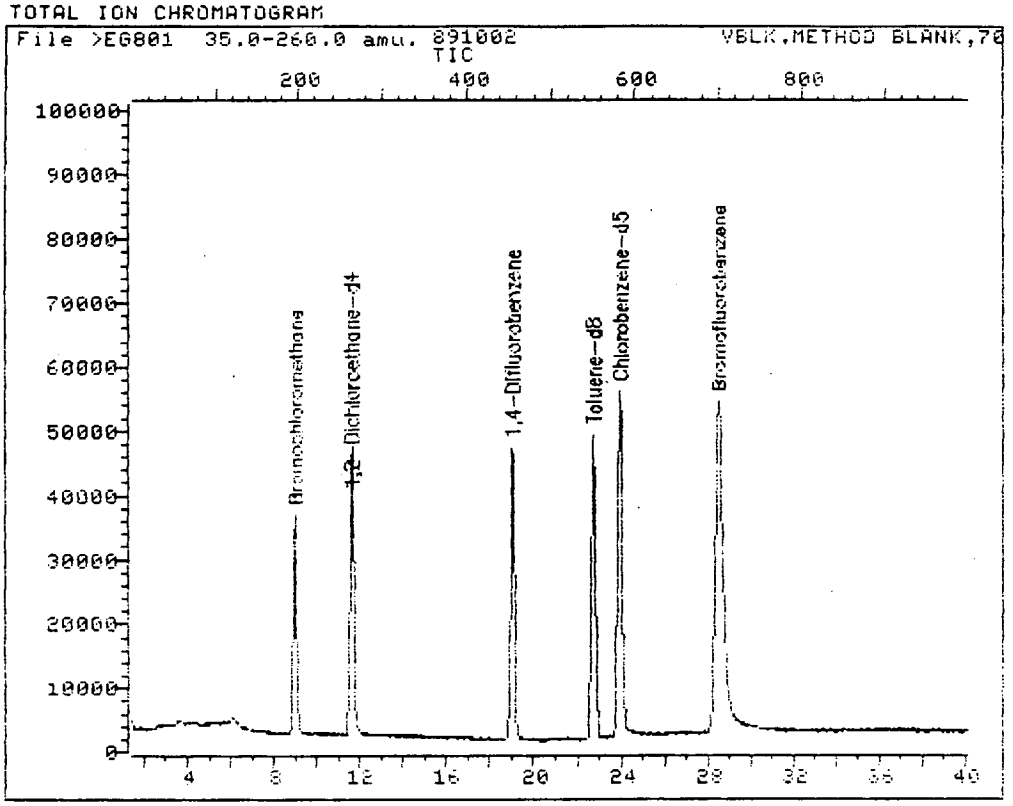
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



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Name: 891002
Misc: VBLK,METHOD BLANK,7002E5

Id File: EVDAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

Operator ID: CARL
Quant Time: 891002 12:07
Injected at: 891002 11:26

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 891002 12:07
Output File: ^EG801::QT Injected at: 891002 11:26
Data File: >EG801::W3 Dilution Factor: 1.00000
Name: 891002
Misc: VBLK,METHOD BLANK,7002E5

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891002 11:57

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	52385	50.00	UG/KG	91
13)	1,2-Dichloroethane-d4	11.60	65.0	109886	51.37	UG/KG	88
15)	*1,4-Difluorobenzene	19.04	114.0	214373	50.00	UG/KG	91
29)	*Chlorobenzene-d5	23.96	117.0	205535	50.00	UG/KG	96
35)	Toluene-d8	22.72	98.0	227357	51.24	UG/KG	96
40)	Bromofluorobenzene	28.50	95.0	198262	49.61	UG/KG	89

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG810

Lev l: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK2

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG810

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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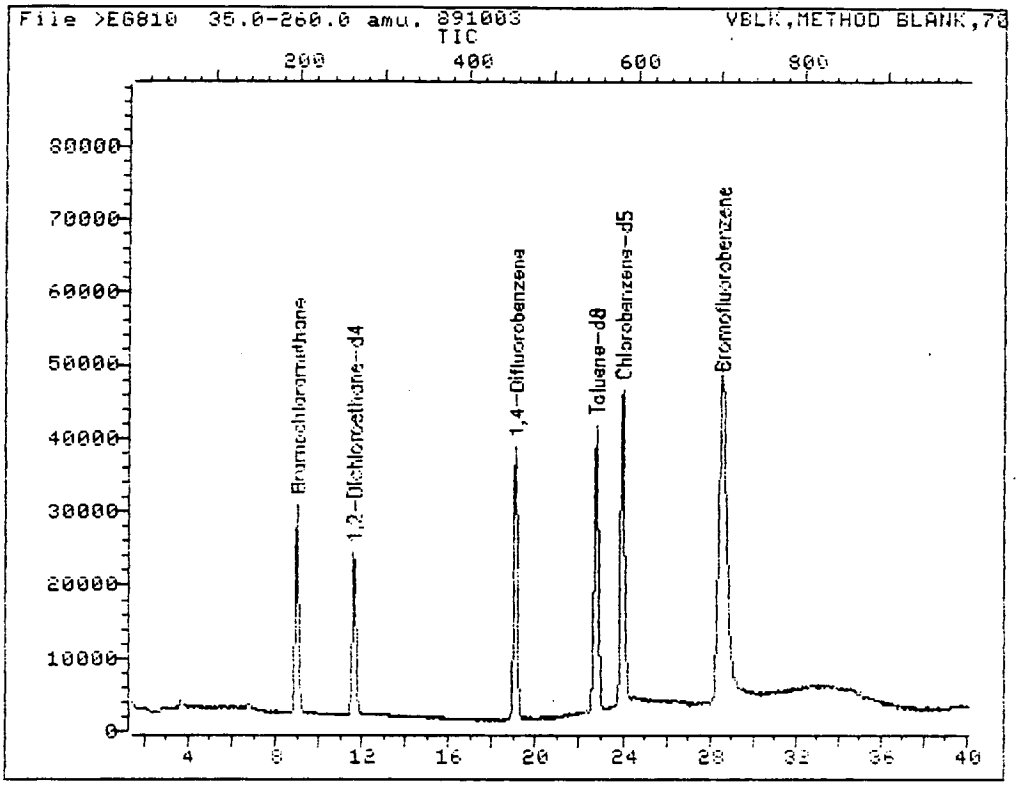
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG810::W3 Quant Output File: ^EG810::QT
Name: 891003
Misc: VBLK,METHOD BLANK,7002E5

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891003 11:34
Injected at: 891003 10:53

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 891003 11:34
Output File: ^EG810::QT Injected at: 891003 10:53
Data File: >EG810::W3 Dilution Factor: 1.00000
Name: 891003
Misc: VBLK,METHOD BLANK,7002E5

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.01	128.0	44355	50.00	UG/KG	88
13)	1,2-Dichloroethane-d4	11.64	65.0	87415	48.46	UG/KG	91
15)	*1,4-Difluorobenzene	19.08	114.0	171541	50.00	UG/KG	91
29)	*Chlorobenzene-d5	24.01	117.0	166257	50.00	UG/KG	96
35)	Toluene-d8	22.76	98.0	183842	50.66	UG/KG	98
40)	Bromofluorobenzene	28.54	95.0	159773	49.05	UG/KG	89

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK3

Lab Nam : EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLANK

Sampl wt/vol: 5.0 (g/mL) ML Lab File ID: EG736

L v l: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK3

Lab Name: EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLANK

Sampl wt/vol: 5.0 (g/mL) ML Lab File ID: EG736

L vel: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 100. Date Analyzed: 9/26/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Numb r TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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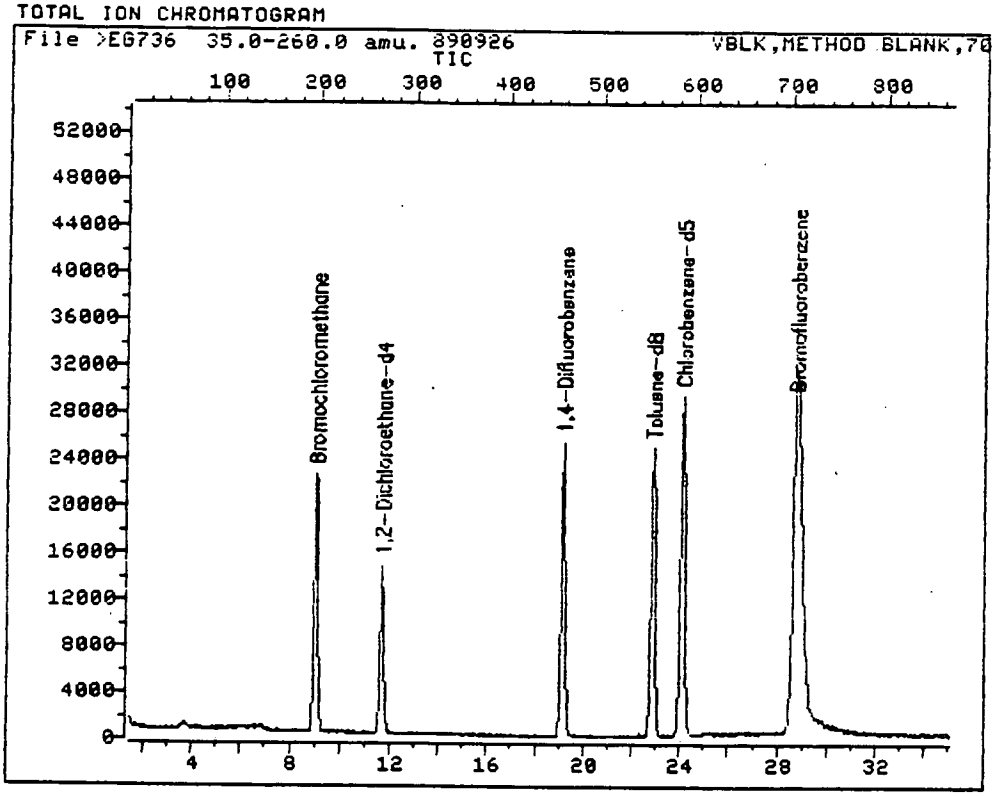
TOTAL ION CHROMATOGRAM



Data File: >EG736::W3 Quant Output File: ^EG736::QT
Name: 890926
Misc: VBLK,METHOD BLANK,7002E5

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

Operator ID: CARL
Quant Time: 890926 11:46
Injected at: 890926 11:10

QUANT REPORT

Operator ID: CARL
Output File: ^EG736::QT
Data File: >EG736::W3
Name: 890926
Misc: VBLK,METHOD BLANK,7002E5

Quant Rev: 6
Quant Time: 890926 11:46
Injected at: 890926 11:10
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890926 10:54

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.04	128.0	37347	50.00	UG/L	94
13)	1,2-Dichloroethane-d4	11.67	65.0	71251	48.13	UG/L	90
15)	*1,4-Difluorobenzene	19.15	114.0	125229	50.00	UG/L	90
29)	*Chlorobenzene-d5	24.11	117.0	115270	50.00	UG/L	98
35)	Toluene-d8	22.87	98.0	122532	50.94	UG/L	98
40)	Bromofluorobenzene	28.72	95.0	110884	50.31	UG/L	90

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK4

Lab Nam : EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG751

L v l: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK4

Lab Nam : EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG751

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Numb r TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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3.					
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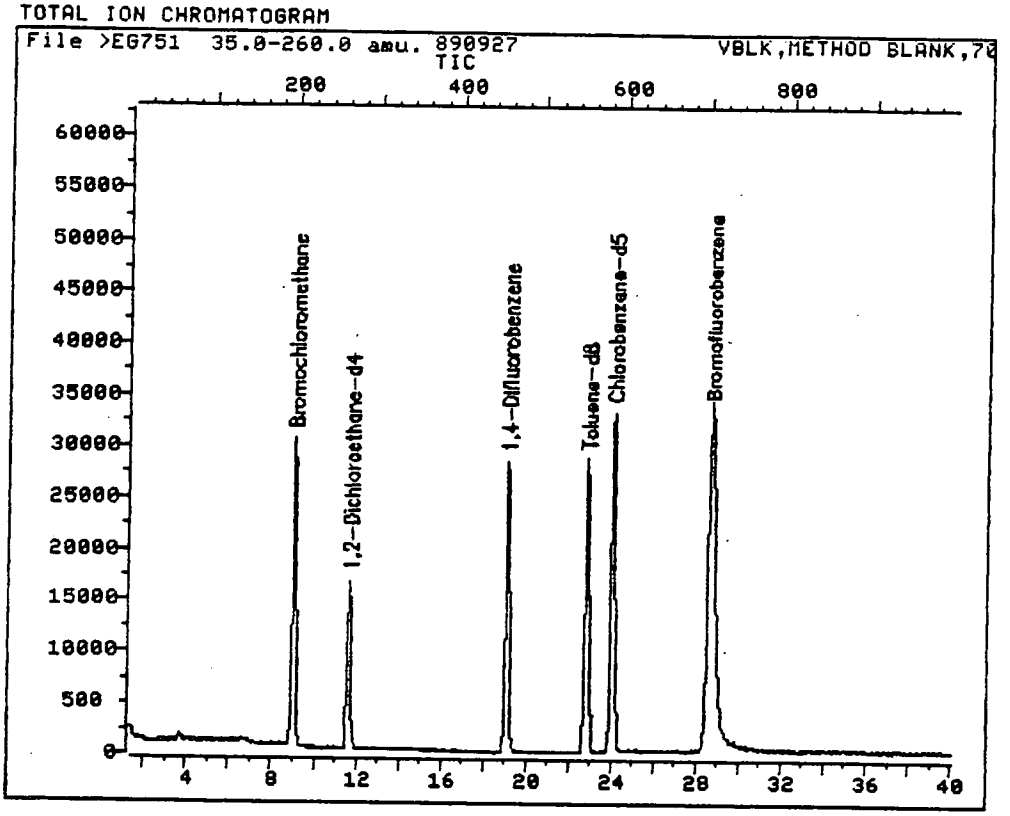
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG751::W3 Quant Output File: ^EG751::QT
Name: 890927
Misc: VBLK,METHOD BLANK,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 09:19
Injected at: 890927 08:39

QUANT REPORT

Operator ID: CARL
Output File: ^EG751::QT
Data File: >EG751::W3
Name: 890927
Misc: VBLK,METHOD BLANK,7002E5,WATER,5ML

Quant Rev: 6
Quant Time: 890927 09:19
Injected at: 890927 08:39
Dilution Factor: 1.00000

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.04	128.0	50326	50.00	UG/L	94
13)	1,2-Dichloroethane-d4	11.67	65.0	77496	40.97	UG/L	88
15)	*1,4-Difluorobenzene	19.11	114.0	136591	50.00	UG/L	90
29)	*Chlorobenzene-d5	24.07	117.0	133287	50.00	UG/L	94
35)	Toluene-d8	22.83	98.0	137195	48.96	UG/L	97
40)	Bromofluorobenzene	28.64	95.0	125096	49.74	UG/L	96

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK5

Lab Nam : EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG769

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK5

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG769

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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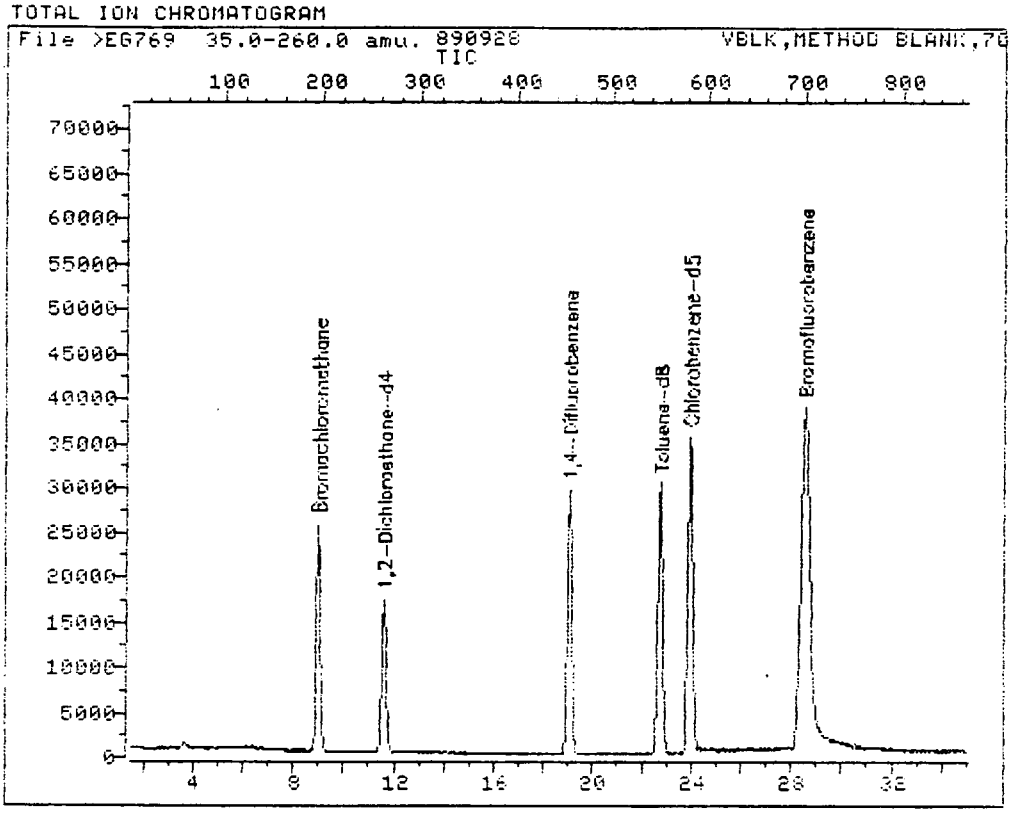
FORM I VOA-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >EG769::W3 Quant Output File: ^EG769::QT
Name: 890928
Misc: VBLK,METHOD BLANK,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 09:55
Injected at: 890928 09:19

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890928 09:55
Output File: ^EG769::QT Injected at: 890928 09:19
Data File: >EG769::W3 Dilution Factor: 1.00000
Name: 890928
Misc: VBLK,METHOD BLANK,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.01	128.0	42910	50.00	UG/L	94
13)	1,2-Dichloroethane-d4	11.61	65.0	80070	48.61	UG/L	90
15)	*1,4-Difluorobenzene	19.05	114.0	145153	50.00	UG/L	91
29)	*Chlorobenzene-d5	23.97	117.0	142081	50.00	UG/L	98
35)	Toluene-d8	22.77	98.0	144702	50.93	UG/L	99
40)	Bromofluorobenzene	28.54	95.0	136589	51.67	UG/L	96

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK6

Lab Nam : EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLANK

Sampl wt/vol: 5.0 (g/mL) ML Lab File ID: EG791

L vel: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 100. Date Analyzed: 9/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK6

Lab Name: EAENG Contract: 10388.05

Lab Cod : EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: METHOD BLANK

Sampl wt/vol: 5.0 (g/mL) ML Lab File ID: EG791

L vel: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 100. Date Analyzed: 9/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Numb r TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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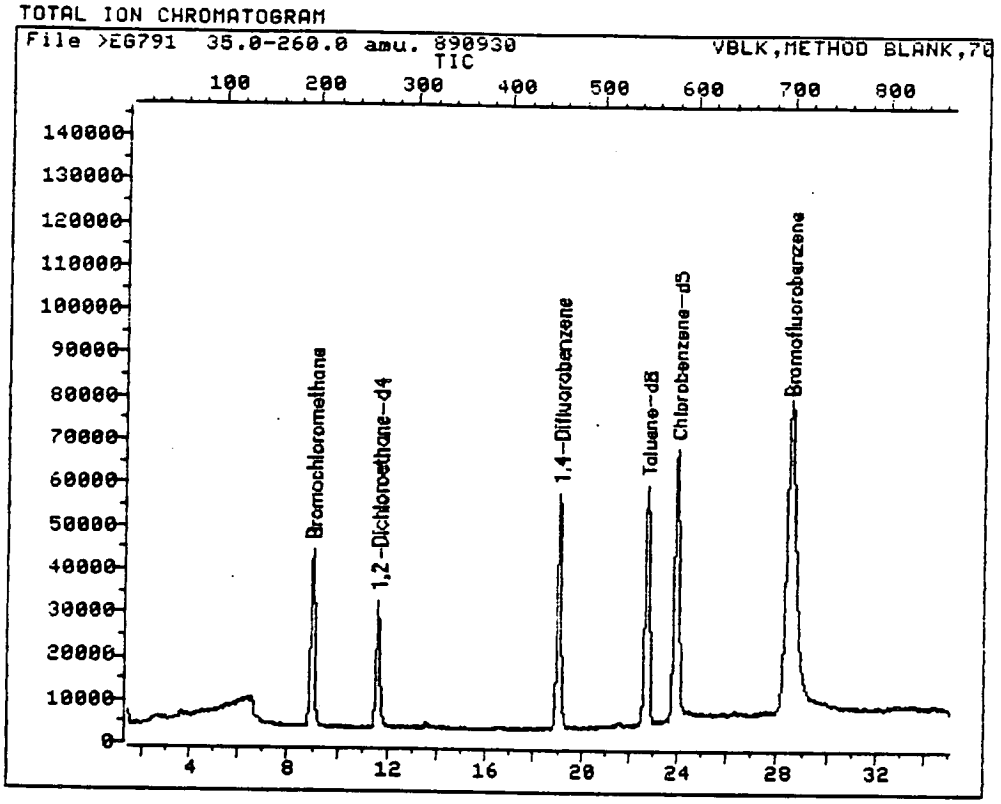
TOTAL ION CHROMATOGRAM



Data File: >EG791::W3 Quant Output File: ^EG791::QT
Name: 890930
Misc: VBLK,METHOD BLANK,7002E5

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890930 09:35

Operator ID: CARL
Quant Time: 890930 10:28
Injected at: 890930 09:52

QUANT REPORT

Op rator ID: CARL
Output File: ^EG791::QT
Data File: >EG791::W3
Name: 890930
Misc: VBLK,METHOD BLANK,7002E5

Quant Rev: 6
Quant Tim : 890930 10:28
Injected at: 890930 09:52
Dilution Factor: 1.00000

ID File: EVOA::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890930 09:35

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	66199	50.00	UG/L	83
13)	1,2-Dichloroethane-d4	11.60	65.0	131704	49.80	UG/L	93
15)	*1,4-Difluorobenzene	19.04	114.0	256598	50.00	UG/L	91
29)	*Chlorobenzene-d5	23.97	117.0	245164	50.00	UG/L	96
35)	Toluene-d8	22.72	98.0	262608	50.41	UG/L	97
40)	Bromofluorobenzene	28.50	95.0	242116	50.95	UG/L	86

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP#2MS

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4645

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG779

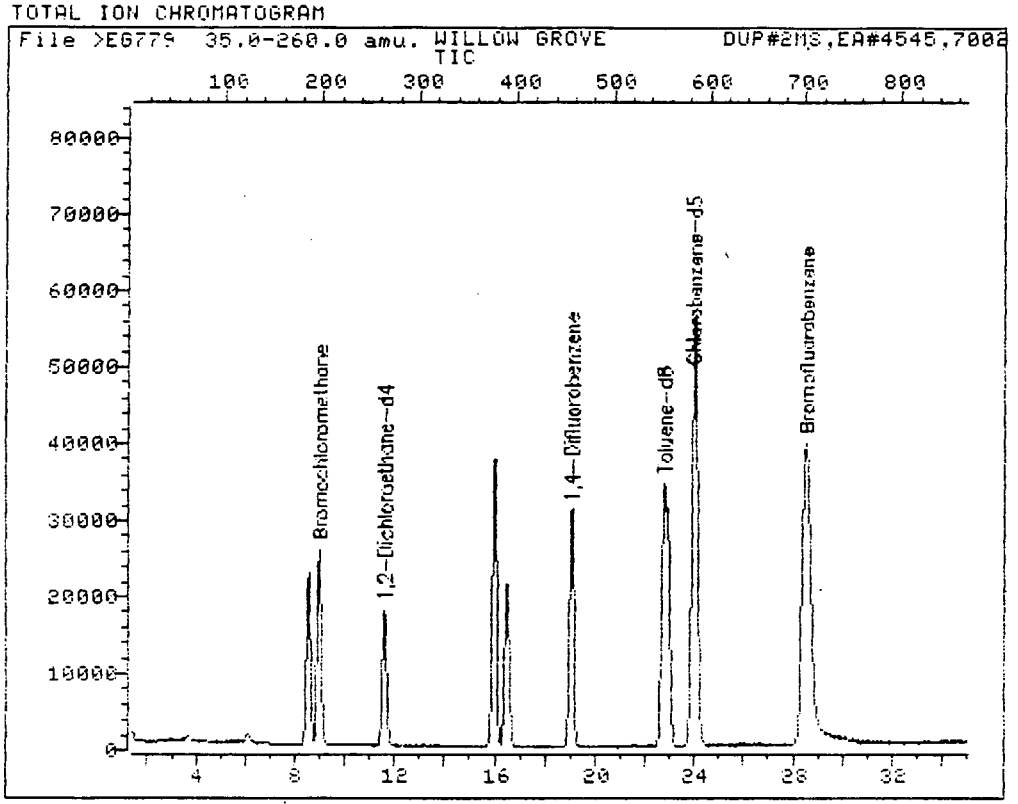
Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene		
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene		
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene		
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene		
108-90-7	Chlorobenzene		
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

TOTAL ION CHROMATOGRAM



Data File: >EG779::W3 Quant Output File: ^EG779::QT
Name: WILLOW GROVE
Misc: DUP#2MS,EA#4545,7002E5,WATER,5ML

Id File: EVDA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 16:39
Injected at: 890928 16:03

QUANT REPORT

Operator ID: CARL Quant R v: 6 Quant Time: 890928 16:39
Output File: ^EG779::QT Injected at: 890928 16:03
Data Fil : >EG779::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: DUP#2MS,EA#4545,7002E5,WATER,5ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.99	128.0	41806	50.00	UG/L	95
9)	1,1-Dichloroethene	8.56	96.0	45117	65.58	UG/L	94
13)	1,2-Dichloroethane-d4	11.59	65.0	87031	54.24	UG/L	86
15)	*1,4-Difluorobenzene	19.03	114.0	149677	50.00	UG/L	91
23)	Trichloroethene	15.96	130.0	79270	56.48	UG/L	96
26)	Benzene	16.51	78.0	104033	58.41	UG/L	93
29)	*Chlorobenzene-d5	23.95	117.0	146338	50.00	UG/L	95
34)	Toluene	22.94	92.0	76497	57.04	UG/L	94
35)	Toluene-d8	22.75	98.0	150527	51.44	UG/L	99
36)	Chlorobenzene	24.06	112.0	126597	57.61	UG/L	97
40)	Bromofluorobenzene	28.52	95.0	151986	55.83	UG/L	93

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP#3MS

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA #4534

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG762

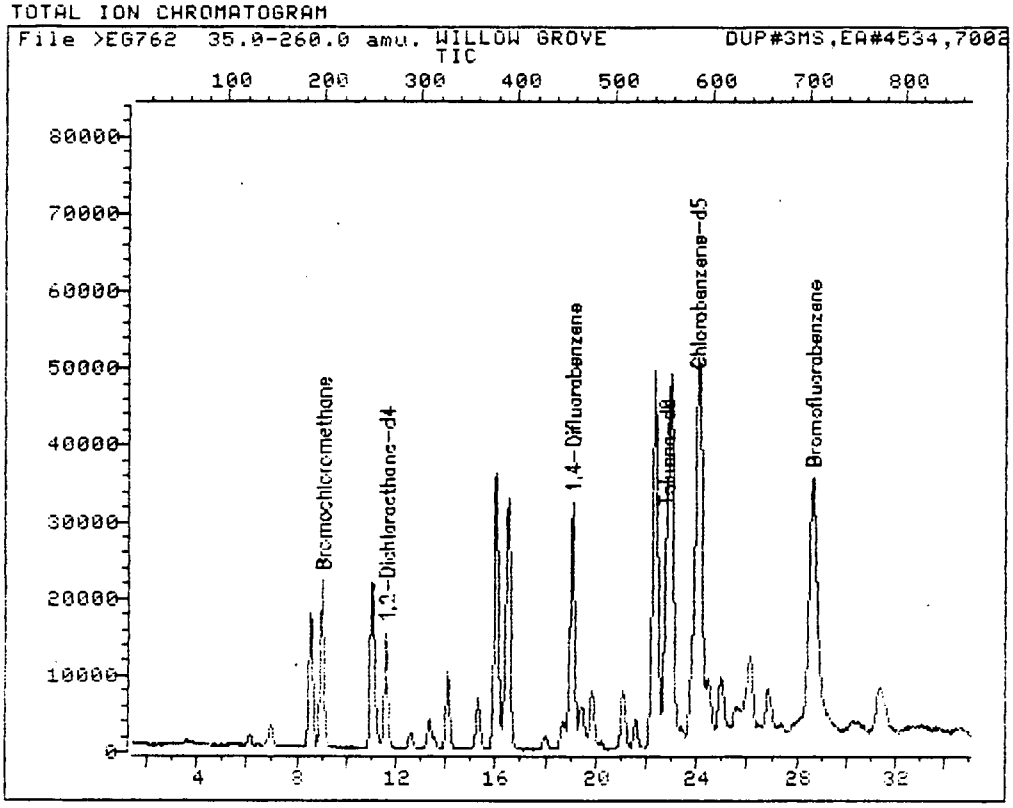
Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 20.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	200.	U
74-83-9	Bromomethane	200.	U
75-01-4	Vinyl Chloride	200.	U
75-00-3	Chloroethane	200.	U
75-09-2	Methylene Chloride	100.	U
67-64-1	Acetone	1800.	
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dichloroethene		
75-34-3	1,1-Dichloroethane	100.	U
540-59-0	1,2-Dichloroethene (total)	100.	U
67-66-3	Chloroform	100.	U
107-06-2	1,2-Dichloroethane	100.	U
78-93-3	2-Butanone	1200.	
71-55-6	1,1,1-Trichloroethane	100.	U
56-23-5	Carbon Tetrachloride	100.	U
108-05-4	Vinyl Acetate	200.	U
75-27-4	Bromodichloromethane	100.	U
78-87-5	1,2-Dichloropropane	100.	U
10061-01-5	cis-1,3-Dichloropropene	100.	U
79-01-6	Trichloroethene		
124-48-1	Dibromochloromethane	100.	U
79-00-5	1,1,2-Trichloroethane	100.	U
71-43-2	Benzene		
10061-02-6	trans-1,3-Dichloropropene	100.	U
75-25-2	Bromoform	100.	U
108-10-1	4-Methyl-2-Pentanone	200.	U
591-78-6	2-Hexanone	200.	U
127-18-4	Tetrachloroethene	100.	U
79-34-5	1,1,2,2-Tetrachloroethane	100.	U
108-88-3	Toluene		
108-90-7	Chlorobenzene		
100-41-4	Ethylbenzene	420.	
100-42-5	Styrene	100.	U
1330-20-7	Xylene (total)	460.	

TOTAL ION CHROMATOGRAM



Data File: >EG762::W3 Quant Output File: ^EG762::QT
Name: WILLOW GROVE
Misc: DUP#3MS,EA#4534,7002E5,WATER,5ML (1/20 DIL)

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 16:53
Injected at: 890927 16:09

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890927 16:53
Output File: ^EG762::QT Injected at: 890927 16:09
Data File: >EG762::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: DUP#3MS,EA#4534,7002E5,WATER,5ML (1/20 DIL)

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.03	128.0	34864	50.00	UG/L	90
7)	Acetone	6.94	43.0	16281	87.96	UG/L	81
9)	1,1-Dichloroethene	8.57	96.0	36780	61.68	UG/L	93
13)	1,2-Dichloroethane-d4	11.63	65.0	69702	53.19	UG/L	85
15)	*1,4-Difluorobenzene	19.07	114.0	127231	50.00	UG/L	92
16)	2-Butanone	11.05	72.0	4679	58.19	UG/L	77
23)	Trichloroethene	16.01	130.0	62917	42.34	UG/L	96
26)	Benzene	16.51	78.0	135431	71.10	UG/L	93
29)	*Chlorobenzene-d5	24.03	117.0	128770	50.00	UG/L	94
34)	Toluene	22.99	92.0	65047	51.47	UG/L	95
35)	Toluene-d8	22.79	98.0	126244	46.63	UG/L	99
36)	Chlorobenzene	24.15	112.0	112851	55.64	UG/L	99
37)	Ethylbenzene	26.13	106.0	19649	20.86	UG/L	97
39)	Xylene (total)	31.44	106.0	25238	23.14	UG/L	96
40)	Bromofluorobenzene	28.65	95.0	124958	51.43	UG/L	98

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP#4MS

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4558

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG818

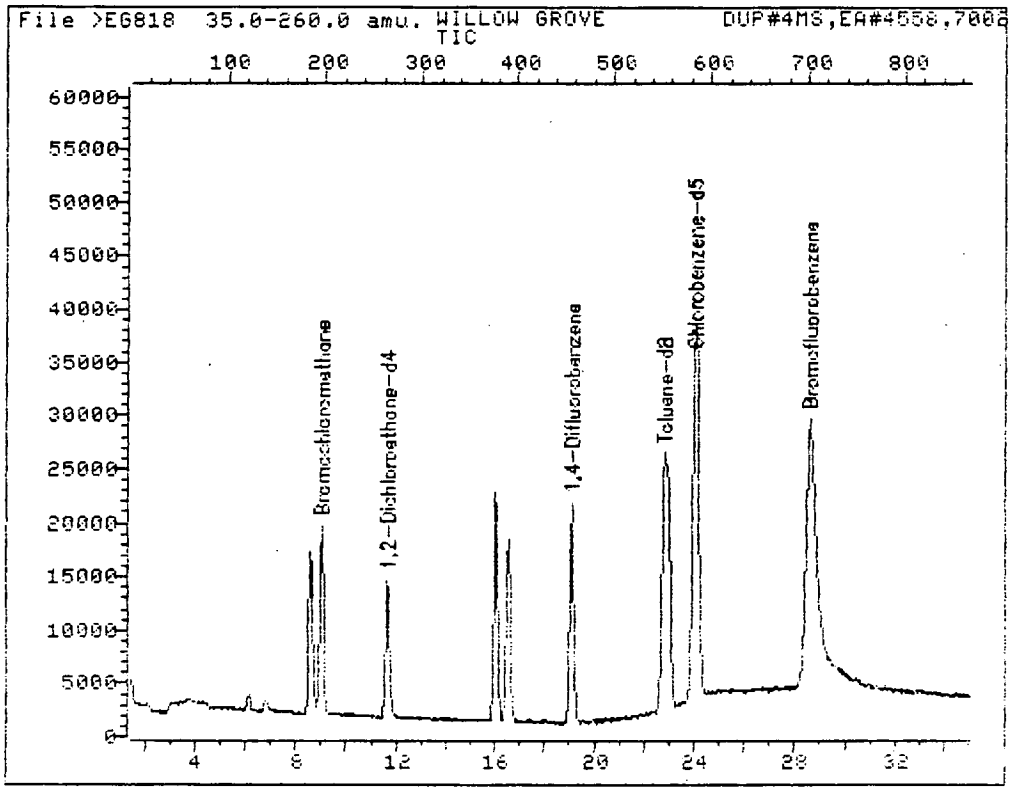
Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	10.	
67-64-1	Acetone	18.	
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene		
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene		
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene		
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene		
108-90-7	Chlorobenzene		
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

TOTAL ION CHROMATOGRAM



Data File: >EG818::W3 Quant Output File: ^EG818::QT
Name: WILLOW GROVE
Misc: DUP#4MS,EA#4558,7002E5,SOIL,5GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891004 06:37
Injected at: 891003 10:26

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 891004 06:37
Output File: ^EG818::QT Injected at: 891003 16:26
Data File: >EG818::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: DUP#4MS,EA#4558,7002E5,SOIL,5GM

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	128.0	24336	50.00	UG/KG	73
6)	Methylene Chloride	6.15	84.0	2871	7.64	UG/KG	88
7)	Acetone	6.85	43.0	3299	13.93	UG/KG	89
9)	1,1-Dichloroethene	8.59	96.0	31047	59.93	UG/KG	91
13)	1,2-Dichloroethane-d4	11.66	65.0	55363	55.94	UG/KG	88
15)	*1,4-Difluorobenzene	19.10	114.0	90172	50.00	UG/KG	90
23)	Trichloroethene	16.03	130.0	40841	49.60	UG/KG	81
26)	Benzene	16.54	78.0	80807	59.39	UG/KG	91
29)	*Chlorobenzene-d5	24.02	117.0	85821	50.00	UG/KG	94
34)	Toluene	23.01	92.0	52993	56.29	UG/KG	92
35)	Toluene-d8	22.82	98.0	99175	52.94	UG/KG	99
36)	Chlorobenzene	24.13	112.0	73497	52.66	UG/KG	89
40)	Bromofluorobenzene	28.59	95.0	85312	50.74	UG/KG	83

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP#2MSD

Lab Nam : EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4545

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG780

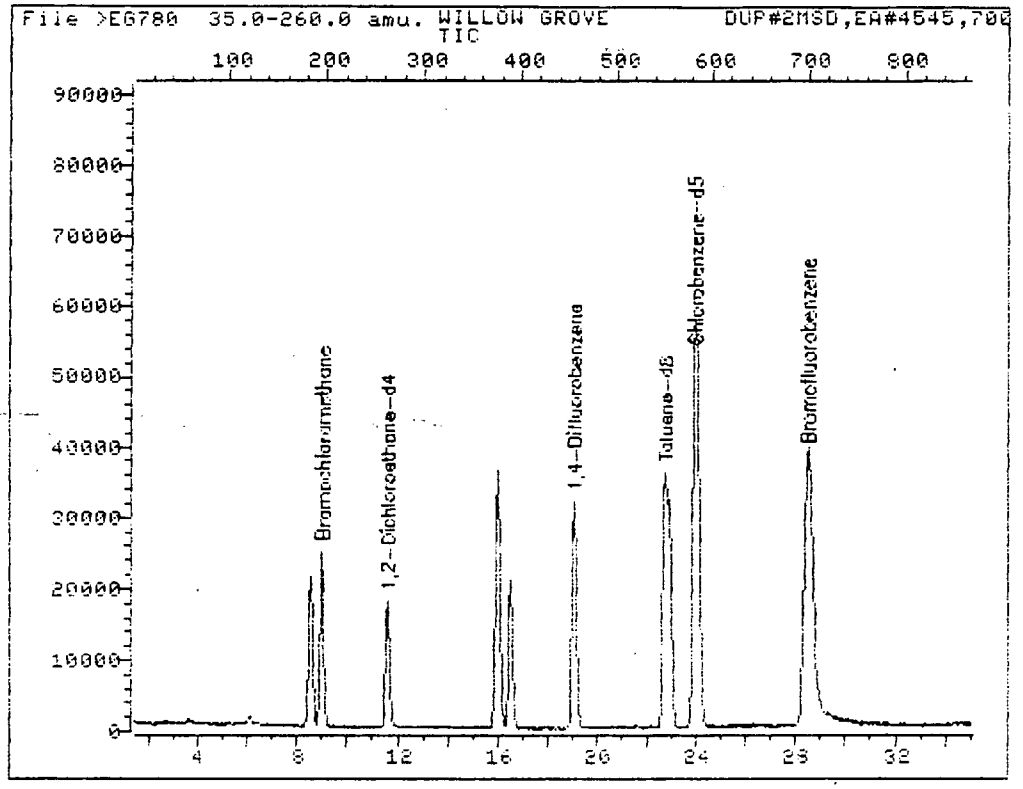
Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/28/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene		
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene		
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene		
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene		
108-90-7	Chlorobenzene		
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

TOTAL ION CHROMATOGRAM



Data File: >EG780::W3 Quant Output File: ^EG780::QT
Name: WILLOW GROVE
Misc: DUP#2MSD,EA#4545,7002E5,WATER,5ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

Operator ID: CARL
Quant Time: 890928 17:20
Injected at: 890928 16:44

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890928 17:20
Output File: ^EG780::QT Injected at: 890928 16:44
Data Fil : >EG780::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: DUP#2MSD,EA#4545,7002E5,WATER,5ML

ID Fil : EVOA::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890928 09:06

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.01	128.0	40775	50.00	UG/L	93
9)	1,1-Dichloroethene	8.55	96.0	43280	64.50	UG/L	94
13)	1,2-Dichloroethane-d4	11.61	65.0	84962	54.29	UG/L	84
15)	*1,4-Difluorobenzene	19.05	114.0	152429	50.00	UG/L	90
23)	Trichloroethene	15.99	130.0	74270	51.96	UG/L	96
26)	B nzene	16.49	78.0	99819	55.03	UG/L	94
29)	*Chlorobenzene-d5	23.97	117.0	151109	50.00	UG/L	96
34)	Toluene	22.96	92.0	80032	57.79	UG/L	93
35)	Toluene-d8	22.77	98.0	155753	51.55	UG/L	97
36)	Chlorobenzene	24.09	112.0	130399	57.46	UG/L	97
40)	Bromofluorobenzene	28.51	95.0	146928	52.26	UG/L	99

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP#3MSD

Lab Nam : EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELW1

Matrix: (soil/water) WATER Lab Sample ID: EA#4534

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG763

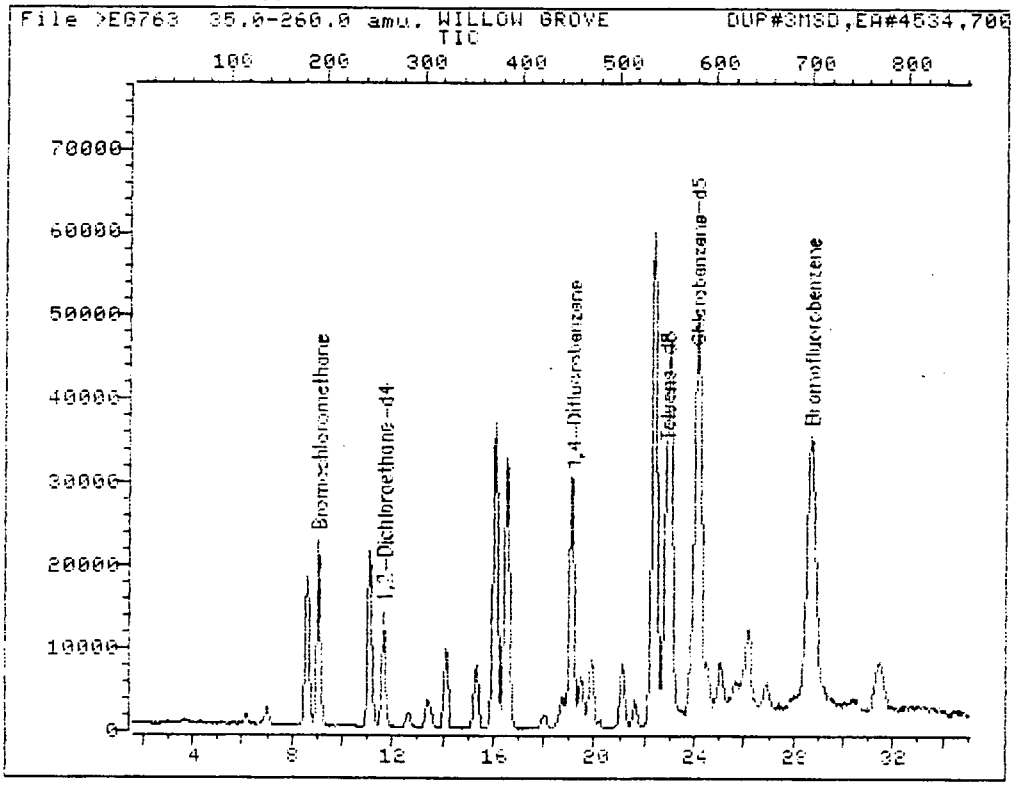
Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 100. Date Analyzed: 9/27/89

Column: (pack/cap) PACK Dilution Factor: 20.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	200.	U
74-83-9	Bromomethane	200.	U
75-01-4	Vinyl Chloride	200.	U
75-00-3	Chloroethane	200.	U
75-09-2	Methylene Chloride	100.	U
67-64-1	Acetone	1600.	
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dichloroethene		
75-34-3	1,1-Dichloroethane	100.	U
540-59-0	1,2-Dichloroethene (total)	100.	U
67-66-3	Chloroform	100.	U
107-06-2	1,2-Dichloroethane	100.	U
78-93-3	2-Butanone	1200.	
71-55-6	1,1,1-Trichloroethane	100.	U
56-23-5	Carbon Tetrachloride	100.	U
108-05-4	Vinyl Acetate	200.	U
75-27-4	Bromodichloromethane	100.	U
78-87-5	1,2-Dichloropropane	100.	U
10061-01-5	cis-1,3-Dichloropropene	100.	U
79-01-6	Trichloroethene		
124-48-1	Dibromochloromethane	100.	U
79-00-5	1,1,2-Trichloroethane	100.	U
71-43-2	Benzene		
10061-02-6	trans-1,3-Dichloropropene	100.	U
75-25-2	Bromoform	100.	U
108-10-1	4-Methyl-2-Pentanone	200.	U
591-78-6	2-Hexanone	200.	U
127-18-4	Tetrachloroethene	100.	U
79-34-5	1,1,2,2-Tetrachloroethane	100.	U
108-88-3	Toluene		
108-90-7	Chlorobenzene		
100-41-4	Ethylbenzene	400.	
100-42-5	Styrene	100.	U
1330-20-7	Xylene (total)	440.	

TOTAL ION CHROMATOGRAM



Data File: >EG763::W3 Quant Output File: ^EG763::QT
Name: WILLOW GROVE
Misc: DUP#3MSD,EA#4534,7002E5,WATER,5ML (1/20 DIL)

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

Operator ID: CARL
Quant Time: 890927 17:25
Injected at: 890927 16:49

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890927 17:25
Output File: ^EG763::QT Injected at: 890927 16:49
Data File: >EG763::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: DUP#3MSD,EA#4534,7002E5,WATER,5ML (1/20 DIL)

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890927 08:24

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.05	128.0	35385	50.00	UG/L	93
7)	Acetone	7.00	43.0	14630	77.87	UG/L	80
9)	1,1-Dichloroethene	8.62	96.0	38760	64.04	UG/L	90
13)	1,2-Dichloroethane-d4	11.65	65.0	66666	50.13	UG/L	86
15)	*1,4-Difluorobenzene	19.13	114.0	119715	50.00	UG/L	91
16)	2-Butanone	11.10	72.0	4672	61.75	UG/L	77
23)	Trichloroethene	16.03	130.0	61638	44.09	UG/L	98
26)	Benzene	16.53	78.0	129999	72.53	UG/L	95
29)	*Chlorobenzene-d5	24.05	117.0	128306	50.00	UG/L	94
34)	Toluene	23.04	92.0	68770	54.61	UG/L	93
35)	Toluene-d8	22.85	98.0	130277	48.30	UG/L	98
36)	Chlorobenzene	24.17	112.0	112147	55.50	UG/L	97
37)	Ethylbenzene	26.18	106.0	18588	19.81	UG/L	95
39)	Xylene (total)	31.46	106.0	23905	22.00	UG/L	95
40)	Bromofluorobenzene	28.70	95.0	121248	50.08	UG/L	98

* Compound is ISTD

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP#4MSD

Lab Name: EAENG Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: NELSS

Matrix: (soil/water) SOIL Lab Sample ID: EA#4558

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG819

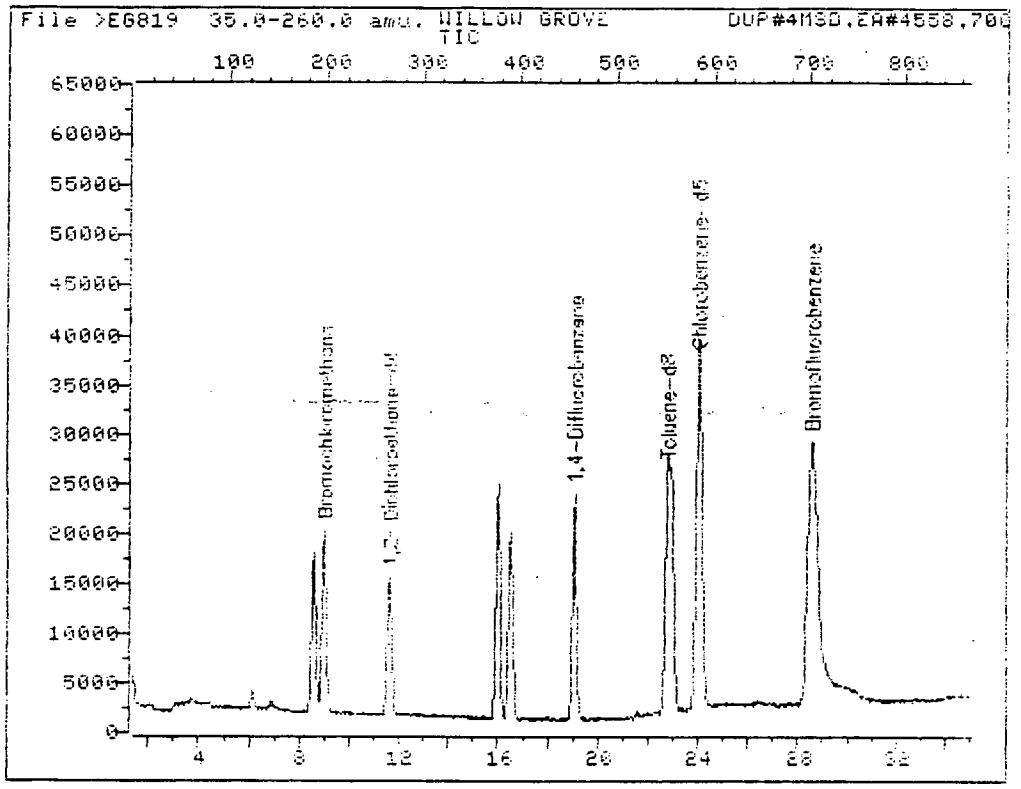
Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 23. Date Analyzed: 10/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	12.	
67-64-1	Acetone	21.	
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene		
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene		
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene		
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene		
108-90-7	Chlorobenzene		
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

TOTAL ION CHROMATOGRAM



Data File: >EG819::W3 Quant Output File: ^EG819::QT
Name: WILLOW GROVE
Misc: DUP#4MSD,EA#4558,7002E5,SOIL,5GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

Operator ID: CARL
Quant Time: 891004 06:38
Injected at: 891003 17:07

QUANT REPORT

Op rator ID: CARL Quant Rev: 6 Quant Time: 891004 06:38
Output File: ^EG819::QT Injected at: 891003 17:07
Data File: >EG819::W3 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: DUP#4MSD,EA#4558,7002E5,SOIL,5GM

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 891003 10:40

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	128.0	25811	50.00	UG/KG	74
6)	Methylene Chloride	6.17	84.0	3620	9.08	UG/KG	87
7)	Acetone	6.87	43.0	4178	16.63	UG/KG	91
9)	1,1-Dichloroethene	8.57	96.0	33112	60.27	UG/KG	91
13)	1,2-Dichloroethane-d4	11.63	65.0	57095	54.39	UG/KG	86
15)	*1,4-Difluorobenzene	19.07	114.0	100808	50.00	UG/KG	90
23)	Trichloroethene	16.01	130.0	44911	48.79	UG/KG	89
26)	B nzene	16.51	78.0	89636	58.93	UG/KG	92
29)	*Chlorobenzene-d5	24.00	117.0	91507	50.00	UG/KG	97
34)	Toluene	22.95	92.0	59104	58.88	UG/KG	96
35)	Toluene-d8	22.75	98.0	107798	53.97	UG/KG	99
36)	Chlorobenzene	24.11	112.0	81213	54.57	UG/KG	90
40)	Bromofluorobenzene	28.57	95.0	90529	50.49	UG/KG	84

* Compound is ISTD

E. Quality Assurance Summary

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove. (4578-4558) Analysis: TCL volatiles

EA Laboratories Report No. 390657 Method: U.S. EPA-CLP

Reviewed by: Tony [illegible] Date: 10-26-89

1. The 10-day holding time requirement from sample receipt to analysis was met for all samples.
   ✓ Yes ____ No

2. The 12-hour tuning period for BFB was met for all samples.
   ✓ Yes ____ No

3. Initial calibration criteria were met for all samples: the RSD is ≤30% for all CCC compounds, and the RRF for SPCC compounds is >0.300 (0.250 for bromoform).
   ✓ Yes ____ No

4. Continuing calibration criteria were met for all samples: the response factor percent deviation from the mean initial calibration response factor for all CCC compounds was ≤25%, and the RRF for SPCC compounds is >0.300 (0.250 for bromoform).
   ✓ Yes ____ No

5. Surrogate recovery limits were met for all samples.
   ____ Yes ✓ No

6. MS and MSD criteria were met for all samples.
   ✓ Yes ____ N

7. Method blank criteria were met for all samples: common laboratory contaminants are ≤5X CRQL, all other compounds are <CRQL.
   ✓ Yes ____ No

(Revised 2 June 1989)

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove

Analysis: TCL volatiles

EA Laboratories Report No. _____

Method: U.S. EPA-CLP

Reviewed by: [illegible]

Date: 10-26-89

8. Laboratory control sample criteria were met for all samples.

OK 10-26-89 ~~Yes~~ ✓ No

9. Field and equipment blanks: no target compounds were detected the samples at concentrations <5X the concentration found in the highest associated blank.

✓ Yes ____ No

Comments: Sample ns6-SS-1 1,2-Dichloroethane-d4 recovery was out and reanalyzed

8. Although CLP criteria was met for all analyses, including MS/MSD, a laboratory control sample was inadvertently left out of the TCL volatiles batching.

(Revised 2 June 1989)

4. SEMIVOLATILE DATA

A. QC Summary

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: EA Laboratories. Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

		EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
	01	Blank #032	80	92	95	74	56	88		0
EA# 4518	02	WRW-1	89	95	80	93	86	82		0
4519	03	WRW-2	83	88	75	86	76	97		0
4520	04	WRW-3	83	91	83	87	85	107		0
4521	05	ALW-2	84	87	46	82	79	88		0
4535	06	NEL SWS 2	90	120 *	87	93	30	11		1
(RE) 4536	07	NEL SWS 3	83	88	72	80	75	101		0
(RE) 4537	08	AL SWS 1	85	88	74	70	67	88		0
4538	09	AL SWS 2	114	120 *	121	84	75	98		1
(RE) 4539	10	AL SWS 3	82	80	90	78	76	110		0
(RE) 4540	11	AL SWS 4	88	90	77	28	17 *	19		1
4541	12	~~ASL~~ SWS 1	106	104	71	107*	99	113		1
4542	13	~~ASL~~ SWS 2	107	104	90	108*	100	99		1
4543	14	~~ASL~~ SWS 3	91	89	72	96*	95	86		1
4544	15	~~ASL~~ SWS 4	89	88	59	88	86	100		0
4545	16	Duplicate #2	94	90	81	99*	98	83		1
(MS)	17	Duplicate #2 (MS)	88	89	84	95*	82	93		1
(MSD)	18	Duplicate #2 (MSD)	87	86	65	97*	90	91		1
4546	19	UG SWS-1	91	86	69	95*	89	111		1
LCS#	20	LCS #565	89	89	118	38	56	129*		1
	21	Blank #040	93	87	104	85	79	94		0
	22									
	23									
	24									
	25									
	26									
	27									
	28									
	29									
	30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d6	(10-94)
S5 (2FP)	= 2-Fluorophenol	(21-100)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

page __ of __

FORM II SV-1

1/87 Rev.

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: E4 LABORATORIES Contract: 10388.05

Lab Code: ERENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Level: (low/med) Low

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	BLK # 027								
02	BLK # 028	91	91	115	88	68	105		
03	NEL/SS/1 (EA# 4547)	92	78	110	90	77	104		0
04	NEL SS 2 (EA# 4548)	89	99	146*	95	72	124*		0
05	AL SS 1 (EA# 4549)	71	98	111	79	57	85		2
06	AL SS 2 (EA# 4550)	58	97	107	87	69	97		0
07	AL SS 3 (EA# 4551)	76	108	118	81	61	70		0
08	AL SS 4 (EA# 4552)	65	90	76	76	52	79		0
09	MSL SS 1 (EA# 4553)	80	104	132	99	83	130*		0
10	MSL SS 2 (EA# 4554)	95	98	140*	95	77	128*		1
11	MSL SS 3 (EA# 4555)	94	95	87	103	79	99		2
12	MSL SS 4 (EA# 4556)	83	115	95	94	75	90		0
13	UG SS 1 (EA# 4557)	91	93	118	81	57	95		0
14	DUPLICATE #4 (EA# 4551)	110	103	106	100	81	113		0
15	DUPLICATE #3 (EA# 4552) (MS)	115	103	106	103	89	128*		1
16	DUPLICATE #4 (EA# 4552) (MSD)	112	96	105	97	85	129*		1
17	LCS (LCS# 554)	108	111	141*	96	86	151*		2
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28									
29									
30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(23-120)
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)
S3 (TPH)	= Terphenyl-d14	(18-137)
S4 (PHL)	= Phenol-d6	(24-113)
S5 (2FP)	= 2-Fluorophenol	(25-121)
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

page 1 f 1

FORM II SV-2

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EA Laboratories. Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Sample No.: Duplicate # 2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Phenol	200	0	101	101*	12- 89
2-Chlorophenol	200	0	97	97	27-123
1,4-Dichlorobenzene	100	0	38	76	36- 97
N-Nitroso-di-n-prop.(1)	100	0	46	92	41-116
1,2,4-Trichlorobenzene	100	0	42	84	39- 98
4-Chloro-3-methylphenol	200	0	93	93	23- 97
Acenaphthene	100	0	47	94	46-118
4-Nitrophenol	200	0	87	87*	10- 80
2,4-Dinitrotoluene	100	0	38	76	24- 96
Pentachlorophenol	200	0	86	86	9-103
Pyrene	100	0	64	128*	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	200	110	110*	9	42	12- 89
2-Chlorophenol	200	105	105	8	40	27-123
1,4-Dichlorobenzene	100	40	80	5	28	36- 97
N-Nitroso-di-n-prop.(1)	100	43	86	7	38	41-116
1,2,4-Trichlorobenzene	100	41	82	2	28	39- 98
4-Chloro-3-methylphenol	200	97	97	4	42	23- 97
Acenaphthene	100	47	94	0	31	46-118
4-Nitrophenol	200	109	109*	22	50	10- 80
2,4-Dinitrotoluene	100	41	82	8	38	24- 96
Pentachlorophenol	200	94	94	9	50	9-103
Pyrene	100	63	126	2	31	26-127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 5 out of 22 outside limits

COMMENTS: _____

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Sample No.: DUP#4 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	200	—	209.67	105*	26- 90
2-Chlorophenol	200	—	228.~~209.67~~	~~105~~ 114*	25-102
1,4-Dichlorobenzene	100	—	96.80	97	28-104
N-Nitroso-di-n-prop.(1)	100	—	134.91	135*	41-126
1,2,4-Trichlorobenzene	100	—	111.03	111*	38-107
4-Chloro-3-methylphenol	200	—	239.75	120*	26-103
Acenaphthene	100	—	120.09	120	31-137
4-Nitrophenol	200	—	313.84	157*	11-114
2,4-Dinitrotoluene	100	—	141.20	141*	28- 89
Pentachlorophenol	200	—	305.01	153*	17-109
Pyrene	100	4.89	116.47	112	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	200	192.61	96*	9	35	26- 90
2-Chlorophenol	200	213.50	107	6	50	25-102
1,4-Dichlorobenzene	100	86.06	86	12	27	28-104
N-Nitroso-di-n-prop.(1)	100	125.23	125	8	38	41-126
1,2,4-Trichlorobenzene	100	103.36	103	7	23	38-107
4-Chloro-3-methylphenol	200	231.71	116*	3	33	26-103
Acenaphthene	100	112.50	113	6	19	31-137
4-Nitrophenol	200	300.04	150*	5	50	11-114
2,4-Dinitrotoluene	100	134.76	135*	4	47	28- 89
Pentachlorophenol	200	292.46	146*	5	47	17-109
Pyrene	100	109.52	105	6	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 13 out of 22 outside limits

COMMENTS: _____

FORM III SV-2

1/87 Rev.

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Lab File ID: >FC 933 Lab Sample ID: BLK#028

Date Extracted: 9-26-89 Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 10-02-89 Time Analyzed: 15:37

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: F6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	NEL/SS/1	EA#4547	>FC 934	10/02/89
02	NEL/SS/2	EA#4548	>FC 935	10/02/89
03	AL/SS/1	EA#4549	>FC 936	10/02/89
04	AL/SS/2	EA#4550	>FC 937	10/02/89
05	AL/SS/3	EA#4551	>FC 938	10/02/89
06	AL/SS/4	EA#4552	>FC 919	9/28/89
07	NSL/SS/1	EA#4553	>FC 920	9/28/89
08	NSL/SS/2	EA#4554	>FC 921	9/28/89
09	NSL/SS/3	EA#4555	>FC 922	9/28/89
10	NSL/SS/4	EA#4556	>FC 923	9/28/89
11	UG/SS/1	EA#4557	>FC 924	9/29/89
12	DUP #4	EA#4558	>FC 925	9/29/89
13	DUP #4 (MS)	EA#4558 (MS)	>FC 926	9/29/89
14	DUP #4 (MS)	EA#4558 (MSD)	>FC 927	9/29/89
15	LCS	LCS# 554	>FC 928	9/29/89
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COMMENTS:

page 1 of 1

FORM IV SV

1/87 Rev

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EA ENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Lab File ID: >DE 297 Lab Sample ID: Blank #032

Date Extracted: 9/28/89 Extraction: (SepF/Cont/Sonc) Cont.

Date Analyzed: 10/2/89 Time Analyzed: 17:33

Matrix: (soil/water) water. Level: (low/med) low

Instrument ID: GC/MS #4

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	WRW-1	EA # 4518	>DE 298	10/2/89
02	WRW-2	EA # 4519	>DE 299	10/2/89
03	WRW-3	EA # 4520	>DE 300	10/2/89
04	ALW-2	EA # 4521	>DE 310	10/3/89
05	NEL SWS 2	EA # 4535	>FC 939	10/2/89
06	AL SWS 2	EA # 4538	>FC 942	10/2/89
(BD) 07	DCSL SWS 1	EA # 4541	>DE 327	10/4/89
08	DCSL SWS 2	EA # 4542	>DE 323	10/4/89
09	DCSL SWS 3	EA # 4543	>DE 311	10/3/89
10	DCSL SWS 4	EA # 4544	>DE 324	10/4/89
11	Duplicate #2	EA # 4545	>DE 313	10/3/89
12	Duplicate #2 (MS)	EA # 4545 (MS)	>DE 314	10/3/89
13	Duplicate #2 (MSD)	EA # 4545 (MSD)	>DE 315	10/3/89
14	UGL SWS -1	EA 4546	>DE 325	10/4/89
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COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EA ENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Lab File ID: > DE 357 Lab Sample ID: Blank # 040

Date Extracted: 10/4/89 Extraction: (SepF/Cont/Sonc) Cont.

Date Analyzed: 10/10/89 Time Analyzed: 12:09

Matrix: (soil/water) Water Level: (low/med) low

Instrument ID: GC/MS #4

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	NEL SWS 3	EA # 4536 (RE)	> DE 359	10/10/89
02	AL SWS 1	EA # 4537 (RE)	> DE 360	↓
03	AL SWS 3	EA # 4534 (RE)	> DE 361	↓
04	AL SWS 4	EA # 4540 (RE)	> DE 362	↓
05	LCS # 585	LCS # 585	> DE 363	↓
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COMMENTS: _____

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Case No.: Willow Grove Contractor: EA Laboratories Contract No.: 10388.04.06

Instrument ID: ~~#4 (D)~~ F6 Date: 09/21/89 Time: 09:15

Lab ID: >FC860-81 Data Release Authorized By :

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriat Peak	Status
51	30-60% of mass 198	58.75	58.75	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	72.37	72.37	Ok
70	Less than 2% of mass 69	.28	.39	Ok
127	40-60% of mass 198	45.51	45.51	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.39	6.39	Ok
275	10-30% of mass 198	22.23	22.23	Ok
365	Greater than 1% of mass 198	2.94	2.94	Ok
441	0-100% of mass 443	13.25	73.68	Ok
442	Greater than 40% of mass 198	92.98	92.98	Ok
443	17-23% of mass 442	17.99	19.35	Ok

This performance tune applies to the following samples, blanks and standards:

Sample ID	Lab ID	Date of Analysis	Time of Analysis
BNA 50 ppm STD MIX	STD# 1581	>FC861 9-21-89	09:51
BNA 160 ppm STD MIX	STD# 1578	>FC862	11:15
BNA 120 ppm STD MIX	STD# 1579	>FC863	12:08
BNA 80 ppm STD MIX	STD# 1580	>FC864	13:03
BNA 20 ppm STD MIX	STD# 1582	>FC865	13:57

FORM V

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Case No.: Willow Grove Contractor: EA Laboratories Contract No.: 10388.05

Instrument ID: ~~#4 (D)~~ F6 Date: 09/28/89 Time: 18:02

Lab ID: >FC917-77 Data Release Authorized By :

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	55.27	55.27	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	70.25	70.25	Ok
70	Less than 2% of mass 69	.16	.23	Ok
127	40-60% of mass 198	44.20	44.20	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.77	6.77	Ok
275	10-30% of mass 198	21.75	21.75	Ok
365	Greater than 1% of mass 198	2.20	2.20	Ok
441	0-100% of mass 443	10.36	71.39	Ok
442	Greater than 40% of mass 198	76.94	76.94	Ok
443	17-23% of mass 442	14.51	18.86	Ok

This performance tune applies to the following samples, blanks and standards:

Sample ID	Lab ID	Date of Analysis	Time of Analysis
BNA 50 ppm STD MIX	BNA STD #1497 1590 MD	>FC918 9-28-89	18:49
AL SS 4	EA# 4552	>FC919	20:20
9 ~~NSL~~ SS 1	EA# 4553	>FC920	21:10
9 ~~NSL~~ SS 2	EA# 4554	>FC921	22:00
9 ~~NSL~~ SS 3	EA# 4555	>FC922	22:57
9 ~~NSL~~ SS 4	EA# 4556	>FC923	23:41
UG SS 1	EA# 4557	>FC924 9-29-89	00:31
DUP #4	EA# 4558	>FC925	01:21
DUP #4 (MS)	EA# 4558 (MS)	>FC926	02:11
DUP #4 (MSD)	EA# 4558 (MSD)	>FC927	03:02
LCS	LCS# 554	>FC928	03:52

FORM V

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Case No.: WILLOW GROVE Contractor: EA Laboratories Contract No.: 10388.05

Instrument ID: #F (6) Date: 10/02/89 Time: 13:12

Lab ID: >FC931-77 Data Release Authorized By :

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.40	57.40	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	68.89	68.89	Ok
70	Less than 2% of mass 69	.22	.32	Ok
127	40-60% of mass 198	45.44	45.44	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.50	6.50	Ok
275	10-30% of mass 198	24.11	24.11	Ok
365	Greater than 1% of mass 198	2.74	2.74	Ok
441	0-100% of mass 443	13.68	73.91	Ok
442	Greater than 40% of mass 198	95.04	95.04	Ok
443	17-23% of mass 442	18.50	19.47	Ok

This performance tune applies to the following samples, blanks and standards:

Sample ID	Lab ID	Date of Analysis	Time of Analysis
BLANK #028	BLK #028 >FC933	10/02/89	15:37
BNA 50 PPM STD MIX	BNA STD #1590 >FC932	10/02/89	13:50
NEL SS 1	EA#4547 >FC934	10/02/89	16:27
NEL SS 2	EA#4548 >FC935	10/02/89	17:20
AL SS 1	EA#4549 >FC936	10/02/89	18:10
AL SS 2	EA#4550 >FC937	10/02/89	19:01
AL SS 3	EA#4551 >FC938	10/02/89	19:51
NEL SWS 2	EA#4535 >FC939	10/02/89	20:41
AL SWS 2	EA#4538 >FC942	10/02/89	23:10

FORM V

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Case No.: Willow Grove Contractor: EA Laboratories Contract No.: 10388.05

Instrument ID: #4 (D) Date: 10/02/89 Time: 08:47

Lab ID: >DE289-226 Data Release Authorized By :

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	55.55	55.55	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	69.37	69.37	Ok
70	Less than 2% of mass 69	.41	.60	Ok
127	40-60% of mass 198	49.91	49.91	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.58	6.58	Ok
275	10-30% of mass 198	22.60	22.60	Ok
365	Greater than 1% of mass 198	3.03	3.03	Ok
441	0-100% of mass 443	10.91	79.83	Ok
442	Greater than 40% of mass 198	70.51	70.51	Ok
443	17-23% of mass 442	13.67	19.39	Ok

This performance tune applies to the following samples, blanks and standards:

Sample ID	Lab ID	Date of Analysis	Time of Analysis
BNA 50 PPm std	std #1597 DE290	10/2/89	9:34
BNA 160 PPm std	Std #1594 DE291		10:58
BNA 120 PPm std	Std #1595 DE292		11:54
BNA 80 PPm std	Std #1596 DE293		12:51
BNA 20 PPm std	Std #1598 DE294		13:47
Blank (#032)	Blank #032. DE297		17:33
WRW-1	EA #4518 DE298		18:29
WRW-2	EA #4519 DE299		19:26
WRW-3	EA #4520 DE300		20:23

FORM V

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Cas No.: Willow Grove Contractor: EA Laboratories Contract No.: 10388.05

Instrument ID: #4 (D) Date: 10/03/89 Time: 09:58

Lab ID: >DE308-228 Data Release Authorized By :

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	47.22	47.22	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	61.53	61.53	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	45.30	45.30	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.71	6.71	Ok
275	10-30% of mass 198	20.63	20.63	Ok
365	Greater than 1% of mass 198	2.16	2.16	Ok
441	0-100% of mass 443	8.29	83.96	Ok
442	Greater than 40% of mass 198	52.40	52.40	Ok
443	17-23% of mass 442	9.88	18.85	Ok

This performance tune applies to the following samples, blanks and standards:

Sample ID	Lab ID	Date of Analysis	Time of Analysis
BNA 50 ppm std.	Std #1597 >DE309	10/3/89	10:28
ALW-2	EA # 4521 >DE310		11:51
NSL SWS 3	EA # 4543 >DE 311		12:48
Duplicate #2	EA # 4545 >DE313		14:46
Duplicate #2 MS	EA # 4545(MS) >DE314		16:48
Duplicate #2 MSD	EA # 4545(MSD) >DE315		17:46

FORM V

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Case No.: Willow Grove Contractor: EA Laboratories Contract No.: 10388.05

Instrument ID: #4 (D) Date: 10/04/89 Time: 10:58

Lab ID: >DE320-228 Data Release Authorized By :

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	46.16	46.16	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	56.60	56.60	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	46.11	46.11	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.18	6.18	Ok
275	10-30% of mass 198	22.26	22.26	Ok
365	Greater than 1% of mass 198	3.20	3.20	Ok
441	0-100% of mass 443	11.59	87.27	Ok
442	Greater than 40% of mass 198	70.90	70.90	Ok
443	17-23% of mass 442	13.29	18.74	Ok

This performance tune applies to the following samples, blanks and standards:

Sample ID	Lab ID	Date of Analysis	Time of Analysis
BNA 50 ppm std	Std #1597 DE321	10/4/89	11:28
9 MSL SWS 2	EA# 4542 DE323		13:40
BN 9 MSL SWS 4	EA# 4544 DE324		14:35
UG SUS-1	EA # 4546 DE325		15:31
9 MSL SWS 1	EA # 4541 DE327		17:23

FORM V

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Cas No.: _____ Contractor: EA Laboratories Contract No.: _____

Instrument ID: #4 (D) Date: 10/10/89 Time: 10:18

Lab ID: >DE355-225 Data Release Authorized By : _____

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	46.18	46.18	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	56.88	56.88	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	43.79	43.79	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.34	7.34	Ok
275	10-30% of mass 198	25.47	25.47	Ok
365	Greater than 1% of mass 198	4.34	4.34	Ok
441	0-100% of mass 443	11.97	76.06	Ok
442	Greater than 40% of mass 198	83.93	83.93	Ok
443	17-23% of mass 442	15.73	18.75	Ok

This performance tune applies to the following samples, blanks and standards:

Sample ID	Lab ID	Date of Analysis	Time of Analysis
FILE # >DE356 50PPM	~~EA~~ STD # 5970	10/10/89	
File # >DE357 Blank	Blank # 040		12:09
File >DE359 NEL SWS3	EA# 4536 (RE)		13:02
File >DE360 AL SWS3	EA# 4537 (RE)		14:58
File >DE361 AL SWS3	EA# 4539 (RE)		15:55
File >DE362 AL SWS4	EA# 4540 (RE)		16:51
File >DE363 Lab Control Samp.	LCS # 585		17:47
~~EA~~			

FORM V

B. Sample Data

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
WRW-1

EAW4519

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/02/89 18:29
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WRW-1

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (~~soil~~/water) water Lab Sample ID: EA # 4518

Sample wt/vol: 1000 ml (g/mL) 2 ml Lab File ID: DE298

Level: (low/~~med~~) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (~~SepF~~/Cont/~~Sonc~~) Cont Date Analyzed: 10/2/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: _____ CONCENTRATION UNITS: (ug/L or ug/Kg) _____

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. —	Unknown	22.95	17.00	
2.				
3.				
4.				
5.				
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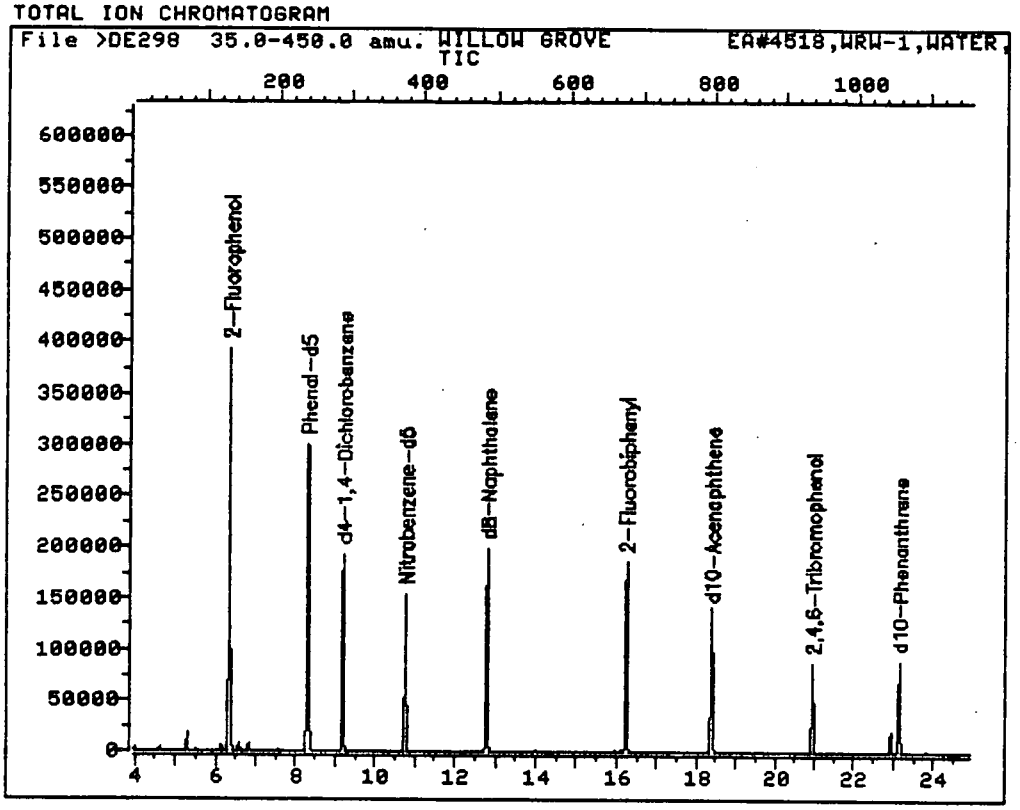
30.				

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



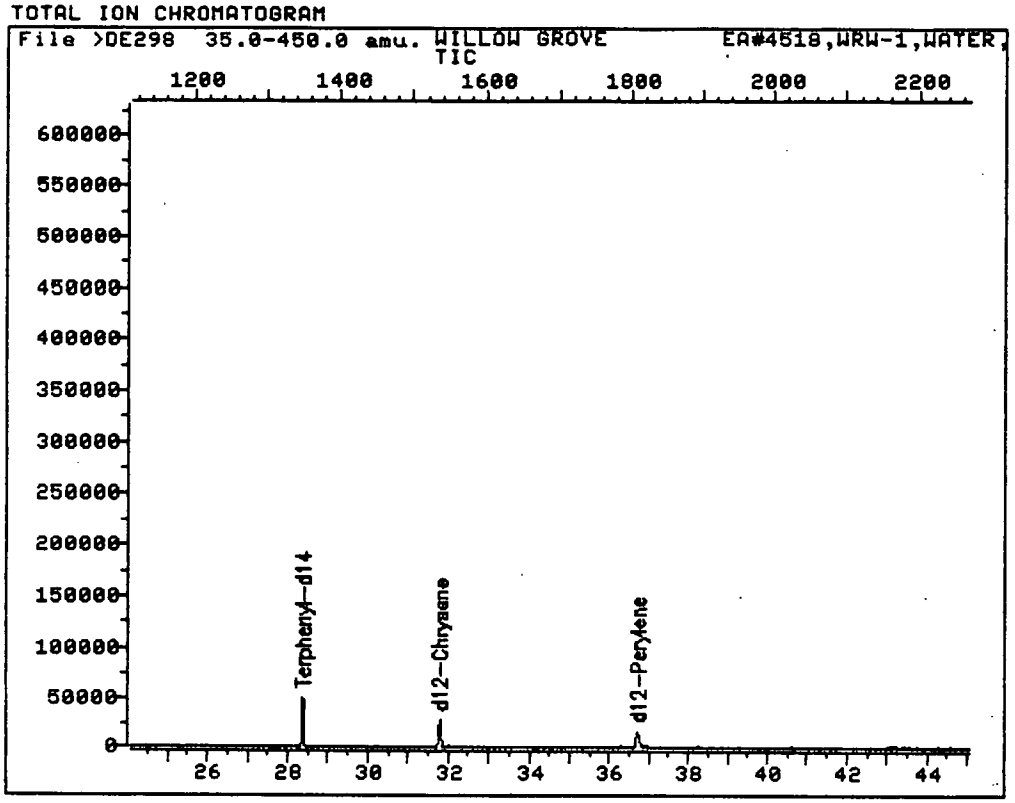
Data File: >DE298::W6 Quant Output File: ^DE298::QT
Name: WILLOW GROVE
Misc: EA#4518,WRW-1,WATER,1000ml,2, WILLOW GROVE (2) BTL# 8

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 19:17
Injected at: 891002 18:29

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE298::W6 Quant Output File: ^DE298::QT
Name: WILLOW GROVE
Misc: EA#4518,WRW-1,WATER,1000ml,2, WILLOW GROVE <2> BTL# 8

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 19:17
Injected at: 891002 18:29

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891002 19:17
Output Fil : ^DE298::QT Injected at: 891002 18:29
Data File: >DE298::W6 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4518,WRW-1,WATER,1000ml,2, WILLOW GROVE <2> BTL# 8

ID File: IDDCLP::BD
Titl : HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

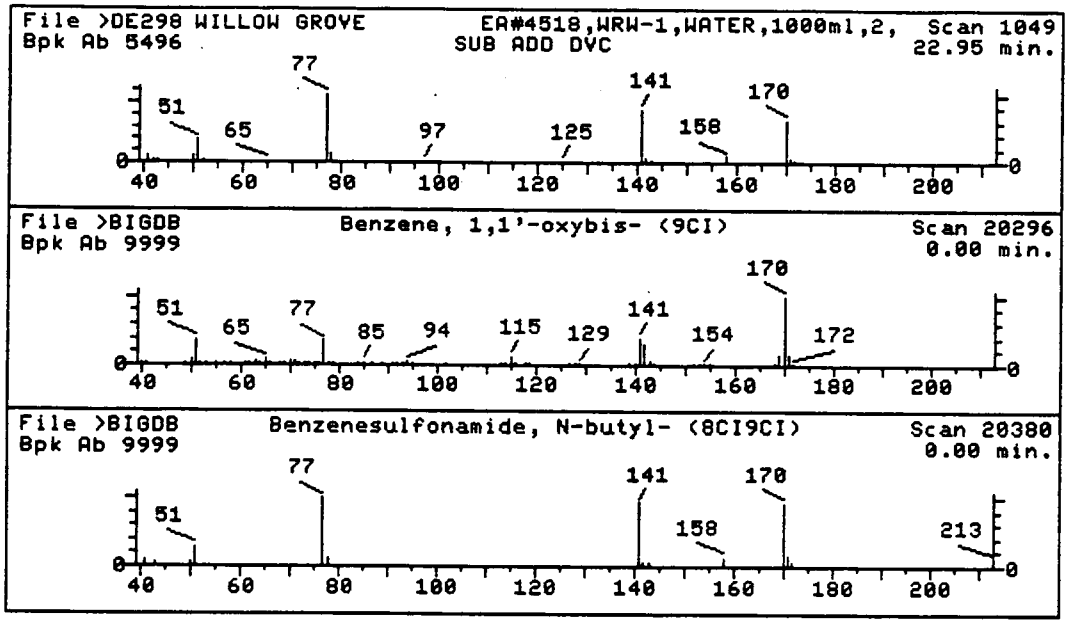
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.20	152.0	72099	40.00	NG	96
2)	2-Fluorophenol	6.34	112.0	209458	86.36	NG	86 % 88
3)	Phenol-d5	8.31	99.0	262343	93.19	NG	93 % 97
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.81	136.0	222735	40.00	NG	95
17)	Nitrobenzene-d5	10.76	82.0	114597	44.37	NG	89 % 97
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.38	164.0	83383	40.00	NG	95
32)	H xachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.25	172.0	147764	47.50	NG	95 % 95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^DE298:: Data File:>DE298::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.15	188.0	92012	40.00	NG	97
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.96	330.0	24980	81.71	NG ✓82 %	91
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.78	240.0	30410	40.00	NG	95
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.38	244.0	53318	39.76	NG ✓80 %	85
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.71	264.0	29409	40.00	NG	96
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



Retention time = 22.95 Unknown

Area = 56980.00 Tentative Concentration is 17.00

1. Benzene, 1,1'-oxybis- (9CI) 170 C12H10O
2. Benzenesulfonamide, N-butyl- (8CI9CI) 213 C10H15NO2S

Sample file: >DE298 Spectrum #: 1049
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	15*	101848	20296	"BIGDB	29	77	3	0	62	60	3	13
2.	11*	3622842	20380	"BIGDB	20	86	0	0	28	63	2	15

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
WRW-2

EA#4519

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/02/89 19:26
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	2.	J
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WRW-2

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (~~soil~~/water) water Lab Sample ID: EA # 4519

Sample wt/vol: 1000ml(~~g~~/mL) 2ml Lab File ID: DE299

Level: (low/~~med~~) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (Sep~~F~~/Cont/Sonc) Cont. Date Analyzed: 10/2/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ~~ug/Kg~~) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. —	Unknown alkane	22.98	11.00	
2. —	Unknown	41.07	95.00	
3.				
4.				
5.				
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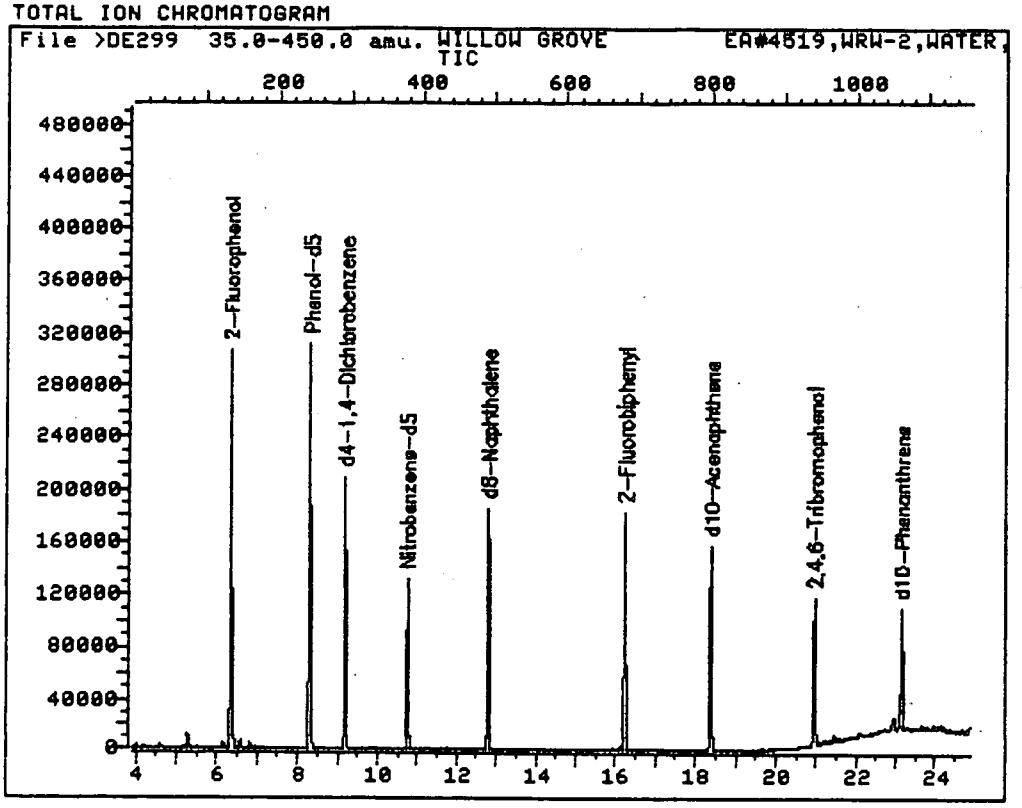
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



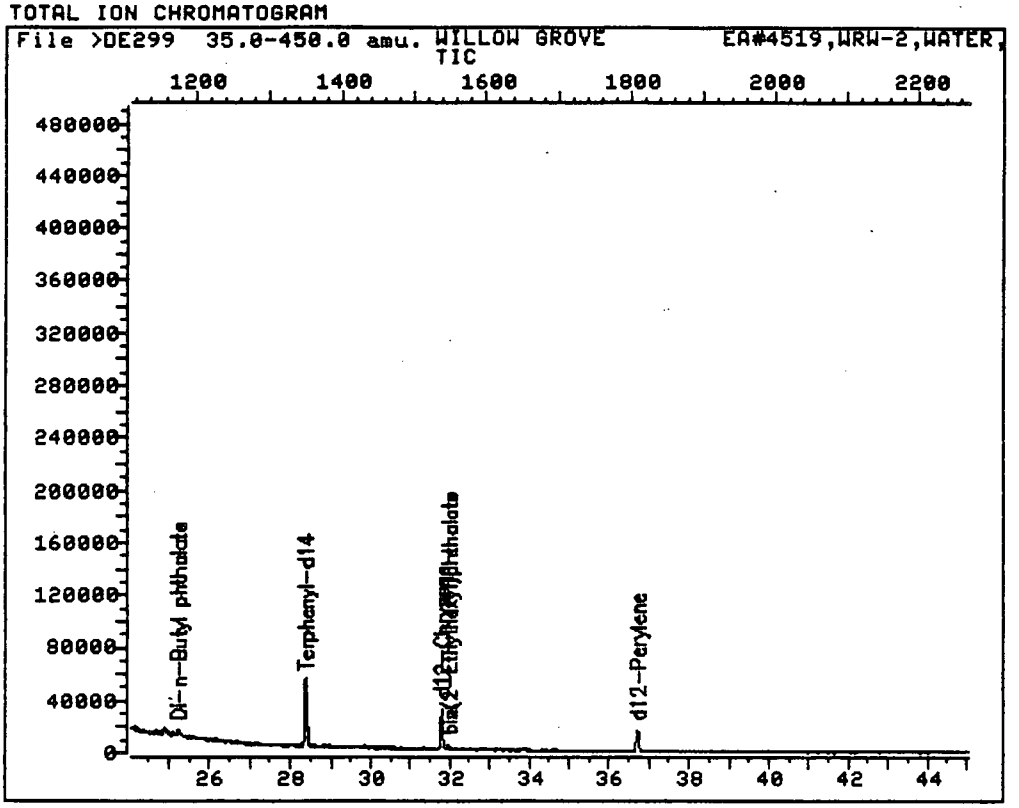
Data File: >DE299::W6 Quant Output File: ^DE299::QT
Name: WILLOW GROVE
Misc: EA#4519,WRW-2,WATER,1000ml,2, WILLOW GROVE <2> BTL# 9

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 20:14
Injected at: 891002 19:26

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE299::W6 Quant Output File: ^DE299::QT
Name: WILLOW GROVE
Misc: EA#4519,WRW-2,WATER,1000ml,2, WILLOW GROVE <2> BTL# 9

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 20:14
Injected at: 891002 19:26

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891002 20:14
Output File: ^DE299::QT Inj cted at: 891002 19:26
Data File: >DE299::W6 Dilution Factor: 1.00000
Nam : WILLOW GROVE
Misc: EA#4519,WRW-2,WATER,1000ml,2, WILLOW GROVE <2> BTL# 9

ID File: IDDCLP::BD
Titl : HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	69420	40.00	NG	98
2)	2-Fluorophenol	6.33	112.0	177740	76.11	NG ✓76	84
3)	Phenol-d5	8.32	99.0	231994	85.59	NG ✓86	99
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.80	136.0	214721	40.00	NG	95
17)	Nitrobenzene-d5	10.75	82.0	103668	41.64	NG ✓83	99
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.39	164.0	85242	40.00	NG	96
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.24	172.0	139968	44.02	NG ✓88	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

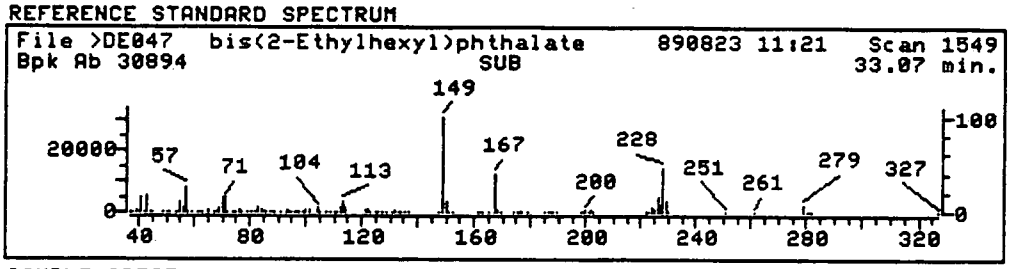
Output File:^DE299::

Data File:>DE299::W6

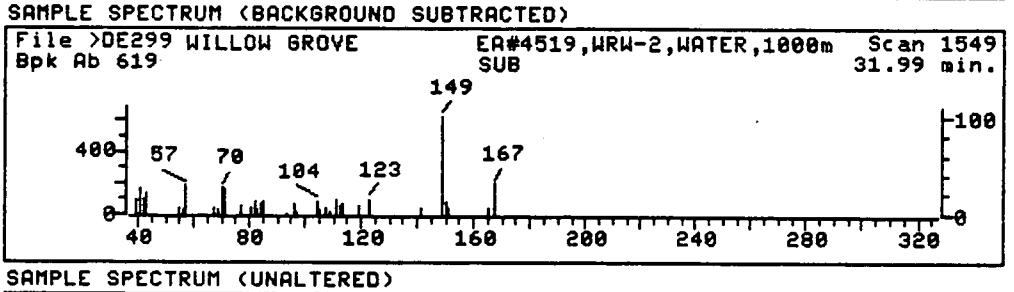
	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.14	188.0	98625	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.96	330.0	31687	96.70	NG 97%	92
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	25.24	149.0	1190	~~.27~~	~~NG~~	89
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.79	240.0	32464	40.00	NG	95
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.38	244.0	53723	37.52	NG 75%	84
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	31.99	149.0	1759	1.08	NG	92
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.72	264.0	31271	40.00	NG	95
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD

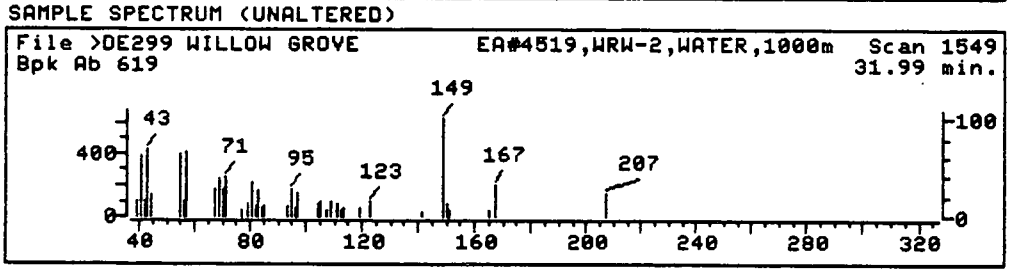
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

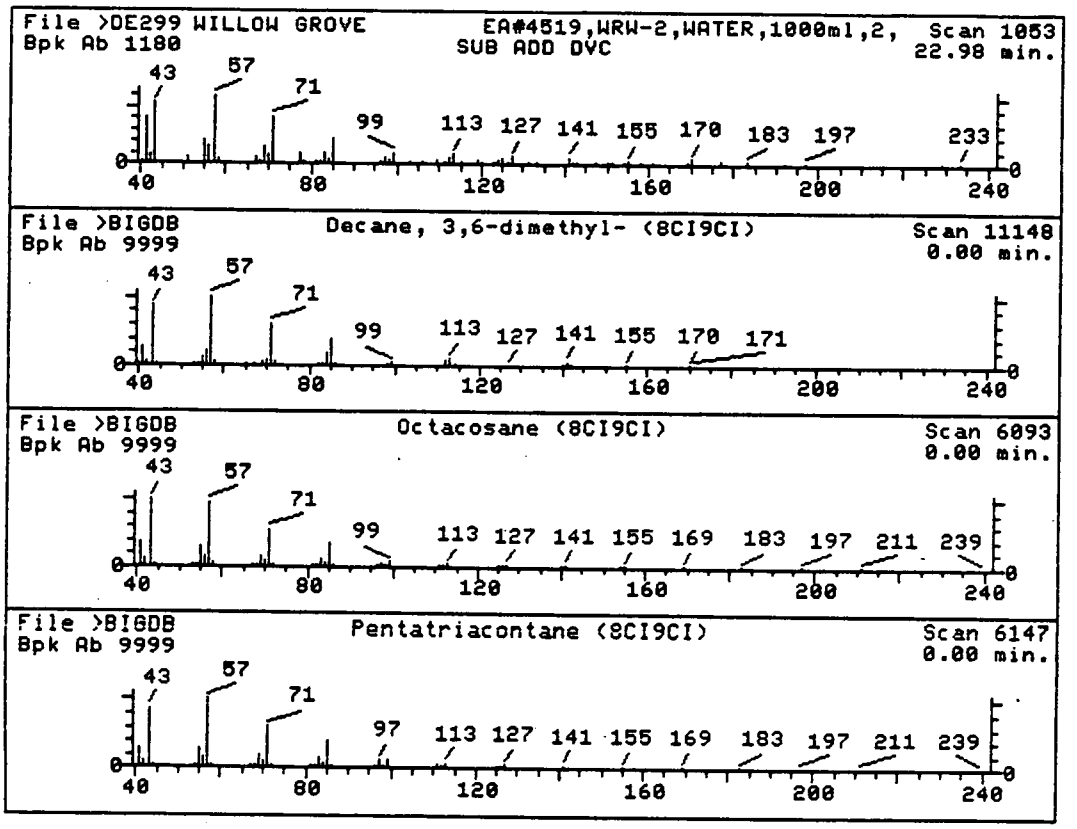


SAMPLE SPECTRUM (UNALTERED)



Data File: >DE299::W6 Quant Output File: ^DE299::QT
Name: WILLOW GROVE
Misc: EA#4519,WRW-2,WATER,1000ml,2, WILLOW GROVE <2> BTL# 9
Quant Time: 891002 20:14 Quant ID File: IDDCLP::BD
Injected at: 891002 19:26 Last Calibration: 891002 10:50

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1549
Retention Time: 31.99 min.
Quant Ion: 149.0
Area: 1759
Concentration: 1.08 NG
q-value: 92



Unknown alkane

Ret ntion time = 22.98

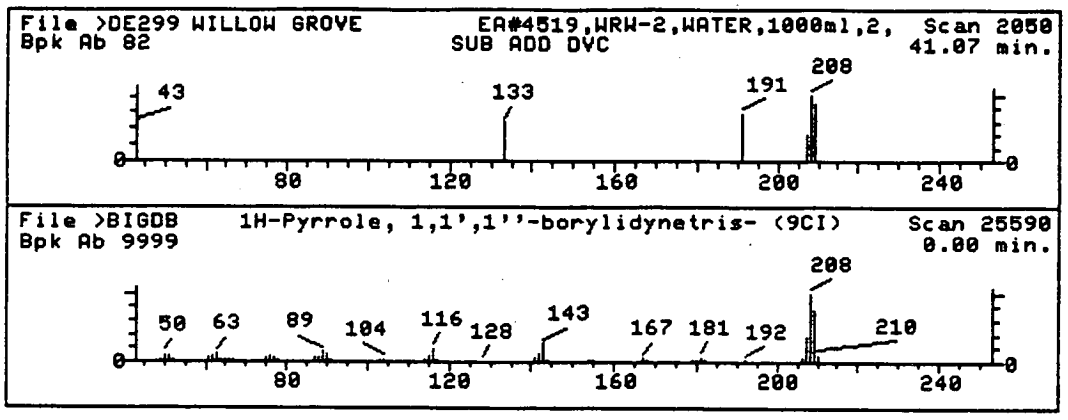
Area = 45435.00 Tentative Concentration is 11.00

1. Decane, 3,6-dimethyl- (8CI9CI)	170	C12H26
2. Octacosane (8CI9CI)	394	C28H58
3. Pentatriacontane (8CI9CI)	492	C35H72
4. Heptane, 3-ethyl-5-methyl- (9CI)	142	C10H22
5. Hexadecane, 2,6,10,14-tetramethyl- (8CI9CI)	282	C20H42
6. Pentadecane, 3-methyl- (8CI9CI)	226	C16H34
7. Hexadecane, 2-methyl- (8CI9CI)	240	C17H36

Sample file: >DE299 Spectrum #: 1053
Search speed: 2 Tilting option: S No. of ion ranges searched: 65

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	35*	17312537	11148	"BIGDB	57	41	2	-1	91	44	12	26
2.	31	630024	6093	"BIGDB	93	44	2	-2	82	44	8	19

3.	31	630079	6147	"BIGDB	92	59	2	-1	78	44	8	19
4.	31*	52896909	3958	"BIGDB	53	41	2	-2	79	44	8	19
5.	29	638368	11255	"BIGDB	68	74	2	0	83	38	10	15
6.	25	2882964	23922	"BIGDB	71	57	3	0	100	47	7	12
7.	25	1560925	24019	"BIGDB	70	61	2	0	89	47	7	16



Unknown

Retention time = 41.07

Area = 110251.0 Tentative Concentration is 95.00

1. 1H-Pyrrole, 1,1',1''-borylidynetris- (9CI) 209 C12H12BN3

Sample file: >DE299 Spectrum #: 2050
Search speed: 2 Tilting option: S No. of ion ranges search d: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25*	18899906	25590	"BIGDB	29	106	3	0	100	44	8	13

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
WRW-3

EA# 4520

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/02/89 20:23
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	8.	J
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WRW-3

Lab Name: EA Laboratories. Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (~~soil~~/water) water Lab Sample ID: EA# 4520

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: DE300

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (~~SepF~~/Cont/~~Sonc~~) Cont. Date Analyzed: 10/2/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 4

CONCENTRATION UNITS: (ug/L or ~~ug/Kg~~) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. —	Unknown alkane	21.48	11.00	
2. —	Unknown alkane	22.98	18.00	
3. —	Unknown	41.07	99.00	
4. —	Unknown	41.27	28.00	
5.				
6.				
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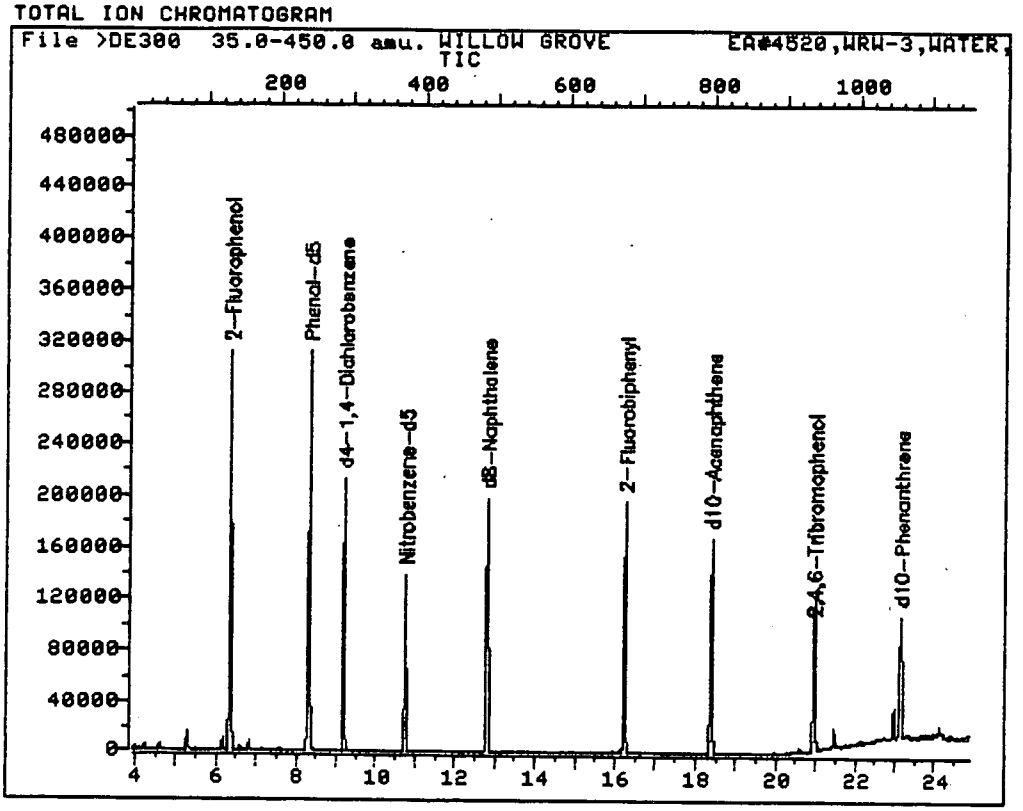
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



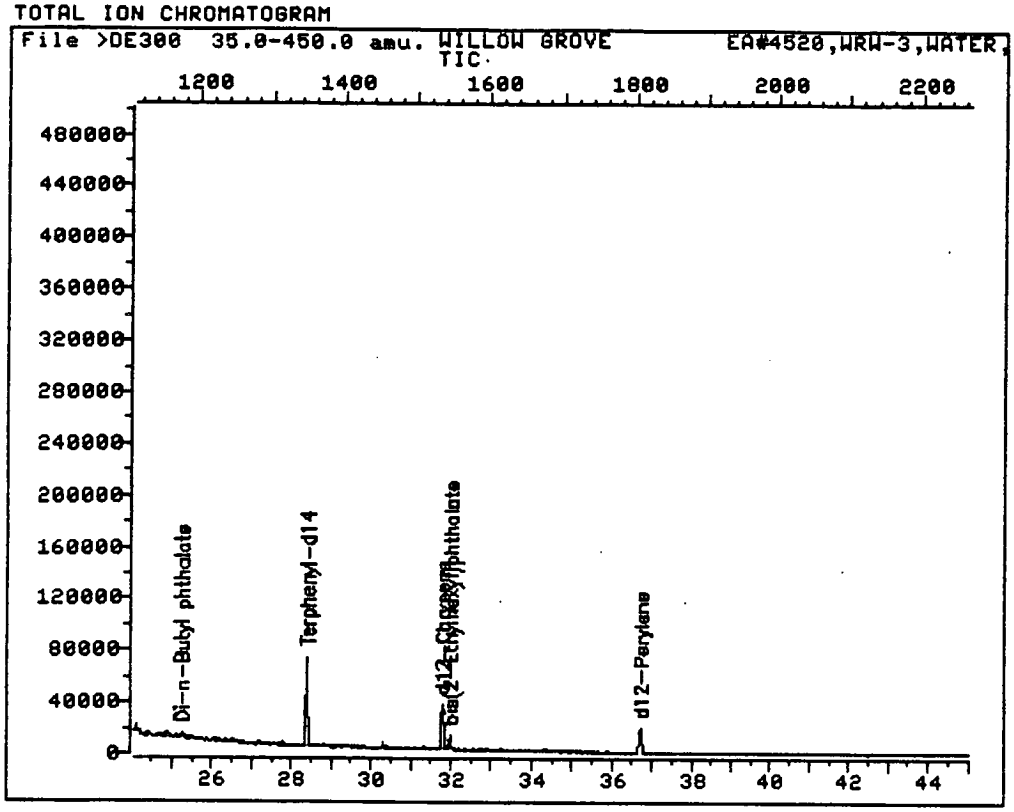
Data File: >DE300::W6 Quant Output File: ^DE300::QT
Name: WILLOW GROVE
Misc: EA#4520,WRW-3,WATER,1000ml,2, WILLOW GROVE (2) BTL#10

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 21:11
Injected at: 891002 20:23

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE300::W6 Quant Output File: ^DE300::QT
Name: WILLOW GROVE
Misc: EA#4520,WRW-3,WATER,1000ml,2, WILLOW GROVE <2> BTL#10

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 21:11
Injected at: 891002 20:23

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891002 21:11
Output File: ^DE300::QT Inject d at: 891002 20:23
Data File: >DE300::W6 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4520,WRW-3,WATER,1000ml,2, WILLOW GROVE <2> BTL#10

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	71775	40.00	NG	98
2)	2-Fluorophenol	6.33	112.0	205355	85.05	NG ✓85 %	82
3)	Phenol-d5	8.33	99.0	245011	87.43	NG ✓87 %	97
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.80	136.0	227270	40.00	NG	93
17)	Nitrobenzene-d5	10.75	82.0	109174	41.43	NG ✓83 %	98
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.40	164.0	91059	40.00	NG	94
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.24	172.0	153783	45.27	NG ✓91 %	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

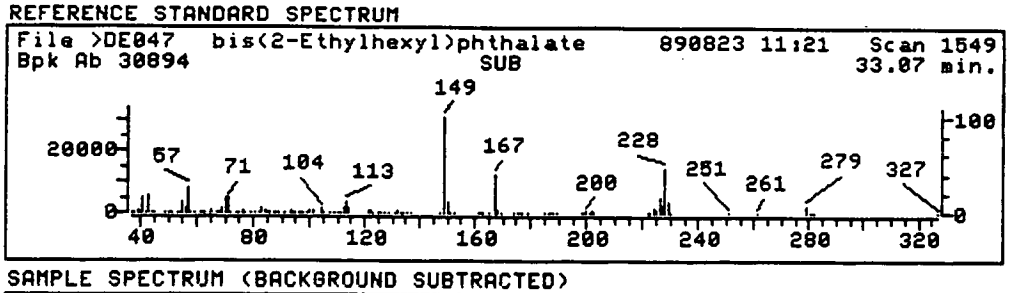
QUANT REPORT
page 2

Output File:^DE300:: Data File:>DE300::W6

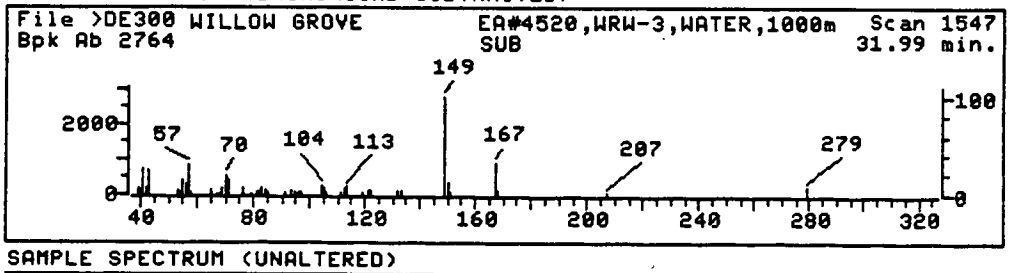
	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.15	188.0	100925	40.00	NG	98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.95	330.0	35898	107.06	NG 107%	88
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	25.24	149.0	1897	~~.41~~	~~NG~~	88
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.79	240.0	36264	40.00	NG	95
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.40	244.0	66275	41.44	NG 83%	87
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	31.99	149.0	7416	4.08	NG	93
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.72	264.0	35210	40.00	NG	97
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD

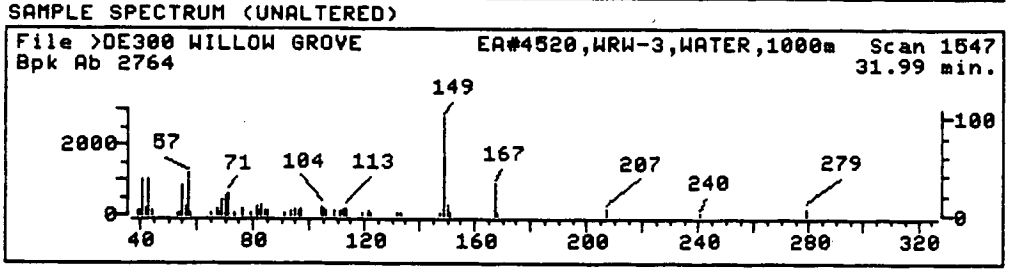
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

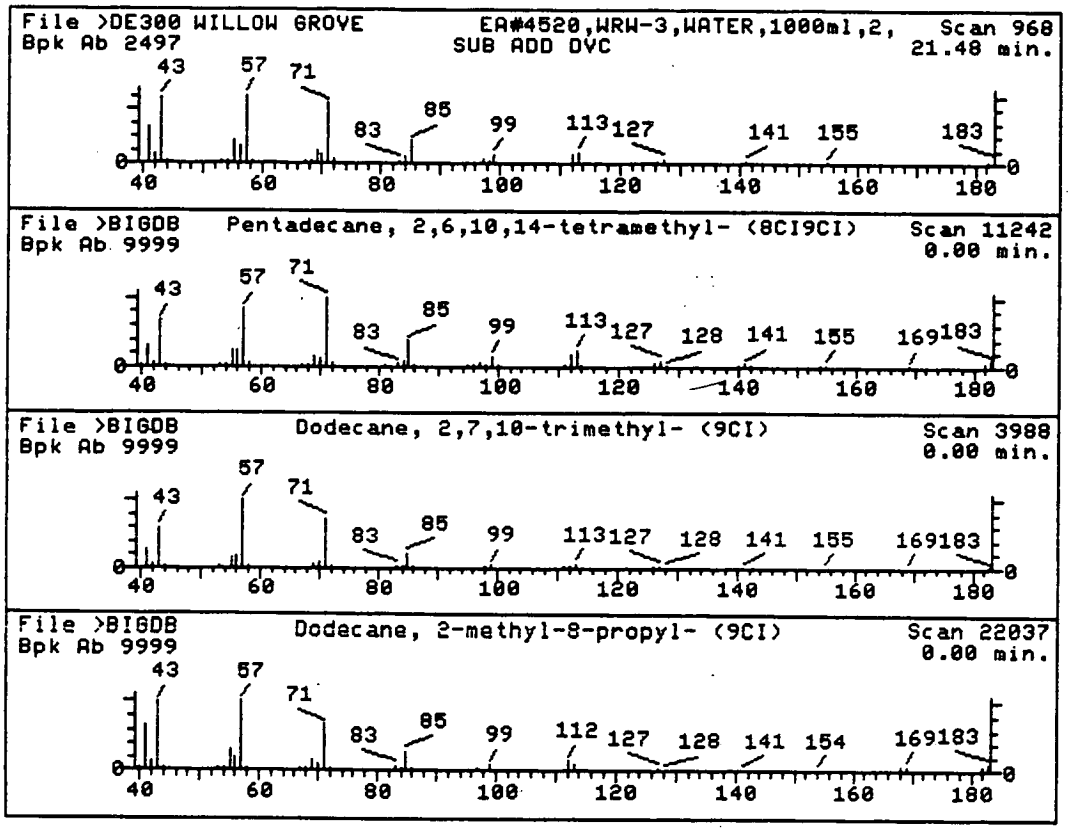


SAMPLE SPECTRUM (UNALTERED)



Data File: >DE300::W6 Quant Output File: ^DE300::QT
Name: WILLOW GROVE
Misc: EA#4520,WRW-3,WATER,1000ml,2, WILLOW GROVE (2) BTL#10
Quant Time: 891002 21:11 Quant ID File: IDDCLP::BD
Injected at: 891002 20:23 Last Calibration: 891002 10:50

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1547
Retention Time: 31.99 min.
Quant Ion: 149.0
Area: 7416
Concentration: 4.08 NG
q-value: 93



Ret ntion time = 21.48 unknown alkane

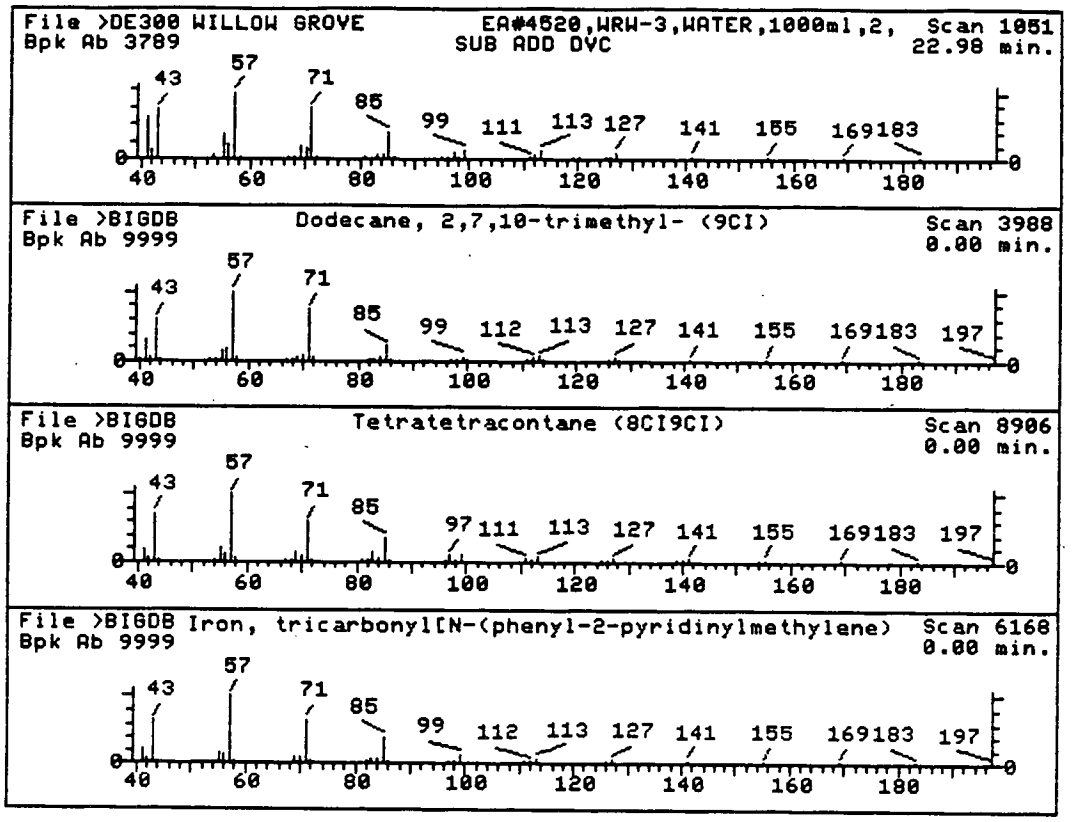
Area = 45575.00 Tentative Concentration is 11.00

1.	Pentadecane, 2,6,10,14-tetramethyl- (8CI9CI)	268	C19H40
2.	Dodecane, 2,7,10-trimethyl- (9CI)	212	C15H32
3.	Dodecane, 2-methyl-8-propyl- (9CI)	226	C16H34
4.	Hexadecane, 2,6,10-trimethyl- (9CI)	268	C19H40
5.	Heptadecane, 7-methyl- (8CI9CI)	254	C18H38
6.	Decane, 5-ethyl-5-methyl- (8CI)	184	C13H28
7.	Dodecane, 2,6,10-trimethyl- (8CI9CI)	212	C15H32

Sample file: >DE300 Spectrum #: 968
Search speed: 2 Tilting option: S No. of ion ranges searched: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	87	1921706	11242	"BIGDB	114	21	2	1	85	4	63	45
2.	71	74645980	3988	"BIGDB	76	33	0	-1	98	13	38	36

3.	70	55045073	22037	"BIGDB	77	51	2	0	96	6	42	19
4.	70	55000527	22036	"BIGDB	73	61	3	0	100	9	42	13
5.	60	20959335	10979	"BIGDB	75	60	3	0	100	14	30	13
6.	60	17312742	11185	"BIGDB	63	53	2	0	75	14	30	13
7.	60	3891983	4036	"BIGDB	64	60	2	0	100	11	30	14



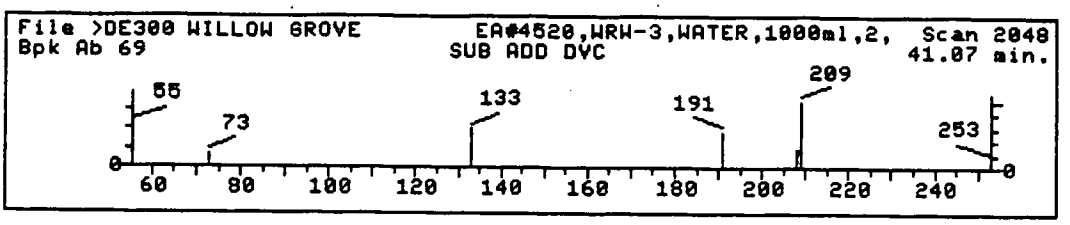
R t ntion time = 22.98 Unknown alkane

Area = 72813.00 Tentative Concentration is 18.00

1. Dodecane, 2,7,10-trimethyl- (9CI)	212	C15H32
2. Tetratetracontane (8CI9CI)	618	C44H90
3. Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
4. Hexadecane (8CI9CI)	226	C16H34
5. Tetratriacontane (8CI9CI)	478	C34H70
6. Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
7. Docosane (8CI9CI)	310	C22H46

Sample file: >DE300 Spectrum #: 1051
Search speed: 2 Tilting option: S No. of ion ranges search d: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89	74645980	3988	"BIGDB	94	15	0	-3	90	5	66	66
2.	83	7098228	8906	"BIGDB	92	64	2	0	93	4	57	27
3.	83	74764117	6168	"BIGDB	76	61	0	0	87	8	54	56
4.	76	544763	6146	"BIGDB	74	46	0	0	86	14	40	53
5.	76	14167590	6223	"BIGDB	83	80	2	0	80	7	45	23
6.	71	54833486	6161	"BIGDB	63	70	0	0	74	11	38	31
7.	71	629970	6221	"BIGDB	89	58	0	0	60	30	29	66



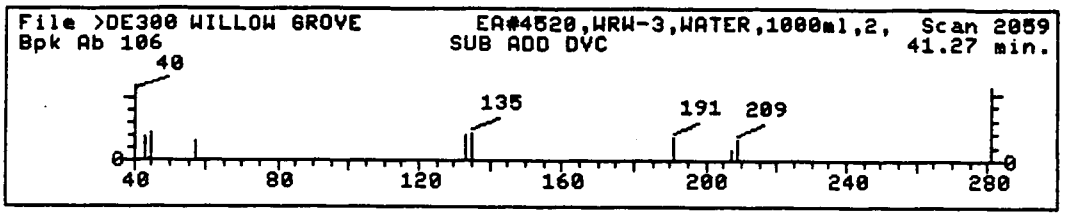
Unknown

Retention time = 41.07

Area = 128685.0 Tentative Concentration is 99.00

Sample file: >DE300 Spectrum #: 2048

No data base entries were retrieved.



R tention time = 41.27 Unknown

Ar a = 36144.00 Tentative Concentration is 28.00

Sample file: >DE300 Spectrum #: 2059

No data base entries were retrieved.

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
ALW-2

EA#4521

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/03/89 11:51
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)		C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U	83-32-9	Acenaphthene	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	51-28-5	2,4-Dinitrophenol	50.	U
95-57-8	2-Chlorophenol	10.	U	100-02-7	4-Nitrophenol	50.	U
541-73-1	1,3-Dichlorobenzene	10.	U	132-64-9	Dibenzofuran	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	121-14-2	2,4-Dinitrotoluene	10.	U
100-51-6	Benzyl Alcohol	10.	U	606-20-2	2,6-Dinitrotoluene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	84-66-2	Diethylphthalate	10.	U
95-48-7	2-Methylphenol	10.	U	7005-72-3	4-Chlorophenyl-phenylether	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U	86-73-7	Fluorene	10.	U
106-44-5	4-Methylphenol	10.	U	100-01-6	4-Nitroaniline	50.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U	534-52-1	4,6-Dinitro-2-methylphenol	50.	U
67-72-1	Hexachloroethane	10.	U	86-30-6	N-Nitrososdiphenylamine (1)	10.	U
98-95-3	Nitrobenzene	10.	U	101-55-3	4-Bromophenyl-phenylether	10.	U
78-59-1	Isophorone	10.	U	118-74-1	Hexachlorobenzene	10.	U
88-75-5	2-Nitrophenol	10.	U	87-86-5	Pentachlorophenol	50.	U
105-67-9	2,4-Dimethylphenol	10.	U	85-01-8	Phenanthrene	10.	U
65-85-0	Benzoic Acid	50.	U	120-12-7	Anthracene	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	84-74-2	Di-n-Butyl phthalate	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	206-44-0	Fluoranthene	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U	129-00-0	Pyrene	10.	U
91-20-3	Naphthalene	10.	U	85-68-7	Butylbenzylphthalate	10.	U
106-47-8	4-Chloroaniline	10.	U	91-94-1	3,3'-Dichlorobenzidine	20.	U
87-68-3	Hexachlorobutadiene	10.	U	56-55-3	Benzo(a)Anthracene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
91-57-6	2-Methylnaphthalene	10.	U	218-01-9	Chrysene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	117-84-0	Di-n-Octyl phthalate	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	205-99-2	Benzo(b)Fluoranthene	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U	207-08-9	Benzo(k)Fluoranthene	10.	U
91-58-7	2-Chloronaphthalene	10.	U	50-32-8	Benzo(a)Pyrene	10.	U
88-74-4	2-Nitroaniline	50.	U	193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
131-11-3	Dimethylphthalate	10.	U	53-70-3	Dibenzo(a,h)Anthracene	10.	U
208-96-8	Acenaphthylene	10.	U	191-24-2	Benzo(g,h,i)Perylene	10.	U
99-09-2	3-Nitroaniline	50.	U				

(1)-Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A2W-2

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (~~soil~~/water) water Lab Sample ID: EA # 4521

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: >DE310

Level: (low/~~med~~) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (~~SepF~~/Cont/~~Sonc~~) Cont. Date Analyzed: 10/3/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unknown	22.95	8-00	
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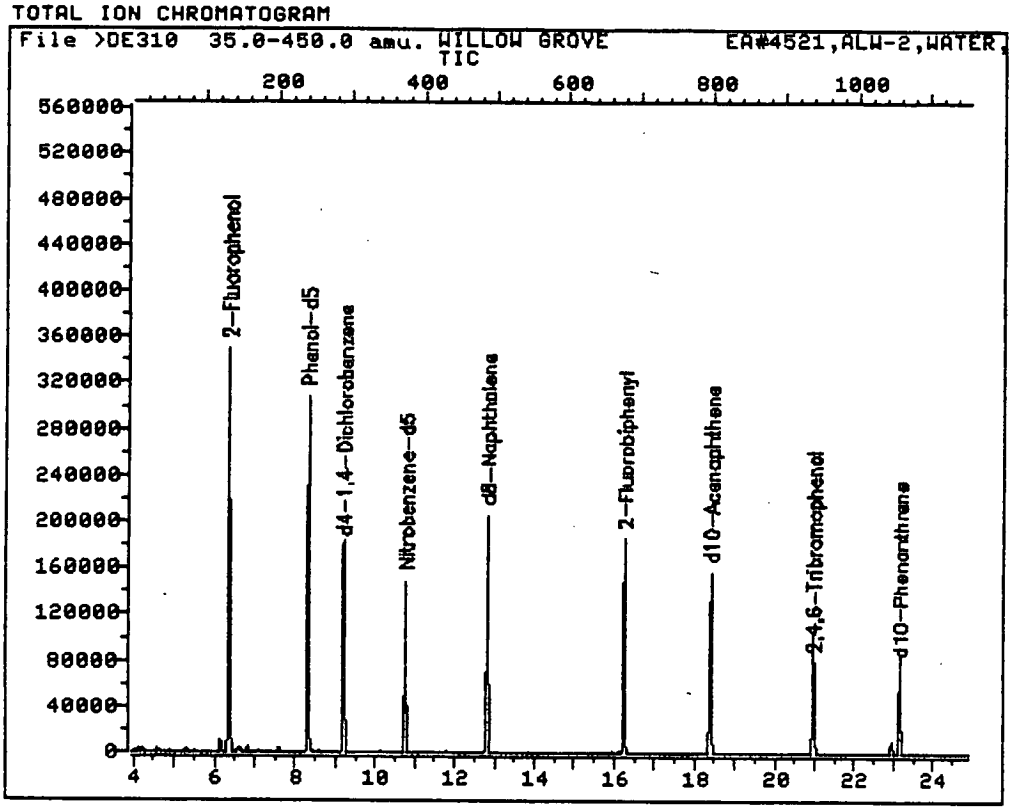
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



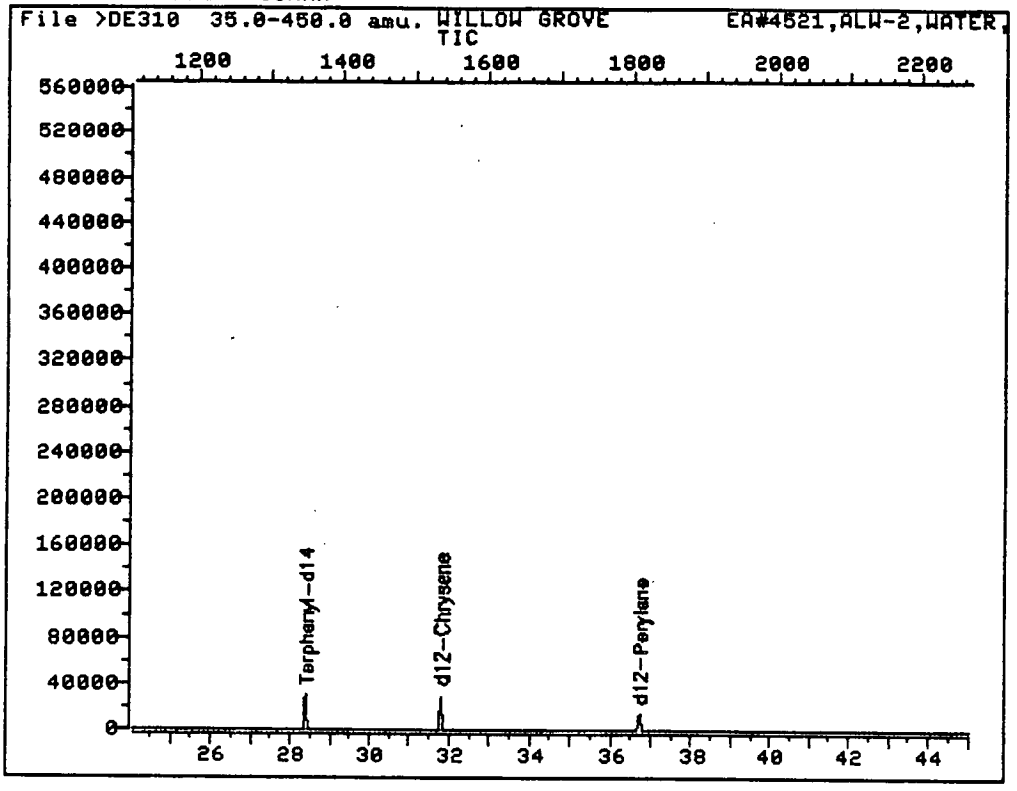
Data File: >DE310::W6 Quant Output File: ^DE310::QT
Name: WILLOW GROVE
Misc: EA#4521,ALW-2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891003 12:39
Injected at: 891003 11:51

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE310::W6 Quant Output File: ^DE310::QT
Name: WILLOW GROVE
Misc: EA#4521,ALW-2,WATER,1000ml,2, WILLOW GROVE <2> BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891003 12:39
Injected at: 891003 11:51

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891003 12:39
Output File: ^DE310::QT Injected at: 891003 11:51
Data File: >DE310::W6 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4521,ALW-2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 1

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	70838	40.00	NG	9
2)	2-Fluorophenol	6.35	112.0	191800	79.02	NG 79%	9
3)	Phenol-d5	8.32	99.0	225729	81.73	NG 82%	9
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.81	136.0	220317	40.00	NG	9
17)	Nitrobenzene-d5	10.77	82.0	104318	41.96	NG 84%	9
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.41	164.0	81286	40.00	NG	9
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.25	172.0	132960	43.26	NG 87%	9
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^DE310:: Data File:>DE310::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.15	188.0	87112	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.96	330.0	22852	88.39	NG ✓88%	87
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.80	240.0	29600	40.00	NG	99
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.40	244.0	27888	22.93	NG ✓46%	90
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.73	264.0	22931	40.00	NG	94
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD

>DE310 WILLOW GROVE EA#4521,ALW-2,WATER,1000ml,2, WILLOW GRO

35.01 450.0 CLP ADC TIC
Up lope: .20 Area Reject: 6540. Max Peaks: 12 Bunching: -1
Dnslope: 0.00 Results File IDE310 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	4.25	11	16	21	3064	15522	9361	33.54	6.293
2	4.61	34	36	43	2708	10304	7371	26.41	4.956
3	5.30	69	74	81	4171	15197	12173	43.62	8.184
4	6.15	118	121	130	11060	30541	27906	100.00	18.761
5	6.58	142	145	147	3917	10359	9272	33.23	6.234
6	6.65	147	149	154	3790	10505	8690	31.14	5.842
7	6.84	156	159	164	5445	15629	13173	47.20	8.856
8	7.60	197	201	209	3728	13462	11335	40.62	7.621
9	8.41	243	246	253	1465	10231	8329	29.85	5.600
10	10.13	339	341	348	2128	8158	6643	23.80	4.466
11	15.94	654	662	669	1460	6925	6925	24.82	4.656
12	22.95	1041	1049	1056	10267	27565	27565	98.78	18.532

Sum of corrected areas: 148743.

Summary of PBM Library Search and Quantitation on file :>DE310::W6

Internal Standard	Concentration	Area	Retention Time	Unknown Window
1	40.0	503931.	9.19	3.97 - 11.00
2	40.0	512191.	12.81	11.00 - 15.61
3	40.0	437082.	18.40	15.61 - 20.78
4	40.0	264702.	23.15	20.78 - 27.48
5	40.0	99800.	31.80	27.48 - 34.26
6	40.0	65395.	36.73	34.26 - 40.38

CALCULATIONS

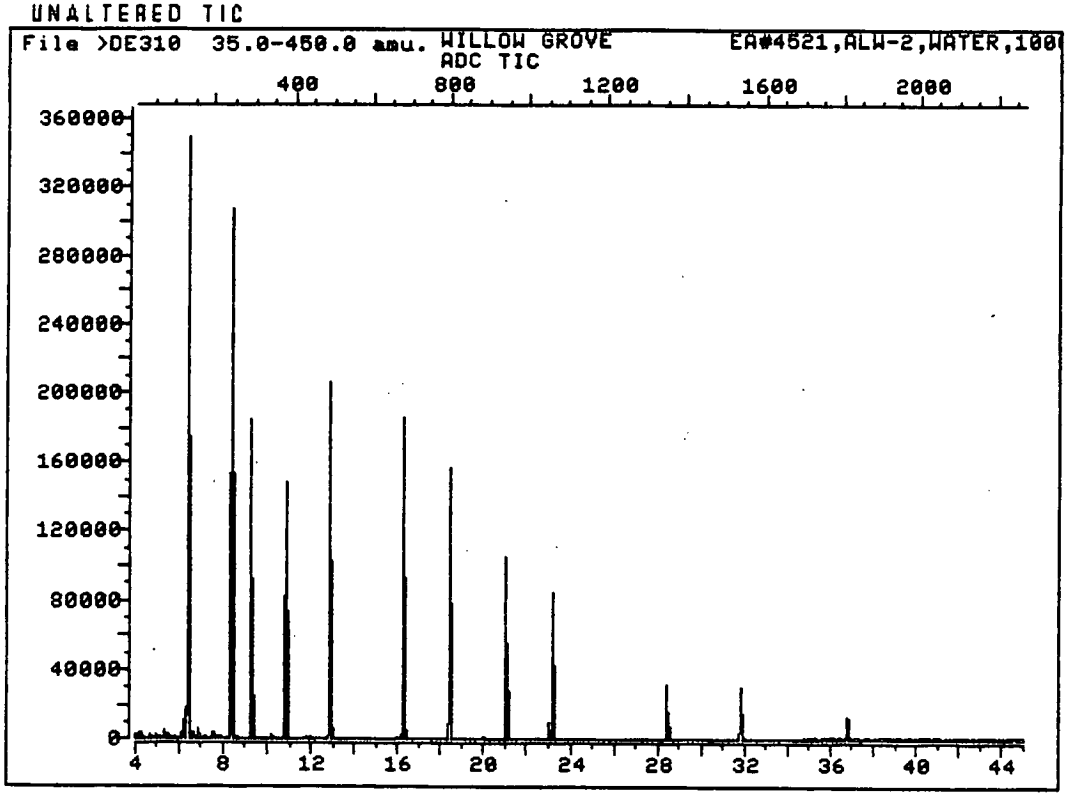
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 2000.00 Amount Used (AU) = 1000.00

Correction Factor = 2.00 = (AM / AU) / (DF * FS)

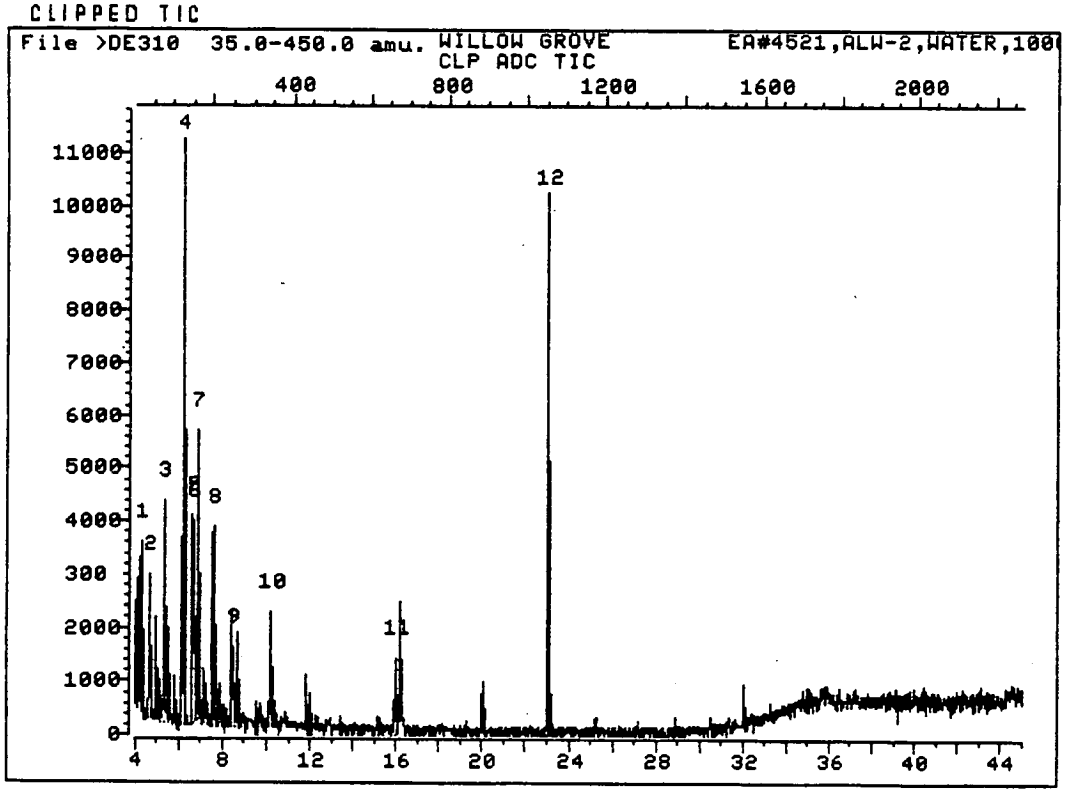
$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

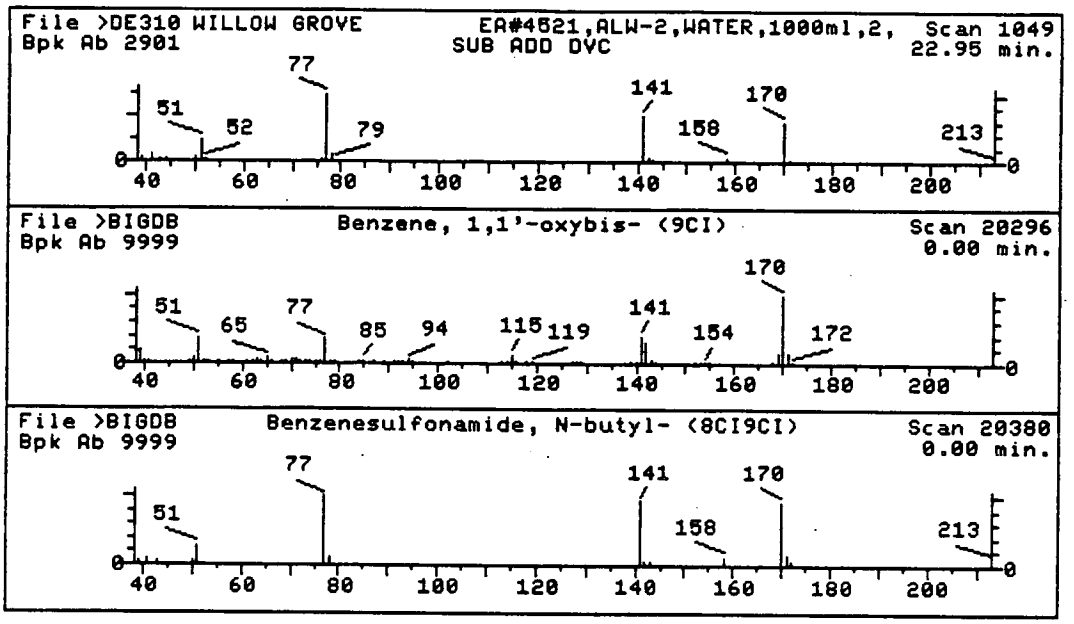
1:54 PM TUE., 3 OCT., 1989

UNALTERED TIC



CLIPPED TIC





Retention time = 22.95 unknown

Area = 27565.00 Tentative Concentration is 8.00

1. Benzene, 1,1'-oxybis- (9CI) 170 C12H10O
2. Benzenesulfonamide, N-butyl- (8CI9CI) 213 C10H15NO2S

Sample file: >DE310 Spectrum #: 1049
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	101848	20296	"BIGDB	29	77	3	0	60	52	5	13
2.	15*	3622842	20380	"BIGDB	20	86	1	0	31	56	3	14

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4535
SAMPLE: NEL/SWS/2
GC/MS FILE: >FC939::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	WATER
DATE EXTRACTED:	09/28/89
DATE ANALYZED:	10/02/89 20:41
SAMPLE--->EXTRACT:	1000ml-->2mL

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	10.	ND
111-44-4	bis(2-Chloroethyl)ether	10.	ND
95-57-8	2-Chlorophenol	10.	ND
541-73-1	1,3-Dichlorobenzene	10.	ND
106-46-7	1,4-Dichlorobenzene	10.	ND
100-51-6	Benzyl Alcohol	10.	ND
95-50-1	1,2-Dichlorobenzene	10.	ND
95-48-7	2-Methylphenol	10.	ND
39638-32-9	bis(2-chloroisopropyl)ether	10.	ND
106-44-5	4-Methylphenol	10.	ND
621-64-7	N-Nitroso-Di-n-propylamine	10.	ND
67-72-1	Hexachloroethane	10.	ND
98-95-3	Nitrobenzene	10.	ND
78-59-1	Isophorone	10.	ND
88-75-5	2-Nitrophenol	10.	ND
105-67-9	2,4-Dimethylphenol	10.	ND
65-85-0	Benzoic Acid	50.	ND
111-91-1	bis(2-Chloroethoxy)methane	10.	ND
120-83-2	2,4-Dichlorophenol	10.	ND
120-82-1	1,2,4-Trichlorobenzene	10.	ND
91-20-3	Naphthalene	10.	ND
106-47-8	4-Chloroaniline	10.	ND
87-68-3	Hexachlorobutadiene	10.	ND
59-50-7	4-Chloro-3-methylphenol	10.	ND
91-57-6	2-Methylnaphthalene	10.	ND
77-47-4	Hexachlorocyclopentadiene	10.	ND
88-06-2	2,4,6-Trichlorophenol	10.	ND
95-95-4	2,4,5-Trichlorophenol	50.	ND
91-58-7	2-Chloronaphthalene	10.	ND
88-74-4	2-Nitroaniline	50.	ND
131-11-3	Dimethylphthalate	10.	ND
208-96-8	Acenaphthylene	10.	ND
99-09-2	3-Nitroaniline	50.	ND
83-32-9	Acenaphthene	10.	ND
51-28-5	2,4-Dinitrophenol	50.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4535
SAMPLE: NEL/SWS/2
GC/MS FILE: >FC939::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	WATER
DATE EXTRACTED:	09/28/89
DATE ANALYZED:	10/02/89 20:41
SAMPLE--->EXTRACT:	1000ml-->2mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	50.	ND
132-64-9	Dibenzofuran	10.	ND
121-14-2	2,4-Dinitrotoluene	10.	ND
606-20-2	2,6-Dinitrotoluene	10.	ND
84-66-2	Diethylphthalate	10.	ND
7005-72-3	4-Chlorophenyl-phenylether	10.	ND
86-73-7	Fluorene	10.	ND
100-01-6	4-Nitroaniline	50.	ND
534-52-1	4,6-Dinitro-2-methylphenol	50.	ND
86-30-6	N-Nitrosodiphenylamine	10.	ND
101-55-3	4-Bromophenyl-phenylether	10.	ND
118-74-1	Hexachlorobenzene	10.	ND
87-86-5	Pentachlorophenol	50.	ND
85-01-8	Phenanthrene	10.	ND
120-12-7	Anthracene	10.	ND
84-74-2	Di-n-Butyl phthalate	10.	ND
206-44-0	Fluoranthene	10.	ND
129-00-0	Pyrene	10.	ND
85-68-7	Butylbenzylphthalate	10.	ND
91-94-1	3,3'-Dichlorobenzidine	20.	ND
56-55-3	Benzo(a)Anthracene	10.	ND
117-81-7	bis(2-Ethylhexyl)phthalate	3.	TR
218-01-9	Chrysene	10.	ND
117-84-0	Di-n-Octyl phthalate	10.	ND
205-99-2	Benzo(b)Fluoranthene	10.	ND
207-08-9	Benzo(k)Fluoranthene	10.	ND
50-32-8	Benzo(a)Pyrene	10.	ND
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	ND
53-70-3	Dibenzo(a,h)Anthracene	10.	ND
191-24-2	Benzo(g,h,i)Perylene	10.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NEL SWS 2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: EA #4535

Sample wt/vol: 1000 (g/mL) ML Lab File ID: >FC 939

Level: (low/med) LOW Date Received: 09.25.89

% Moisture: not dec. N/A dec. _____ Date Extracted: 09.28.89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/02/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1

Number TICs found: 9

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	107415	2,4-PENTANEDIOL, 2-METHYL	4.64	3400	J
2.	—	UNKNOWN CMPD	7.57	1700	J
3.	—	UNKNOWN CMPD	7.75	520	J
4.	—	UNKNOWN ALKYNE	9.54	280	J
5.	—	UNKNOWN CMPD	19.71	1100	J
6.	102078	UREA, N,N'-DIPHENYL	24.63	130	J
7.	—	UNKNOWN CMPD.	24.97	620	J
8.	—	UNKNOWN CMPD	26.43	310	J
9.	2432895	DECANEDIOIC ACID, DIDECYL ESTER	29.44	160	J
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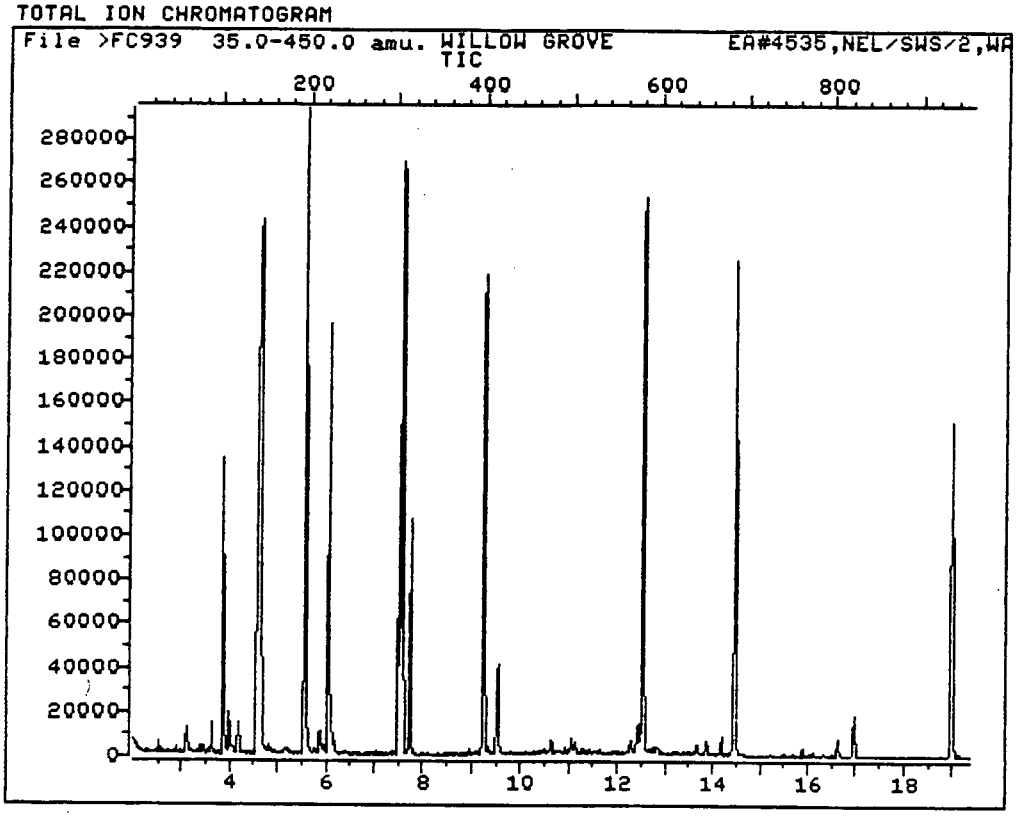
FORM I SV-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



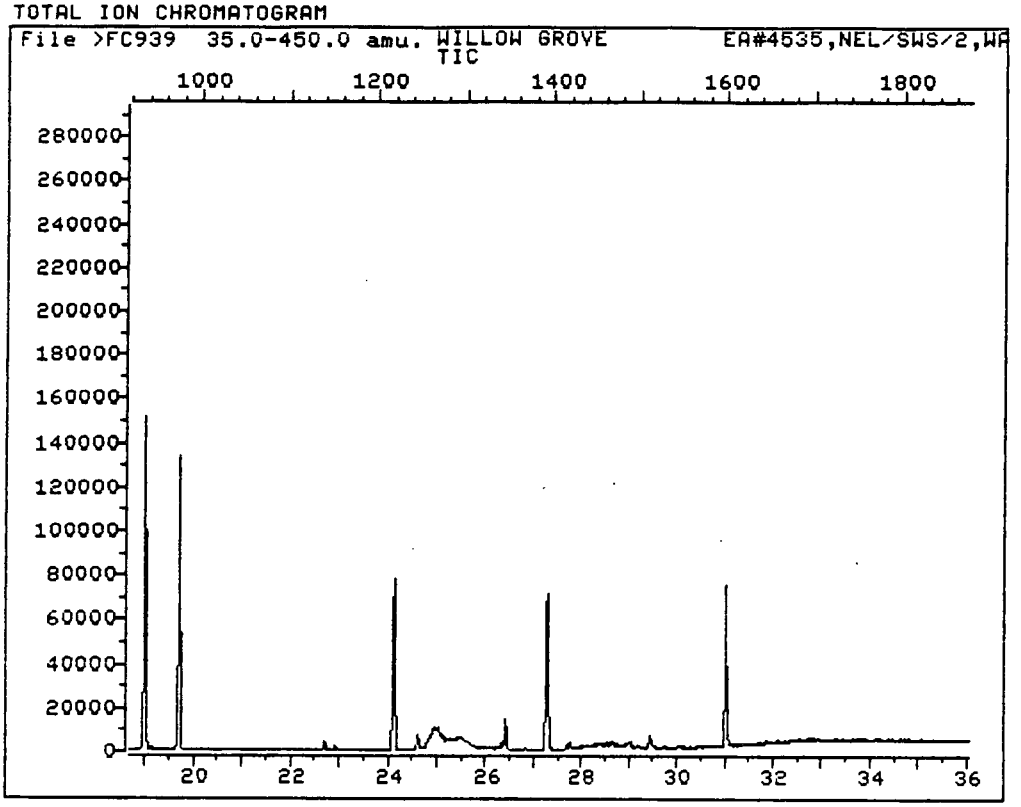
Data File: >FC939::D4 Quant Output File: ^FC939::QT
Name: WILLOW GROVE
Misc: EA#4535,NEL/SWS/2,WATER,1000ML,2mL BTL# 7

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 21:21
Injected at: 891002 20:41

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC939::D4 Quant Output File: ^FC939::QT
Name: WILLOW GROVE
Misc: EA#4535,NEL/SWS/2,WATER,1000ML,2mL BTL# 7

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 21:21
Injected at: 891002 20:41

TIC page 2 of 2

QUANT REPORT

Operator ID: JUANEAU
Output File: ^FC939::QT
Data File: >FC939::D4
Name: WILLOW GROVE
Misc: EA#4535,NEL/SWS/2,WATER,1000ML,2mL

Quant Rev: 6
Quant Time: 891002 21:21
Injected at: 891002 20:41
Dilution Factor: 1.00000

BTL# 7

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.04	152.0	68880	40.00	NG		96
2)	2-Fluorophenol	3.86	112.0	57655	30.20	NG	30%	93
3)	Phenol-d5	5.57	99.0	209567	92.81	NG	93%	96
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	6.40	45.0	578	~~.11~~	NG		81
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.25	136.0	264001	40.00	NG		90
17)	Nitrobenzene-d5	7.51	82.0	103429	45.21	NG	90%	92
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	Benzoic Acid	0.00	122.0	0	0.00	NG		
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.47	164.0	126329	40.00	NG		97
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.52	172.0	223530	59.96	NG	120% X	93
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.48	163.0	41973	~~9.76~~	NG		54
39)	Acenaphthylene	0.00	152.0	0	0.00	NG		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	0.00	153.0	0	0.00	NG		
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

QUANT REPORT
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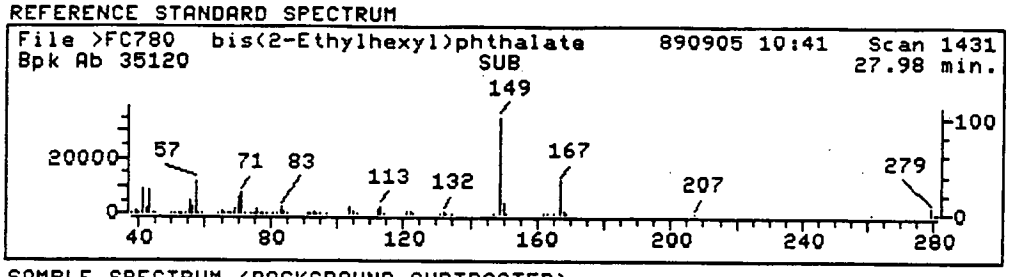
Output File:^FC939:: Data File:>FC939::D4

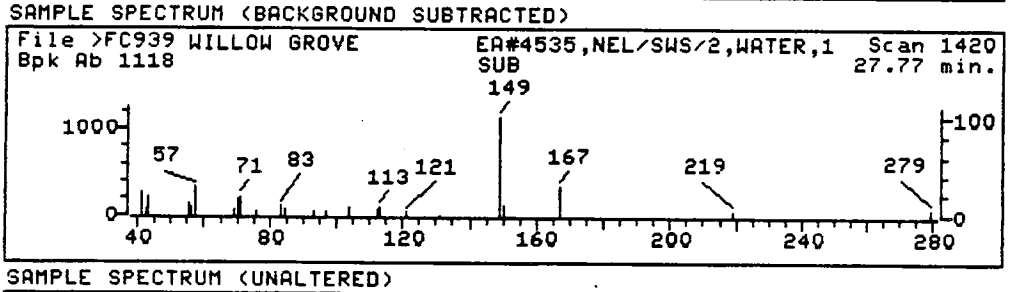
	Compound	R.T.	Q ion	Area	Conc	Units		q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG		
44)	Dibenzofuran	0.00	168.0	0	0.00	NG		
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG		
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG		
47)	Diethylphthalate	0.00	149.0	0	0.00	NG		
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG		
49)	Fluorene	0.00	166.0	0	0.00	NG		
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG		
51)	*d10-Phenanthrene	18.98	188.0	159827	40.00	NG		99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG		
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG		
54)	2,4,6-Tribromophenol	16.97	329.9	6116	10.84	NG	11%	93
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG		
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG		
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG		
58)	Phenanthrene	0.00	178.0	0	0.00	NG		
59)	Anthracene	0.00	178.0	0	0.00	NG		
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG		
61)	Fluoranthene	0.00	202.0	0	0.00	NG		
62)	*d12-Chrysene	27.28	240.0	69066	40.00	NG		96
63)	Pyrene	0.00	202.0	0	0.00	NG		
64)	Terphenyl-d14	24.14	244.0	80424	43.69	NG	87%	90
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG		
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG		
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG		
68)	bis(2-Ethylhexyl)phthalate	27.77	149.0	2589	1.46	NG		91
69)	Chrysene	0.00	228.0	0	0.00	NG		
70)	*d12-Perylene	31.02	264.0	71827	40.00	NG		97
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG		
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG		
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG		
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG		
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG		
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG		
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG		

* Compound is ISTD

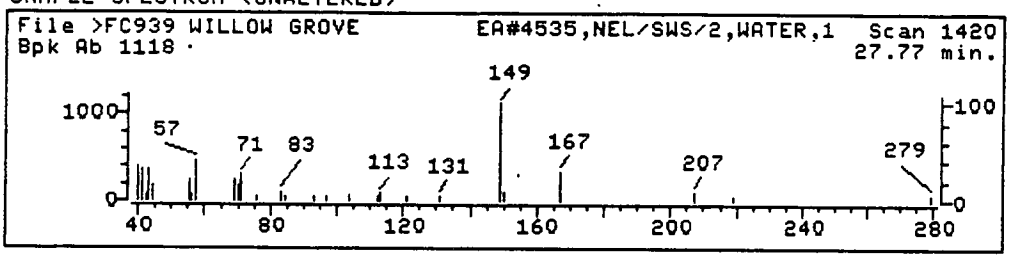
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

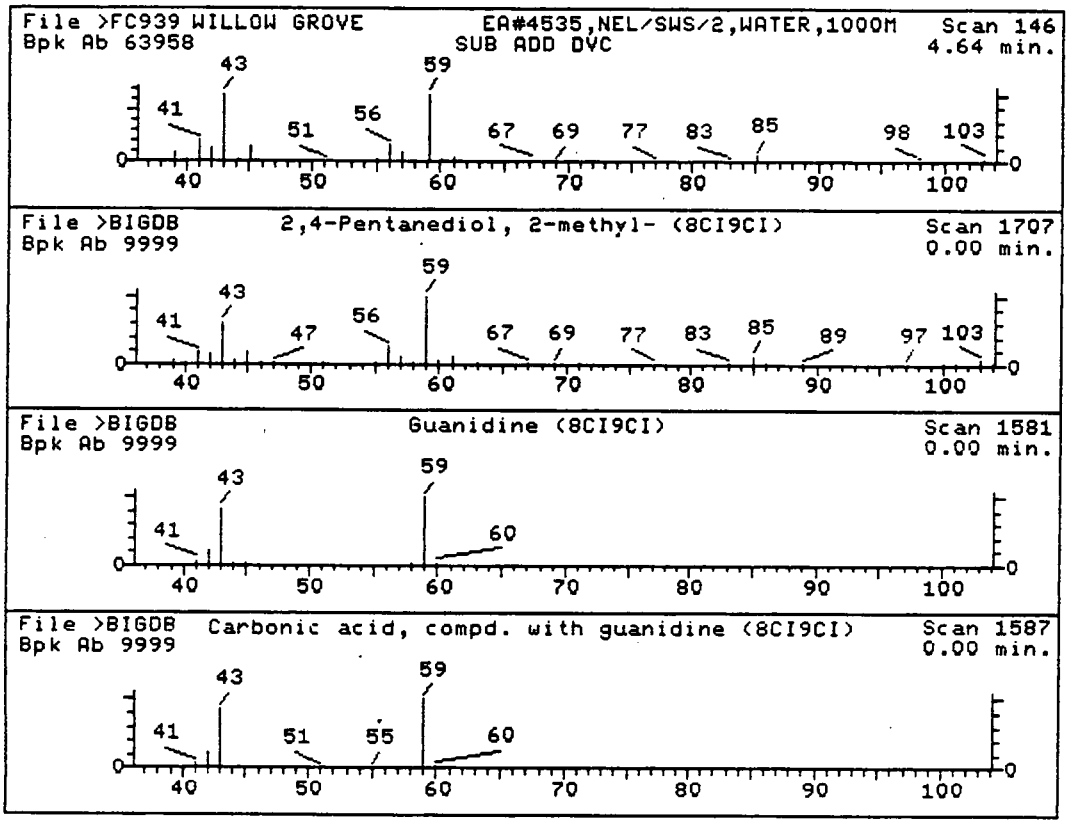


SAMPLE SPECTRUM (UNALTERED)



Data File: >FC939::D4 Quant Output File: ^FC939::QT
Name: WILLOW GROVE
Misc: EA#4535,NEL/SWS/2,WATER,1000ML,2mL BTL# 7
Quant Time: 891002 21:21 Quant ID File: IDFCLP::BD
Injected at: 891002 20:41 Last Calibration: 891002 15:39

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1420
Retention Time: 27.77 min.
Quant Ion: 149.0
Area: 2589
Concentration: 1.46 NG
q-value: 91



Retention time = 4.64

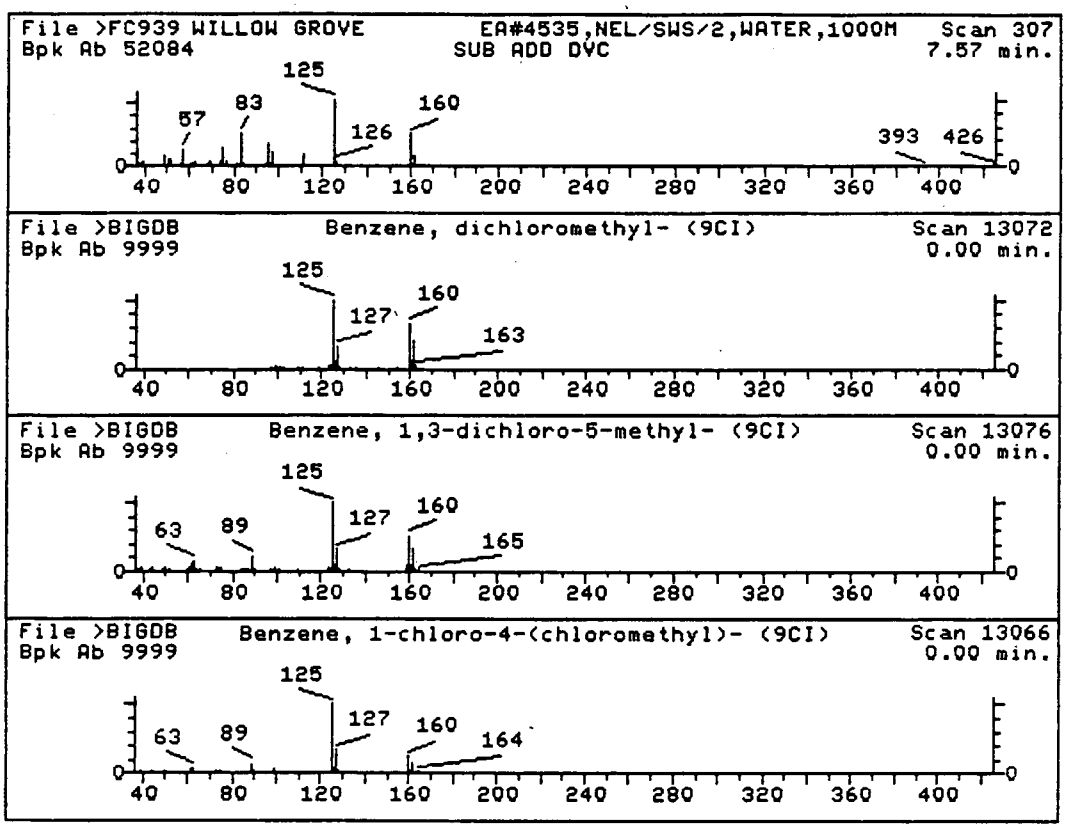
Area = 1298024. Tentative Concentration is 3400.00

1.	2,4-Pentanediol, 2-methyl- (8CI9CI)	118 C6H14O2
2.	Guanidine (8CI9CI)	59 CH5N3
3.	Carbonic acid, compd. with guanidine (8CI9CI)	121 C2H7N3O3
4.	Acetamide (8CI9CI)	59 C2H5NO
5.	Butanoic acid, 3-oxo-, 2-methylpropyl ester (9CI)	158 C8H14O3

Sample file: >FC939 Spectrum #: 146
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	50	107415	1707	"BIGDB	58	38	1	0	78	22	22	22
2.	38*	113008	1581	"BIGDB	28	39	1	0	84	29	14	15
3.	35	3425089	1587	"BIGDB	33	31	1	0	81	29	14	12
4.	26*	60355	1577	"BIGDB	24	51	1	0	70	45	8	14

5.	20	7779751	6041	"BIGDB	40	37	2	0	71	51	5	1



UNKNOWN CMPD

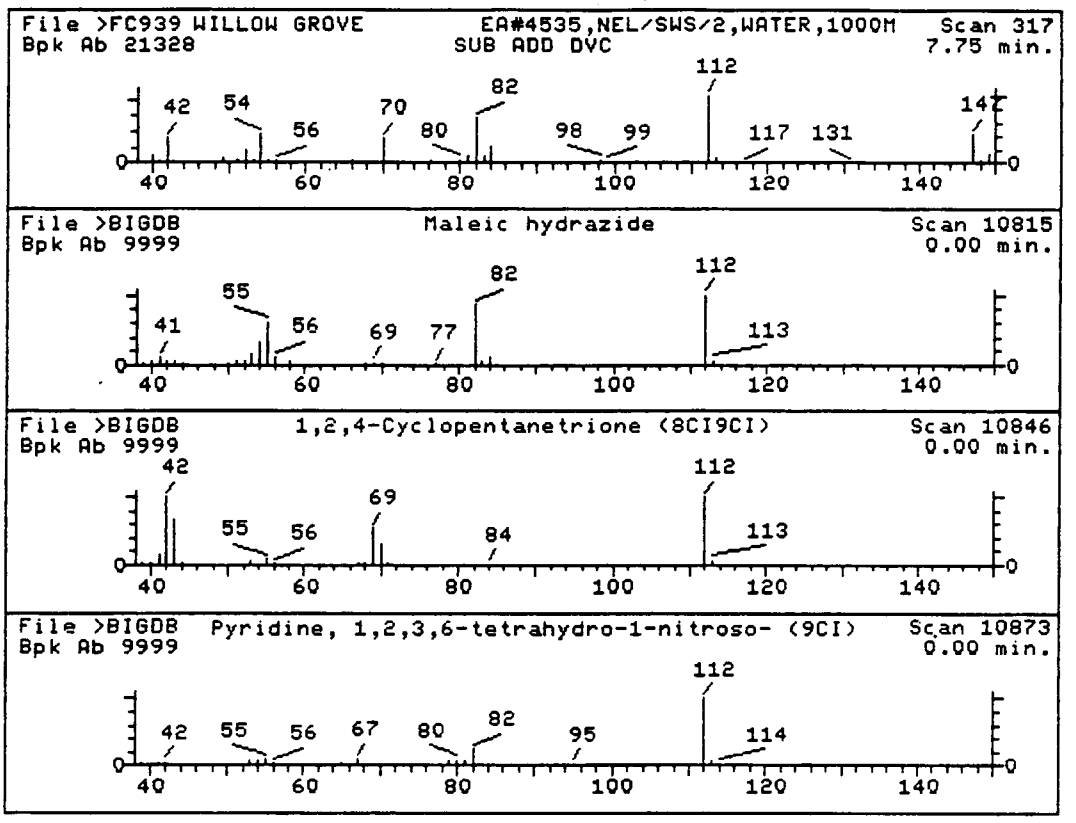
R tention time = 7.57

Area = 652702.0 Tentative Concentration is 1700.00

1.	Benzene, dichloromethyl- (9CI)	160	C7H6Cl2
2.	Benzene, 1,3-dichloro-5-methyl- (9CI)	160	C7H6Cl2
3.	Benzene, 1-chloro-4-(chloromethyl)- (9CI)	160	C7H6Cl2
4.	2(1H)-Pyridinone, 4-hydroxy-6-methyl- (9CI)	125	C6H7NO2
5.	Benzenamine, 4-fluoro-2-methyl- (9CI)	125	C7H8FN
6.	Benzenethiol, 2-amino- (9CI)	125	C6H7NS

Sample file: >FC939 Spectrum #: 307
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	25*	29797408	13072	"BIGDB	25	76	3	0	72	46	7	1
2.	24*	25186474	13076	"BIGDB	24	85	3	0	94	45	8	1
3.	20*	104836	13066	"BIGDB	26	71	3	0	100	52	5	1
4.	15*	3749517	12979	"BIGDB	22	77	3	0	100	57	3	1
5.	15*	452711	12972	"BIGDB	22	79	3	0	119	57	3	1
6.	15*	137075	12995	"BIGDB	22	89	3	0	100	59	3	1



UNKNOWN CMPd.

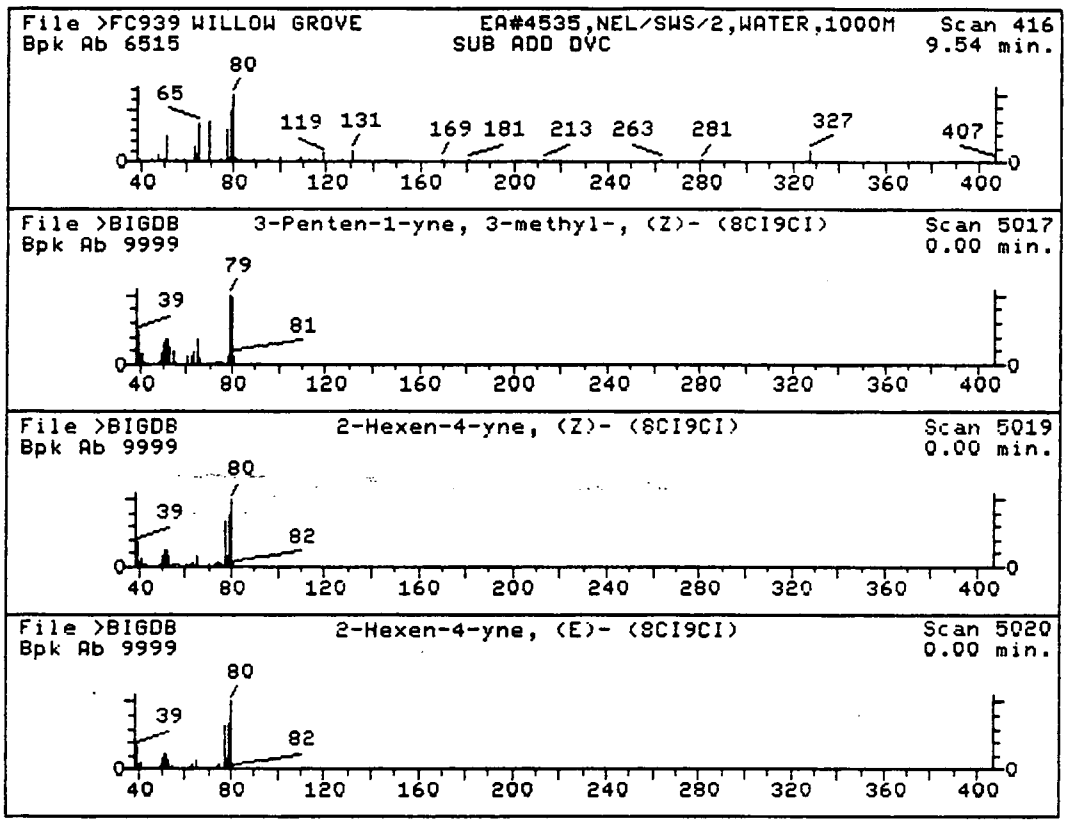
Retention time = 7.75

Area = 226329.0 Tentative Concentration is 520.00

1.	Maleic hydrazide	112	C4H4N2O2
2.	1,2,4-Cyclopentanetrione (8CI9CI)	112	C5H4O3
3.	Pyridine, 1,2,3,6-tetrahydro-1-nitroso- (9CI)	112	C5H8N2O
4.	4H-1,2,4-Triazol-3-amine, 4-ethyl- (9CI)	112	C4H8N4
5.	2H-Pyran-2-carboxaldehyde, 5,6-dihydro- (9CI)	112	C6H8O2
6.	2-Cyclopenten-1-one, 2-hydroxy-3-methyl- (8CI9CI)	112	C6H8O2

Sample file: >FC939 Spectrum #: 317
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	26*	123331	10815	"BIGDB	24	80	2	0	77	43	8	14
2.	15*	15849146	10846	"BIGDB	30	55	3	0	100	59	3	13
3.	15*	55556928	10873	"BIGDB	28	55	2	0	100	58	3	14
4.	15*	42786061	10868	"BIGDB	26	61	2	0	81	58	3	14
5.	15*	53897260	10805	"BIGDB	23	69	3	0	331	60	3	12
6.	11*	80717	10814	"BIGDB	25	70	3	0	100	62	2	13



UNKNOWN ALKYNE

Retention time = 9.54

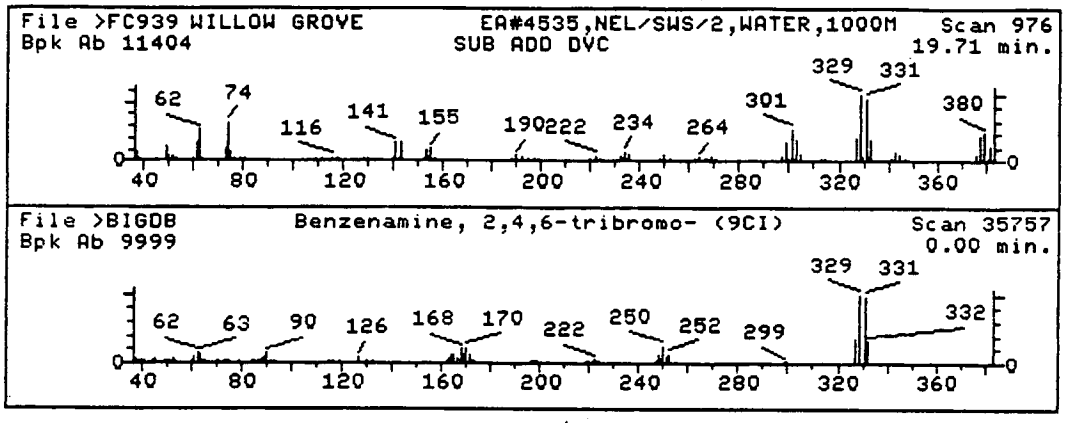
Area = 121634.0 Tentative Concentration is 280.00

1. 3-Penten-1-yne, 3-methyl-, (Z)- (8CI9CI) 80 C6H8
2. 2-Hexen-4-yne, (Z)- (8CI9CI) 80 C6H8
3. 2-Hexen-4-yne, (E)- (8CI9CI) 80 C6H8
4. 1,3,5-Hexatriene, (E)- (8CI9CI) 80 C6H8
5. 1,3-Isobenzofurandione, 3a,4,7,7a-tetrahydro-, trans - (9CI) 152 C8H8O3
6. Bicyclo[3.1.0]hexan-2-ol, acetate, (1.alpha.,2.beta.,5.alpha.)- (9CI) 140 C8H12O2
7. 1,3-Cyclopentadiene, 5-methyl- (8CI9CI) 80 C6H8

Sample file: >FC939 Spectrum #: 416
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	42*	14272812	5017	"BIGDB	35	88	3	0	75	21	17	13
2.	37*	30626483	5019	"BIGDB	25	85	2	0	99	29	14	14
3.	37*	33625966	5020	"BIGDB	24	85	2	0	100	29	14	14
4.	36*	821078	5012	"BIGDB	32	78	3	0	100	29	14	13
5.	35	13149036	5116	"BIGDB	40	49	2	0	100	30	14	12
6.	31*	698566	5037	"BIGDB	24	72	2	0	195	34	12	14

7.	25*	96388	5004	"BIGDB	23	74	2	0	75	48	7	13



UNKNOWN CMPD.

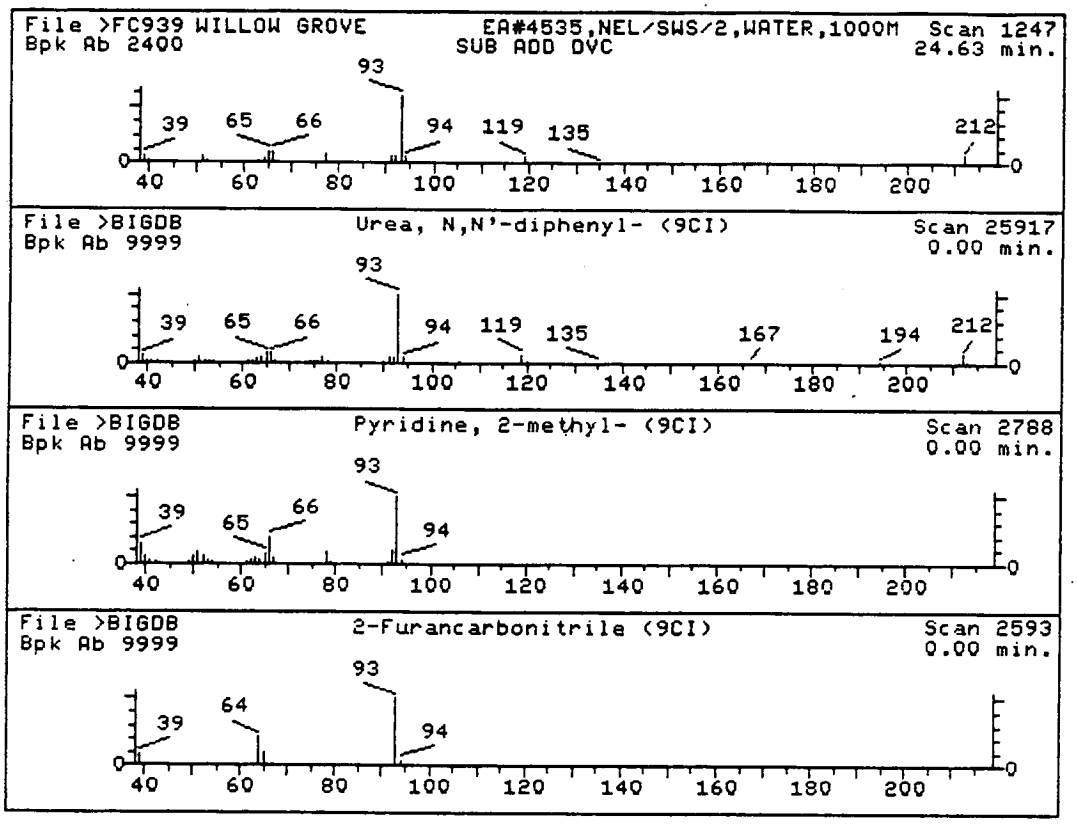
Retention time = 19.71

Area = 352282.0 Tentative Concentration is 1100.00

1. Benzenamine, 2,4,6-tribromo- (9CI) 327 C6H4Br3N

Sample file: >FC939 Spectrum #: 976
Search speed: 2 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	147820	35757	"BIGDB	40	142	3	0	96	52	5	13



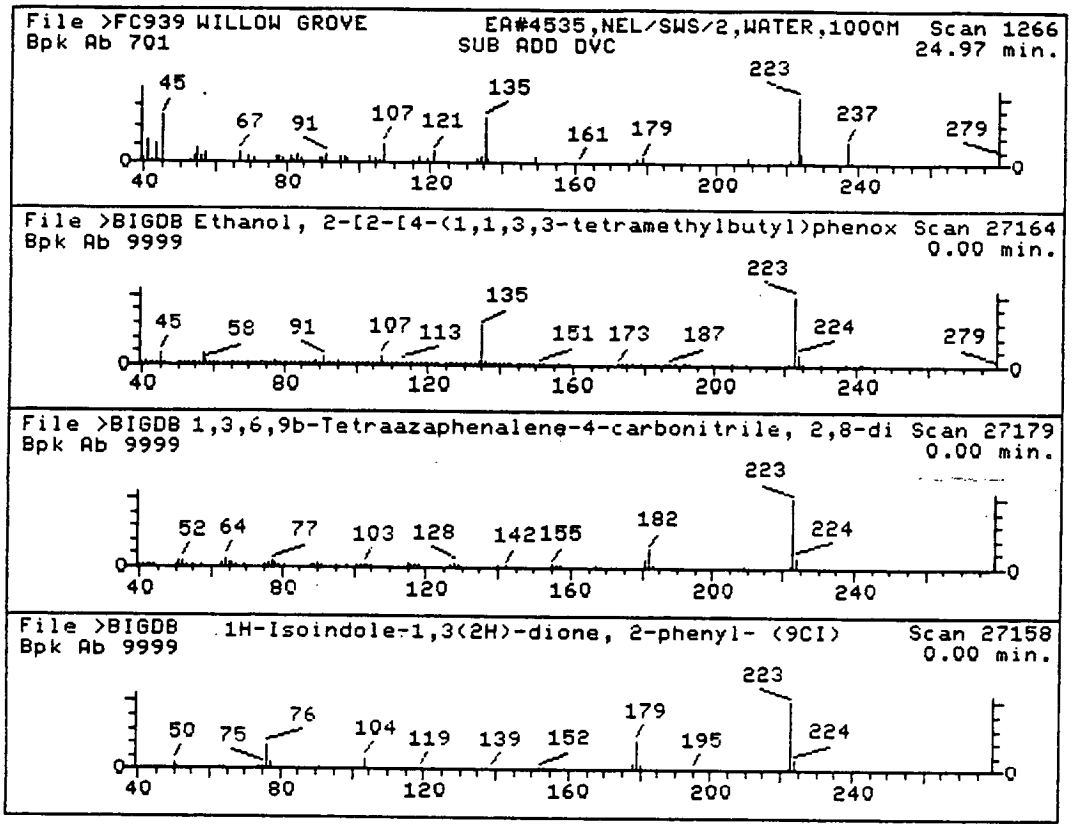
Retention time = 24.63

Area = 21030.00 Tentative Concentration is 130.00

1.	Urea, N,N'-diphenyl- (9CI)	212	C13H12N2O
2.	Pyridine, 2-methyl- (9CI)	93	C6H7N
3.	2-Furancarbonitrile (9CI)	93	C5H3NO
4.	1H-Pyrazole-4-carbonitrile (9CI)	93	C4H3N3
5.	Aniline (ACN)(8CI)	93	C6H7N

Sample file: >FC939 Spectrum #: 1247
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	102078	25917	"BIGDB	78	31	2	0	83	1	66	60
2.	42*	109068	2788	"BIGDB	26	81	3	0	100	23	17	13
3.	28*	617903	2593	"BIGDB	25	32	2	0	69	40	10	14
4.	27*	31108573	2797	"BIGDB	27	54	3	0	100	36	10	13
5.	15*	62533	2785	"BIGDB	25	65	2	0	50	56	3	14



UNKNOWN CMPD.

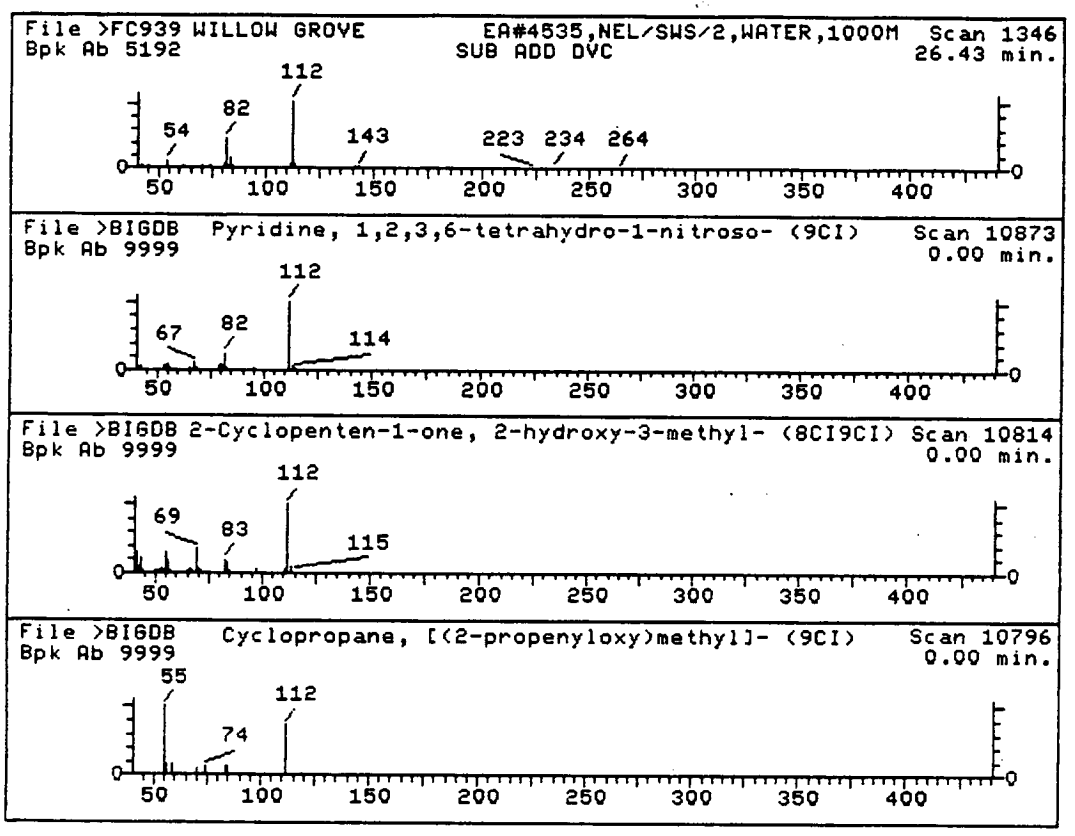
Retention time = 24.97

Area = 96934.00 Tentative Concentration is 620.00

1. Ethanol, 2-[2-[4-(1,1,3,3-tetramethylbutyl)phenoxyle thoxyl- (9CI) 294 C18H30O3
2. 1,3,6,9b-Tetraazaphenalene-4-carbonitrile, 2,8-dimet hyl- (9CI) 223 C12H9N5
3. 1H-Isoindole-1,3(2H)-dione, 2-phenyl- (9CI) 223 C14H9NO2

Sample file: >FC939 Spectrum #: 1266
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	36	2315619	27164	"BIGDB	62	69	2	0	100	28	14	13
2.	20*	38439326	27179	"BIGDB	23	101	3	0	100	55	5	12
3.	15*	520036	27158	"BIGDB	24	98	3	0	100	57	3	12



UNKNOWN CMPD.

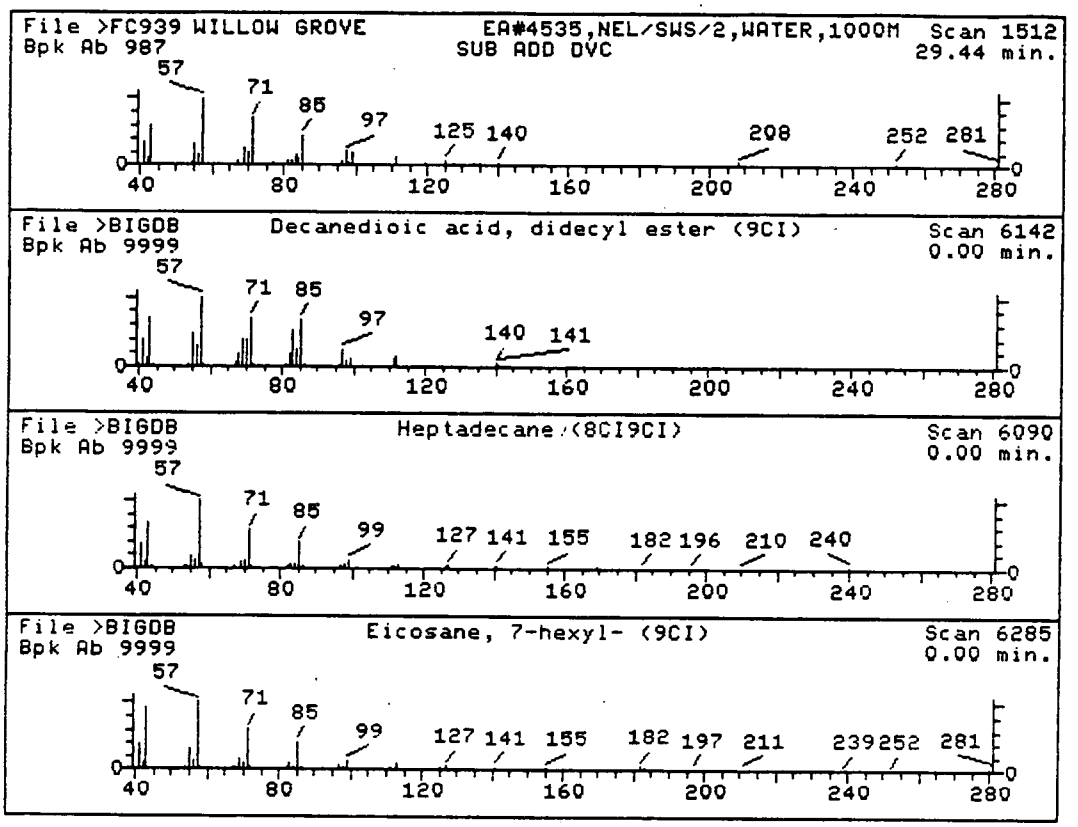
Retention time = 26.43

Area = 48877.00 Tentative Concentration is 310.00

1. Pyridine, 1,2,3,6-tetrahydro-1-nitroso- (9CI) 112 C5H8N2O
2. 2-Cyclopenten-1-one, 2-hydroxy-3-methyl- (8CI9CI) 112 C6H8O2
3. Cyclopropane, [(2-propenyloxy)methyl]- (9CI) 112 C7H12O

Sample file: >FC939 Spectrum #: 1346
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	35*	55556928	10873	"BIGDB	24	59	3	0	100	28	14	12
2.	27*	80717	10814	"BIGDB	28	67	3	0	100	40	10	13
3.	25*	18022463	10796	"BIGDB	20	38	2	0	136	43	8	13



Retention time = 29.44

Area = 24965.00 Tentative Concentration is 160.00

1.	Decanedioic acid, didecyl ester (9CI)	482	C30H58O4
2.	Heptadecane (8CI9CI)	240	C17H36
3.	Eicosane, 7-hexyl- (9CI)	366	C26H54
4.	1-Eicosene (8CI9CI)	280	C20H40
5.	Diisoamylene (9CI)	140	C10H20
6.	Cyclopentanamine, 1-methyl- (9CI)	99	C6H13N
7.	2-Hexadecene, 2,6,10,14-tetramethyl- (9CI)	280	C20H40

Sample file: >FC939 Spectrum #: 1512
Search speed: 2 Tilting option: S No. of ion ranges searched: 53

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52	2432895	6142	"BIGDB	76	94	3	0	68	16	20	14
2.	30	629787	6090	"BIGDB	63	58	2	0	100	32	12	13
3.	29	55333998	6285	"BIGDB	72	73	3	0	100	32	12	12
4.	25*	3452071	8468	"BIGDB	33	129	3	0	60	48	7	13
5.	24*	54063091	8354	"BIGDB	23	84	3	0	60	45	8	12
6.	20*	40571457	3613	"BIGDB	24	75	3	0	263	53	5	12
7.	20*	56554348	3859	"BIGDB	38	111	3	0	60	53	5	13

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
NEL SWS 3 (RE)
EA24536 RE

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 10/04/89
Date Analyzed: 10/10/89 14:02
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NEL SWS 3 (RE)

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Water Lab Sample ID: EA # 4536 (RE)

Sample wt/vol: 1000 ml (g/mL) 2 ml Lab File ID: >DE359

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 10/4/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 10/10/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 7

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unknown	6.13	30.00	B
2.	107415	2,4-Pentanediol, 2-methyl-	7.25	150.00	
3.	930687	2-Cyclohexen-1-one	7.56	9.00	B
4.	—	Unknown	28.83	24.00	
5.	—	Unknown	28.94	16.00	
6.	—	Unknown	29.23	9.00	
7.	—	Unknown	29.39	14.00	
8.					
9.					
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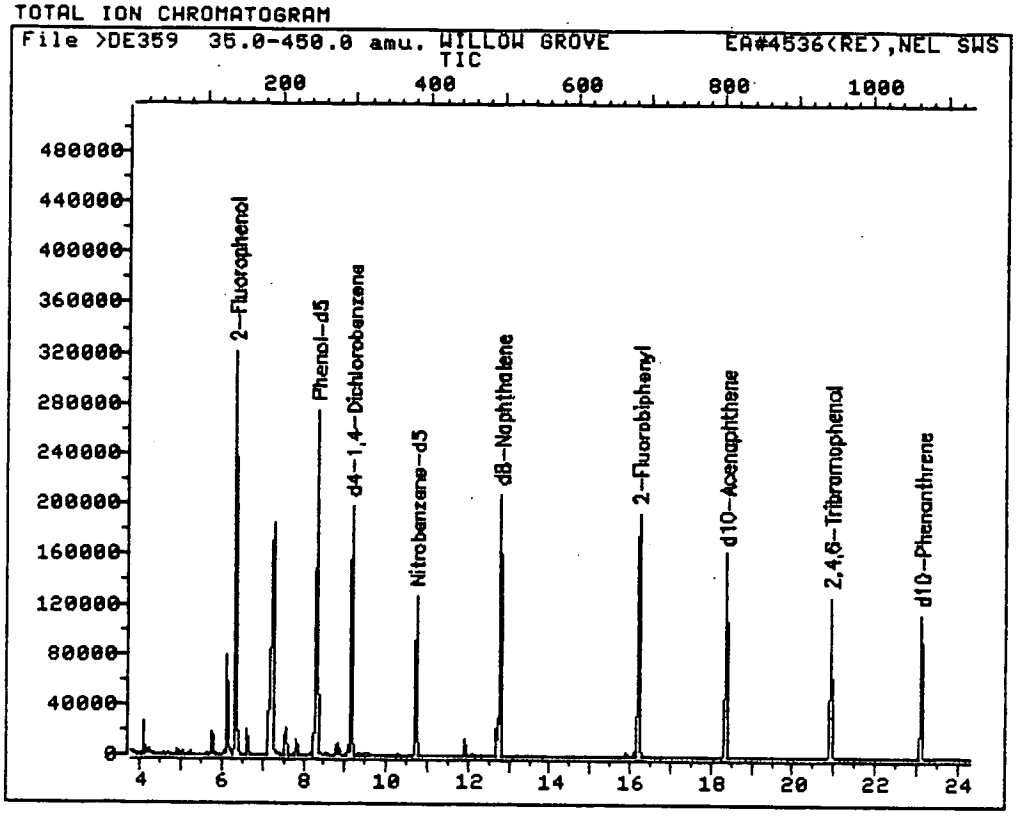
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



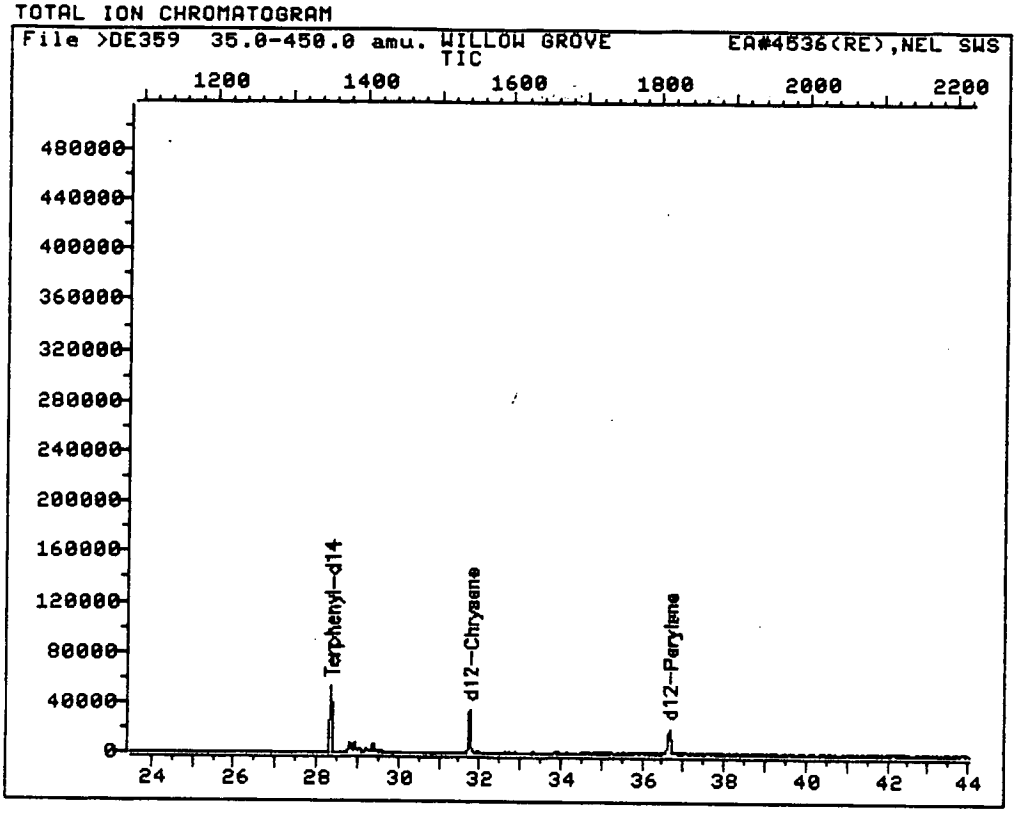
Data File: >DE359::W7 Quant Output File: ^DE359::QT
Name: WILLOW GROVE
Misc: EA#4536(RE),NEL SWS 3,WATER,1000ml,2, WILLOW (2) BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 14:49
Injected at: 891010 14:02

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE359::W7 Quant Output File: ^DE359::QT
Name: WILLOW GROVE
Misc: EA#4536(RE),NEL SWS 3,WATER,1000ml,2, WILLOW <2> BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 14:49
Injected at: 891010 14:02

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Tim : 891010 14:49
Output File: ^DE359::QT Injected at: 891010 14:02
Data File: >DE359::W7 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4536(RE),NEL SWS 3,WATER,1000ml,2, WILLOW <2> BTL# 3

ID File: IDDCLP::BD
Titl : HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.17	152.0	75017	40.00	NG	96
2)	2-Fluorophenol	6.33	112.0	190497	75.12	NG 75%	93
3)	Phenol-d5	8.32	99.0	232321	79.81	NG 80%	91
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	B nzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.78	136.0	244034	40.00	NG	90
17)	Nitrobenzene-d5	10.73	82.0	105413	41.60	NG 83%	98
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.36	164.0	103377	40.00	NG	96
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.22	172.0	170232	44.02	NG 88%	93
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

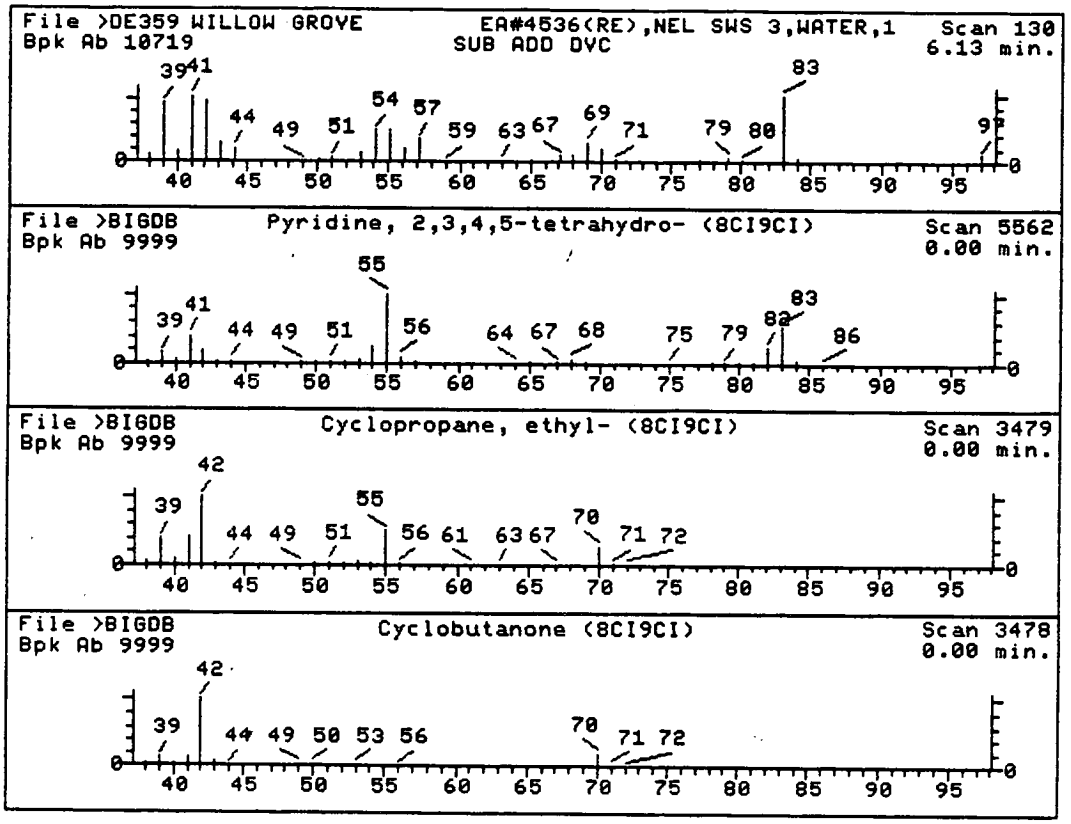
QUANT REPORT
pag 2

Output File:^DE359::

Data File:>DE359::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.12	188.0	125203	40.00	NG	98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.93	330.0	44772	101.39	NG ✓101 %	89
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.77	240.0	39892	40.00	NG	98
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.36	244.0	56916	35.94	NG ✓72 %	89
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.66	264.0	39852	40.00	NG	96
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



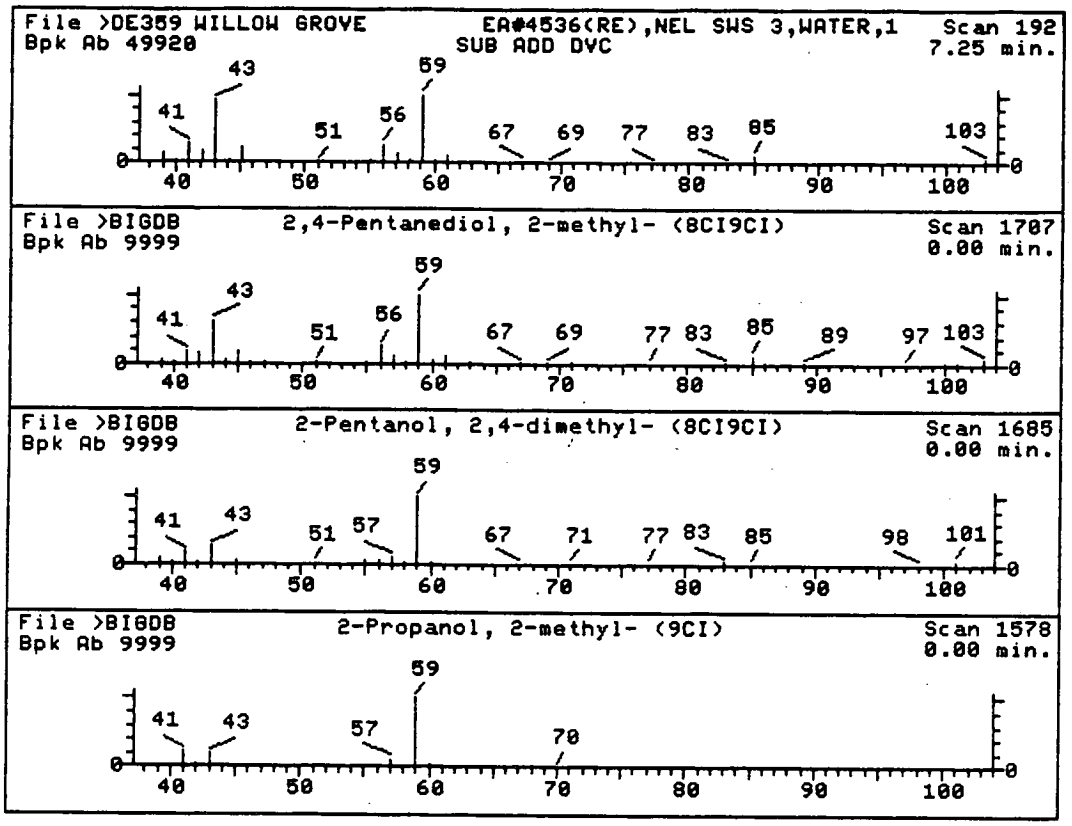
Retention time = 6.13 unknown

Area = 192139.0 Tentative Concentration is 30.00

1. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI) 83 C5H9N
2. Cyclopropane, ethyl- (8CI9CI) 70 C5H10
3. Cyclobutanone (8CI9CI) 70 C4H6O

Sample file: >DE359 Spectrum #: 130
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	505180	5562	"BIGDB	38	55	2	0	183	54	5	18
2.	15*	1191964	3479	"BIGDB	37	49	0	0	71	61	3	42
3.	11*	1191953	3478	"BIGDB	26	50	0	0	90	64	2	18



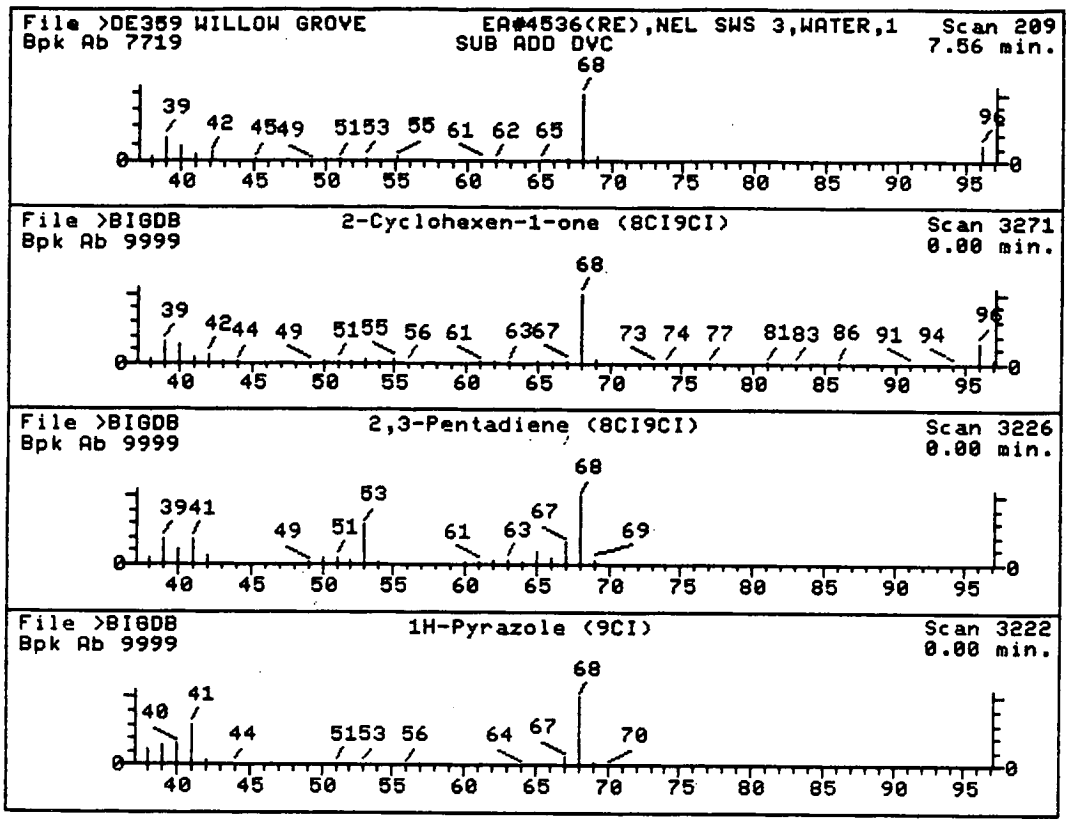
Retention time = 7.25

Ar a = 992963.0 Tentative Concentration is 150.00

✓1. 2,4-Pentanediol, 2-methyl- (8CI9CI)	118	C6H14O2
2. 2-Pentanol, 2,4-dimethyl- (8CI9CI)	116	C7H16O
3. 2-Propanol, 2-methyl- (9CI)	74	C4H10O
4. Guanidine (8CI9CI)	59	CH5N3

Sample file: >DE359 Spectrum #: 192
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79	107415	1707	"BIGDB	62	34	0	0	80	10	48	39
2.	29	625069	1685	"BIGDB	33	48	1	0	90	34	12	12
3.	26	75650	1578	"BIGDB	25	51	0	0	100	38	10	12
4.	25*	113008	1581	"BIGDB	21	46	0	0	74	46	7	15



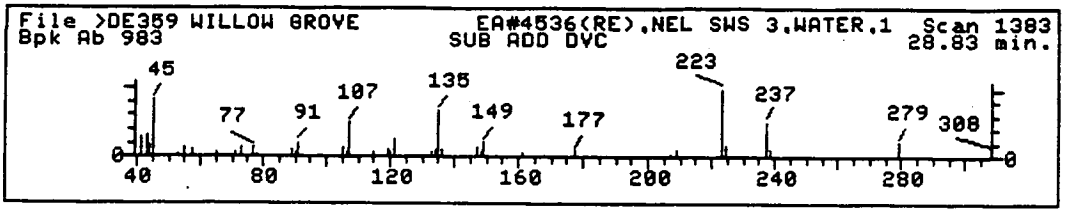
Ret ntion time = 7.56

Area = 55903.00 Tentative Concentration is 9.00

✓ 1. 2-Cyclohexen-1-one (8CI9CI)	96	C6H8O
2. 2,3-Pentadiene (8CI9CI)	68	C5H8
3. 1H-Pyrazole (9CI)	68	C3H4N2
4. Cyclopropane, 1,1'-methylenebis- (9CI)	96	C7H12
5. 1,3-Pentadiene (8CI9CI)	68	C5H8
6. 1,3-Pentadiene, (Z)- (8CI9CI)	68	C5H8
7. 1,2-Pentadiene (8CI9CI)	68	C5H8

Sample file: >DE359 Spectrum #: 209
S arch speed: 2 Tilting option: S No. of ion ranges search d: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	930687	3271	"BIGDB	72	13	1	0	85	8	62	89
2.	52*	591968	3226	"BIGDB	27	76	2	0	97	19	20	14
3.	43*	288131	3222	"BIGDB	29	63	2	0	73	25	17	14
4.	26*	5685472	3239	"BIGDB	24	83	3	0	100	37	10	12
5.	25*	504609	3213	"BIGDB	38	65	2	0	52	50	7	14
6.	25*	1574410	3229	"BIGDB	25	78	2	0	69	50	7	14
7.	25*	591957	3225	"BIGDB	27	87	2	0	61	46	7	14



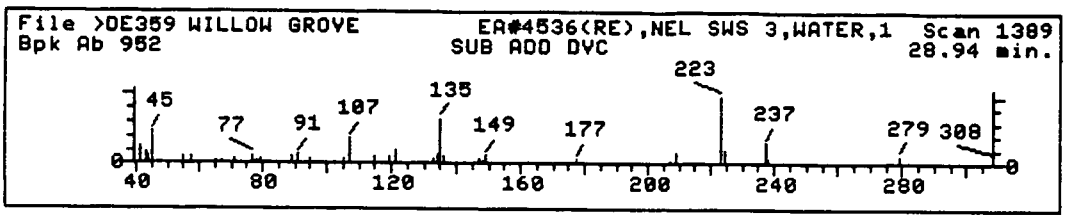
unknown

R tention time = 28.83

Ar a = 36886.00 Tentative Concentration is 24.00

Sample file: >DE359 Spectrum #: 1383

No data base entries were retrieved.



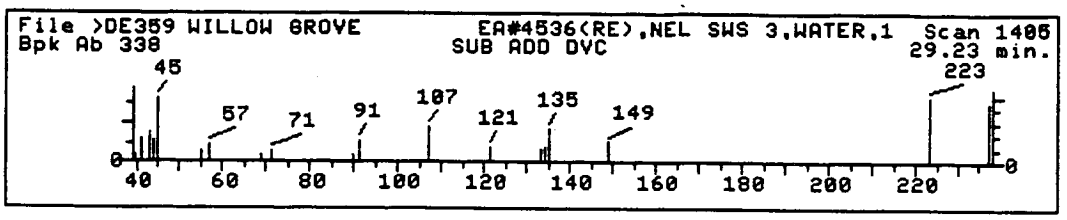
Unknown

Retention time = 28.94

Area = 24074.00 Tentative Concentration is 16.00

Sample file: >DE359 Spectrum #: 1389

No data base entries were retrieved.

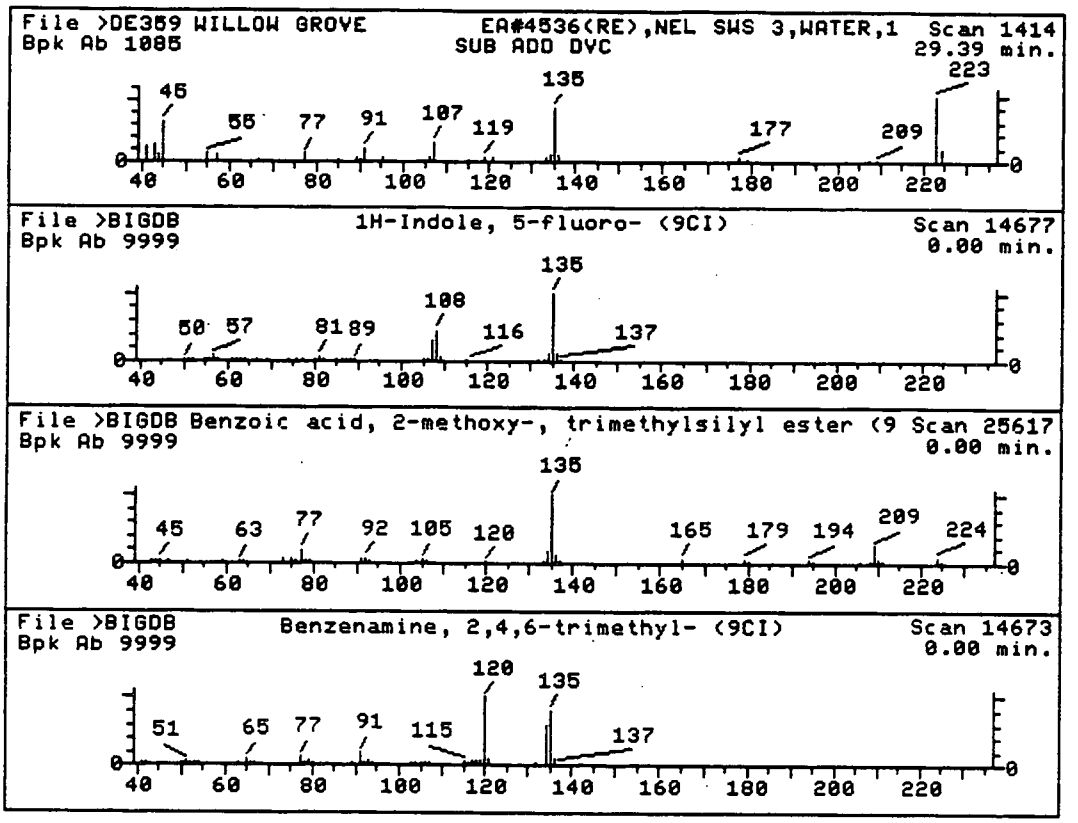


Retention time = 29.23 Unknown

Area = 14430.00 Tentative Concentration is 9.00

Sample file: >DE359 Spectrum #: 1405

No data base entries were retrieved.



Retention time = 29.39 unknown

Area = 20915.00 Tentative Concentration is 14.00

1.	1H-Indole, 5-fluoro- (9CI)	135	C8H6FN
2.	Benzoic acid, 2-methoxy-, trimethylsilyl ester (9CI)	224	C11H16O3Si
3.	Benzenamine, 2,4,6-trimethyl- (9CI)	135	C9H13N
4.	Benzenamine, 2,4,5-trimethyl- (9CI)	135	C9H13N
5.	Benzenamine, N,N,3-trimethyl- (9CI)	135	C9H13N
6.	Ph nol, 2-[(dimethylamino)methyl]-4-ethyl- (9CI)	179	C11H17NO
7.	2,1-Benzisoxazol-3(1H)-one (9CI)	135	C7H5NO2

Sample file: >DE359 Spectrum #: 1414
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	399520	14677	"BIGDB	36	58	3	0	80	53	5	13
2.	15*	25436322	25617	"BIGDB	37	89	2	0	59	58	3	14
3.	11*	88051	14673	"BIGDB	40	64	3	0	99	61	2	13
4.	11*	137177	14675	"BIGDB	40	64	3	0	102	61	2	13
5.	11*	121722	14544	"BIGDB	26	77	3	0	112	61	2	13
6.	11*	55955992	10095	"BIGDB	30	82	3	0	102	65	2	13
7.	11*	31499908	14717	"BIGDB	26	79	3	0	80	65	2	13

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
AL SWS 1(RE)

EA#4537 RE

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 10/04/89
Date Analyzed: 10/10/89 14:58
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

AL SWS 1 (RE)

Lab Name: EA Laboratories. Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) water Lab Sample ID: EA # 4537 (RE)

Sample wt/vol: 1000 ml (g/mL) 2 ml Lab File ID: >DE360

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 10/4/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 10/10/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unknown	6.13	31.00	B
2.	930687	2-Cyclohexen-1-one	7.56	9.00	B
3.					
4.					
5.					
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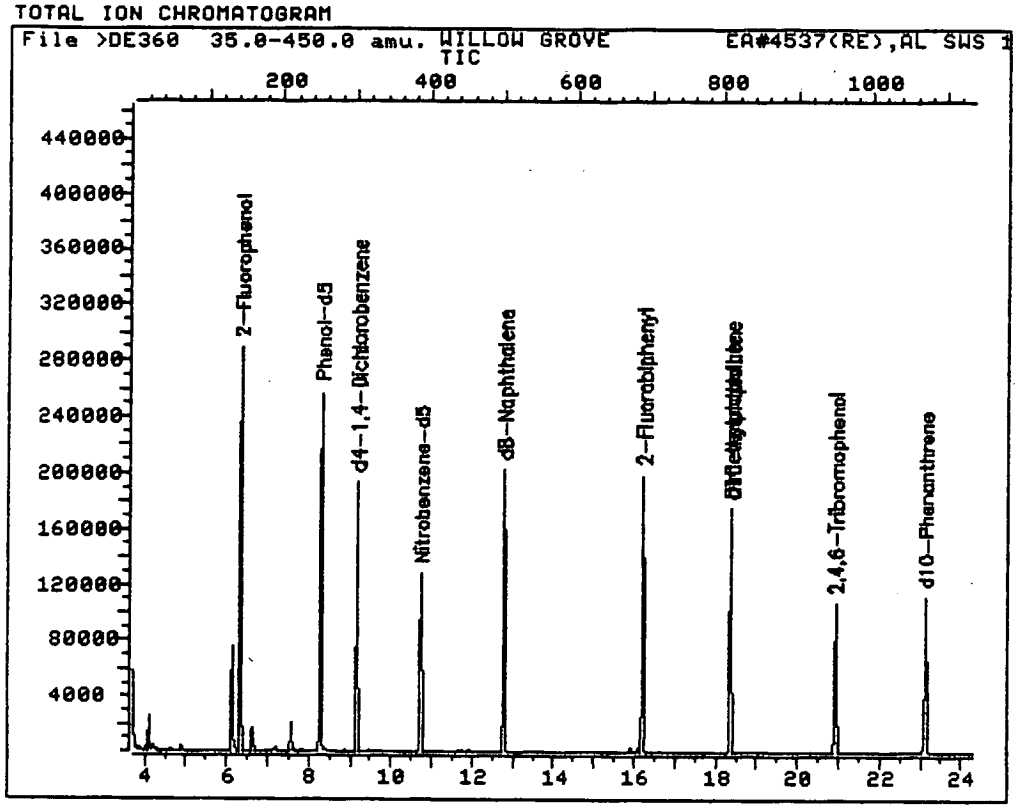
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



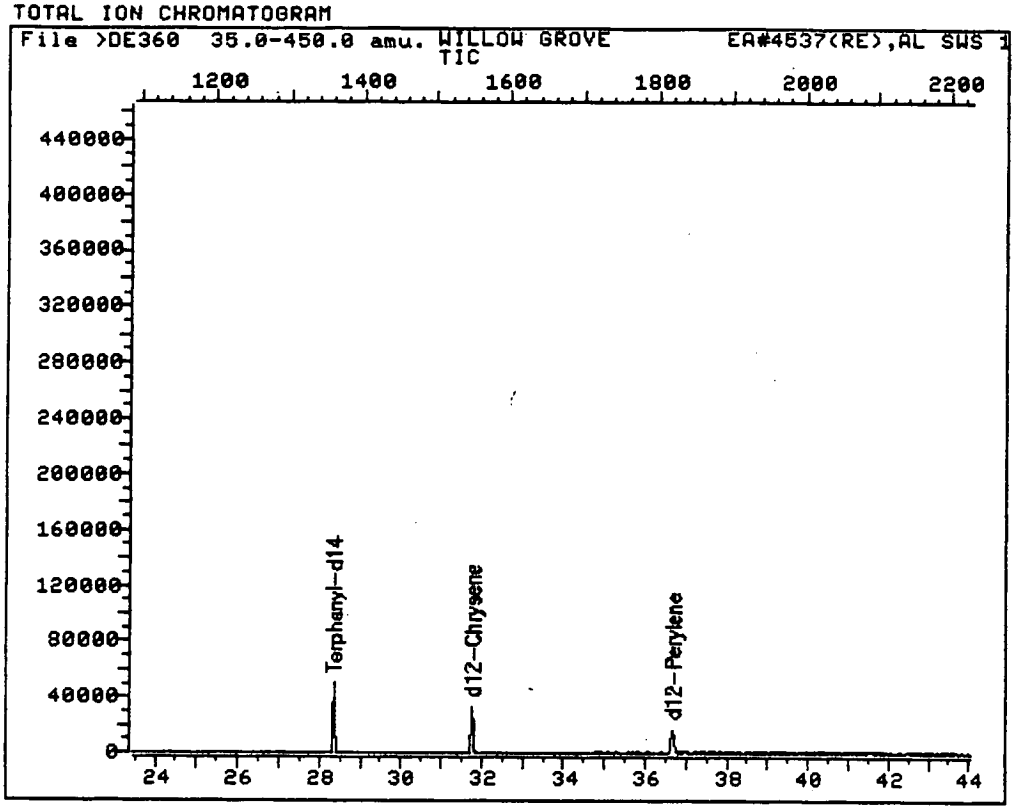
Data File: >DE360::W7 Quant Output File: ^DE360::QT
Name: WILLOW GROVE
Misc: EA#4537(RE),AL SWS 1,WATER,1000ml,2, WILLOW (2) BTL# 4

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 15:45
Injected at: 891010 14:58

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE360::W7 Quant Output File: ^DE360::QT
Name: WILLOW GROVE
Misc: EA#4537(RE),AL SWS 1,WATER,1000ml,2, WILLOW (2) BTL# 4

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 15:45
Injected at: 891010 14:58

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891010 15:45
Output File: ^DE360::QT Injected at: 891010 14:58
Data File: >DE360::W7 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4537(RE),AL SWS 1,WATER,1000ml,2, WILLOW <2> BTL# 4

ID Fil : IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

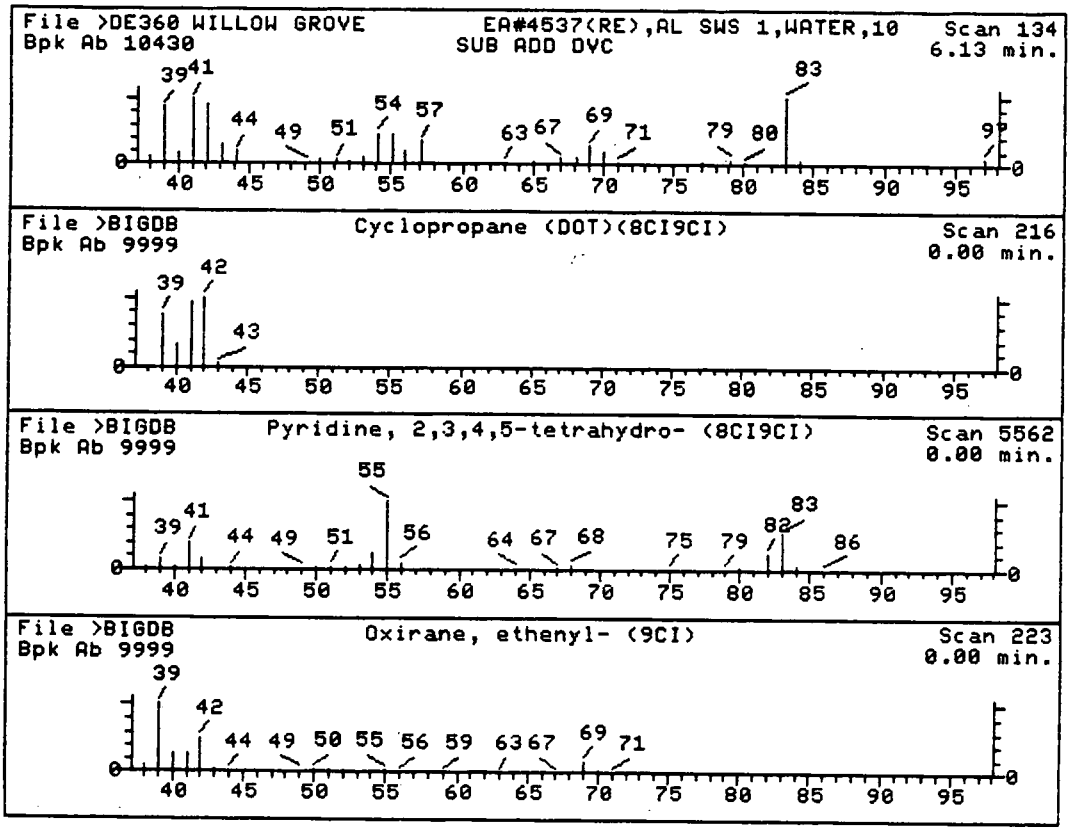
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.17	152.0	73801	40.00	NG	96
2)	2-Fluorophenol	6.33	112.0	167748	67.24	NG ✓67 %	96
3)	Phenol-d5	8.30	99.0	200211	69.91	NG ✓70 %	90
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.78	136.0	237340	40.00	NG	89
17)	Nitrobenzene-d5	10.73	82.0	104647	42.46	NG ✓85 %	97
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.37	164.0	103621	40.00	NG	99
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.22	172.0	170499	43.98	NG ✓88 %	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	18.37	163.0	34646	~~8.49 NG~~		53
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^DE360:: Data File:>DE360::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.12	188.0	131534	40.00	NG	97
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.92	330.0	40787	87.92	NG ✓ 88%	88
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.75	240.0	41482	40.00	NG	97
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.35	244.0	60943	37.01	NG ✓ 74%	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.66	264.0	34003	40.00	NG	96
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



Unknown

Retention time = 6.13

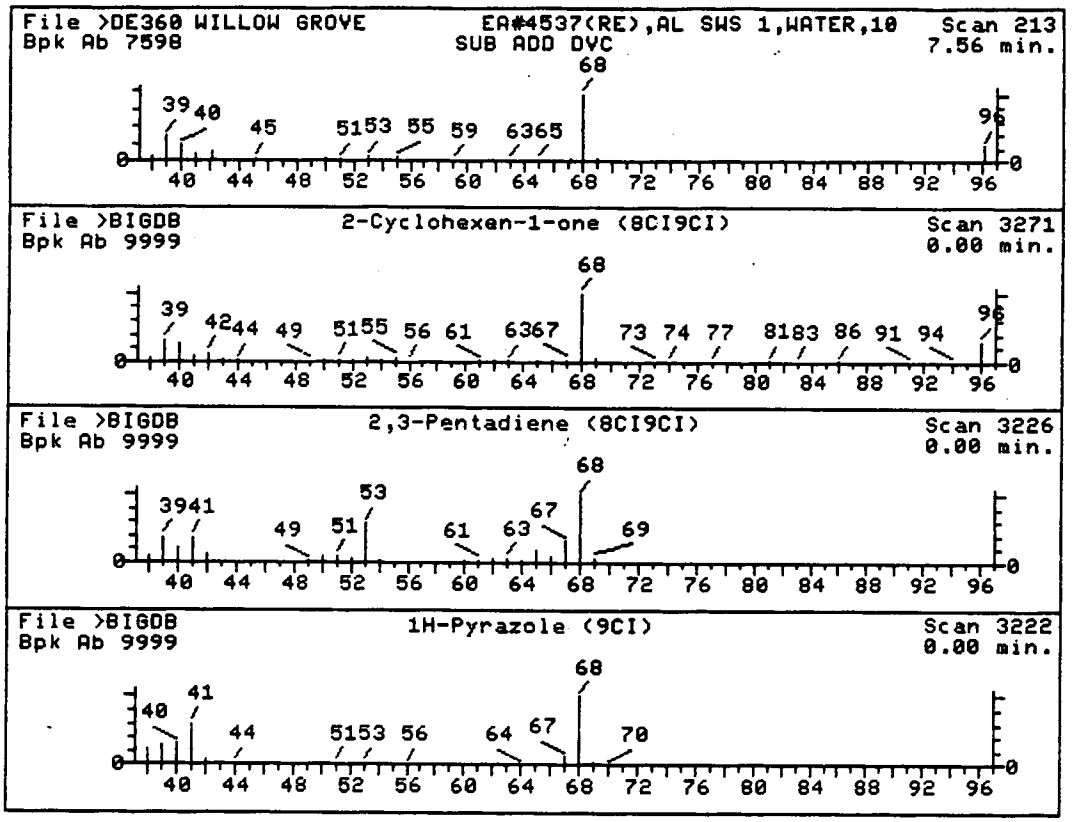
Area = 181681.0 Tentative Concentration is 31.00

1. Cyclopropane (DOT)(8CI9CI)	42	C3H6
2. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI)	83	C5H9N
3. Oxirane, ethenyl- (9CI)	70	C4H6O
4. Cyclobutanone (8CI9CI)	70	C4H6O
5. Cyclopropane, ethyl- (8CI9CI)	70	C5H10

Sample file: >DE360 Spectrum #: 134
S arch speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	75194	216	"BIGDB	25	65	1	0	88	53	5	14
2.	15*	505180	5562	"BIGDB	38	55	2	0	183	56	3	18
3.	12*	930223	223	"BIGDB	32	55	0	0	59	63	2	27
4.	11*	1191953	3478	"BIGDB	26	50	0	0	88	64	2	18

5.	11*	1191964	3479	"BIGDB	27	59	0	0	69	62	2	19



Retention time = 7.56

Area = 53495.00 Tentative Concentration is 9.00

✓ 1.	2-Cyclohexen-1-one (8CI9CI)	96	C6H8O
2.	2,3-Pentadiene (8CI9CI)	68	C5H8
3.	1H-Pyrazole (9CI)	68	C3H4N2
4.	2-Pentyne (8CI9CI)	68	C5H8
5.	1,2-Propadiene-1,3-dione (9CI)	68	C3O2
6.	1,3-Pentadiene (8CI9CI)	68	C5H8
7.	1,4-Pentadiene (8CI9CI)	68	C5H8

Sample file: >DE360 Spectrum #: 213
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	930687	3271	"BIGDB	72	13	1	0	86	8	62	89
2.	52*	591968	3226	"BIGDB	22	81	2	0	100	19	20	13
3.	39*	288131	3222	"BIGDB	34	58	2	0	85	26	14	16
4.	37*	627214	3227	"BIGDB	25	66	2	0	91	26	14	14
5.	30*	504643	220	"BIGDB	20	72	2	0	139	35	12	13
6.	25*	504609	3213	"BIGDB	43	60	2	0	54	50	7	15
7.	25*	591935	3224	"BIGDB	38	69	2	0	63	50	7	14

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4538
SAMPLE: AL/SWS/2
GC/MS FILE: >FC942::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	WATER
DATE EXTRACTED:	09/28/89
DATE ANALYZED:	10/02/89 23:10
SAMPLE--->EXTRACT:	1000ml-->2mL

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	10.	ND
111-44-4	bis(2-Chloroethyl)ether	10.	ND
95-57-8	2-Chlorophenol	10.	ND
541-73-1	1,3-Dichlorobenzene	10.	ND
106-46-7	1,4-Dichlorobenzene	10.	ND
100-51-6	Benzyl Alcohol	10.	ND
95-50-1	1,2-Dichlorobenzene	10.	ND
95-48-7	2-Methylphenol	10.	ND
39638-32-9	bis(2-chloroisopropyl)ether	10.	ND
106-44-5	4-Methylphenol	10.	ND
621-64-7	N-Nitroso-Di-n-propylamine	10.	ND
67-72-1	Hexachloroethane	10.	ND
98-95-3	Nitrobenzene	10.	ND
78-59-1	Isophorone	10.	ND
88-75-5	2-Nitrophenol	10.	ND
105-67-9	2,4-Dimethylphenol	10.	ND
65-85-0	Benzoic Acid	50.	ND
111-91-1	bis(2-Chloroethoxy)methane	10.	ND
120-83-2	2,4-Dichlorophenol	10.	ND
120-82-1	1,2,4-Trichlorobenzene	10.	ND
91-20-3	Naphthalene	10.	ND
106-47-8	4-Chloroaniline	10.	ND
87-68-3	Hexachlorobutadiene	10.	ND
59-50-7	4-Chloro-3-methylphenol	10.	ND
91-57-6	2-Methylnaphthalene	10.	ND
77-47-4	Hexachlorocyclopentadiene	10.	ND
88-06-2	2,4,6-Trichlorophenol	10.	ND
95-95-4	2,4,5-Trichlorophenol	50.	ND
91-58-7	2-Chloronaphthalene	10.	ND
88-74-4	2-Nitroaniline	50.	ND
131-11-3	Dimethylphthalate	10.	ND
208-96-8	Acenaphthylene	10.	ND
99-09-2	3-Nitroaniline	50.	ND
83-32-9	Acenaphthene	10.	ND
51-28-5	2,4-Dinitrophenol	50.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4538
SAMPLE: AL/SWS/2
GC/MS FILE: >FC942::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	WATER
DATE EXTRACTED:	09/28/89
DATE ANALYZED:	10/02/89 23:10
SAMPLE--->EXTRACT:	1000ml-->2mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	50.	ND
132-64-9	Dibenzofuran	10.	ND
121-14-2	2,4-Dinitrotoluene	10.	ND
606-20-2	2,6-Dinitrotoluene	10.	ND
84-66-2	Diethylphthalate	10.	ND
7005-72-3	4-Chlorophenyl-phenylether	10.	ND
86-73-7	Fluorene	10.	ND
100-01-6	4-Nitroaniline	50.	ND
534-52-1	4,6-Dinitro-2-methylphenol	50.	ND
86-30-6	N-Nitrosodiphenylamine	10.	ND
101-55-3	4-Bromophenyl-phenylether	10.	ND
118-74-1	Hexachlorobenzene	10.	ND
87-86-5	Pentachlorophenol	50.	ND
85-01-8	Phenanthrene	10.	ND
120-12-7	Anthracene	10.	ND
84-74-2	Di-n-Butyl phthalate	10.	ND
206-44-0	Fluoranthene	10.	ND
129-00-0	Pyrene	10.	ND
85-68-7	Butylbenzylphthalate	10.	ND
91-94-1	3,3'-Dichlorobenzidine	20.	ND
56-55-3	Benzo(a)Anthracene	10.	ND
117-81-7	bis(2-Ethylhexyl)phthalate	1.	TR
218-01-9	Chrysene	10.	ND
117-84-0	Di-n-Octyl phthalate	10.	ND
205-99-2	Benzo(b)Fluoranthene	10.	ND
207-08-9	Benzo(k)Fluoranthene	10.	ND
50-32-8	Benzo(a)Pyrene	10.	ND
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	ND
53-70-3	Dibenzo(a,h)Anthracene	10.	ND
191-24-2	Benzo(g,h,i)Perylene	10.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

AL SWS 2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: EA# 4538

Sample wt/vol: 1000 (g/mL) ML Lab File ID: >FC 942

Level: (low/med) LOW Date Received: 09.25.89

% Moisture: not dec. N/A dec. _____ Date Extracted: 09.28.89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/02/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	UNKNOWN CMPD	3.62	390	J
2.					
3.					
4.					
5.					
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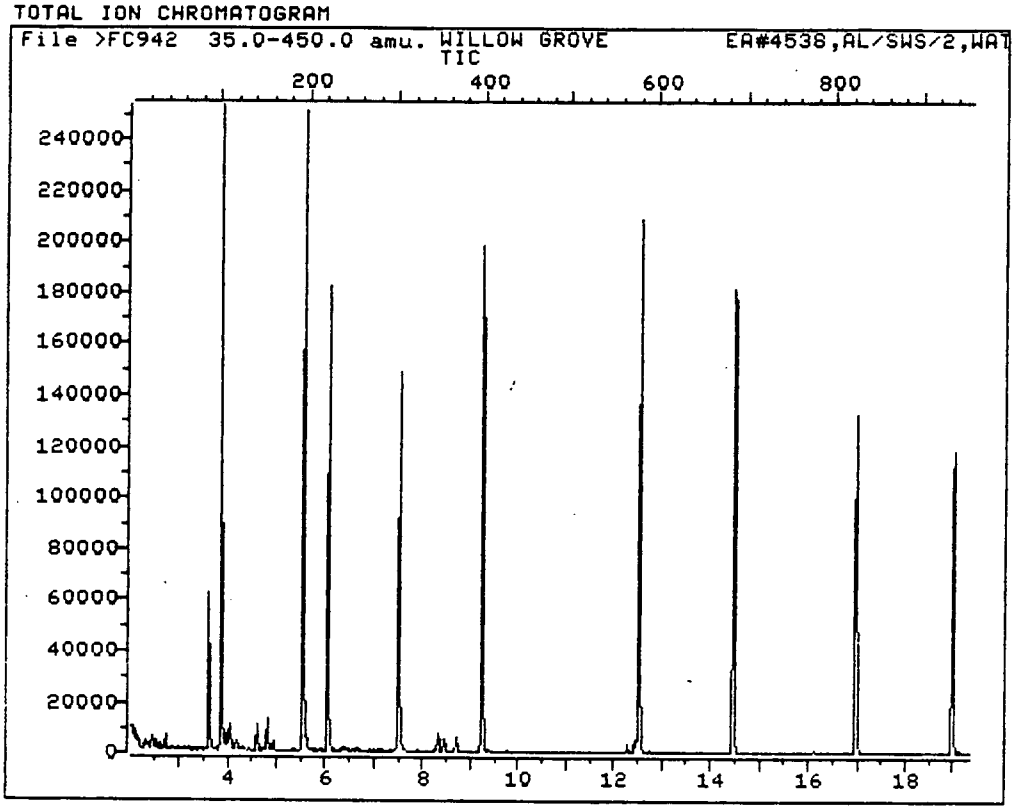
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



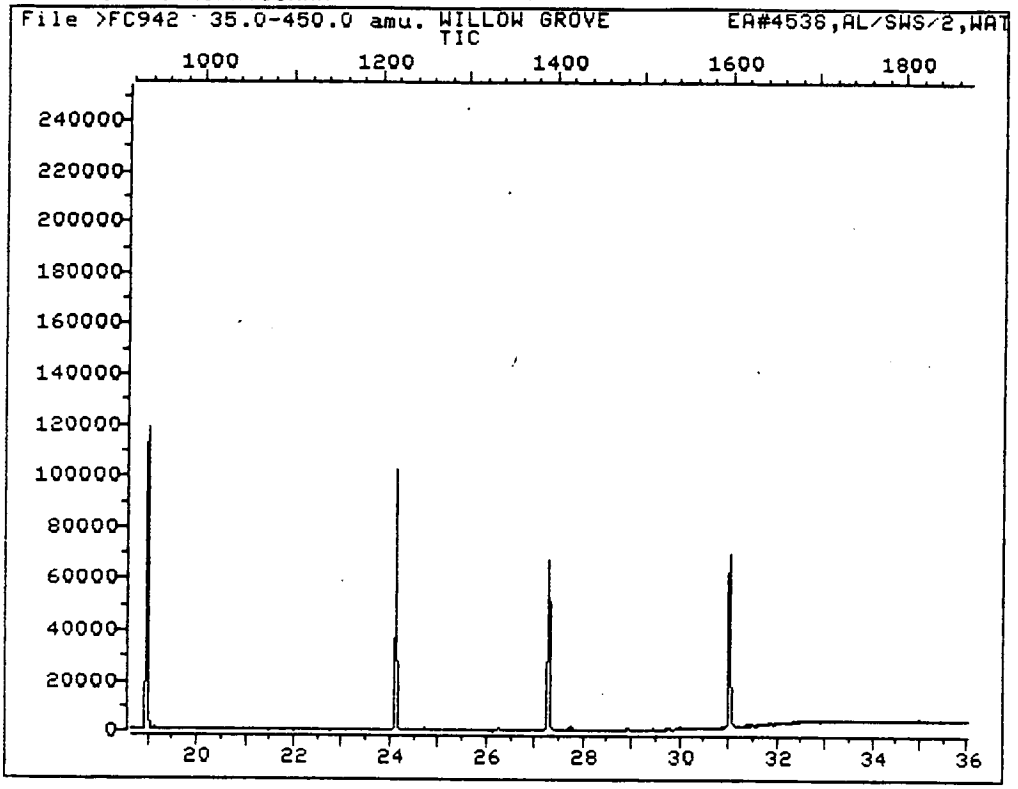
Data File: >FC942::D4 Quant Output File: ^FC942::QT
Name: WILLOW GROVE
Misc: EA#4538,AL/SWS/2,WATER,1000ML,2mL BTL#10

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 23:50
Injected at: 891002 23:10

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC942::D4 Quant Output File: ^FC942::QT
Name: WILLOW GROVE
Misc: EA#4538,AL/SWS/2,WATER,1000ML,2mL BTL#10

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 23:50
Injected at: 891002 23:10

TIC page 2 of 2

QUANT REPORT

Operator ID: JUANEAU Quant Rev: 6 Quant Time: 891002 23:50
Output File: ^FC942::QT Injected at: 891002 23:10
Data File: >FC942::D4 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4538,AL/SWS/2,WATER,1000ML,2mL BTL#10

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.05	152.0	58618	40.00	NG		97
2)	2-Fluorophenol	3.85	112.0	121369	74.71	NG	75%	84
3)	Phenol-d5	5.54	99.0	160713	83.64	NG	84%	90
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG		
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.24	136.0	214372	40.00	NG		88
17)	Nitrobenzene-d5	7.50	82.0	105491	56.78	NG	114%	97
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	Benzoic Acid	0.00	122.0	0	0.00	NG		
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.47	164.0	102853	40.00	NG		94
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.52	172.0	182010	59.97	NG	120% X	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.48	163.0	33994	~~9.78~~	NG		54
39)	Acenaphthylene	0.00	152.0	0	0.00	NG		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	0.00	153.0	0	0.00	NG		
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

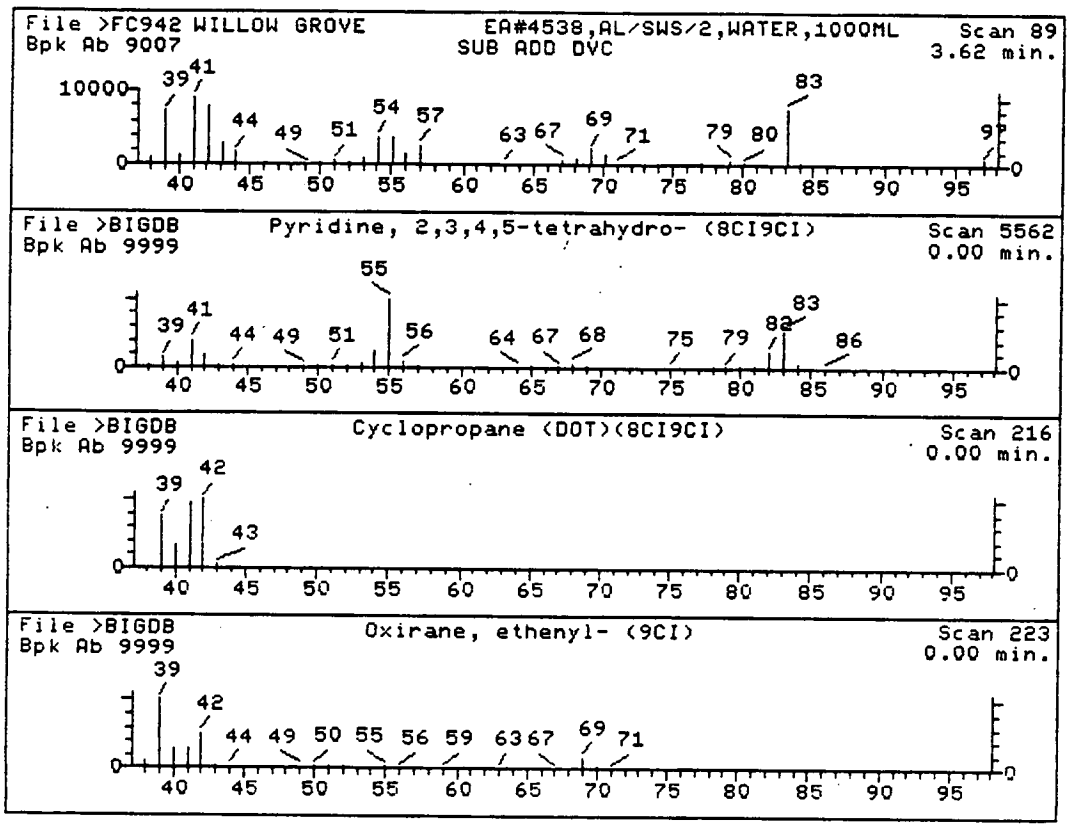
QUANT REPORT
page 2

Output File:^FC942::

Data File:>FC942::D4

	Compound	R.T.	Q ion	Area	Conc	Units		q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG		
44)	Dibenzofuran	0.00	168.0	0	0.00	NG		
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG		
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG		
47)	Diethylphthalate	0.00	149.0	0	0.00	NG		
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG		
49)	Fluorene	0.00	166.0	0	0.00	NG		
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG		
51)	*d10-Phenanthrene	18.98	188.0	124207	40.00	NG		99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG		
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG		
54)	2,4,6-Tribromophenol	16.97	329.9	43186	98.49	NG	98%	94
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG		
56)	H xachlorobenzene	0.00	283.6	0	0.00	NG		
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG		
58)	Phenanthrene	0.00	178.0	0	0.00	NG		
59)	Anthracene	0.00	178.0	0	0.00	NG		
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG		
61)	Fluoranthene	0.00	202.0	0	0.00	NG		
62)	*d12-Chrysene	27.29	240.0	60894	40.00	NG		96
63)	Pyrene	0.00	202.0	0	0.00	NG		
64)	Terphenyl-d14	24.14	244.0	98561	60.73	NG	121%	87
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG		
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG		
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG		
68)	bis(2-Ethylhexyl)phthalate	27.76	149.0	1099	~~78~~	NG		91
69)	Chrysene	0.00	228.0	0	0.00	NG		
70)	*d12-Perylene	31.03	264.0	67707	40.00	NG		94
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG		
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG		
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG		
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG		
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG		
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG		
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG		

* Compound is ISTD



UNKNOWN CMPD.

Retention time = 3.62

Area = 115607.0 Tentative Concentration is 390.00

1. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI)	83	C5H9N
2. Cyclopropane (DOT)(8CI9CI)	42	C3H6
3. Oxirane, ethenyl- (9CI)	70	C4H6O
4. Cyclopropane, ethyl- (8CI9CI)	70	C5H10

Sample file: >FC942 Spectrum #: 89
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	505180	5562	"BIGDB	31	62	2	0	153	54	5	14
2.	20*	75194	216	"BIGDB	25	65	1	0	85	51	5	14
3.	13*	930223	223	"BIGDB	33	54	0	0	55	63	3	30
4.	12*	1191964	3479	"BIGDB	32	54	0	0	58	64	2	27

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
AL SWS 3 (RE)

EA# 4539 RE

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 10/04/89
Date Analyzed: 10/10/89 15:55
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

AL SWS 3 (RE)

Lab Name: EA Laboratories Contract: _____

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) water Lab Sample ID: EA#4539 (RE)

Sample wt/vol: 1000 ml (g/mL) 2ml Lab File ID: 2DE361

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 10/4/89

Extraction: (SepF/Cont/Sonc) cont Date Analyzed: 10/10/89

GPC Cleanup: (Y/N) Y pH: — Dilution Factor: —

Number TICs found: 3

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	67630	2-Propanol	4.09	8.00	
2.	—	unknown	6.12	30.00	B
3.	930687	2-cyclohexen-1-one	7.57	9.00	B
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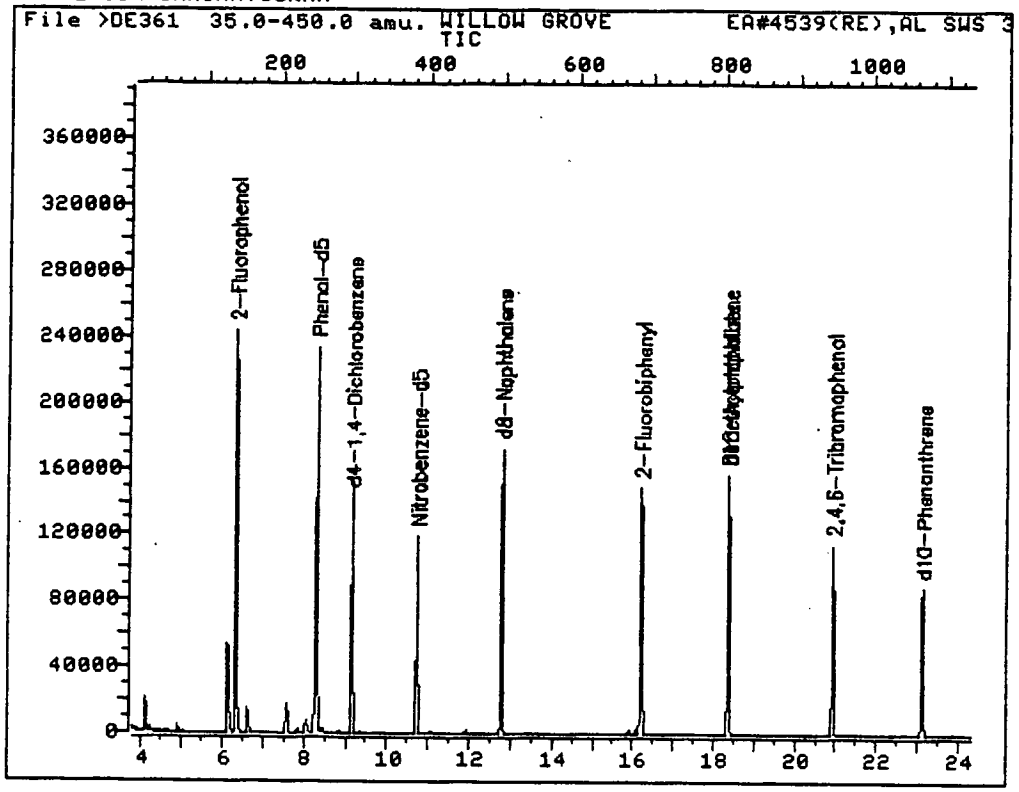
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



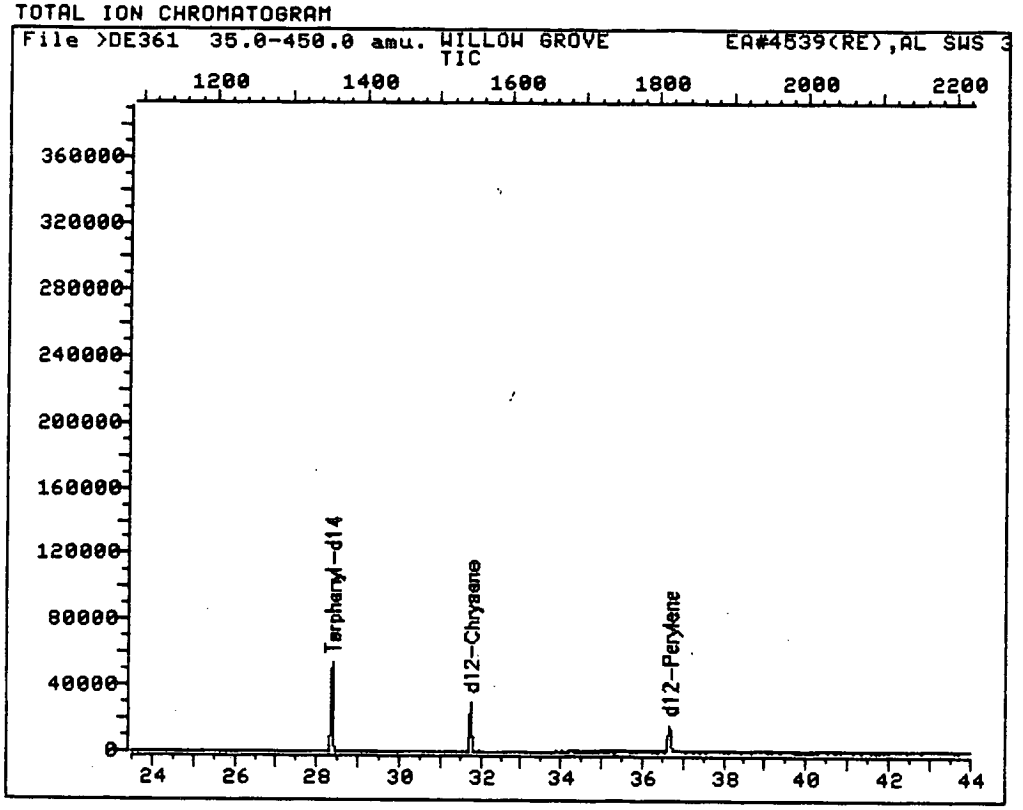
Data File: >DE361::W7 Quant Output File: ^DE361::QT
Name: WILLOW GROVE
Misc: EA#4539(RE),AL SWS 3,WATER,1000ml,2, WILLOW <2> BTL# 5

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 16:43
Injected at: 891010 15:55

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE361::W7 Quant Output File: ^DE361::QT
Name: WILLOW GROVE
Misc: EA#4539(RE),AL SWS 3,WATER,1000ml,2, WILLOW (2) BTL# 5

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 16:43
Injected at: 891010 15:55

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891010 16:43
Output File: ^DE361::QT Injected at: 891010 15:55
Data File: >DE361::W7 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4539(RE),AL SWS 3,WATER,1000ml,2, WILLOW <2> BTL# 5

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.16	152.0	63419	40.00	NG	96
2)	2-Fluorophenol	6.32	112.0	162024	75.58	NG 76%	88
3)	Phenol-d5	8.31	99.0	191625	77.87	NG 78%	93
4)	Ph nol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.78	136.0	201509	40.00	NG	89
17)	Nitrobenzene-d5	10.74	82.0	85852	41.03	NG 82%	97
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	B nzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.36	164.0	87752	40.00	NG	97
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.21	172.0	131657	40.11	NG 80%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	18.36	163.0	29036	~~8.40~~	~~NG~~	54
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

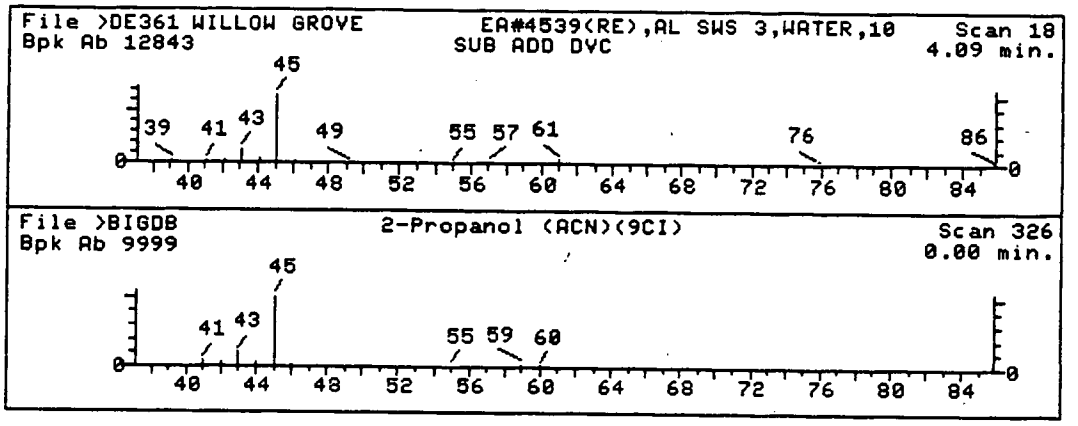
QUANT REPORT
page 2

Output File:^DE361::

Data File:>DE361::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.13	188.0	102993	40.00	NG	98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.94	330.0	40014	110.15	NG ✓110 %	85
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.75	240.0	35316	40.00	NG	95
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	T rphenyl-d14	28.36	244.0	62977	44.92	NG ✓90 %	87
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.66	264.0	33213	40.00	NG	96
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



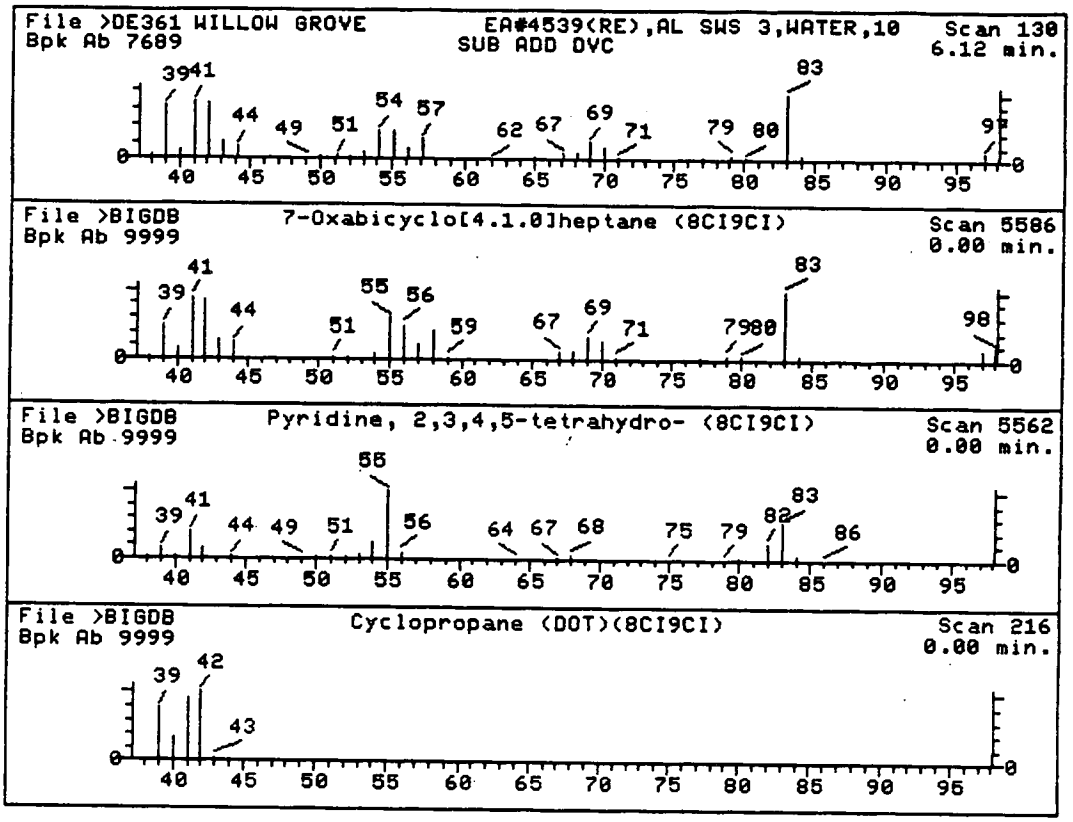
Retention time = 4.09

Area = 41797.00 Tentative Concentration is 8.00

✓1. 2-Propanol (ACN)(9CI) 60 C3H8O

Sample file: >DE361 Spectrum #: 18
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52*	67630	326	"BIGDB	27	40	2	0	100	16	20	14



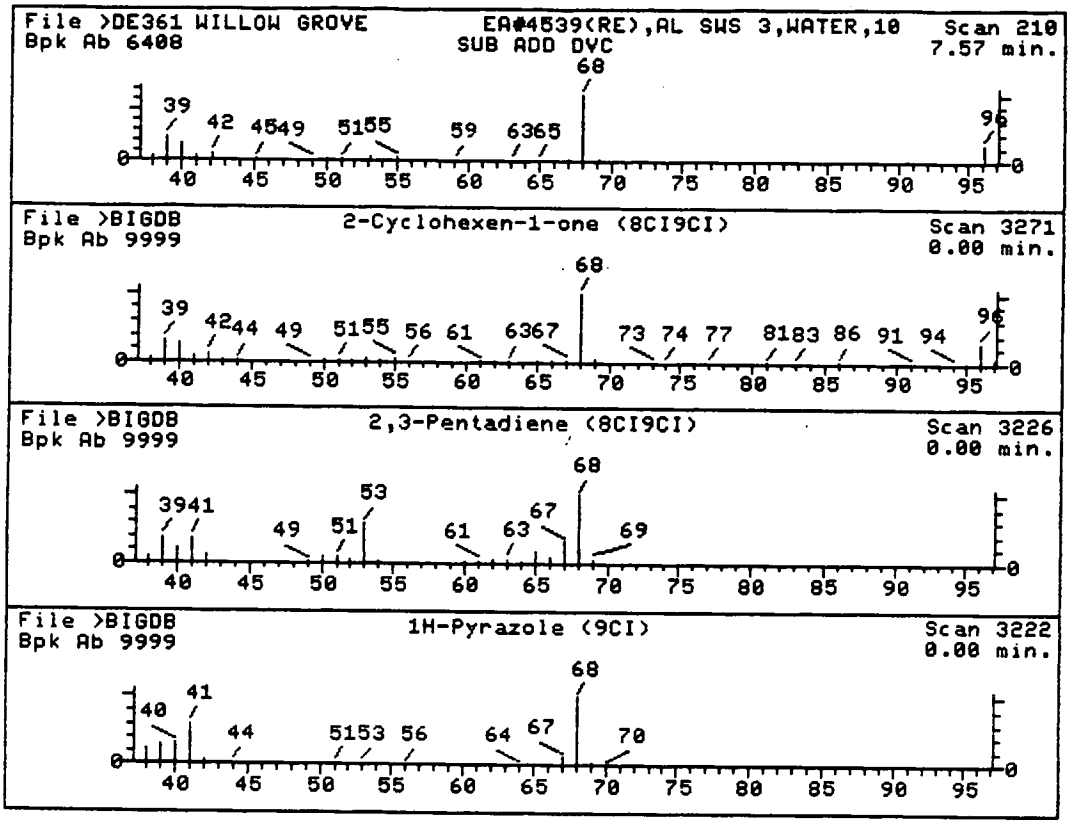
Retention time = 6.12 Unknown

Area = 154190.0 Tentative Concentration is 30.00

1. 7-Oxabicyclo[4.1.0]heptane (8CI9CI)	98	C6H10O
2. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI)	83	C5H9N
3. Cyclopropane (DOT)(8CI9CI)	42	C3H6
4. Cyclopropane, ethyl- (8CI9CI)	70	C5H10
5. Cyclobutanone (8CI9CI)	70	C4H6O
6. 1-Pentene (8CI9CI)	70	C5H10

Sample file: >DE361 Spectrum #: 130
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	29	286204	5586	"BIGDB	72	43	3	0	72	32	12	12
2.	20*	505180	5562	"BIGDB	38	55	2	0	166	55	5	18
3.	20*	75194	216	"BIGDB	25	65	1	0	83	52	5	14
4.	12*	1191964	3479	"BIGDB	32	54	0	0	69	62	2	27
5.	11*	1191953	3478	"BIGDB	21	55	0	0	83	64	2	15
6.	11*	109671	3465	"BIGDB	22	64	0	0	59	63	2	16



Retention time = 7.57

Area = 44996.00 Tentative Concentration is 9.00

✓ 1. 2-Cyclohexen-1-one (8CI9CI)	96	C6H8O
2. 2,3-Pentadiene (8CI9CI)	68	C5H8
3. 1H-Pyrazole (9CI)	68	C3H4N2
4. 2-Pentyne (8CI9CI)	68	C5H8
5. 1,2-Propadiene-1,3-dione (9CI)	68	C3O2
6. 1,4-Pentadiene (8CI9CI)	68	C5H8
7. 1,3-Pentadiene, (Z)- (8CI9CI)	68	C5H8

Sample file: >DE361 Spectrum #: 210
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	930687	3271	"BIGDB	72	13	1	0	90	10	62	89
2.	52*	591968	3226	"BIGDB	22	81	2	0	92	19	20	13
3.	43*	288131	3222	"BIGDB	29	63	2	0	80	22	17	14
4.	38*	627214	3227	"BIGDB	30	61	2	0	84	28	14	15
5.	30*	504643	220	"BIGDB	20	72	2	0	139	35	12	13
6.	25*	591935	3224	"BIGDB	38	69	2	0	58	49	7	14
7.	25*	1574410	3229	"BIGDB	31	72	2	0	66	49	7	14

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
AL SWS 4 (RE)

EA#4540 RE

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 10/04/89
Date Analyzed: 10/10/89 16:51
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

AL SWS 4 (RE)

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) water Lab Sample ID: EA# 4540(RE)

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: >DE362

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 10/4/89

Extraction: (SepF/Cont/Sonc) Cont. Date Analyzed: 10/10/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: _____ CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 57556	1,2-Propanediol	4.11	11.00	
2. —	unknown	6.12	34.00	B
3. —	unknown	6.63	11.00	B
4. 930687	2-Cyclohexen-1-one	7.55	10.00	B
5.				
6.				
7.				
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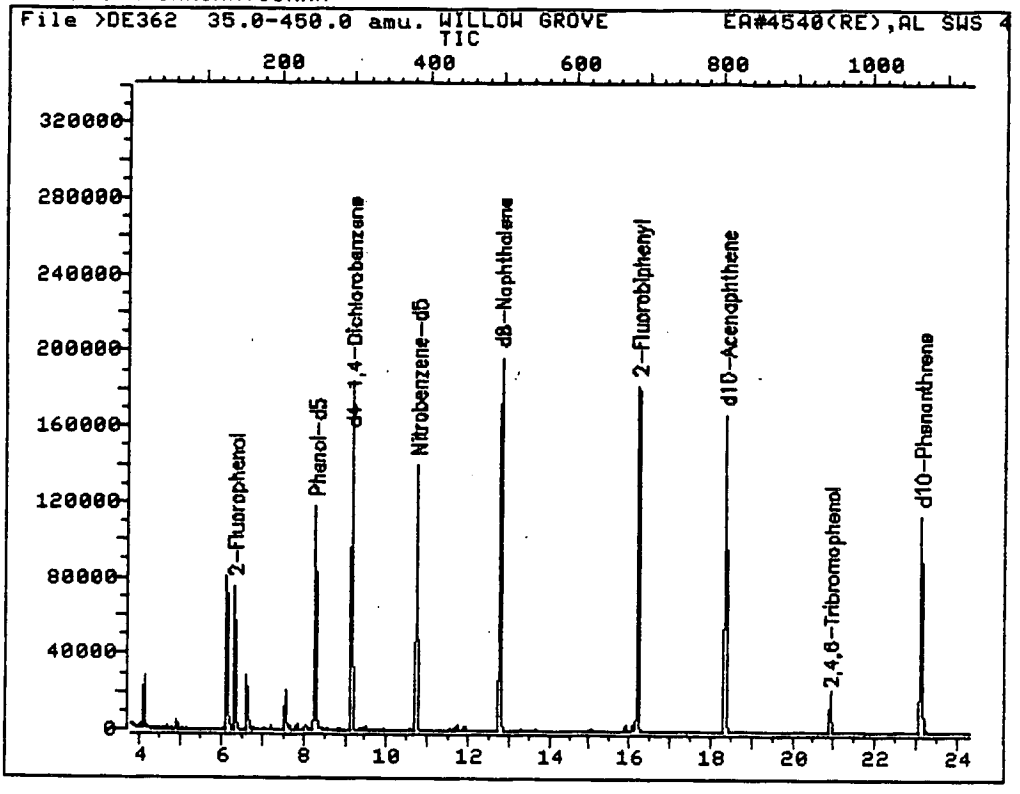
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



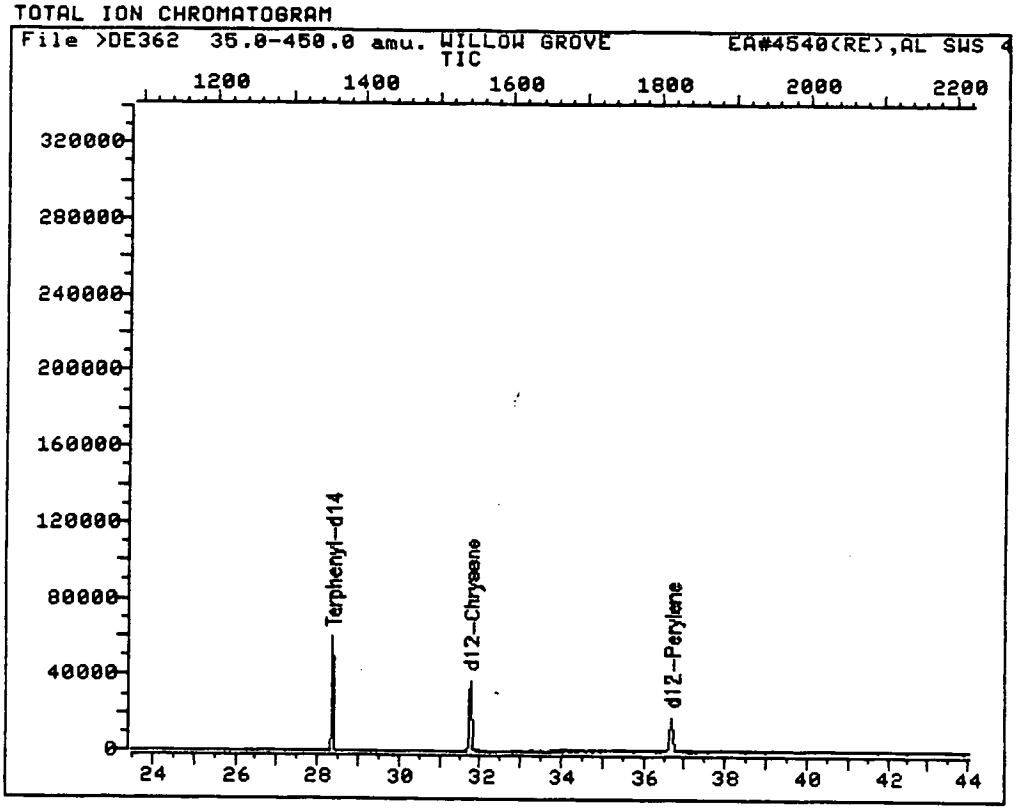
Data File: >DE362::W7 Quant Output File: ^DE362::QT
Name: WILLOW GROVE
Misc: EA#4540(RE),AL SWS 4,WATER,1000ml,2, WILLOW (2) BTL# 6

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 17:38
Injected at: 891010 16:51

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE362::W7 Quant Output File: ^DE362::QT
Name: WILLOW GROVE
Misc: EA#4540(RE),AL SWS 4,WATER,1000ml,2, WILLOW (2) BTL# 6

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 17:38
Injected at: 891010 16:51

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Tim : 891010 17:38
Output File: ^DE362::QT Injected at: 891010 16:51
Data File: >DE362::W7 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4540(RE),AL SWS 4,WATER,1000ml,2, WILLOW (2) BTL# 6

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.16	152.0	74556	40.00	NG	95
2)	2-Fluorophenol	6.32	112.0	42744	16.96	NG x 17 %	88
3)	Phenol-d5	8.29	99.0	82240	28.43	NG ✓ 28 %	91
4)	Ph nol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	H xachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.79	136.0	232999	40.00	NG	91
17)	Nitrobenzene-d5	10.74	82.0	106251	43.92	NG ✓ 88 %	96
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.36	164.0	102151	40.00	NG	95
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.21	172.0	171425	44.86	NG ✓ 90 %	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

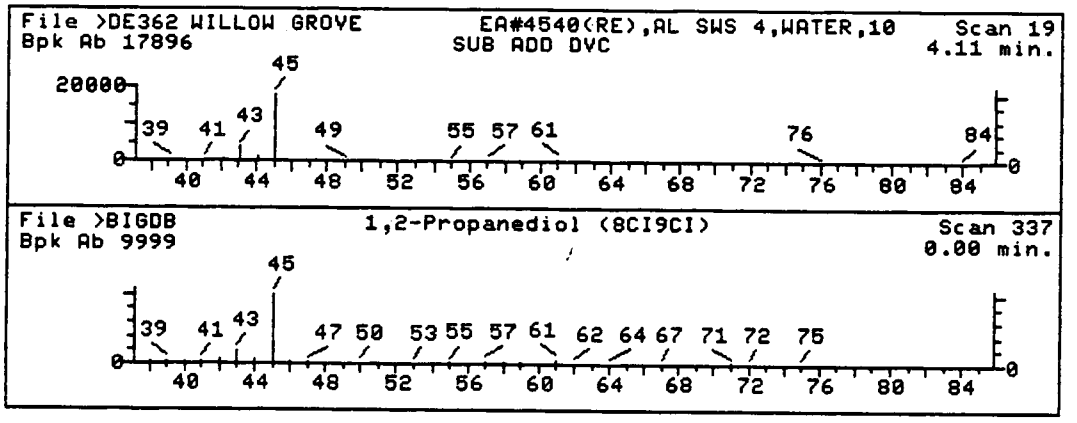
QUANT REPORT
page 2

Output File:^DE362::

Data File:>DE362::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.13	188.0	124118	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.92	330.0	8254	18.85	NG ✓19	87
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.77	240.0	42596	40.00	NG	96
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	T rphenyl-d14	28.36	244.0	65094	38.50	NG ✓77	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.68	264.0	34947	40.00	NG	97
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



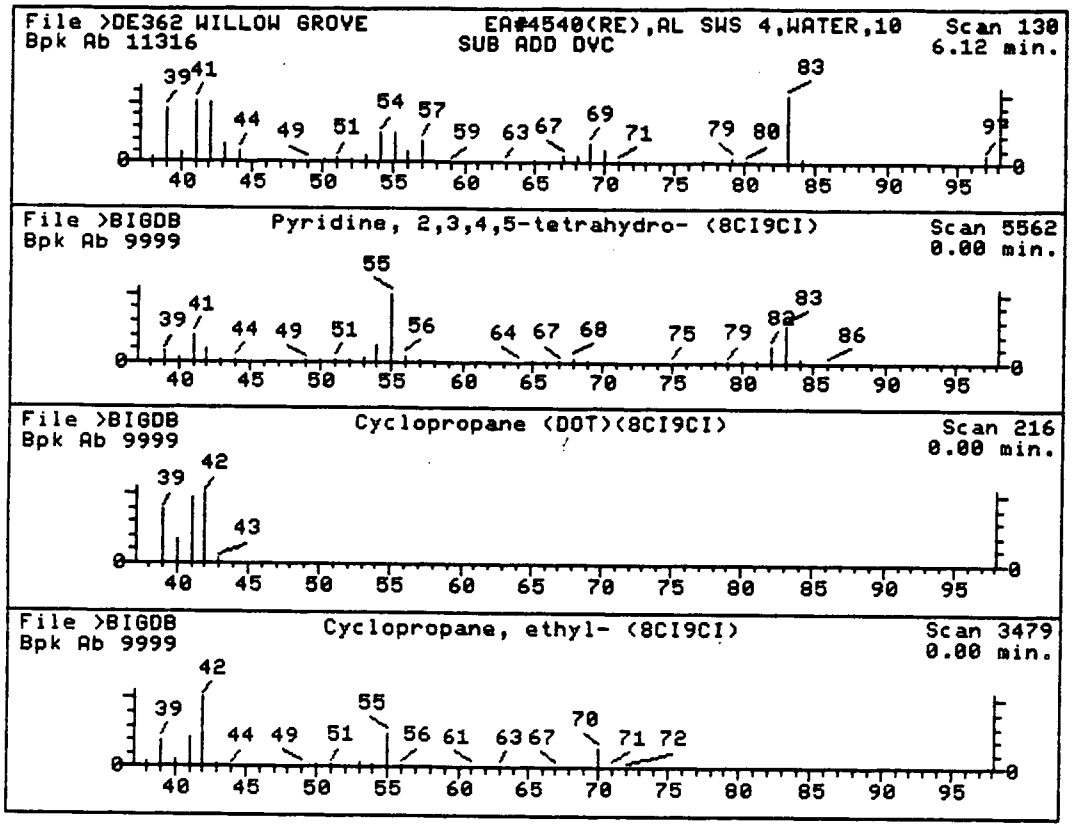
Retention time = 4.11

Area = 65503.00 Tentative Concentration is 11.00

✓ 1. 1,2-Propanediol (8CI9CI) 76 C3H8O2

Sample file: >DE362 Spectrum #: 19
Search speed: 2 Tilting option: S No. of ion ranges search d: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	70	57556	337	"BIGDB	38	45	1	0	87	9	42	14



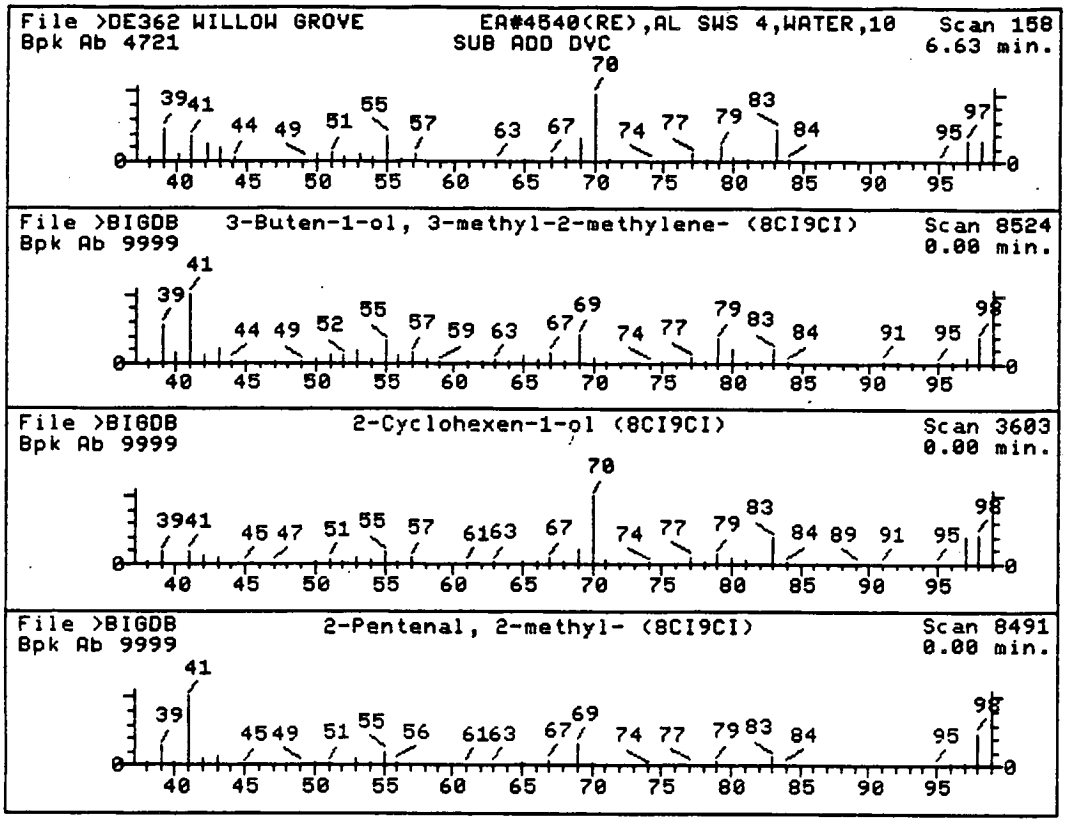
Retention time = 6.12 unknown

Area = 203312.0 Tentative Concentration is 34.00

1. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI)	83	C5H9N
2. Cyclopropane (DOT)(8CI9CI)	42	C3H6
3. Cyclopropane, ethyl- (8CI9CI)	70	C5H10
4. Cyclobutanone (8CI9CI)	70	C4H6O
5. 1-Pentene (8CI9CI)	70	C5H10

Sample file: >DE362 Spectrum #: 130
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	505180	5562	"BIGDB	38	55	2	0	180	55	5	18
2.	20*	75194	216	"BIGDB	25	65	1	0	86	52	5	14
3.	12*	1191964	3479	"BIGDB	32	54	0	0	69	62	2	27
4.	11*	1191953	3478	"BIGDB	26	50	0	0	86	64	2	18
5.	11*	109671	3465	"BIGDB	22	64	0	0	58	63	2	16



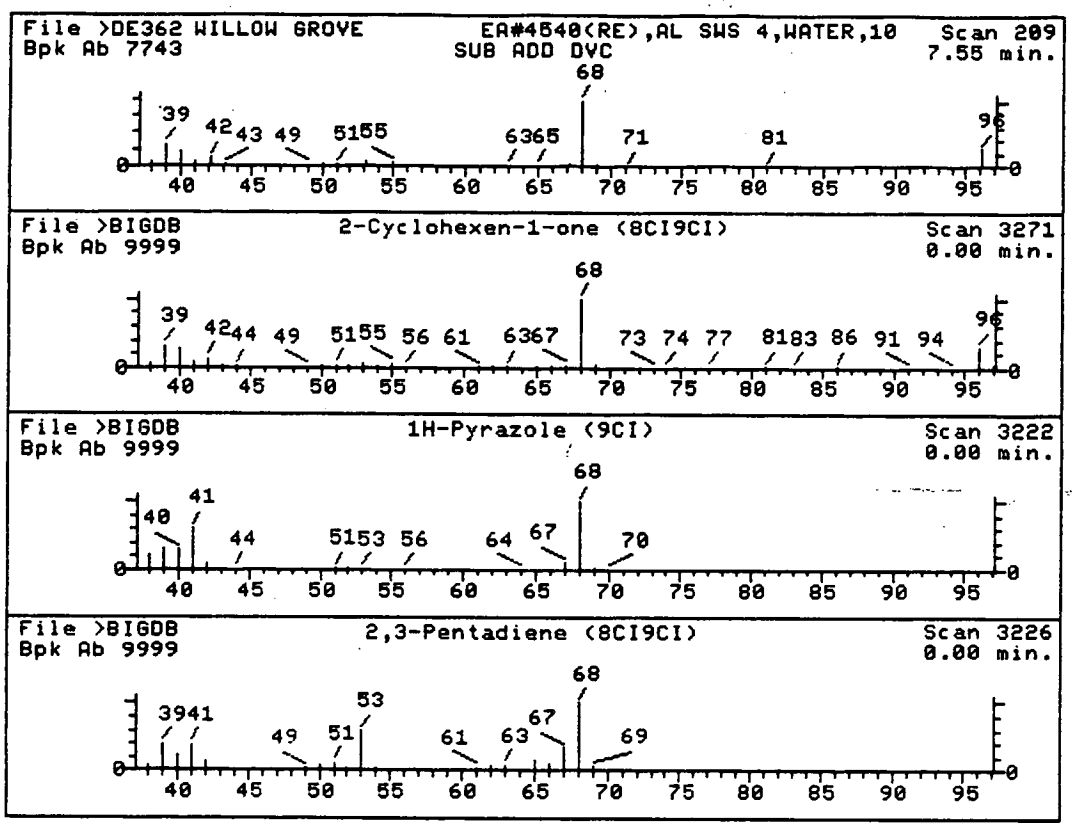
Retention time = 6.63 unknown

Area = 68691.00 Tentative Concentration is 11.00

1. 3-Buten-1-ol, 3-methyl-2-methylene- (8CI9CI) 98 C6H10O
2. 2-Cyclohexen-1-ol (8CI9CI) 98 C6H10O
3. 2-Pentenal, 2-methyl- (8CI9CI) 98 C6H10O
4. Cyclopentane, 1,3-dimethyl-, trans- (8CI9CI) 98 C7H14
5. 4-Penten-2-one, 4-methyl- (8CI9CI) 98 C6H10O
6. Cyclopentane, 1,3-dimethyl-, cis- (8CI9CI) 98 C7H14
7. Furan, 2,5-dihydro-2,5-dimethyl- (9CI) 98 C6H10O

Sample file: >DE362 Spectrum #: 158
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	41*	26431130	8524	"BIGDB	39	69	2	1	55	25	17	12
2.	24*	822673	3603	"BIGDB	44	55	1	0	57	54	7	24
3.	20*	623369	8491	"BIGDB	38	47	2	2	81	55	5	12
4.	20*	1759586	3587	"BIGDB	23	79	3	0	103	51	5	12
5.	15*	3744023	8502	"BIGDB	33	46	2	0	198	57	3	16
6.	15*	2532583	3589	"BIGDB	32	74	2	0	70	57	3	14
7.	11*	59242272	8591	"BIGDB	34	56	2	0	43	61	2	17



Retention time = 7.55

Area = 60222.00 Tentative Concentration is 10.00

✓ 1.	2-Cyclohexen-1-one (8CI9CI)	96	C6H8O
2.	1H-Pyrazole (9CI)	68	C3H4N2
3.	2,3-Pentadiene (8CI9CI)	68	C5H8
4.	Furan (8CI9CI)	68	C4H4O
5.	2-Pentyne (8CI9CI)	68	C5H8
6.	1,2-Propadiene-1,3-dione (9CI)	68	C3O2
7.	1,4-Pentadiene (8CI9CI)	68	C5H8

Sample file: >DE362 Spectrum #: 209
S arch speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	930687	3271	"BIGDB	72	13	1	0	87	8	62	89
2.	45*	288131	3222	"BIGDB	34	58	2	0	79	25	17	16
3.	42*	591968	3226	"BIGDB	22	81	2	0	100	21	17	13
4.	37*	110009	3221	"BIGDB	23	49	1	0	67	30	14	14
5.	36*	627214	3227	"BIGDB	22	69	2	0	92	26	14	13
6.	30*	504643	220	"BIGDB	20	72	2	0	139	35	12	13
7.	25*	591935	3224	"BIGDB	38	69	2	0	58	50	7	14

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
19 MSL SWS 1

EA#4541

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/04/89 17:23
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

AD19 ASL SWS 1

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) water Lab Sample ID: EA # 4541

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: >DE 327

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (SepF/Cont/Sonc) Cont. Date Analyzed: 10/4/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unknown	6.15	21.00	
2.					
3.					
4.					
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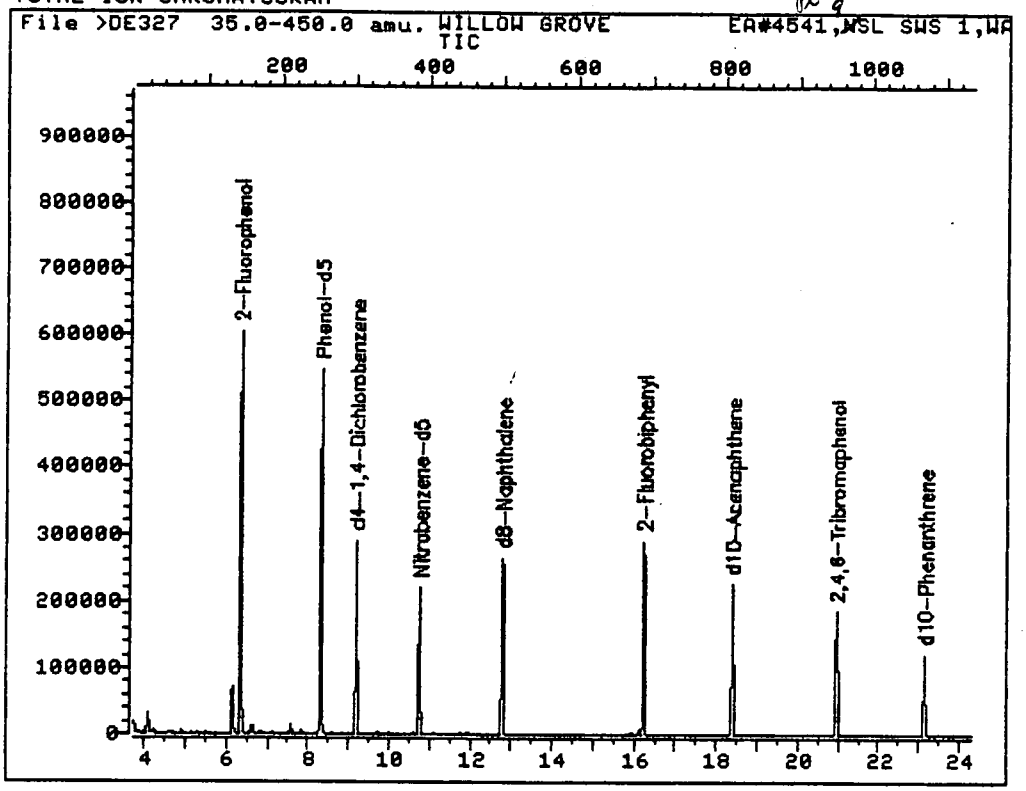
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



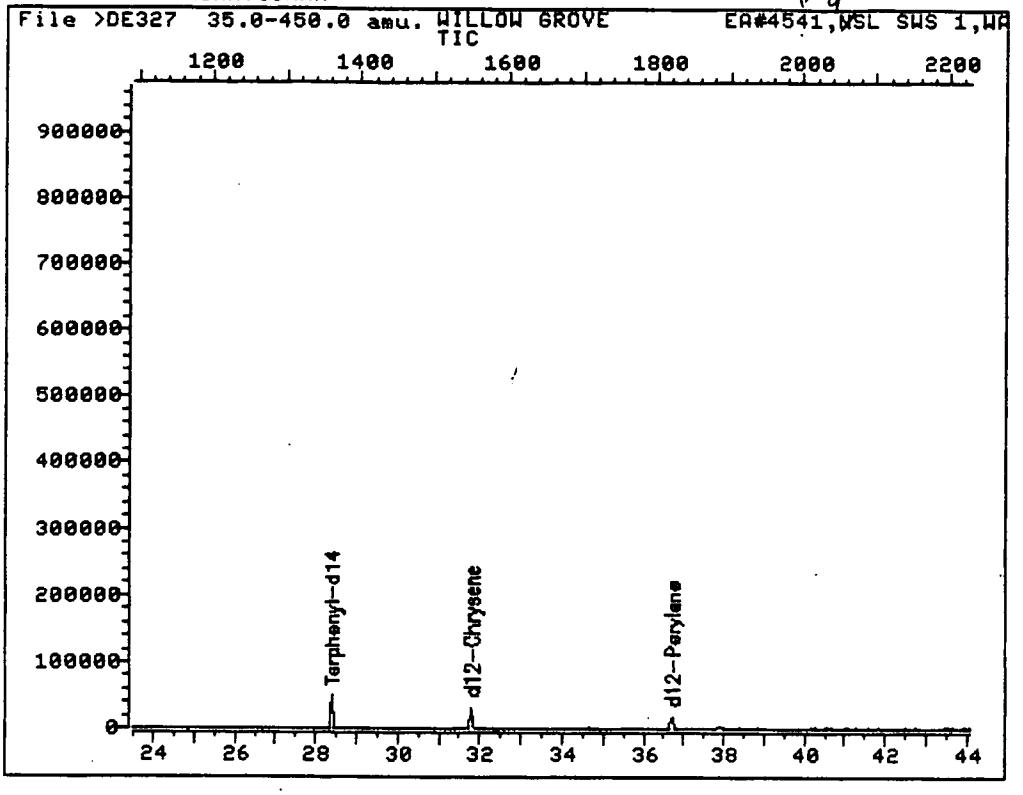
Data File: >DE327::W7 Quant Output File: ^DE327::QT
Name: WILLOW GROVE
Misc: EA#4541,MSL SWS 1,WATER,1000ml,2, WILLOW GROVE <2> BTL# 6

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 18:10
Injected at: 891004 17:23

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE327::W7 Quant Output File: ^DE327::QT
Name: WILLOW GROVE
Misc: EA#4541,WSL SWS 1,WATER,1000ml,2, WILLOW GROVE <2> BTL# 6

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 18:10
Injected at: 891004 17:23

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant R v: 6 Quant Tim : 891004 18:10
Output File: ^DE327::QT Injected at: 891004 17:23
Data File: >DE327::W7 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4541,NSL SWS 1,WATER,1000ml,2, WILLOW GROVE <2> BTL# 6

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

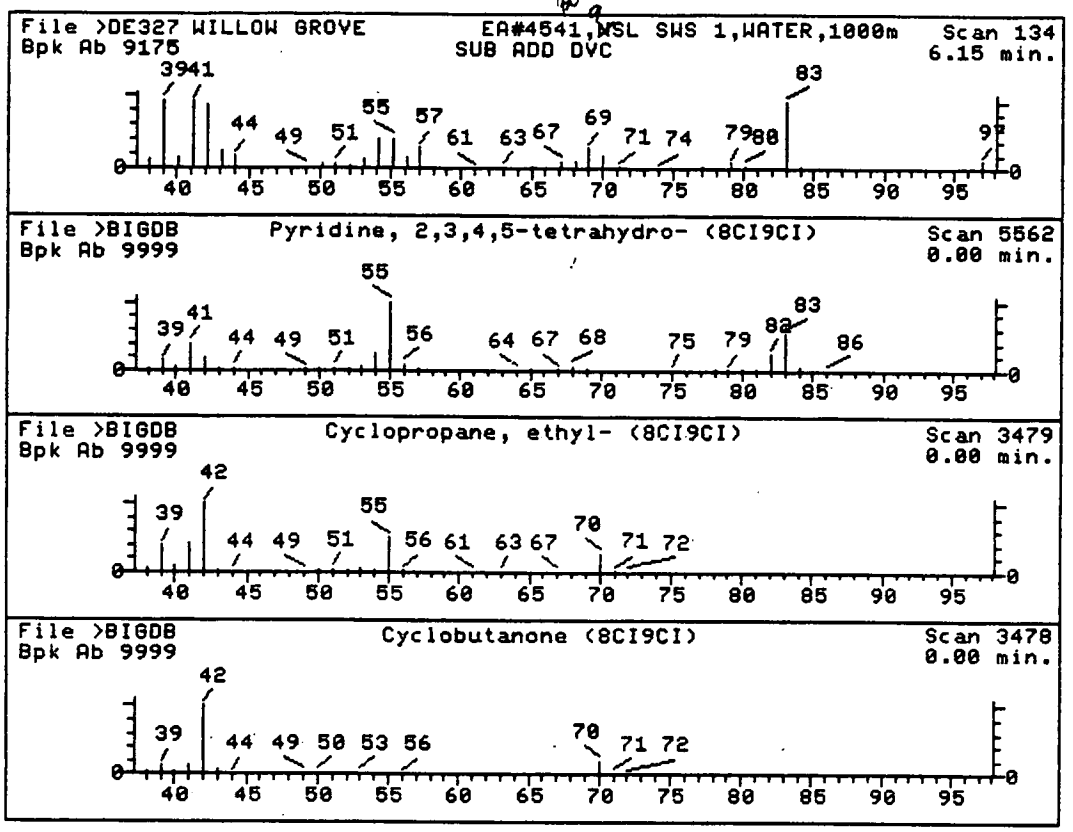
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	97217	40.00	NG	98
2)	2-Fluorophenol	6.34	112.0	327233M	98.85	NG ✓99%	93
3)	Phenol-d5	8.32	99.0	405738	107.40	NG x107%	94
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	H xachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.79	136.0	321880	40.00	NG	92
17)	Nitrobenzene-d5	10.76	82.0	176683	52.83	NG ✓106%	88
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.39	164.0	118460	40.00	NG	94
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.23	172.0	231211	51.98	NG ✓104%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
pag 2

Output File:^DE327:: Data File:>DE327::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.15	188.0	119985	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.96	330.0	45008	112.76	NG ✓ 113%	86
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.78	240.0	32979	40.00	NG	97
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.38	244.0	45768	35.46	NG ✓ 71%	88
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.71	264.0	28706	40.00	NG	96
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



Retention time = 6.15 Unknown

Area = 188109.0 Tentative Concentration is 21.00

1. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI) 83 C5H9N
2. Cyclopropane, ethyl- (8CI9CI) 70 C5H10
3. Cyclobutanone (8CI9CI) 70 C4H6O

Sample file: >DE327 Spectrum #: 134
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	505180	5562	"BIGDB	38	55	2	0	183	54	5	18
2.	11*	1191964	3479	"BIGDB	27	59	0	0	72	61	2	19
3.	11*	1191953	3478	"BIGDB	21	55	0	0	92	64	2	15

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Sample Number
MSL SWS 2

EA #45 42

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/04/89 13:40
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: EA Laboratories Contract: 10388.05 PO19 DSL SWS 2

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (~~soil~~/water) water Lab Sample ID: EA# 4542

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: >DE323

Level: (low/~~med~~) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (~~SepF~~/Cont/~~Sonc~~) Cont. Date Analyzed: 10/4/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. —	Unknown	6.13	18.00	
2.				
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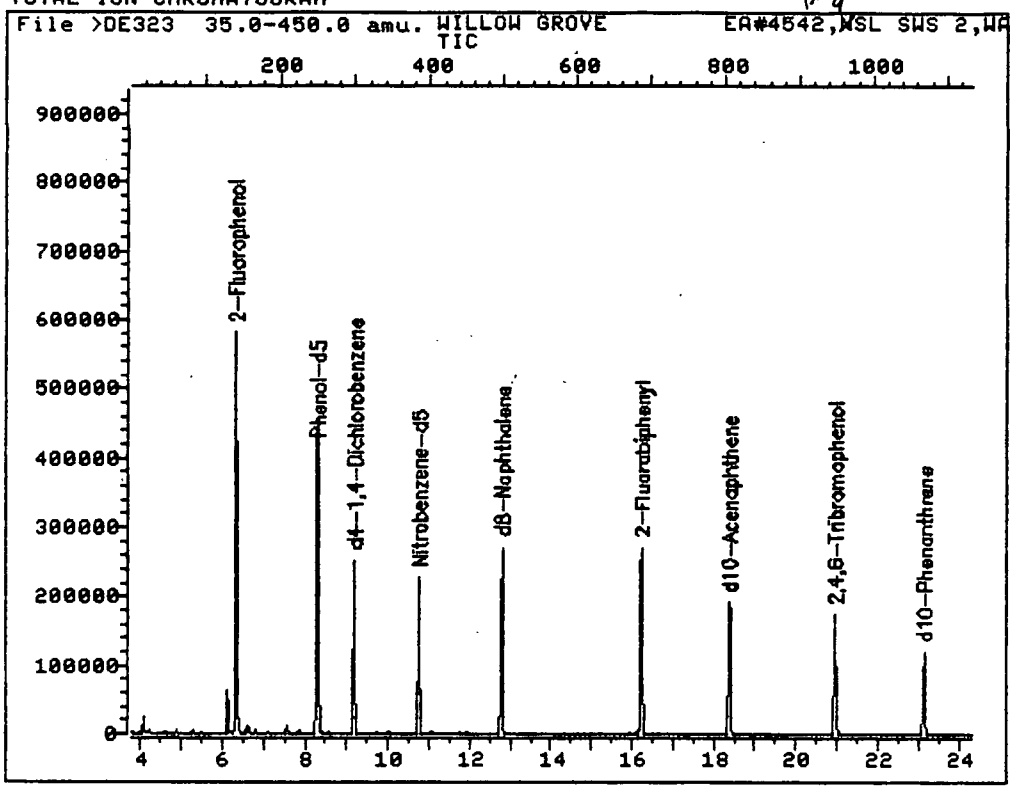
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



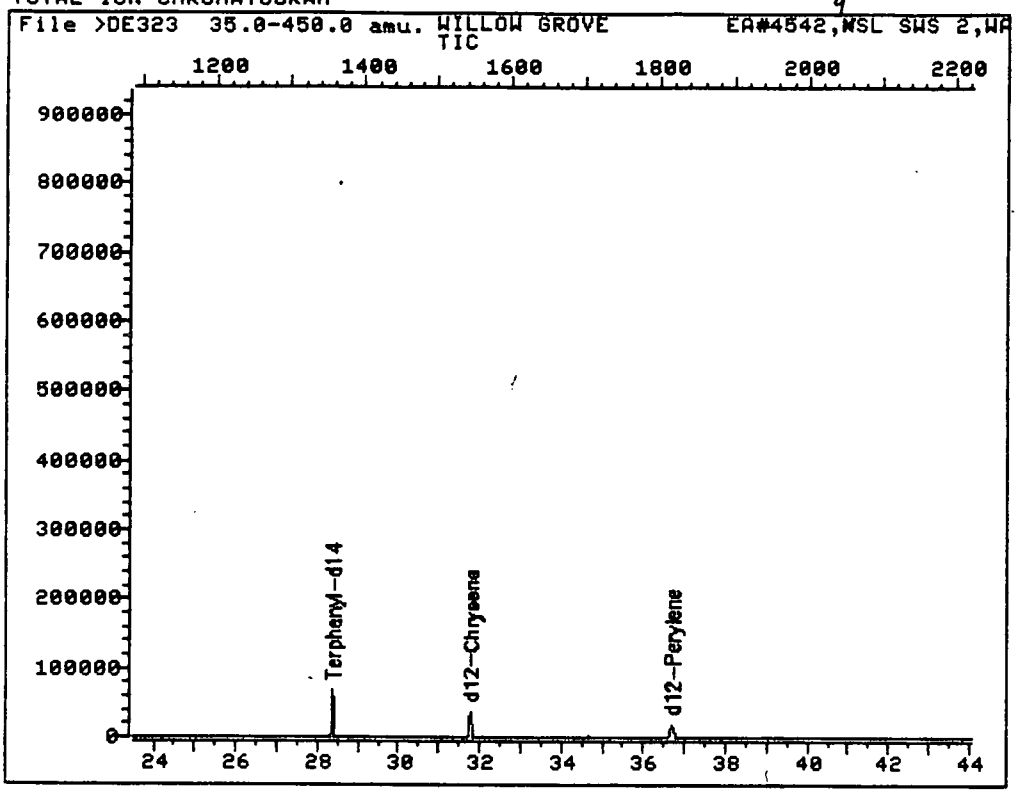
Data File: >DE323::W7 Quant Output File: ^DE323::QT
Name: WILLOW GROVE
Misc: EA#4542,HSL SWS 2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 2

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 14:27
Injected at: 891004 13:40

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE323::W7 Quant Output File: ^DE323::QT
Name: WILLOW GROVE
Misc: EA#4542,WSL SWS 2,WATER,1000ml,2, WILLOW GROVE <2> BTL# 2

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 14:27
Injected at: 891004 13:40

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant R v: 6 Quant Time: 891004 14:27
Output File: ^DE323::QT Injected at: 891004 13:40
Data File: >DE323::W7 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4542,HSL SWS 2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 2

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

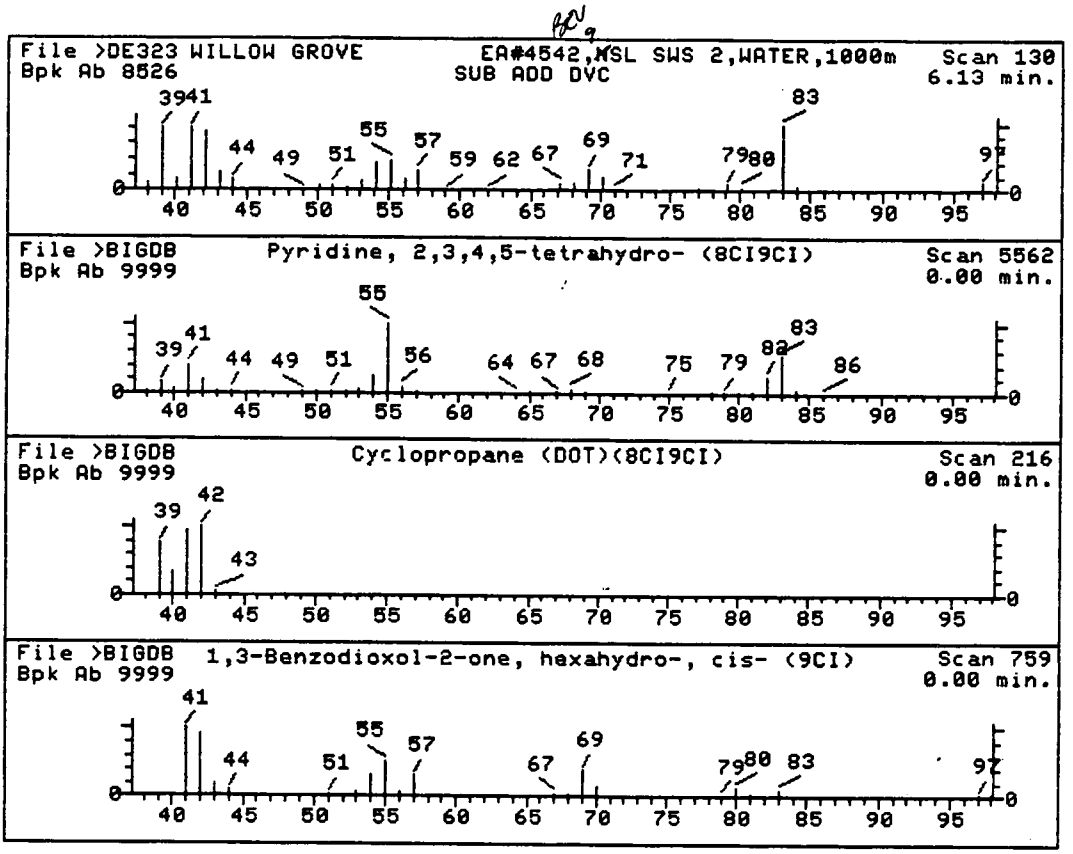
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	87808	40.00	NG	96
2)	2-Fluorophenol	6.33	112.0	300431	100.48	NG	100 91
3)	Phenol-d5	8.30	99.0	366104	107.29	NG	107 95
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.80	136.0	289626	40.00	NG	94
17)	Nitrobenzene-d5	10.75	82.0	160978	53.50	NG	107 94
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.38	164.0	107269	40.00	NG	92
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.24	172.0	208893	51.86	NG	104 95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^DE323:: Data File:>DE323::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.14	188.0	115472	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.95	330.0	38167	99.36	NG ✓99%	87
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.78	240.0	35243	40.00	NG	98
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.38	244.0	61756	44.77	NG ✓90%	87
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.69	264.0	30723	40.00	NG	97
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	B nzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



Retention time = 6.13 Unknown

Area = 143608.0 Tentative Concentration is 18.00

1.	Pyridine, 2,3,4,5-tetrahydro- (8CI9CI)	83	C5H9N
2.	Cyclopropane (DOT)(8CI9CI)	42	C3H6
3.	1,3-Benzodioxol-2-one, hexahydro-, cis- (9CI)	142	C7H10O3
4.	Cyclobutanone (8CI9CI)	70	C4H6O
5.	Oxirane, ethenyl- (9CI)	70	C4H6O
6.	Cyclopropane, ethyl- (8CI9CI)	70	C5H10
7.	1-Pentene (8CI9CI)	70	C5H10

Sample file: >DE323 Spectrum #: 130
S arch speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	505180	5562	"BIGDB	38	55	2	0	170	55	5	18
2.	20*	75194	216	"BIGDB	25	65	1	0	88	52	5	14

3.	11	19456203	759	"BIGDB	46	48	2	0	77	62	2	12
4.	11*	1191953	3478	"BIGDB	26	50	0	0	88	64	2	18
5.	11*	930223	223	"BIGDB	28	59	0	0	61	64	2	19
6.	11*	1191964	3479	"BIGDB	27	59	0	0	70	62	2	19
7.	11*	109671	3465	"BIGDB	22	64	0	0	59	63	2	16

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Sample Number
BEV 19MSL SWS 3
EA#4543

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/03/89 12:48
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BD9 ASL SWS 3

Lab Name: EA laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) water Lab Sample ID: EA # 4543

Sample wt/vol: 1000 ml (g/mL) 2ml. Lab File ID: >DE 311

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (SepF/Cont/Sonc) Cont. Date Analyzed: 10/3/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. —	No Semivol. Comp. found	—	—	
2.				
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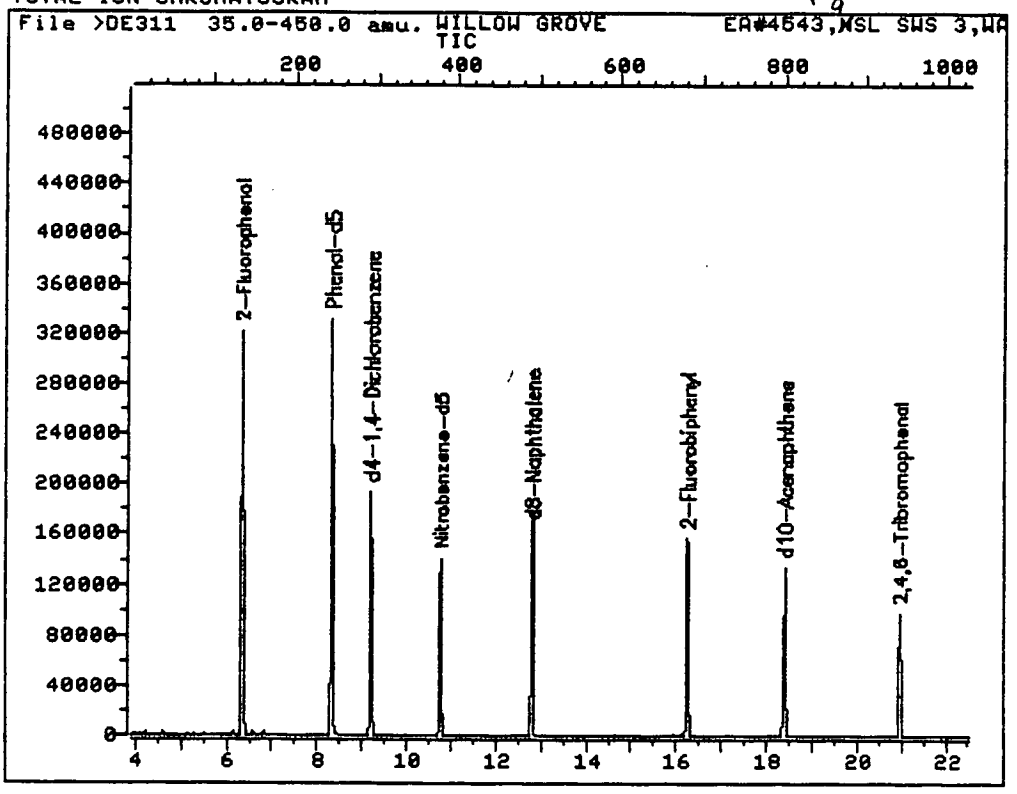
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



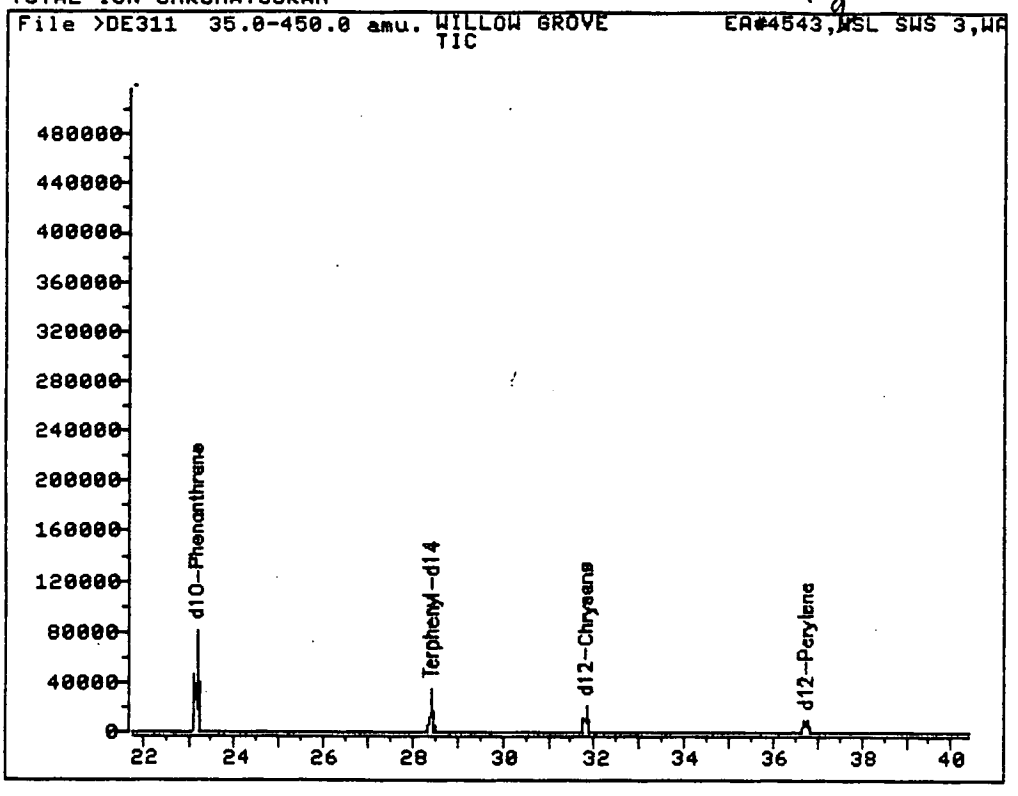
Data File: >DE311::W6 Quant Output File: ^DE311::QT
Name: WILLOW GROVE
Misc: EA#4543,HSL SWS 3,WATER,1000ml,2, WILLOW GROVE <2> BTL# 2

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891003 13:38
Injected at: 891003 12:48

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE311::W6 Quant Output File: ^DE311::QT
Name: WILLOW GROVE
Misc: EA#4543,HSL SWS 3,WATER,1000ml,2, WILLOW GROVE <2> BTL# 2

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891003 13:38
Injected at: 891003 12:48

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant R v: 6 Quant Time: 891003 13:38
Output File: ^DE311::QT Injected at: 891003 12:48
Data File: >DE311::W6 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4543,9 HSL SWS 3,WATER,1000ml,2, WILLOW GROVE (2) BTL# 2
ID File: IDDCLP::BD
Titl : HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	62457	40.00	NG	95
2)	2-Fluorophenol	6.33	112.0	203919	95.28	NG 95%	86
3)	Phenol-d5	8.32	99.0	234423	96.26	NG 96%	98
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.80	136.0	207307	40.00	NG	93
17)	Nitrobenzene-d5	10.77	82.0	106885	45.69	NG 91%	88
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.39	164.0	76459	40.00	NG	93
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.24	172.0	129140	44.67	NG 89%	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^DE311:: Data File:>DE311::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.15	188.0	79464	40.00	NG	98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.96	330.0	20273	85.96	NG ✓ 86 %	92
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	P ntachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.79	240.0	22190	40.00	NG	94
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	T rphenyl-d14	28.38	244.0	32864	36.04	NG ✓ 72 %	90
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.71	264.0	18308	40.00	NG	97
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
19MSL SWS 4

EA#4544

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/04/89 14:35
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PB/9 MSL SWS 4

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Water Lab Sample ID: EA #4544

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: >DE 324

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 10/4/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unknown	6.12	16.00	
2.					
3.					
4.					
5.					
6.					
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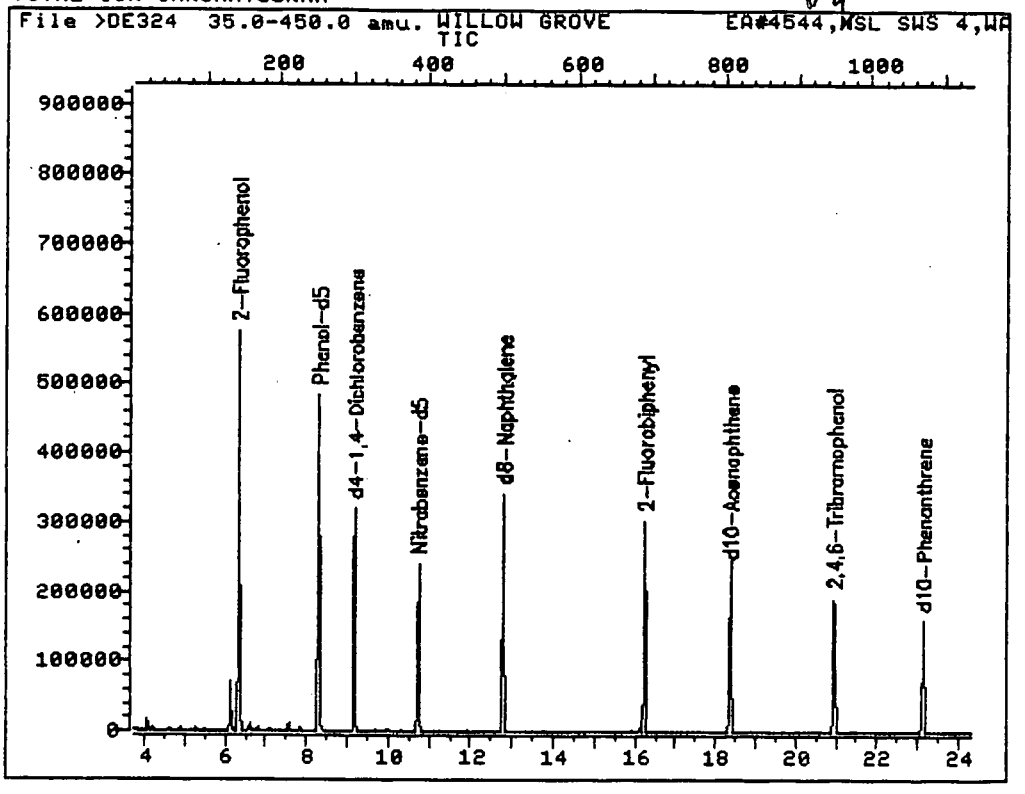
29.					
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



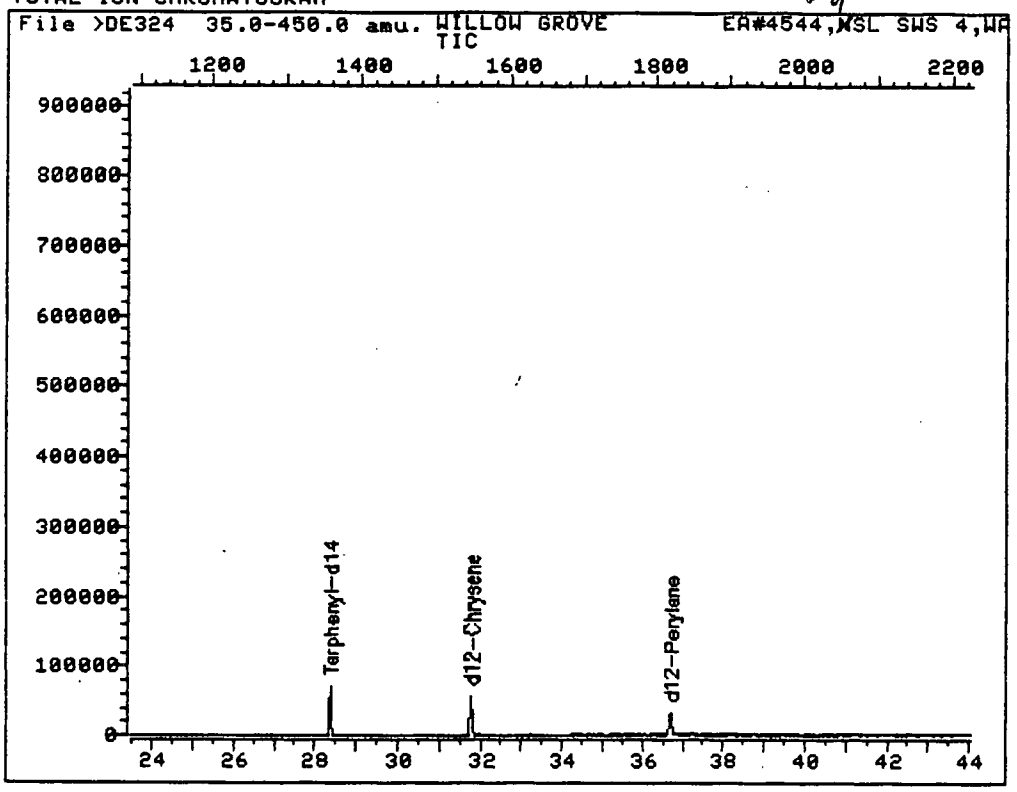
Data File: >DE324::W7 Quant Output File: ^DE324::QT
Name: WILLOW GROVE
Misc: EA#4544,MSL SWS 4,WATER,1000ml,2, WILLOW GROVE <2> BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 15:22
Injected at: 891004 14:35

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE324::W7 Quant Output File: ^DE324::QT
Name: WILLOW GROVE
Misc: EA#4544,MSL SWS 4,WATER,1000ml,2, WILLOW GROVE (2) BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 15:22
Injected at: 891004 14:35

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891004 15:22
Output File: ^DE324::QT Injected at: 891004 14:35
Data File: >DE324::W7 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4544,HSL SWS 4,WATER,1000ml,2, WILLOW GROVE <2> BTL# 3
ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

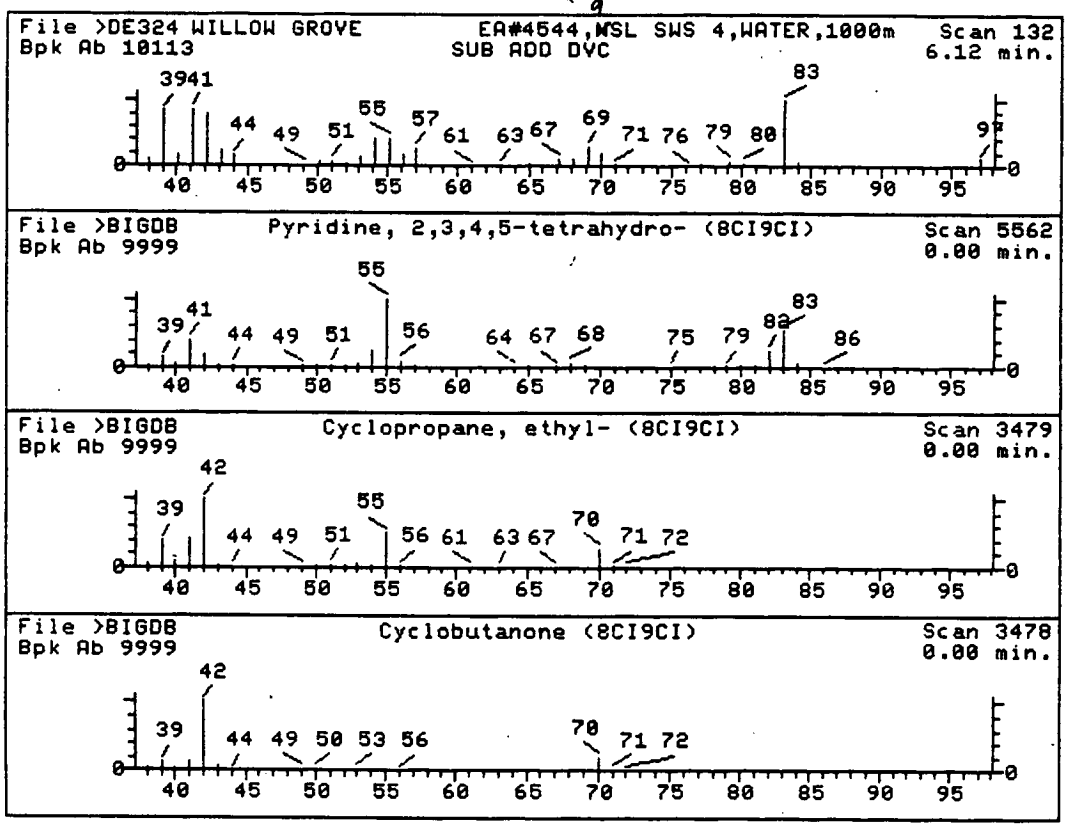
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	111430	40.00	NG	96
2)	2-Fluorophenol	6.32	112.0	324535	85.53	NG	84
3)	Phenol-d5	8.32	99.0	379028	87.53	NG	97
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.79	136.0	368328	40.00	NG	95
17)	Nitrobenzene-d5	10.74	82.0	170672	44.60	NG	94
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	B nzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	H xachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.37	164.0	140083	40.00	NG	95
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.23	172.0	230548	43.83	NG	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
pag 2

Output File:^DE324:: Data File:>DE324::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.14	188.0	160129	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.94	330.0	53462	100.36	NG ✓100%	90
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.77	240.0	60299	40.00	NG	96
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.37	244.0	69430	29.42	NG ✓59%	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.70	264.0	58155	40.00	NG	96
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



Retention time = 6.12 Unknown

Area = 158762.0 Tentative Concentration is 16.00

1. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI) 83 C5H9N
2. Cyclopropane, ethyl- (8CI9CI) 70 C5H10
3. Cyclobutanone (8CI9CI) 70 C4H6O
4. 1-Pentene (8CI9CI) 70 C5H10

Sample file: >DE324 Spectrum #: 132
S arch speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	505180	5562	"BIGDB	38	55	2	0	166	54	5	18
2.	11*	1191964	3479	"BIGDB	27	59	0	0	70	61	2	19
3.	11*	1191953	3478	"BIGDB	21	55	0	0	77	64	2	15
4.	11*	109671	3465	"BIGDB	22	64	0	0	59	62	2	16

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
DUPLICATE#2

EA# 4545

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/03/89 14:46
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Duplicate #2

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) water Lab Sample ID: EA# 4545

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: 2DE313

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 10/3/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unknown	6.15	21.00	
2.					
3.					
4.					
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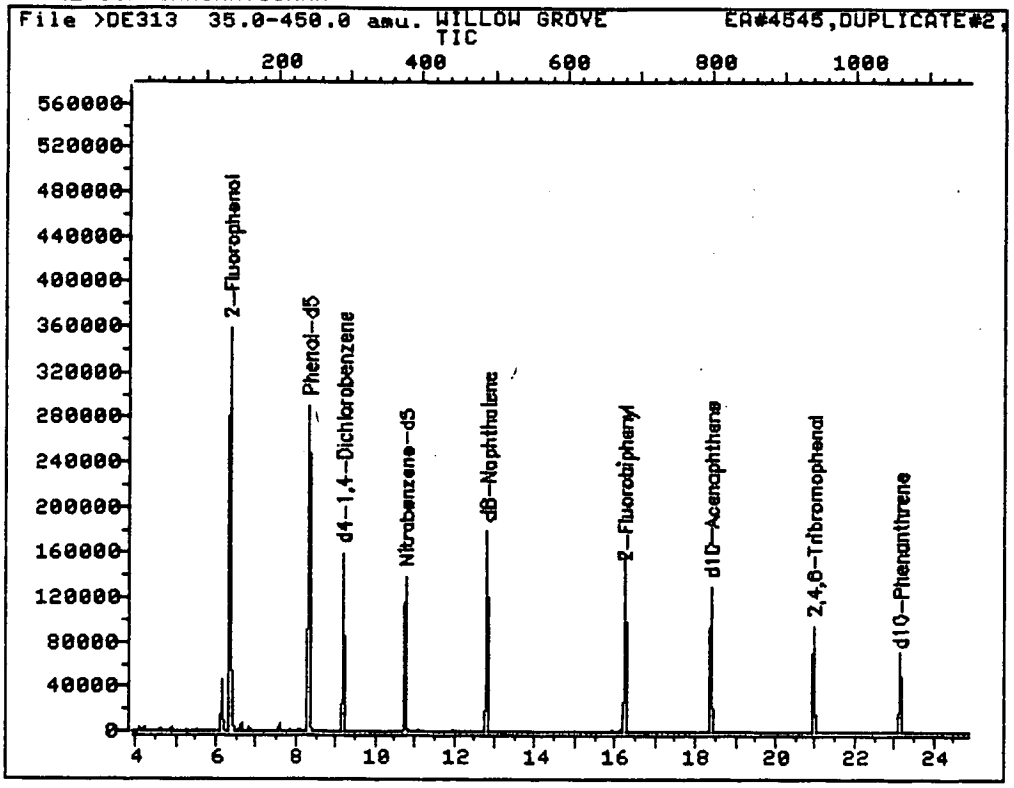
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



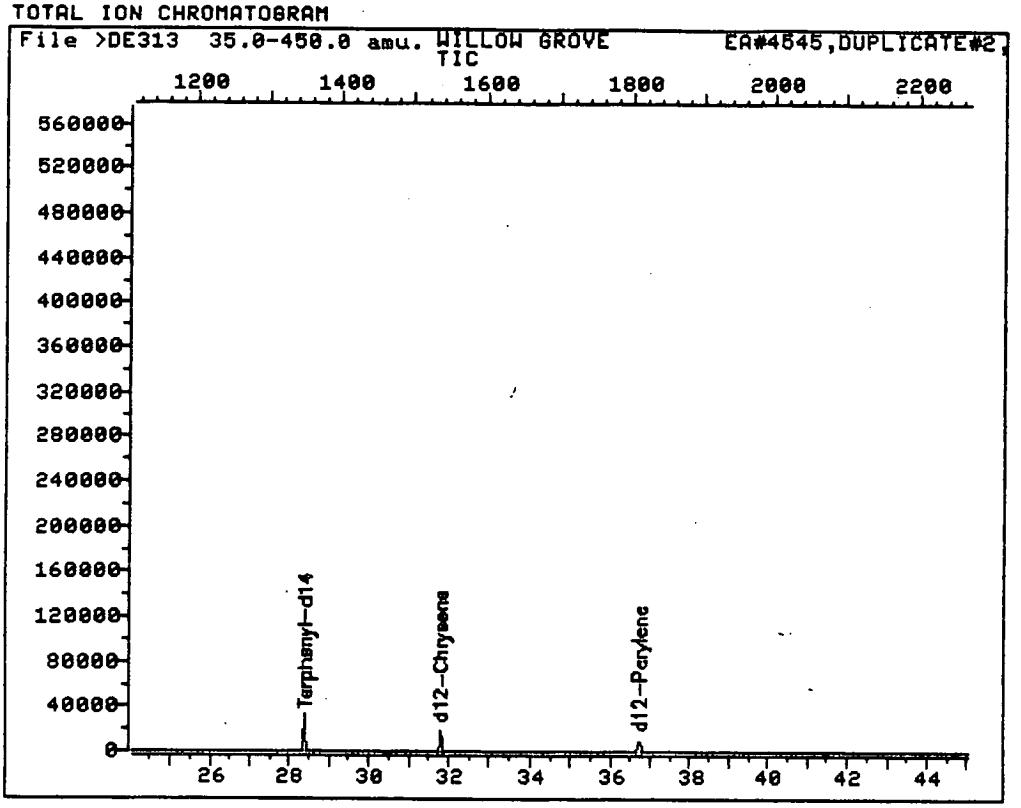
Data File: >DE313::W6 Quant Output File: ^DE313::QT
Name: WILLOW GROVE
Misc: EA#4545,DUPLICATE#2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 4

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Op rator ID: BHADRA
Quant Time: 891003 15:35
Injected at: 891003 14:46

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE313::W6 Quant Output File: ^DE313::QT
Name: WILLOW GROVE
Misc: EA#4545,DUPLICATE#2,WATER,1000ml,2, WILLOW GROVE <2> BTL# 4

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891003 15:35
Injected at: 891003 14:46

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891003 15:35
Output File: ^DE313::QT Injected at: 891003 14:46
Data File: >DE313::W6 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4545,DUPLICATE#2,WATER,1000ml,2, WILLOW GROVE <2> BTL# 4

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

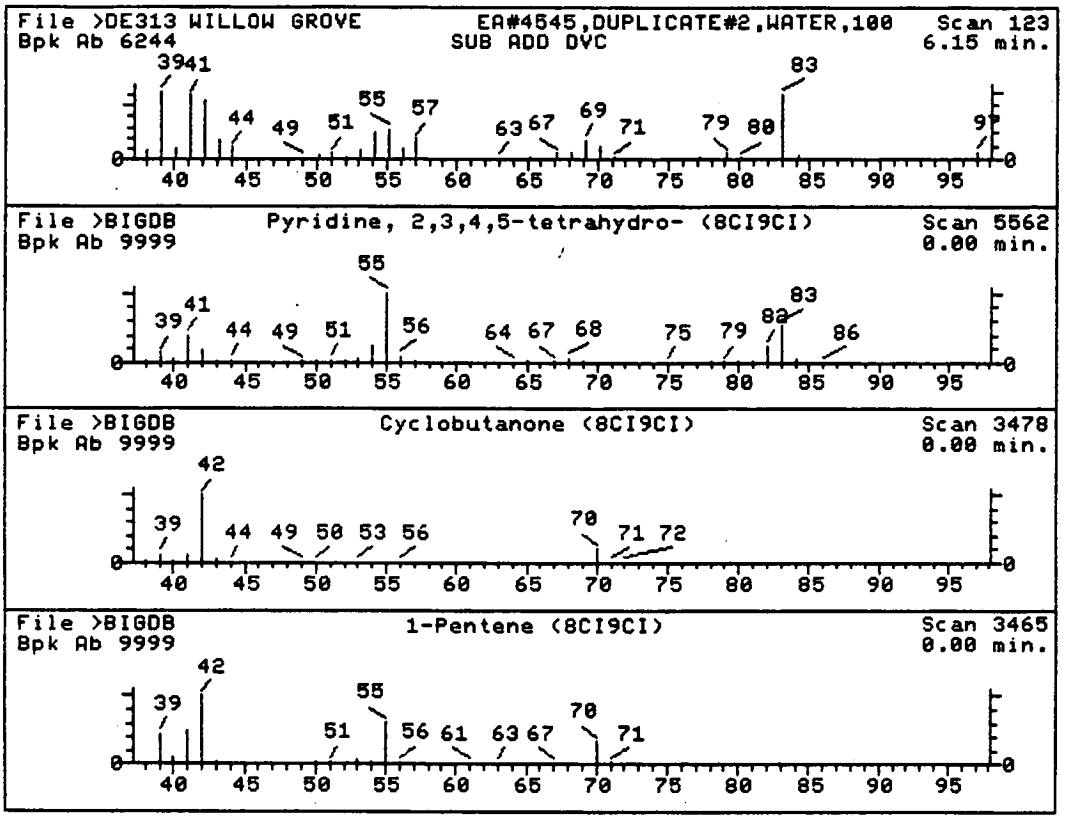
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	55068	40.00	NG	96
2)	2-Fluorophenol	6.35	112.0	184803	97.94	NG ✓98 %	97
3)	Phenol-d5	8.32	99.0	212736	99.08	NG ✗ 99 %	99
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	B nzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.81	136.0	186788	40.00	NG	96
17)	Nitrobenzene-d5	10.77	82.0	99466	47.19	NG ✓94 %	91
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.39	164.0	70573	40.00	NG	92
32)	H xachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.24	172.0	120185	45.04	NG ✓90 %	96
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^DE313:: Data File:>DE313::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.15	188.0	73005	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.96	330.0	17921	82.71	NG ✓83%	93
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.79	240.0	18368	40.00	NG	95
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.38	244.0	30712	40.69	NG ✓81%	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.71	264.0	15769	40.00	NG	97
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



Retention time = 6.15 Unknown

Area = 110105.0 Tentative Concentration is 21.00

1. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI) 83 C5H9N
2. Cyclobutanone (8CI9CI) 70 C4H6O
3. 1-Pentene (8CI9CI) 70 C5H10
4. Cyclopropane, ethyl- (8CI9CI) 70 C5H10

Sampl file: >DE313 Spectrum #: 123
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	505180	5562	"BIGDB	38	55	2	0	176	54	5	18
2.	11*	1191953	3478	"BIGDB	21	55	0	0	87	64	2	15
3.	11*	109671	3465	"BIGDB	22	64	0	0	60	62	2	16
4.	11*	1191964	3479	"BIGDB	22	64	0	0	71	62	2	16

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
UG SUS-1

EA-4546

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/04/89 15:31
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes ✓
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

UG SUS-1

Lab Name: EA Laboratories. Contract: 10388-05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) water. Lab Sample ID: EA# 4546

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: >DE 325

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (SepF/Cont/Sonc) Cont. Date Analyzed: 10/4/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	67630	2-Propanol	4.07	9.00	
2.	—	Unknown	6.12	19.00	
3.					
4.					
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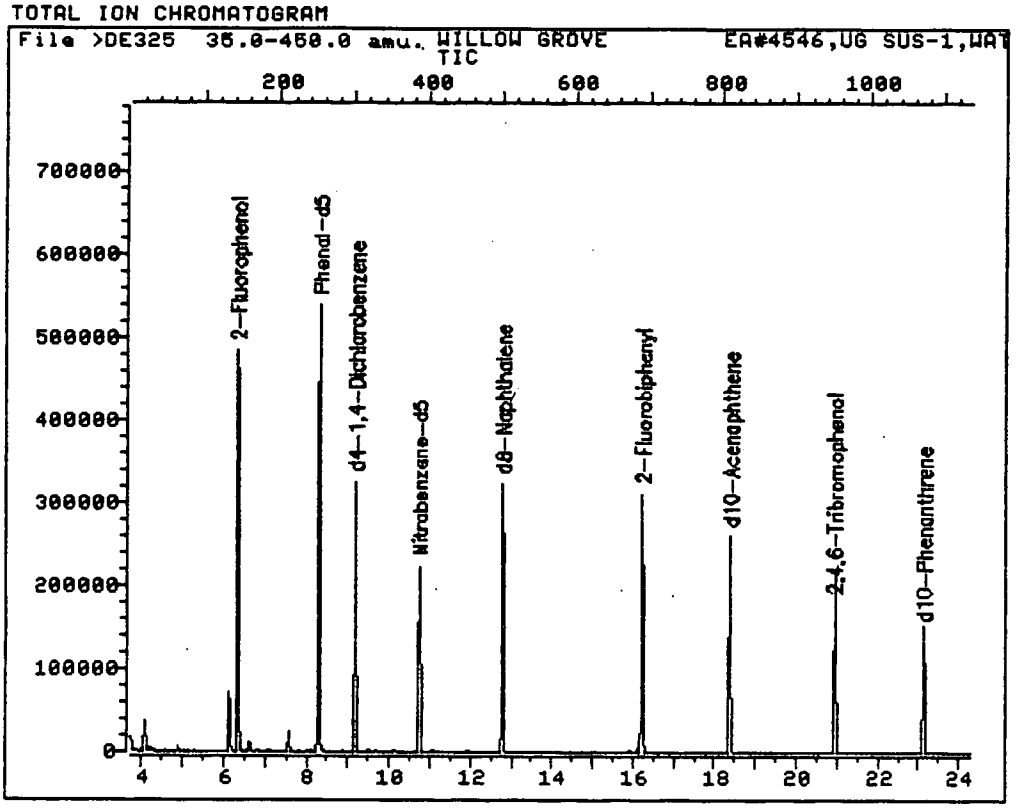
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



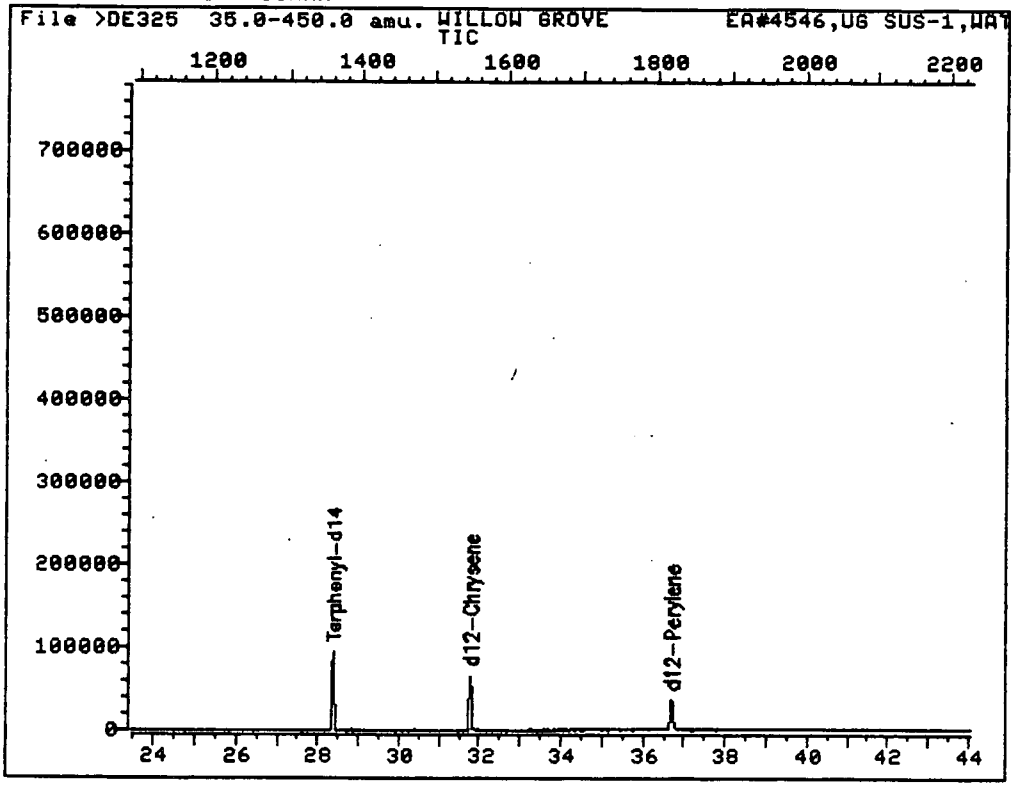
Data File: >DE325::W7 Quant Output File: ^DE325::QT'
Name: WILLOW GROVE
Misc: EA#4546,UG SUS-1,WATER,1000ml,2, WILLOW GROVE (2) BTL# 4

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 16:18
Injected at: 891004 15:31

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE325::W7 Quant Output File: ^DE325::QT
Name: WILLOW GROVE
Misc: EA#4546,UG SUS-1,WATER,1000ml,2, WILLOW GROVE <2> BTL# 4

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 16:18
Injected at: 891004 15:31

TIC page 2 of 2

QUANT REPORT

Op rator ID: BHADRA Quant Rev: 6 Quant Tim : 891004 16:18
Output File: ^DE325::QT Injected at: 891004 15:31
Data File: >DE325::W7 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4546,UG SUS-1,WATER,1000ml,2, WILLOW GROVE (2) BTL# 4

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

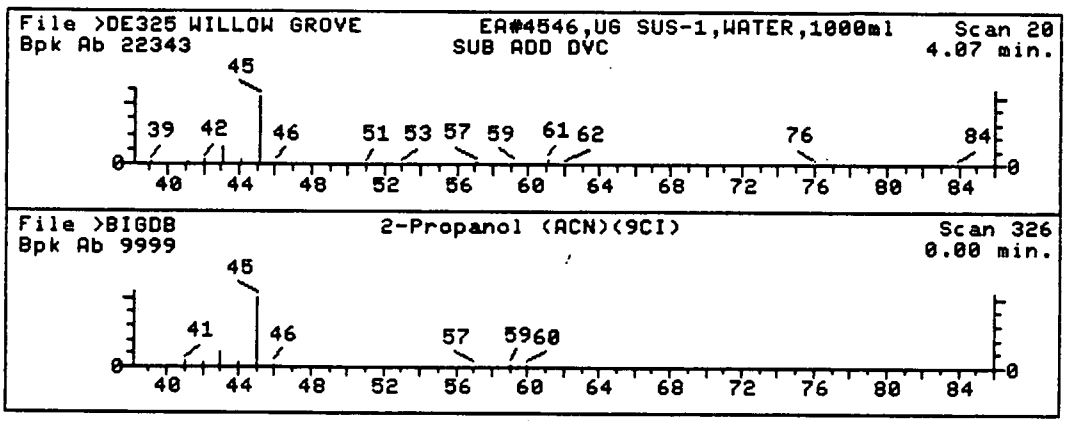
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.18	152.0	106070	40.00	NG	98
2)	2-Fluorophenol	6.32	112.0	320722	88.80	NG ✓89 8	80
3)	Phenol-d5	8.31	99.0	389670	94.54	NG ✗95 8	95
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.79	136.0	358267	40.00	NG	92
17)	Nitrobenzene-d5	10.74	82.0	169336	45.49	NG ✓91 8	98
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.39	164.0	141388	40.00	NG	97
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.23	172.0	229206	43.17	NG ✓86 8	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^DE325:: Data File:>DE325::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.13	188.0	165759	40.00	NG	98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.94	330.0	61216	111.02	NG ✓ 111%	86
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.78	240.0	67982	40.00	NG	97
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.38	244.0	91738	34.48	NG ✓ 69%	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.69	264.0	63974	40.00	NG	97
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	B nzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



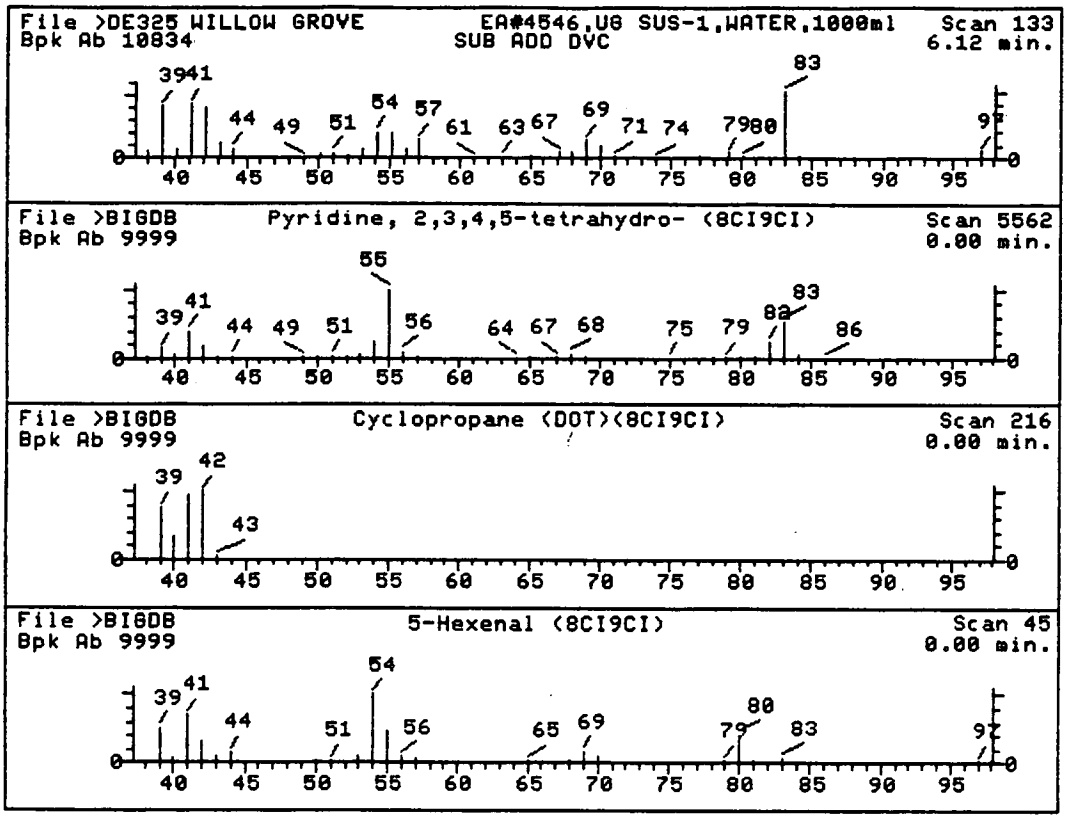
Retention time = 4.07

Area = 82314.00 Tentative Concentration is 9.00

✓1. 2-Propanol (ACN)(9CI) 60 C3H8O

Sample file: >DE325 Spectrum #: 20
Search speed: 2 Tilting option: S No. of ion ranges search d: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52*	67630	326	"BIGDB	32	35	2	0	100	16	20	16



Ret ntion time = 6.12 unknown

Area = 177839.0 Tentative Concentration is 19.00

1.	Pyridine, 2,3,4,5-tetrahydro- (8CI9CI)	83 C5H9N
2.	Cyclopropane (DOT)(8CI9CI)	42 C3H6
3.	5-Hexenal (8CI9CI)	98 C6H10O
4.	Cyclopropane, ethyl- (8CI9CI)	70 C5H10
5.	1-Propene (9CI)	42 C3H6
6.	1-Pentene (8CI9CI)	70 C5H10
7.	Cyclopropane, butyl- (9CI)	98 C7H14

Sample file: >DE325 Spectrum #: 133
S arch speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	505180	5562	"BIGDB	37	56	2	0	156	54	5	17
2.	20*	75194	216	"BIGDB	25	65	1	0	74	51	5	14
3.	15*	764590	45	"BIGDB	24	82	3	0	153	56	3	12
4.	11*	1191964	3479	"BIGDB	27	59	0	0	65	64	2	19
5.	11*	115071	182	"BIGDB	20	59	2	0	74	63	2	13
6.	11*	109671	3465	"BIGDB	22	64	0	0	55	65	2	16
7.	11*	930574	3583	"BIGDB	32	76	3	0	79	61	2	13

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4547
SAMPLE: NEL/SS/1
GC/MS FILE: >FC934::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 16:27
SAMPLE--->EXTRACT:	30.04g-->1mL (1/2 Dil)

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	1400.	ND
111-44-4	bis(2-Chloroethyl)ether	1400.	ND
95-57-8	2-Chlorophenol	1400.	ND
541-73-1	1,3-Dichlorobenzene	1400.	ND
106-46-7	1,4-Dichlorobenzene	1400.	ND
100-51-6	Benzyl Alcohol	1400.	ND
95-50-1	1,2-Dichlorobenzene	1400.	ND
95-48-7	2-Methylphenol	1400.	ND
39638-32-9	bis(2-chloroisopropyl)ether	1400.	ND
106-44-5	4-Methylphenol	1400.	ND
621-64-7	N-Nitroso-Di-n-propylamine	1400.	ND
67-72-1	Hexachloroethane	1400.	ND
98-95-3	Nitrobenzene	1400.	ND
78-59-1	Isophorone	1400.	ND
88-75-5	2-Nitrophenol	1400.	ND
105-67-9	2,4-Dimethylphenol	1400.	ND
65-85-0	Benzoic Acid	7000.	ND
111-91-1	bis(2-Chloroethoxy)methane	1400.	ND
120-83-2	2,4-Dichlorophenol	1400.	ND
120-82-1	1,2,4-Trichlorobenzene	1400.	ND
91-20-3	Naphthalene	1400.	ND
106-47-8	4-Chloroaniline	1400.	ND
87-68-3	Hexachlorobutadiene	1400.	ND
59-50-7	4-Chloro-3-methylphenol	1400.	ND
91-57-6	2-Methylnaphthalene	1400.	ND
77-47-4	Hexachlorocyclopentadiene	1400.	ND
88-06-2	2,4,6-Trichlorophenol	1400.	ND
95-95-4	2,4,5-Trichlorophenol	7000.	ND
91-58-7	2-Chloronaphthalene	1400.	ND
88-74-4	2-Nitroaniline	7000.	ND
131-11-3	Dimethylphthalate	1400.	ND
208-96-8	Acenaphthylene	1400.	ND
99-09-2	3-Nitroaniline	7000.	ND
83-32-9	Acenaphthene	1400.	ND
51-28-5	2,4-Dinitrophenol	7000.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4547
SAMPLE: NEL/SS/1
GC/MS FILE: >FC934::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 16:27
SAMPLE--->EXTRACT:	30.04g-->1mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	7000.	ND
132-64-9	Dibenzofuran	1400.	ND
121-14-2	2,4-Dinitrotoluene	1400.	ND
606-20-2	2,6-Dinitrotoluene	1400.	ND
84-66-2	Diethylphthalate	1400.	ND
7005-72-3	4-Chlorophenyl-phenylether	1400.	ND
86-73-7	Fluorene	1400.	ND
100-01-6	4-Nitroaniline	7000.	ND
534-52-1	4,6-Dinitro-2-methylphenol	7000.	ND
86-30-6	N-Nitrosodiphenylamine	1400.	ND
101-55-3	4-Bromophenyl-phenylether	1400.	ND
118-74-1	Hexachlorobenzene	1400.	ND
87-86-5	Pentachlorophenol	7000.	ND
85-01-8	Phenanthrene	1400.	ND
120-12-7	Anthracene	1400.	ND
84-74-2	Di-n-Butyl phthalate	1400.	ND
206-44-0	Fluoranthene	1400.	ND
129-00-0	Pyrene	1400.	ND
85-68-7	Butylbenzylphthalate	1400.	ND
91-94-1	3,3'-Dichlorobenzidine	2800.	ND
56-55-3	Benzo(a)Anthracene	1400.	ND
117-81-7	bis(2-Ethylhexyl)phthalate	1400.	ND
218-01-9	Chrysene	1400.	ND
117-84-0	Di-n-Octyl phthalate	1400.	ND
205-99-2	Benzo(b)Fluoranthene	1400.	ND
207-08-9	Benzo(k)Fluoranthene	1400.	ND
50-32-8	Benzo(a)Pyrene	1400.	ND
193-39-5	Indeno(1,2,3-cd)Pyrene	1400.	ND
53-70-3	Dibenzo(a,h)Anthracene	1400.	ND
191-24-2	Benzo(g,h,i)Perylene	1400.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NEL SS 1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: EA #4547

Sample wt/vol: 30.04 (g/mL) g Lab File ID: >FC 934

Level: (low/med) LOW Date Received: 09/25/89

% Moisture: not dec. 52.7 dec. _____ Date Extracted: 09/26/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/02/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1/2

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1487496	Butanoic Acid, 3-Hydroxy-, methyl ester	3.62	670	J
2.	—	UNKNOWN ALKANE	31.88	630	J
3.					
4.					
5.					
6.					
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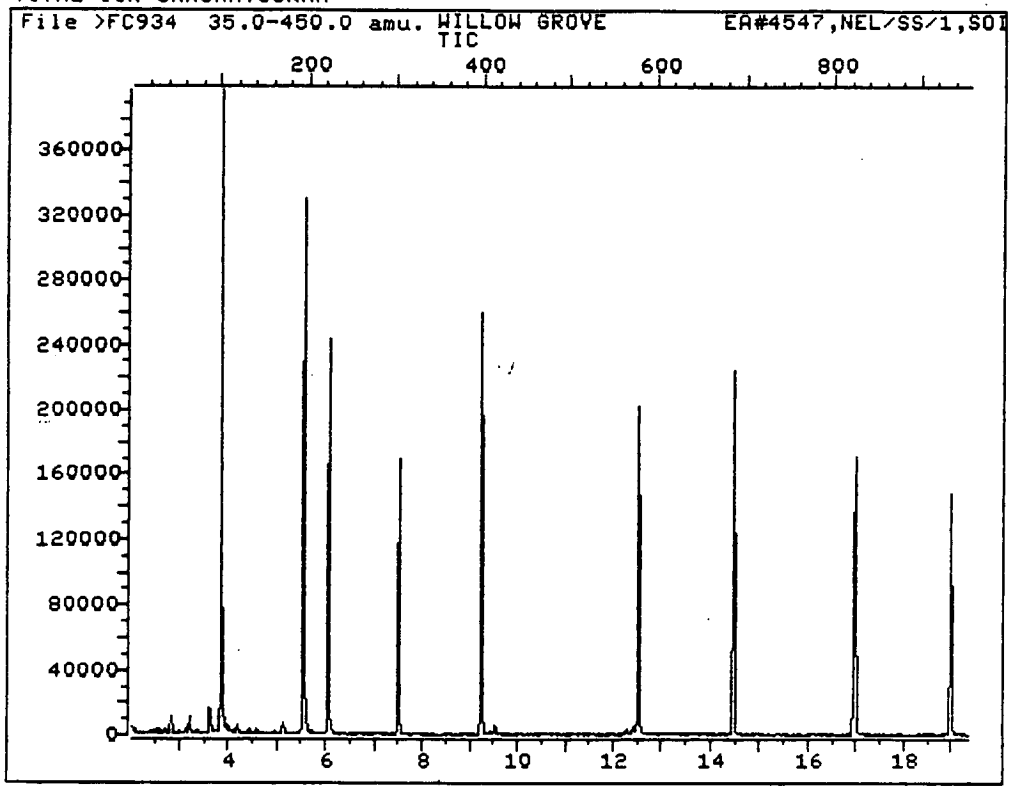
27.					
28.					
29.					
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



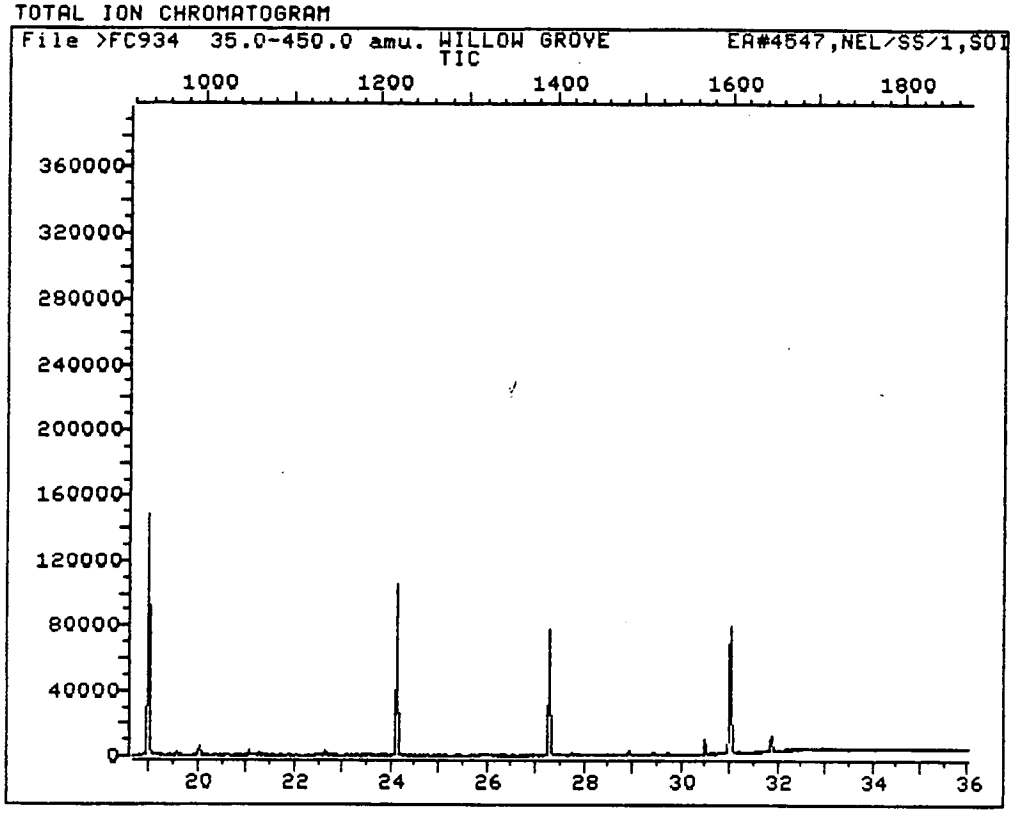
Data File: >FC934::D4 Quant Output File: ^FC934::QT
Name: WILLOW GROVE
Misc: EA#4547,NEL/SS/1,SOIL,30.04g,1mL, (1/2 DIL) BTL# 2

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 17:06
Injected at: 891002 16:27

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC934::D4 Quant Output File: ^FC934::QT
Name: WILLOW GROVE
Misc: EA#4547,NEL/SS/1,SOIL,30.04g,1mL, (1/2 DIL) BTL# 2

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 17:06
Injected at: 891002 16:27

TIC page 2 of 2

QUANT REPORT

Operator ID: JUANEAU Quant Rev: 6 Quant Time: 891002 17:06
Output File: ^FC934::QT Injected at: 891002 16:27
Data File: >FC934::D4 Dilution Factor: 2.00000
Name: WILLOW GROVE
Misc: EA#4547,NEL/SS/1,SOIL,30.04g,1mL, (1/2 DIL) BTL# 2

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

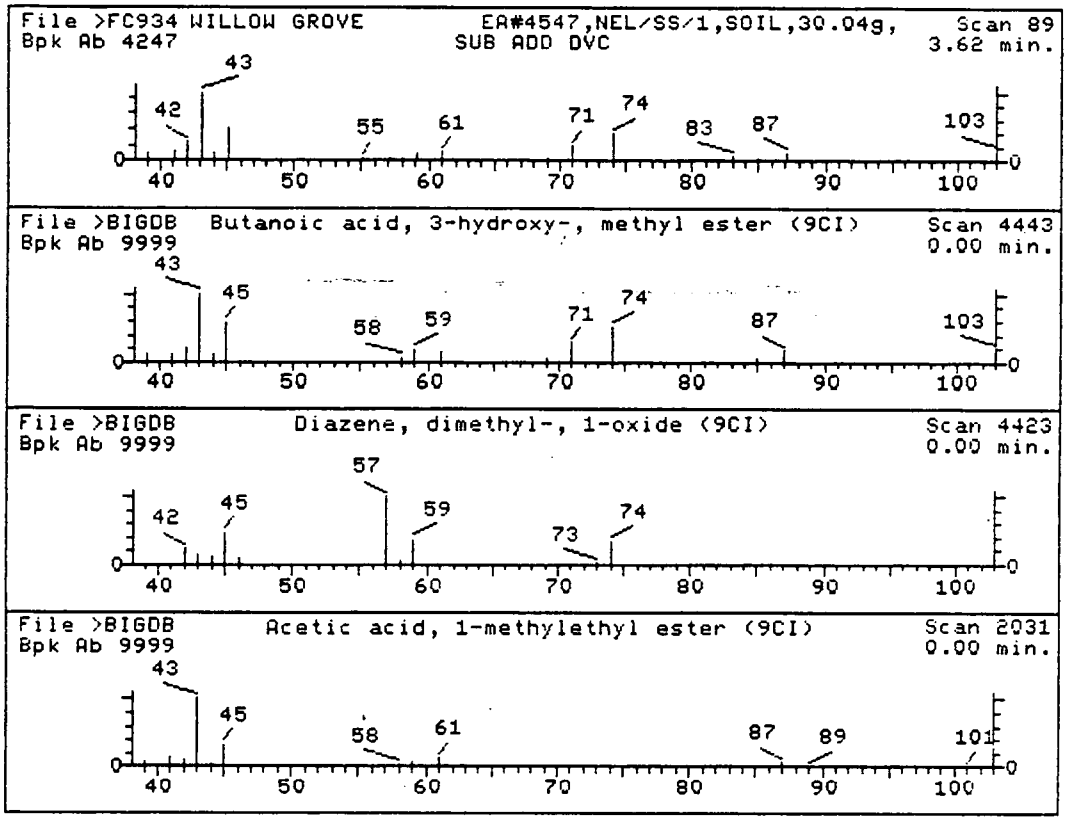
	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.05	152.0	71735	40.00	NG		97
2)	2-Fluorophenol	3.86	112.0	152234	153.14	NG	77%	88
3)	Phenol-d5	5.55	99.0	211849	180.18	NG	90%	93
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG		
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.25	136.0	259841	40.00	NG		90
17)	Nitrobenzene-d5	7.51	82.0	103486	91.91	NG	92%	94
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	B nzoic Acid	0.00	122.0	0	0.00	NG		
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.47	164.0	125439	40.00	NG		94
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.53	172.0	143459	77.51	NG	78%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.49	163.0	42305	~~19.31~~	NG		54
39)	Acenaphthylene	0.00	152.0	0	0.00	NG		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	0.00	153.0	0	0.00	NG		
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

QUANT REPORT
page 2

Output File:^FC934:: Data File:>FC934::D4

	Compound	R.T.	Q ion	Area	Conc	Units		q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG		
44)	Dibenzofuran	0.00	168.0	0	0.00	NG		
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG		
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG		
47)	Diethylphthalate	0.00	149.0	0	0.00	NG		
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG		
49)	Fluorene	0.00	166.0	0	0.00	NG		
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG		
51)	*d10-Phenanthrene	18.99	188.0	156912	40.00	NG		99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG		
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG		
54)	2,4,6-Tribromophenol	16.97	329.9	57351	207.07	NG	104%	95
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG		
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG		
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG		
58)	Phenanthrene	0.00	178.0	0	0.00	NG		
59)	Anthracene	0.00	178.0	0	0.00	NG		
60)	Di-n-Butyl phthalate	21.27	149.0	2496	~~.91~~	NG		97
61)	Fluoranthene	0.00	202.0	0	0.00	NG		
62)	*d12-Chrysene	27.29	240.0	69956	40.00	NG		97
63)	Pyrene	0.00	202.0	0	0.00	NG		
64)	Terphenyl-d14	24.14	244.0	102507	109.96	NG	110%	88
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG		
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG		
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG		
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG		
69)	Chrysene	0.00	228.0	0	0.00	NG		
70)	*d12-Perylene	31.03	264.0	71492	40.00	NG		93
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG		
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG		
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG		
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG		
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG		
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG		
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG		

* Compound is ISTD



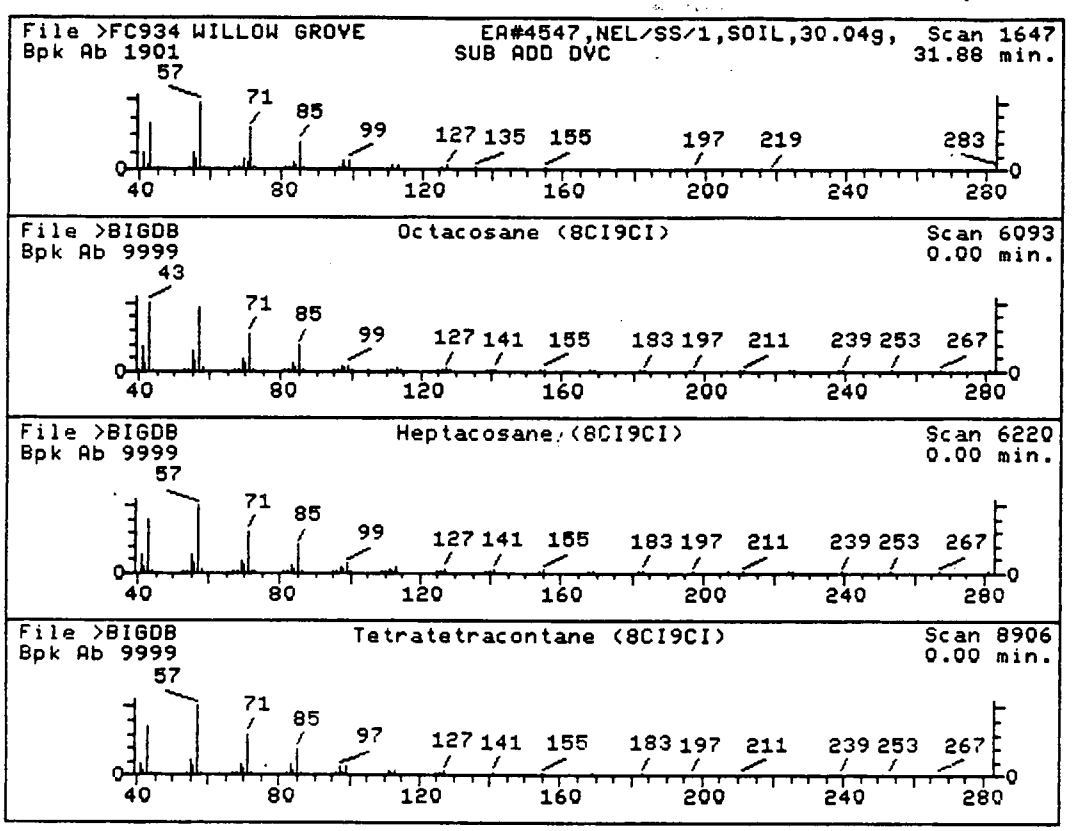
Retention time = 3.62

Area = 57550.00 Tentative Concentration is 670.00

1.	Butanoic acid, 3-hydroxy-, methyl ester (9CI)	118	C5H10O3
2.	Diazene, dimethyl-, 1-oxide (9CI)	74	C2H6N2O
3.	Acetic acid, 1-methylethyl ester (9CI)	102	C5H10O2
4.	Acetic acid, methyl ester (8CI9CI)	74	C3H6O2

Sample file: >FC934 Spectrum #: 89
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	87	1487496	4443	"BIGDB	71	40	0	0	60	3	63	48
2.	26*	25843452	4423	"BIGDB	22	72	3	0	99	40	10	12
3.	20	108214	2031	"BIGDB	44	35	1	0	99	53	5	15
4.	11*	79209	4412	"BIGDB	22	39	1	0	191	65	2	14



UNKNOWN ALKANE

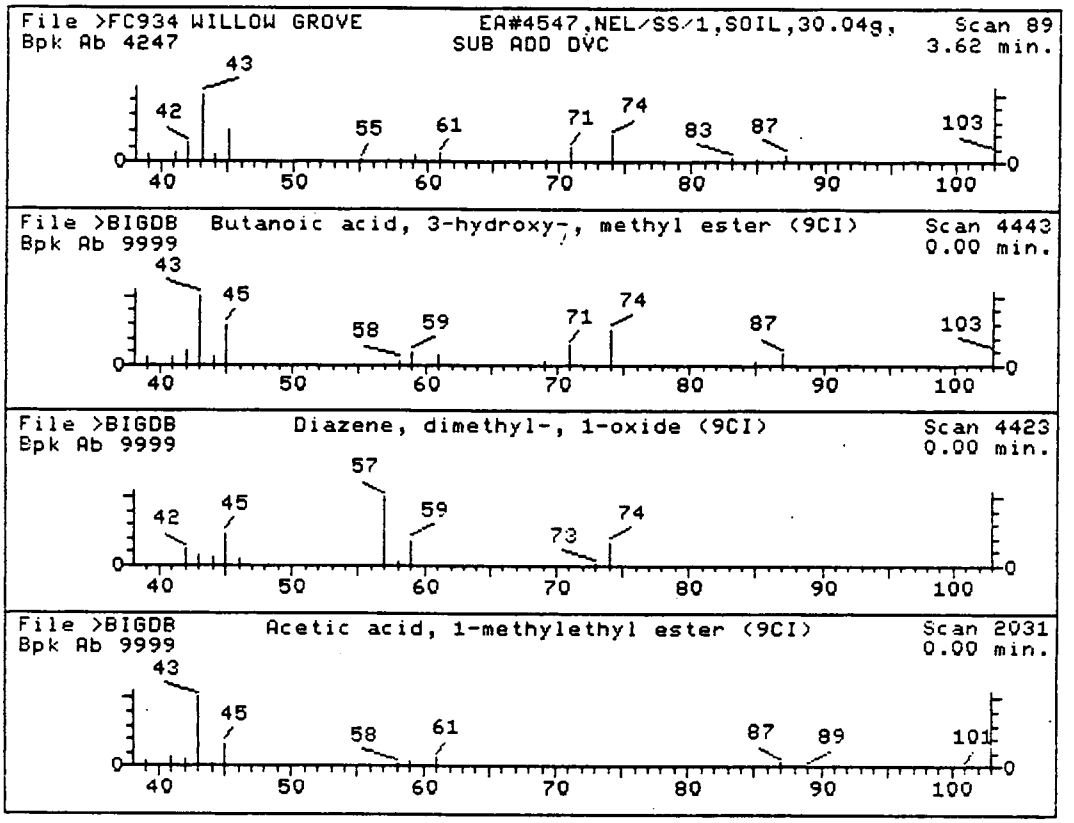
Retention time = 31.88

Area = 22623.00 Tentative Concentration is 630.00

1.	Octacosane (8CI9CI)	394	C28H58
2.	Heptacosane (8CI9CI)	380	C27H56
3.	Tetratetracontane (8CI9CI)	618	C44H90
4.	Pentacosane (8CI9CI)	352	C25H52
5.	Hexatriacontane (8CI9CI)	506	C36H74
6.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)ben z namine-N,N']- (9CI)	398	C21H14FeN2O3
7.	Pentatriacontane (8CI9CI)	492	C35H72

Sample file: >FC934 Spectrum #: 1647
Search speed: 2 Tilting option: S No. of ion ranges searched: 53

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79	630024	6093	"BIGDB	108	29	2	-2	76	8	48	35
2.	79	593497	6220	"BIGDB	97	56	2	0	89	10	48	31
3.	79	7098228	8906	"BIGDB	98	58	2	0	81	10	48	31
4.	76	629992	6092	"BIGDB	96	44	2	-2	76	10	45	22
5.	76	630068	6193	"BIGDB	96	66	3	0	80	10	45	21
6.	76	74764117	6168	"BIGDB	79	58	2	0	95	10	45	21
7.	74	630079	6147	"BIGDB	107	44	2	0	72	15	39	44



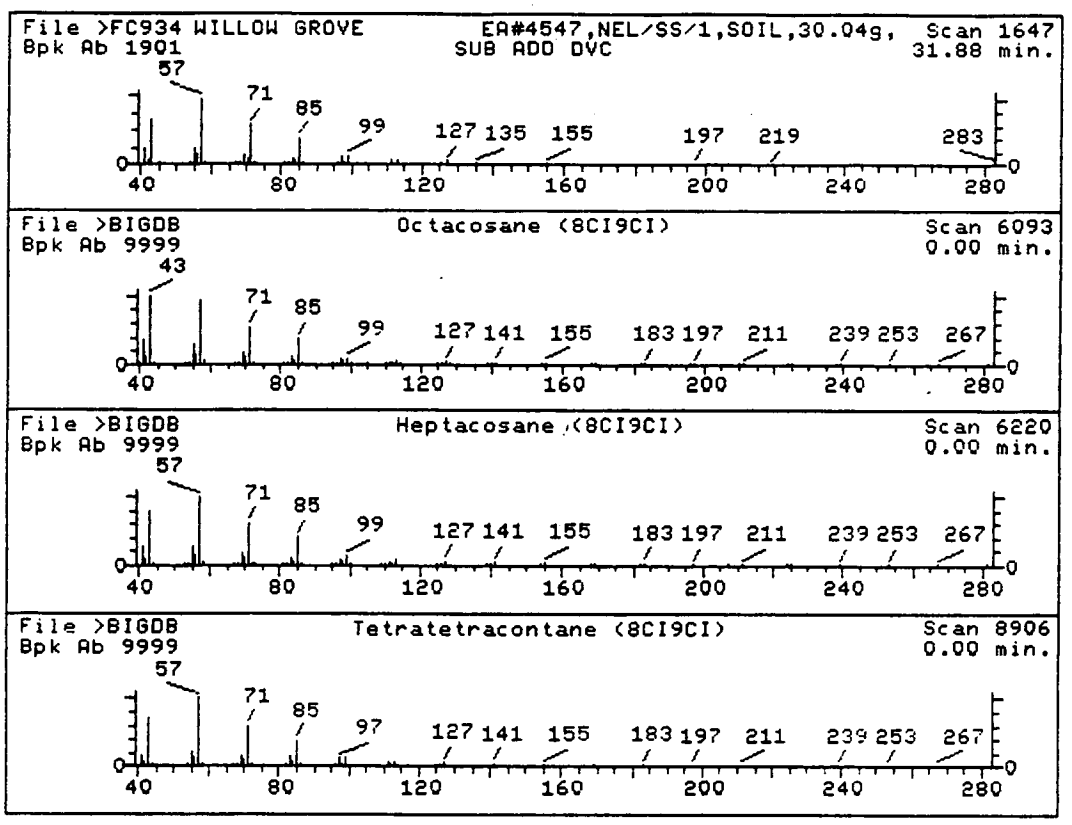
Retention time = 3.62

Area = 57550.00 Tentative Concentration is 670.00

1.	Butanoic acid, 3-hydroxy-, methyl ester (9CI)	118	C5H10O3
2.	Diazene, dimethyl-, 1-oxide (9CI)	74	C2H6N2O
3.	Acetic acid, 1-methylethyl ester (9CI)	102	C5H10O2
4.	Acetic acid, methyl ester (8CI9CI)	74	C3H6O2

Sample file: >FC934 Spectrum #: 89
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	87	1487496	4443	"BIGDB	71	40	0	0	60	3	63	48
2.	26*	25843452	4423	"BIGDB	22	72	3	0	99	40	10	12
3.	20	108214	2031	"BIGDB	44	35	1	0	99	53	5	15
4.	11*	79209	4412	"BIGDB	22	39	1	0	191	65	2	14



Retention time = 31.88

UNKNOWN ALKANE

Area = 22623.00 Tentative Concentration is 630.00

1.	Octacosane (8CI9CI)	394	C28H58
2.	Heptacosane (8CI9CI)	380	C27H56
3.	Tetratetracontane (8CI9CI)	618	C44H90
4.	Pentacosane (8CI9CI)	352	C25H52
5.	Hexatriacontane (8CI9CI)	506	C36H74
6.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
7.	Pentatriacontane (8CI9CI)	492	C35H72

Sample file: >FC934 Spectrum #: 1647
Search speed: 2 Tilting option: S No. of ion ranges searched: 53

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79	630024	6093	"BIGDB	108	29	2	-2	76	8	48	35
2.	79	593497	6220	"BIGDB	97	56	2	0	89	10	48	31
3.	79	7098228	8906	"BIGDB	98	58	2	0	81	10	48	31
4.	76	629992	6092	"BIGDB	96	44	2	-2	76	10	45	22
5.	76	630068	6193	"BIGDB	96	66	3	0	80	10	45	21
6.	76	74764117	6168	"BIGDB	79	58	2	0	95	10	45	21
7.	74	630079	6147	"BIGDB	107	44	2	0	72	15	39	44

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4548
SAMPLE: NEL/SS/2
GC/MS FILE: >FC935::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 17:20
SAMPLE--->EXTRACT:	30.09g-->1mL (1/2 Dil)

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	1400.	ND
111-44-4	bis(2-Chloroethyl)ether	1400.	ND
95-57-8	2-Chlorophenol	1400.	ND
541-73-1	1,3-Dichlorobenzene	1400.	ND
106-46-7	1,4-Dichlorobenzene	1400.	ND
100-51-6	Benzyl Alcohol	1400.	ND
95-50-1	1,2-Dichlorobenzene	1400.	ND
95-48-7	2-Methylphenol	1400.	ND
39638-32-9	bis(2-chloroisopropyl)ether	1400.	ND
106-44-5	4-Methylphenol	1400.	ND
621-64-7	N-Nitroso-Di-n-propylamine	1400.	ND
67-72-1	Hexachloroethane	1400.	ND
98-95-3	Nitrobenzene	1400.	ND
78-59-1	Isophorone	1400.	ND
88-75-5	2-Nitrophenol	1400.	ND
105-67-9	2,4-Dimethylphenol	1400.	ND
65-85-0	Benzoic Acid	7200.	ND
111-91-1	bis(2-Chloroethoxy)methane	1400.	ND
120-83-2	2,4-Dichlorophenol	1400.	ND
120-82-1	1,2,4-Trichlorobenzene	1400.	ND
91-20-3	Naphthalene	1400.	ND
106-47-8	4-Chloroaniline	1400.	ND
87-68-3	Hexachlorobutadiene	1400.	ND
59-50-7	4-Chloro-3-methylphenol	1400.	ND
91-57-6	2-Methylnaphthalene	1400.	ND
77-47-4	Hexachlorocyclopentadiene	1400.	ND
88-06-2	2,4,6-Trichlorophenol	1400.	ND
95-95-4	2,4,5-Trichlorophenol	7200.	ND
91-58-7	2-Chloronaphthalene	1400.	ND
88-74-4	2-Nitroaniline	7200.	ND
131-11-3	Dimethylphthalate	1400.	ND
208-96-8	Acenaphthylene	1400.	ND
99-09-2	3-Nitroaniline	7200.	ND
83-32-9	Acenaphthene	1400.	ND
51-28-5	2,4-Dinitrophenol	7200.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4548
SAMPLE: NEL/SS/2
GC/MS FILE: >FC935::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 17:20
SAMPLE--->EXTRACT:	30.09g-->1mL (1/2 Dil)

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	7200.	ND
132-64-9	Dibenzofuran	1400.	ND
121-14-2	2,4-Dinitrotoluene	1400.	ND
606-20-2	2,6-Dinitrotoluene	1400.	ND
84-66-2	Diethylphthalate	1400.	ND
7005-72-3	4-Chlorophenyl-phenylether	1400.	ND
86-73-7	Fluorene	1400.	ND
100-01-6	4-Nitroaniline	7200.	ND
534-52-1	4,6-Dinitro-2-methylphenol	7200.	ND
86-30-6	N-Nitrosodiphenylamine	1400.	ND
101-55-3	4-Bromophenyl-phenylether	1400.	ND
118-74-1	Hexachlorobenzene	1400.	ND
87-86-5	Pentachlorophenol	7200.	ND
85-01-8	Phenanthrene	1400.	ND
120-12-7	Anthracene	1400.	ND
84-74-2	Di-n-Butyl phthalate	120.	TR
206-44-0	Fluoranthene	91.	TR
129-00-0	Pyrene	110.	TR
85-68-7	Butylbenzylphthalate	1400.	ND
91-94-1	3,3'-Dichlorobenzidine	2900.	ND
56-55-3	Benzo(a)Anthracene	1400.	ND
117-81-7	bis(2-Ethylhexyl)phthalate	180.	TR
218-01-9	Chrysene	1400.	ND
117-84-0	Di-n-Octyl phthalate	1400.	ND
205-99-2	Benzo(b)Fluoranthene	1400.	ND
207-08-9	Benzo(k)Fluoranthene	1400.	ND
50-32-8	Benzo(a)Pyrene	1400.	ND
193-39-5	Indeno(1,2,3-cd)Pyrene	1400.	ND
53-70-3	Dibenzo(a,h)Anthracene	1400.	ND
191-24-2	Benzo(g,h,i)Perylene	1400.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NEL SS 2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: EA #4548

Sample wt/vol: 30.09 (g/mL) g Lab File ID: ZFC935

Level: (low/med) LOW Date Received: 09/25/89

% Moisture: not dec. 53.9 dec. _____ Date Extracted: 09/26/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/02/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1/2

Number TICs found: 12

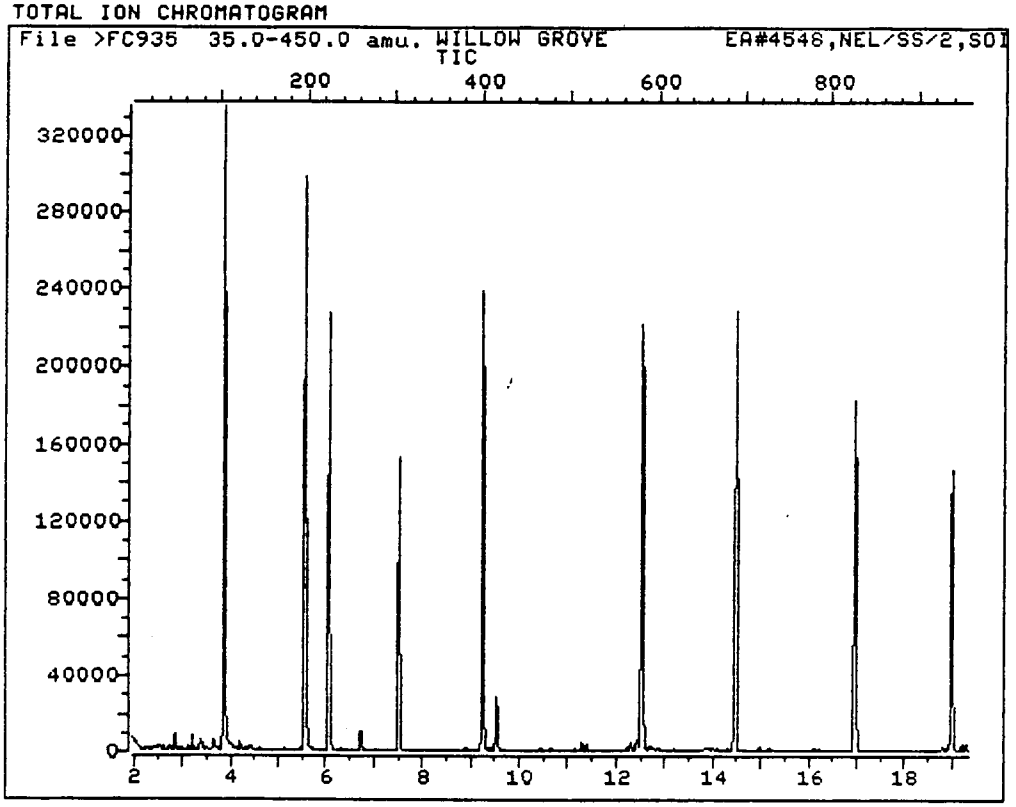
CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	UNKNOWN CMPD.	9.54	650	J
2.	57103	HEXADECANOIC ACID	21.09	6200	J
3.	2091294	9-HEXADECENOIC ACID	23.39	3800	J
4.	—	UNKNOWN CMPD.	23.53	700	J
5.	4074042 7UP	~~HENTETRACONTANOL~~ UNK.	27.63	3000	J
6.	—	UNKNOWN CMPD.	28.68	630	J
7.	630068	HEXATRICONTANE	29.03	710	J
8.	—	UNIDENTIFIABLE ALKANE	29.44	1500	J
9.	—	UNIDENTIFIABLE ALDEHYDE	30.10	640	J
10.	—	UNIDENTIFIABLE ALKANE	30.51	1300	J
11.	—	UNIDENTIFIABLE ~~ALKANE~~ Carb	31.88	2700	J
12.	630079	PENTATRIACONTANE	33.30	660	J
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



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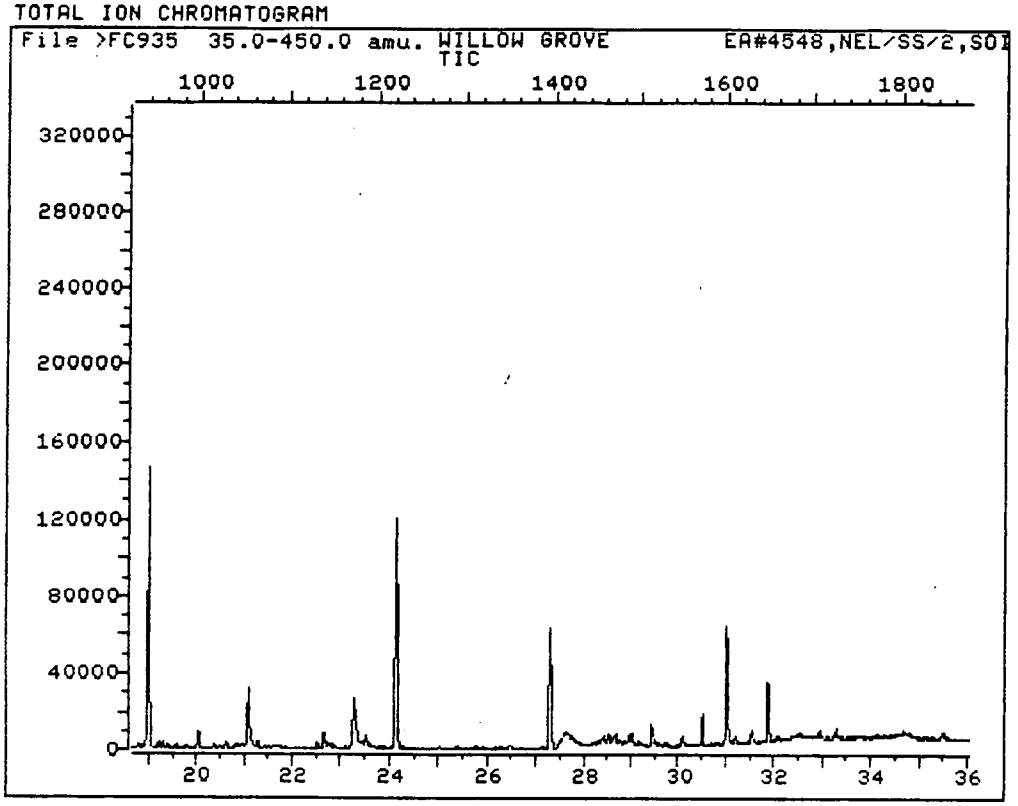
Name: WILLOW GROVE
Misc: EA#4548,NEL/SS/2,SOIL,30.09g,1mL, (1/2 DIL) BTL# 3

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 17:59
Injected at: 891002 17:20

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC935::D4 Quant Output File: ^FC935::QT
Name: WILLOW GROVE
Misc: EA#4548,NEL/SS/2,SOIL,30.09g,1mL, (1/2 DIL) BTL# 3

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 17:59
Injected at: 891002 17:20

TIC page 2 of 2

QUANT REPORT

Operator ID: JUANEAU Quant Rev: 6 Quant Tim : 891002 17:59
Output File: ^FC935::QT Inject d at: 891002 17:20
Data File: >FC935::D4 Dilution Factor: 2.00000
Name: WILLOW GROVE
Misc: EA#4548,NEL/SS/2,SOIL,30.09g,1mL, (1/2 DIL) BTL# 3

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.06	152.0	66424	40.00	NG		98
2)	2-Fluorophenol	3.86	112.0	133051	144.55	NG	72%	88
3)	Phenol-d5	5.55	99.0	207157	190.27	NG	95%	93
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG		
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.25	136.0	254281	40.00	NG		89
17)	Nitrobenzene-d5	7.51	82.0	98101	89.04	NG	89%	95
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	B nzoic Acid	8.88	122.0	745	~~1.71~~	~~NG~~	ND	94
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.47	164.0	122119	40.00	NG		97
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.53	172.0	178415	99.02	NG	99%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.49	163.0	41173	~~19.80~~	NG		54
39)	Acenaphthylene	0.00	152.0	0	0.00	NG		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	0.00	153.0	0	0.00	NG		
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

QUANT REPORT
page 2

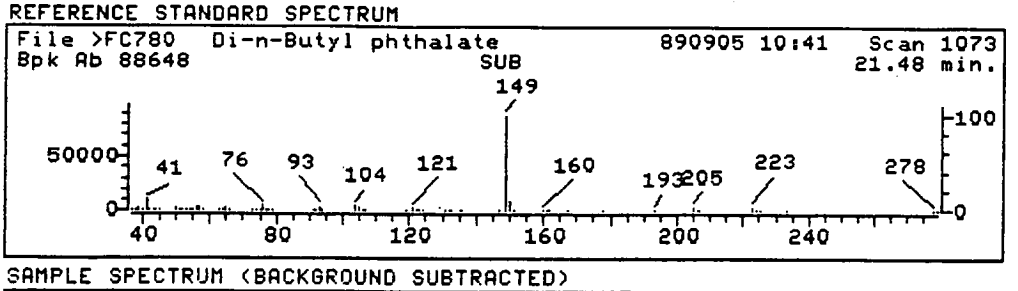
Output File:^FC935::

Data File:>FC935::D4

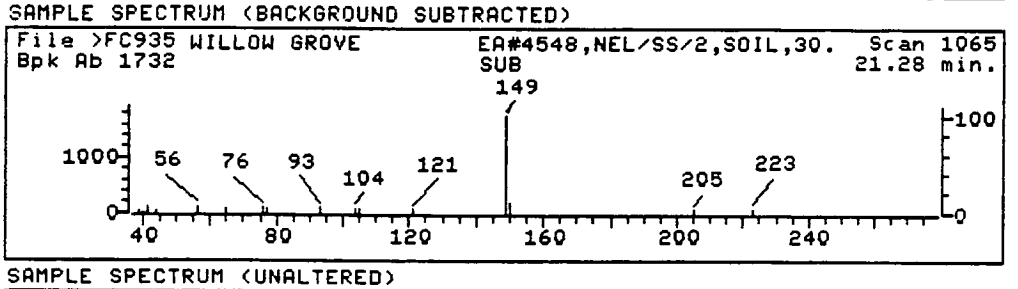
	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	16.25	149.0	1327	~~.66~~	NG	88
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	19.01	188.0	147184	40.00	NG	97
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.98	329.9	64302	247.51	NG	124% X96
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	19.06	178.0	1174	~~.71~~	NG	98
59)	Anthracene	19.06	178.0	1174	~~.79~~	NG	98
60)	Di-n-Butyl phthalate	21.28	149.0	4226	1.65	NG	98
61)	Fluoranthene	22.78	202.0	1826	1.26	NG	98
62)	*d12-Chrysene	27.30	240.0	57447	40.00	NG	96
63)	Pyrene	23.45	202.0	1609	1.59	NG	97
64)	Terphenyl-d14	24.14	244.0	112123	146.46	NG	146% X88
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	27.77	149.0	1868	2.54	NG	96
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	31.02	264.0	56788	40.00	NG	93
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD

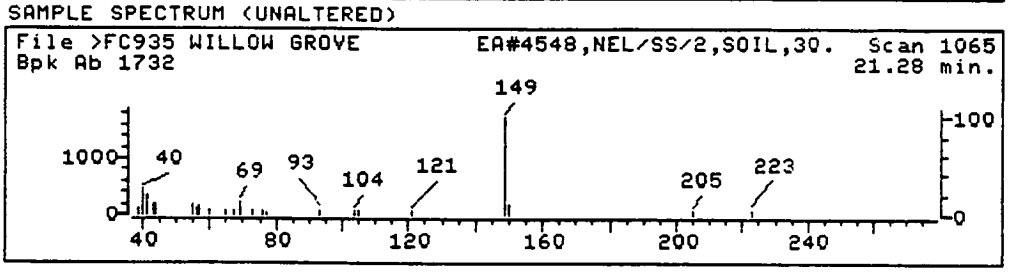
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



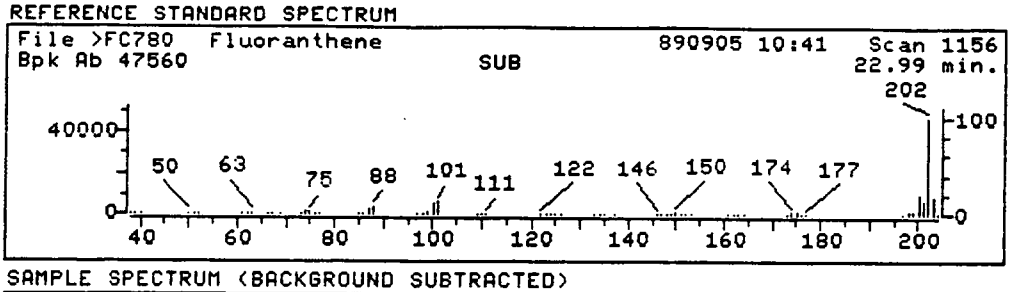
SAMPLE SPECTRUM (UNALTERED)



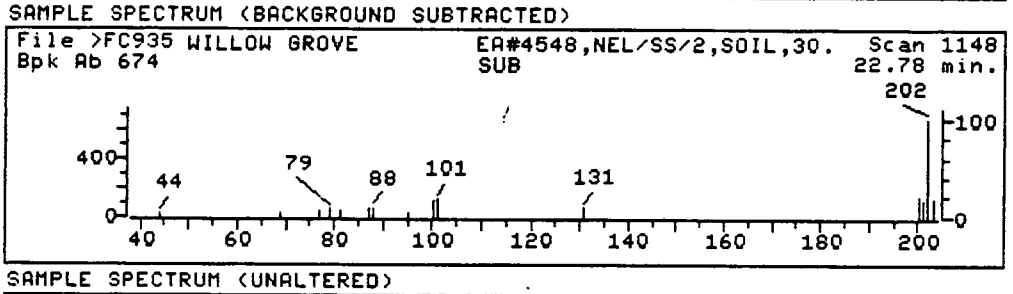
Data File: >FC935::D4 Quant Output File: ^FC935::QT
Name: WILLOW GROVE
Misc: EA#4548,NEL/SS/2,SOIL,30.09g,1mL, (1/2 DIL) BTL# 3
Quant Time: 891002 17:59 Quant ID File: IDFCLP::BD
Injected at: 891002 17:20 Last Calibration: 891002 15:39

Compound No: 60
Compound Name: Di-n-Butyl phthalate
Scan Number: 1065
Retention Time: 21.28 min.
Quant Ion: 149.0
Area: 4226
Concentration: 1.65 NG
q-value: 98

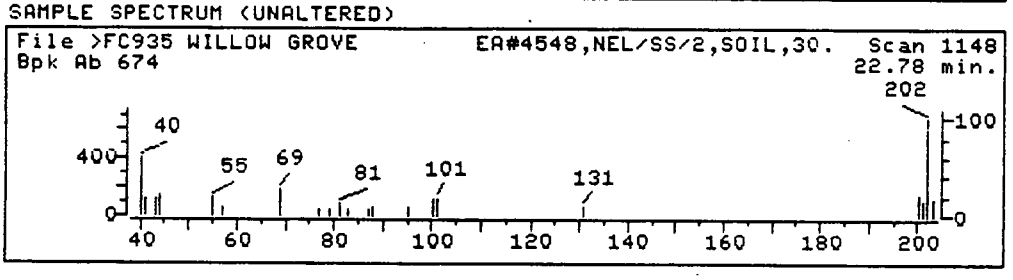
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



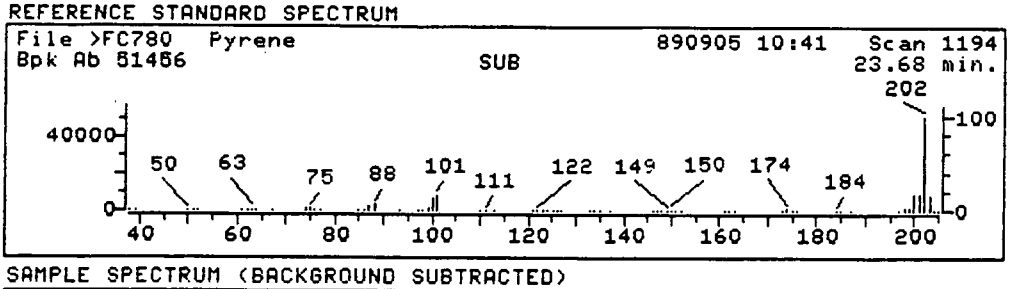
SAMPLE SPECTRUM (UNALTERED)



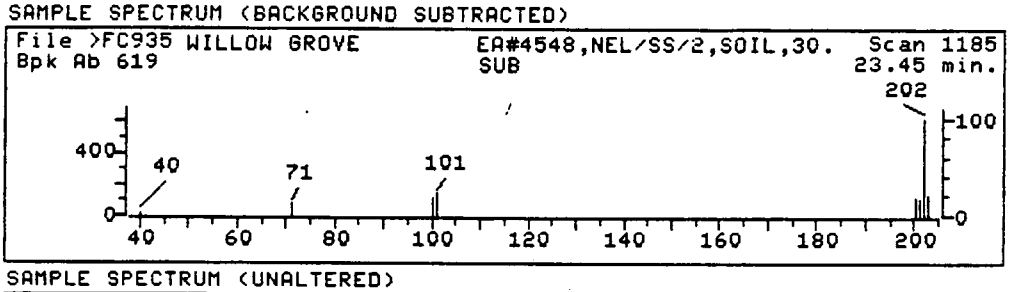
Data File: >FC935::D4 Quant Output File: ^FC935::QT
Name: WILLOW GROVE
Misc: EA#4548,NEL/SS/2,SOIL,30.09g,1mL, (1/2 DIL) BTL# 3
Quant Time: 891002 17:59 Quant ID File: IDFCLP::BD
Injected at: 891002 17:20 Last Calibration: 891002 15:39

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1148
Retention Time: 22.78 min.
Quant Ion: 202.0
Area: 1826
Concentration: 1.26 NG
q-value: 98

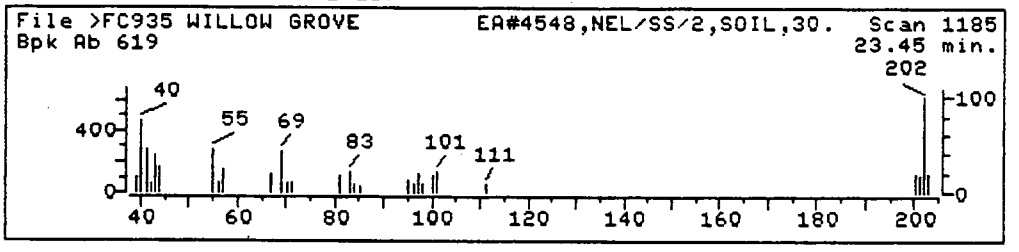
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



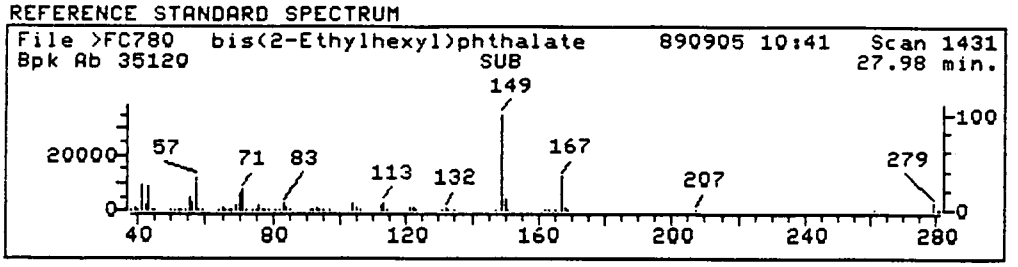
SAMPLE SPECTRUM (UNALTERED)



Data File: >FC935::D4 Quant Output File: ^FC935::QT
Name: WILLOW GROVE
Misc: EA#4548,NEL/SS/2,SOIL,30.09g,1mL, (1/2 DIL) BTL# 3
Quant Time: 891002 17:59 Quant ID File: IDFCLP::BD
Injected at: 891002 17:20 Last Calibration: 891002 15:39

Compound No: 63
Compound Name: Pyrene
Scan Number: 1185
Retention Time: 23.45 min.
Quant Ion: 202.0
Area: 1609
Concentration: 1.59 NG
q-value: 97

REFERENCE STANDARD SPECTRUM



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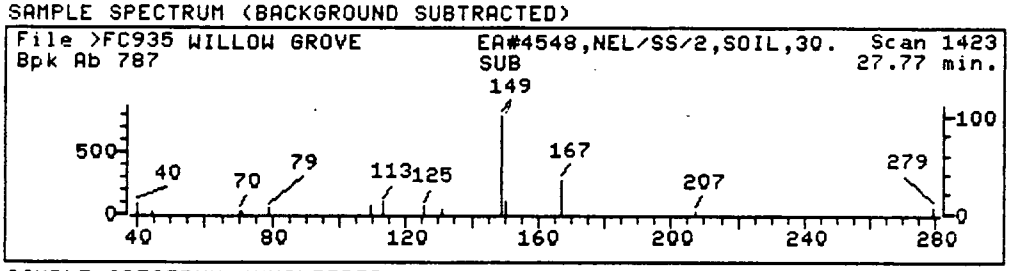
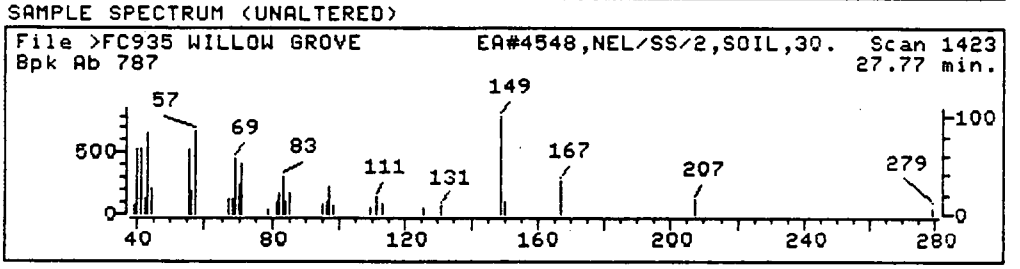
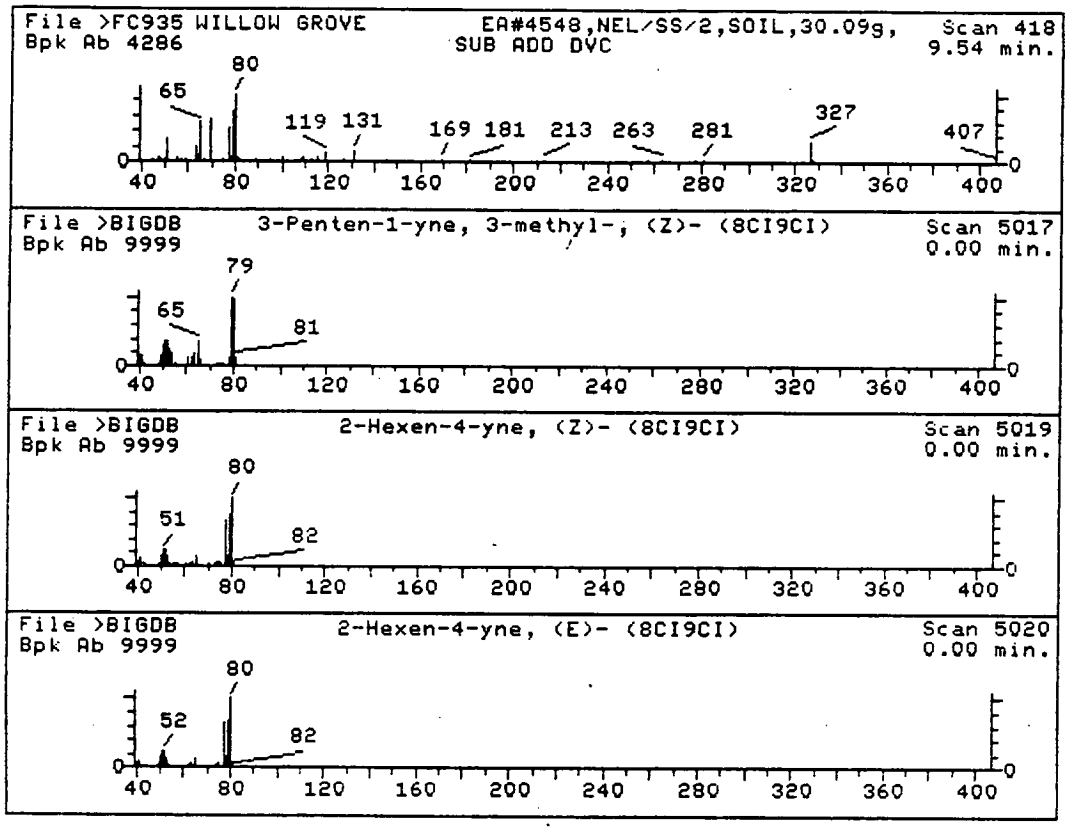


SAMPLE SPECTRUM (UNALTERED)



Data File: >FC935::D4 Quant Output File: ^FC935::QT
Name: WILLOW GROVE
Misc: EA#4548,NEL/SS/2,SOIL,30.09g,1mL, (1/2 DIL) BTL# 3
Quant Time: 891002 17:59 Quant ID File: IDFCLP::BD
Injected at: 891002 17:20 Last Calibration: 891002 15:39

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1423
Retention Time: 27.77 min.
Quant Ion: 149.0
Area: 1868
Concentration: 2.54 NG
q-value: 96



Retention time = 9.54

UNKNOWN CMPD.

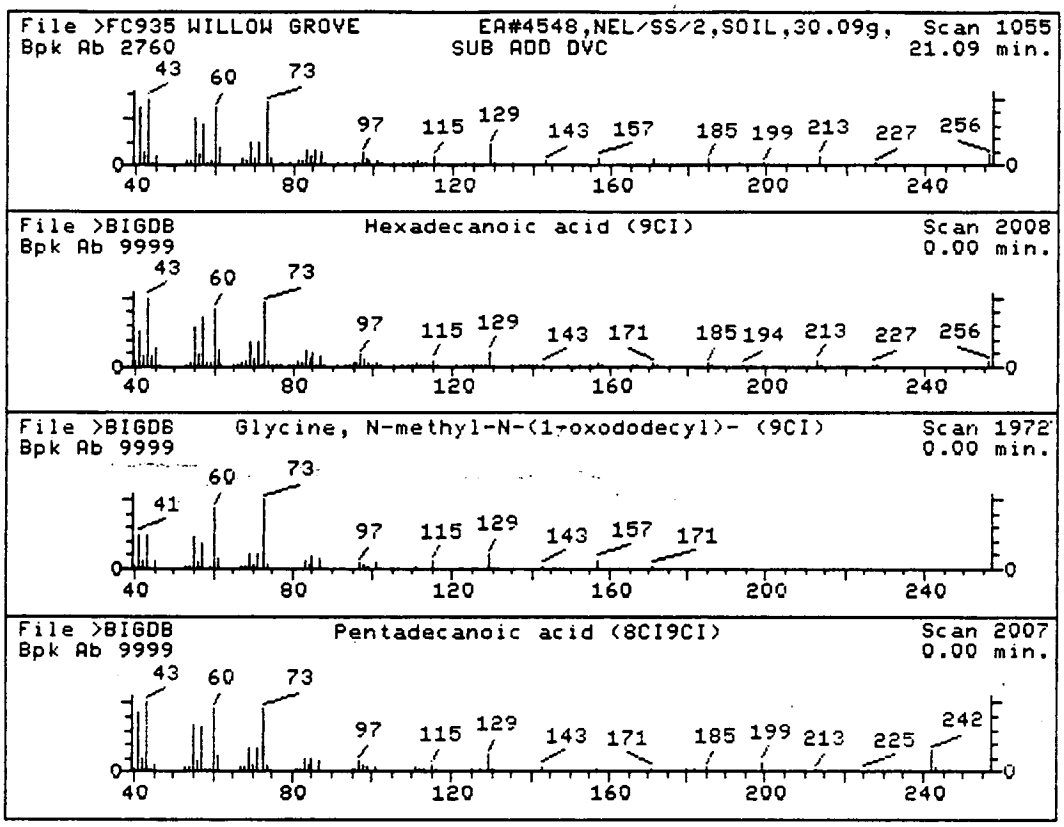
Area = 63772.00 Tentative Concentration is 650.00

1.	3-Penten-1-yne, 3-methyl-, (Z)- (8CI9CI)	80 C6H8
2.	2-Hexen-4-yne, (Z)- (8CI9CI)	80 C6H8
3.	2-Hexen-4-yne, (E)- (8CI9CI)	80 C6H8
4.	1,3,5-Hexatriene, (E)- (8CI9CI)	80 C6H8
5.	1,3-Cyclohexadiene (8CI9CI)	80 C6H8
6.	1,3,5-Hexatriene, (Z)- (8CI9CI)	80 C6H8
7.	Bicyclo[2.2.1]hept-2-ene, 1-methyl- (9CI)	108 C8H12

Sample file: >FC935 Spectrum #: 418
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	42*	14272812	5017	"BIGDB	41	82	3	0	75	25	17	13
2.	37*	30626483	5019	"BIGDB	25	85	2	0	99	29	14	14

3.	37*	33625966	5020	"BIGDB	24	85	2	0	100	29	14	14
4.	36*	821078	5012	"BIGDB	32	78	3	0	100	29	14	13
5.	25*	592574	5008	"BIGDB	23	70	3	0	75	48	7	12
6.	25*	2612466	5002	"BIGDB	23	70	2	0	75	48	7	13
7.	15*	822731	5029	"BIGDB	26	62	2	0	100	56	3	14



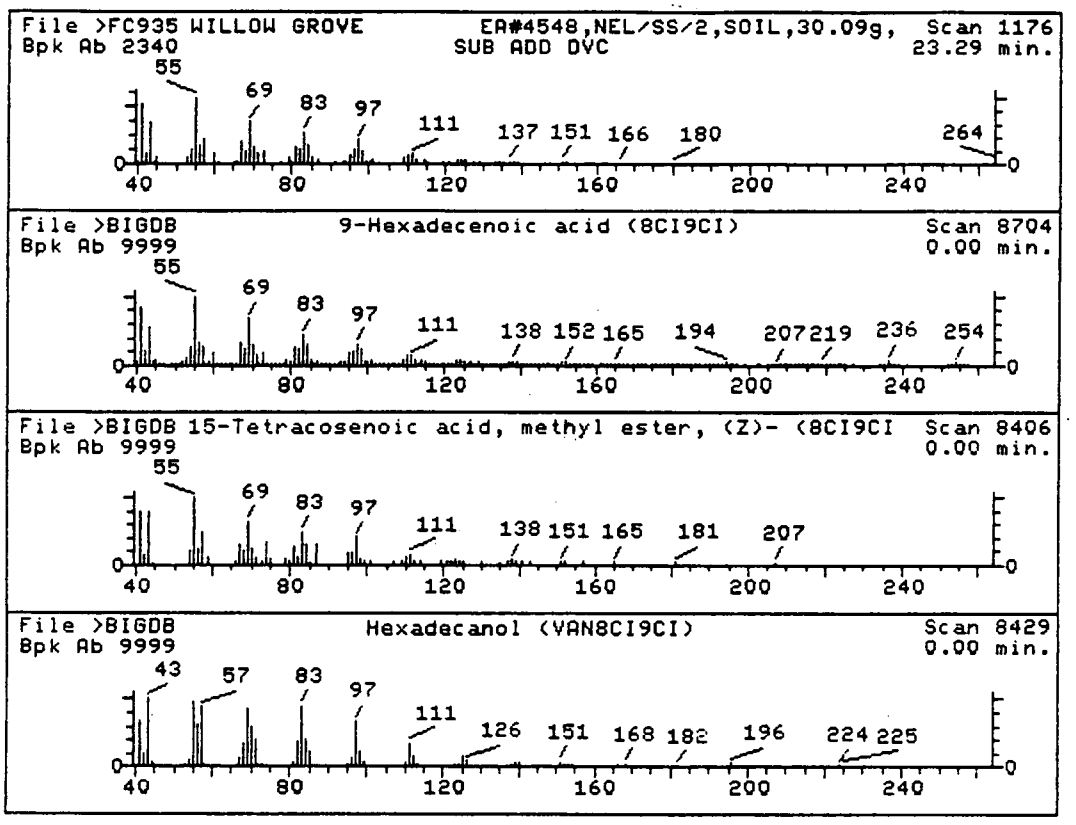
Retention time = 21.09

Area = 86495.00 Tentative Concentration is 1200.00

1.	Hexadecanoic acid (9CI)	256	C16H32O2
2.	Glycine, N-methyl-N-(1-oxododecyl)- (9CI)	271	C15H29NO3
3.	Pentadecanoic acid (8CI9CI)	242	C15H30O2
4.	Tetradecanoic acid (9CI)	228	C14H28O2
5.	Heptanoic acid (8CI9CI)	130	C7H14O2
6.	Dodecanoic acid (9CI)	200	C12H24O2
7.	Dodecanamide, N,N-bis(2-hydroxyethyl)- (8CI9CI)	287	C16H33NO3

Sample file: >FC935 Spectrum #: 1055
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	95*	57103	2008	"BIGDB	109	42	1	0	99	18	60	96
2.	63	97789	1972	"BIGDB	71	79	0	0	87	34	22	48
3.	59	1002842	2007	"BIGDB	96	54	2	0	93	21	27	30
4.	56	544638	2005	"BIGDB	102	44	2	0	93	27	24	36
5.	52*	111148	1881	"BIGDB	41	56	0	0	68	39	19	43
6.	45	143077	1997	"BIGDB	84	54	2	0	84	30	19	23
7.	34	120401	1984	"BIGDB	85	68	0	2	88	52	10	53



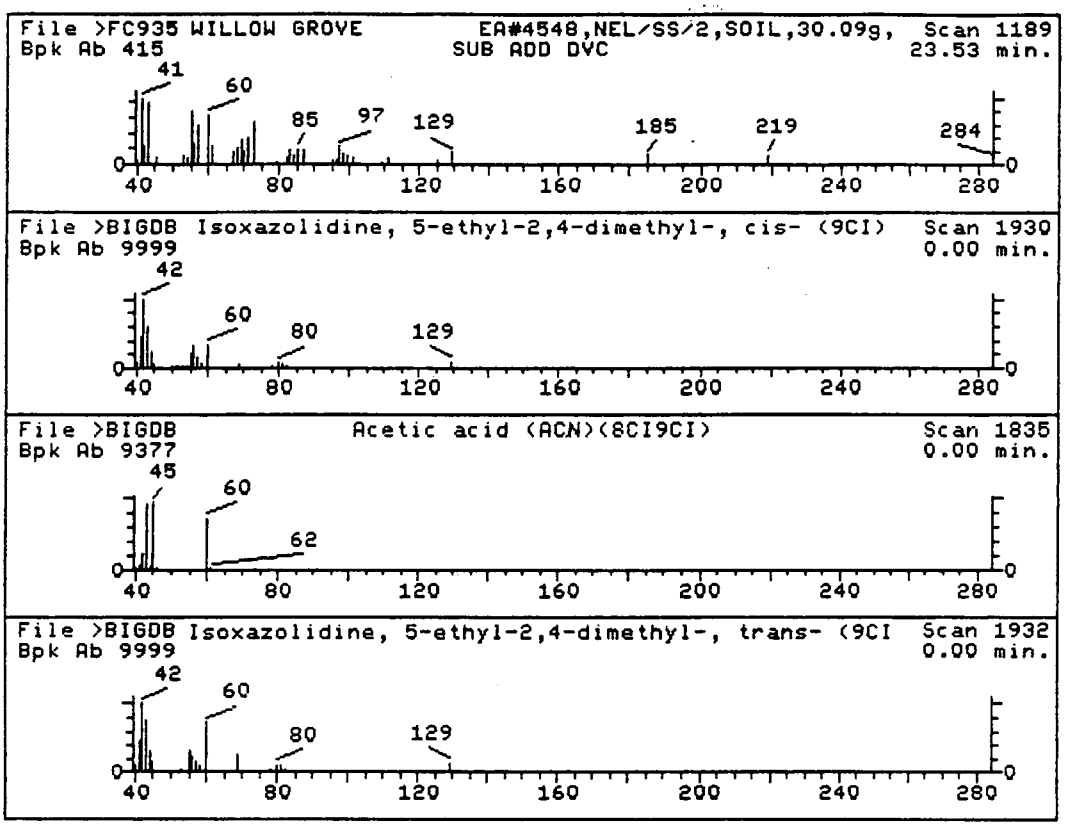
Retention time = 23.29

Area = 117166.0 Tentative Concentration is 3800.00

1.	9-Hexadecenoic acid (8CI9CI)	254	C16H30O2
2.	15-Tetracosenoic acid, methyl ester, (Z)- (8CI9CI)	380	C25H48O2
3.	Hexadecanol (VAN8CI9CI)	242	C16H34O
4.	Cyclohexadecane (8CI9CI)	224	C16H32
5.	1-Octadecanol (8CI9CI)	270	C18H38O
6.	1-Hexadecanol (9CI)	242	C16H34O
7.	1-Pentadecanol (8CI9CI)	228	C15H32O

Sample file: >FC935 Spectrum #: 1176
Search speed: 2 Tilting option: S No. of ion ranges searched: 68

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	86	2091294	8704	"BIGDB	110	47	0	0	72	8	59	77
2.	71	2733882	8406	"BIGDB	120	59	2	0	85	27	29	60
3.	71	29354981	8429	"BIGDB	94	53	0	0	42	30	29	67
4.	69	295658	8442	"BIGDB	85	52	0	0	49	33	26	61
5.	69	112925	8461	"BIGDB	88	62	0	0	37	33	26	65
6.	67	36653824	8447	"BIGDB	79	62	0	0	45	30	27	59
7.	67	629765	8410	"BIGDB	74	70	0	0	39	30	27	53



UNKNOWN CMPD.

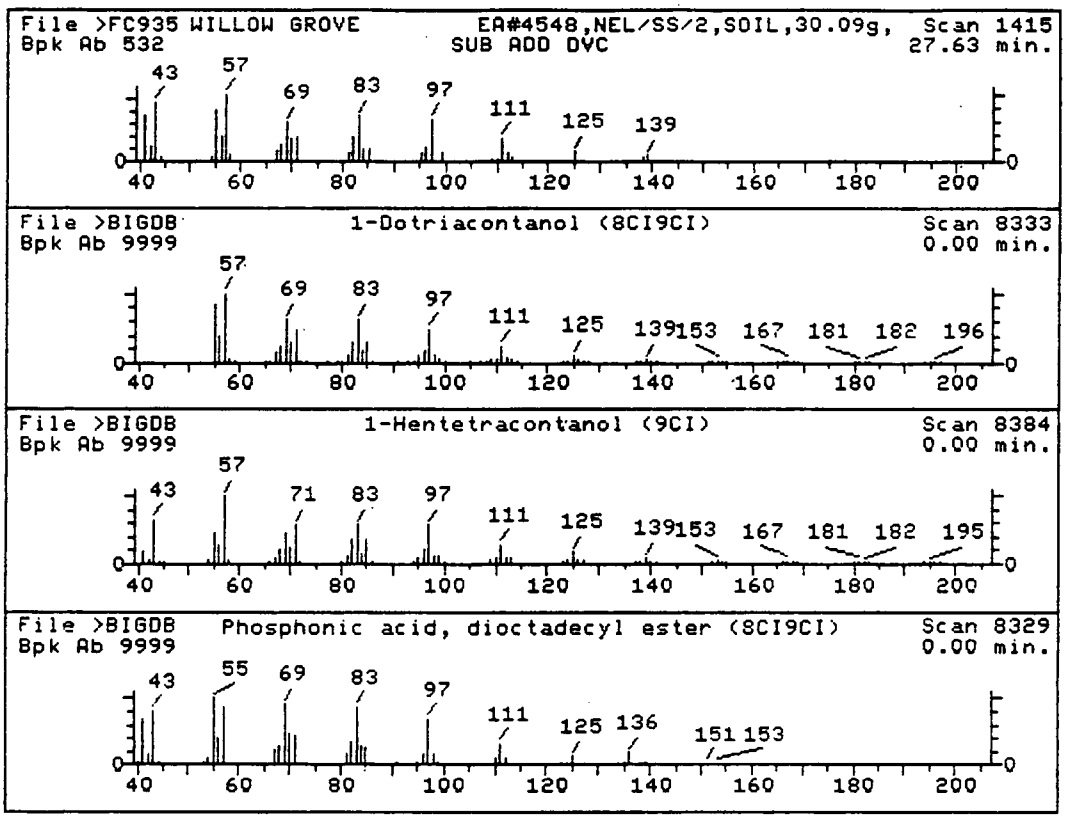
Retention time = 23.53

Area = 21469.00 Tentative Concentration is 700.00

1. Isoxazolidine, 5-ethyl-2,4-dimethyl-, cis- (9CI) 129 C7H15NO
2. Acetic acid (ACN)(8CI9CI) 60 C2H4O2
3. Isoxazolidine, 5-ethyl-2,4-dimethyl-, trans- (9CI) 129 C7H15NO
4. Isoxazolidine, 4-ethyl-2,5-dimethyl-, trans- (9CI) 129 C7H15NO

Sample file: >FC935 Spectrum #: 1189
S arch speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	15*	56701021	1930	"BIGDB	31	64	3	0	154	60	3	13
2.	15*	64197	1835	"BIGDB	23	56	2	0	92	59	3	13
3.	15*	56728144	1932	"BIGDB	30	74	3	0	104	60	3	13
4.	15*	56728133	1931	"BIGDB	22	84	3	0	124	60	3	12



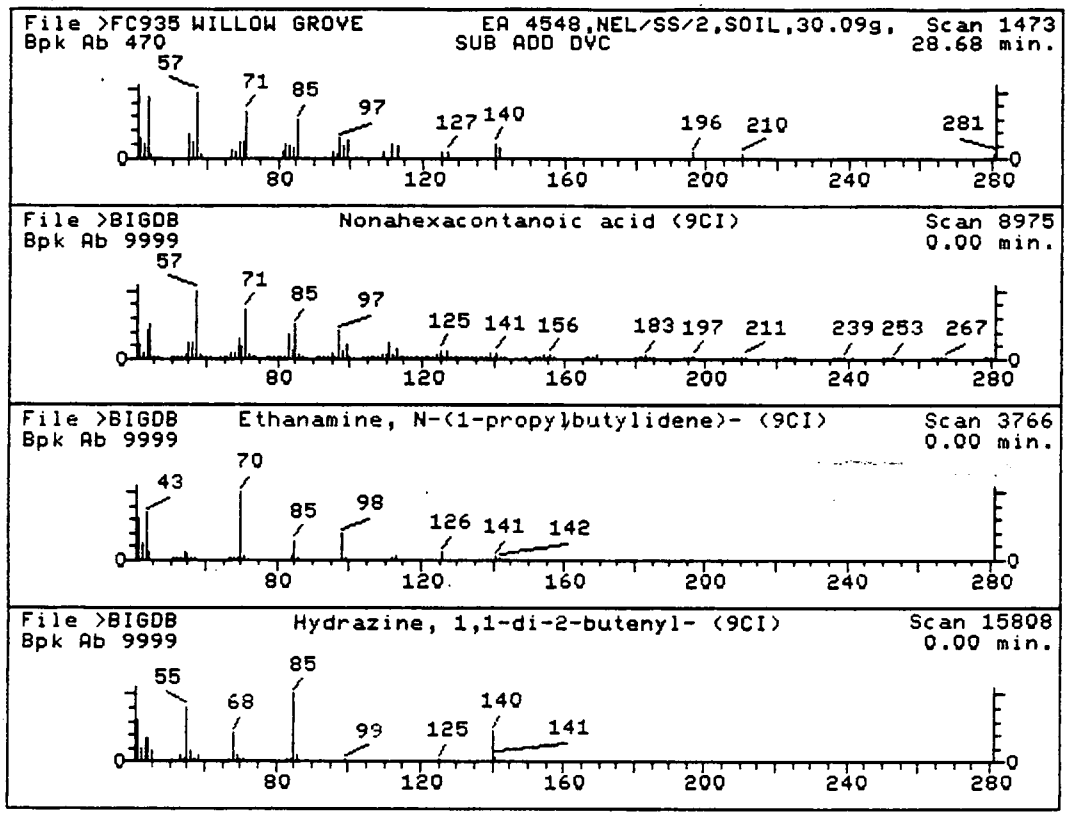
Retention time = 27.63

Area = 93063.00 Tentative Concentration is 3000.00

1.	1-Dotriacontanol (8CI9CI)	466	C32H66O
2.	1-Hentetracontanol (9CI)	592	C41H84O
3.	Phosphonic acid, dioctadecyl ester (8CI9CI)	586	C36H75O3P
4.	17-Pentatriacontene (8CI)	490	C35H70
5.	1-Pentadecanol (8CI9CI)	228	C15H32O
6.	H xadecanol (VAN8CI9CI)	242	C16H34O
7.	9-Eicosene, (E)- (9CI)	280	C20H40

Sample file: >FC935 Spectrum #: 1415
Search speed: 2 Tilting option: S No. of ion ranges searched: 58

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79	6624799	8333	"BIGDB	124	57	3	-1	93	8	48	39
2.	60	40710427	8384	"BIGDB	90	105	3	0	100	13	30	18
3.	56	19047859	8329	"BIGDB	109	91	3	0	64	21	22	28
4.	52	6971400	8334	"BIGDB	73	98	3	0	121	16	20	13
5.	52	629765	8410	"BIGDB	88	75	3	0	64	18	20	17
6.	48	29354981	8429	"BIGDB	93	74	3	0	69	21	17	19
7.	44	74685293	8336	"BIGDB	83	87	3	0	71	25	17	15



Retention time = 28.68

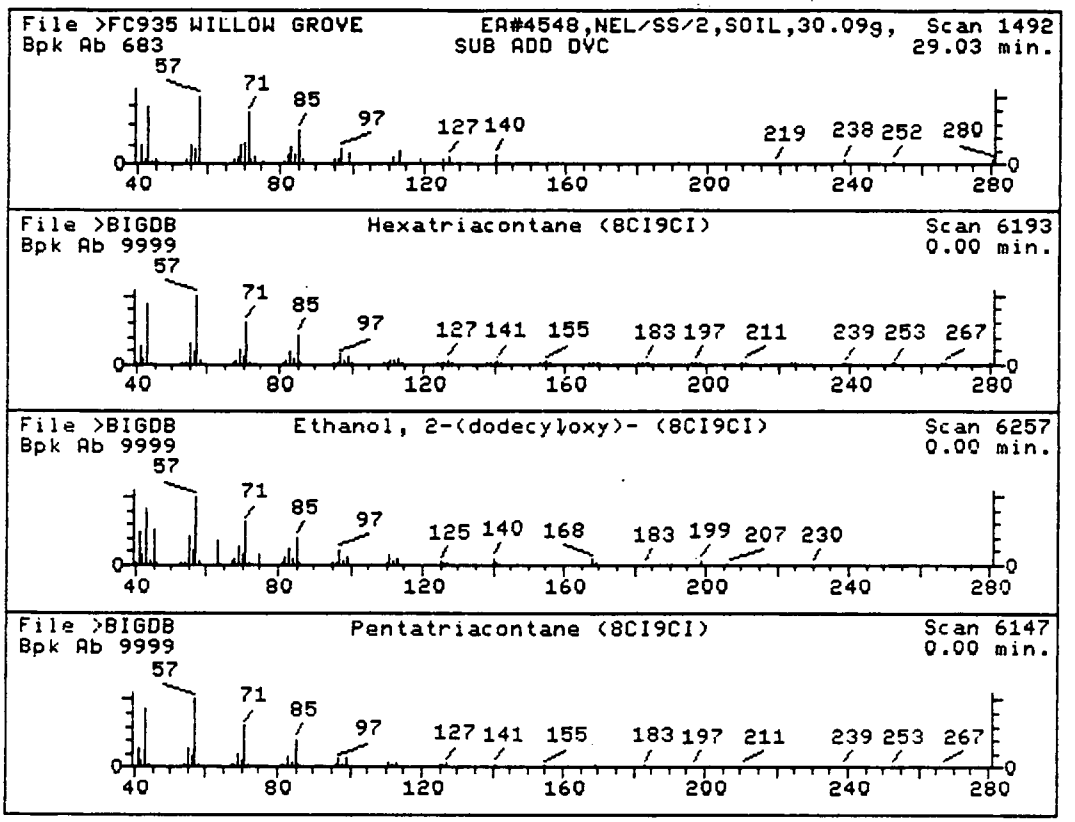
UNKNOWN CMPD.

Area = 19411.00 Tentative Concentration is 630.00

1. Nonahexacontanoic acid (9CI)	998	C69H138O2
2. Ethanamine, N-(1-propylbutylidene)- (9CI)	141	C9H19N
3. Hydrazine, 1,1-di-2-butenyl- (9CI)	140	C8H16N2
4. Tetracontane, 3,5,24-trimethyl- (9CI)	604	C43H88

Sample file: >FC935 Spectrum #: 1473
S arch speed: 2 Tilting option: S No. of ion ranges searched: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	37	40710325	8975	"BIGDB	81	120	3	0	99	27	14	14
2.	25*	10599798	3766	"BIGDB	27	72	3	0	212	48	7	13
3.	15*	36566708	15808	"BIGDB	23	71	3	0	47	56	3	12
4.	11	55162613	8814	"BIGDB	61	111	2	0	100	65	2	12



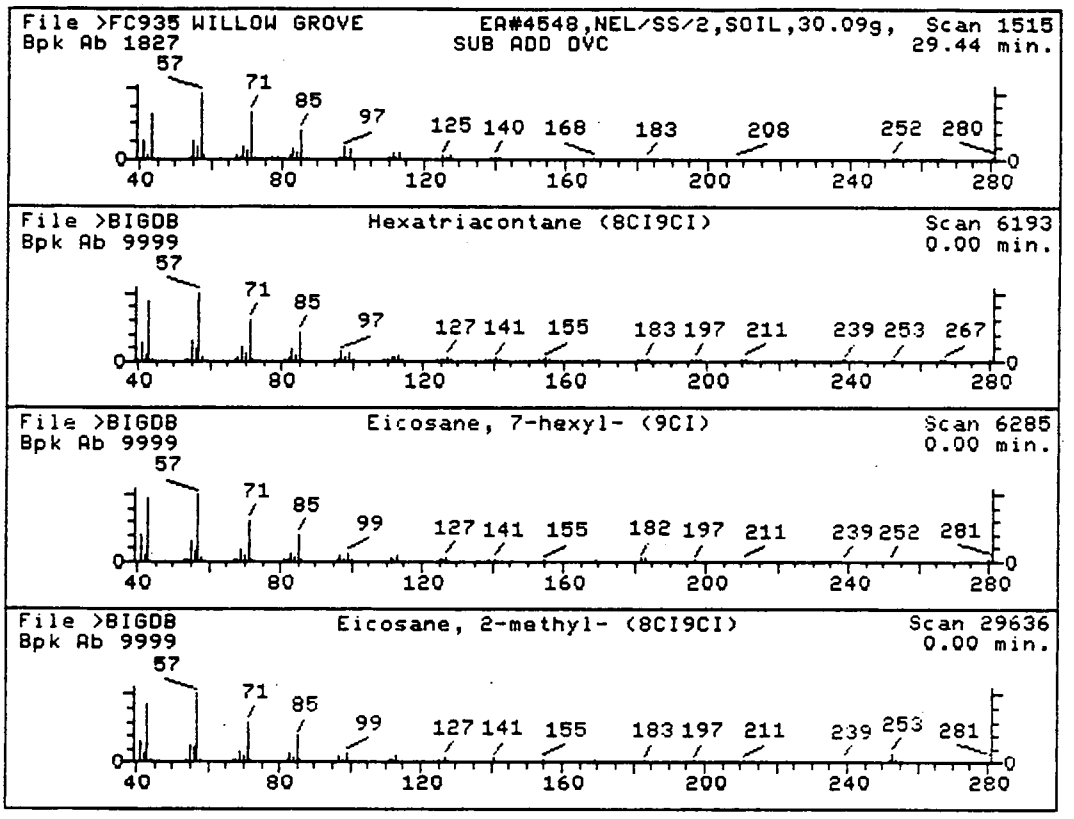
Retention time = 29.03

Area = 21715.00 Tentative Concentration is 710.00

1.	Hexatriacontane (8CI9CI)	506	C36H74
2.	Ethanol, 2-(dodecyloxy)- (8CI9CI)	230	C14H30O2
3.	Pentatriacontane (8CI9CI)	492	C35H72
4.	Dotriacontane (8CI9CI)	450	C32H66
5.	Tritetracontane (8CI9CI)	604	C43H88
6.	H xane, 3,3-dimethyl- (8CI9CI)	114	C8H18
7.	5-Octen-4-one, 7-methyl- (8CI9CI)	140	C9H16O

Sample file: >FC935 Spectrum #: 1492
Search speed: 2 Tilting option: S No. of ion ranges searched: 61

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	76	630068	6193	"BIGDB	97	65	2	-2	100	6	45	23
2.	60	4536305	6257	"BIGDB	85	51	3	0	100	15	30	16
3.	60	630079	6147	"BIGDB	84	67	2	-2	100	15	30	14
4.	52	544854	6261	"BIGDB	63	102	2	0	89	18	20	13
5.	42	7098217	6150	"BIGDB	63	105	2	0	100	22	17	13
6.	27	563166	5991	"BIGDB	44	46	2	0	142	36	10	13
7.	20*	32064781	8352	"BIGDB	23	60	3	0	165	52	5	12



UNIDENTIFIABLE ALKANE

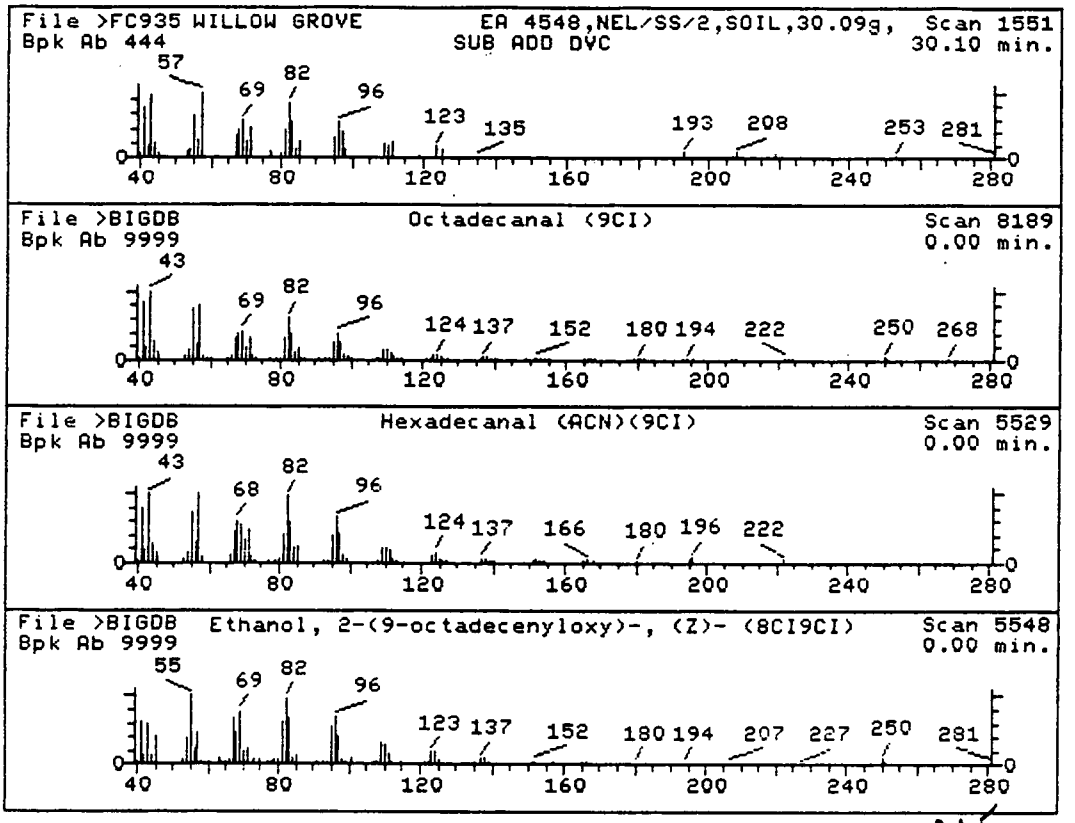
Retention time = 29.44

Area = 42993.00 Tentative Concentration is 1500.00

1.	Hexatriacontane (8CI9CI)	506	C36H74
2.	Eicosane, 7-hexyl- (9CI)	366	C26H54
3.	Eicosane, 2-methyl- (8CI9CI)	296	C21H44
4.	Eicosane, 9-octyl- (8CI)	394	C28H58
5.	Hexadecane (8CI9CI)	226	C16H34
6.	T tratetracontane (8CI9CI)	618	C44H90
7.	Nonadecane, 9-methyl- (8CI9CI)	282	C20H42

Sample file: >FC935 Spectrum #: 1515
Search speed: 2 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	76	630068	6193	"BIGDB	100	62	2	-1	81	8	45	25
2.	70	55333998	6285	"BIGDB	81	64	2	-1	75	8	42	13
3.	70	1560845	29636	"BIGDB	73	71	2	0	88	10	42	18
4.	60	13475779	32162	"BIGDB	70	82	3	0	101	14	30	12
5.	58	544763	6146	"BIGDB	91	29	2	0	87	20	25	29
6.	58	7098228	8906	"BIGDB	95	61	2	0	100	20	25	29
7.	58	13287246	15864	"BIGDB	89	56	2	0	79	18	25	26



UNIDENTIFIABLE ALDEHYDE

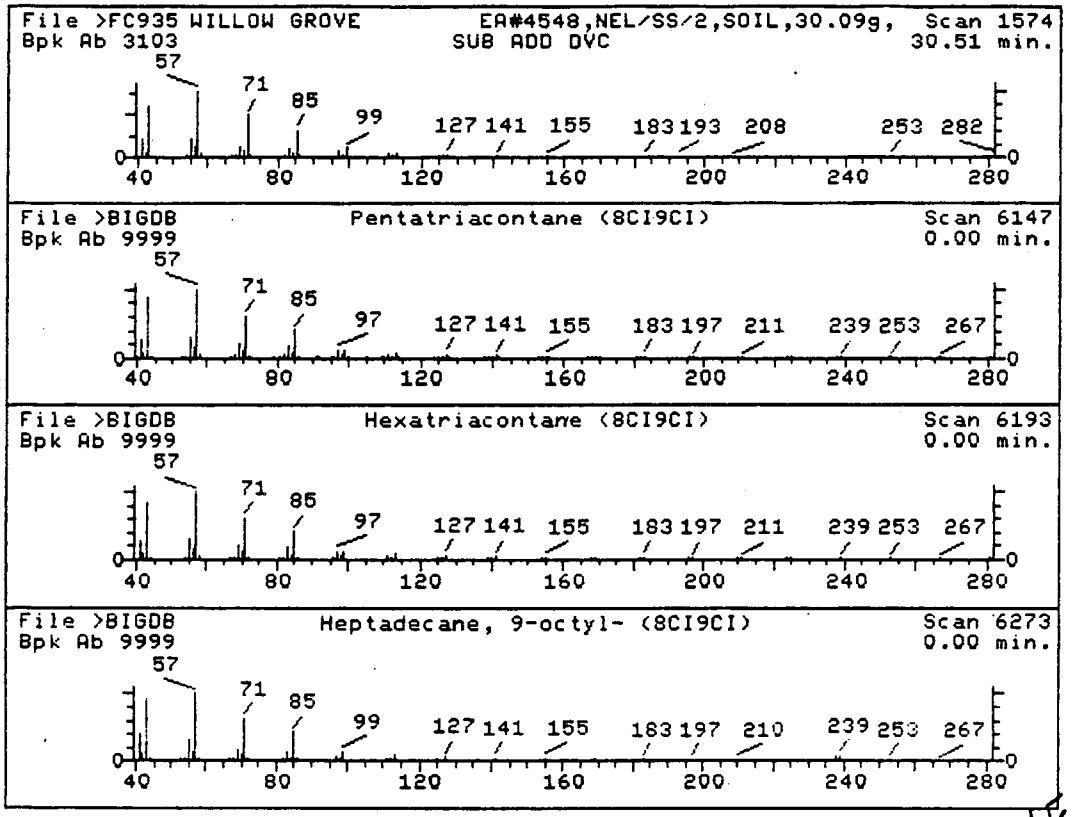
Retention time = 30.10

Area = 19020.00 Tentative Concentration is 640.00

1.	Octadecanal (9CI)	268	C18H36O
2.	Hexadecanal (ACN)(9CI)	240	C16H32O
3.	Ethanol, 2-(9-octadecenyloxy)-, (Z)- (8CI9CI)	312	C20H40O2
4.	14-Octadecenal (9CI)	266	C18H34O
5.	9-Azabicyclo[6.1.0]nonane, cis- (9CI)	125	C8H15N
6.	Cyclohexane, 1,1'-(1-methyl-1,2-ethanediyl)bis- (9CI	208	C15H28
7.	Cycloheptane, chloro- (8CI9CI)	132	C7H13Cl

Sample file: >FC935 Spectrum #: 1551
Search speed: 2 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79	638664	8189	"BIGDB	139	20	2	-2	83	15	43	60
2.	71	629801	5529	"BIGDB	122	40	3	-1	67	15	38	36
3.	60	5353253	5548	"BIGDB	88	96	3	0	65	15	30	17
4.	60	56554893	5537	"BIGDB	89	80	3	0	71	15	30	18
5.	42*	66387857	5419	"BIGDB	48	75	3	0	85	24	17	13
6.	30*	41851347	5523	"BIGDB	63	72	2	-1	53	47	10	24
7.	28	2453465	5349	"BIGDB	30	60	0	0	76	44	8	16



UNIDENTIFIABLE ALKANE

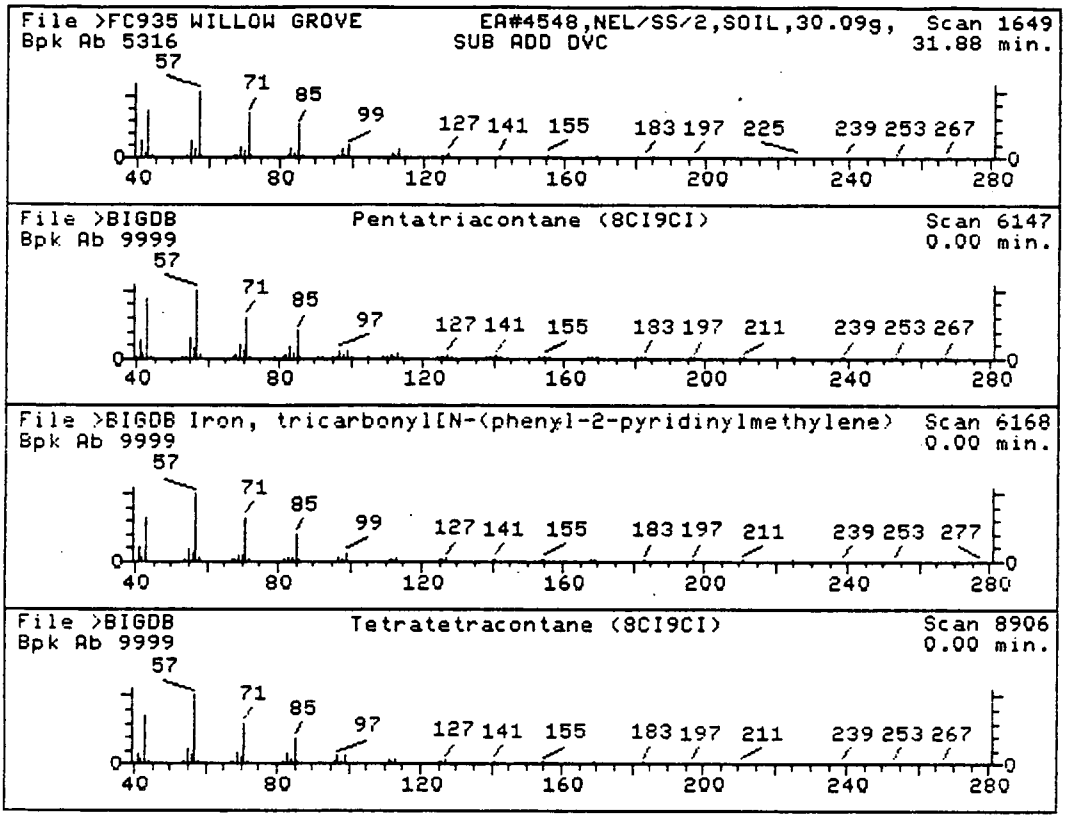
Retention time = 30.51

Area = 38006.00 Tentative Concentration is 1300.00

1.	Pentatriacontane (8CI9CI)	492	C35H72
2.	Hexatriacontane (8CI9CI)	506	C36H74
3.	Heptadecane, 9-octyl- (8CI9CI)	352	C25H52
4.	Eicosane, 7-hexyl- (9CI)	366	C26H54
5.	Eicosane (8CI9CI)	282	C20H42
6.	Nonacosane (8CI9CI)	408	C29H60
7.	Docosane (8CI9CI)	310	C22H46

Sample file: >FC935 Spectrum #: 1574
Search speed: 2 Tilting option: S No. of ion ranges searched: 51

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83	630079	6147	"BIGDB	113	38	2	0	73	6	54	52
2.	83	630068	6193	"BIGDB	94	68	2	0	66	4	57	28
3.	81	7225641	6273	"BIGDB	110	33	2	1	80	8	53	41
4.	81	55333998	6285	"BIGDB	107	38	2	0	83	6	53	44
5.	79	112958	6286	"BIGDB	105	34	1	0	74	12	43	65
6.	79	630035	8905	"BIGDB	105	40	2	-1	82	6	48	31
7.	79	629970	6221	"BIGDB	102	45	2	0	72	8	48	36



UNIDENTIFIABLE ~~ALKANE~~ COMPD.

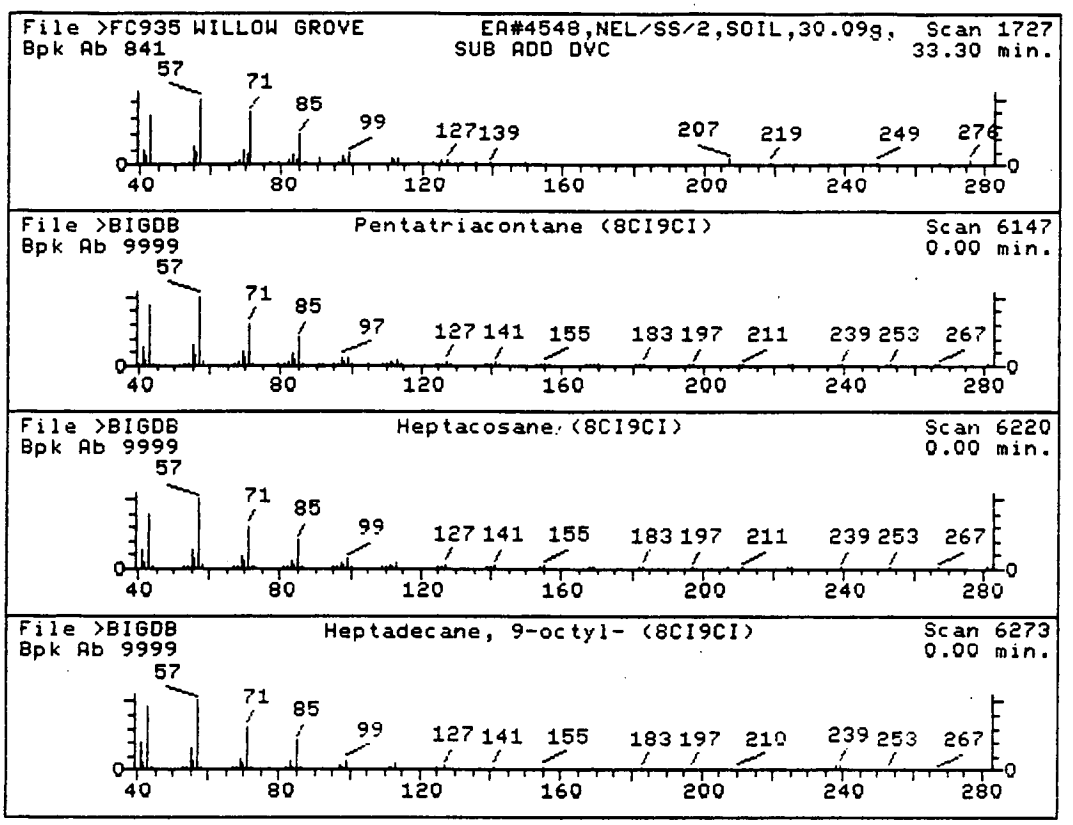
Retention time = 31.88

Area = 80094.00 Tentative Concentration is 2700.00

1.	Pentatriacontane (8CI9CI)	492	C35H72
2.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
3.	Tetratetracontane (8CI9CI)	618	C44H90
4.	Heptacosane (8CI9CI)	380	C27H56
5.	Docosane (8CI9CI)	310	C22H46
6.	Eicosane, 7-hexyl- (9CI)	366	C26H54
7.	Heptadecane (8CI9CI)	240	C17H36

Sample file: >FC935 Spectrum #: 1649
Search speed: 2 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89	630079	6147	"BIGDB	132	19	1	0	80	8	62	80
2.	84	74764117	6168	"BIGDB	120	17	2	0	100	10	55	60
3.	84	7098228	8906	"BIGDB	125	31	2	0	96	8	55	61
4.	81	593497	6220	"BIGDB	111	42	2	0	99	8	53	49
5.	76	629970	6221	"BIGDB	130	17	2	2	100	13	40	56
6.	76	55333998	6285	"BIGDB	100	45	3	0	100	10	45	23
7.	76	629787	6090	"BIGDB	88	33	2	0	100	8	45	25



R tention time = 33.30

Area = 19441.00 Tentative Concentration is 660.00

1.	Pentatriacontane (8CI9CI)	492	C35H72
2.	H ptacosane (8CI9CI)	380	C27H56
3.	Heptadecane, 9-octyl- (8CI9CI)	352	C25H52
4.	Docosane (8CI9CI)	310	C22H46
5.	Tetratriacontane (8CI9CI)	478	C34H70
6.	Eicosane, 2-methyl- (8CI9CI)	296	C21H44
7.	Eicosane, 10-methyl- (9CI)	296	C21H44

Sample file: >FC935 Spectrum #: 1727
Search speed: 2 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	67	630079	6147	"BIGDB	95	56	2	-1	90	15	34	21
2.	58	593497	6220	"BIGDB	86	67	2	0	100	17	25	24
3.	52	7225641	6273	"BIGDB	70	73	3	0	100	17	20	12
4.	52	629970	6221	"BIGDB	72	75	2	0	80	17	20	17
5.	52	14167590	6223	"BIGDB	77	86	3	0	100	17	20	14
6.	52	1560845	29636	"BIGDB	65	79	2	0	93	17	20	14
7.	52	54833237	6226	"BIGDB	89	44	2	-1	96	17	20	17

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4549
SAMPLE: AL/SS/1
GC/MS FILE: >FC936::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 18:10
SAMPLE--->EXTRACT:	30.05g-->2mL (1/10 Dil)

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	10000.	ND
111-44-4	bis(2-Chloroethyl)ether	10000.	ND
95-57-8	2-Chlorophenol	10000.	ND
541-73-1	1,3-Dichlorobenzene	10000.	ND
106-46-7	1,4-Dichlorobenzene	10000.	ND
100-51-6	Benzyl Alcohol	10000.	ND
95-50-1	1,2-Dichlorobenzene	10000.	ND
95-48-7	2-Methylphenol	10000.	ND
39638-32-9	bis(2-chloroisopropyl)ether	10000.	ND
106-44-5	4-Methylphenol	10000.	ND
621-64-7	N-Nitroso-Di-n-propylamine	10000.	ND
67-72-1	Hexachloroethane	10000.	ND
98-95-3	Nitrobenzene	10000.	ND
78-59-1	Isophorone	10000.	ND
88-75-5	2-Nitrophenol	10000.	ND
105-67-9	2,4-Dimethylphenol	10000.	ND
65-85-0	Benzoic Acid	52000.	ND
111-91-1	bis(2-Chloroethoxy)methane	10000.	ND
120-83-2	2,4-Dichlorophenol	10000.	ND
120-82-1	1,2,4-Trichlorobenzene	10000.	ND
91-20-3	Naphthalene	10000.	ND
106-47-8	4-Chloroaniline	10000.	ND
87-68-3	Hexachlorobutadiene	10000.	ND
59-50-7	4-Chloro-3-methylphenol	10000.	ND
91-57-6	2-Methylnaphthalene	10000.	ND
77-47-4	Hexachlorocyclopentadiene	10000.	ND
88-06-2	2,4,6-Trichlorophenol	10000.	ND
95-95-4	2,4,5-Trichlorophenol	52000.	ND
91-58-7	2-Chloronaphthalene	10000.	ND
88-74-4	2-Nitroaniline	52000.	ND
131-11-3	Dimethylphthalate	10000.	ND
208-96-8	Acenaphthylene	10000.	ND
99-09-2	3-Nitroaniline	52000.	ND
83-32-9	Acenaphthene	10000.	ND
51-28-5	2,4-Dinitrophenol	51000.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4549
SAMPLE: AL/SS/1
GC/MS FILE: >FC936::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 18:10
SAMPLE--->EXTRACT:	30.05g-->2mL (1/10 Dil)

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	51000.	ND
132-64-9	Dibenzofuran	10000.	ND
121-14-2	2,4-Dinitrotoluene	10000.	ND
606-20-2	2,6-Dinitrotoluene	10000.	ND
84-66-2	Diethylphthalate	10000.	ND
7005-72-3	4-Chlorophenyl-phenylether	10000.	ND
86-73-7	Fluorene	10000.	ND
100-01-6	4-Nitroaniline	52000.	ND
534-52-1	4,6-Dinitro-2-methylphenol	52000.	ND
86-30-6	N-Nitrosodiphenylamine	10000.	ND
101-55-3	4-Bromophenyl-phenylether	10000.	ND
118-74-1	Hexachlorobenzene	10000.	ND
87-86-5	Pentachlorophenol	52000.	ND
85-01-8	Phenanthrene	2600.	TR
120-12-7	Anthracene	10000.	ND
84-74-2	Di-n-Butyl phthalate	10000.	ND
206-44-0	Fluoranthene	3400.	TR
129-00-0	Pyrene	3200.	TR
85-68-7	Butylbenzylphthalate	10000.	ND
91-94-1	3,3'-Dichlorobenzidine	21000.	ND
56-55-3	Benzo(a)Anthracene	10000.	ND
117-81-7	bis(2-Ethylhexyl)phthalate	510.	TR
218-01-9	Chrysene	1600.	TR
117-84-0	Di-n-Octyl phthalate	10000.	ND
205-99-2	Benzo(b)Fluoranthene	1300.	TR
207-08-9	Benzo(k)Fluoranthene	1100.	TR
50-32-8	Benzo(a)Pyrene	1200.	TR
193-39-5	Indeno(1,2,3-cd)Pyrene	640.	TR
53-70-3	Dibenzo(a,h)Anthracene	10000.	ND
191-24-2	Benzo(g,h,i)Perylene	710.	TR

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

AL SS 1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: EA #4549

Sample wt/vol: 30.05 (g/mL) g Lab File ID: >FC936

Level: (low/med) LOW Date Received: 09/25/89

% Moisture: not dec. 35.3 dec. _____ Date Extracted: 09/26/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/02/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1/10

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. —	UNKNOWN CMPD.	2.83	2200	J
2.				
3.				
4.				
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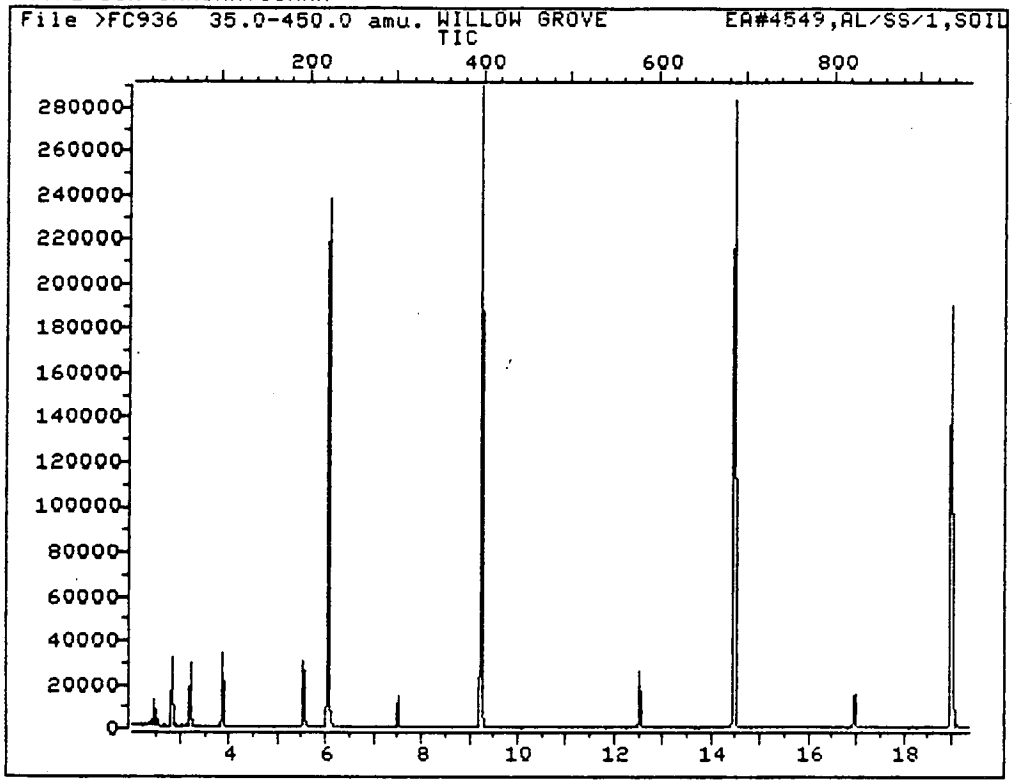
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



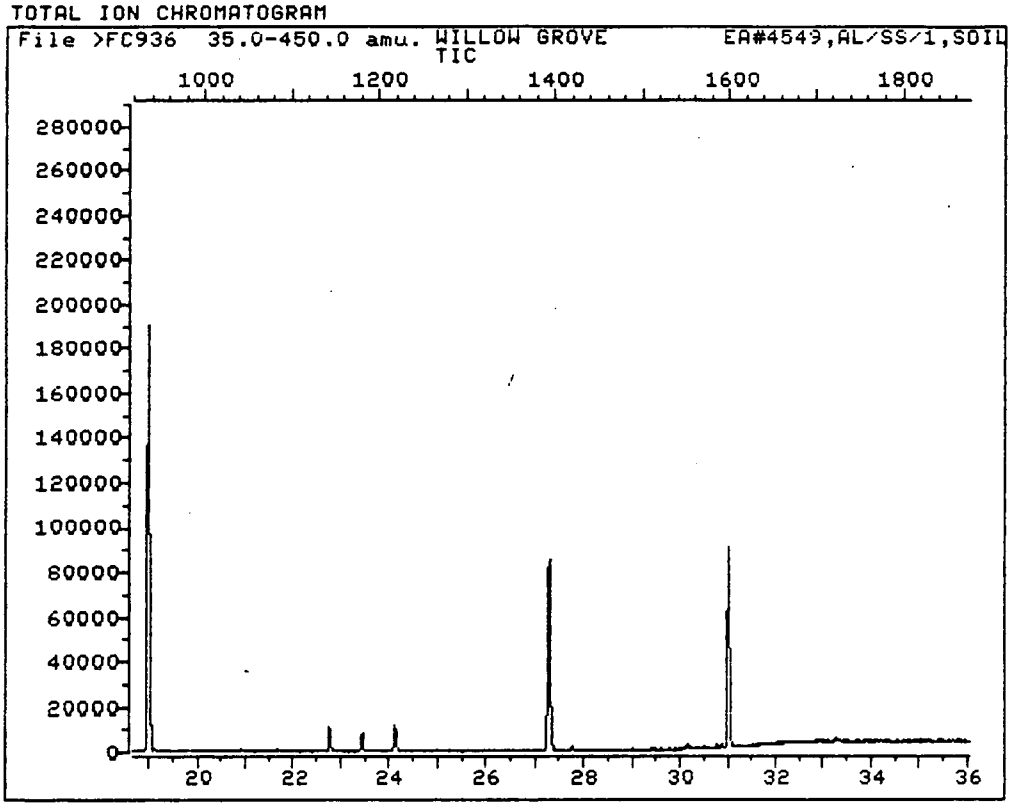
Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 18:50
Injected at: 891002 18:10

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 18:50
Injected at: 891002 18:10

TIC page 2 of 2

QUANT REPORT

Operator ID: JUANEAU Quant Rev: 6 Quant Time: 891002 18:50
Output File: ^FC936::QT Injected at: 891002 18:10
Data File: >FC936::D4 Dilution Factor: 10.00000
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.04	152.0	83888	40.00	NG		94
2)	2-Fluorophenol	3.87	112.0	13231	56.91	NG	57%	95
3)	Phenol-d5	5.53	99.0	21619	78.61	NG	79%	89
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG		
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.25	136.0	316277	40.00	NG		90
17)	Nitrobenzene-d5	7.51	82.0	9810	35.79	NG	71%	93
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	Benzoic Acid	0.00	122.0	0	0.00	NG		
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.47	164.0	150888	40.00	NG		93
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.53	172.0	21928	49.25	NG	98%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.47	163.0	50728	~~98.79~~	NG		54
39)	Acenaphthylene	0.00	152.0	0	0.00	NG		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	0.00	153.0	0	0.00	NG		
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

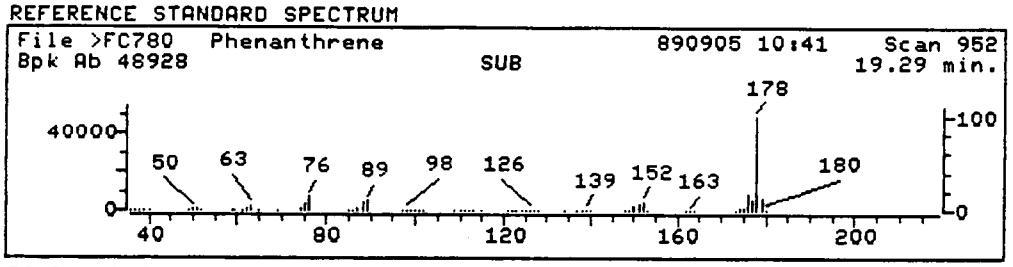
QUANT REPORT
page 2

Output File:^FC936:: Data File:>FC936::D4

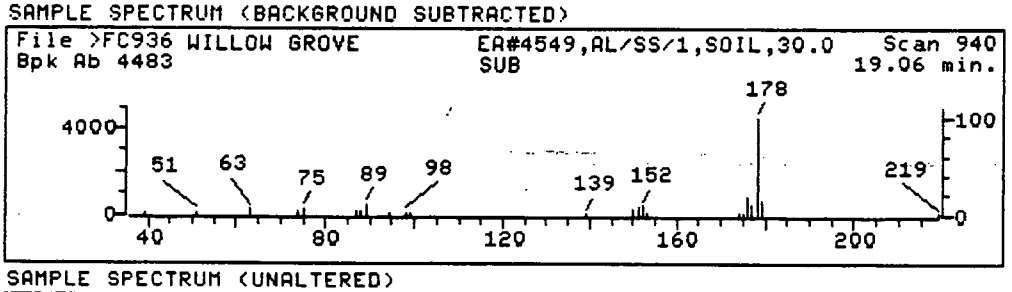
	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	18.99	188.0	197993	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.96	329.9	5906	84.50	NG 85%	93
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	19.06	178.0	11370	25.67	NG	99
59)	Anthracene	~~19.06~~	178.0	11370	~~28.32~~	NG	99
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	22.76	202.0	12870	33.13	NG	93
62)	*d12-Chrysene	27.28	240.0	83982	40.00	NG	98
63)	Pyrene	23.45	202.0	9080	30.63	NG	95
64)	Terphenyl-d14	24.12	244.0	12407	55.43	NG 111%	88
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	~~27.35~~	228.0	3137	~~15.27~~	NG	87
68)	bis(2-Ethylhexyl)phthalate	27.77	149.0	1076	5.00	NG	96
69)	Chrysene	27.35	228.0	3137	15.10	NG	90
70)	*d12-Perylene	31.02	264.0	84942	40.00	NG	93
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	30.15	252.0	2500	12.55	NG	86
73)	Benzo(k)Fluoranthene	30.18	252.0	2042	10.66	NG	92
74)	B nzo(a)Pyrene	30.87	252.0	2001	11.39	NG	97
75)	Indeno(1,2,3-cd)Pyrene	33.27	276.0	1436	6.23	NG	99
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	33.91	276.0	1318	6.85	NG	95

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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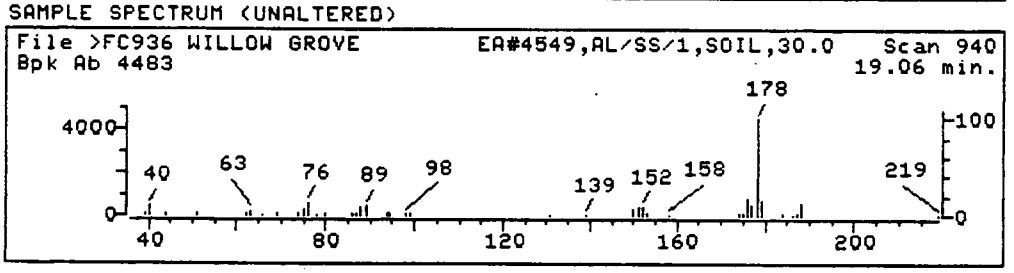
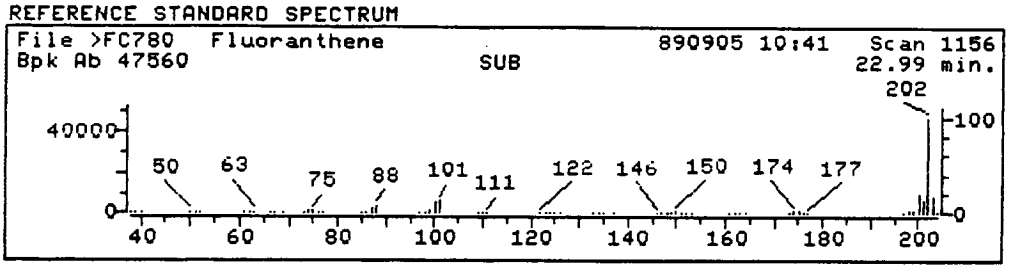


Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 940
Retention Time: 19.06 min.
Quant Ion: 178.0
Area: 11370
Concentration: 25.67 NG
q-value: 99

REFERENCE STANDARD SPECTRUM



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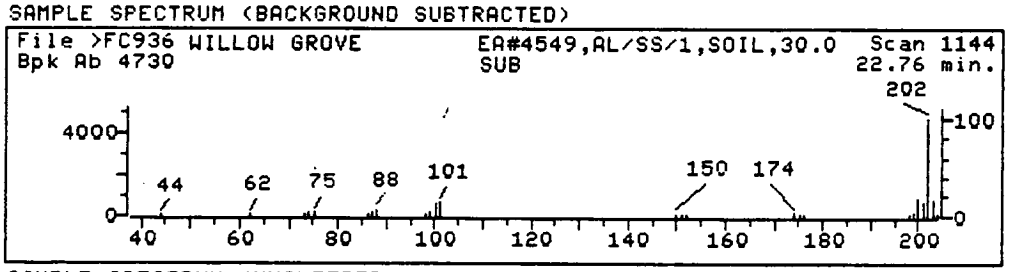
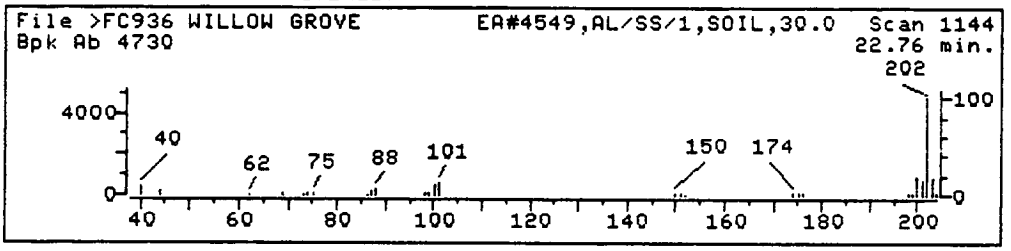


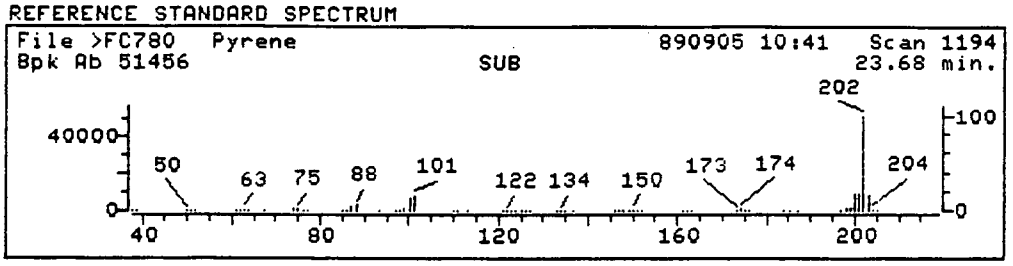
SAMPLE SPECTRUM (UNALTERED)



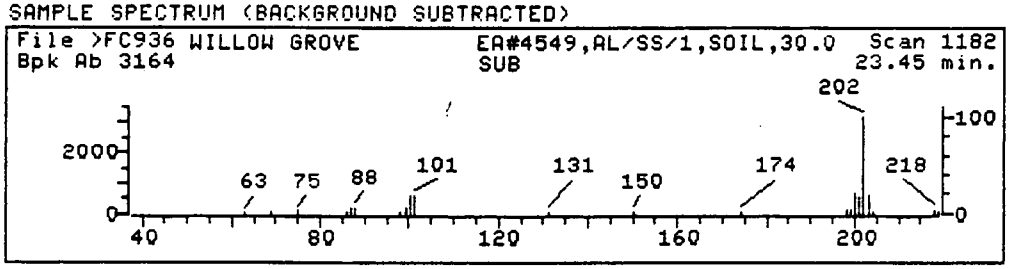
Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1144
Retention Time: 22.76 min.
Quant Ion: 202.0
Area: 12870
Concentration: 33.13 NG
q-value: 93

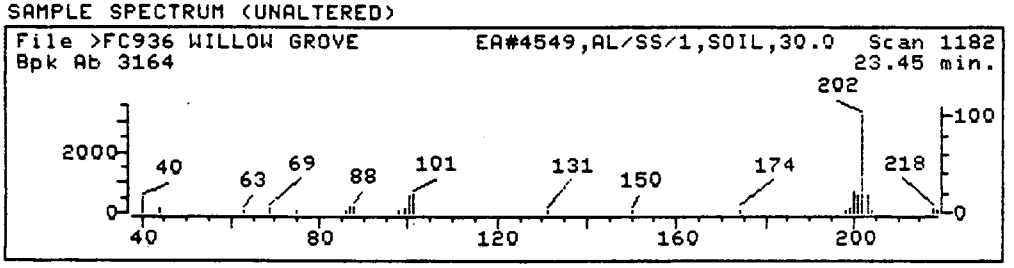
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



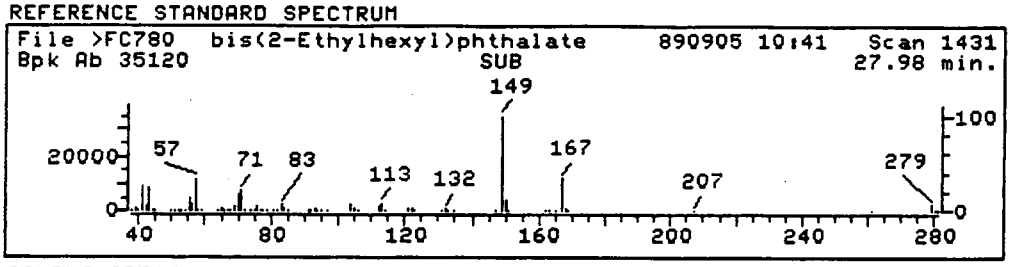
SAMPLE SPECTRUM (UNALTERED)



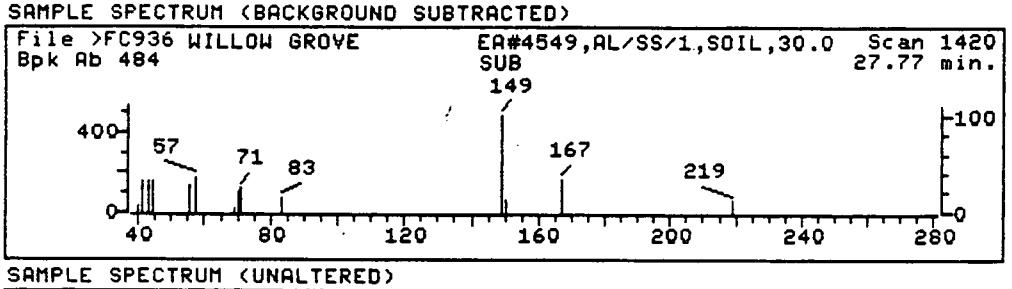
Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 63
Compound Name: Pyrene
Scan Number: 1182
Retention Time: 23.45 min.
Quant Ion: 202.0
Area: 9080
Concentration: 30.63 NG
q-value: 95

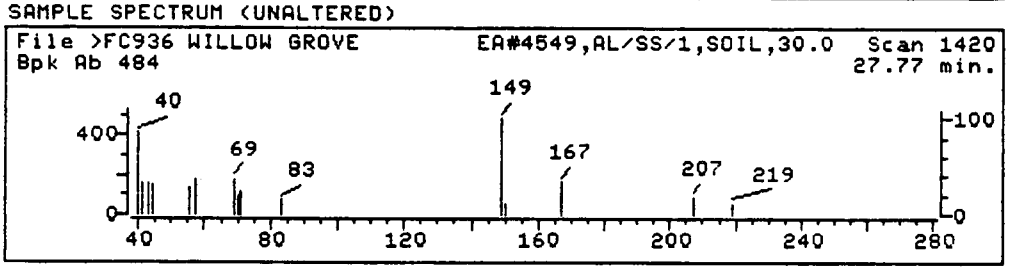
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



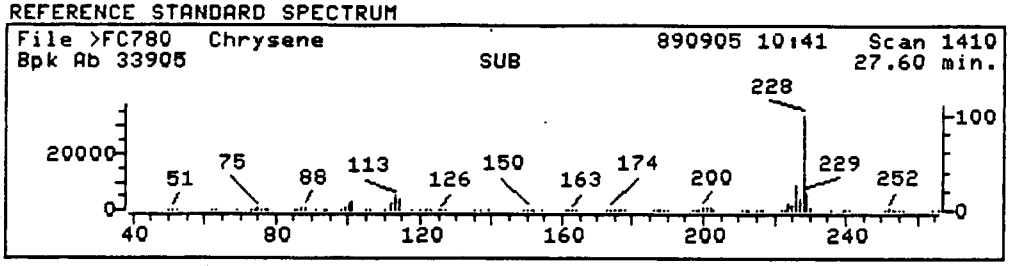
SAMPLE SPECTRUM (UNALTERED)



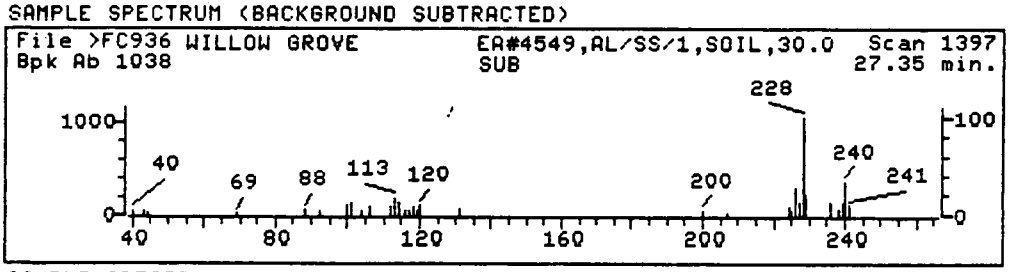
Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1420
Retention Time: 27.77 min.
Quant Ion: 149.0
Area: 1076
Concentration: 5.00 NG
q-value: 96

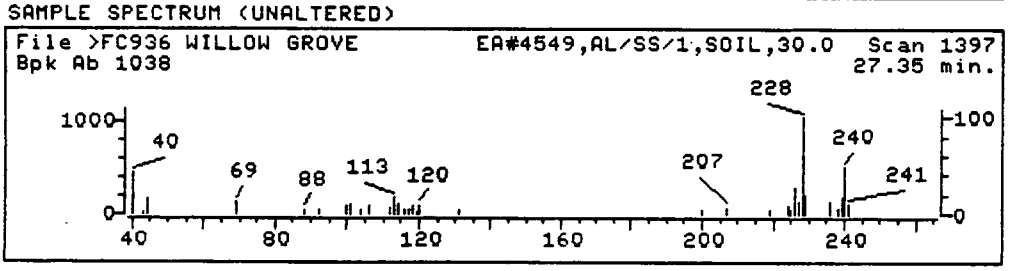
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



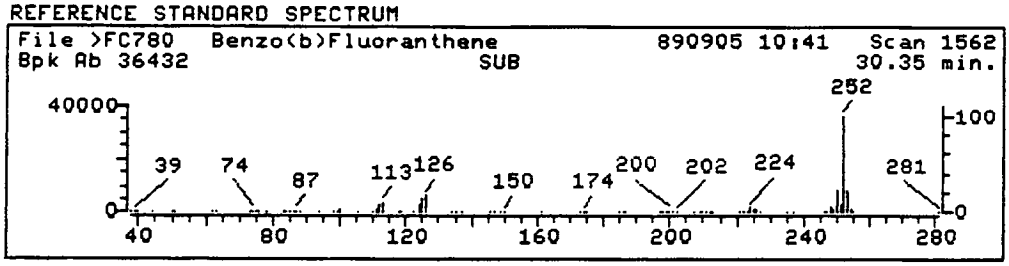
SAMPLE SPECTRUM (UNALTERED)



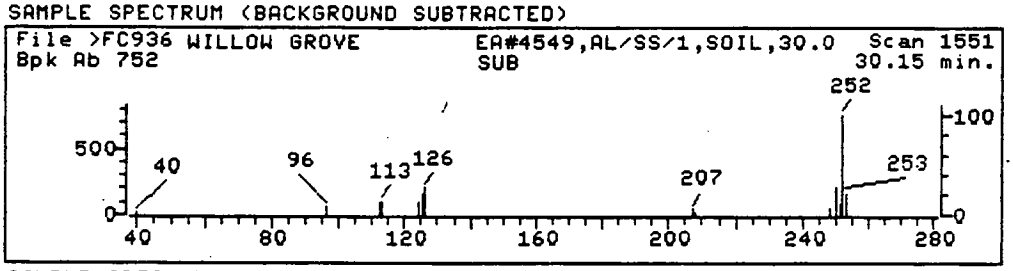
Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 69
Compound Name: Chrysene
Scan Number: 1397
Retention Time: 27.35 min.
Quant Ion: 228.0
Area: 3137
Concentration: 15.10 NG
q-value: 90

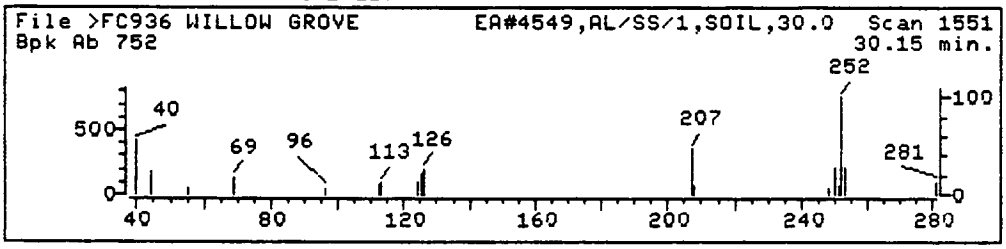
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



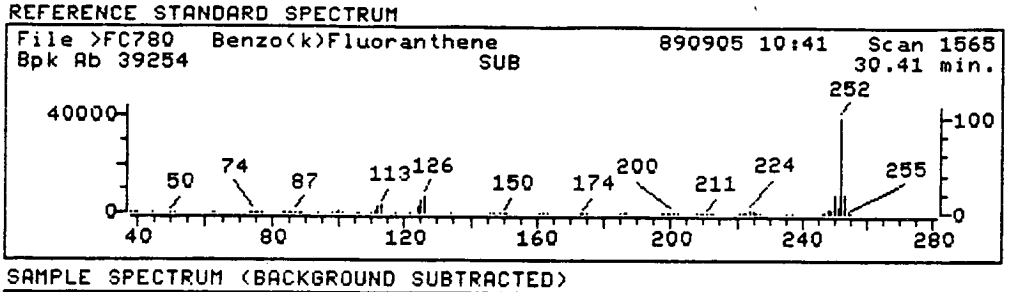
SAMPLE SPECTRUM (UNALTERED)



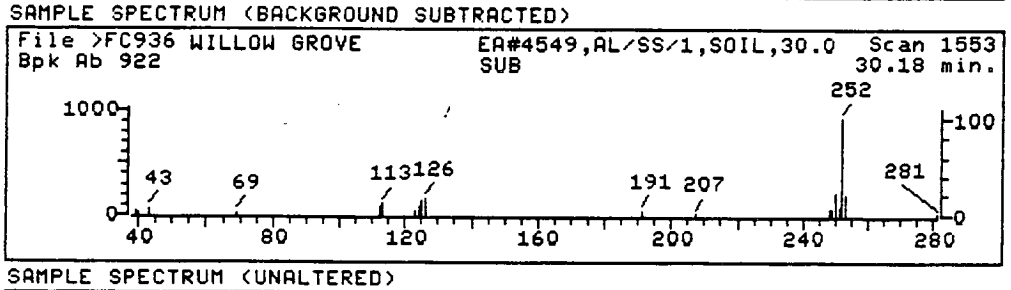
Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1551
Retention Time: 30.15 min.
Quant Ion: 252.0
Area: 2500
Concentration: 12.55 NG
q-value: 86

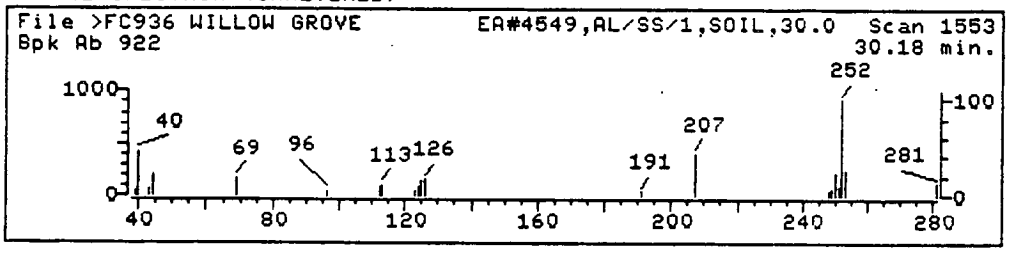
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



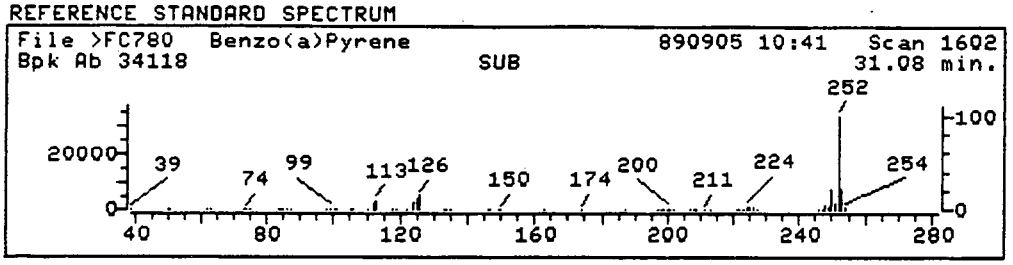
SAMPLE SPECTRUM (UNALTERED)



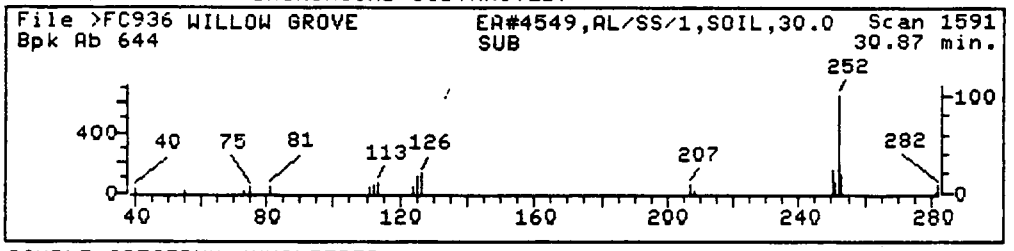
Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1553
Retention Time: 30.18 min.
Quant Ion: 252.0
Area: 2042
Concentration: 10.66 NG
q-value: 92

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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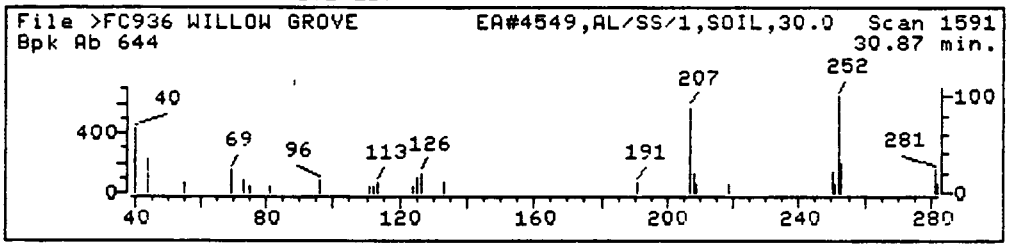
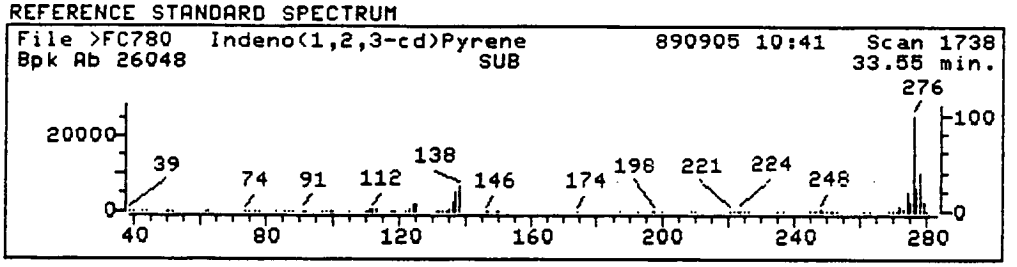


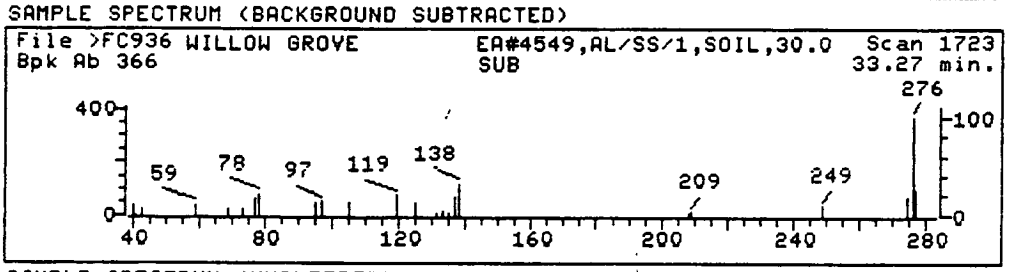
Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1591
Retention Time: 30.87 min.
Quant Ion: 252.0
Area: 2001
Concentration: 11.39 NG
q-value: 97

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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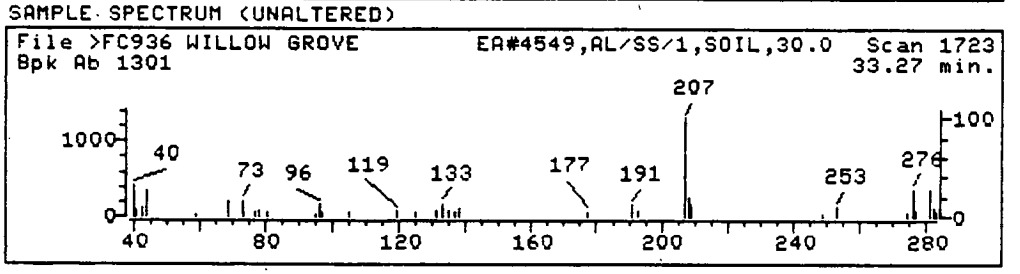
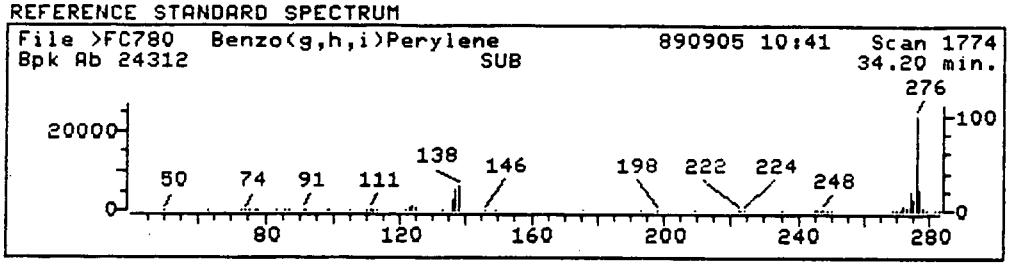


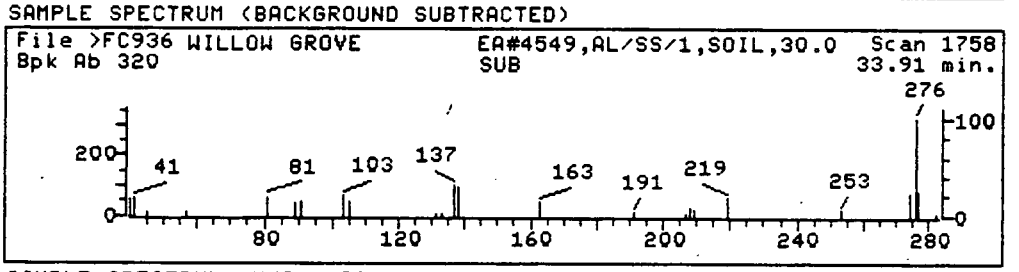
Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1723
Retention Time: 33.27 min.
Quant Ion: 276.0
Area: 1436
Concentration: 6.23 NG
q-value: 99

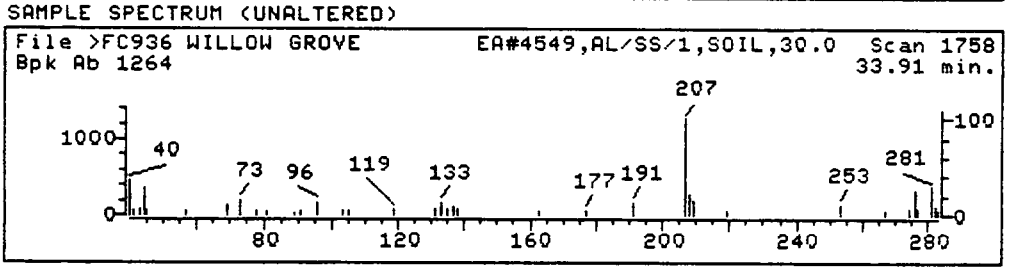
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

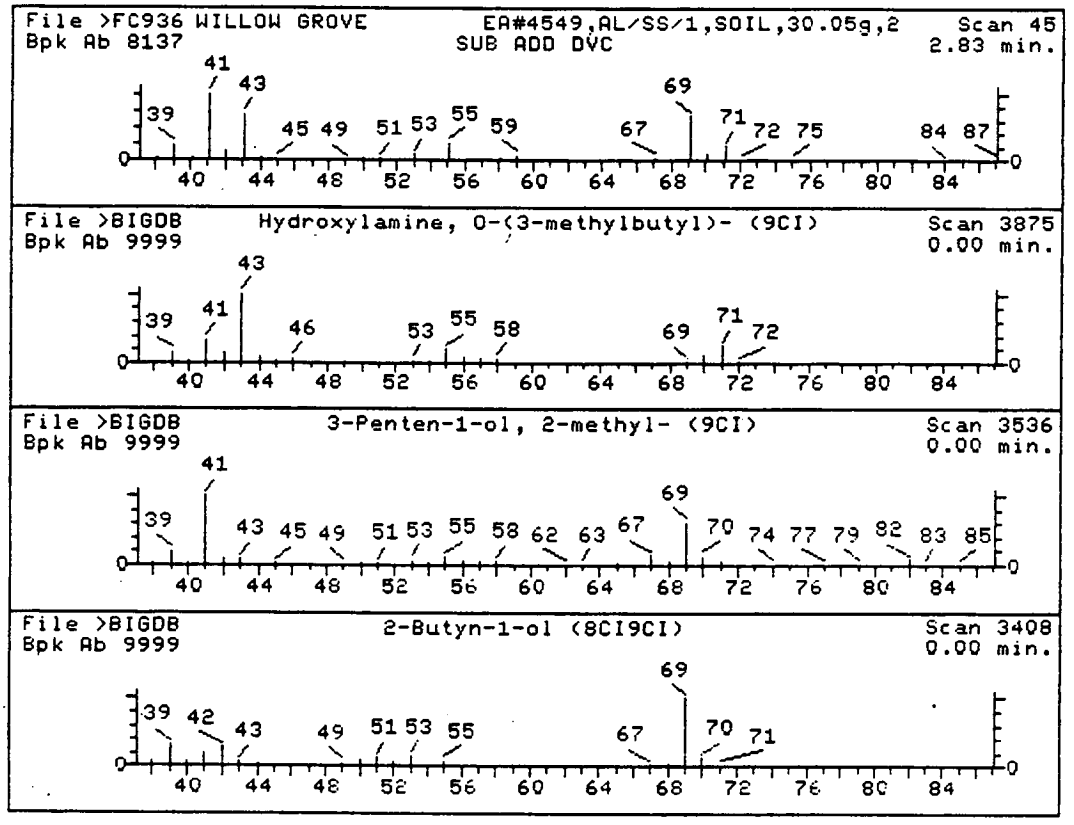


SAMPLE SPECTRUM (UNALTERED)



Data File: >FC936::D4 Quant Output File: ^FC936::QT
Name: WILLOW GROVE
Misc: EA#4549,AL/SS/1,SOIL,30.05g,2mL, (1/10 DIL) BTL# 4
Quant Time: 891002 18:50 Quant ID File: IDFCLP::BD
Injected at: 891002 18:10 Last Calibration: 891002 15:39

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1758
Retention Time: 33.91 min.
Quant Ion: 276.0
Area: 1318
Concentration: 6.85 NG
q-value: 95



UNKNOWN cmpd.

Retention time = 2.83

Area = 59195.00 Tentative Concentration is 2200.00

1.	Hydroxylamine, O-(3-methylbutyl)- (9CI)	103 C5H13NO
2.	3-Penten-1-ol, 2-methyl- (9CI)	100 C6H12O
3.	2-Butyn-1-ol (8CI9CI)	70 C4H6O
4.	2-Butenal, (E)- (9CI)	70 C4H6O
5.	3-Butyn-2-ol, 2-methyl- (8CI9CI)	84 C5H8O

Sample file: >FC936 Spectrum #: 45
Search speed: 2 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	26	19411655	3875	"BIGDB	35	46	2	0	69	38	10	12
2.	25	62238373	3536	"BIGDB	39	45	2	0	80	50	7	13
3.	15*	764012	3408	"BIGDB	27	53	2	0	48	57	3	14
4.	11*	123739	3497	"BIGDB	23	46	1	0	11	65	2	14

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4550
SAMPLE: AL/SS/2
GC/MS FILE: >FC937::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 19:01
SAMPLE--->EXTRACT:	30.25g-->2mL (1/10 Dil)

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	11000.	ND
111-44-4	bis(2-Chloroethyl)ether	11000.	ND
95-57-8	2-Chlorophenol	11000.	ND
541-73-1	1,3-Dichlorobenzene	11000.	ND
106-46-7	1,4-Dichlorobenzene	11000.	ND
100-51-6	Benzyl Alcohol	11000.	ND
95-50-1	1,2-Dichlorobenzene	11000.	ND
95-48-7	2-Methylphenol	11000.	ND
39638-32-9	bis(2-chloroisopropyl)ether	11000.	ND
106-44-5	4-Methylphenol	11000.	ND
621-64-7	N-Nitroso-Di-n-propylamine	11000.	ND
67-72-1	Hexachloroethane	11000.	ND
98-95-3	Nitrobenzene	11000.	ND
78-59-1	Isophorone	11000.	ND
88-75-5	2-Nitrophenol	11000.	ND
105-67-9	2,4-Dimethylphenol	11000.	ND
65-85-0	Benzoic Acid	57000.	ND
111-91-1	bis(2-Chloroethoxy)methane	11000.	ND
120-83-2	2,4-Dichlorophenol	11000.	ND
120-82-1	1,2,4-Trichlorobenzene	11000.	ND
91-20-3	Naphthalene	11000.	ND
106-47-8	4-Chloroaniline	11000.	ND
87-68-3	Hexachlorobutadiene	11000.	ND
59-50-7	4-Chloro-3-methylphenol	11000.	ND
91-57-6	2-Methylnaphthalene	11000.	ND
77-47-4	Hexachlorocyclopentadiene	11000.	ND
88-06-2	2,4,6-Trichlorophenol	11000.	ND
95-95-4	2,4,5-Trichlorophenol	57000.	ND
91-58-7	2-Chloronaphthalene	11000.	ND
88-74-4	2-Nitroaniline	57000.	ND
131-11-3	Dimethylphthalate	11000.	ND
208-96-8	Acenaphthylene	11000.	ND
99-09-2	3-Nitroaniline	57000.	ND
83-32-9	Acenaphthene	11000.	ND
51-28-5	2,4-Dinitrophenol	57000.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4550
SAMPLE: AL/SS/2
GC/MS FILE: >FC937::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 19:01
SAMPLE--->EXTRACT:	30.25g-->2mL (1/10 Dil)

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	57000.	ND
132-64-9	Dibenzofuran	500.	TR
121-14-2	2,4-Dinitrotoluene	11000.	ND
606-20-2	2,6-Dinitrotoluene	11000.	ND
84-66-2	Diethylphthalate	11000.	ND
7005-72-3	4-Chlorophenyl-phenylether	11000.	ND
86-73-7	Fluorene	450.	TR
100-01-6	4-Nitroaniline	57000.	ND
534-52-1	4,6-Dinitro-2-methylphenol	57000.	ND
86-30-6	N-Nitrosodiphenylamine	11000.	ND
101-55-3	4-Bromophenyl-phenylether	11000.	ND
118-74-1	Hexachlorobenzene	11000.	ND
87-86-5	Pentachlorophenol	57000.	ND
85-01-8	Phenanthrene	10000.	TR
120-12-7	Anthracene	530.	TR
84-74-2	Di-n-Butyl phthalate	11000.	ND
206-44-0	Fluoranthene	13000.	
129-00-0	Pyrene	12000.	
85-68-7	Butylbenzylphthalate	11000.	ND
91-94-1	3,3'-Dichlorobenzidine	23000.	ND
56-55-3	Benzo(a)Anthracene	3200.	TR
117-81-7	bis(2-Ethylhexyl)phthalate	1200.	TR
218-01-9	Chrysene	5800.	TR
117-84-0	Di-n-Octyl phthalate	11000.	ND
205-99-2	Benzo(b)Fluoranthene	5400.	TR
207-08-9	Benzo(k)Fluoranthene	3900.	TR
50-32-8	Benzo(a)Pyrene	4300.	TR
193-39-5	Indeno(1,2,3-cd)Pyrene	2600.	TR
53-70-3	Dibenzo(a,h)Anthracene	1000.	TR
191-24-2	Benzo(g,h,i)Perylene	2700.	TR

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is m thod detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ALSS 2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: EA # 4550

Sample wt/vol: 30. (g/mL) g Lab File ID: 7FC 937

Level: (low/med) LOW Date Received: 09/25/89

% Moisture: not dec. 41.8 dec. _____ Date Extracted: 09/26/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/02/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1/10

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1487496	BUTANOIC ACID, 3-HYDROXY-, METHYL ESTER	3.62	670	J
2.	—	UNKNOWN ALKANE	31.88	630	J
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
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17.					
18.					
19.					
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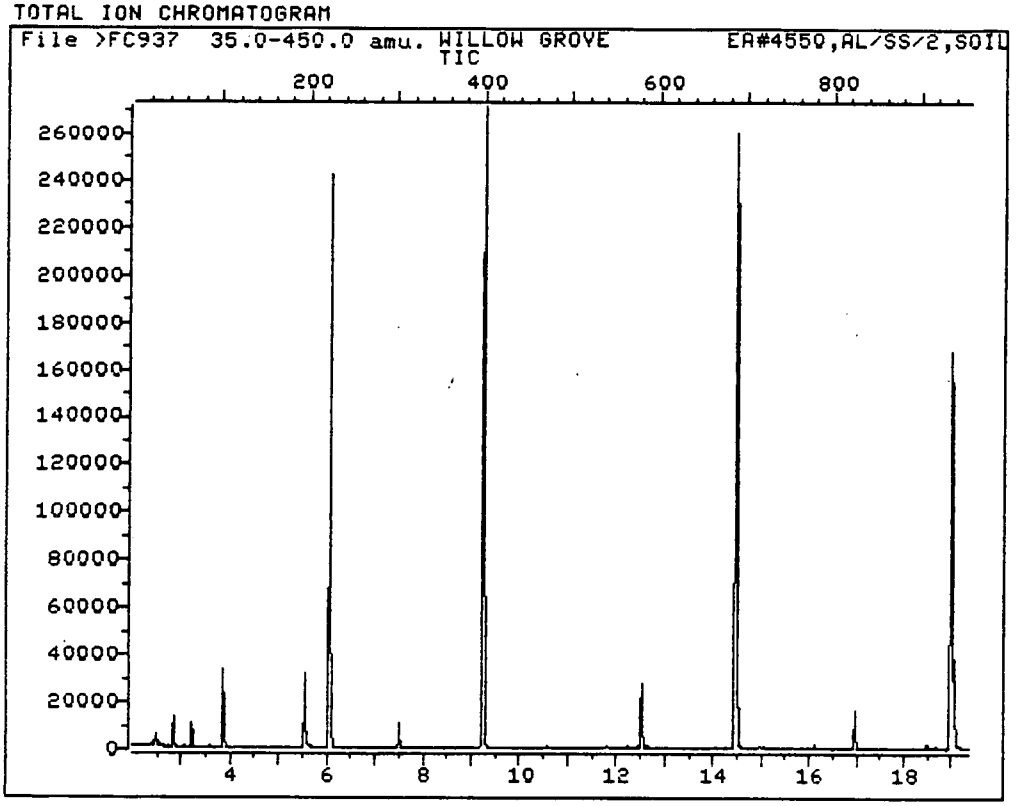
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TOTAL ION CHROMATOGRAM



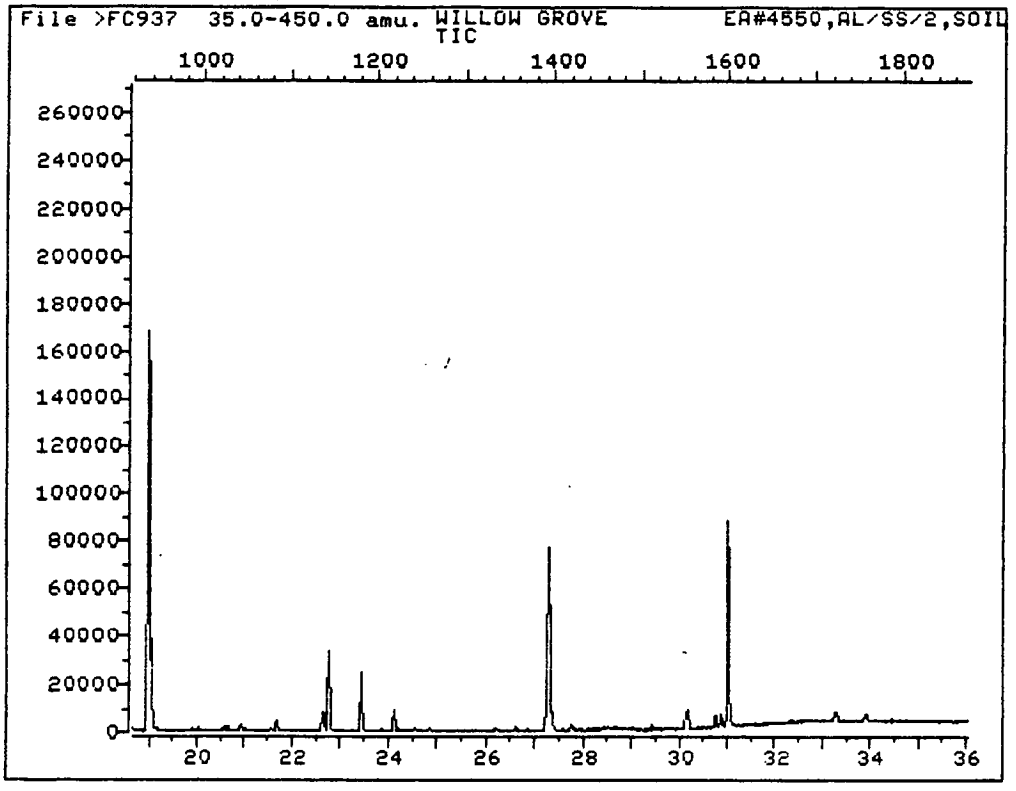
Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 19:41
Injected at: 891002 19:01

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 19:41
Injected at: 891002 19:01

TIC page 2 of 2

QUANT REPORT

Operator ID: JUANEAU Quant Rev: 6 Quant Time: 891002 19:41
Output File: ^FC937::QT Injected at: 891002 19:01
Data File: >FC937::D4 Dilution Factor: 10.00000
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.06	152.0	76305	40.00	NG		98
2)	2-Fluorophenol	3.86	112.0	14509	68.61	NG	69%	85
3)	Phenol-d5	5.55	99.0	21869	87.43	NG	87%	97
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG		
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.25	136.0	289027	40.00	NG		89
17)	Nitrobenzene-d5	7.51	82.0	7256	28.97	NG	58%	95
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	Benzoic Acid	0.00	122.0	0	0.00	NG		
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.47	164.0	140252	40.00	NG		94
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.53	172.0	20154	48.70	NG	97%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.47	163.0	46269	~~96.87~~	NG	97% (R)	53
39)	Acenaphthylene	0.00	152.0	0	0.00	NG		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	14.56	153.0	836	~~2.28 NG~~		ND	93
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

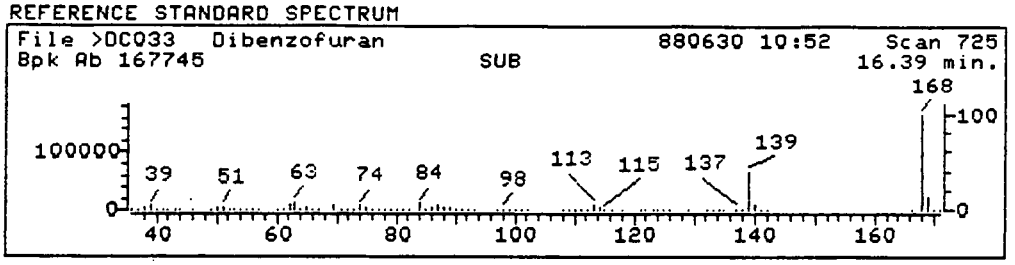
QUANT REPORT
page 2

Output File:^FC937:: Data File:>FC937::D4

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	15.05	168.0	1942	4.40	NG	80
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	16.12	166.0	1375	4.01	NG	94
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	18.99	188.0	174817	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.96	329.9	5974	96.80	NG 97%	91
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	19.06	178.0	35954	91.95	NG	98
59)	Anthracene	19.19	178.0	1667	4.70	NG	94
60)	Di-n-Butyl phthalate	21.28	149.0	870	~~1.43~~	NG ND	96
61)	Fluoranthene	22.76	202.0	39897	116.32	NG	92
62)	*d12-Chrysene	27.28	240.0	75542	40.00	NG	97
63)	Pyrene	23.45	202.0	28481	106.81	NG	95
64)	Terphenyl-d14	24.12	244.0	10755	53.42	NG 107%	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	27.23	228.0	5190	28.09	NG	88
68)	bis(2-Ethylhexyl)phthalate	27.77	149.0	1990	10.28	NG	94
69)	Chrysene	27.35	228.0	9497	50.81	NG	95
70)	*d12-Perylene	31.02	264.0	81481	40.00	NG	93
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	30.13	252.0	9064	47.42	NG	91
73)	Benzo(k)Fluoranthene	30.18	252.0	6313M	34.35	NG	90
74)	Benzo(a)Pyrene	30.87	252.0	6429	38.15	NG	96
75)	Indeno(1,2,3-cd)Pyrene	33.27	276.0	5103	23.07	NG JP	99
76)	Dibenzo(a,h)Anthracene	33.31	278.0	1564	~~9.92~~	NG	81
77)	Benzo(g,h,i)Perylene	33.91	276.0	4466	24.21	NG	93

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



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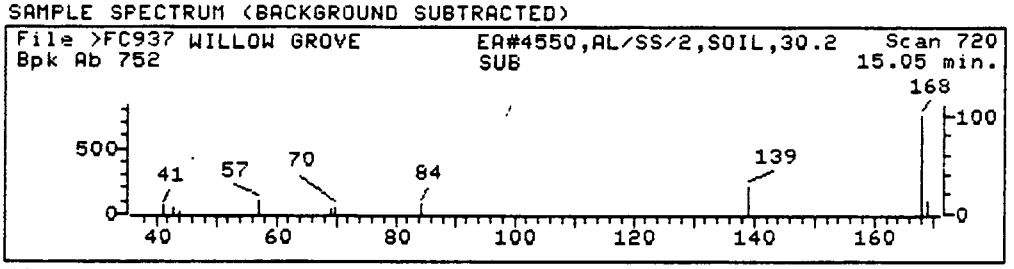

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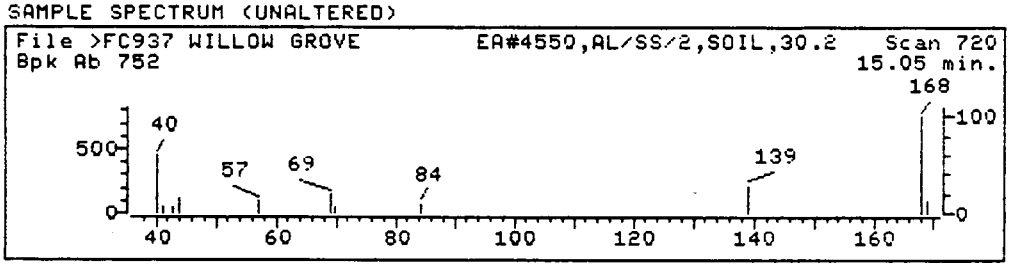
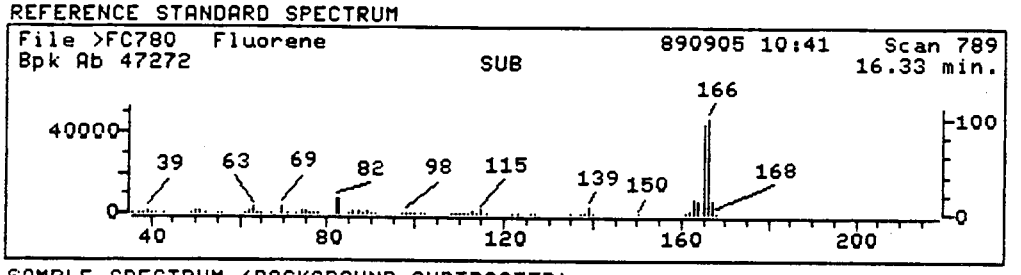


Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 44
Compound Name: Dibenzofuran
Scan Number: 720
Retention Time: 15.05 min.
Quant Ion: 168.0
Area: 1942
Concentration: 4.40 NG
q-value: 80

REFERENCE STANDARD SPECTRUM



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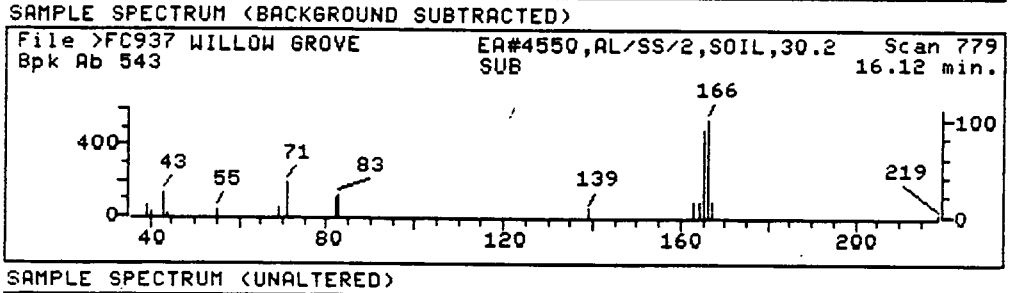

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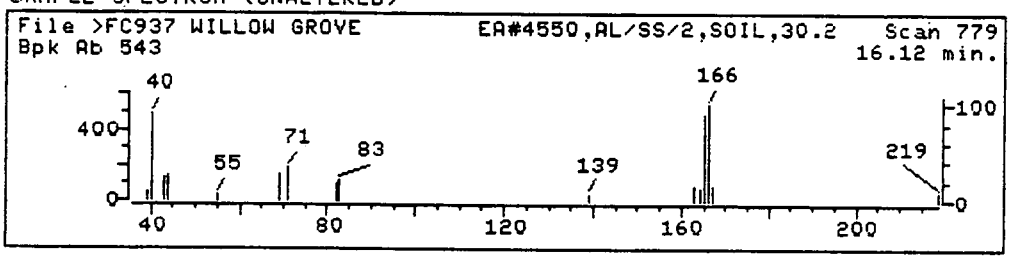
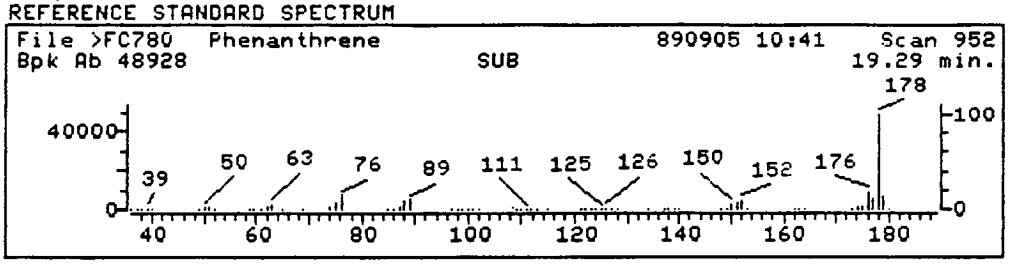


Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 49
Compound Name: Fluorene
Scan Number: 779
Retention Time: 16.12 min.
Quant Ion: 166.0
Area: 1375
Concentration: 4.01 NG
q-value: 94

REFERENCE STANDARD SPECTRUM



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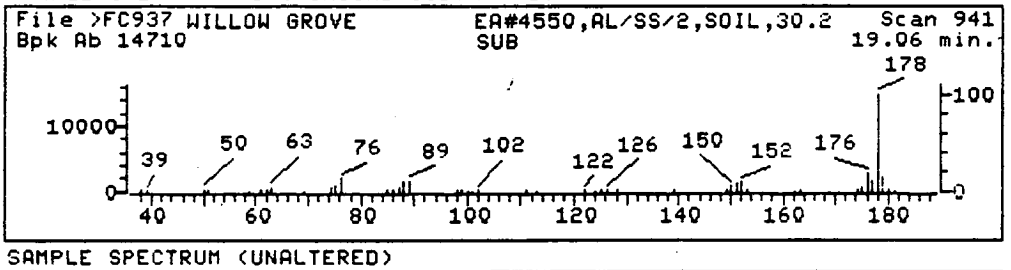

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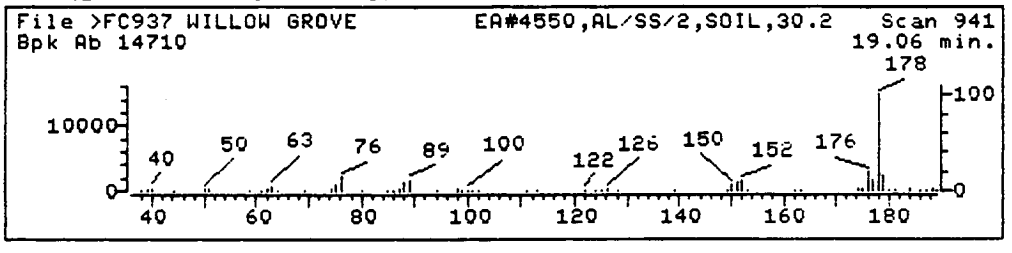
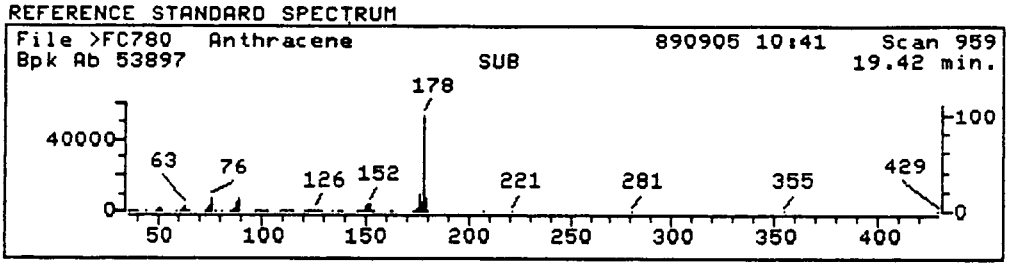


Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 941
Retention Time: 19.06 min.
Quant Ion: 178.0
Area: 35954
Concentration: 91.95 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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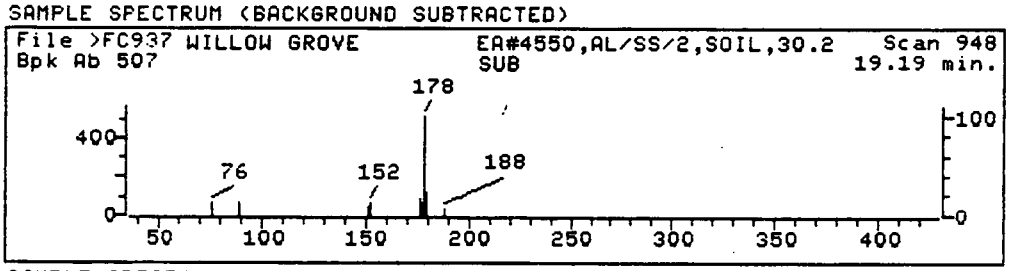
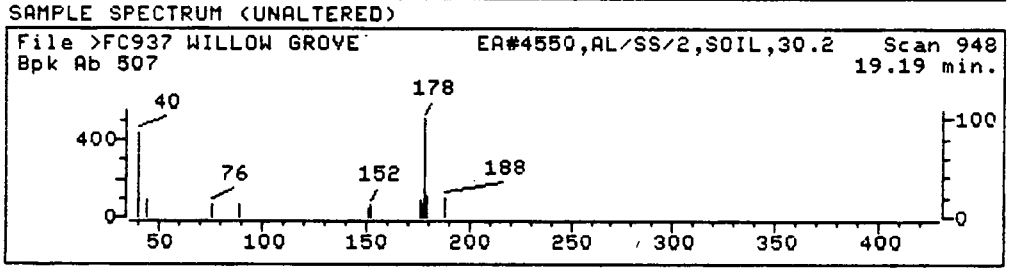


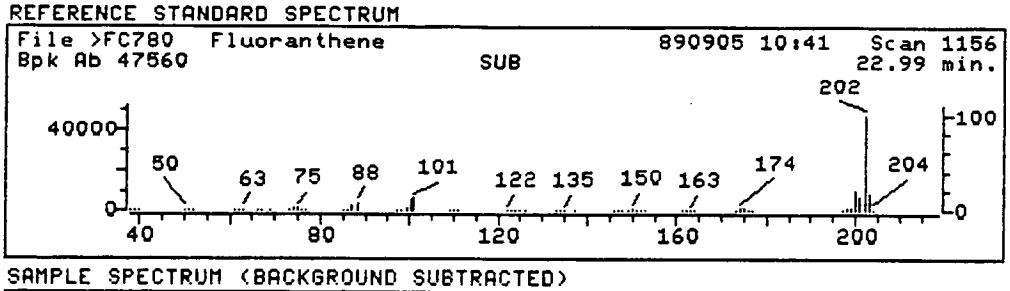
SAMPLE SPECTRUM (UNALTERED)



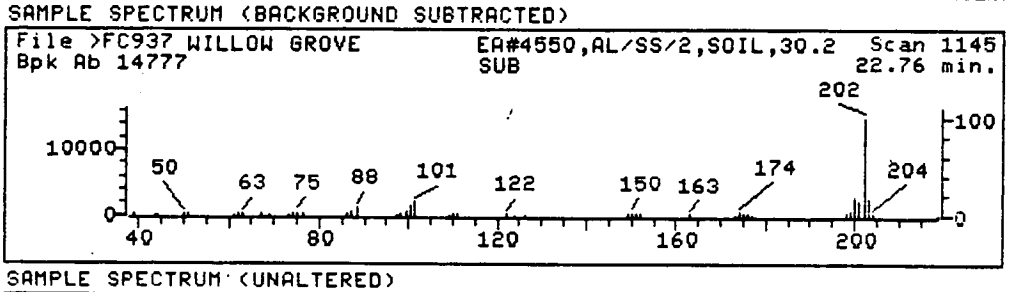
Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 59
Compound Name: Anthracene
Scan Number: 948
Retention Time: 19.19 min.
Quant Ion: 178.0
Area: 1667
Concentration: 4.70 NG
q-value: 94

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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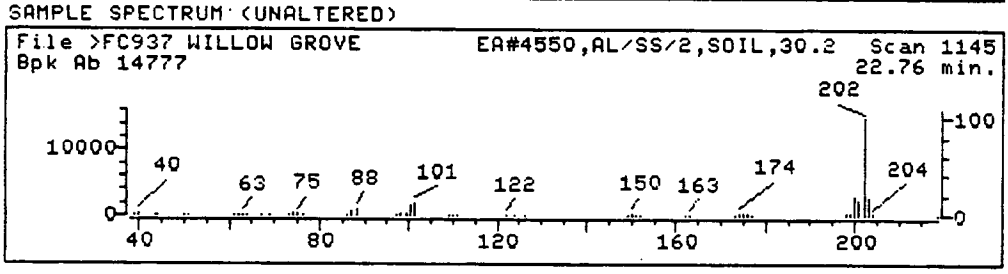
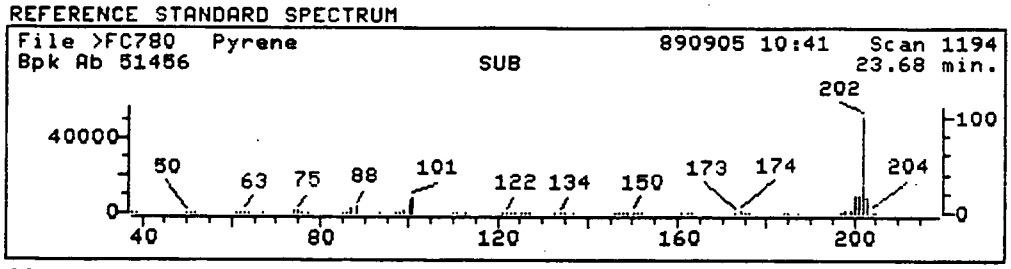


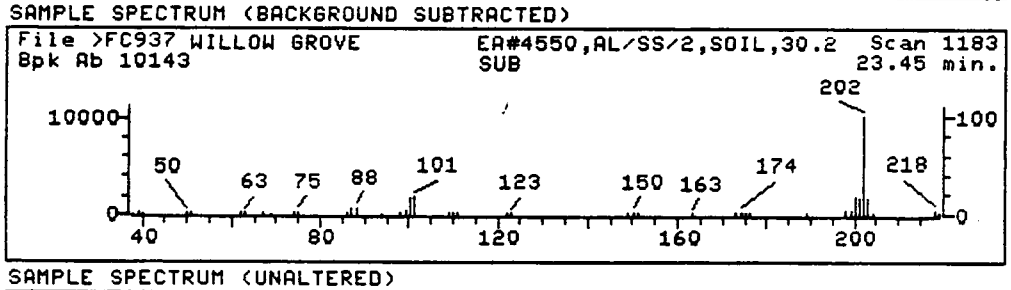
Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1145
Retention Time: 22.76 min.
Quant Ion: 202.0
Area: 39897
Concentration: 116.32 NG
q-value: 92

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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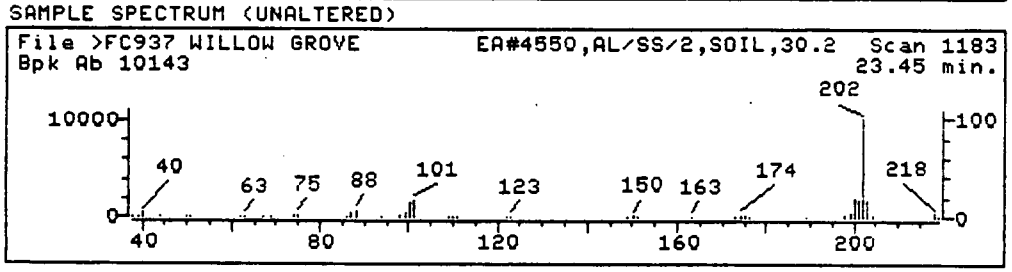
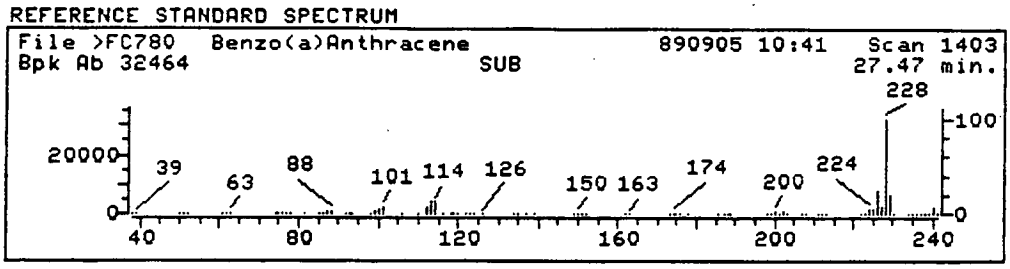


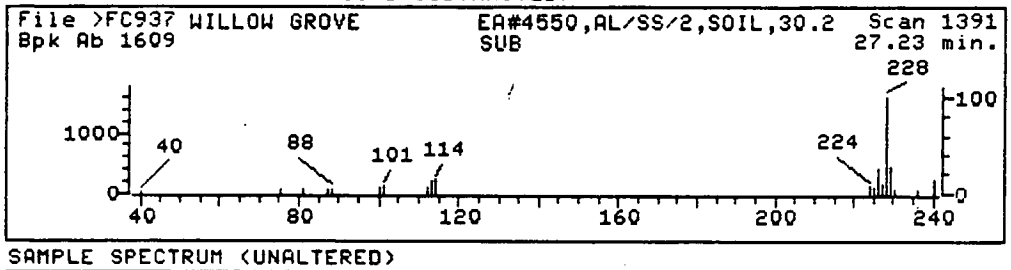
Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 63
Compound Name: Pyrene
Scan Number: 1183
Retention Time: 23.45 min.
Quant Ion: 202.0
Area: 28481
Concentration: 106.81 NG
q-value: 95

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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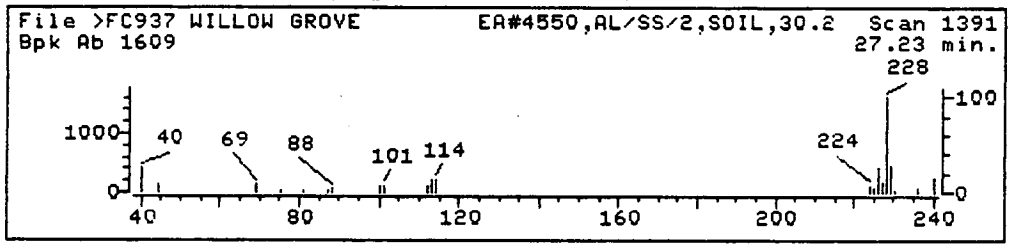
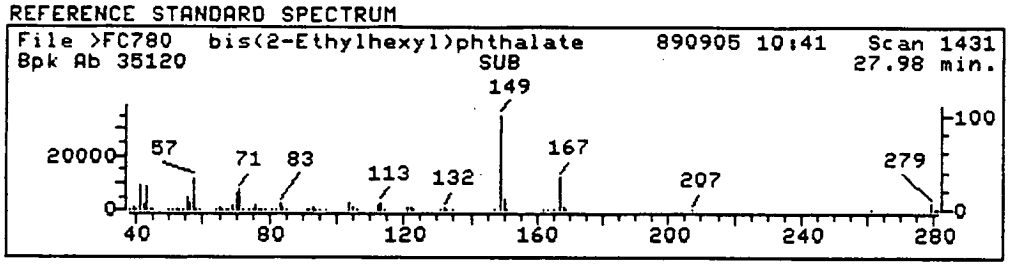


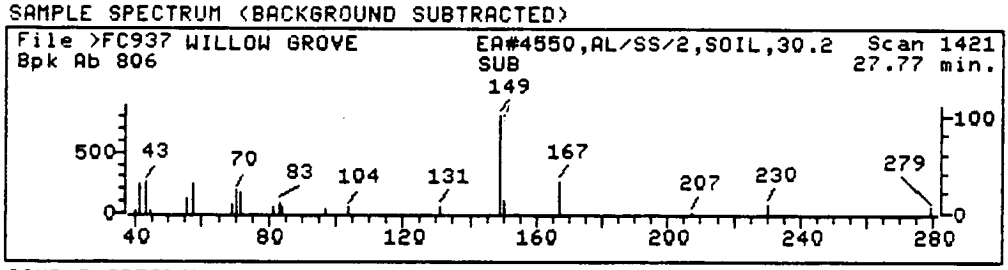
Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1391
Retention Time: 27.23 min.
Quant Ion: 228.0
Area: 5190
Concentration: 28.09 NG
q-value: 88

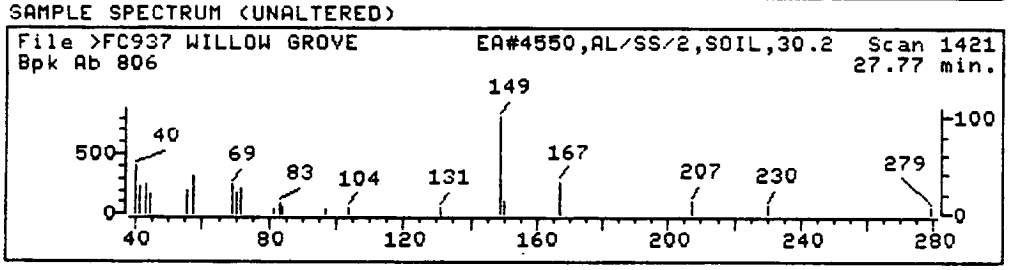
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



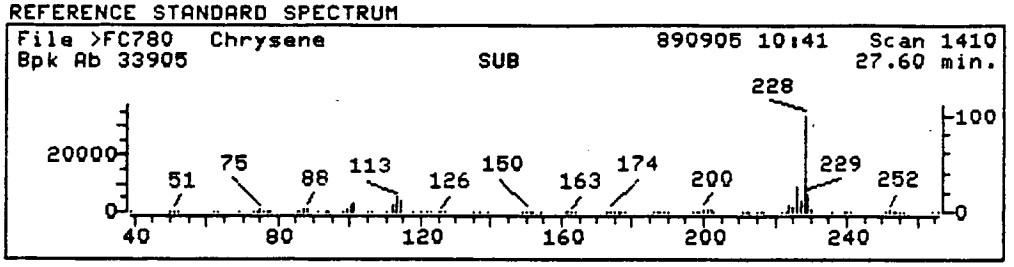
SAMPLE SPECTRUM (UNALTERED)



Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1421
Retention Time: 27.77 min.
Quant Ion: 149.0
Area: 1990
Concentration: 10.28 NG
q-value: 94

REFERENCE STANDARD SPECTRUM



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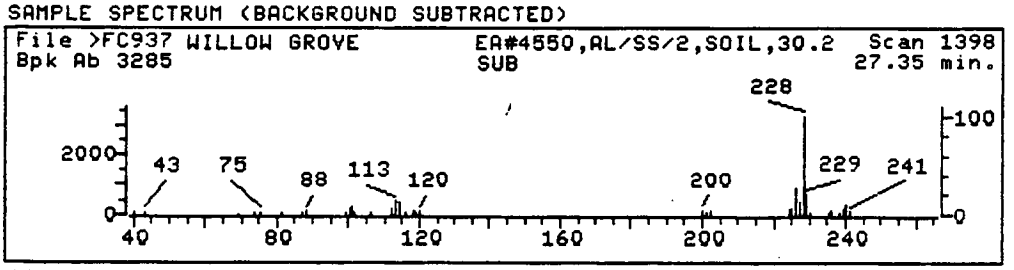
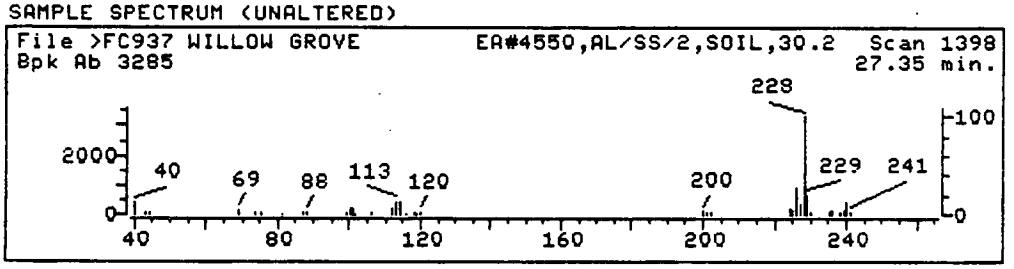


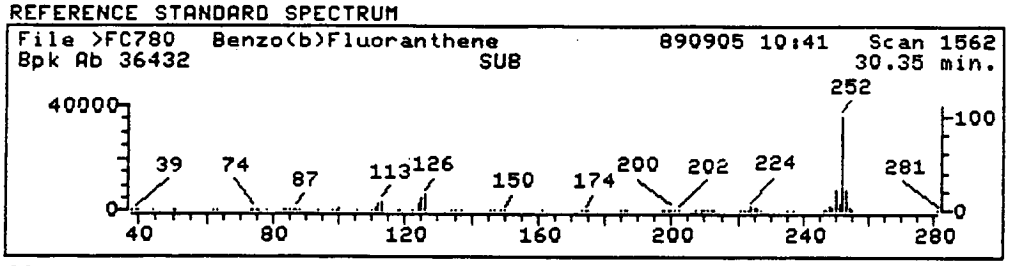
SAMPLE SPECTRUM (UNALTERED)



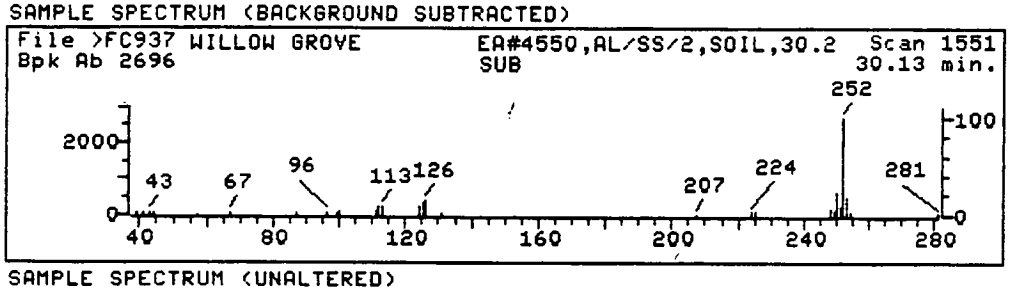
Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 69
Compound Name: Chrysene
Scan Number: 1398
Retention Time: 27.35 min.
Quant Ion: 228.0
Area: 9497
Concentration: 50.81 NG
q-value: 95

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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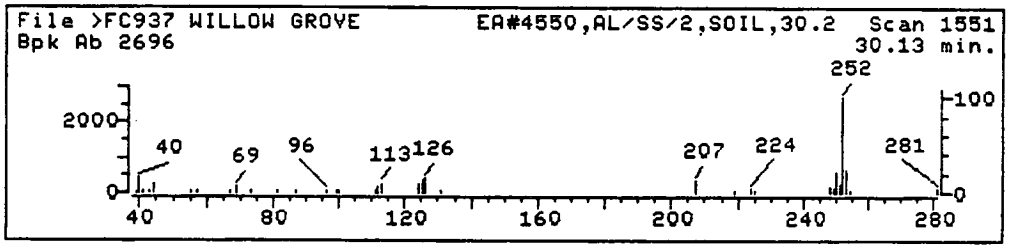

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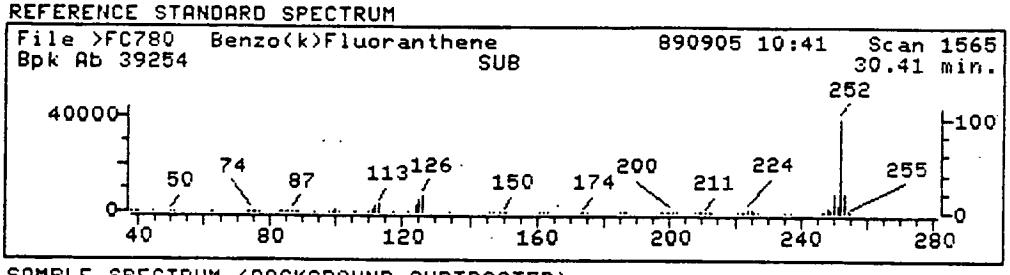
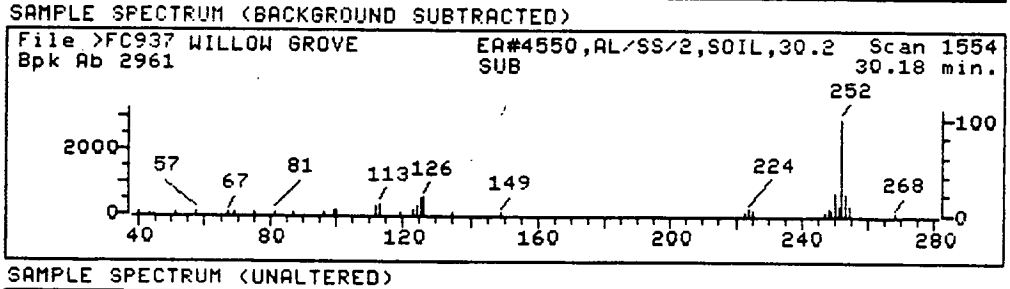
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1551
Retention Time: 30.13 min.
Quant Ion: 252.0
Area: 9064
Concentration: 47.42 NG
q-value: 91

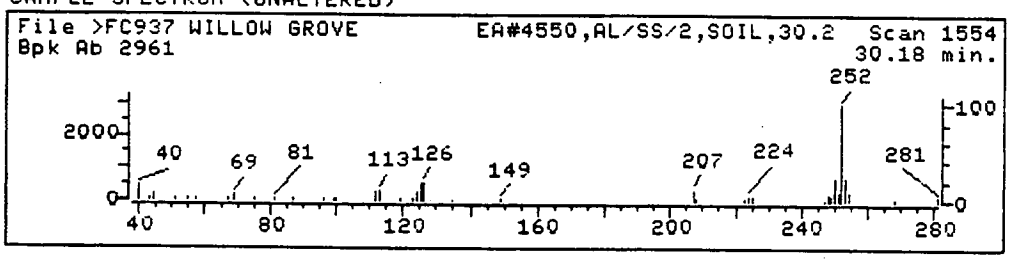
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



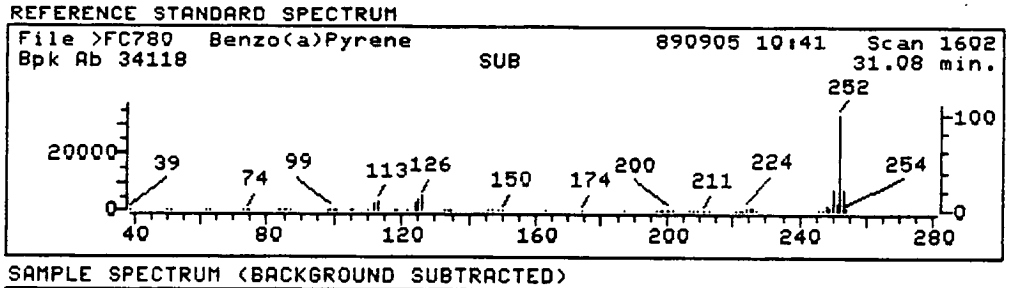
SAMPLE SPECTRUM (UNALTERED)



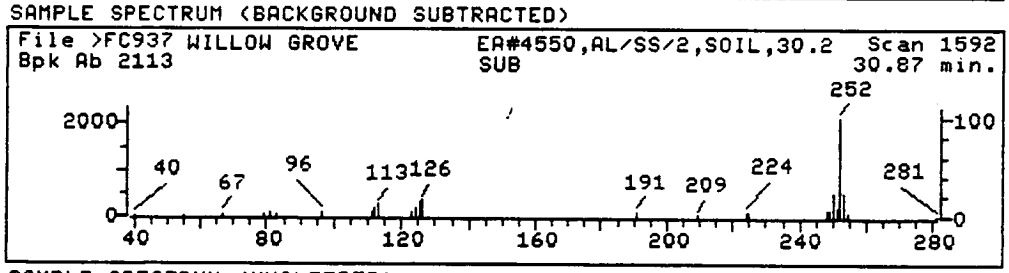
Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1554
Retention Time: 30.18 min.
Quant Ion: 252.0
Area: 6313M
Concentration: 34.35 NG
q-value: 90

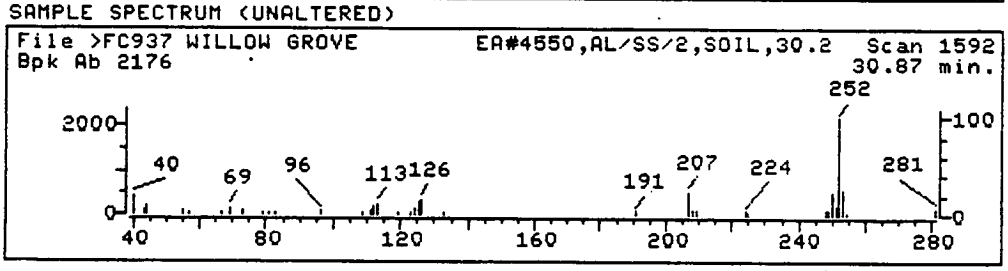
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



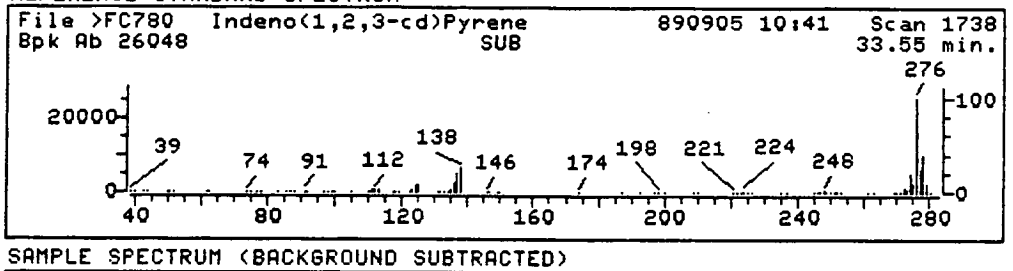
SAMPLE SPECTRUM (UNALTERED)



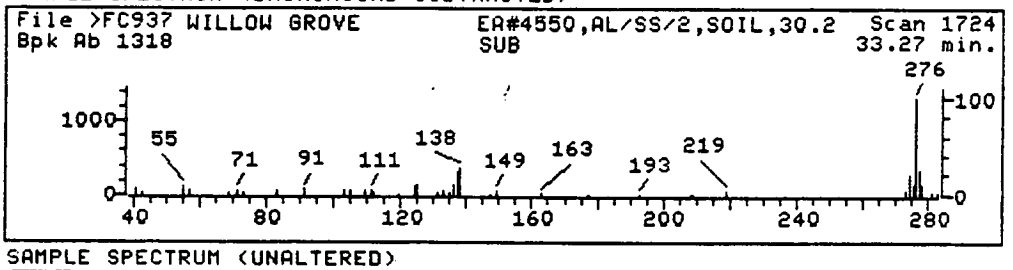
Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1592
Retention Time: 30.87 min.
Quant Ion: 252.0
Area: 6429
Concentration: 38.15 NG
q-value: 96

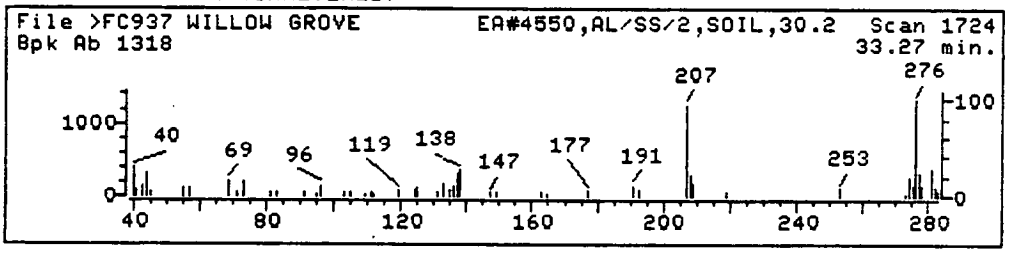
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



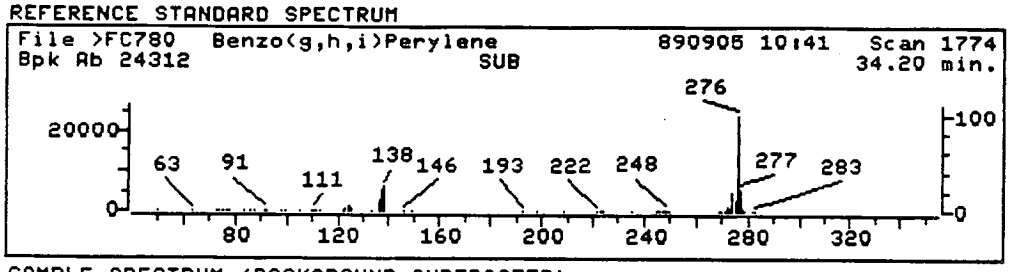
SAMPLE SPECTRUM (UNALTERED)



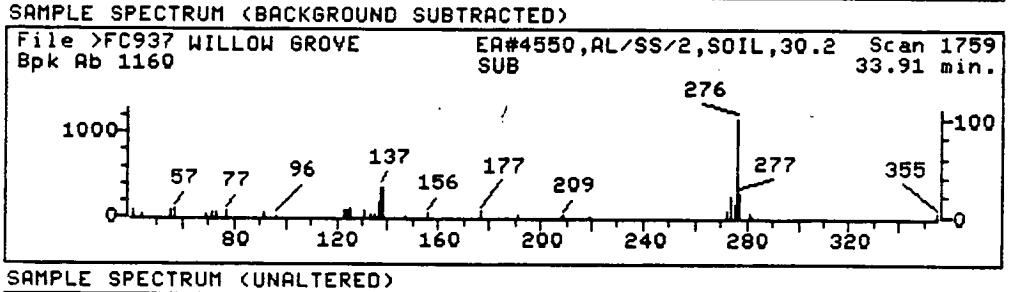
Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1724
Retention Time: 33.27 min.
Quant Ion: 276.0
Area: 5103
Concentration: 23.07 NG
q-value: 99

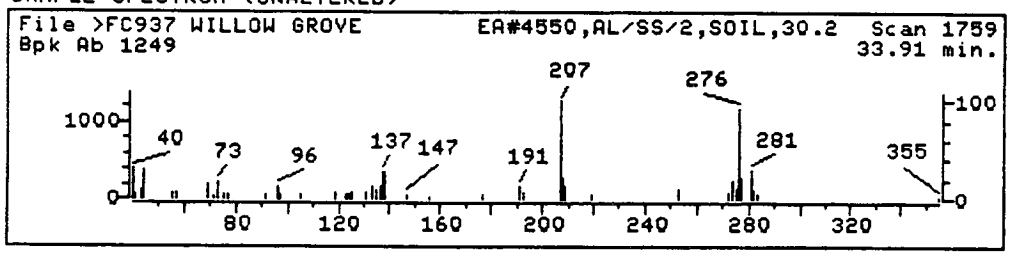
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >FC937::D4 Quant Output File: ^FC937::QT
Name: WILLOW GROVE
Misc: EA#4550,AL/SS/2,SOIL,30.25g,2mL, (1/10 DIL) BTL# 5
Quant Time: 891002 19:41 Quant ID File: IDFCLP::BD
Injected at: 891002 19:01 Last Calibration: 891002 15:39

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1759
Retention Time: 33.91 min.
Quant Ion: 276.0
Area: 4466
Concentration: 24.21 NG
q-value: 93

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4551
SAMPLE: AL/SS/3
GC/MS FILE: >FC938::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 19:51
SAMPLE--->EXTRACT:	30.48g-->2mL (1/10 dil)

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	8600.	ND
111-44-4	bis(2-Chloroethyl)ether	8600.	ND
95-57-8	2-Chlorophenol	8600.	ND
541-73-1	1,3-Dichlorobenzene	8600.	ND
106-46-7	1,4-Dichlorobenzene	8600.	ND
100-51-6	Benzyl Alcohol	8600.	ND
95-50-1	1,2-Dichlorobenzene	8600.	ND
95-48-7	2-Methylphenol	8600.	ND
39638-32-9	bis(2-chloroisopropyl)ether	8600.	ND
106-44-5	4-Methylphenol	8600.	ND
621-64-7	N-Nitroso-Di-n-propylamine	8600.	ND
67-72-1	Hexachloroethane	8600.	ND
98-95-3	Nitrobenzene	8600.	ND
78-59-1	Isophorone	8600.	ND
88-75-5	2-Nitrophenol	8600.	ND
105-67-9	2,4-Dimethylphenol	8600.	ND
65-85-0	Benzoic Acid	43000.	ND
111-91-1	bis(2-Chloroethoxy)methane	8600.	ND
120-83-2	2,4-Dichlorophenol	8600.	ND
120-82-1	1,2,4-Trichlorobenzene	8600.	ND
91-20-3	Naphthalene	8600.	ND
106-47-8	4-Chloroaniline	8600.	ND
87-68-3	Hexachlorobutadiene	8600.	ND
59-50-7	4-Chloro-3-methylphenol	8600.	ND
91-57-6	2-Methylnaphthalene	8600.	ND
77-47-4	Hexachlorocyclopentadiene	8600.	ND
88-06-2	2,4,6-Trichlorophenol	8600.	ND
95-95-4	2,4,5-Trichlorophenol	43000.	ND
91-58-7	2-Chloronaphthalene	8600.	ND
88-74-4	2-Nitroaniline	43000.	ND
131-11-3	Dimethylphthalate	8600.	ND
208-96-8	Acenaphthylene	8600.	ND
99-09-2	3-Nitroaniline	43000.	ND
83-32-9	Acenaphthene	8600.	ND
51-28-5	2,4-Dinitrophenol	43000.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4551
SAMPLE: AL/SS/3
GC/MS FILE: >FC938::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 19:51
SAMPLE--->EXTRACT:	30.48g-->2mL (1/10 dil)

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	43000.	ND
132-64-9	Dibenzofuran	8600.	ND
121-14-2	2,4-Dinitrotoluene	8600.	ND
606-20-2	2,6-Dinitrotoluene	8600.	ND
84-66-2	Diethylphthalate	8600.	ND
7005-72-3	4-Chlorophenyl-phenylether	8600.	ND
86-73-7	Fluorene	8600.	ND
100-01-6	4-Nitroaniline	43000.	ND
534-52-1	4,6-Dinitro-2-methylphenol	43000.	ND
86-30-6	N-Nitrosodiphenylamine	8600.	ND
101-55-3	4-Bromophenyl-phenylether	8600.	ND
118-74-1	Hexachlorobenzene	8600.	ND
87-86-5	Pentachlorophenol	43000.	ND
85-01-8	Phenanthrene	8600.	ND
120-12-7	Anthracene	8600.	ND
84-74-2	Di-n-Butyl phthalate	8600.	ND
206-44-0	Fluoranthene	8600.	ND
129-00-0	Pyrene	8600.	ND
85-68-7	Butylbenzylphthalate	8600.	ND
91-94-1	3,3'-Dichlorobenzidine	17000.	ND
56-55-3	Benzo(a)Anthracene	8600.	ND
117-81-7	bis(2-Ethylhexyl)phthalate	8600.	ND
218-01-9	Chrysene	8600.	ND
117-84-0	Di-n-Octyl phthalate	8600.	ND
205-99-2	Benzo(b)Fluoranthene	8600.	ND
207-08-9	Benzo(k)Fluoranthene	8600.	ND
50-32-8	Benzo(a)Pyrene	8600.	ND
193-39-5	Indeno(1,2,3-cd)Pyrene	8600.	ND
53-70-3	Dibenzo(a,h)Anthracene	8600.	ND
191-24-2	Benzo(g,h,i)Perylene	8600.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

AL SS 3

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: EA#4551

Sample wt/vol: 30.48 (g/mL) g Lab File ID: >FC 938

Level: (low/med) LOW Date Received: 09/25/89

% Moisture: not dec. 23.4 dec. _____ Date Extracted: 09/26/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/02/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1/10

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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20.				
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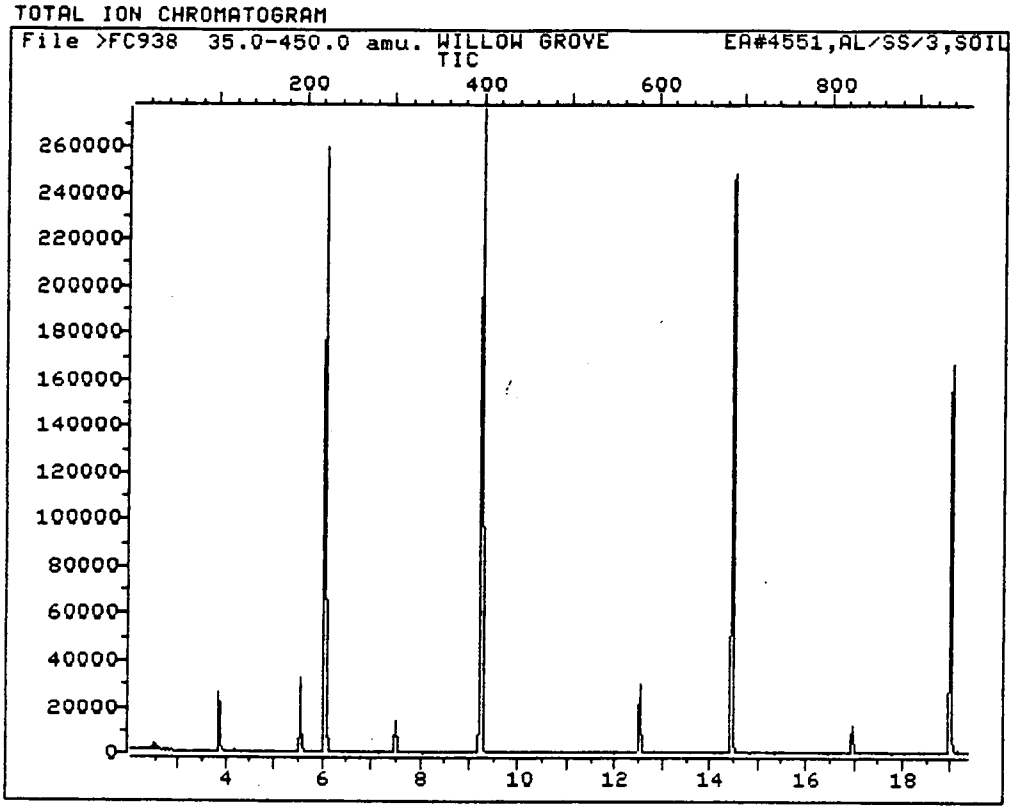
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



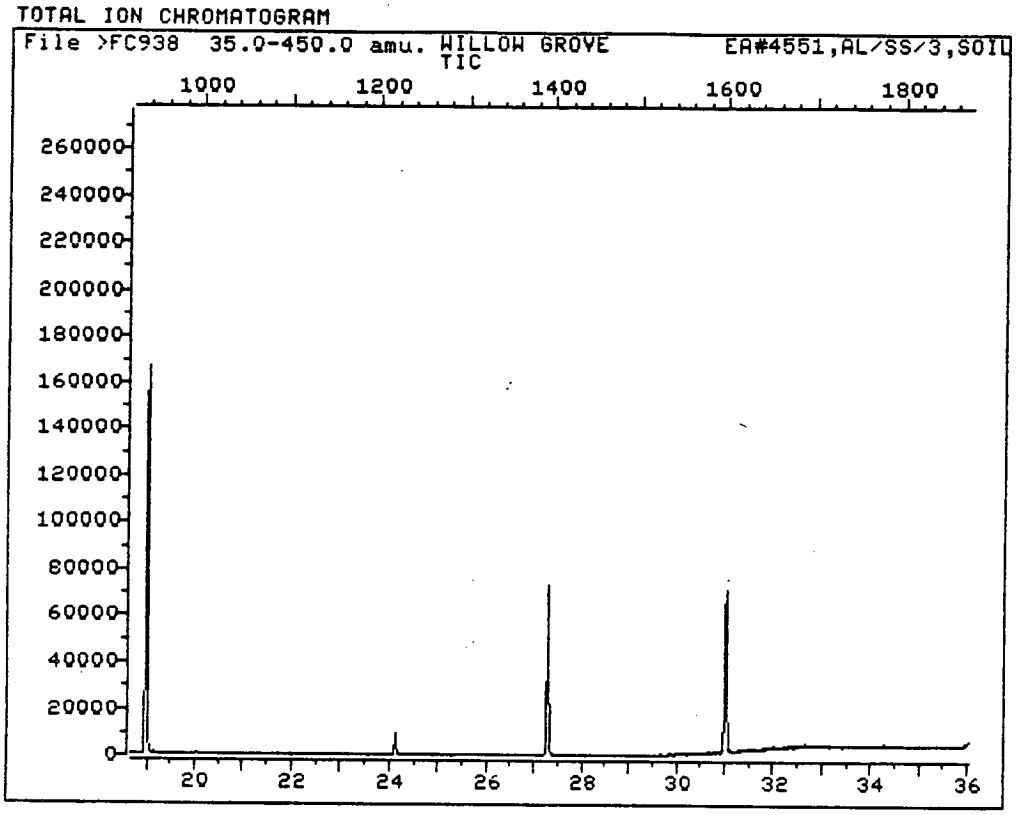
Data File: >FC938::D4 Quant Output File: ^FC938::QT
Name: WILLOW GROVE
Misc: EA#4551,AL/SS/3,SOIL,30.48g,2mL, (1/10 DIL) BTL# 6

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 20:31
Injected at: 891002 19:51

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC938::D4 Quant Output File: ^FC938::QT
Name: WILLOW GROVE
Misc: EA#4551,AL/SS/3,SOIL,30.48g,2mL, (1/10 DIL) BTL# 6

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 20:31
Injected at: 891002 19:51

TIC page 2 of 2

QUANT REPORT

Operator ID: JUANEAU Quant Rev: 6 Quant Time: 891002 20:31
Output File: ^FC938::QT Injected at: 891002 19:51
Data File: >FC938::D4 Dilution Factor: 10.00000
Name: WILLOW GROVE
Misc: EA#4551,AL/SS/3,SOIL,30.48g,2mL, (1/10 DIL) BTL# 6

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.05	152.0	80913	40.00	NG		99
2)	2-Fluorophenol	3.86	112.0	13747	61.30	NG	61%	79
3)	Phenol-d5	5.54	99.0	21384	80.62	NG	81%	94
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG		
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.24	136.0	301684	40.00	NG		88
17)	Nitrobenzene-d5	7.50	82.0	9900	37.87	NG	76%	98
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	Benzoic Acid	0.00	122.0	0	0.00	NG		
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	H xachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.47	164.0	142006	40.00	NG		97
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.53	172.0	22560	53.84	NG	108%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.49	163.0	47024	~~97.23~~	NG		54
39)	Acenaphthylene	0.00	152.0	0	0.00	NG		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	0.00	153.0	0	0.00	NG		
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

QUANT REPORT
page 2

Output File:^FC938:: Data File:>FC938::D4

	Compound	R.T.	Q ion	Area	Conc	Units		q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG		
44)	Dibenzofuran	0.00	168.0	0	0.00	NG		
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG		
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG		
47)	Diethylphthalate	0.00	149.0	0	0.00	NG		
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG		
49)	Fluorene	0.00	166.0	0	0.00	NG		
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG		
51)	*d10-Phenanthrene	19.00	188.0	171525	40.00	NG		98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG		
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG		
54)	2,4,6-Tribromophenol	16.97	329.9	4227	69.81	NG	70%	96
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG		
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG		
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG		
58)	Phenanthrene	0.00	178.0	0	0.00	NG		
59)	Anthracene	0.00	178.0	0	0.00	NG		
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG		
61)	Fluoranthene	0.00	202.0	0	0.00	NG		
62)	*d12-Chrysene	27.29	240.0	67180	40.00	NG		97
63)	Pyrene	0.00	202.0	0	0.00	NG		
64)	Terphenyl-d14	24.14	244.0	10607	59.24	NG	118%	89
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG		
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG		
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG		
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG		
69)	Chrysene	0.00	228.0	0	0.00	NG		
70)	*d12-Perylene	31.03	264.0	66693	40.00	NG		95
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG		
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG		
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG		
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG		
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG		
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG		
77)	B nzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG		

* Compound is ISTD

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4552
SAMPLE: AL SS4
GC/MS FILE: >FC919::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 20:20
SAMPLE--->EXTRACT:	30.37g-->2mL(1/10 DIL)

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	12000.	ND
111-44-4	bis(2-Chloroethyl)ether	12000.	ND
95-57-8	2-Chlorophenol	12000.	ND
541-73-1	1,3-Dichlorobenzene	12000.	ND
106-46-7	1,4-Dichlorobenzene	12000.	ND
100-51-6	Benzyl Alcohol	12000.	ND
95-50-1	1,2-Dichlorobenzene	12000.	ND
95-48-7	2-Methylphenol	12000.	ND
39638-32-9	bis(2-chloroisopropyl)ether	12000.	ND
106-44-5	4-Methylphenol	12000.	ND
621-64-7	N-Nitroso-Di-n-propylamine	12000.	ND
67-72-1	Hexachloroethane	12000.	ND
98-95-3	Nitrobenzene	12000.	ND
78-59-1	Isophorone	12000.	ND
88-75-5	2-Nitrophenol	12000.	ND
105-67-9	2,4-Dimethylphenol	12000.	ND
65-85-0	Benzoic Acid	62000.	ND
111-91-1	bis(2-Chloroethoxy)methane	12000.	ND
120-83-2	2,4-Dichlorophenol	12000.	ND
120-82-1	1,2,4-Trichlorobenzene	12000.	ND
91-20-3	Naphthalene	1900.	TR
106-47-8	4-Chloroaniline	12000.	ND
87-68-3	Hexachlorobutadiene	12000.	ND
59-50-7	4-Chloro-3-methylphenol	12000.	ND
91-57-6	2-Methylnaphthalene	1100.	TR
77-47-4	Hexachlorocyclopentadiene	12000.	ND
88-06-2	2,4,6-Trichlorophenol	12000.	ND
95-95-4	2,4,5-Trichlorophenol	62000.	ND
91-58-7	2-Chloronaphthalene	12000.	ND
88-74-4	2-Nitroaniline	62000.	ND
131-11-3	Dimethylphthalate	12000.	ND
208-96-8	Acenaphthylene	12000.	ND
99-09-2	3-Nitroaniline	62000.	ND
83-32-9	Acenaphthene	6300.	TR
51-28-5	2,4-Dinitrophenol	62000.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4552
SAMPLE: AL SS4
GC/MS FILE: >FC919::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 20:20
SAMPLE--->EXTRACT:	30.37g-->2mL(1/10 DIL)

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	62000.	ND
132-64-9	Dibenzofuran	9900.	TR
121-14-2	2,4-Dinitrotoluene	12000.	ND
606-20-2	2,6-Dinitrotoluene	12000.	ND
84-66-2	Diethylphthalate	12000.	ND
7005-72-3	4-Chlorophenyl-phenylether	12000.	ND
86-73-7	Fluorene	16000.	
100-01-6	4-Nitroaniline	62000.	ND
534-52-1	4,6-Dinitro-2-methylphenol	62000.	ND
86-30-6	N-Nitrosodiphenylamine	12000.	ND
101-55-3	4-Bromophenyl-phenylether	12000.	ND
118-74-1	Hexachlorobenzene	12000.	ND
87-86-5	Pentachlorophenol	62000.	ND
85-01-8	Phenanthrene	120000	
120-12-7	Anthracene	11000.	TR
84-74-2	Di-n-Butyl phthalate	12000.	ND
206-44-0	Fluoranthene	110000	
129-00-0	Pyrene	85000.	
85-68-7	Butylbenzylphthalate	12000.	ND
91-94-1	3,3'-Dichlorobenzidine	25000.	ND
56-55-3	Benzo(a)Anthracene	29000.	
117-81-7	bis(2-Ethylhexyl)phthalate	1100.	TR
218-01-9	Chrysene	37000.	
117-84-0	Di-n-Octyl phthalate	12000.	ND
205-99-2	Benzo(b)Fluoranthene	23000.	
207-08-9	Benzo(k)Fluoranthene	31000.	
50-32-8	Benzo(a)Pyrene	28000.	
193-39-5	Indeno(1,2,3-cd)Pyrene	16000.	
53-70-3	Dibenzo(a,h)Anthracene	6700.	TR
191-24-2	Benzo(g,h,i)Perylene	16000.	

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A2/SS/4

Lab Name: EA LABORATORIES Contract: 10388.05-

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: EA#4552

Sample wt/vol: 30.37 (g/mL) g Lab File ID: >FC 919

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 46.5 dec. _____ Date Extracted: 9/26/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 9/28/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1/10

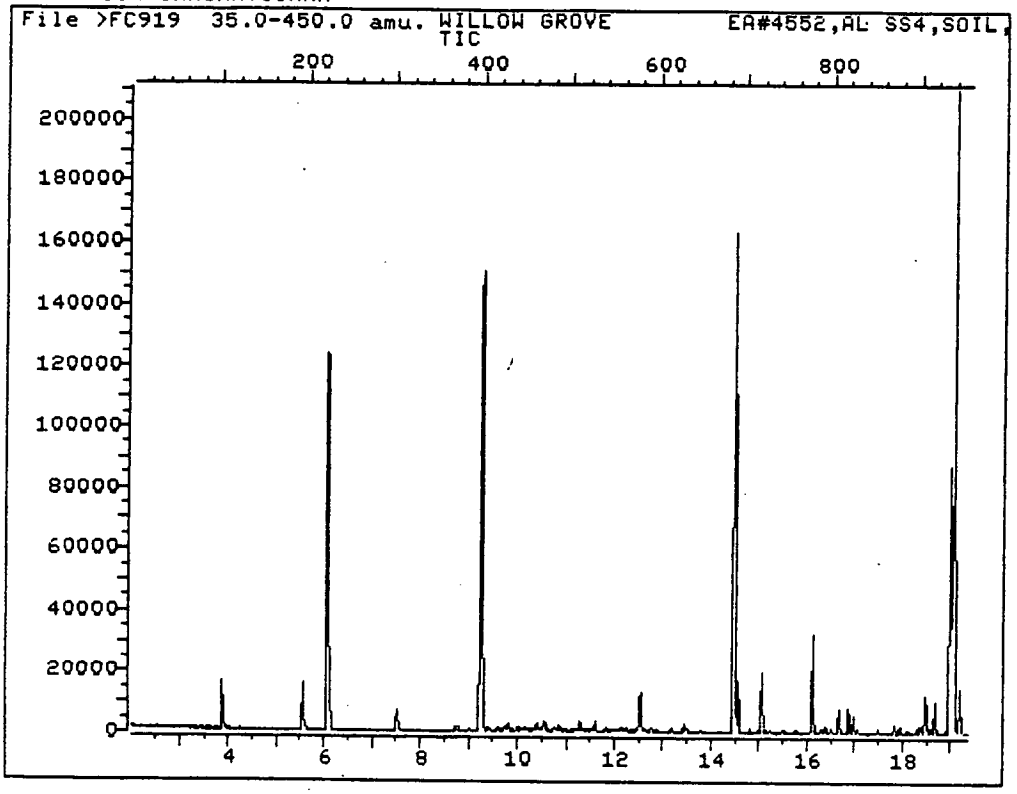
Number TICs found: 11 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	84117	9,10 Phenanthrenedione	18.49	5400	J
2.	132650	Dibenzothiophene	18.69	5000	J
3.	—	Unidentified PAH	20.60	9800	J
4.	—	Unidentified PAH	20.67	6300	J
5.	203645	4H-Cyclopenta[def]phenanthrene	20.94	11000	J
6.	84651	9,10-Anthracenedione	21.69	7700	J
7.	—	Unidentified PAH	24.57	8100	J
8.	—	Unknown	26.62	5600	J
9.	—	Unidentified PAH	28.47	5900	J
10.	—	Unidentified alkane	29.45	6800	J
11.	—	Unidentified PAH	30.78	13000	J
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



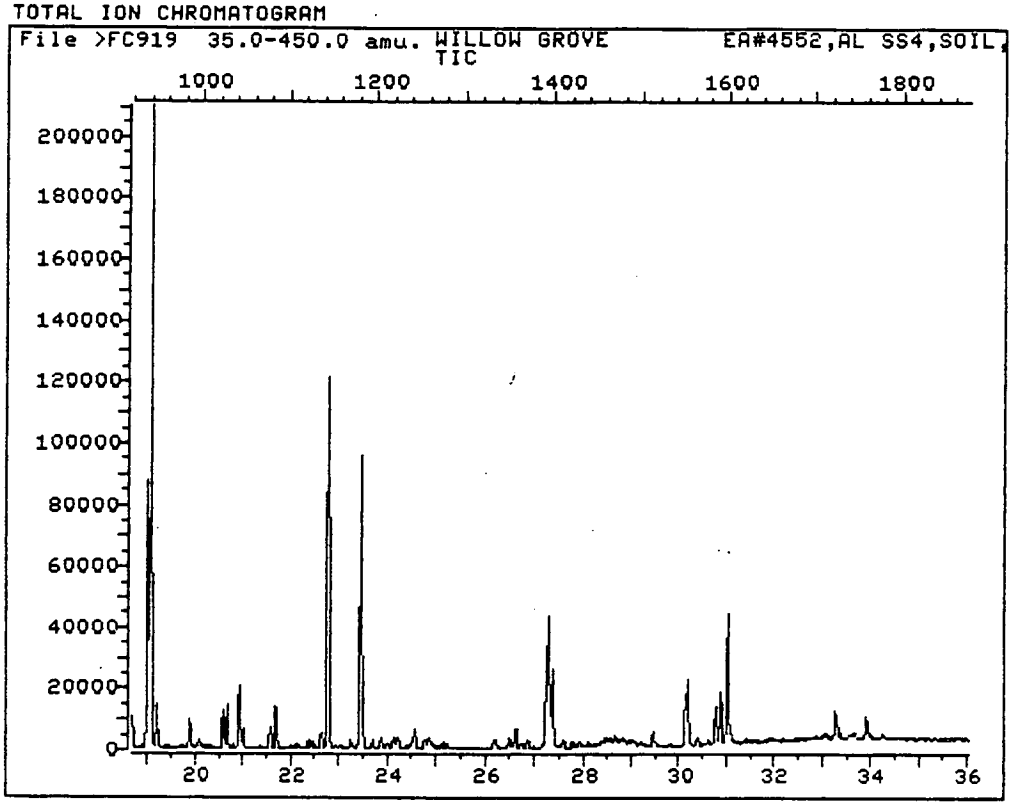
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890928 20:59
Injected at: 890928 20:20

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890928 20:59
Injected at: 890928 20:20

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890928 20:59
Output File: ^FC919::QT Injected at: 890928 20:20
Data File: >FC919::D5 Dilution Factor: 10.00000
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	6.05	152.0	53612	40.00	NG	96
2)	2-Fluorophenol	3.88	112.0	8263	52.11	NG 52%	92
3)	Phenol-d5	5.54	99.0	12868	75.56	NG 76%	88
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	9.24	136.0	182890	40.00	NG	88
17)	Nitrobenzene-d5	7.52	82.0	4931	32.43	NG 65%	97
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	9.30	128.0	5858	15.71	NG ✓	90
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	11.29	142.0	2154	9.08	NG ✓	91
31)	*d10-Acenaphthene	14.48	164.0	79555	40.00	NG	97
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	12.54	172.0	10793	45.01	NG 90%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	14.48	163.0	26524	~~102.01~~	NG	51
39)	Acenaphthylene	14.01	152.0	555	~~1.73~~	NG	95
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	14.58	153.0	10604	51.42	NG ✓	97
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

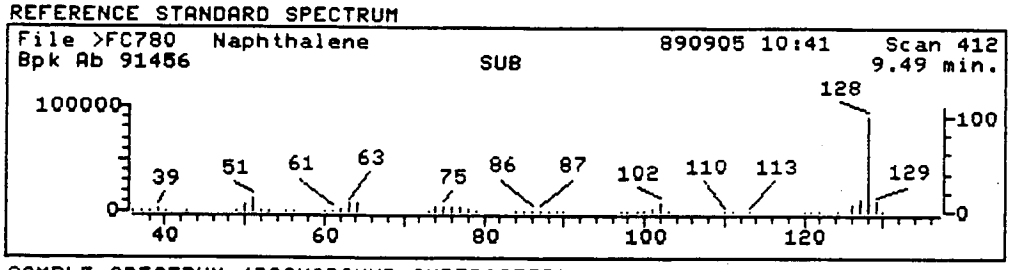
QUANT REPORT
page 2

Output File:^FC919:: Data File:>FC919::D5

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	15.07	168.0	19643	80.50	NG	92
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	16.12	166.0	23741	128.87	NG	97
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	19.00	188.0	87871	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.97	329.9	2296	79.29	NG 79%	97
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	19.07	178.0	199682	996.43	NG	98
59)	Anthracene	19.20	178.0	15652	85.72	NG	98
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	22.77	202.0	151041	864.84	NG	91
62)	*d12-Chrysene	27.29	240.0	37513	40.00	NG	99
63)	Pyrene	23.46	202.0	103818	692.92	NG	97
64)	Terphenyl-d14	24.13	244.0	4059	37.87	NG 76%	87
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	27.24	228.0	22725	235.51	NG	94
68)	bis(2-Ethylhexyl)phthalate	27.78	149.0	1017	9.33	NG	90
69)	Chrysene	27.36	228.0	28881	303.57	NG	95
70)	*d12-Perylene	31.03	264.0	37648	40.00	NG	94
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	B nzo(b)Fluoranthene	30.14	252.0	16926	187.72	NG	93
73)	Benzo(k)Fluoranthene	30.19	252.0	20813	255.79	NG	96
74)	Benzo(a)Pyrene	30.89	252.0	17788	228.89	NG	97
75)	Indeno(1,2,3-cd)Pyrene	33.28	276.0	12195	126.26	NG	97
76)	Dibenzo(a,h)Anthracene	33.32	278.0	4170	54.56	NG	85
77)	Benzo(g,h,i)Perylene	33.92	276.0	10585	127.36	NG	89

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



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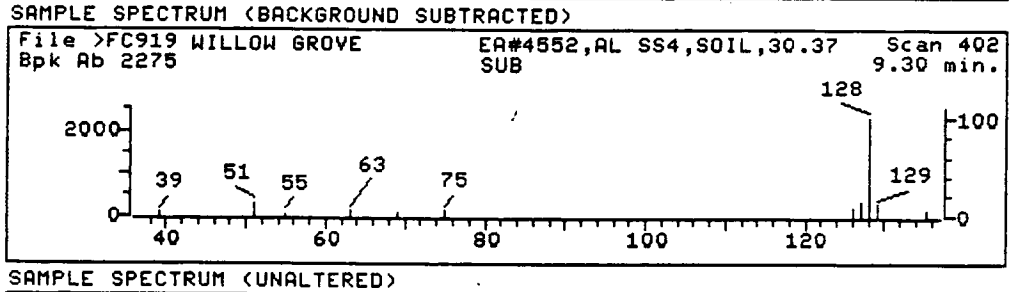

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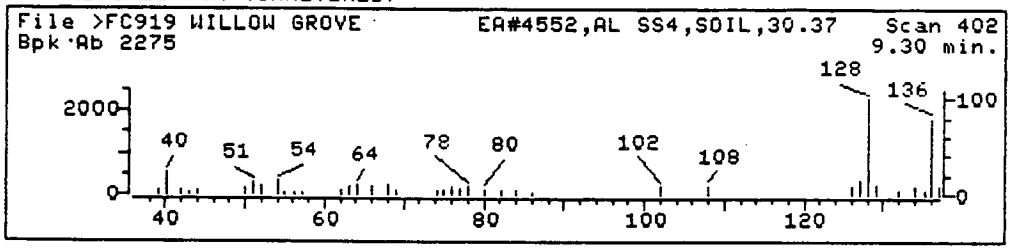
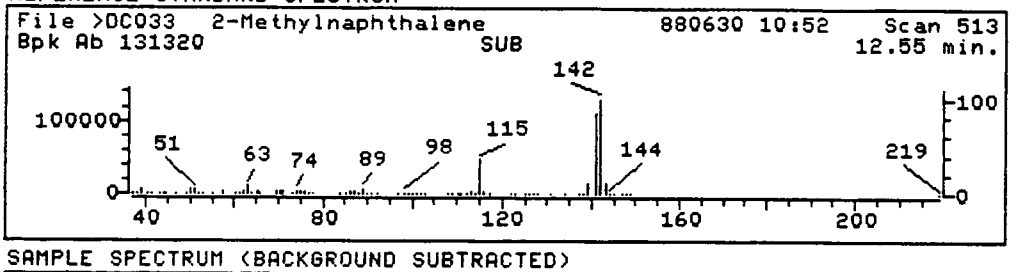


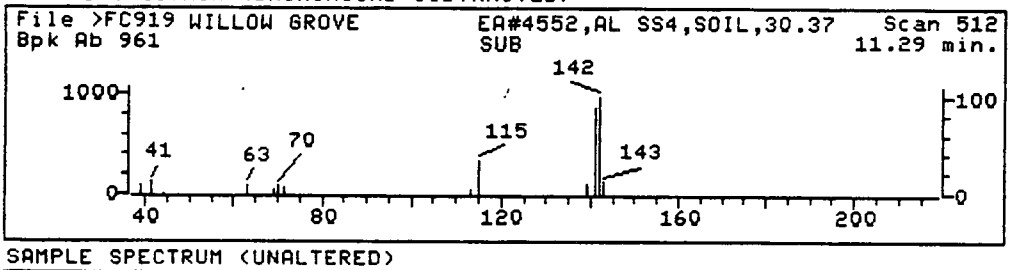
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 26
Compound Name: Naphthalene
Scan Number: 402
Retention Time: 9.30 min.
Quant Ion: 128.0
Area: 5858
Concentration: 15.71 NG
q-value: 90

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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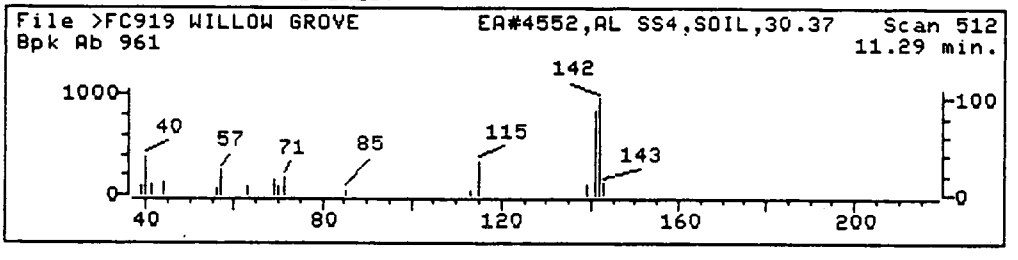
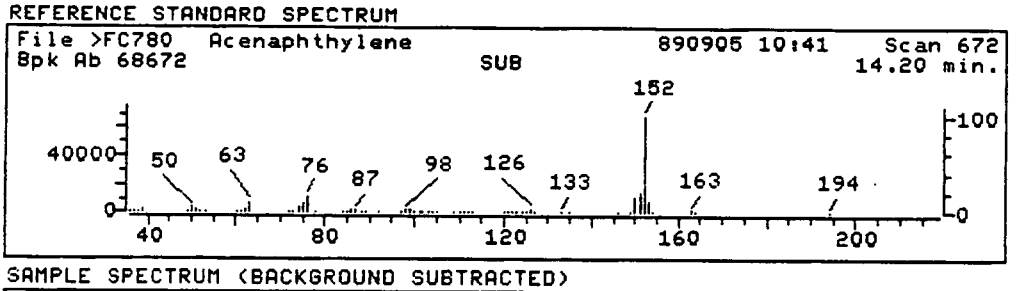


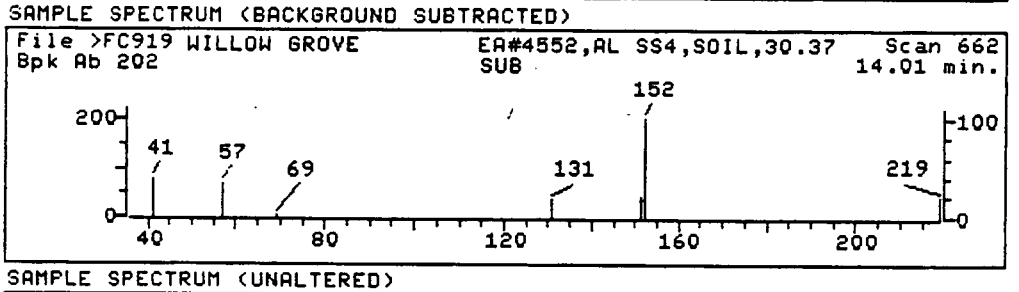
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 30
Compound Name: 2-Methylnaphthalene
Scan Number: 512
Retention Time: 11.29 min.
Quant Ion: 142.0
Area: 2154
Concentration: 9.08 NG
q-value: 91

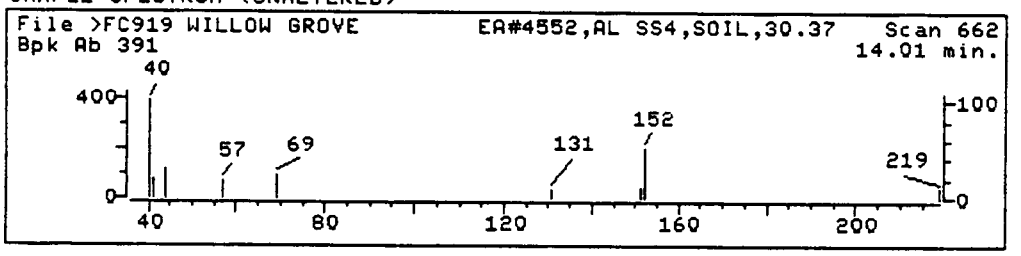
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



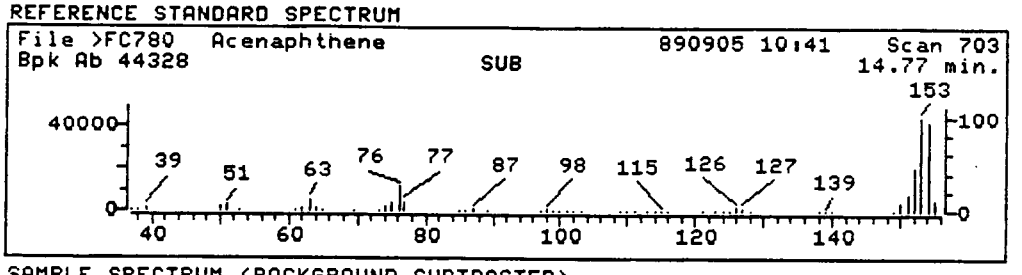
SAMPLE SPECTRUM (UNALTERED)



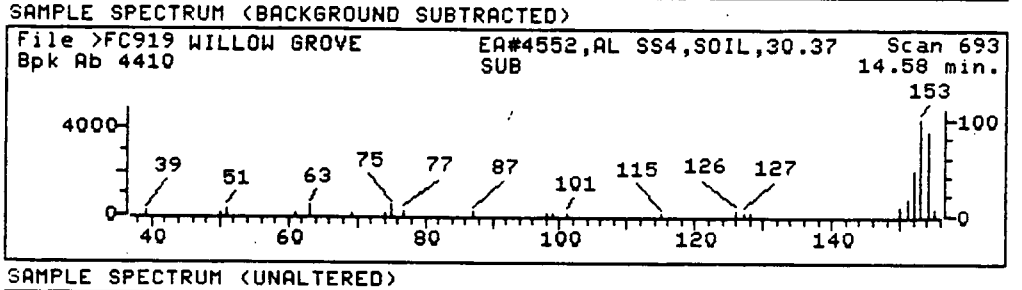
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 39
Compound Name: Acenaphthylene
Scan Number: 662
Retention Time: 14.01 min.
Quant Ion: 152.0
Area: 555
Concentration: 1.73 NG
q-value: 95

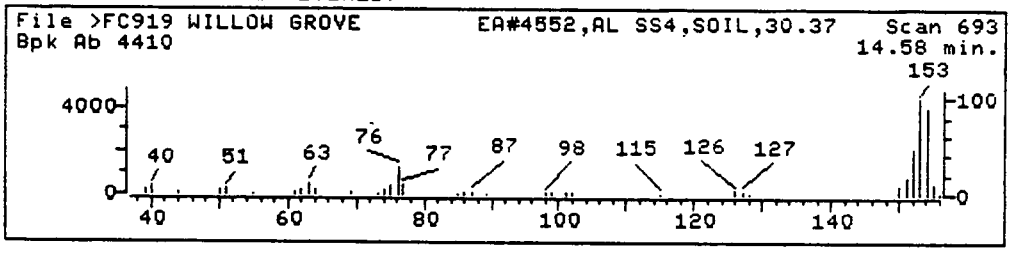
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



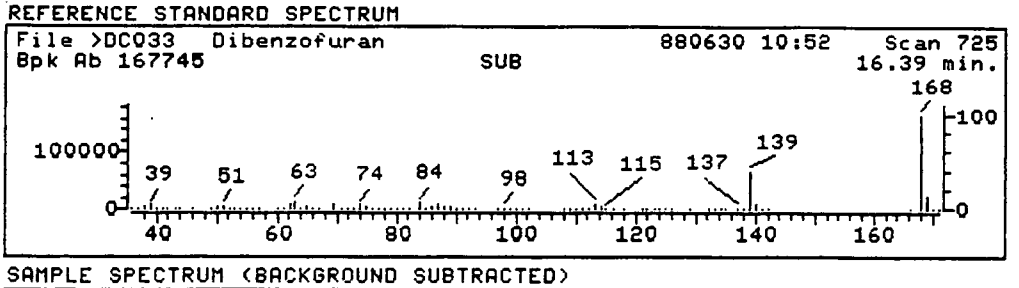
SAMPLE SPECTRUM (UNALTERED)



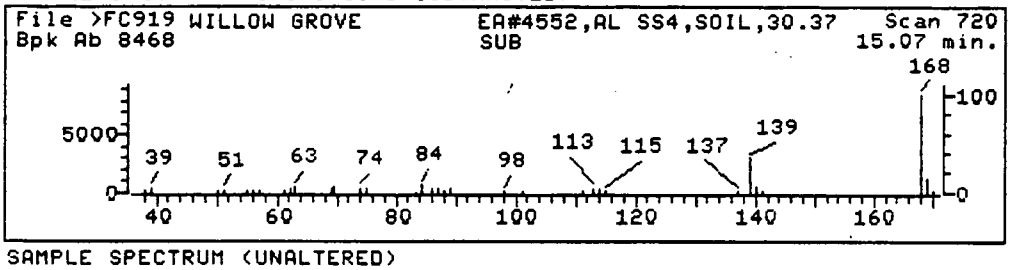
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 41
Compound Name: Acenaphthene
Scan Number: 693
Retention Time: 14.58 min.
Quant Ion: 153.0
Area: 10604
Concentration: 51.42 NG
q-value: 97

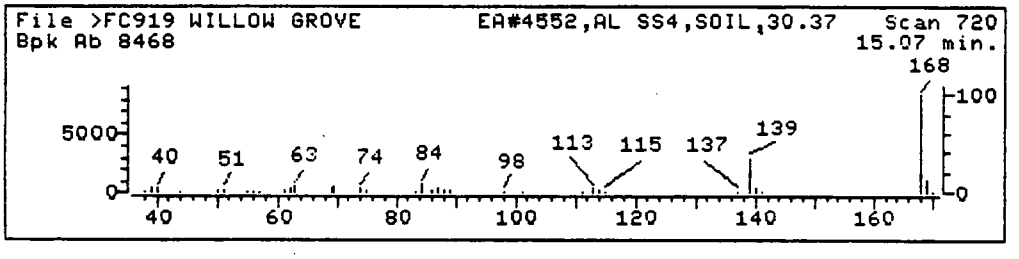
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



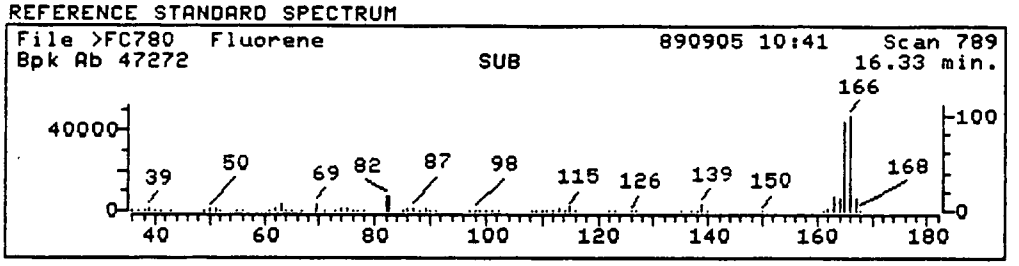
SAMPLE SPECTRUM (UNALTERED)



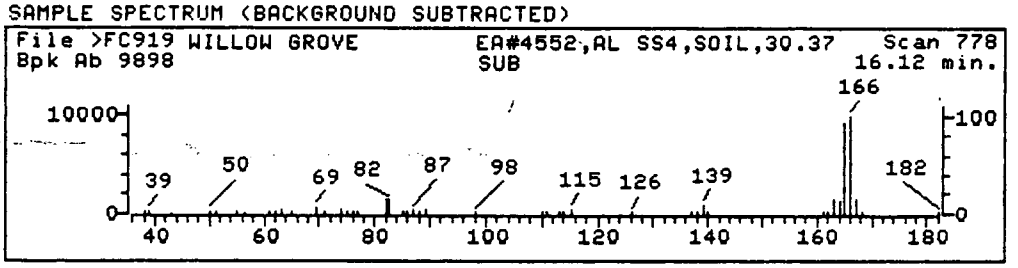
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 44
Compound Name: Dibenzofuran
Scan Number: 720
Retention Time: 15.07 min.
Quant Ion: 168.0
Area: 19643
Concentration: 80.50 NG
q-value: 92

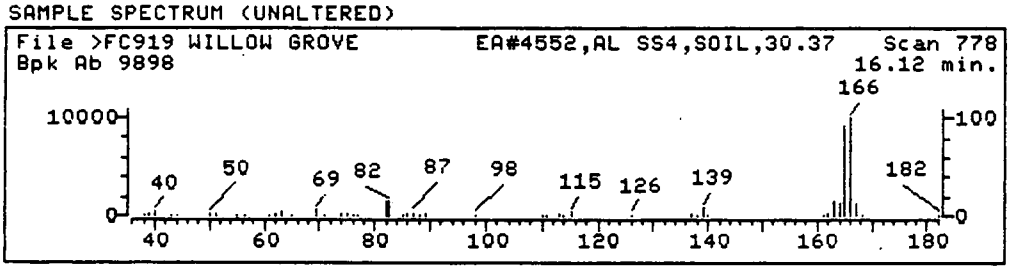
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



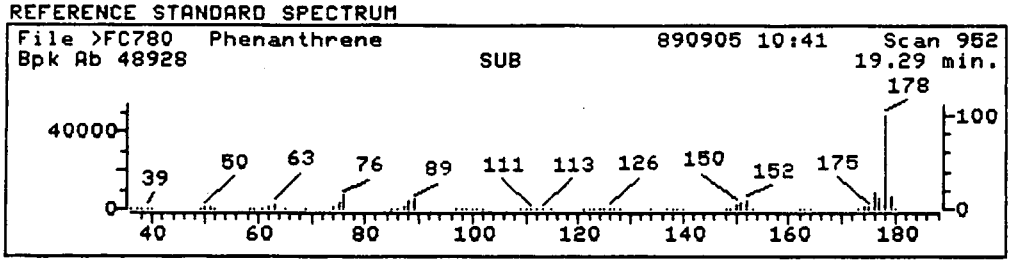
SAMPLE SPECTRUM (UNALTERED)



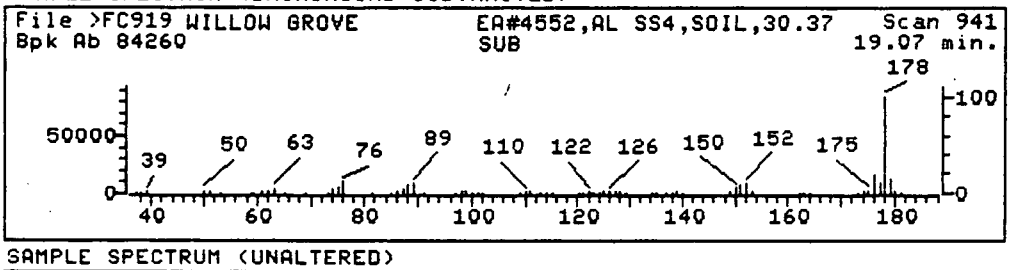
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 49
Compound Name: Fluorene
Scan Number: 778
Retention Time: 16.12 min.
Quant Ion: 166.0
Area: 23741
Concentration: 128.87 NG
q-value: 97

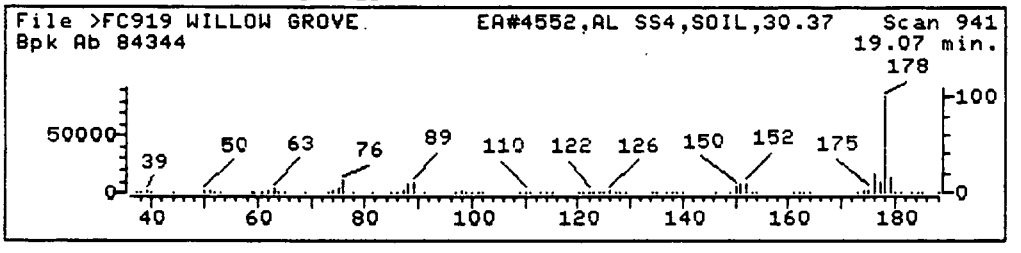
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



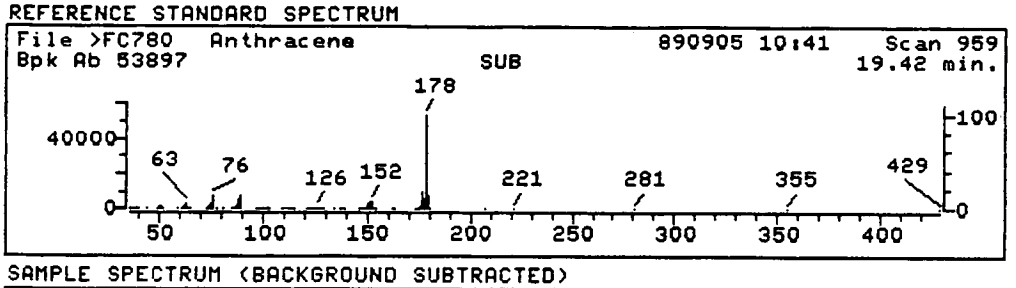
SAMPLE SPECTRUM (UNALTERED)



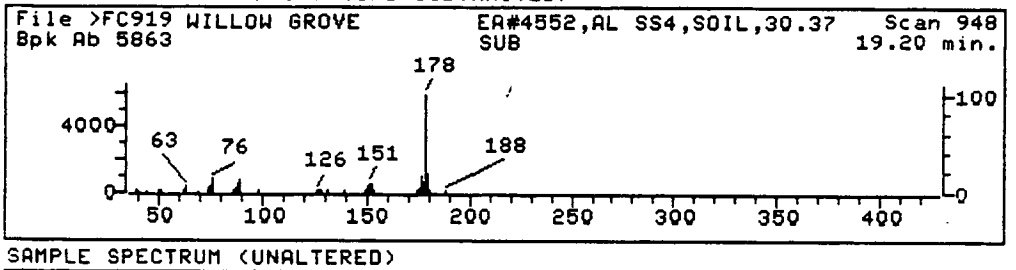
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 941
Retention Time: 19.07 min.
Quant Ion: 178.0
Area: 199682
Concentration: 996.43 NG
q-value: 98

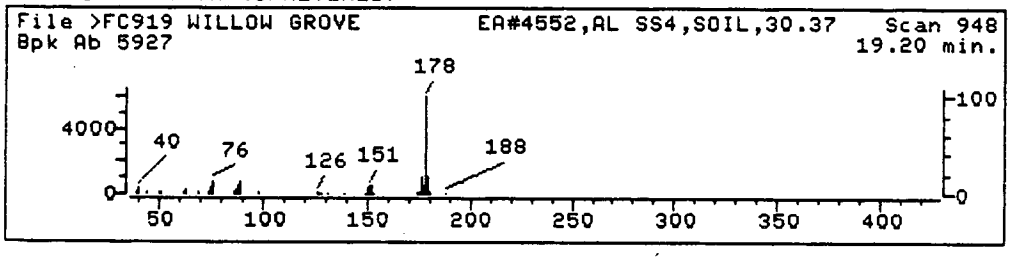
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



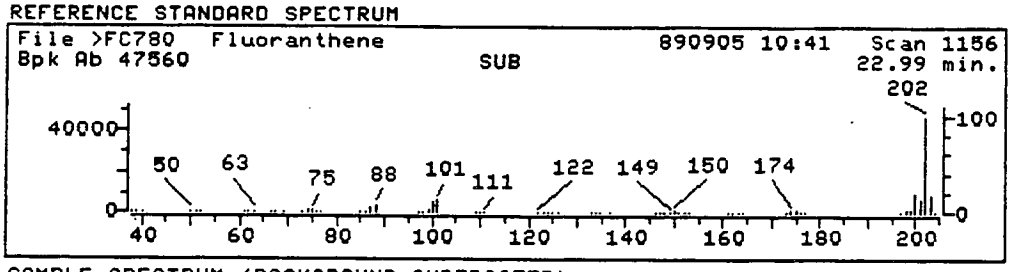
SAMPLE SPECTRUM (UNALTERED)



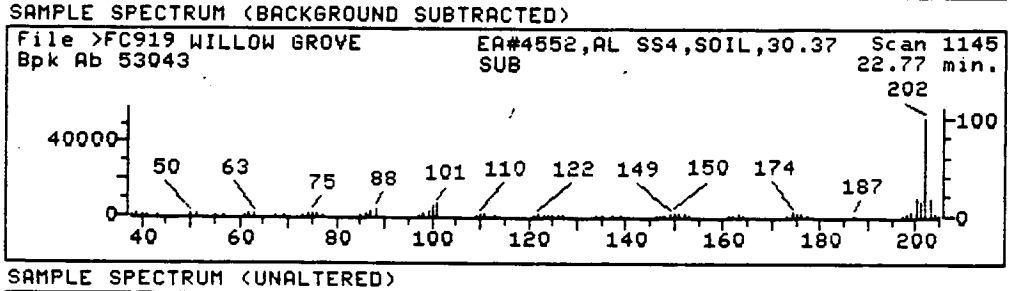
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP:::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 59
Compound Name: Anthracene
Scan Number: 948
Retention Time: 19.20 min.
Quant Ion: 178.0
Area: 15652
Concentration: 85.72 NG
q-value: 98

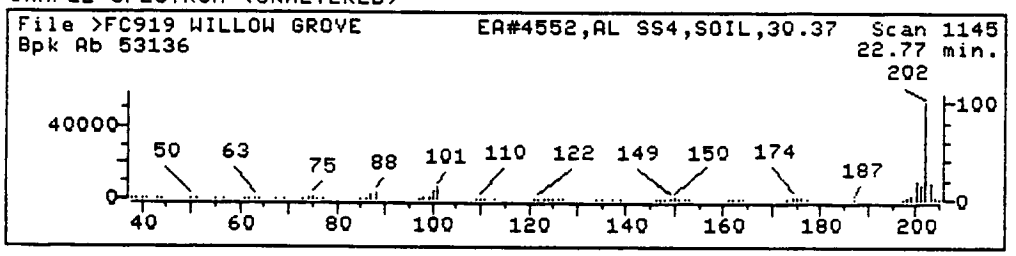
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



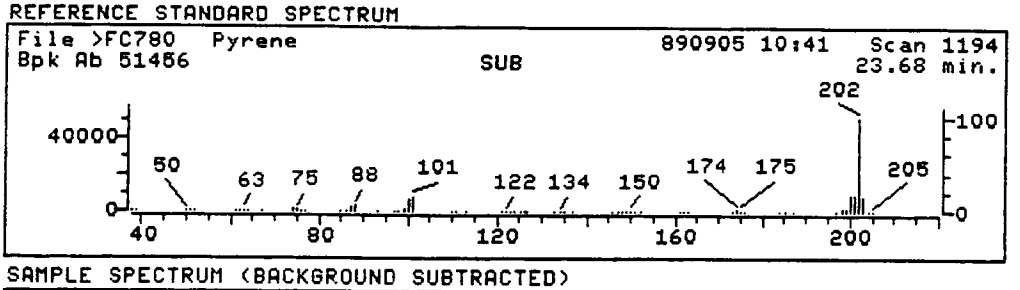
SAMPLE SPECTRUM (UNALTERED)



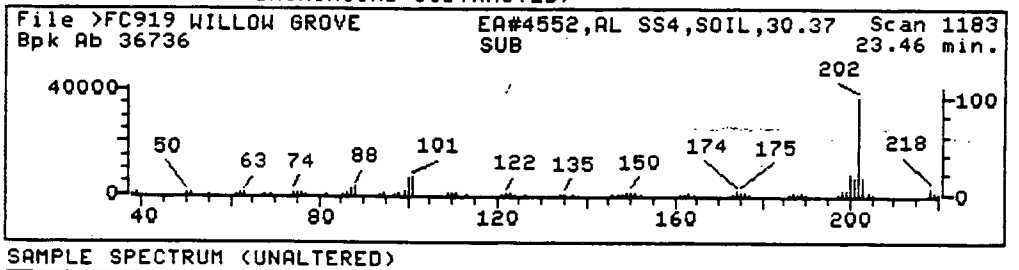
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1145
Retention Time: 22.77 min.
Quant Ion: 202.0
Area: 151041
Concentration: 864.84 NG
q-value: 91

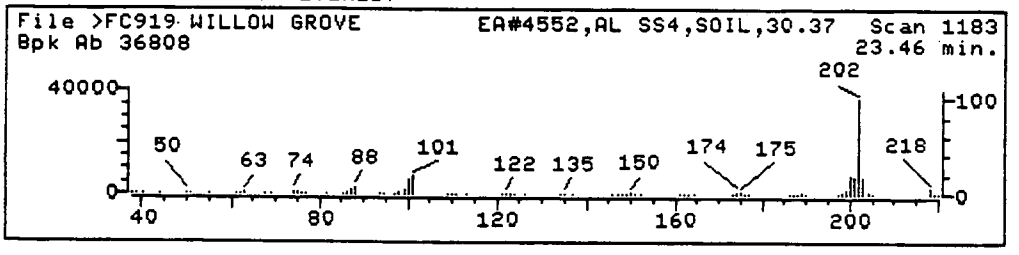
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



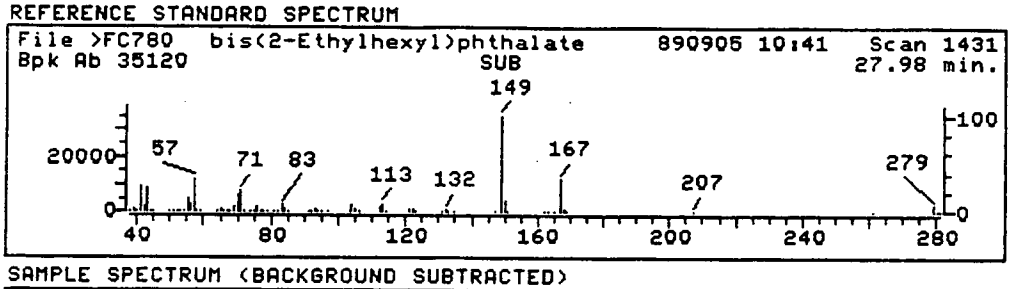
SAMPLE SPECTRUM (UNALTERED)



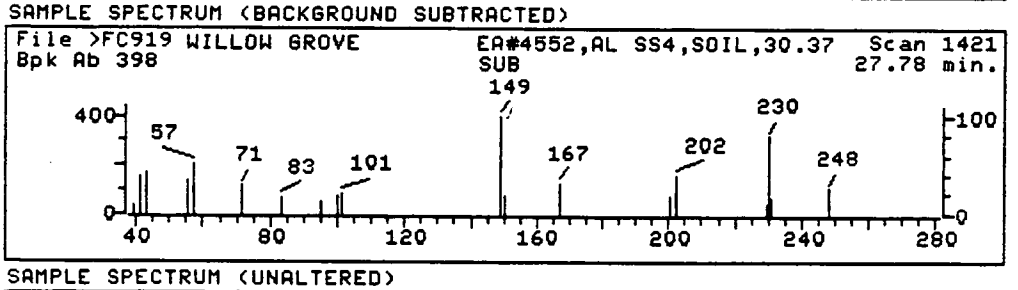
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 63
Compound Name: Pyrene
Scan Number: 1183
Retention Time: 23.46 min.
Quant Ion: 202.0
Area: 103818
Concentration: 692.92 NG
q-value: 97

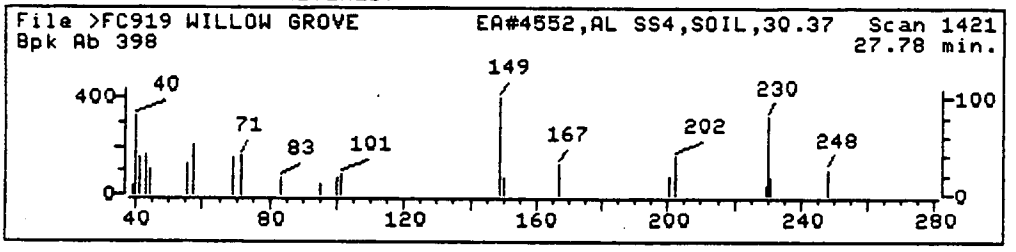
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



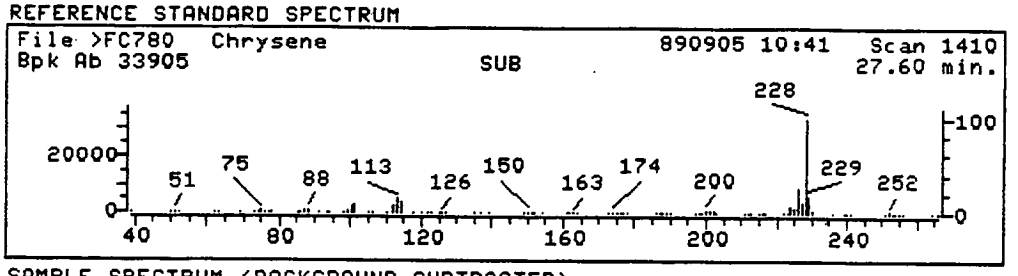
SAMPLE SPECTRUM (UNALTERED)



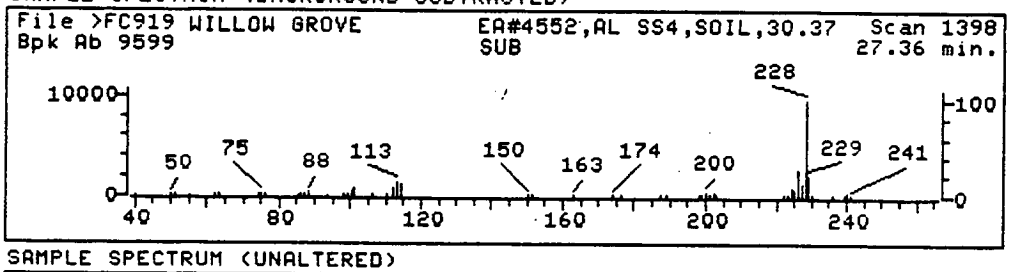
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1421
Retention Time: 27.78 min.
Quant Ion: 149.0
Ar a: 1017
Concentration: 9.33 NG
q-value: 90

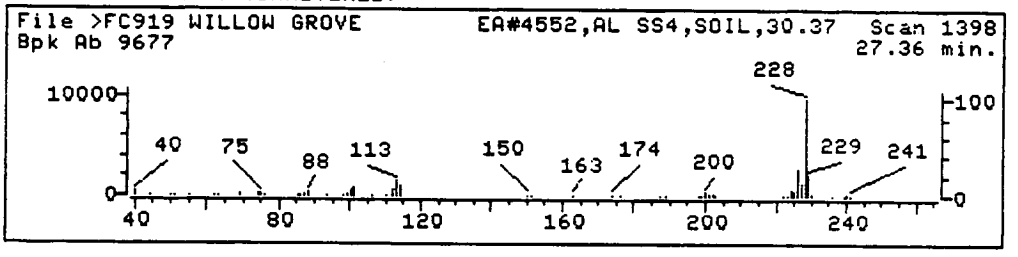
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



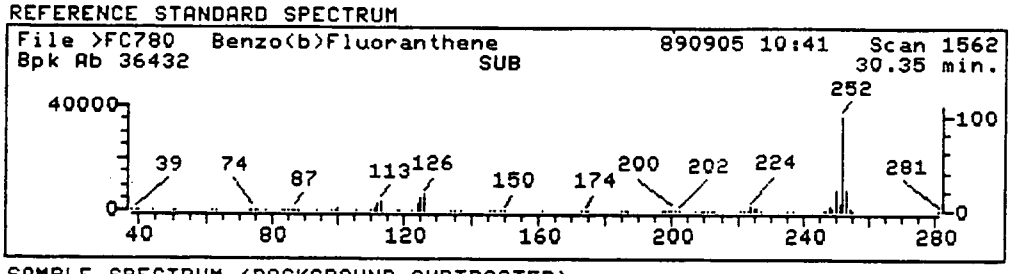
SAMPLE SPECTRUM (UNALTERED)



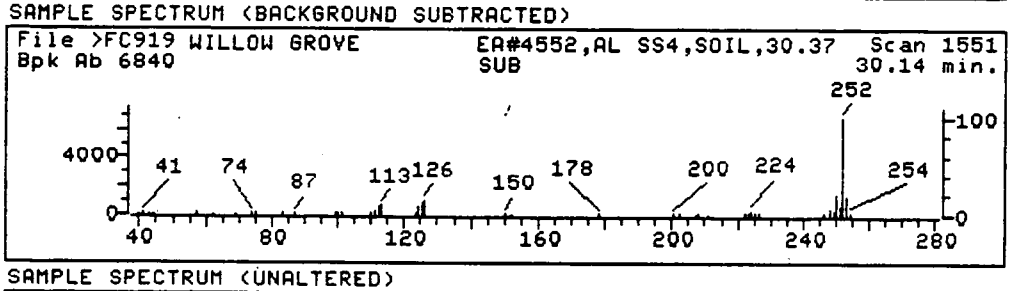
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 69
Compound Name: Chrysene
Scan Number: 1398
Retention Time: 27.36 min.
Quant Ion: 228.0
Area: 28881
Concentration: 303.57 NG
q-value: 95

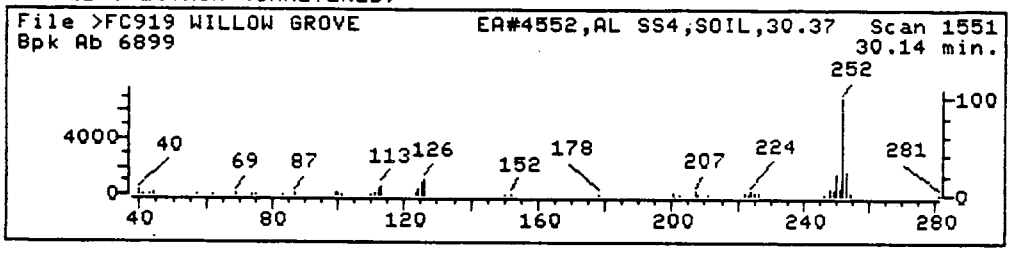
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



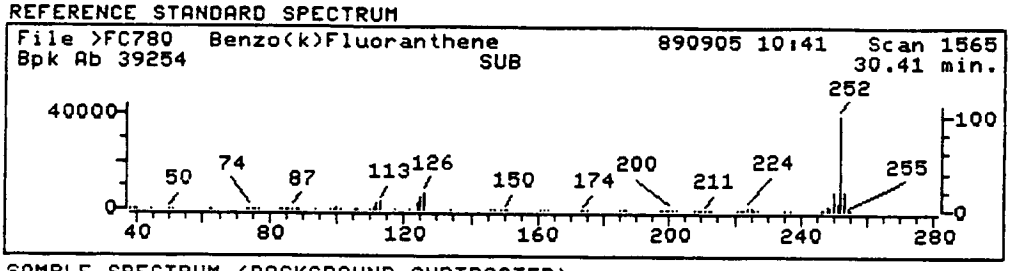
SAMPLE SPECTRUM (UNALTERED)



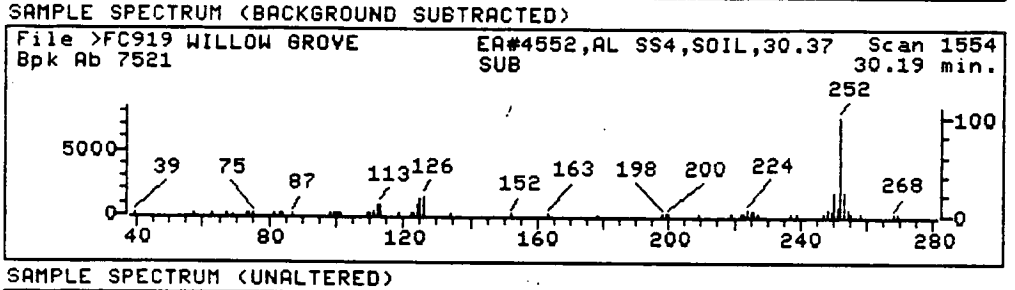
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1551
Retention Time: 30.14 min.
Quant Ion: 252.0
Area: 16926
Concentration: 187.72 NG
q-value: 93

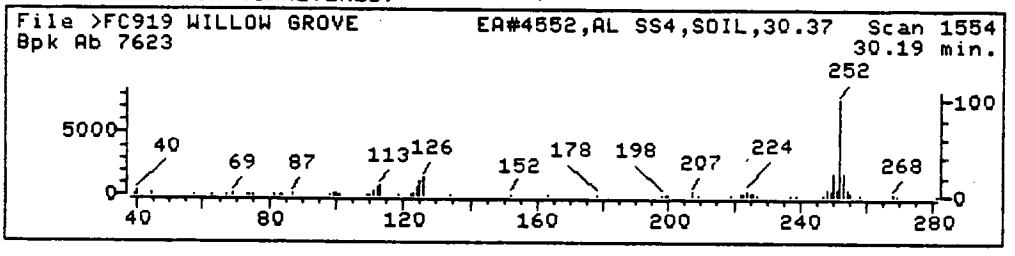
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



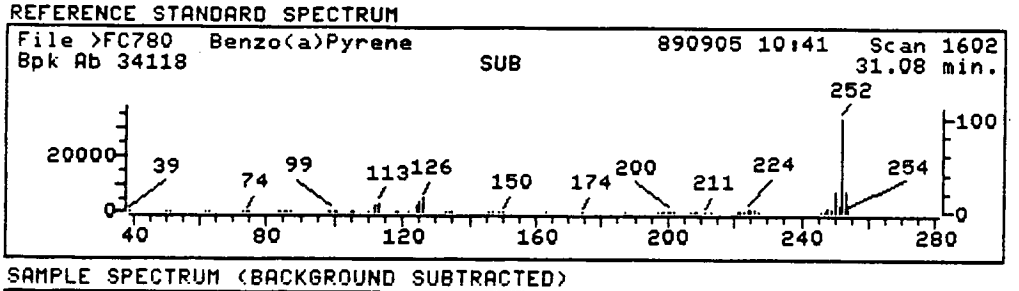
SAMPLE SPECTRUM (UNALTERED)



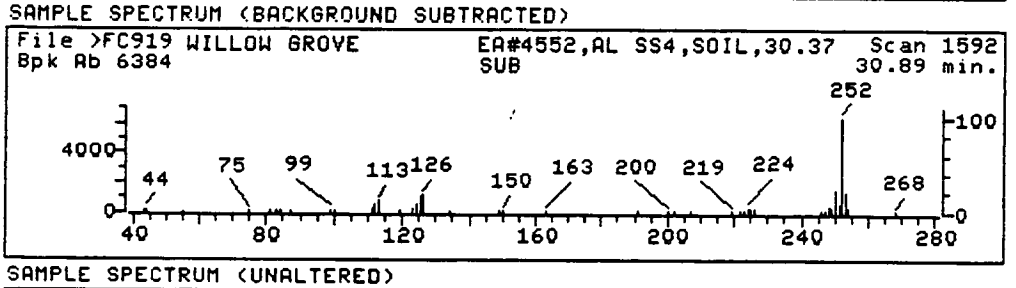
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1554
Retention Time: 30.19 min.
Quant Ion: 252.0
Area: 20813
Concentration: 255.79 NG
q-value: 96

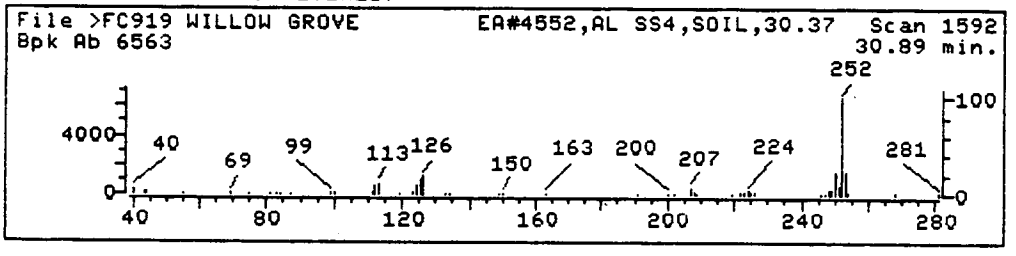
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



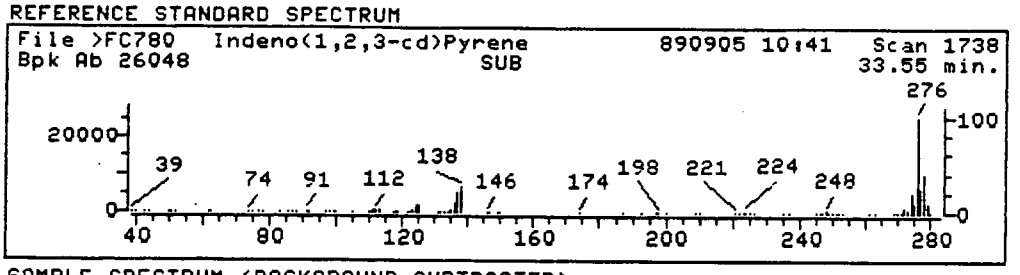
SAMPLE SPECTRUM (UNALTERED)



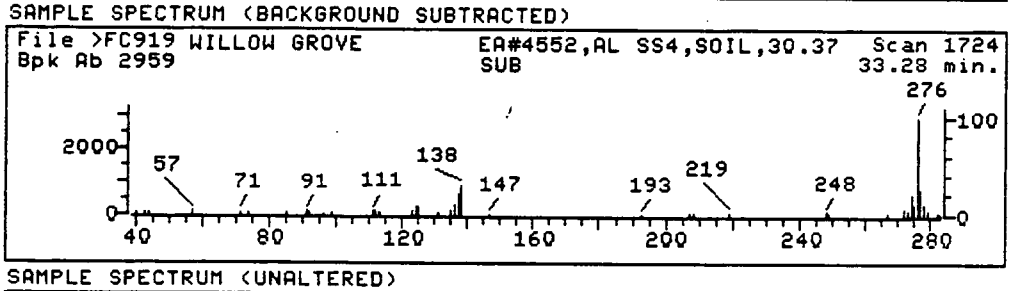
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1592
Retention Time: 30.89 min.
Quant Ion: 252.0
Area: 17788
Concentration: 228.89 NG
q-value: 97

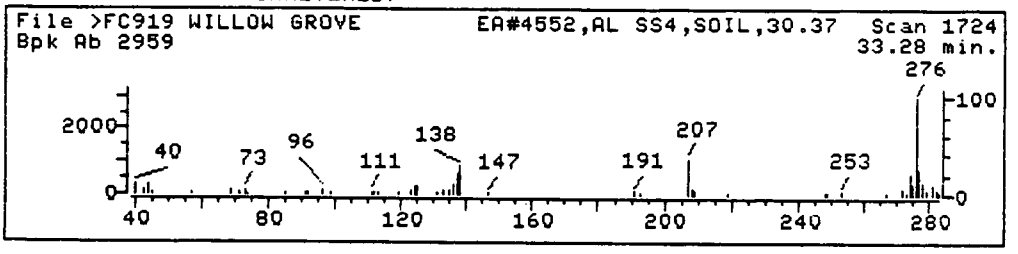
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



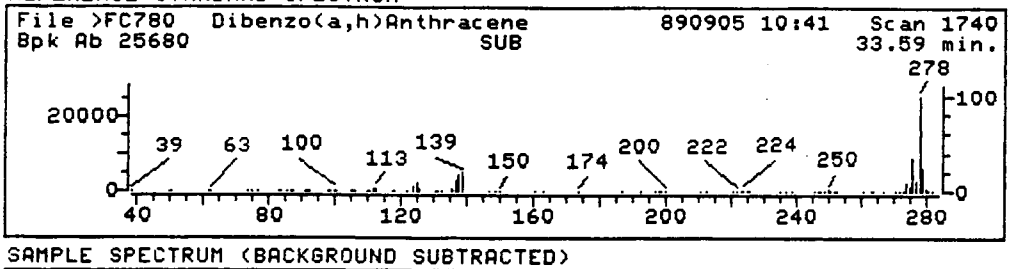
SAMPLE SPECTRUM (UNALTERED)



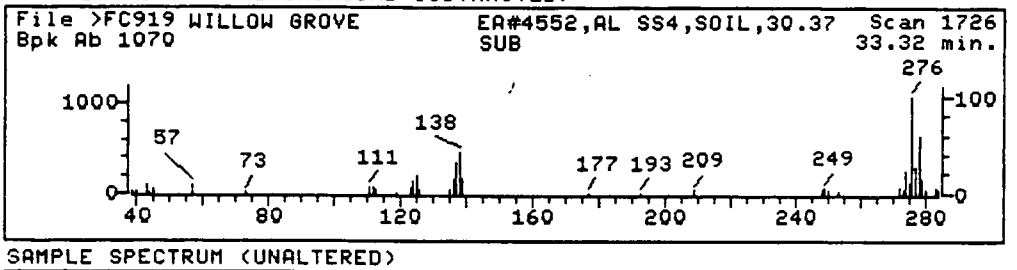
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1724
Retention Time: 33.28 min.
Quant Ion: 276.0
Area: 12195
Concentration: 126.26 NG
q-value: 97

REFERENCE STANDARD SPECTRUM

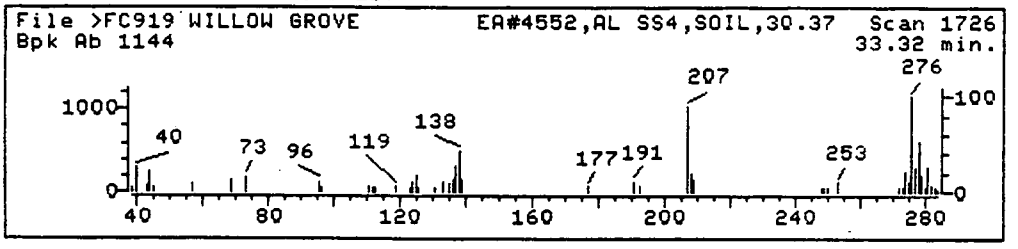


SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



not separated from Indeno (1,2,3-cd) pyrene

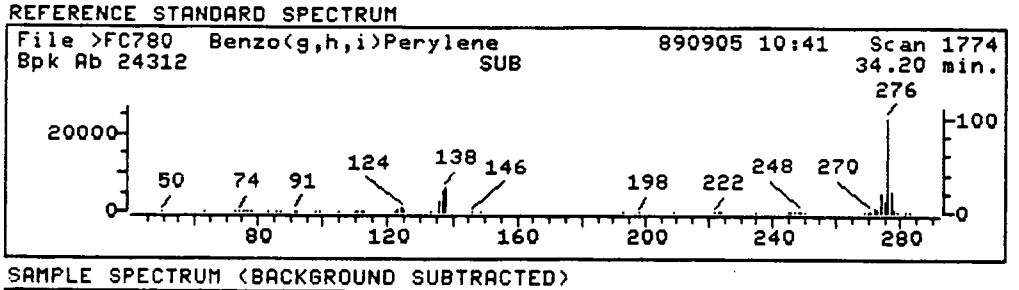
SAMPLE SPECTRUM (UNALTERED)



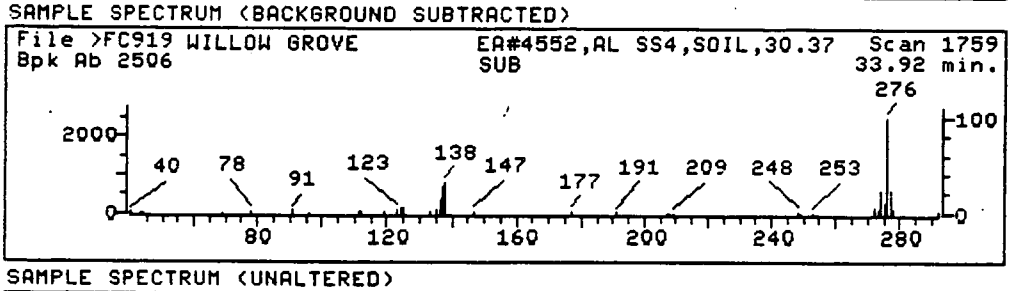
Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 76
Compound Name: Dibenzo(a,h)Anthracene
Scan Number: 1726
Retention Time: 33.32 min.
Quant Ion: 278.0
Area: 4170
Concentration: 54.56 NG
q-value: 85

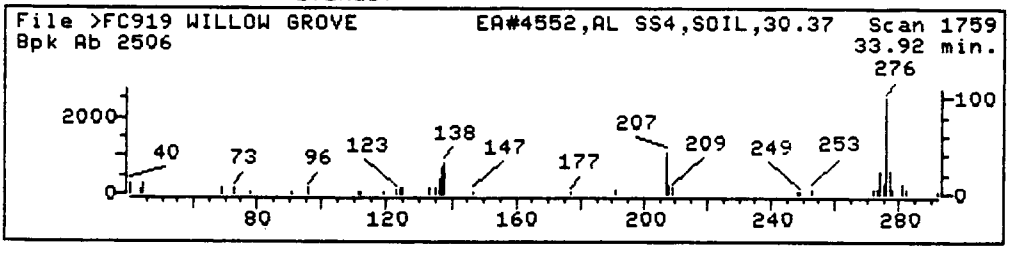
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

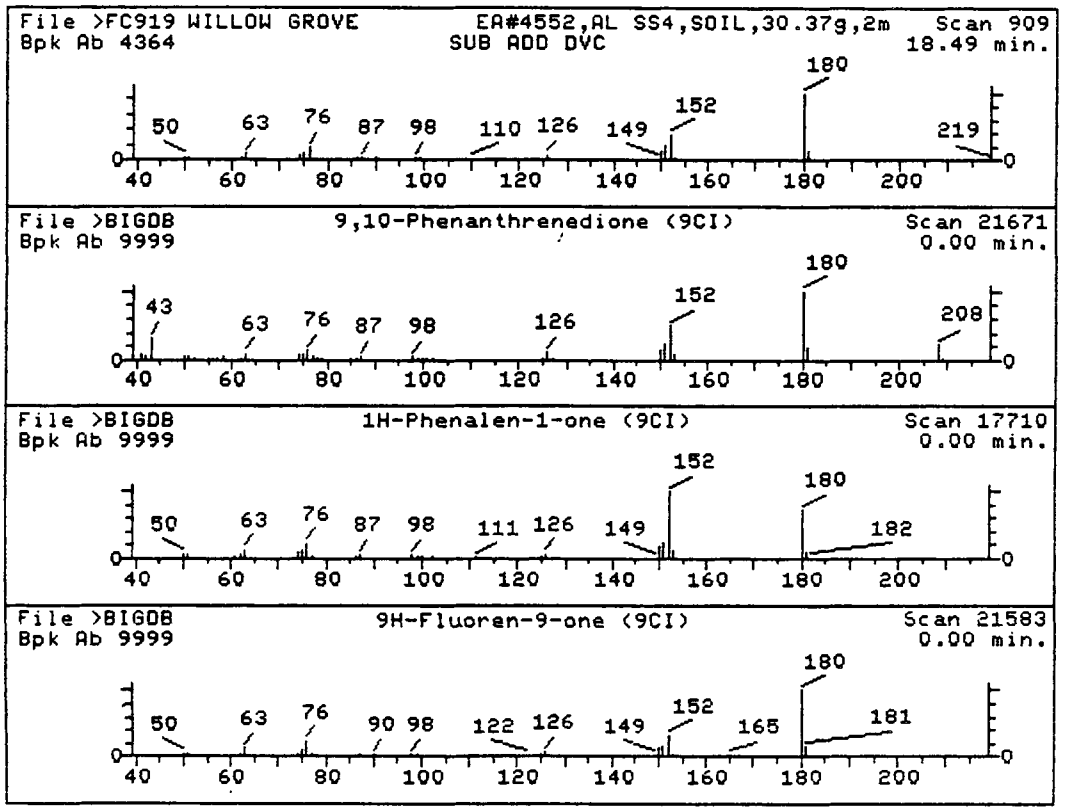


SAMPLE SPECTRUM (UNALTERED)



Data File: >FC919::D5 Quant Output File: ^FC919::QT
Name: WILLOW GROVE
Misc: EA#4552,AL SS4,SOIL,30.37g,2mL, (1/10 DIL) BTL# 1
Quant Time: 890928 20:59 Quant ID File: IDFCLP::BD
Injected at: 890928 20:20 Last Calibration: 890928 19:49

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1759
Retention Time: 33.92 min.
Quant Ion: 276.0
Area: 10585
Concentration: 127.36 NG
q-value: 89



Retention time = 18.49

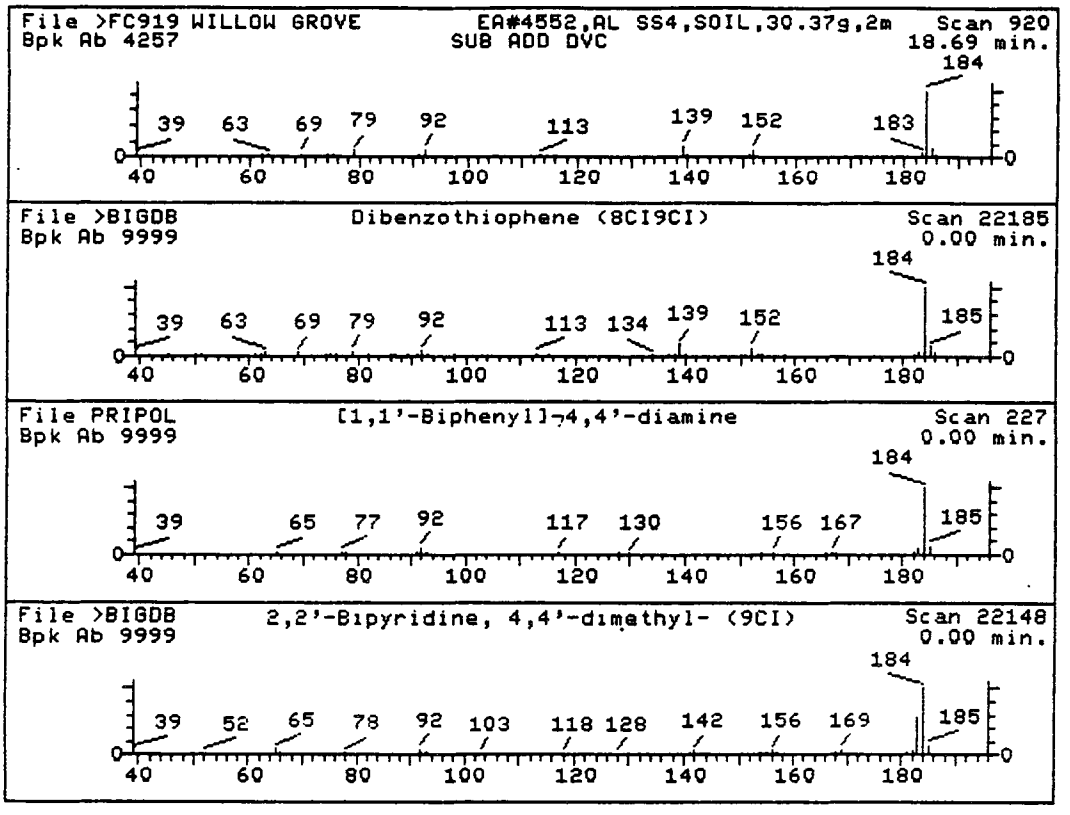
Area = 28684.00 Tentative Concentration is 5400.00

1. 9,10-Phenanthrenedione (9CI)	208	C14H8O2
2. 1H-Phenalen-1-one (9CI)	180	C13H8O
3. 9H-Fluoren-9-one (9CI)	180	C13H8O
4. Benzo[c]cinnoline (8CI9CI)	180	C12H8N2
5. Biphenylene (8CI9CI)	152	C12H8
6. Benzaldehyde, 4-nitro-, O-methyloxime (9CI)	180	C8H8N2O3
7. Benzonitrile, 2-(2-pyridinyl)- (9CI)	180	C12H8N2

Sample file: >FC919 Spectrum #: 909
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	70	84117	21671	"BIGDB	70	53	3	0	76	6	42	12
2.	65*	548390	17710	"BIGDB	59	42	0	0	38	44	24	72

3.	64*	486259	21583	"BIGDB	66	38	2	0	76	22	28	45
4.	41*	230171	21581	"BIGDB	52	43	2	0	38	41	14	31
5.	35*	259790	17615	"BIGDB	53	31	1	2	30	50	11	39
6.	26*	33499320	21616	"BIGDB	24	77	3	0	100	40	10	12
7.	26*	74764515	21638	"BIGDB	22	90	3	0	100	37	10	12



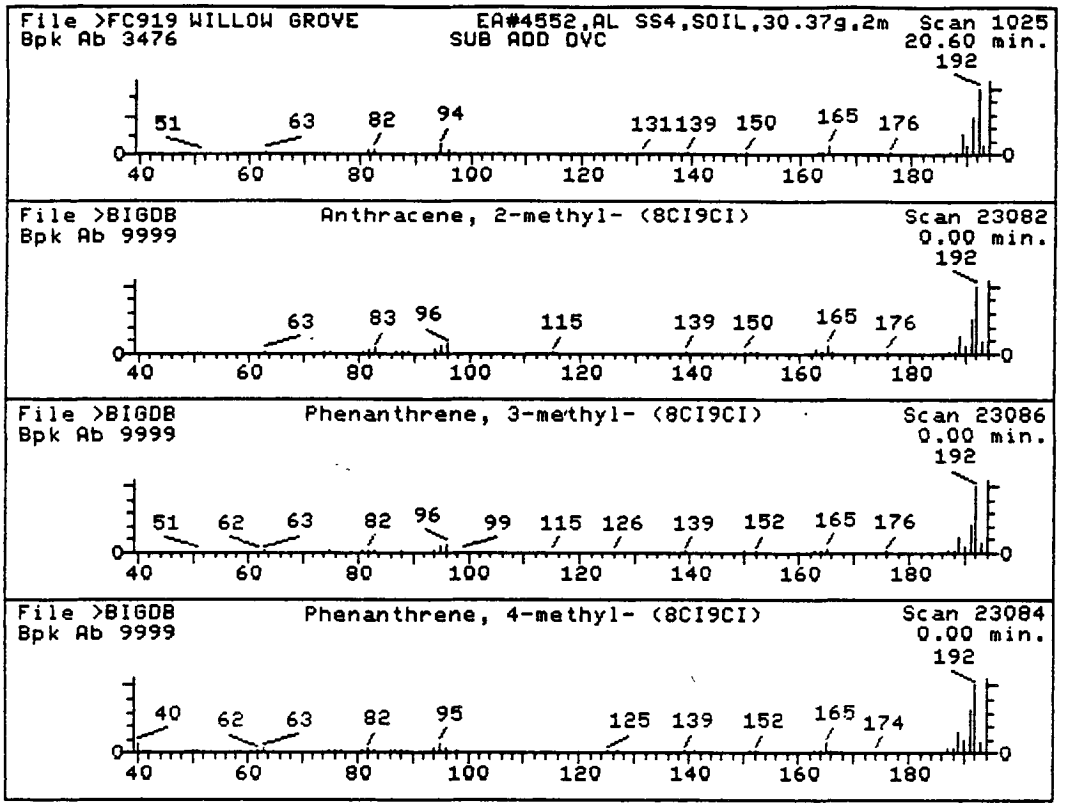
Retention time = 18.69

Area = 26898.00 Tentative Concentration is 5000.00

1.	Dibenzothiophene (8CI9CI)	184	C12H8S
2.	[1,1'-Biphenyl]-4,4'-diamine	184	C12H12N2
3.	2,2'-Bipyridine, 4,4'-dimethyl- (9CI)	184	C12H12N2
4.	[1,1'-Biphenyl]-4,4'-diamine	184	C12H12N2
5.	Benzidine (8CI)	184	C12H12N2
6.	1H-Benzimidazole, 2-(2-furanyl)- (9CI)	184	C11H8N2O

Sample file: >FC919 Spectrum #: 920
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	132650	22185	"BIGDB	82	20	2	0	92	5	66	65
2.	43*	227	330	PRIPOL	34	63	2	0	100	25	17	14
3.	42*	1134356	22148	"BIGDB	23	82	2	0	97	25	17	13
4.	41*	225	328	PRIPOL	22	84	3	0	100	25	17	12
5.	41*	92875	22133	"BIGDB	22	84	3	0	100	25	17	12
6.	36*	3878191	22155	"BIGDB	25	81	3	0	100	26	14	13



Retention time = 20.60

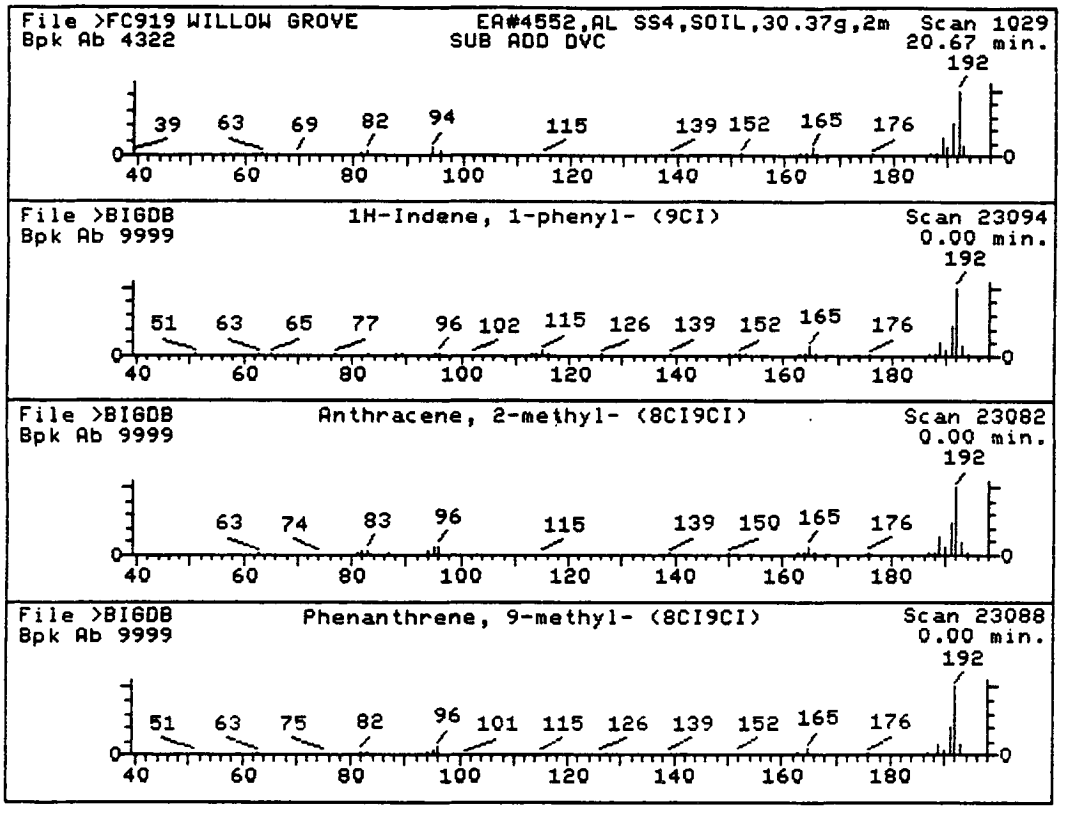
Area = 30994.00 Tentative Concentration is 5800.00

1. Anthracene, 2-methyl- (8CI9CI) 192 C15H12
2. Phenanthrene, 3-methyl- (8CI9CI) 192 C15H12
3. Phenanthrene, 4-methyl- (8CI9CI) 192 C15H12
4. Phenanthrene, 1-methyl- (8CI9CI) 192 C15H12
5. 1H-Indene, 2-phenyl- (9CI) 192 C15H12
6. 1H-Indene, 1-phenyl- (9CI) 192 C15H12
7. 9H-Fluorene, 9-ethylidene- (9CI) 192 C15H12

Unidentified PAH

Sample file: >FC919 Spectrum #: 1025
Search speed: 2 Tilting option: S No. of ion ranges search d: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	88*	613127	23082	"BIGDB	75	41	2	0	85	5	65	57
2.	87*	832713	23086	"BIGDB	72	39	2	3	92	5	63	45
3.	83*	832644	23084	"BIGDB	77	39	2	0	85	8	54	59
4.	81*	832699	23085	"BIGDB	71	38	2	3	93	6	53	44
5.	81*	4505480	23100	"BIGDB	68	40	2	0	100	9	53	49
6.	81*	1961962	23094	"BIGDB	62	45	2	0	97	8	53	40
7.	67*	7151646	23107	"BIGDB	58	62	3	0	89	12	34	23



Retention time = 20.67

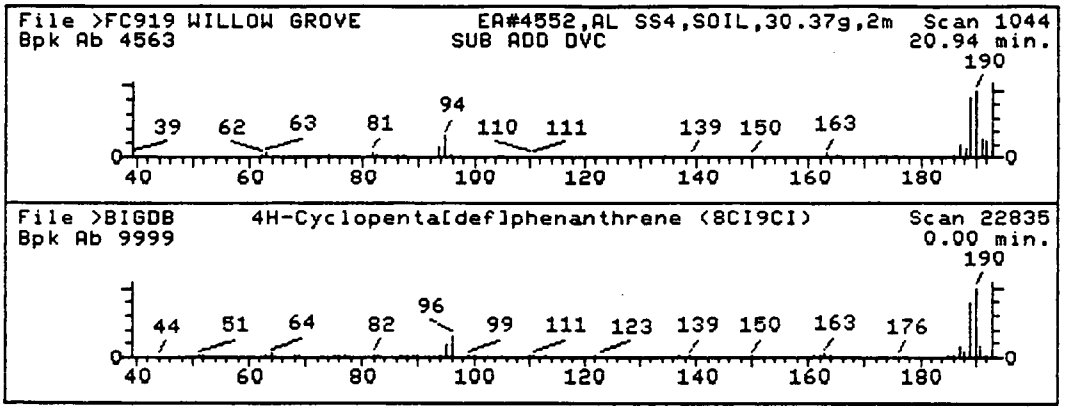
Area = 33522.00 Tentative Concentration is 6300.00

1.	1H-Indene, 1-phenyl- (9CI)	192	C15H12
2.	Anthracene, 2-methyl- (8CI9CI)	192	C15H12
3.	Phenanthrene, 9-methyl- (8CI9CI)	192	C15H12
4.	1H-Indene, 2-phenyl- (9CI)	192	C15H12
5.	Phenanthrene, 4-methyl- (8CI9CI)	192	C15H12
6.	Phenanthrene, 2-methyl- (8CI9CI)	192	C15H12
7.	Phenanthrene, 3-methyl- (8CI9CI)	192	C15H12

Unidentified PAH

Sample file: >FC919 Spectrum #: 1029
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84*	1961962	23094	"BIGDB	78	29	2	0	92	8	55	60
2.	84*	613127	23082	"BIGDB	81	35	2	0	91	6	55	61
3.	83*	883205	23088	"BIGDB	82	27	2	3	100	6	54	54
4.	83*	4505480	23100	"BIGDB	74	34	2	0	100	8	54	56
5.	83*	832644	23084	"BIGDB	76	40	2	0	76	6	54	59
6.	83*	2531842	23097	"BIGDB	71	38	2	0	100	6	54	52
7.	83*	832713	23086	"BIGDB	72	39	2	0	97	6	54	54



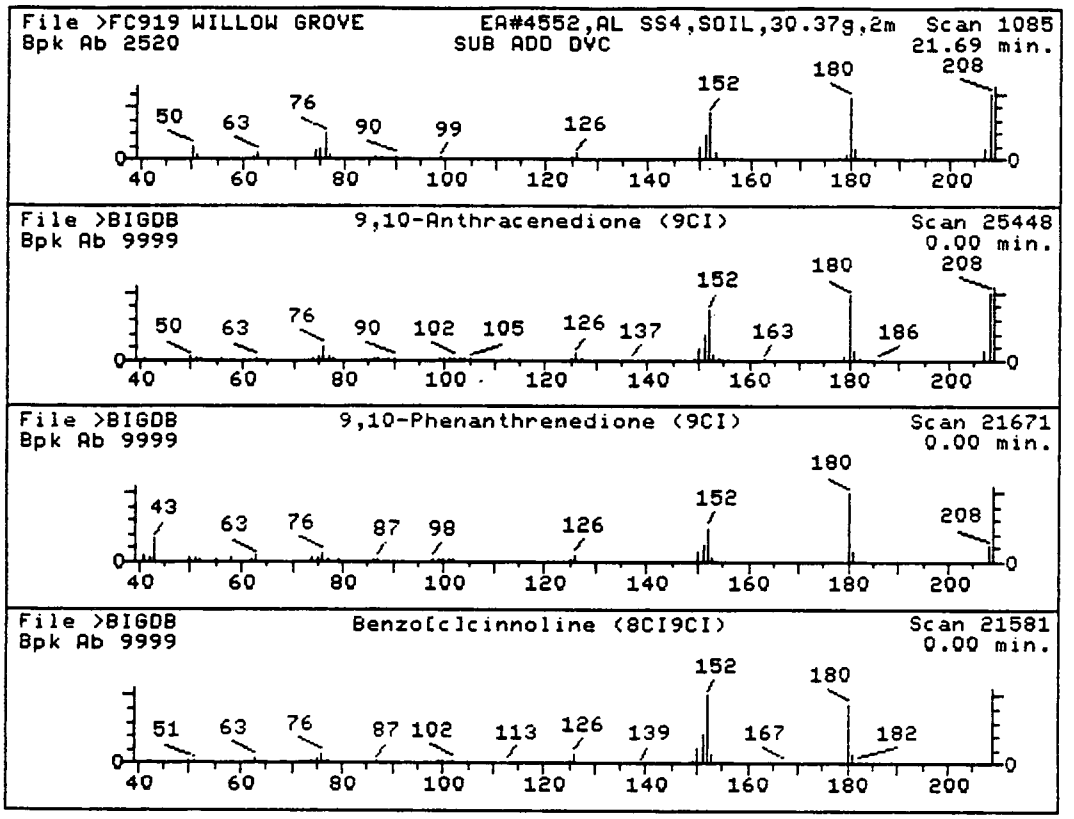
Retention time = 20.94

Area = 57481.00 Tentative Concentration is 11000.00

1 4H-Cyclopenta[def]phenanthrene (8CI9CI) 190 C15H10

Sample file: >FC919 Spectrum #: 1044
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	52*	203645	22835	"BIGDB	49	66	3	0	100	20	20	13



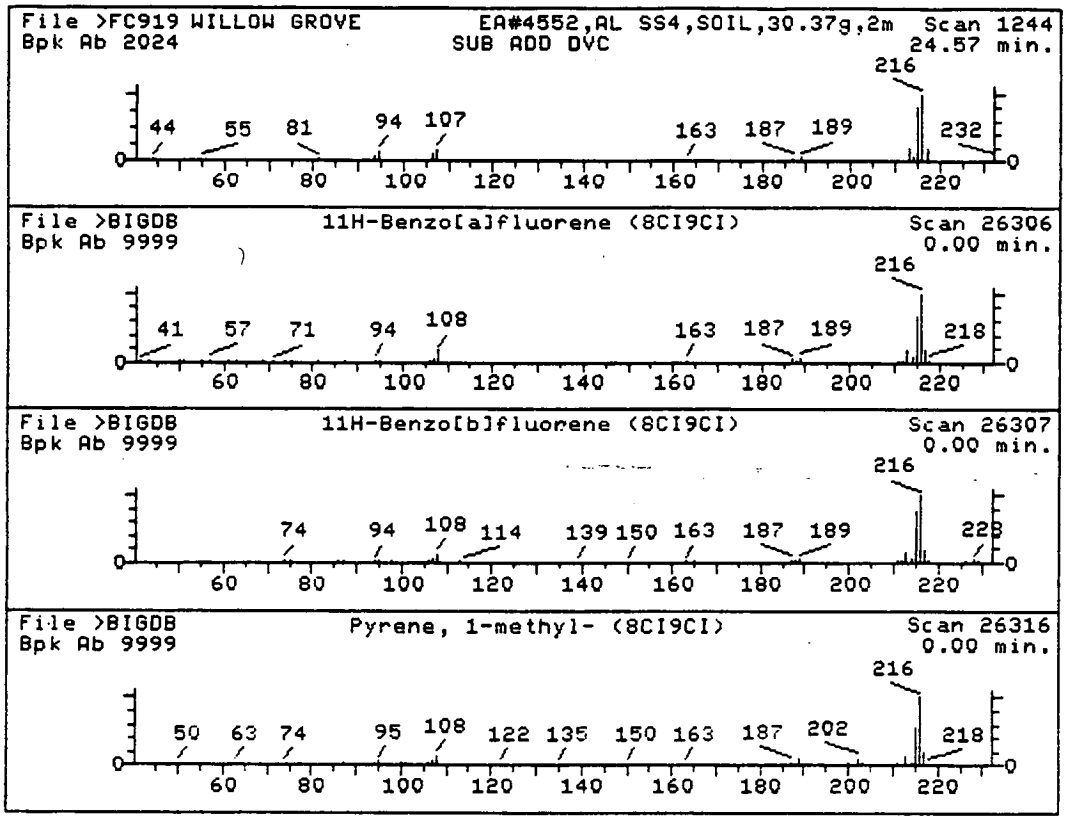
Retention time = 21.69

Area = 41342.00 Tentative Concentration is 7700.00

1.	9,10-Anthracenedione (9CI)	208	C14H8O2
2.	9,10-Phenanthrenedione (9CI)	208	C14H8O2
3.	Benzo[c]cinnoline (8CI9CI)	180	C12H8N2
4.	1,4-Anthracenedione (8CI9CI)	208	C14H8O2
5.	1,3-Benzenedicarboxaldehyde, 2,4-dihydroxy-6-methyl- (9CI)	180	C9H8O4
6.	9H-Fluoren-9-one (9CI)	180	C13H8O
7.	1H-Phenalen-1-one (9CI)	180	C13H8O

Sample file: >FC919 Spectrum #: 1085
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	84651	25448	"BIGDB	101	34	2	0	94	6	59	77
2.	49*	84117	21671	"BIGDB	57	66	2	3	70	27	19	27
3.	28*	230171	21581	"BIGDB	61	50	2	0	70	53	8	38
4.	27*	635121	25455	"BIGDB	42	97	3	0	79	37	10	13
5.	25*	10209571	21609	"BIGDB	32	82	3	0	76	50	7	13
6.	20*	486259	21583	"BIGDB	44	60	2	0	89	51	5	15
7.	18*	548390	17710	"BIGDB	51	66	2	0	70	60	4	25



Retention time = 24.57

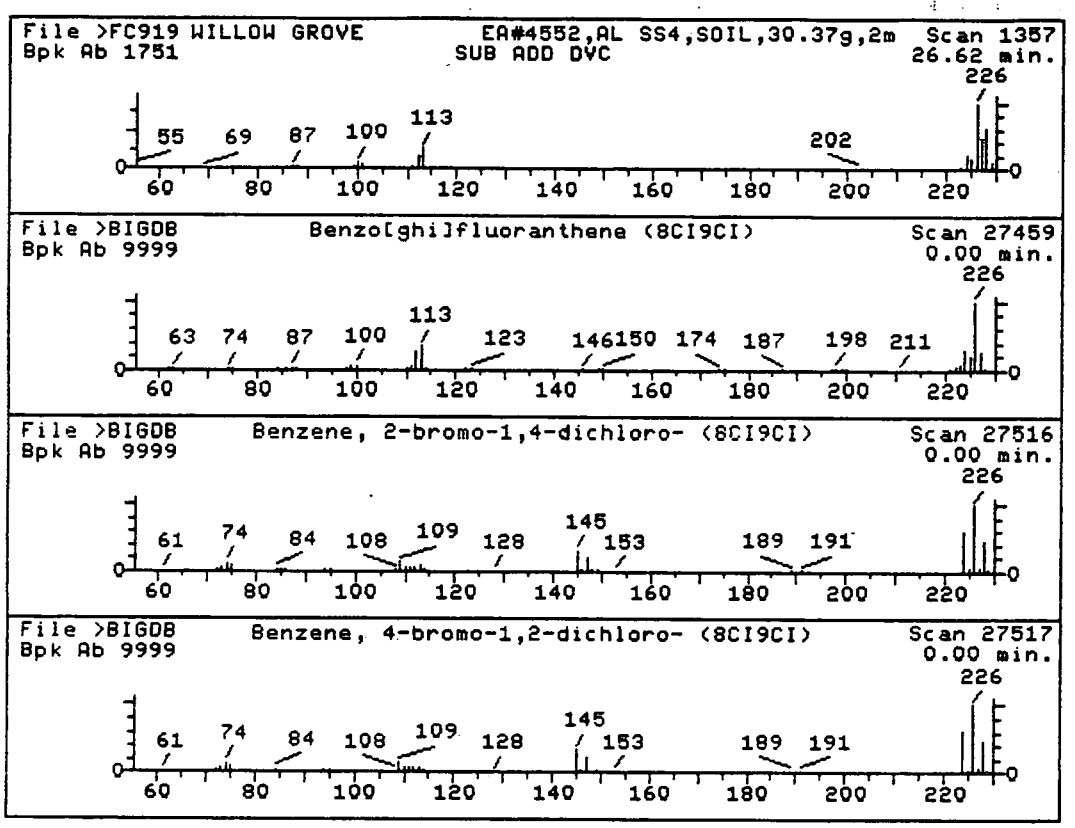
Area = 28521.00 Tentative Concentration is 8100.00

Unidentified PAH

1.	11H-Benzo[a]fluorene (8CI9CI)	216	C17H12
2.	11H-Benzo[b]fluorene (8CI9CI)	216	C17H12
3.	Pyrene, 1-methyl- (8CI9CI)	216	C17H12
4.	Pyrene, 2-methyl- (8CI9CI)	216	C17H12
5.	Pyrene, 4-methyl- (8CI9CI)	216	C17H12
6.	5H-Furo[3,2-g][1]benzopyran-5-one, 4-hydroxy-7-methy 1- (8CI9CI)	216	C12H8O4
7.	7H-Benzo[c]fluorene (8CI9CI)	216	C17H12

Sampl file: >FC919 Spectrum #: 1244
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	238846	26306	"BIGDB	63	57	3	0	100	3	60	31
2.	83*	243174	26307	"BIGDB	59	62	3	0	100	3	57	25
3.	70*	2381217	26316	"BIGDB	51	74	3	0	100	7	42	14
4.	42*	3442782	26319	"BIGDB	39	80	3	0	100	25	17	13
5.	31*	3353126	26318	"BIGDB	50	68	3	0	100	34	12	14
6.	25*	4481601	26321	"BIGDB	28	87	3	0	100	50	7	13
7.	11	205129	26295	"BIGDB	40	23	2	0	705	65	2	14



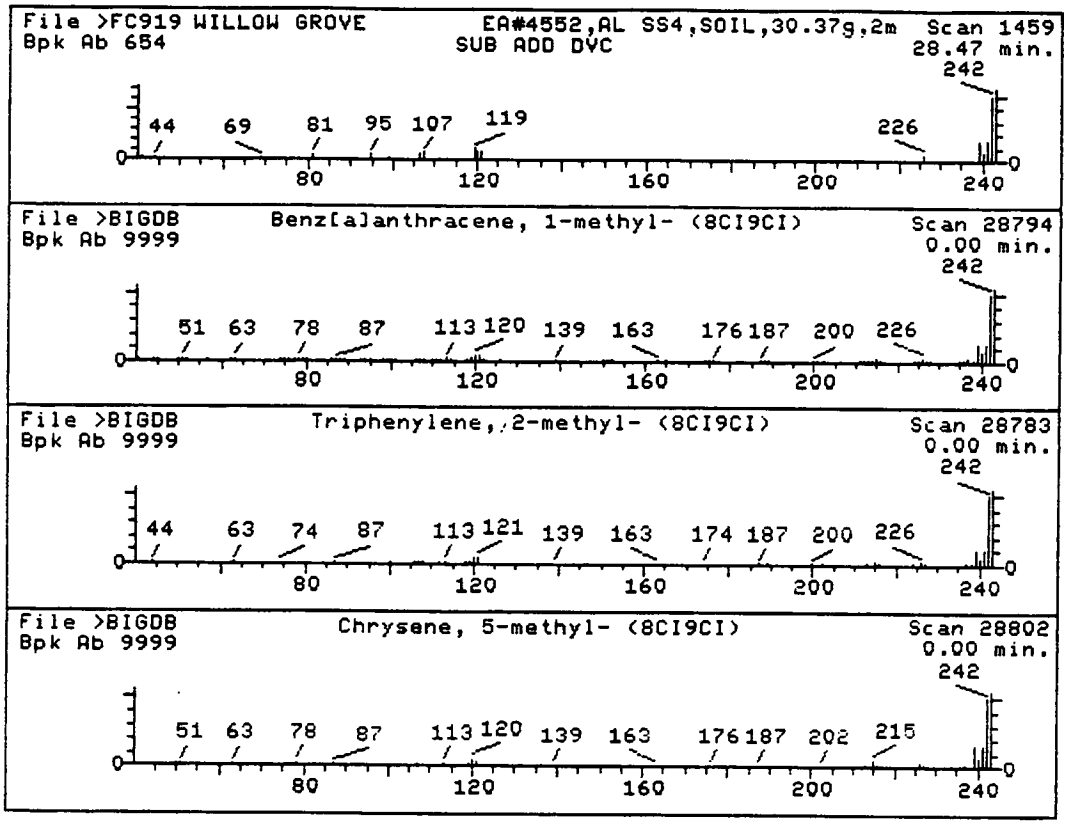
Retention time = 26.62

Area = 19751.00 Tentative Concentration is 5600.00

1. Benzo[ghi]fluoranthene (8CI9CI)		226 C18H10
2. Benzene, 2-bromo-1,4-dichloro- (8CI9CI)	Unknown	224 C6H3BrCl2
3. Benzene, 4-bromo-1,2-dichloro- (8CI9CI)		224 C6H3BrCl2
4. Cyclopenta[cd]pyrene (8CI9CI)		226 C18H10
5. Purine-6(1H)-thione, 3,7-dimethylseleno- (8CI)		228 C7H8N4Se
6. Benzo[c]phenanthrene (8CI9CI)		228 C18H12

Sample file: >FC919 Spectrum #: 1357
Search speed: 2 Tilting option: S No. of ion ranges searched: 64

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	36*	203123	27459	"BIGDB	47	78	2	0	72	35	12	19
2.	29*	1435503	27516	"BIGDB	24	109	3	0	100	34	12	12
3.	29*	18282592	27517	"BIGDB	24	110	3	0	100	34	12	12
4.	26*	27208373	27487	"BIGDB	30	80	2	0	100	42	8	14
5.	25*	23663583	27680	"BIGDB	26	131	3	0	63	48	7	13
6.	15*	195197	27636	"BIGDB	24	100	2	0	59	60	3	14



Retention time = 28.47

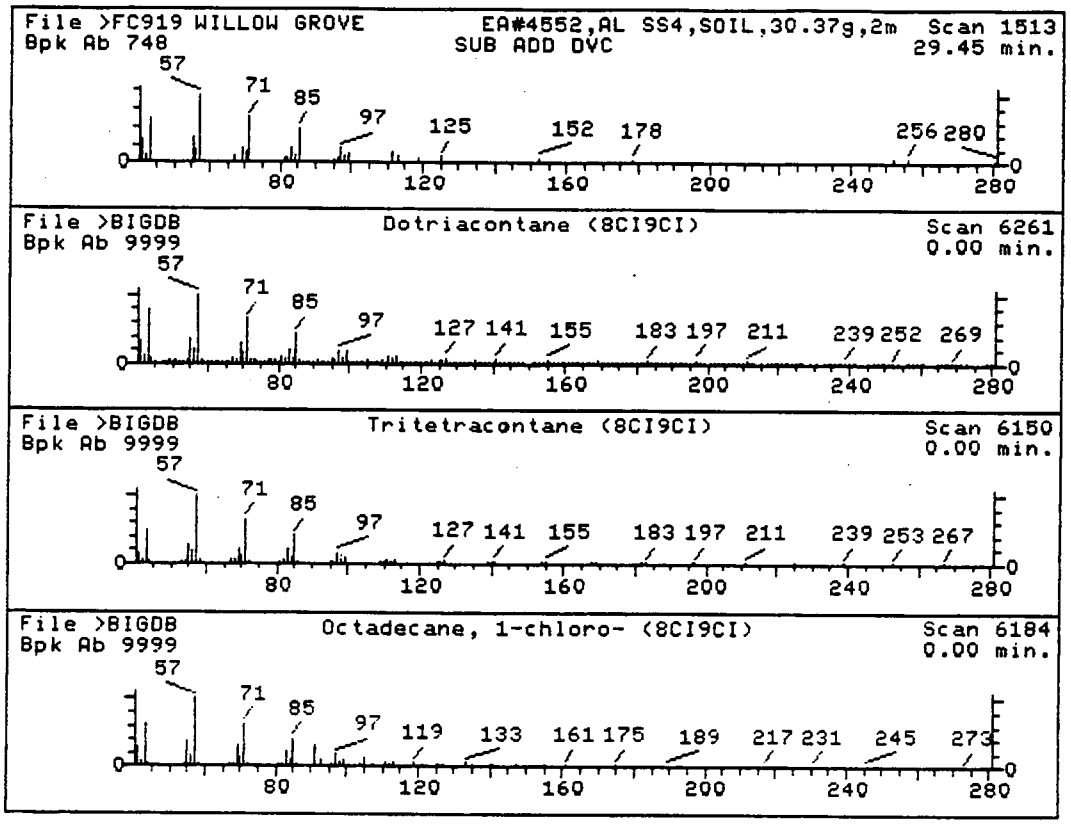
Area = 21036.00 Tentative Concentration is 5900.00

Unidentified PAH

1. Benz[a]anthracene, 1-methyl- (8CI9CI)	242	C19H14
2. Triphenylene, 2-methyl- (8CI9CI)	242	C19H14
3. Chrysene, 5-methyl- (8CI9CI)	242	C19H14
4. Benz[a]anthracene, 7-methyl- (8CI9CI)	242	C19H14
5. Triphenylene, 1-methyl- (8CI)	242	C19H14
6. Benzo[c]phenanthrene, 1-methyl- (8CI9CI)	242	C19H14
7. Chrysene, 3-methyl- (8CI9CI)	242	C19H14

Sample file: >FC919 Spectrum #: 1459
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	67*	2498773	28794	"BIGDB	53	76	2	0	100	12	34	28
2.	67*	1705846	28783	"BIGDB	53	77	2	0	100	12	34	28
3.	60*	3697243	28802	"BIGDB	55	80	3	0	100	12	30	18
4.	60*	2541697	28795	"BIGDB	47	83	2	0	91	15	30	19
5.	60*	2871912	28797	"BIGDB	29	110	3	0	100	12	30	13
6.	60*	4076395	28804	"BIGDB	25	124	3	0	100	12	30	13
7.	52*	3351313	28801	"BIGDB	44	81	2	0	100	20	20	14



Retention time = 29.45

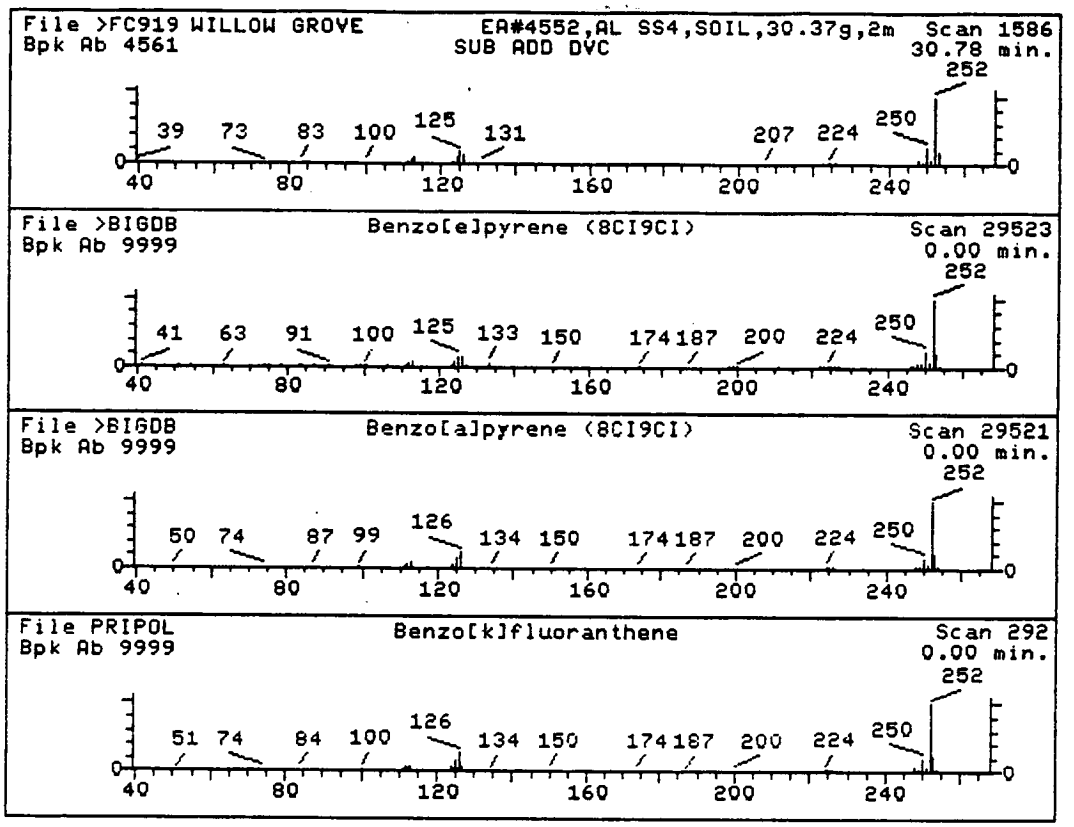
Area = 17399.00 Tentative Concentration is 6800.00

1.	Dotriacontane (8CI9CI)	450	C32H66
2.	Tritetracontane (8CI9CI)	604	C43H88
3.	Octadecane, 1-chloro- (8CI9CI)	288	C18H37Cl
4.	Hexatriacontane (8CI9CI)	506	C36H74
5.	Heptacosane (8CI9CI)	380	C27H56
6.	Pentatriacontane (8CI9CI)	492	C35H72
7.	Heptadecane (8CI9CI)	240	C17H36

Unidentified alkane

Sample file: >FC919 Spectrum #: 1513
Search speed: 2 Tilting option: S No. of ion ranges searched: 58

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	60	544854	6261	"BIGDB	77	88	2	0	82	15	30	19
2.	58	7098217	6150	"BIGDB	92	76	2	0	99	16	25	27
3.	52	3386332	6184	"BIGDB	72	68	3	0	100	18	20	12
4.	43	630068	6193	"BIGDB	77	85	3	0	100	22	17	14
5.	43	593497	6220	"BIGDB	65	88	2	0	100	23	17	14
6.	43	630079	6147	"BIGDB	78	73	3	0	100	25	17	14
7.	36	629787	6090	"BIGDB	63	58	2	0	100	28	14	13



Retention time = 30.78

Area = 34757.00 Tentative Concentration is 13000.00

Unidentified PAH

1.	Benzo[e]pyrene (8CI9CI)	252	C20H12
2.	Benzo[a]pyrene (8CI9CI)	252	C20H12
3.	Benzo[k]fluoranthene	252	C20H12
4.	Benzo[a]pyrene	252	C20H12
5.	Benzo[a]pyrene	252	C20H12
6.	Benzo[a]pyrene	252	C20H12
7.	Benzo[k]fluoranthene (8CI9CI)	252	C20H12

Sample file: >FC919 Spectrum #: 1586
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	89*	192972	29523	"BIGDB	107	26	2	0	86	6	62	86
2.	81*	50328	29521	"BIGDB	96	35	2	0	85	17	45	74
3.	81*	292	412	PRIPOL	93	42	2	0	80	20	45	72
4.	81*	288	408	PRIPOL	81	52	1	0	85	23	41	77
5.	76*	289	409	PRIPOL	89	47	2	-1	84	12	40	56
6.	75*	290	410	PRIPOL	69	61	1	0	73	20	35	67
7.	70*	207089	29527	"BIGDB	82	50	2	-1	79	18	32	52

EA LABORATORIES

CLIENT: MINOT AFB
LAB NO.: EA#4553
SAMPLE: 9SL SS1
GC/MS FILE: >FC920::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 21:10
SAMPLE--->EXTRACT:	30.45g-->1mL

CAS #		CONC UG/L	OR UG/KG
108-95-2	Phenol	430.	ND
111-44-4	bis(2-Chloroethyl)ether	430.	ND
95-57-8	2-Chlorophenol	430.	ND
541-73-1	1,3-Dichlorobenzene	430.	ND
106-46-7	1,4-Dichlorobenzene	430.	ND
100-51-6	Benzyl Alcohol	430.	ND
95-50-1	1,2-Dichlorobenzene.	430.	ND
95-48-7	2-Methylphenol	430.	ND
39638-32-9	bis(2-chloroisopropyl)ether	430.	ND
106-44-5	4-Methylphenol	430.	ND
621-64-7	N-Nitroso-Di-n-propylamine	430.	ND
67-72-1	Hexachloroethane	430.	ND
98-95-3	Nitrobenzene	430.	ND
78-59-1	Isophorone	430.	ND
88-75-5	2-Nitrophenol	430.	ND
105-67-9	2,4-Dimethylphenol	430.	ND
65-85-0	Benzoic Acid	68.	TR
111-91-1	bis(2-Chloroethoxy)methane	430.	ND
120-83-2	2,4-Dichlorophenol	430.	ND
120-82-1	1,2,4-Trichlorobenzene	430.	ND
91-20-3	Naphthalene	430.	ND
106-47-8	4-Chloroaniline	430.	ND
87-68-3	Hexachlorobutadiene	430.	ND
59-50-7	4-Chloro-3-methylphenol	430.	ND
91-57-6	2-Methylnaphthalene	430.	ND
77-47-4	Hexachlorocyclopentadiene	430.	ND
88-06-2	2,4,6-Trichlorophenol	430.	ND
95-95-4	2,4,5-Trichlorophenol	2100.	ND
91-58-7	2-Chloronaphthalene	430.	ND
88-74-4	2-Nitroaniline	2100.	ND
131-11-3	Dimethylphthalate	430.	ND
208-96-8	Acenaphthylene	430.	ND
99-09-2	3-Nitroaniline	2100.	ND
83-32-9	Acenaphthene	430.	ND
51-28-5	2,4-Dinitrophenol	2100.	ND

EA LABORATORIES

CLIENT: MINOT AFB
LAB NO.: EA#4553
SAMPLE: 9SL SS1
GC/MS FILE: >FC920::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 21:10
SAMPLE--->EXTRACT:	30.45g-->1mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	2100.	ND
132-64-9	Dibenzofuran	430.	ND
121-14-2	2,4-Dinitrotoluene	430.	ND
606-20-2	2,6-Dinitrotoluene	430.	ND
84-66-2	Diethylphthalate	430.	ND
7005-72-3	4-Chlorophenyl-phenylether	430.	ND
86-73-7	Fluorene	68.	TR
100-01-6	4-Nitroaniline	2100.	ND
534-52-1	4,6-Dinitro-2-methylphenol	2100.	ND
86-30-6	N-Nitrosodiphenylamine	430.	ND
101-55-3	4-Bromophenyl-phenylether	430.	ND
118-74-1	Hexachlorobenzene	430.	ND
87-86-5	Pentachlorophenol	2100.	ND
85-01-8	Phenanthrene	850.	
120-12-7	Anthracene	98.	TR
84-74-2	Di-n-Butyl phthalate	430.	TR
206-44-0	Fluoranthene	1400.	
129-00-0	Pyrene	1200.	
85-68-7	Butylbenzylphthalate	110.	TR
91-94-1	3,3'-Dichlorobenzidine	850.	ND
56-55-3	Benzo(a)Anthracene	490.	
117-81-7	bis(2-Ethylhexyl)phthalate	120.	TR
218-01-9	Chrysene	630.	
117-84-0	Di-n-Octyl phthalate	430.	ND
205-99-2	Benzo(b)Fluoranthene	540.	
207-08-9	Benzo(k)Fluoranthene	480.	
50-32-8	Benzo(a)Pyrene	530.	
193-39-5	Indeno(1,2,3-cd)Pyrene	320.	TR
53-70-3	Dibenzo(a,h)Anthracene	140.	TR
191-24-2	Benzo(g,h,i)Perylene	340.	TR

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

9ASL/SS/1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Soil Lab Sample ID: EA# 4553

Sample wt/vol: 30.45 (g/mL) g Lab File ID: >PC 920

Level: (low/med) Low Date Received: 9/25/89

% Moisture: not dec. 22.8 dec. _____ Date Extracted: 9/26/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 9/28/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: —

Number TICs found: 14 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

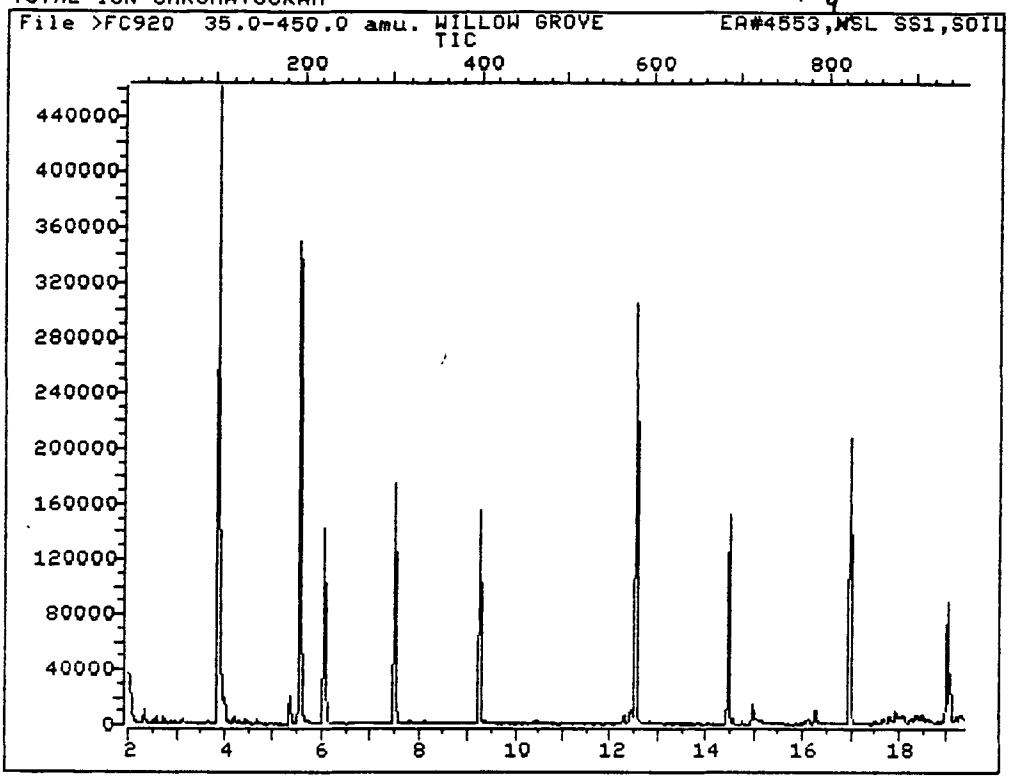
	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	58037879	Bicyclo[3.1.0]hexane, 4-methyl-1-(1-methylethyl)-, 1,dichloro deriv.	5.35	250	J
2.					
3.	—	Unknown			
4.	104405	4-nonylbenzene	14.97	220	J
5.	—	Unknown	17.93	230	J
6.	—	Unknown	18.36	210	J
7.	5709232 7	Oxacyclotetradecan-2-one	19.29	180	J
8.	57103	Hexadecanoic acid	20.98	240	J
9.	10544500	Molecular Sulfur	21.09	340	J
10.	—	Unknown	22.65	1600	J
11.	630068	Hexatriacontane	27.60	570	J
12.	—	Unknown	29.04	340	J
13.	—	Unidentified alkane	29.20	250	J
14.	—	Unidentified PAH	29.46	900	J
15.	—	Unidentified PAH	30.18	380	J
16.		Unidentified PAH	30.78	250	J
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

14 TOTAL

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



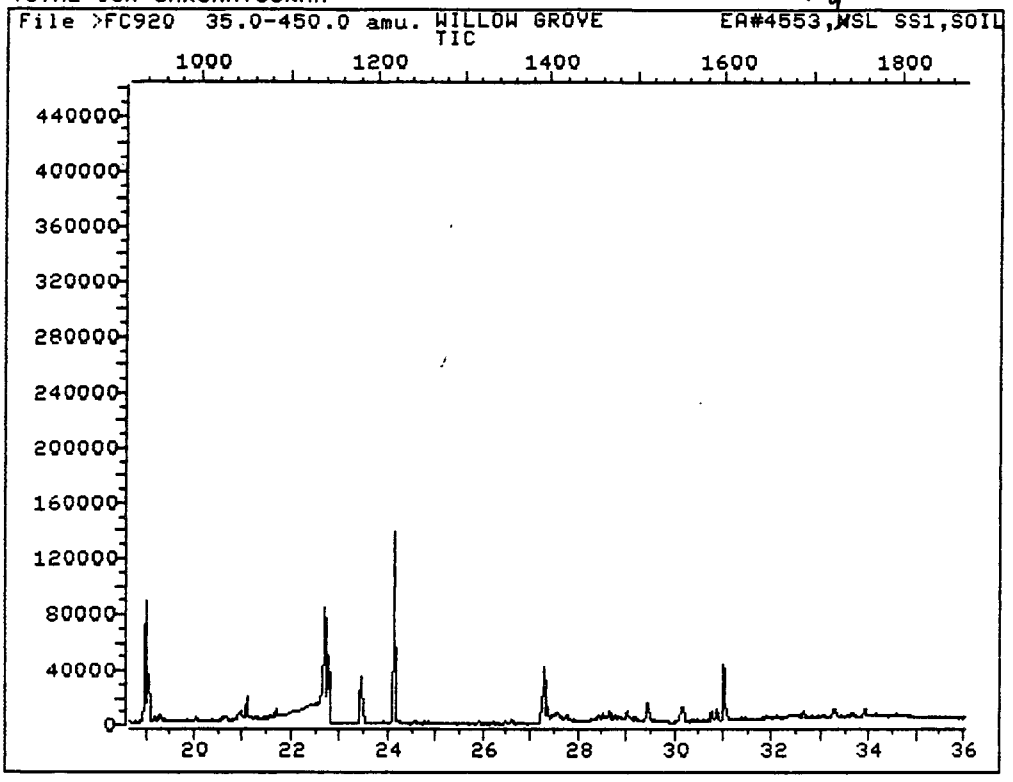
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890928 21:49
Injected at: 890928 21:10

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,MSL SS1,SOIL,30.45g,1mL BTL# 2

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890928 21:49
Injected at: 890928 21:10

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890928 21:49
Output File: ^FC920::QT Injected at: 890928 21:10
Data File: >FC920::D5 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4553,~~H~~SL SS1,SOIL,30.45g,1mL BTL# 2
9 SEA
ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	6.06	152.0	50203	40.00	NG	9
2)	2-Fluorophenol	3.87	112.0	245773	165.51	NG 83%	8
3)	Phenol-d5	5.55	99.0	316560	198.50	NG 99%	9
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	9.26	136.0	171803	40.00	NG	8
17)	Nitrobenzene-d5	7.51	82.0	114272	80.01	NG 80%	9
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	8.89	122.0	822	1.59	NG	9
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	14.48	164.0	74161	40.00	NG	9
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	12.54	172.0	231974	103.77	NG 104%	9
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	14.48	163.0	24801	~~10.23~~	NG	5
39)	Acenaphthylene	14.57	152.0	890	~~.30~~	NG	5
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	14.57	153.0	1846	~~.96~~	NG	9
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

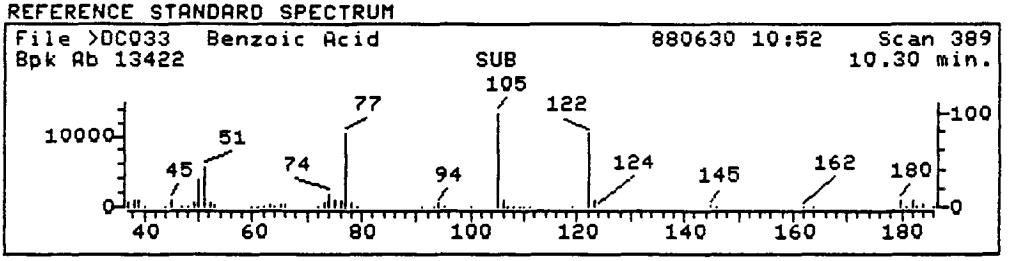
QUANT REPORT
page 2

Output File:^FC920:: Data File:>FC920::D5

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	15.06	168.0	1943	~~.89~~	NG	8[illegible]
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	16.11	166.0	2728	1.59	NG	9[illegible]
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	19.00	188.0	80971	40.00	NG	9[illegible]
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.97	329.9	69492	260.42	NG 130%	9[illegible]
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	19.06	178.0	36899	19.98	NG	9[illegible]
59)	Anthracene	19.20	178.0	3873	2.30	NG	9[illegible]
60)	Di-n-Butyl phthalate	21.29	149.0	2264	~~.82~~	NG	9[illegible]
61)	Fluoranthene	22.78	202.0	52751	32.78	NG	9[illegible]
62)	*d12-Chrysene	27.29	240.0	36539	40.00	NG	9[illegible]
63)	Pyrene	23.45	202.0	39764	27.25	NG	9[illegible]
64)	Terphenyl-d14	24.14	244.0	137318	131.52	NG 132%	8[illegible]
65)	Butylbenzylphthalate	25.93	149.0	1933	2.63	NG	9[illegible]
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	27.24	228.0	10730	11.42	NG	9[illegible]
68)	bis(2-Ethylhexyl)phthalate	27.77	149.0	3042	2.87	NG	9[illegible]
69)	Chrysene	27.37	228.0	13751	14.84	NG	9[illegible]
70)	*d12-Perylene	31.02	264.0	39373	40.00	NG	9[illegible]
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	30.15	252.0	11948	12.67	NG	9[illegible]
73)	Benzo(k)Fluoranthene	30.18	252.0	9678M	11.37	NG	9[illegible]
74)	Benzo(a)Pyrene	30.89	252.0	10165	12.51	NG	9[illegible]
75)	Indeno(1,2,3-cd)Pyrene	33.27	276.0	7695	7.62	NG	98
76)	Dibenzo(a,h)Anthracene	33.33	278.0	2564	~~7.21 NG~~	O.K.	8[illegible]
77)	Benzo(g,h,i)Perylene	33.91	276.0	7022	8.08	NG	9[illegible]

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



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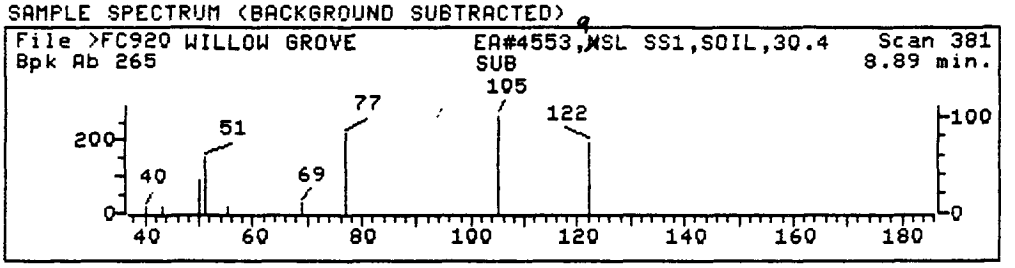

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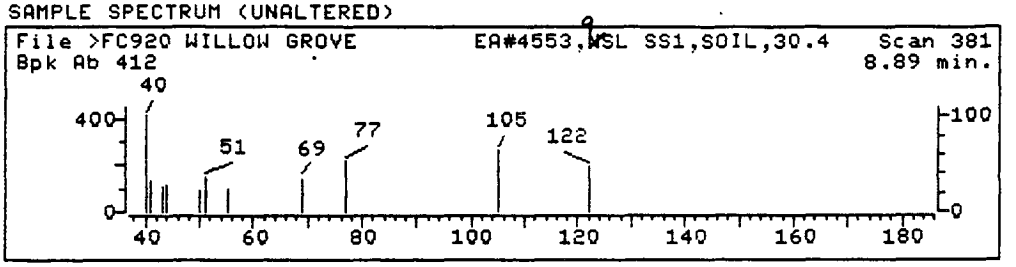
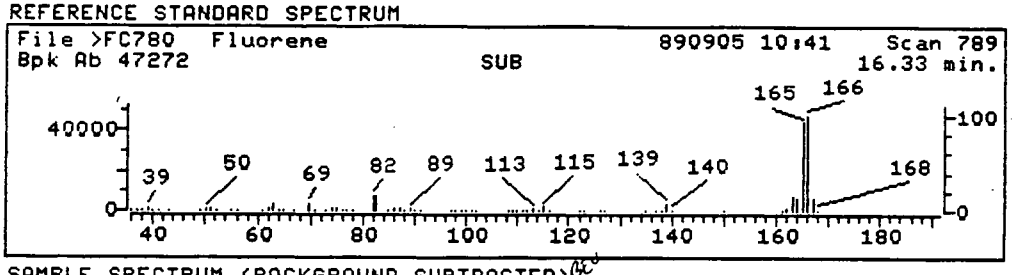


Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 22
Compound Name: Benzoic Acid
Scan Number: 381
Retention Time: 8.89 min.
Quant Ion: 122.0
Area: 822
Concentration: 1.59 NG
q-value: 94

REFERENCE STANDARD SPECTRUM



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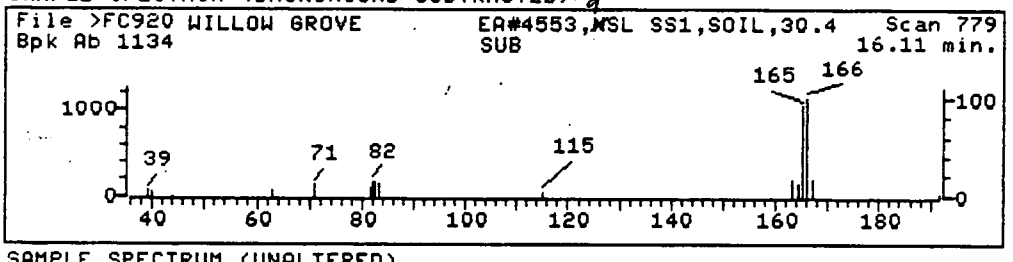

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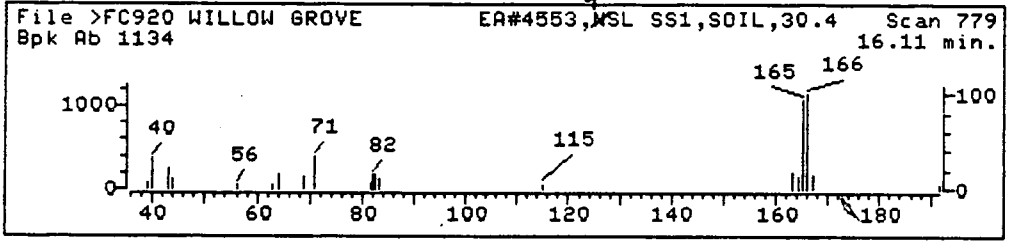

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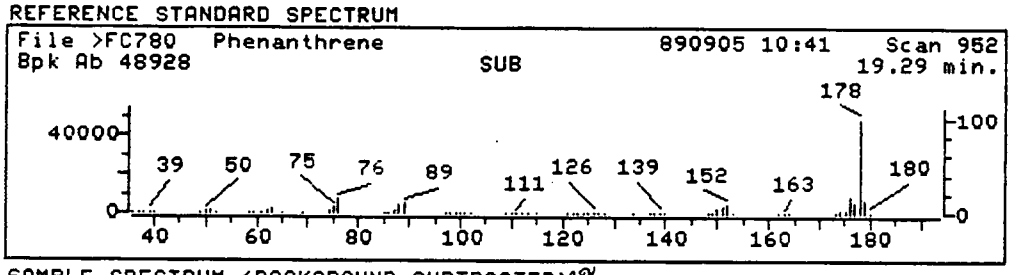
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 49
Compound Name: Fluorene
Scan Number: 779
Retention Time: 16.11 min.
Quant Ion: 166.0
Area: 2728
Concentration: 1.59 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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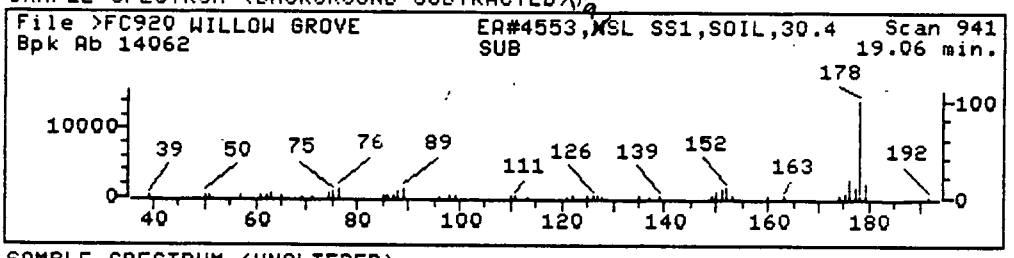

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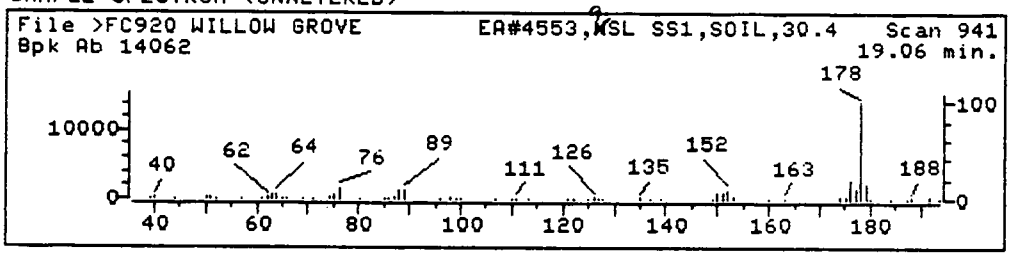

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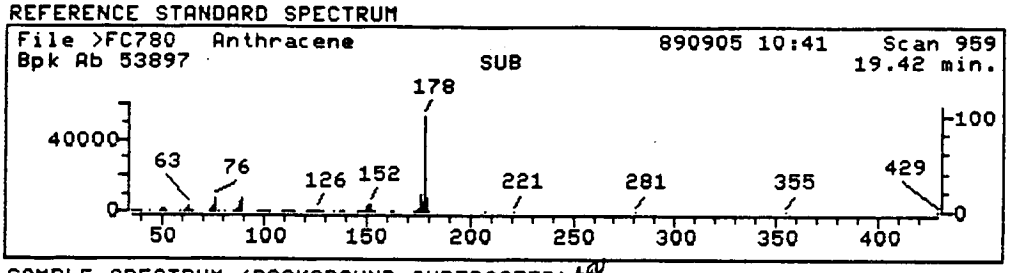
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 941
Retention Time: 19.06 min.
Quant Ion: 178.0
Area: 36899
Concentration: 19.98 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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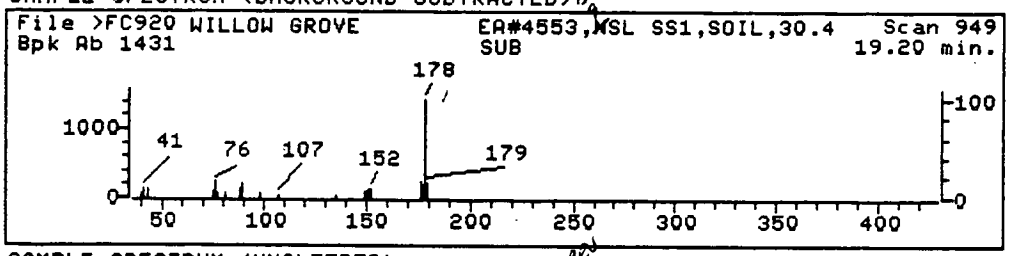
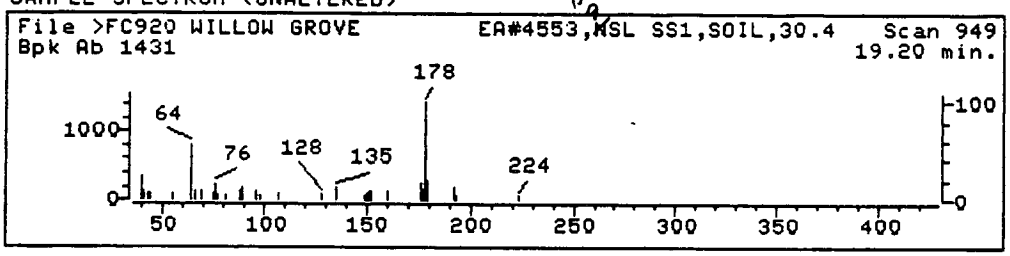


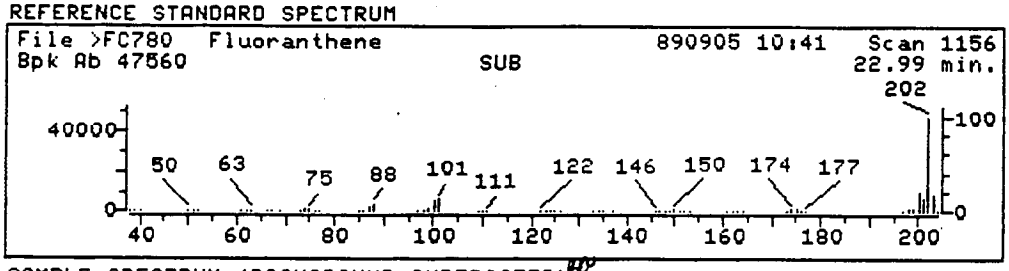
SAMPLE SPECTRUM (UNALTERED)



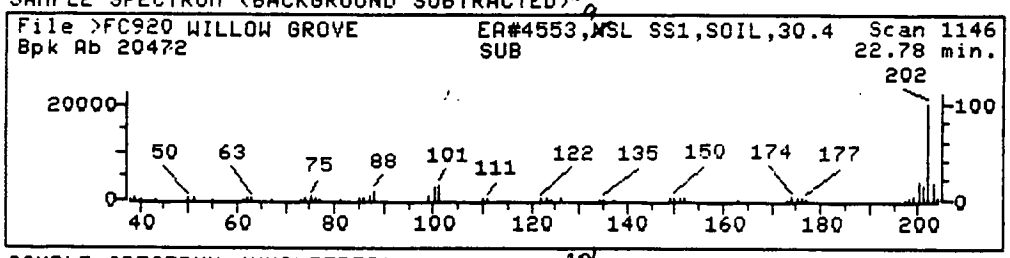
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 59
Compound Name: Anthracene
Scan Number: 949
Retention Time: 19.20 min.
Quant Ion: 178.0
Area: 3873
Concentration: 2.30 NG
q-value: 99

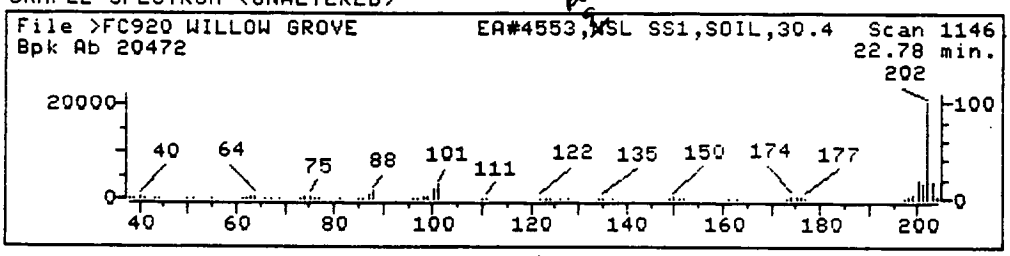
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



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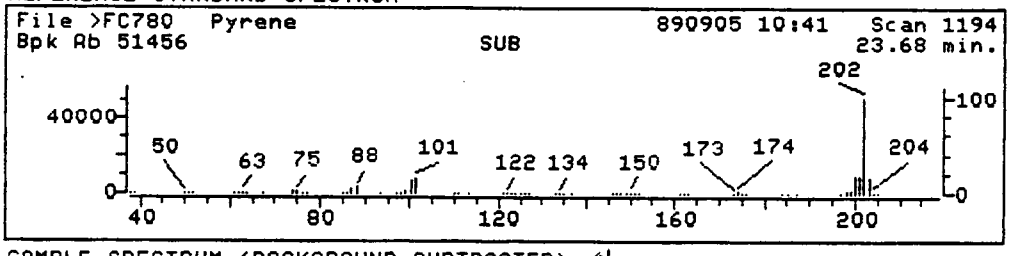
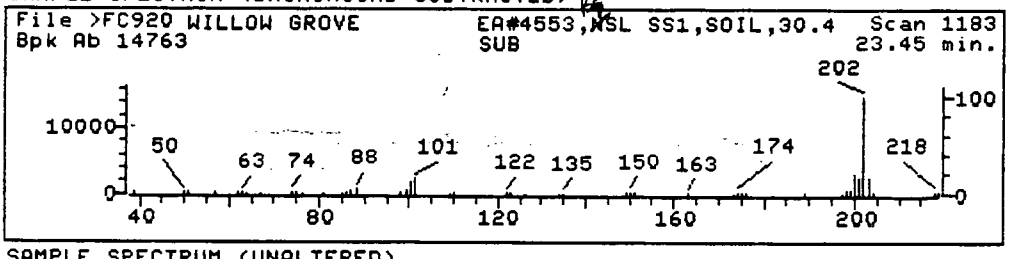
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1146
Retention Time: 22.78 min.
Quant Ion: 202.0
Area: 52751
Concentration: 32.78 NG
q-value: 94

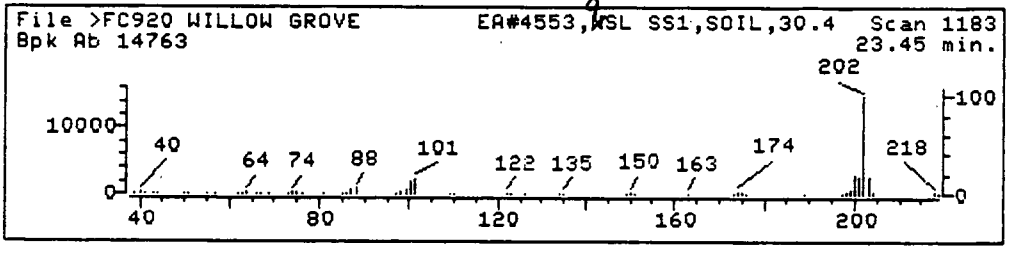
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



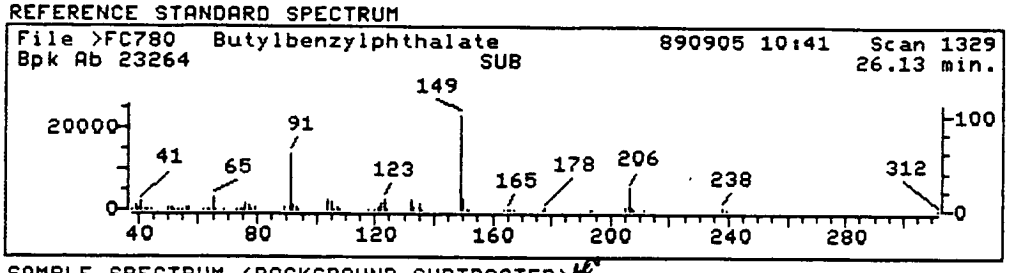
SAMPLE SPECTRUM (UNALTERED)



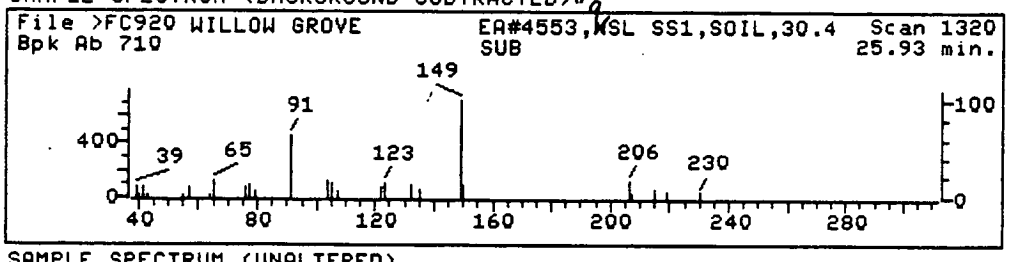
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 63
Compound Name: Pyrene
Scan Number: 1183
Retention Time: 23.45 min.
Quant Ion: 202.0
Area: 39764
Concentration: 27.25 NG
q-value: 99

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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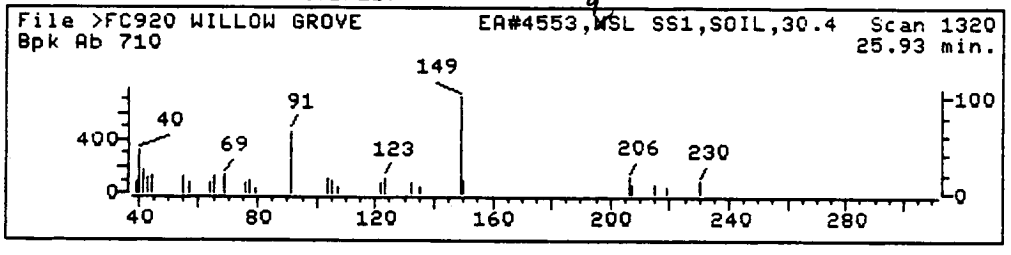
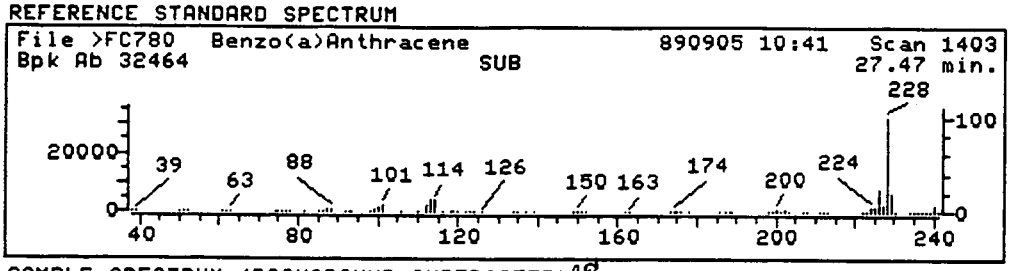


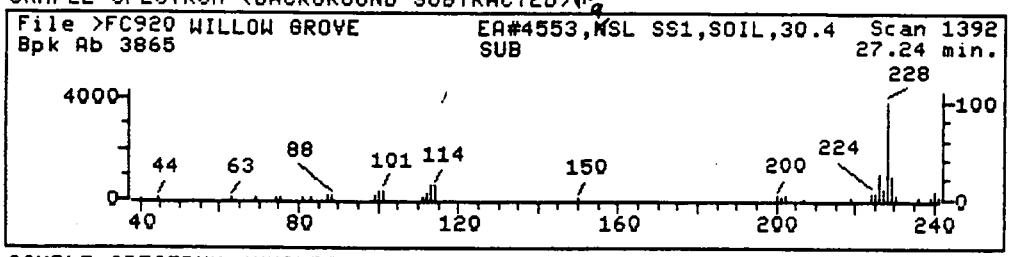
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 65
Compound Name: Butylbenzylphthalate
Scan Number: 1320
Retention Time: 25.93 min.
Quant Ion: 149.0
Area: 1933
Concentration: 2.63 NG
q-value: 92

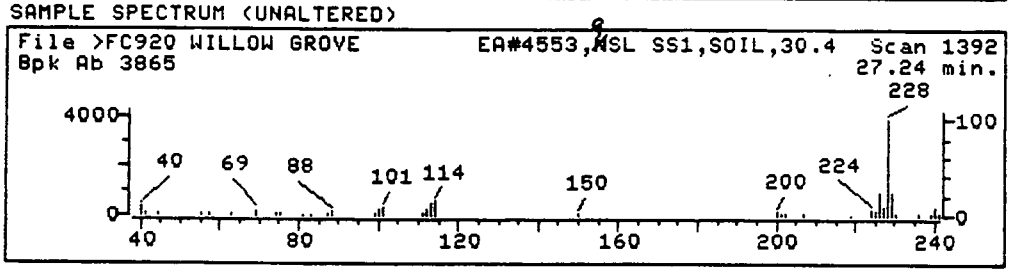
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



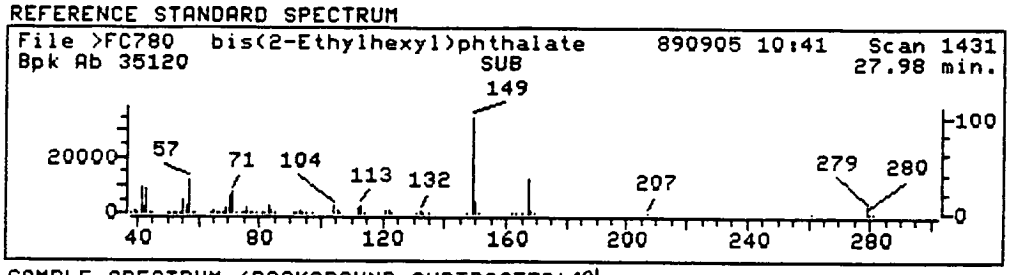
SAMPLE SPECTRUM (UNALTERED)



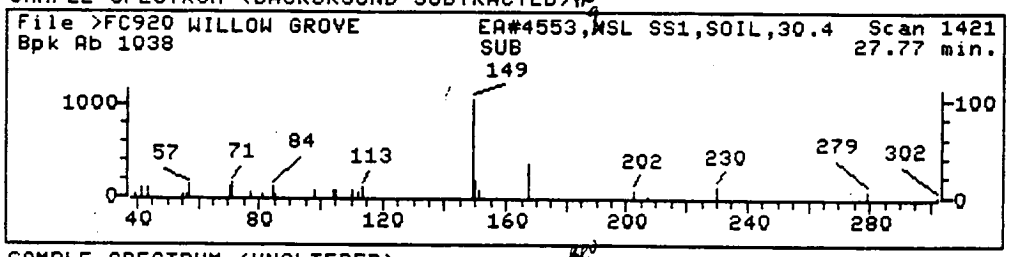
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,MSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1392
Retention Time: 27.24 min.
Quant Ion: 228.0
Area: 10730
Concentration: 11.42 NG
q-value: 93

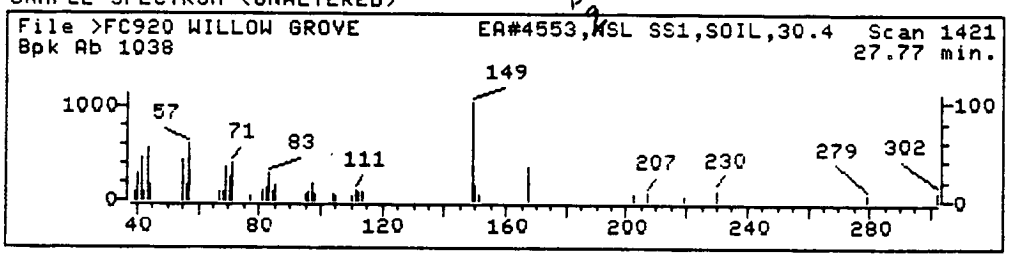
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



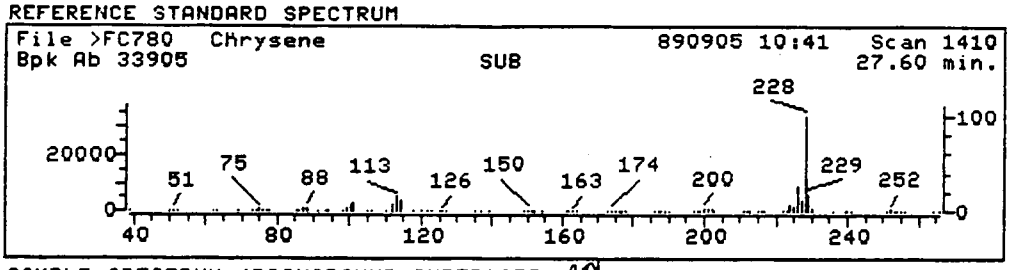
SAMPLE SPECTRUM (UNALTERED)



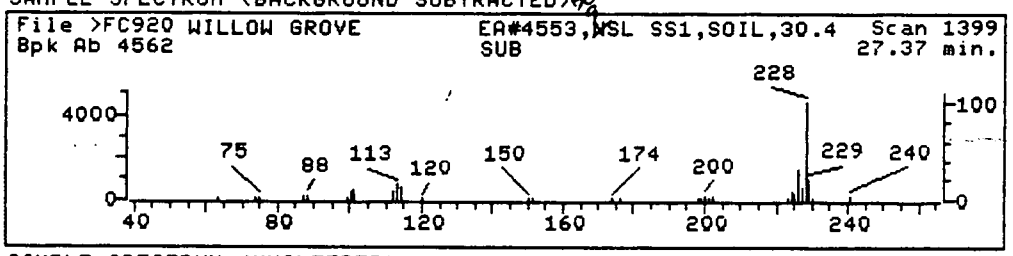
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1421
Retention Time: 27.77 min.
Quant Ion: 149.0
Area: 3042
Concentration: 2.87 NG
q-value: 95

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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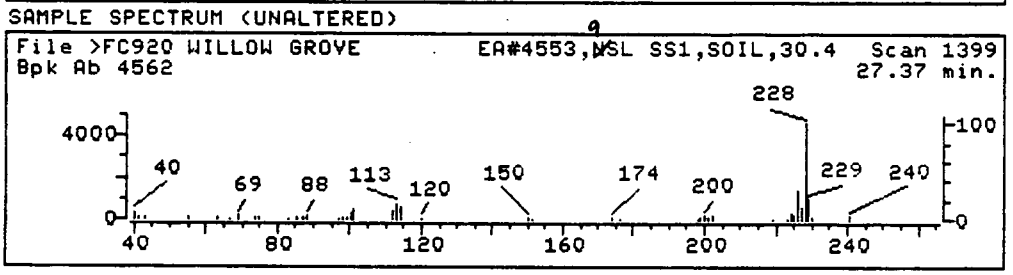
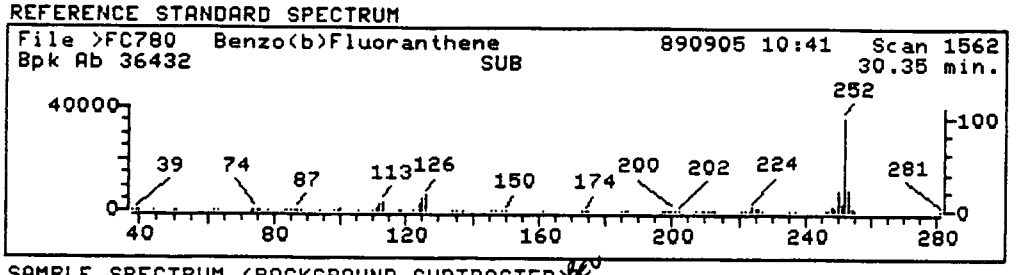


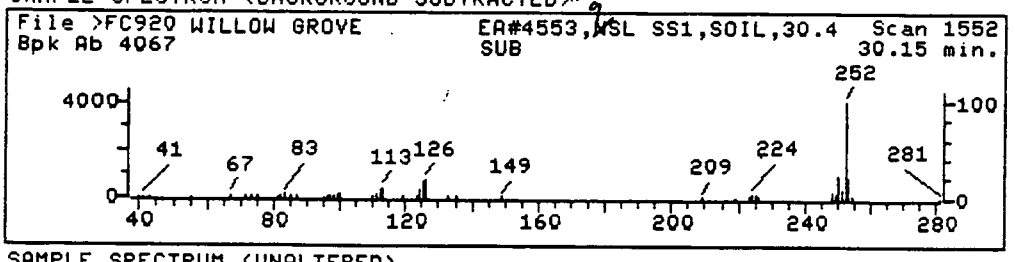
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,NSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 69
Compound Name: Chrysene
Scan Number: 1399
Retention Time: 27.37 min.
Quant Ion: 228.0
Area: 13751
Concentration: 14.84 NG
q-value: 96

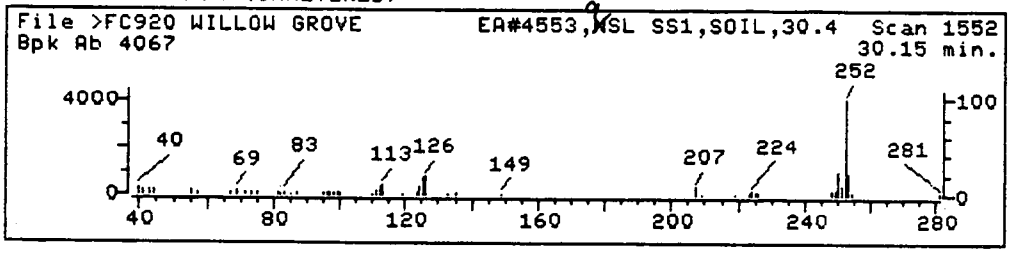
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



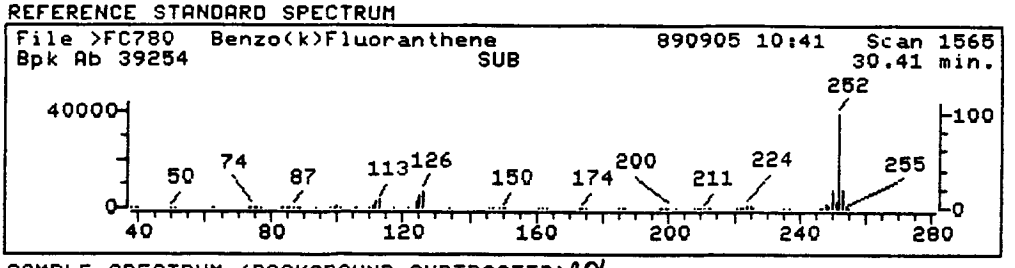
SAMPLE SPECTRUM (UNALTERED)



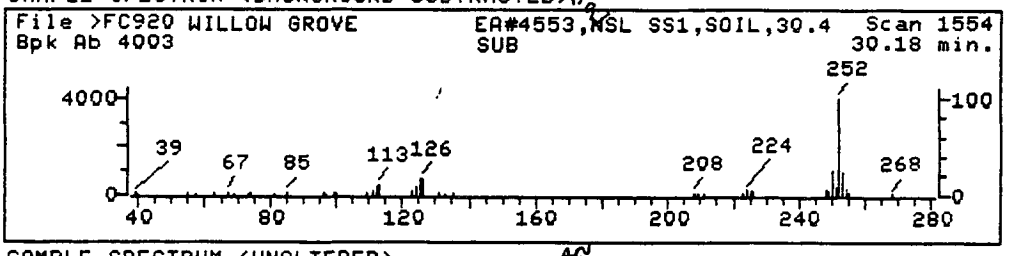
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1552
Retention Time: 30.15 min.
Quant Ion: 252.0
Area: 11948
Concentration: 12.67 NG
q-value: 97

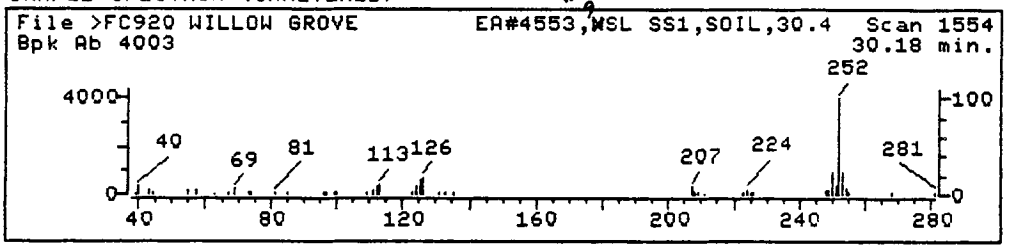
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED) BC



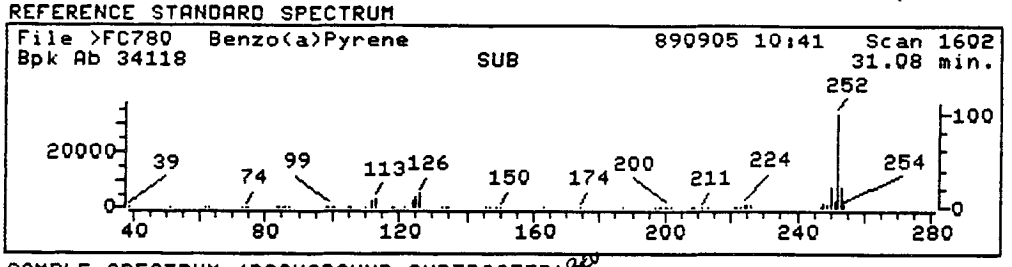
SAMPLE SPECTRUM (UNALTERED) BC



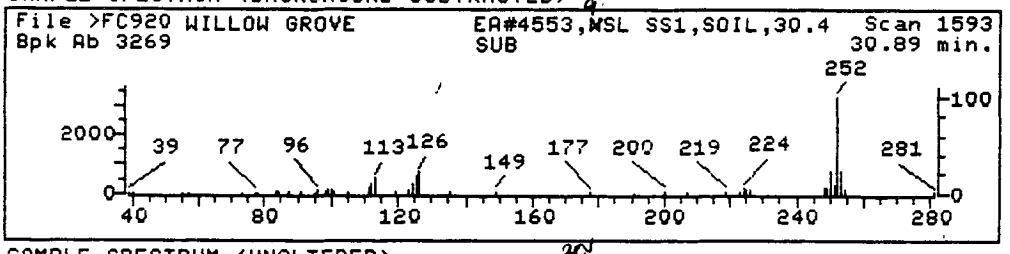
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1554
Retention Time: 30.18 min.
Quant Ion: 252.0
Area: 9678M
Concentration: 11.37 NG
q-value: 94

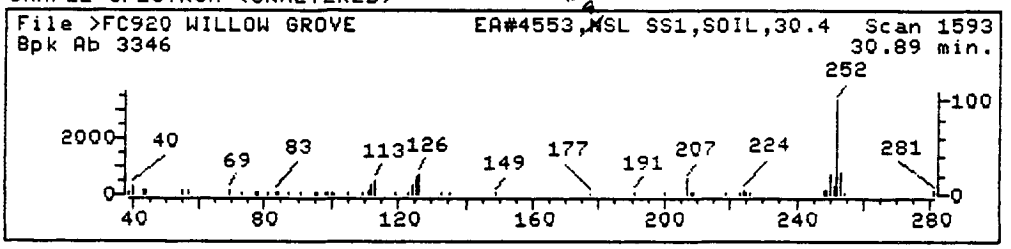
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



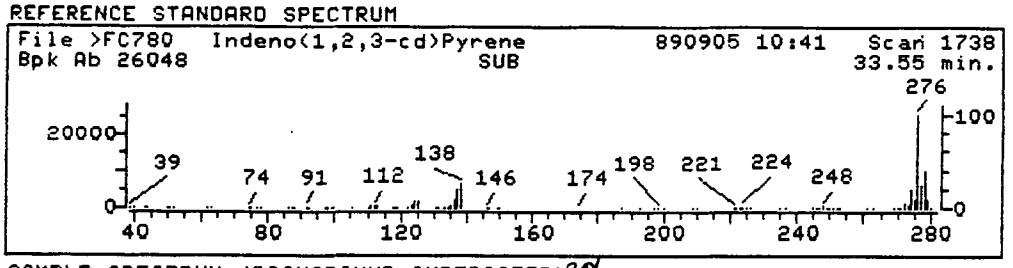
SAMPLE SPECTRUM (UNALTERED)



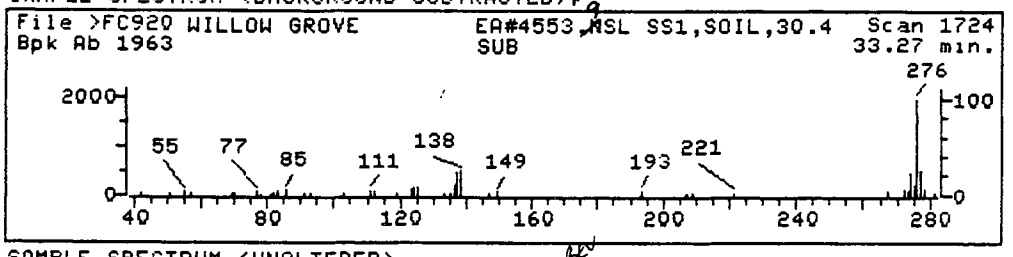
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,WSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1593
Retention Time: 30.89 min.
Quant Ion: 252.0
Area: 10165
Concentration: 12.51 NG
q-value: 98

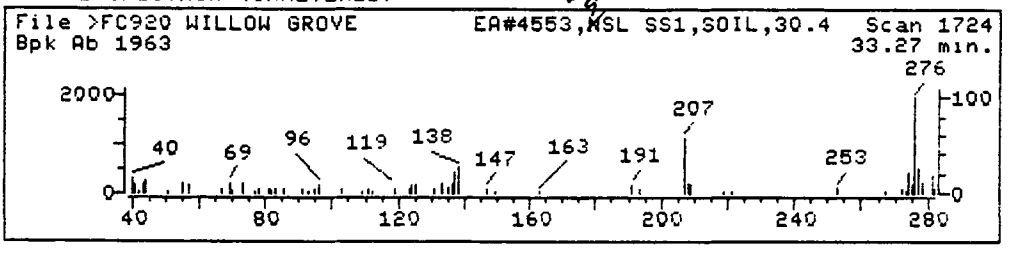
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



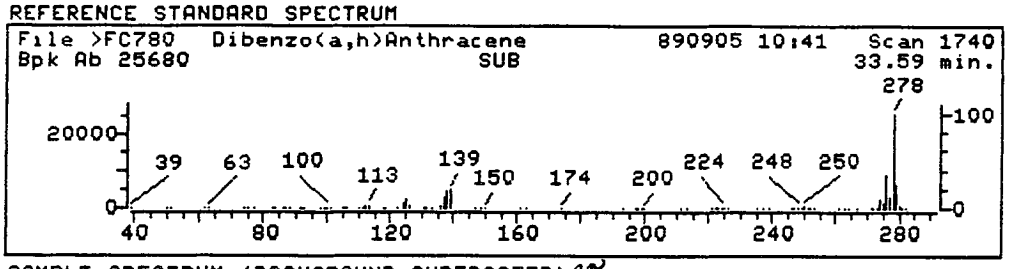
SAMPLE SPECTRUM (UNALTERED)



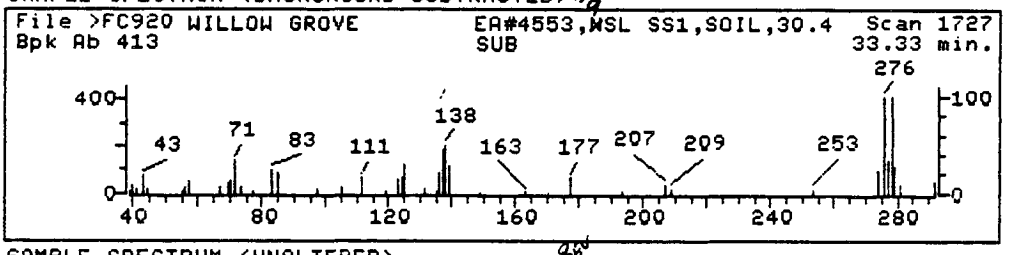
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,MSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1724
Retention Time: 33.27 min.
Quant Ion: 276.0
Area: 7695
Concentration: 7.62 NG
q-value: 98

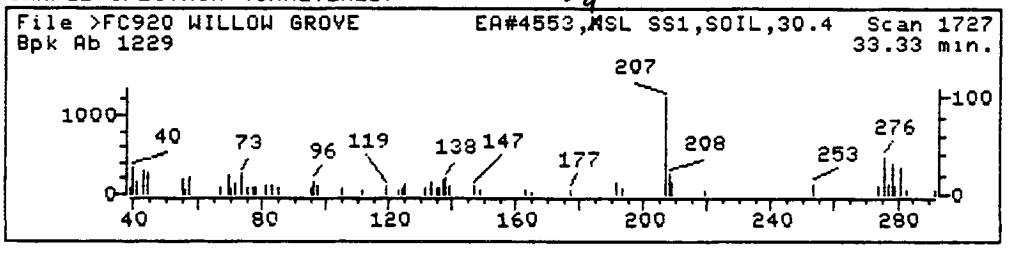
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



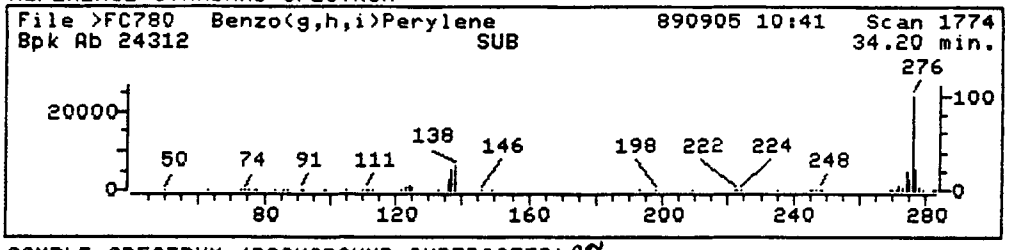
SAMPLE SPECTRUM (UNALTERED)



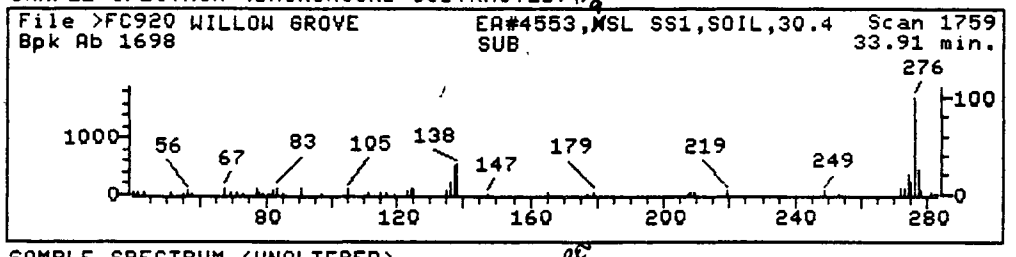
Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,MSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 76
Compound Name: Dibenzo(a,h)Anthracene
Scan Number: 1727
Retention Time: 33.33 min.
Quant Ion: 278.0
Area: 2564
Concentration: 3.21 NG
q-value: 84

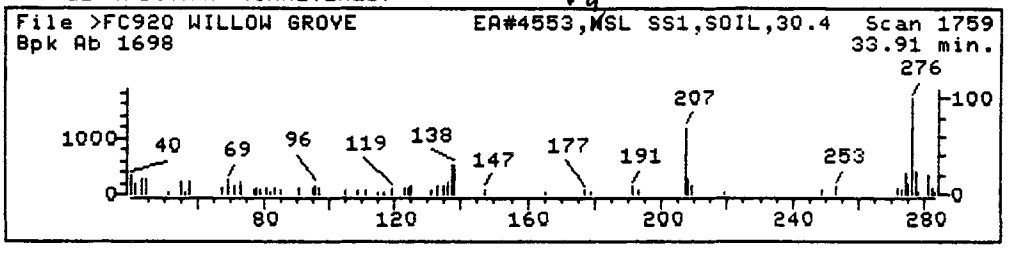
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED) BC9

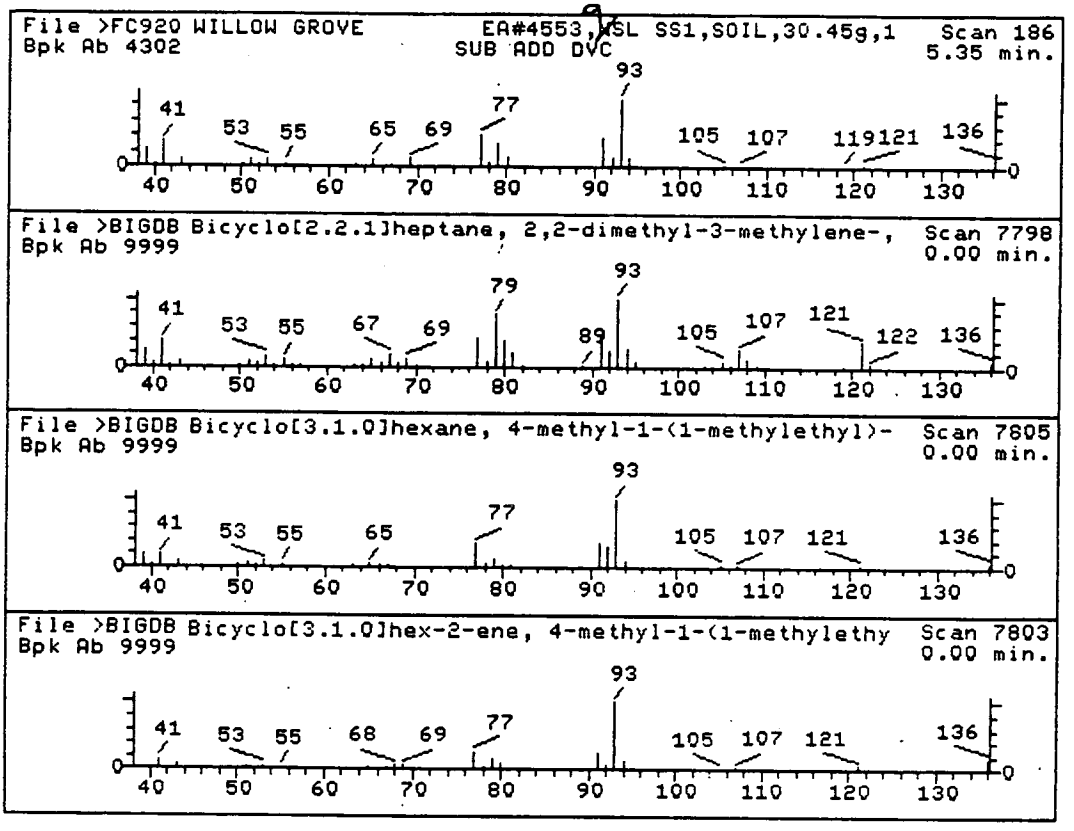


SAMPLE SPECTRUM (UNALTERED) BC9



Data File: >FC920::D5 Quant Output File: ^FC920::QT
Name: WILLOW GROVE
Misc: EA#4553,MSL SS1,SOIL,30.45g,1mL BTL# 2
Quant Time: 890928 21:49 Quant ID File: IDFCLP::BD
Injected at: 890928 21:10 Last Calibration: 890928 19:49

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1759
Retention Time: 33.91 min.
Quant Ion: 276.0
Area: 7022
Concentration: 8.08 NG
q-value: 94



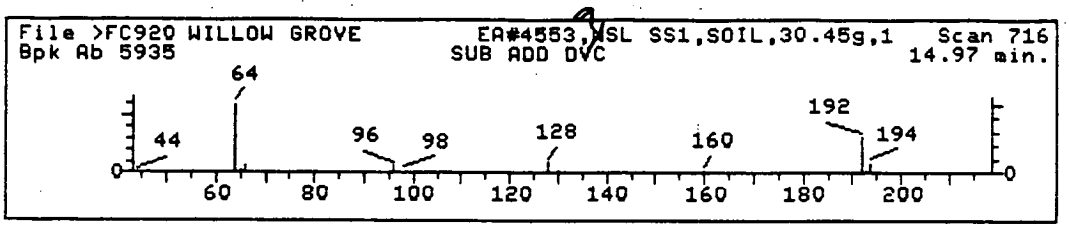
Retention time = 5.35

Area = 49121.00 Tentative Concentration is 250.00

1.	Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene-, (1R)- (9CI)	136	C10H16
2.	Bicyclo[3.1.0]hexane, 4-methyl-1-(1-methylethyl)-, didehydro deriv. (9CI)	136	C10H16
3.	Bicyclo[3.1.0]hex-2-ene, 4-methyl-1-(1-methylethyl)- (9CI)	136	C10H16
4.	Bicyclo[3.1.0]hex-2-ene, 2-methyl-5-(1-methylethyl)- (9CI)	136	C10H16
5.	.alpha.-Phellandrene	136	C10H16
6.	Bicyclo[3.1.0]hexane, 4-methylene-1-(1-methylethyl)- (9CI)	136	C10H16
7.	Spiro[2.4]heptane, 1,5-dimethyl-6-methylene- (9CI)	136	C10H16

Sample file: >FC920 Spectrum #: 186
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	78*	5794036	7798	"BIGDB	36	80	3	0	95	0	55	13
2.	71*	58037879	7805	"BIGDB	50	43	2	0	100	11	38	31
3.	68*	28634891	7803	"BIGDB	66	26	1	3	96	21	30	59
4.	67*	2867052	7794	"BIGDB	49	41	3	0	100	15	34	22
5.	60*	99832	7784	"BIGDB	49	53	3	0	100	13	30	14
6.	46*	3387415	7795	"BIGDB	54	47	2	1	91	28	19	24
7.	35*	62238248	7898	"BIGDB	23	93	3	0	104	30	14	12



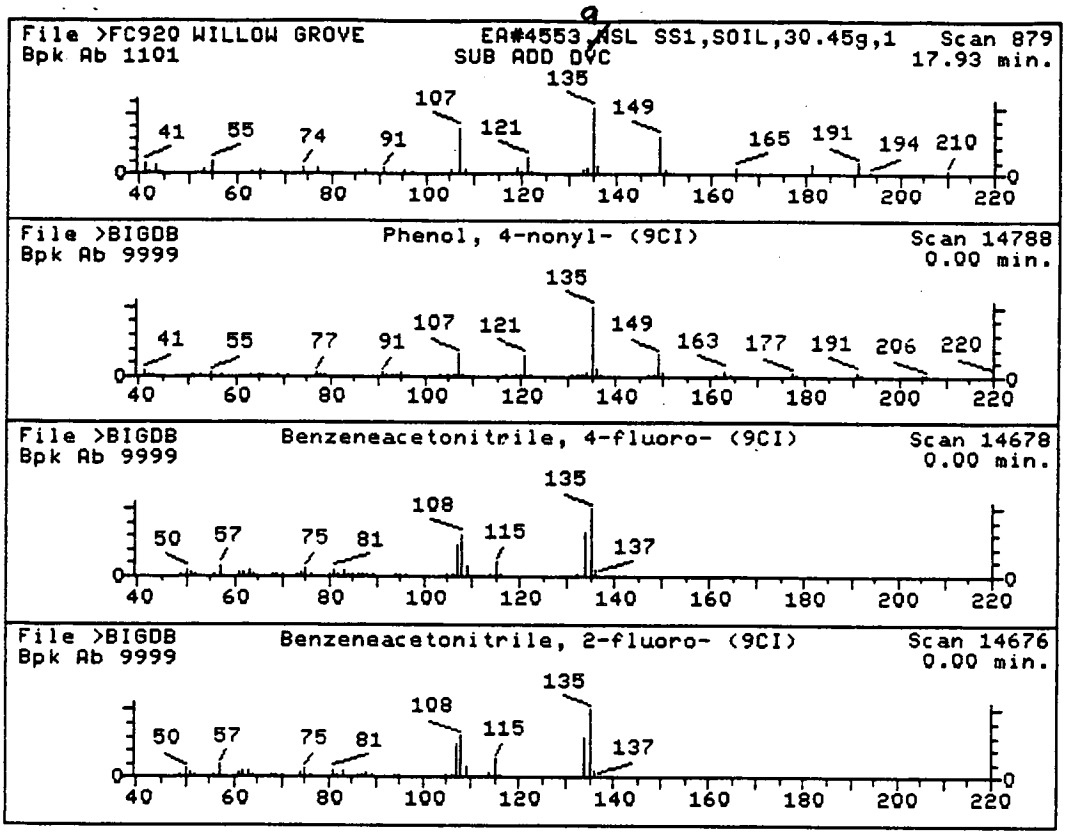
Retention time = 14.97

Area = 49476.00 Tentative Concentration is 220.00

Unknown

Sample file: >FC920 Spectrum #: 716

No data base entries were retrieved.



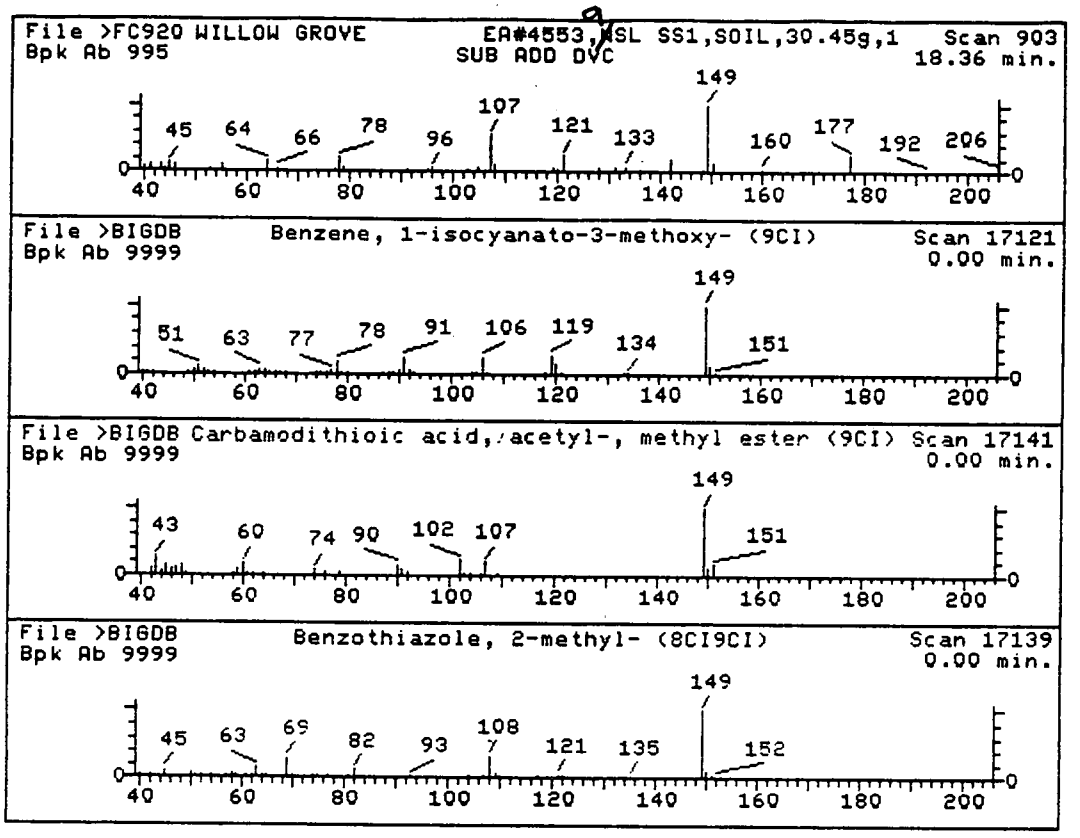
Retention time = 17.93

Area = 32546.00 Tentative Concentration is 230.00

1.	Phenol, 4-nonyl- (9CI)	220	C15H24O
2.	Benzeneacetonitrile, 4-fluoro- (9CI)	135	C8H6FN
3.	Benzeneacetonitrile, 2-fluoro- (9CI)	135	C8H6FN
4.	Pyridine, 2-ethyl-4,6-dimethyl- (9CI)	135	C9H13N
5.	1H-Indole, 5-fluoro- (9CI)	135	C8H6FN
6.	Benzaldehyde, 3-methyl-, oxime (9CI)	135	C8H9NO
7.	Thieno[2,3-c]pyridine (8CI9CI)	135	C7H5NS

Sample file: >FC920 Spectrum #: 879
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	28*	104405	14788	"BIGDB	39	81	2	0	89	38	10	14
2.	27*	459223	14678	"BIGDB	32	81	3	0	100	39	10	13
3.	27*	326625	14676	"BIGDB	32	82	3	0	100	39	10	13
4.	25*	1124352	14547	"BIGDB	28	67	3	0	203	43	8	13
5.	25*	399520	14677	"BIGDB	24	70	2	0	96	47	7	14
6.	20*	41977542	14700	"BIGDB	27	58	3	0	100	52	5	13
7.	20*	272128	14711	"BIGDB	27	62	2	0	89	55	5	14



Retention time = 18.36

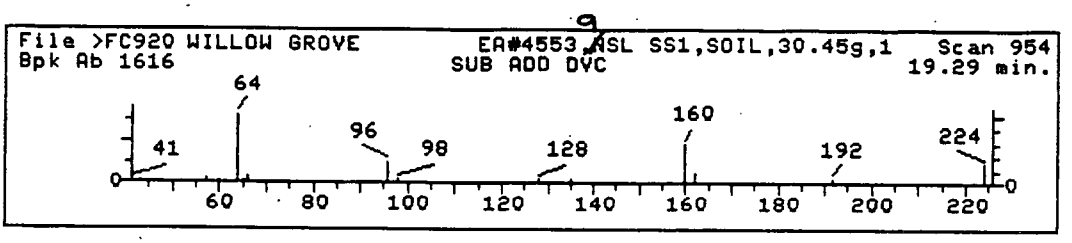
Area = 29544.00 Tentative Concentration is 210.00

1. Benzene, 1-isocyanato-3-methoxy- (9CI) 149 C8H7NO2
2. Carbamodithioic acid, acetyl-, methyl ester (9CI) 149 C4H7NOS2
3. Benzothiazole, 2-methyl- (8CI9CI) 149 C8H7NS

Unknown

Sample file: >FC920 Spectrum #: 903
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	24*	18908071	17121	"BIGDB	23	76	3	0	100	45	8	12
2.	24*	16696881	17141	"BIGDB	23	91	3	0	100	42	8	12
3.	15*	120752	17139	"BIGDB	23	75	3	0	100	58	3	12



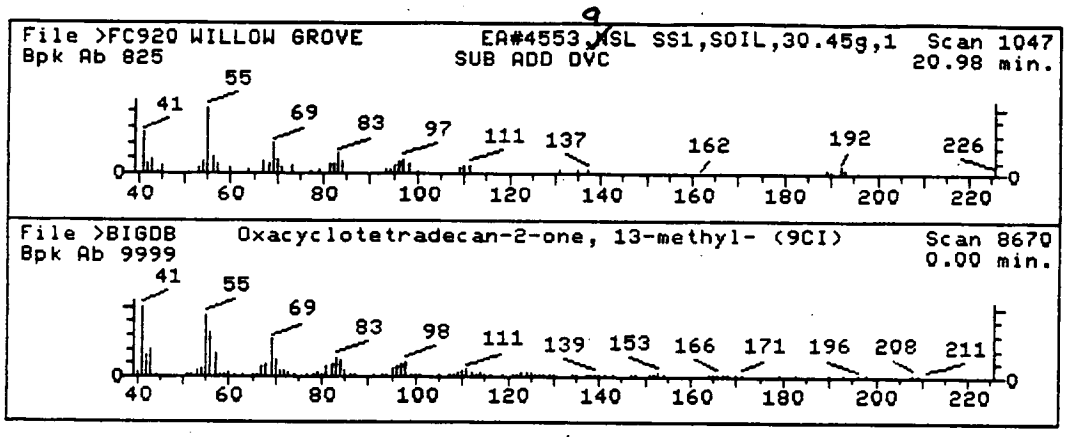
Unknown

Retention time = 19.29

Area = 24778.00 Tentative Concentration is 180.00

Sample file: >FC920 Spectrum #: 954

No data base entries were retrieved.



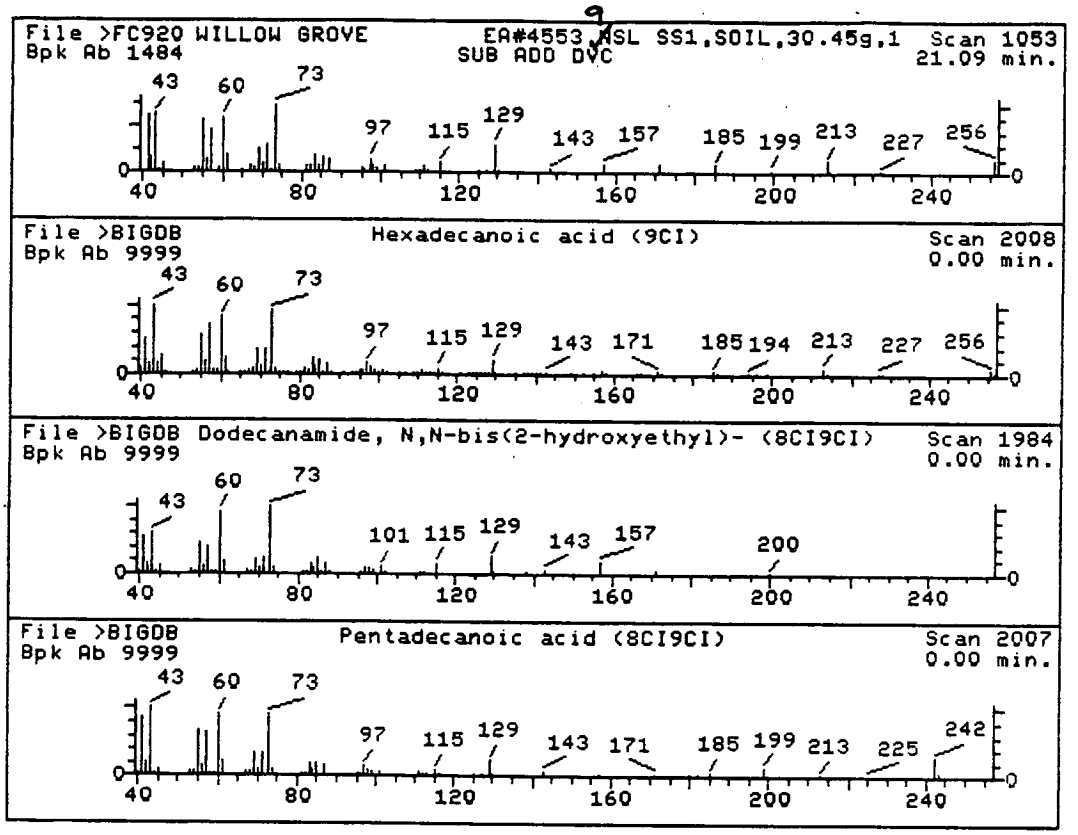
Retention time = 20.98

Area = 33942.00 Tentative Concentration is 240.00

1. Oxacyclotetradecan-2-one, 13-methyl- (9CI) 226 C14H26O2

Sample file: >FC920 Spectrum #: 1047
Search speed: 2 Tilting option: S No. of ion ranges searched: 61

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	11*	57092327	8670	"BIGDB	36	104	3	0	60	63	2	13



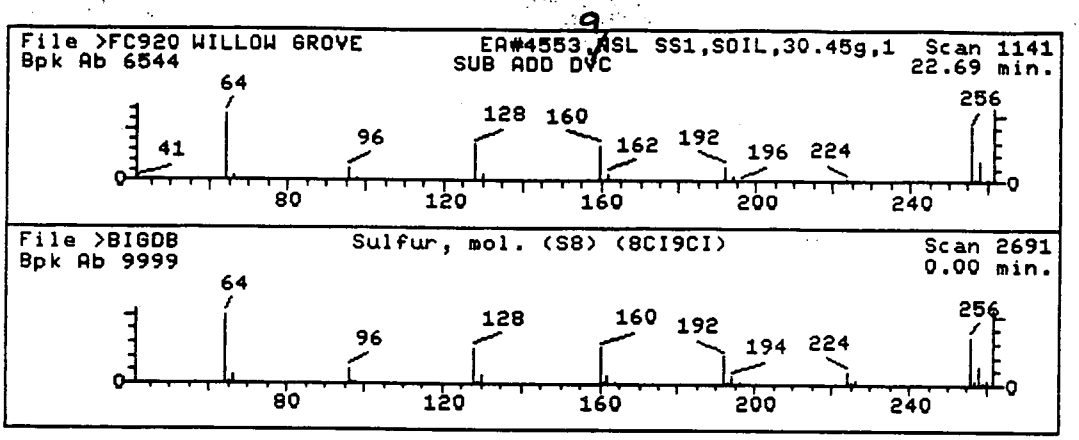
Retention time = 21.09

Area = 48010.00 Tentative Concentration is 340.00

1.	Hexadecanoic acid (9CI)	256	C16H32O2
2.	Dodecanamide, N,N-bis(2-hydroxyethyl)- (8CI9CI)	287	C16H33NO3
3.	Pentadecanoic acid (8CI9CI)	242	C15H30O2
4.	Tetradecanoic acid (9CI)	228	C14H28O2
5.	Tridecanoic acid (8CI9CI)	214	C13H26O2
6.	Dodecanoic acid, silver(1+) salt (9CI)	0	
7.	Glycine, N-methyl-N-(1-oxododecyl)- (9CI)	271	C15H29NO3

Sample file: >FC920 Spectrum #: 1053
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	73*	57103	2008	"BIGDB	81	70	1	0	86	37	28	77
2.	54	120401	1984	"BIGDB	78	75	0	0	78	44	17	57
3.	52	1002842	2007	"BIGDB	101	49	3	-2	91	16	20	14
4.	48	544638	2005	"BIGDB	108	38	3	-1	93	25	17	19
5.	42	638539	2000	"BIGDB	73	69	3	0	90	25	17	13
6.	36	18268456	1998	"BIGDB	74	101	3	0	95	30	14	13
7.	30	97789	1972	"BIGDB	52	98	0	0	92	48	10	23



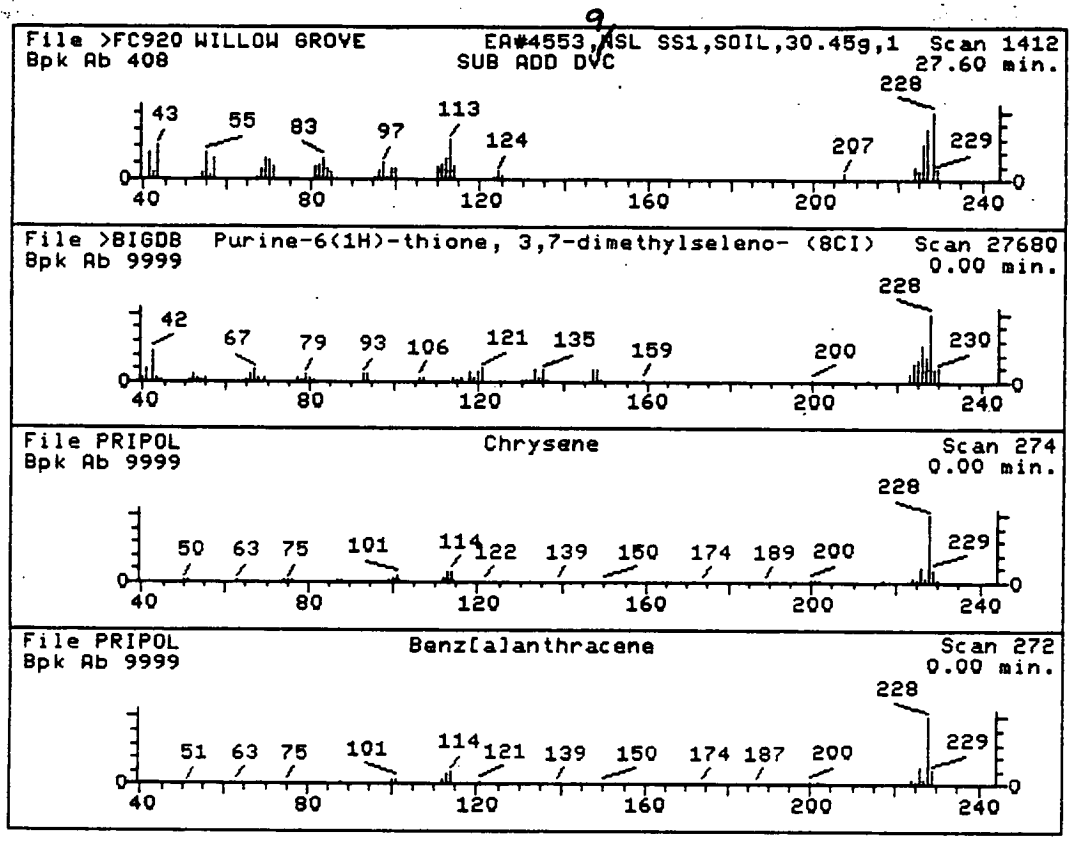
Retention time = 22.69

Area = 224591.0 Tentative Concentration is 1600.00

1. Sulfur, mol. (S8) (8CI9CI) 0

Sample file: >FC920 Spectrum #: 1141
Search speed: 2 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	67*	10544500	2691	"BIGDB	88	70	2	1	56	26	27	59



Retention time = 27.60

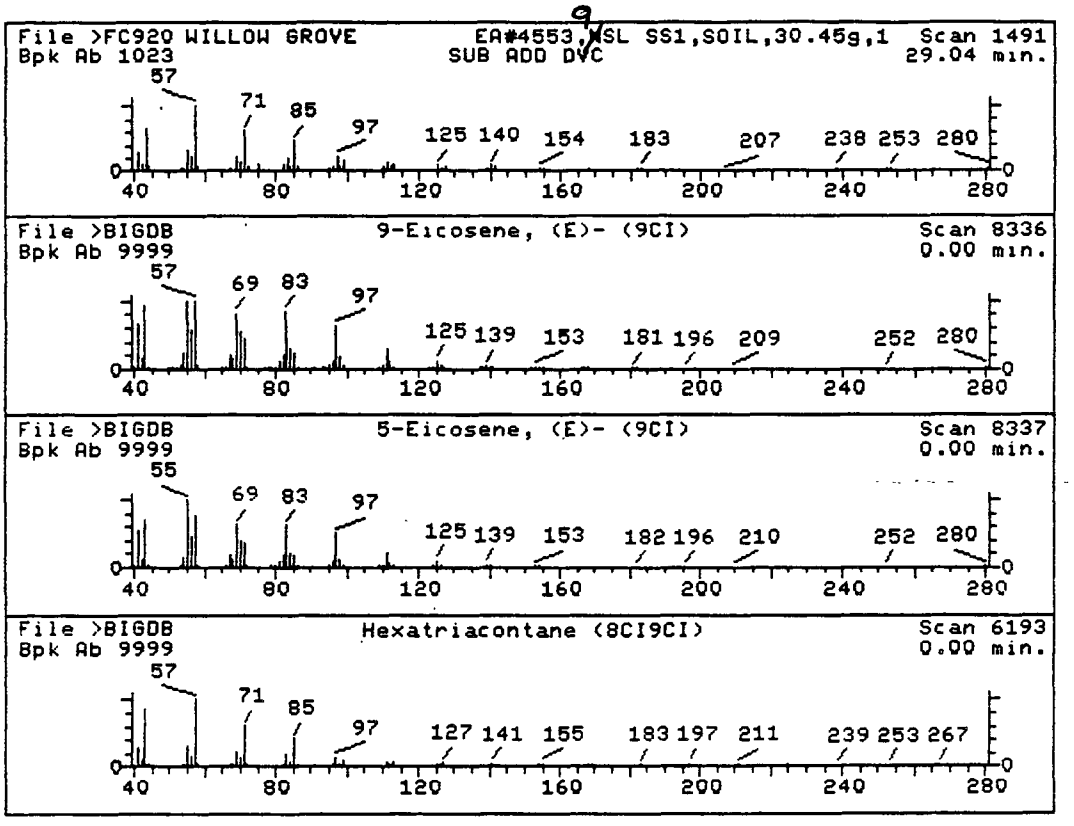
Area = 76642.00 Tentative Concentration is 870.00

Unknown

1. Purine-6(1H)-thione, 3,7-dimethylseleno- (8CI)	228	C7H8N4Se
2. Chrysene	228	C18H12
3. Benz[a]anthracene	228	C18H12
4. Pyrrolidine, 1-(6-phenyl-1-cyclohexen-1-yl)- (8CI)	227	C16H21N
5. Benz[a]anthracene	228	C18H12

Sample file: >FC920 Spectrum #: 1412
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25*	23663583	27680	"BIGDB	26	131	3	0	97	44	8	13
2.	20*	274	377	PRIPOL	26	95	2	0	84	53	5	14
3.	20*	272	375	PRIPOL	26	96	2	0	75	53	5	14
4.	20*	26974243	27547	"BIGDB	34	119	3	0	62	55	5	13
5.	11*	271	374	PRIPOL	26	96	2	0	84	61	2	14



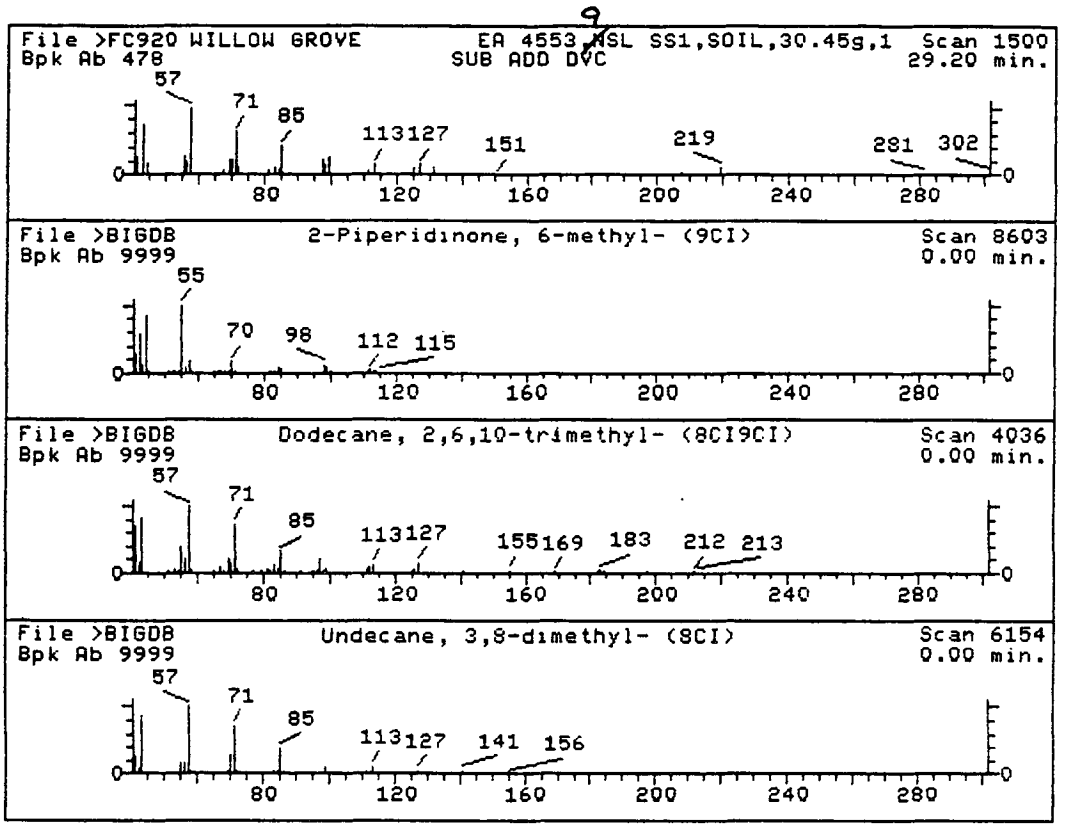
Retention time = 29.04

Area = 29607.00 Tentative Concentration is 340.00

1.	9-Eicosene, (E)- (9CI)	280	C20H40
2.	5-Eicosene, (E)- (9CI)	280	C20H40
3.	Hexatriacontane (8CI9CI)	506	C36H74
4.	3-Eicosene, (E)- (9CI)	280	C20H40
5.	Undecane, 3,8-dimethyl- (8CI)	184	C13H28
6.	Cyclopentane, 1-pentyl-2-propyl- (9CI)	182	C13H26
7.	Hexadecane (8CI9CI)	226	C16H34

Sampl file: >FC920 Spectrum #: 1491
Search speed: 2 Tilting option: S No. of ion ranges searched: 69

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	65*	74685293	8336	"BIGDB	63	65	0	-3	16	35	24	52
2.	65*	74685306	8337	"BIGDB	76	58	1	-2	32	33	24	50
3.	58	630068	6193	"BIGDB	101	61	2	-2	84	17	25	27
4.	44*	74685339	8338	"BIGDB	42	82	0	-2	18	35	16	27
5.	43	17301303	6154	"BIGDB	67	41	1	-2	76	23	17	14
6.	41*	62199513	10735	"BIGDB	43	49	0	-3	16	43	14	38
7.	40	544763	6146	"BIGDB	91	29	2	-2	91	35	16	23



Retention time = 29.20

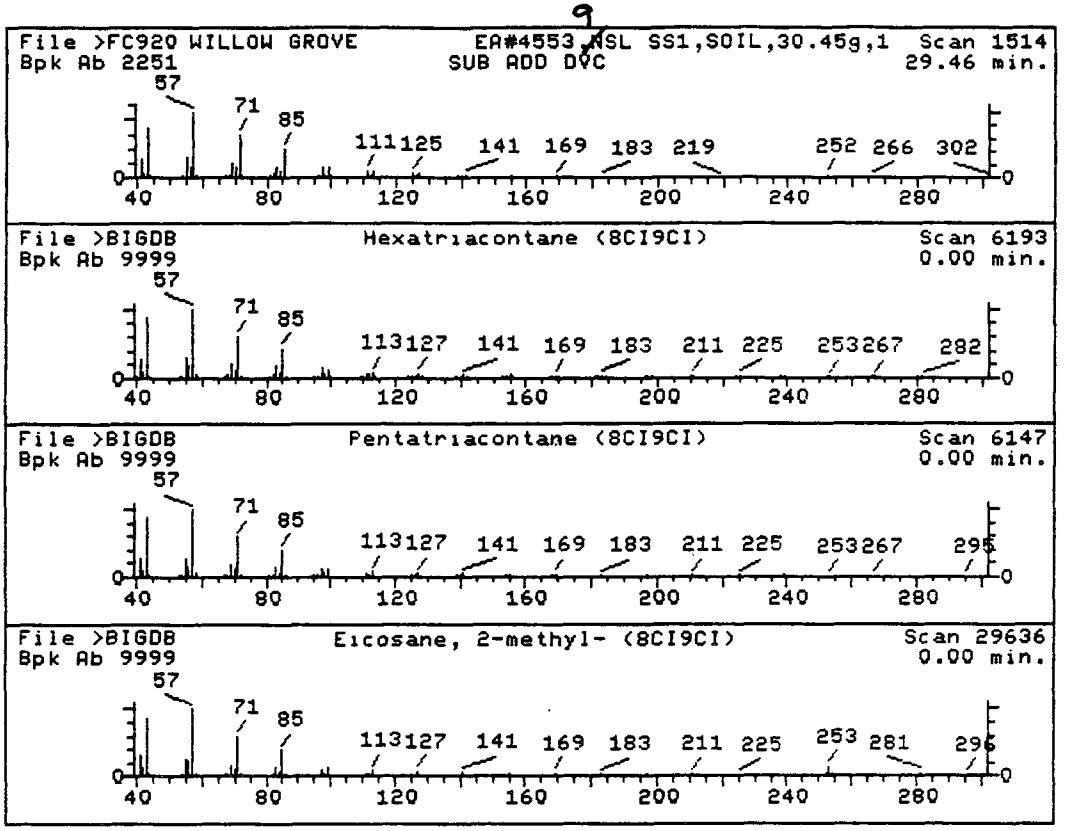
Area = 19101.00 Tentative Concentration is 25[illegible].00 Unknown

1. 2-Piperidinone, 6-methyl- (9CI)	113	C6H11NO
2. Dodecane, 2,6,10-trimethyl- (8CI9CI)	212	C15H32
3. Undecane, 3,8-dimethyl- (8CI)	184	C13H28
4. 3-Dodecyn-1-ol, 12-[(tetrahydro-2H-pyran-2-yl)oxy]- (9CI)	282	C17H30O3

Sample file: >FC920 Spectrum #: 1500
Search speed: 2 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25*	4775988	8603	"BIGDB	24	75	3	0	590	47	7	12
2.	25	3891983	4036	"BIGDB	67	57	2	0	84	50	7	14
3.	15	17301303	6154	"BIGDB	59	49	2	0	77	56	3	12
4.	11	64031523	5986	"BIGDB	25	24	0	0	32	62	2	12

9



Retention time = 29.46

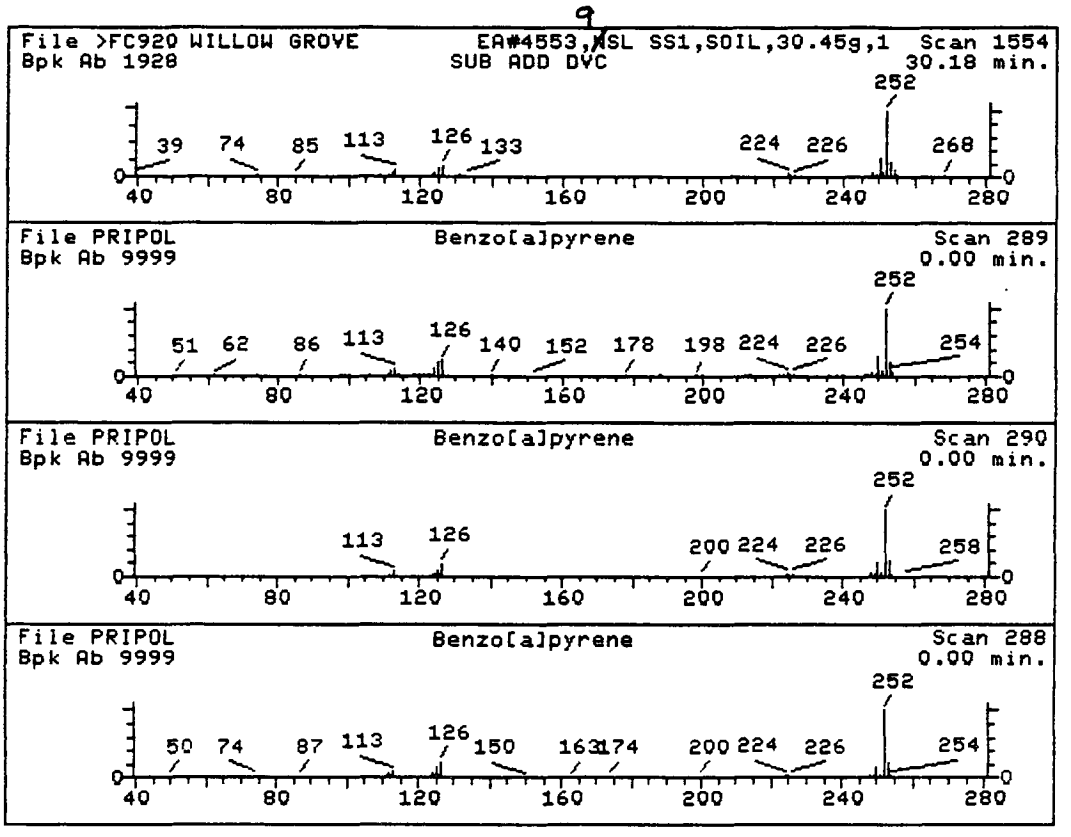
Area = 68017.00 Tentative Concentration is 900.00

Unidentified alkane

1.	Hexatriacontane (8CI9CI)	506	C36H74
2.	Pentatriacontane (8CI9CI)	492	C35H72
3.	Eicosane, 2-methyl- (8CI9CI)	296	C21H44
4.	Tetratetracontane (8CI9CI)	618	C44H90
5.	Tritetracontane (8CI9CI)	604	C43H88
6.	Eicosane (8CI9CI)	282	C20H42
7.	Dotriacontane (8CI9CI)	450	C32H66

Sample file: >FC920 Spectrum #: 1514
Search speed: 2 Tilting option: S No. of ion ranges search d: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86	630068	6193	"BIGDB	104	58	2	-1	88	4	60	31
2.	79	630079	6147	"BIGDB	109	42	2	-1	87	10	48	37
3.	76	1560845	29636	"BIGDB	90	54	2	0	82	6	45	27
4.	74	7098228	8906	"BIGDB	106	50	2	0	100	14	39	42
5.	74	7098217	6150	"BIGDB	108	60	2	0	80	12	39	44
6.	71	112958	6286	"BIGDB	99	40	2	0	80	14	38	32
7.	70	544854	6261	"BIGDB	71	94	2	0	83	10	42	17



Retention time = 30.18

Area = 29197.00 Tentative Concentration is 380.00

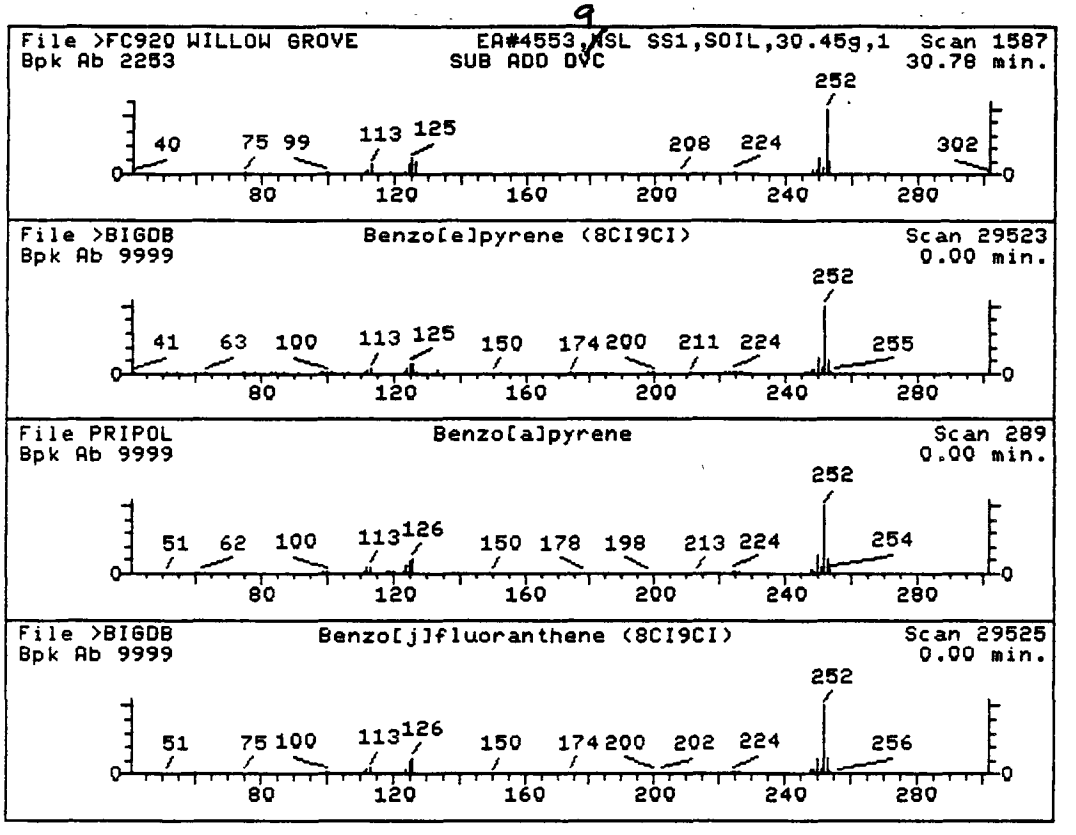
Unidentified PAH

1. Benzo[a]pyrene	252	C20H12
2. Benzo[a]pyrene	252	C20H12
3. Benzo[a]pyrene	252	C20H12
4. Benzo[e]pyrene (8CI9CI)	252	C20H12
5. Benzo[a]pyrene (8CI9CI)	252	C20H12
6. Benzo[j]fluoranthene (8CI9CI)	252	C20H12
7. Benz[e]acephenanthrylene (8CI9CI)	252	C20H12

Sampl file: >FC920 Spectrum #: 1554
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	289	409	PRIPOL	89	47	2	-1	100	9	54	56
2.	83*	290	410	PRIPOL	80	50	1	0	91	12	51	77
3.	83*	288	408	PRIPOL	76	57	1	0	96	14	51	74
4.	79*	192972	29523	"BIGDB	83	50	2	0	95	15	43	65
5.	76*	50328	29521	"BIGDB	82	49	2	-1	100	14	40	52
6.	75*	205823	29525	"BIGDB	84	48	2	0	75	19	35	65
7.	75*	205992	29526	"BIGDB	84	48	2	0	71	19	35	65

9



Retention time = 30.78

Area = 19257.00 Tentative Concentration is 250.00

1.	B nzo[e]pyrene (8CI9CI)	252 C20H12
2.	Benzo[a]pyrene	252 C20H12
3.	Benzo[j]fluoranthene (8CI9CI)	252 C20H12
4.	Benz[e]acephenanthrylene (8CI9CI)	252 C20H12
5.	Benzo[a]pyrene	252 C20H12
6.	Benzo[k]fluoranthene (8CI9CI)	252 C20H12
7.	Benzo[a]pyrene (8CI9CI)	252 C20H12

Unidentified PAH

Sample file: >FC920 Spectrum #: 1587
Search speed: 2 Tilting option: S No. of ion ranges search d: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84*	192972	29523	"BIGDB	90	43	2	1	88	6	55	60
2.	84*	289	409	PRIPOL	79	57	2	0	90	6	55	60
3.	76*	205823	29525	"BIGDB	71	61	2	0	85	12	40	52
4.	76*	205992	29526	"BIGDB	71	61	2	0	84	14	40	52
5.	71*	290	410	PRIPOL	59	71	2	1	70	14	38	30
6.	63*	207089	29527	"BIGDB	58	74	2	0	73	17	30	35
7.	63*	50328	29521	"BIGDB	56	75	2	0	85	20	30	33

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4554
SAMPLE: 9SL SS2
GC/MS FILE: >FC921::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 22:00
SAMPLE--->EXTRACT:	30.39g-->1mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	2200.	ND
132-64-9	Dibenzofuran	450.	ND
121-14-2	2,4-Dinitrotoluene	450.	ND
606-20-2	2,6-Dinitrotoluene	450.	ND
84-66-2	Diethylphthalate	450.	ND
7005-72-3	4-Chlorophenyl-phenylether	450.	ND
86-73-7	Fluorene	450.	ND
100-01-6	4-Nitroaniline	2200.	ND
534-52-1	4,6-Dinitro-2-methylphenol	2200.	ND
86-30-6	N-Nitrosodiphenylamine	450.	ND
101-55-3	4-Bromophenyl-phenylether	450.	ND
118-74-1	Hexachlorobenzene	450.	ND
87-86-5	Pentachlorophenol	2200.	ND
85-01-8	Phenanthrene	450.	ND
120-12-7	Anthracene	450.	ND
84-74-2	Di-n-Butyl phthalate	45.	TR
206-44-0	Fluoranthene	450.	ND
129-00-0	Pyrene	450.	ND
85-68-7	Butylbenzylphthalate	450.	ND
91-94-1	3,3'-Dichlorobenzidine	900.	ND
56-55-3	Benzo(a)Anthracene	450.	ND
117-81-7	bis(2-Ethylhexyl)phthalate	58.	TR
218-01-9	Chrysene	450.	ND
117-84-0	Di-n-Octyl phthalate	450.	ND
205-99-2	Benzo(b)Fluoranthene	450.	ND
207-08-9	Benzo(k)Fluoranthene	450.	ND
50-32-8	Benzo(a)Pyrene	450.	ND
193-39-5	Indeno(1,2,3-cd)Pyrene	450.	ND
53-70-3	Dibenzo(a,h)Anthracene	450.	ND
191-24-2	Benzo(g,h,i)Perylene	450.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4554
SAMPLE: 9SL SS2
GC/MS FILE: >FC921::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 22:00
SAMPLE--->EXTRACT:	30.39g-->1mL

CAS #		CONC UG/L	OR UG/KG
108-95-2	Phenol	450.	ND
111-44-4	bis(2-Chloroethyl)ether	450.	ND
95-57-8	2-Chlorophenol	450.	ND
541-73-1	1,3-Dichlorobenzene	450.	ND
106-46-7	1,4-Dichlorobenzene	450.	ND
100-51-6	Benzyl Alcohol	450.	ND
95-50-1	1,2-Dichlorobenzene	450.	ND
95-48-7	2-Methylphenol	450.	ND
39638-32-9	bis(2-chloroisopropyl)ether	450.	ND
106-44-5	4-Methylphenol	450.	ND
621-64-7	N-Nitroso-Di-n-propylamine	450.	ND
67-72-1	Hexachloroethane	450.	ND
98-95-3	Nitrobenzene	450.	ND
78-59-1	Isophorone	450.	ND
88-75-5	2-Nitrophenol	450.	ND
105-67-9	2,4-Dimethylphenol	450.	ND
65-85-0	Benzoic Acid	220.	TR
111-91-1	bis(2-Chloroethoxy)methane	450.	ND
120-83-2	2,4-Dichlorophenol	450.	ND
120-82-1	1,2,4-Trichlorobenzene	450.	ND
91-20-3	Naphthalene	450.	ND
106-47-8	4-Chloroaniline	450.	ND
87-68-3	Hexachlorobutadiene	450.	ND
59-50-7	4-Chloro-3-methylphenol	450.	ND
91-57-6	2-Methylnaphthalene	450.	ND
77-47-4	Hexachlorocyclopentadiene	450.	ND
88-06-2	2,4,6-Trichlorophenol	450.	ND
95-95-4	2,4,5-Trichlorophenol	2200.	ND
91-58-7	2-Chloronaphthalene	450.	ND
88-74-4	2-Nitroaniline	2200.	ND
131-11-3	Dimethylphthalate	450.	ND
208-96-8	Acenaphthylene	450.	ND
99-09-2	3-Nitroaniline	2200.	ND
83-32-9	Acenaphthene	450.	ND
51-28-5	2,4-Dinitrophenol	2200.	ND

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

9 MSL/SS/2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Soil Lab Sample ID: EA# 4554

Sample wt/vol: 30.39 (g/mL) g Lab File ID: >FC 921

Level: (low/med) Low Date Received: 9/25/89

% Moisture: not dec. 26.7 dec. _____ Date Extracted: 9/26/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 9/28/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: —

Number TICs found: 5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124174	Ethanol, 2-(2-butoxyethoxy)-, acetate	12.42	210	J
2.	—	Unknown	27.55	970	J
3.	—	Unknown	29.45	210	J
4.	—	Unknown	32.32	920	J
5.	—	Unknown	32.65	190	J
6.					
7.					
8.					
9.					
10.		5 TOTAL			
11.					
12.					
13.					
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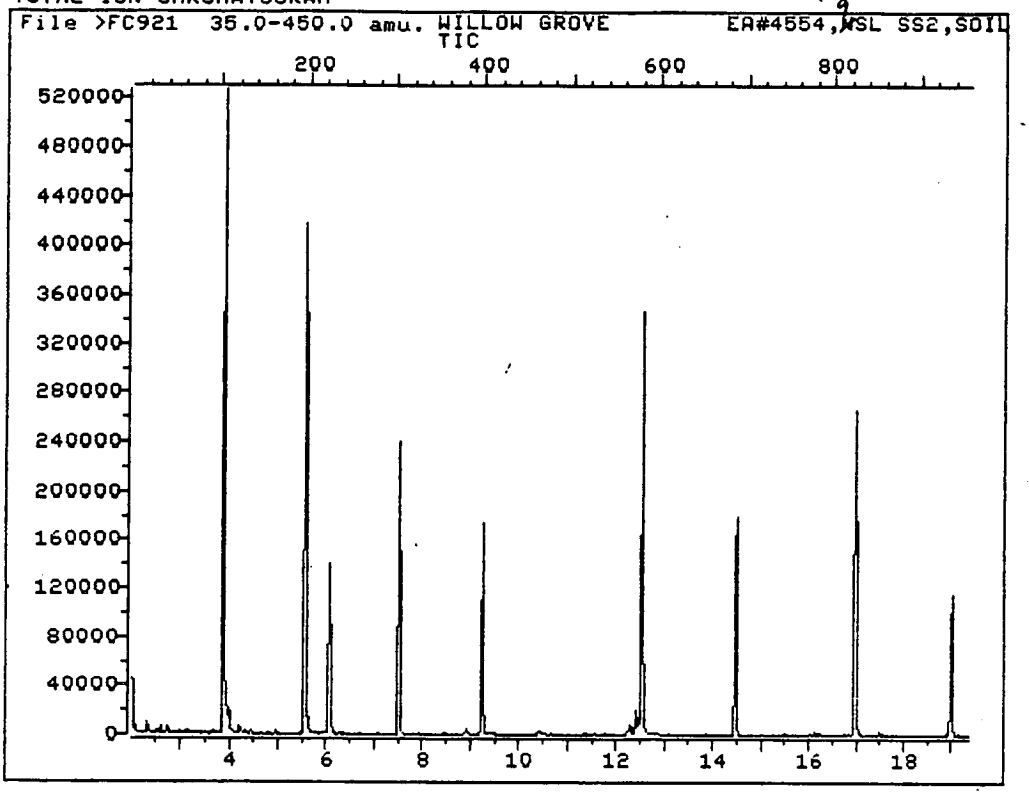
28.					
29.					
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



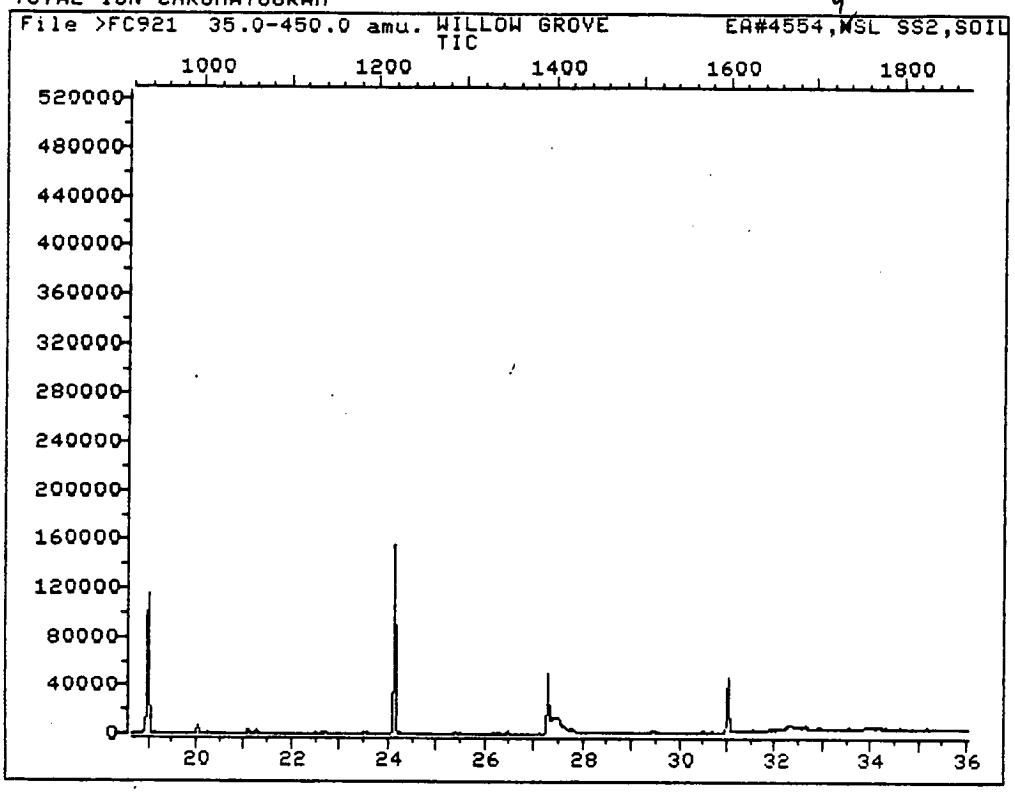
Data File: >FC921::D5 Quant Output File: ^FC921::QT
Name: WILLOW GROVE
Misc: EA#4554,HSL SS2,SOIL,30.39g,1mL BTL# 3

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890928 22:39
Injected at: 890928 22:00

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC921::D5 Quant Output File: ^FC921::QT
Name: WILLOW GROVE
Misc: EA#4554,WSL SS2,SOIL,30.39g,1mL BTL# 3

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890928 22:39
Injected at: 890928 22:00

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE
Output File: ^FC921::QT
Data File: >FC921::D5
Name: WILLOW GROVE
Misc: EA#4554, MSL SS2,SOIL,30.39g,1mL

Quant Rev: 6
Quant Time: 890928 22:39
Injected at: 890928 22:00
Dilution Factor: 1.00000

BTL# 3

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.05	152.0	57038	40.00	NG		96
2)	2-Fluorophenol	3.87	112.0	260129	154.19	NG	77%	93
3)	Phenol-d5	5.56	99.0	344181	189.96	NG	95%	92
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	6.27	45.0	663	~~.17~~	NG		96
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.24	136.0	206904	40.00	NG		88
17)	Nitrobenzene-d5	7.52	82.0	162589	94.53	NG	95%	95
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	Benzoic Acid	8.92	122.0	3075	4.94	NG	✓	98
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.47	164.0	93309	40.00	NG		93
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.55	172.0	274631	97.64	NG	98%	93
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.49	163.0	30709	~~10.07~~	NG		53
39)	Acenaphthylene	0.00	152.0	0	0.00	NG		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	0.00	153.0	0	0.00	NG		
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

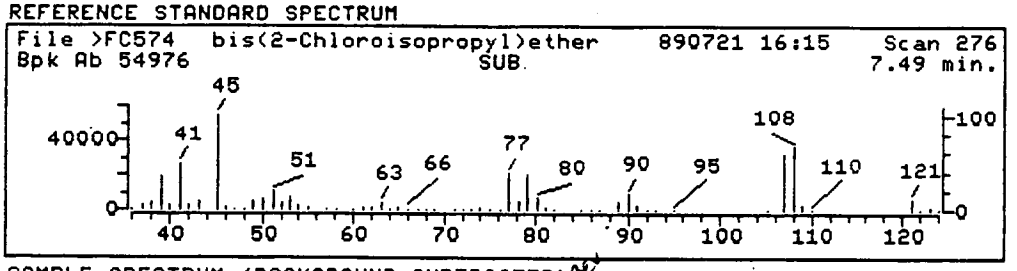
QUANT REPORT
page 2

Output File:^FC921:: Data File:>FC921::D5

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	16.25	149.0	1976	~~.68~~	NG	90
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	19.00	188.0	111609	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.97	329.9	94522	256.98	NG 128%	98
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	21.27	149.0	3836	1.01	NG	98
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	27.29	240.0	42116	40.00	NG	99
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	24.14	244.0	168015	139.61	NG 140%	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	27.76	149.0	1580	1.29	NG	91
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	31.03	264.0	41887	40.00	NG	94
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



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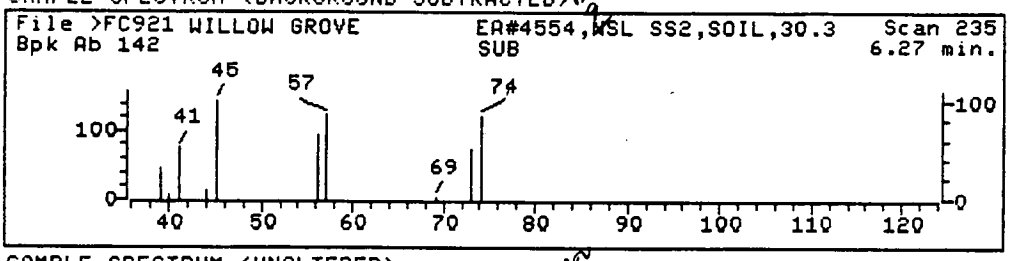

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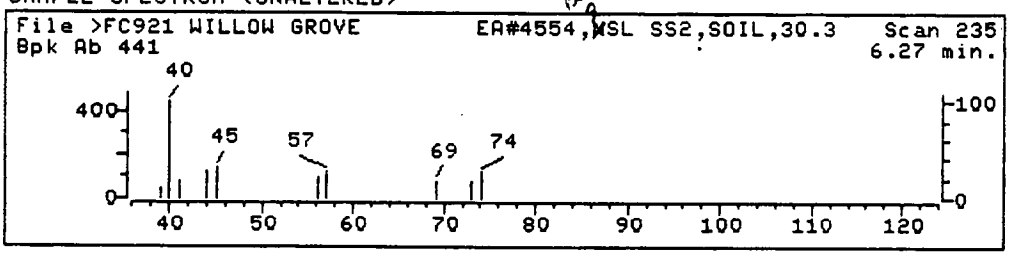
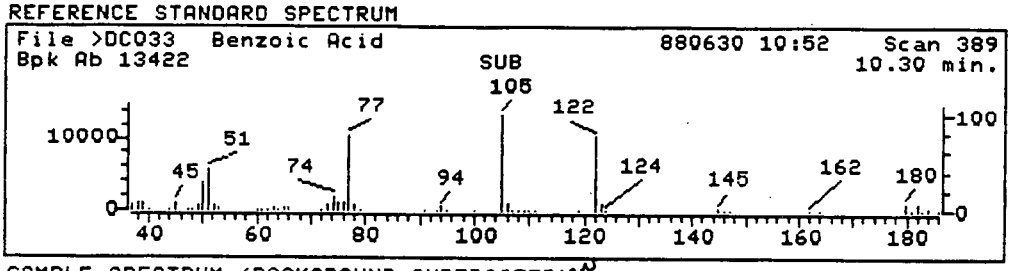


Data File: >FC921::D5 Quant Output File: ^FC921::QT
Name: WILLOW GROVE
Misc: EA#4554,WSL SS2,SOIL,30.39g,1mL BTL# 3
Quant Time: 890928 22:39 Quant ID File: IDFCLP::BD
Injected at: 890928 22:00 Last Calibration: 890928 19:49

Compound No: 12
Compound Name: bis(2-Chloroisopropyl)ether
Scan Number: 235
Retention Time: 6.27 min.
Quant Ion: 45.0
Area: 663
Concentration: .17 NG
q-value: 96

REFERENCE STANDARD SPECTRUM



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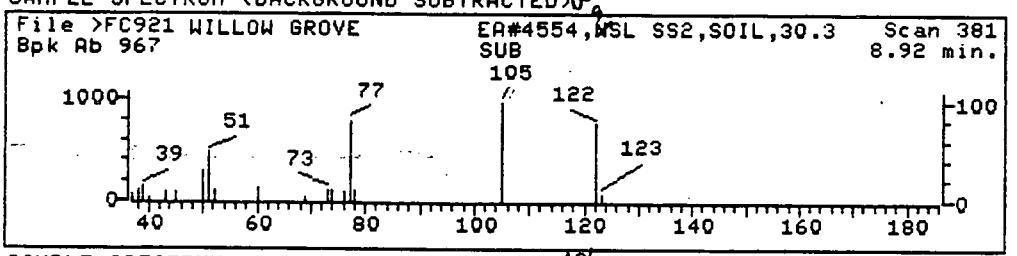

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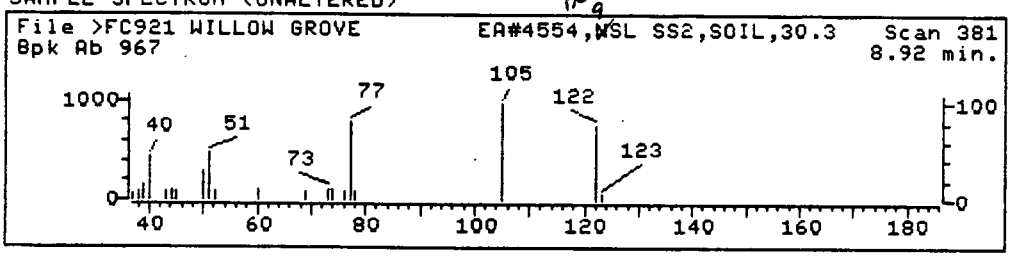
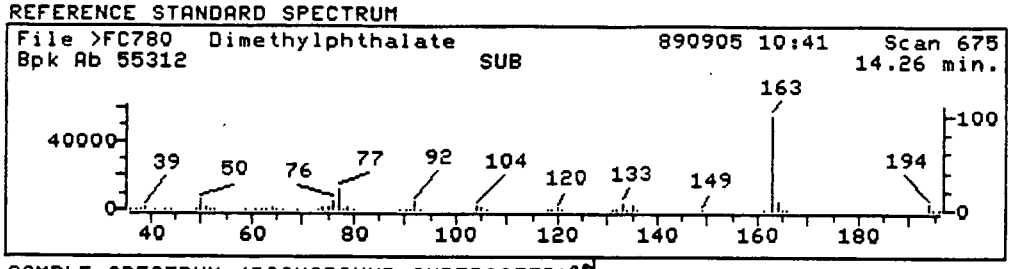


Data File: >FC921::D5 Quant Output File: ^FC921::QT
Name: WILLOW GROVE
Misc: EA#4554,WSL SS2,SOIL,30.39g,1mL BTL# 3
Quant Time: 890928 22:39 Quant ID File: IDFCLP::BD
Injected at: 890928 22:00 Last Calibration: 890928 19:49

Compound No: 22
Compound Name: Benzoic Acid
Scan Number: 381
Retention Time: 8.92 min.
Quant Ion: 122.0
Area: 3075
Concentration: 4.94 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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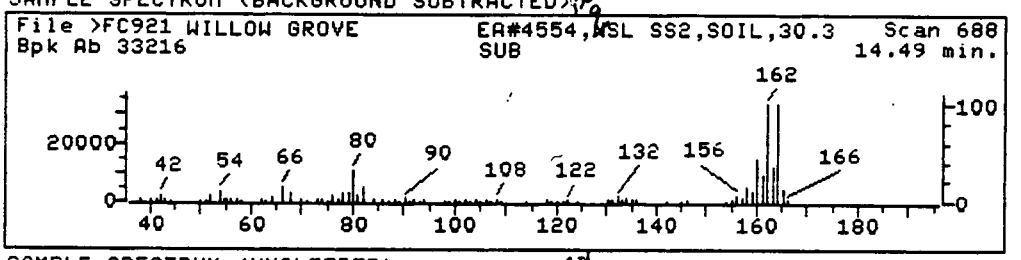

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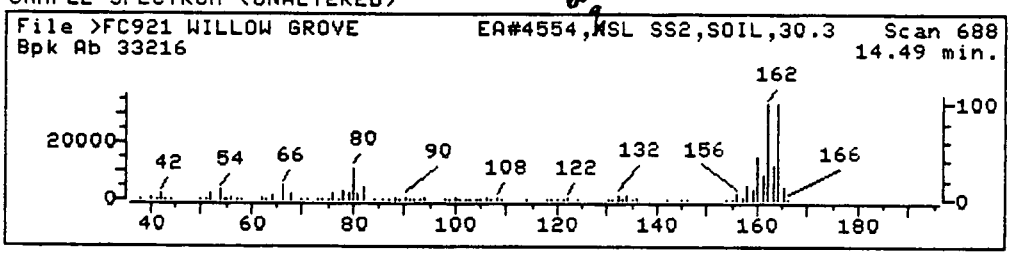

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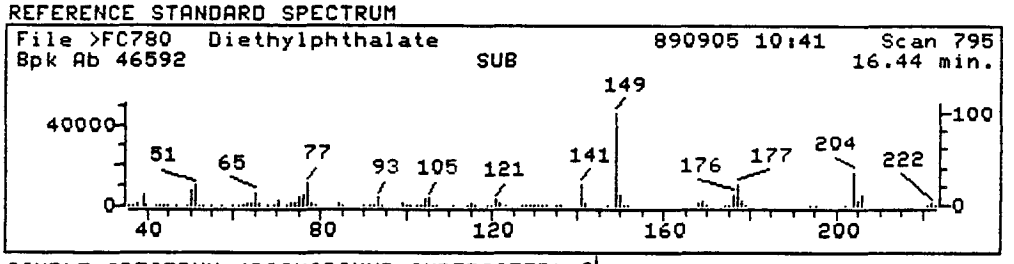
Name: WILLOW GROVE
Misc: EA#4554,WSL SS2,SOIL,30.39g,1mL BTL# 3
Quant Time: 890928 22:39 Quant ID File: IDFCLP::BD
Injected at: 890928 22:00 Last Calibration: 890928 19:49

Compound No: 38
Compound Name: Dimethylphthalate
Scan Number: 688
Retention Time: 14.49 min.
Quant Ion: 163.0
Area: 30709
Concentration: 10.07 NG
q-value: 53

REFERENCE STANDARD SPECTRUM



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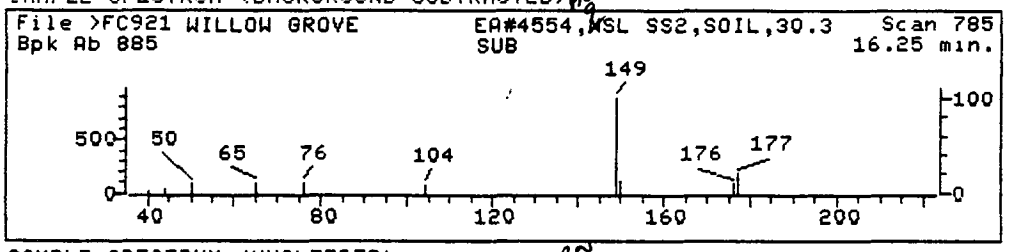

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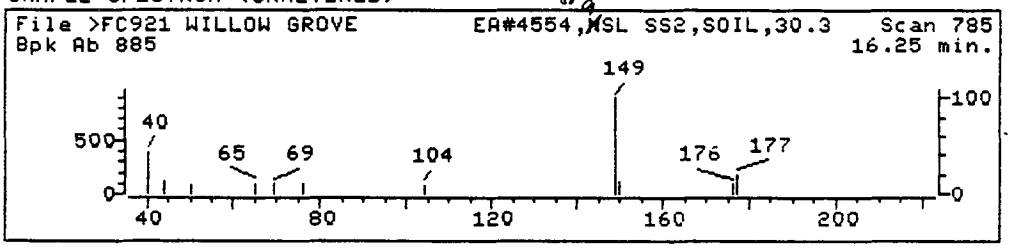

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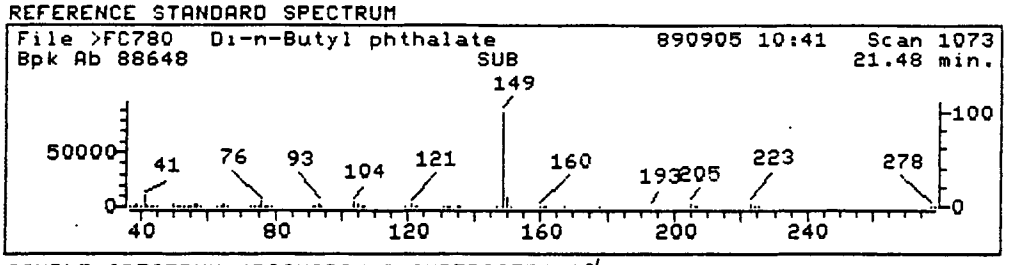
Name: WILLOW GROVE
Misc: EA#4554,MSL SS2,SOIL,30.39g,1mL BTL# 3
Quant Time: 890928 22:39 Quant ID File: IDFCLP::BD
Injected at: 890928 22:00 Last Calibration: 890928 19:49

Compound No: 47
Compound Name: Diethylphthalate
Scan Number: 785
Retention Time: 16.25 min.
Quant Ion: 149.0
Area: 1976
Concentration: .68 NG
q-value: 90

REFERENCE STANDARD SPECTRUM



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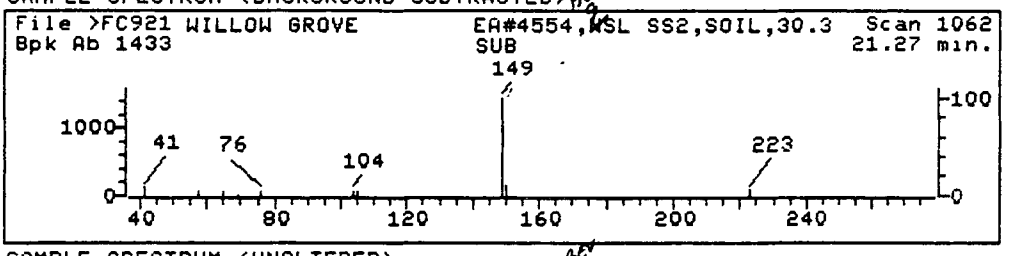

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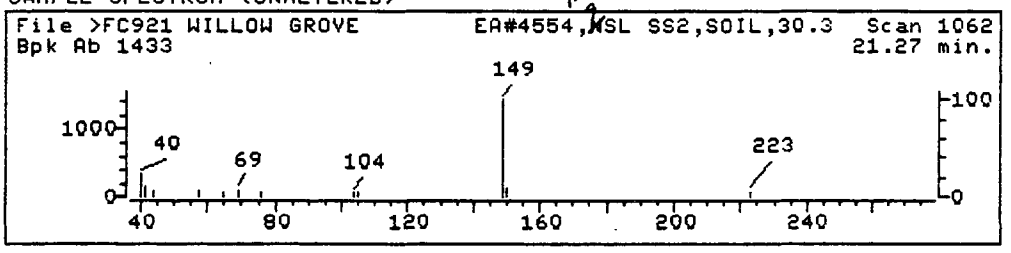
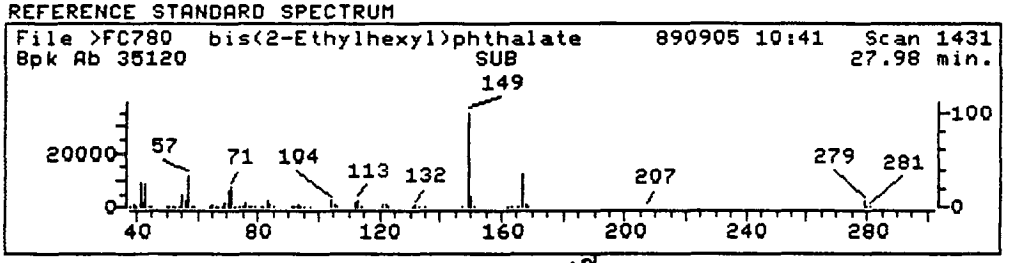


Data File: >FC921::D5 Quant Output File: ^FC921::QT
Name: WILLOW GROVE
Misc: EA#4554,WSL SS2,SOIL,30.39g,1mL BTL# 3
Quant Time: 890928 22:39 Quant ID File: IDFCLP::BD
Injected at: 890928 22:00 Last Calibration: 890928 19:49

Compound No: 60
Compound Name: Di-n-Butyl phthalate
Scan Number: 1062
Retention Time: 21.27 min.
Quant Ion: 149.0
Area: 3836
Concentration: 1.01 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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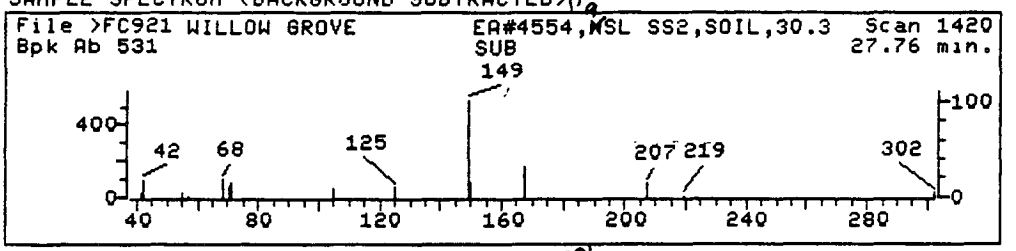

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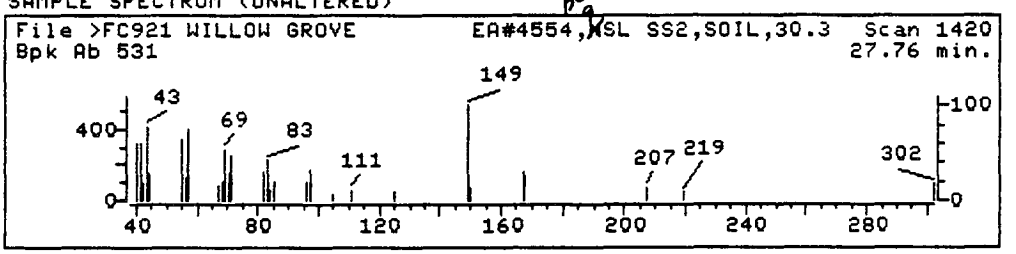
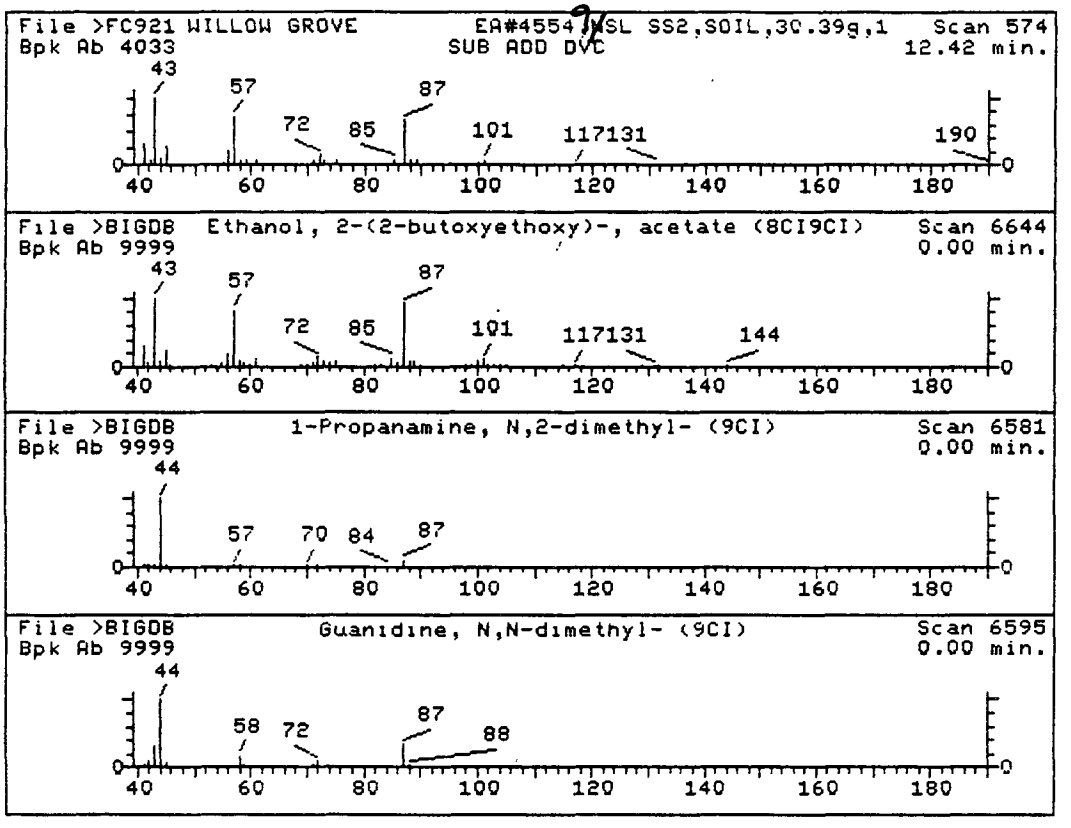


Data File: >FC921::D5 Quant Output File: ^FC921::QT
Name: WILLOW GROVE
Misc: EA#4554,WSL SS2,SOIL,30.39g,1mL BTL# 3
Quant Time: 890928 22:39 Quant ID File: IDFCLP::BD
Injected at: 890928 22:00 Last Calibration: 890928 19:49

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1420
Retention Time: 27.76 min.
Quant Ion: 149.0
Area: 1580
Concentration: 1.29 NG
q-value: 91



Retention time = 12.42

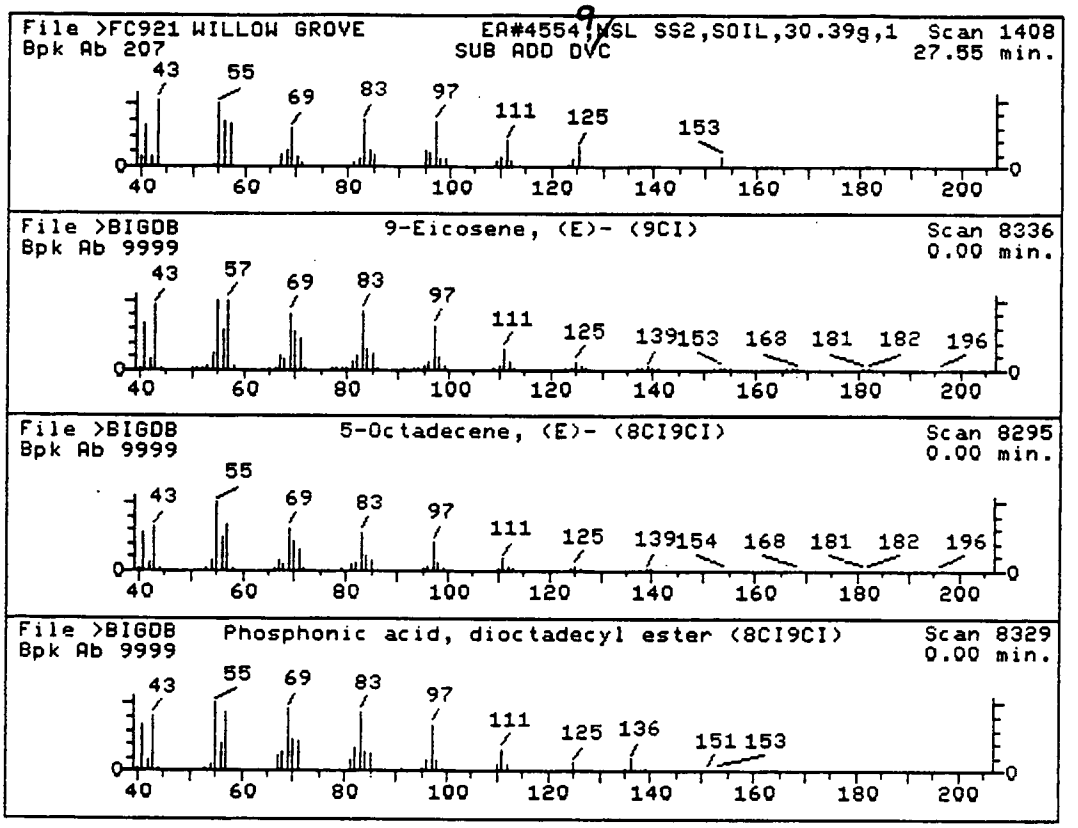
Area = 55066.00 Tentative Concentration is 210.00

1.	Ethanol, 2-(2-butoxyethoxy)-, acetate (8CI9CI)	204 C10H20O4
2.	1-Propanamine, N,2-dimethyl- (9CI)	87 C5H13N
3.	Guanidine, N,N-dimethyl- (9CI)	87 C3H9N3
4.	Acetamide, N,N-dimethyl- (8CI9CI)	87 C4H9NO
5.	1,3-Dioxolane, 4-methyl- (8CI9CI)	88 C4H8O2
6.	Propanamide, N-methyl- (9CI)	87 C4H9NO
7.	Acetamide, N-ethyl- (8CI9CI)	87 C4H9NO

Sample file: >FC921 Spectrum #: 574
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83	124174	6644	"BIGDB	94	31	2	2	97	2	57	24
2.	28*	625434	6581	"BIGDB	27	53	2	0	677	40	10	14

3.	26*	6145422	6595	"BIGDB	24	59	2	0	172	44	8	14
4.	25*	127195	6571	"BIGDB	25	71	3	0	149	42	8	13
5.	25*	1072475	6616	"BIGDB	21	83	2	0	123	44	8	13
6.	20*	1187582	6617	"BIGDB	24	61	2	0	100	53	5	14
7.	20*	625503	6614	"BIGDB	27	66	2	0	94	51	5	14



Retention time = 27.55

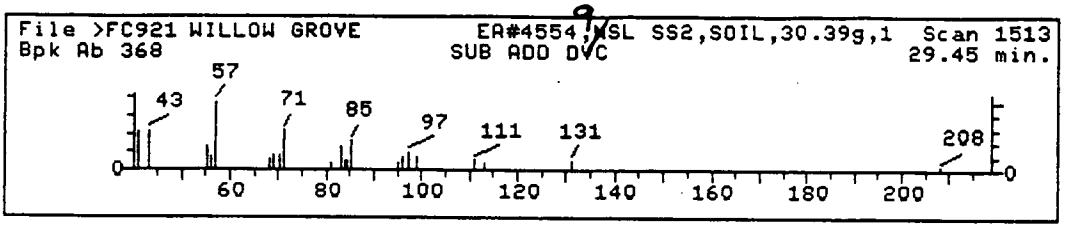
Area = 82762.00 Tentative Concentration is 970.00

1.	9-Eicosene, (E)- (9CI)	280	C20H40
2.	5-Octadecene, (E)- (8CI9CI)	252	C18H36
3.	Phosphonic acid, dioctadecyl ester (8CI9CI)	586	C36H75O3P
4.	1-Azabicyclo[2.2.2]octan-3-one (9CI)	125	C7H11NO
5.	Cycloheptane, methyl- (8CI9CI)	112	C8H16
6.	1H-1,2,4-Triazole, 1-butyl- (8CI9CI)	125	C6H11N3
7.	Pyrrolidine, 1-(1-propenyl)- (9CI)	111	C7H13N

Unknown

Sample file: >FC921 Spectrum #: 1408
Search speed: 2 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	29	74685293	8336	"BIGDB	82	88	3	0	64	40	10	15
2.	29	7206215	8295	"BIGDB	82	63	3	0	94	40	10	15
3.	27	19047859	8329	"BIGDB	73	127	3	0	63	36	10	13
4.	11*	3731382	12957	"BIGDB	36	53	2	0	48	63	2	18
5.	11*	4126787	8269	"BIGDB	37	69	2	0	95	65	2	14
6.	11*	6086222	12958	"BIGDB	32	86	2	0	51	61	2	14
7.	11*	13937887	10634	"BIGDB	23	85	3	0	40	65	2	12



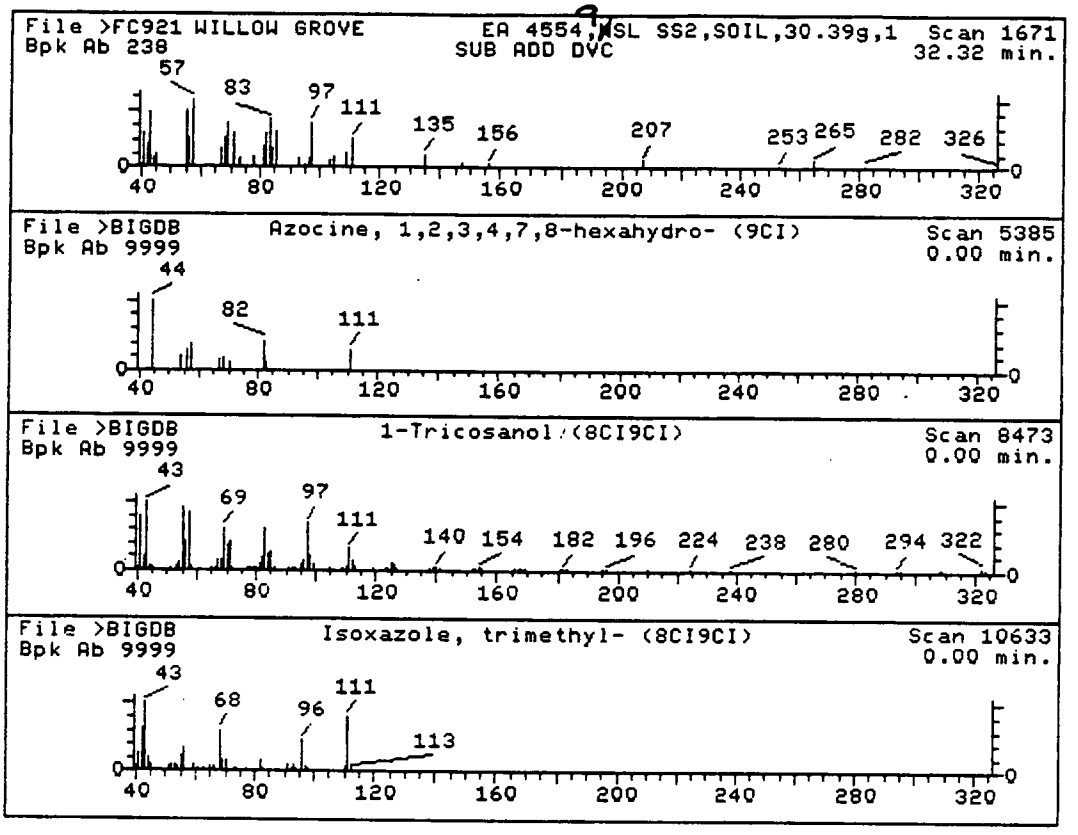
Retention time = 29.45

Area = 13581.00 Tentative Concentration is 210.00

Unknown

Sample file: >FC921 Spectrum #: 1513

No data base entries were retrieved.



Retention time = 32.32

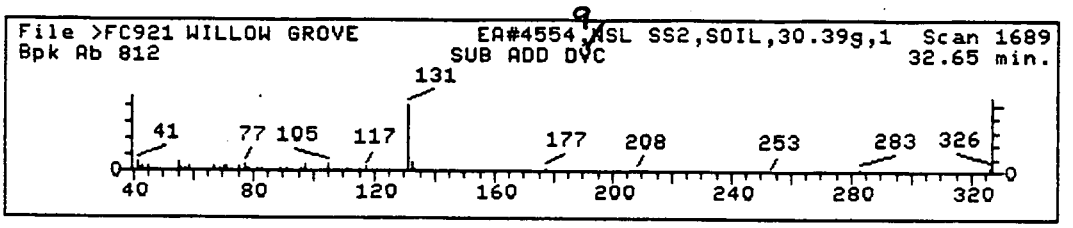
Area = 47108.00 Tentative Concentration is 720.00

Unknown

1. Azocine, 1,2,3,4,7,8-hexahydro- (9CI)	111	C7H13N
2. 1-Tricosanol (8CI9CI)	340	C23H48O
3. Isoxazole, trimethyl- (8CI9CI)	111	C6H9NO

Sample file: >FC921 Spectrum #: 1671
Search speed: 2 Tilting option: S No. of ion ranges search d: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	15*	57502484	5385	"BIGDB	23	53	3	0	117	56	3	12
2.	11	3133015	8473	"BIGDB	74	95	3	0	79	65	2	13
3.	11*	10557821	10633	"BIGDB	34	82	3	0	52	61	2	13



Retention time = 32.65

Area = 12707.00 Tentative Concentration is 190.00

Unknown

Sample file: >FC921 Spectrum #: 1689

No data base entries were retrieved.

LIBRARY SEARCH SUMMARY

MS Data File:>FC921::D5 Analyst:UNCLE MS

Name:WILLOW GROVE Date/Time: 9/28/89 22:00
Misc:EA#45549,MSL SS2,SOIL,30.39g,1mL BTL# 3

The following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Nearest ISTD Area
1	12.42	55066	46748
2	27.55	82762	15280
3	29.45	13581	11810
4	32.32	47108	11810
5	32.65	12707	11810

>FC921 WILLOW GROVE EA#4554,9/ASL SS2,SOIL,30.39g,1mL
35.01 450.0 TIC
Upslope: .20 Area Rej ct: 5.00 % Max Peaks: 13 Bunching: -1
Dnslop : 0.00 Results File IFC921 Sorted by Tim /Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	3.87	99	103	119	526221	1124727	1101846	93.19	16.189
2	5.56	188	196	213	416506	1199047	1182380	100.00	17.372
3	6.07	219	224	233	139407	390583	378080	31.98	5.555
4	7.52	299	304	312	238882	545556	538237	45.52	7.908
5	9.24	394	399	404	173631	450922	444267	37.57	6.527
6	12.42	571	574	577	20096	75040	68286	5.78	1.003
7	12.55	577	581	591	345393	899593	878830	74.33	12.912
8	14.49	679	688	694	179368	475667	467482	39.54	6.869
9	16.99	821	826	836	264972	745190	736621	62.30	10.823
10	19.00	928	937	943	115265	306856	297610	25.17	4.373
11	24.14	1214	1220	1226	155610	449793	441562	37.35	6.488
12	27.29	1389	1394	1397	49468	158665	152804	12.92	2.245
13	31.03	1596	1600	1606	45592	144046	118099	9.99	1.735

Sum of corrected areas: 6806104.

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4555
SAMPLE: 9SL SS3
GC/MS FILE: >FC922::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 22:51
SAMPLE--->EXTRACT:	30.52g-->2mL(1/10 DIL)

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	11000.	ND
111-44-4	bis(2-Chloroethyl)ether	11000.	ND
95-57-8	2-Chlorophenol	11000.	ND
541-73-1	1,3-Dichlorobenzene	11000.	ND
106-46-7	1,4-Dichlorobenzene	11000.	ND
100-51-6	Benzyl Alcohol	11000.	ND
95-50-1	1,2-Dichlorobenzene	11000.	ND
95-48-7	2-Methylphenol	11000.	ND
39638-32-9	bis(2-chloroisopropyl)ether	11000.	ND
106-44-5	4-Methylphenol	11000.	ND
621-64-7	N-Nitroso-Di-n-propylamine	11000.	ND
67-72-1	Hexachloroethane	11000.	ND
98-95-3	Nitrobenzene	11000.	ND
78-59-1	Isophorone	11000.	ND
88-75-5	2-Nitrophenol	11000.	ND
105-67-9	2,4-Dimethylphenol	11000.	ND
65-85-0	Benzoic Acid	56000.	ND
111-91-1	bis(2-Chloroethoxy)methane	11000.	ND
120-83-2	2,4-Dichlorophenol	11000.	ND
120-82-1	1,2,4-Trichlorobenzene	11000.	ND
91-20-3	Naphthalene	11000.	ND
106-47-8	4-Chloroaniline	11000.	ND
87-68-3	Hexachlorobutadiene	11000.	ND
59-50-7	4-Chloro-3-methylphenol	11000.	ND
91-57-6	2-Methylnaphthalene	11000.	ND
77-47-4	Hexachlorocyclopentadiene	11000.	ND
88-06-2	2,4,6-Trichlorophenol	11000.	ND
95-95-4	2,4,5-Trichlorophenol	56000.	ND
91-58-7	2-Chloronaphthalene	11000.	ND
88-74-4	2-Nitroaniline	56000.	ND
131-11-3	Dimethylphthalate	11000.	ND
208-96-8	Acenaphthylene	11000.	ND
99-09-2	3-Nitroaniline	56000.	ND
83-32-9	Acenaphthene	11000.	ND
51-28-5	2,4-Dinitrophenol	56000.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4555
SAMPLE: 9SL SS3
GC/MS FILE: >FC922::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 22:51
SAMPLE--->EXTRACT:	30.52g-->2mL(1/10 DIL)

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	56000.	ND
132-64-9	Dibenzofuran	11000.	ND
121-14-2	2,4-Dinitrotoluene	11000.	ND
606-20-2	2,6-Dinitrotoluene	11000.	ND
84-66-2	Diethylphthalate	11000.	ND
7005-72-3	4-Chlorophenyl-phenylether	11000.	ND
86-73-7	Fluorene	11000.	ND
100-01-6	4-Nitroaniline	56000.	ND
534-52-1	4,6-Dinitro-2-methylphenol	56000.	ND
86-30-6	N-Nitrosodiphenylamine	11000.	ND
101-55-3	4-Bromophenyl-phenylether	11000.	ND
118-74-1	Hexachlorobenzene	11000.	ND
87-86-5	Pentachlorophenol	56000.	ND
85-01-8	Phenanthrene	11000.	ND
120-12-7	Anthracene	11000.	ND
84-74-2	Di-n-Butyl phthalate	11000.	ND
206-44-0	Fluoranthene	11000.	ND
129-00-0	Pyrene	11000.	ND
85-68-7	Butylbenzylphthalate	11000.	ND
91-94-1	3,3'-Dichlorobenzidine	22000.	ND
56-55-3	Benzo(a)Anthracene	11000.	ND
117-81-7	bis(2-Ethylhexyl)phthalate	11000.	ND
218-01-9	Chrysene	11000.	ND
117-84-0	Di-n-Octyl phthalate	11000.	ND
205-99-2	Benzo(b)Fluoranthene	11000.	ND
207-08-9	Benzo(k)Fluoranthene	11000.	ND
50-32-8	Benzo(a)Pyrene	11000.	ND
193-39-5	Indeno(1,2,3-cd)Pyrene	11000.	ND
53-70-3	Dibenzo(a,h)Anthracene	11000.	ND
191-24-2	Benzo(g,h,i)Perylene	11000.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

9/SL/SS/3

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Soil Lab Sample ID: EA# 4553-

Sample wt/vol: 30.52 (g/mL) g Lab File ID: DEC 922

Level: (low/med) Low Date Received: 9/25/89

% Moisture: not dec. 41.2 dec. _____ Date Extracted: 9/26/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 9/2/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1/10

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

None Found

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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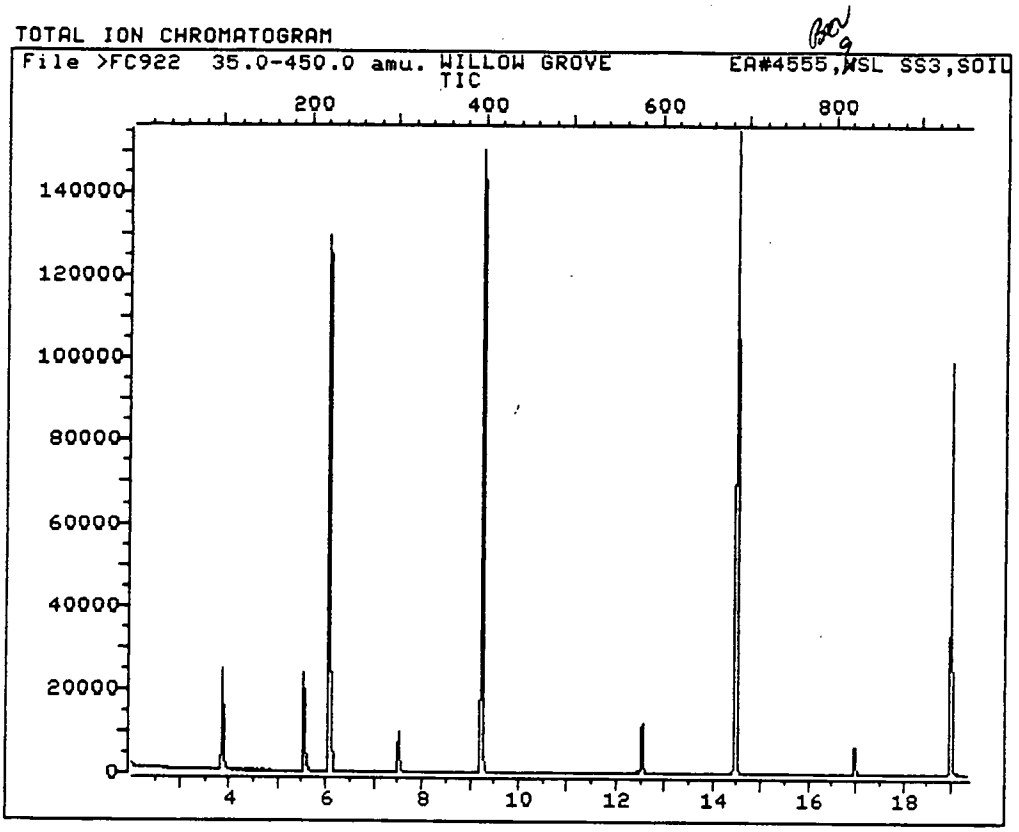
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



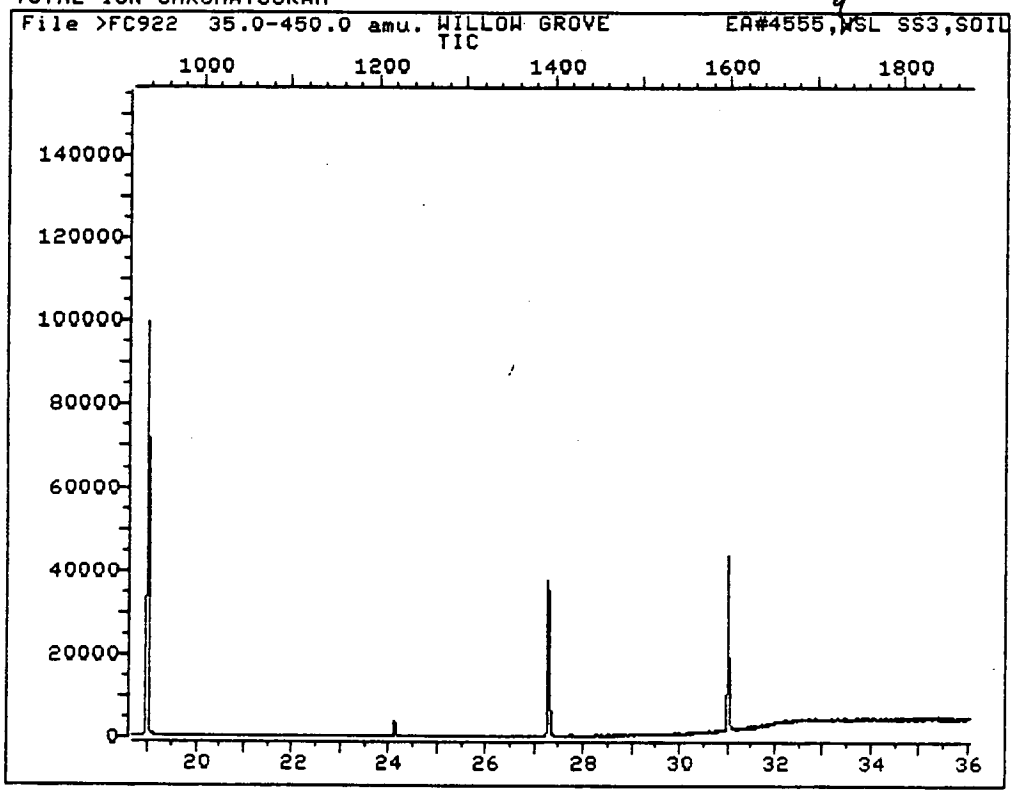
Data File: >FC922::D5 Quant Output File: ^FC922::QT
Name: WILLOW GROVE
Misc: EA#4555,HSL SS3,SOIL,30.52g,2mL, (1/10 DIL) BTL# 4

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890928 23:30
Injected at: 890928 22:51

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC922::D5 Quant Output File: ^FC922::QT
Name: WILLOW GROVE
Misc: EA#4555,HSL SS3,SOIL,30.52g,2mL, (1/10 DIL) BTL# 4

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890928 23:30
Injected at: 890928 22:51

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890928 23:30
Output File: ^FC922::QT Injected at: 890928 22:51
Data File: >FC922::D5 Dilution Factor: 10.00000
Name: WILLOW GROVE
Misc: EA#4555,HSL SS3,SOIL,30.52g,2mL, (1/10 DIL) BTL# 4
ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.05	152.0	53451	40.00	NG		95
2)	2-Fluorophenol	3.88	112.0	12542	79.33	NG	79%	93
3)	Phenol-d5	5.54	99.0	17549	103.36	NG	103%	90
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	B nzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG		
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.24	136.0	178477	40.00	NG		88
17)	Nitrobenzene-d5	7.52	82.0	7005	47.22	NG	94%	95
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	Benzoic Acid	0.00	122.0	0	0.00	NG		
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.48	164.0	78464	40.00	NG		98
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.53	172.0	11200	47.36	NG	95%	93
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.48	163.0	26237	~~102.31~~	NG		54
39)	Acenaphthylene	0.00	152.0	0	0.00	NG		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	0.00	153.0	0	0.00	NG		
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

QUANT REPORT
page 2

Output File:^FC922:: Data File:>FC922::D5

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	19.00	188.0	90072	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.97	329.9	2942	99.11	NG 99%	93
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	27.29	240.0	36172	40.00	NG	98
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	24.13	244.0	4479	43.33	NG 87%	87
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	31.02	264.0	39334	40.00	NG	92
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4556
SAMPLE: 9SL SS4
GC/MS FILE: >FC923::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 23:41
SAMPLE--->EXTRACT:	30.06g-->2mL(1/10 DIL)

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	9000.	ND
111-44-4	bis(2-Chloroethyl)ether	9000.	ND
95-57-8	2-Chlorophenol	9000.	ND
541-73-1	1,3-Dichlorobenzene	9000.	ND
106-46-7	1,4-Dichlorobenzene	9000.	ND
100-51-6	Benzyl Alcohol	9000.	ND
95-50-1	1,2-Dichlorobenzene	9000.	ND
95-48-7	2-Methylphenol	9000.	ND
39638-32-9	bis(2-chloroisopropyl)ether	9000.	ND
106-44-5	4-Methylphenol	9000.	ND
621-64-7	N-Nitroso-Di-n-propylamine	9000.	ND
67-72-1	Hexachloroethane	9000.	ND
98-95-3	Nitrobenzene	9000.	ND
78-59-1	Isophorone	9000.	ND
88-75-5	2-Nitrophenol	9000.	ND
105-67-9	2,4-Dimethylphenol	9000.	ND
65-85-0	Benzoic Acid	45000.	ND
111-91-1	bis(2-Chloroethoxy)methane	9000.	ND
120-83-2	2,4-Dichlorophenol	9000.	ND
120-82-1	1,2,4-Trichlorobenzene	9000.	ND
91-20-3	Naphthalene	9000.	ND
106-47-8	4-Chloroaniline	9000.	ND
87-68-3	Hexachlorobutadiene	9000.	ND
59-50-7	4-Chloro-3-methylphenol	9000.	ND
91-57-6	2-Methylnaphthalene	9000.	ND
77-47-4	Hexachlorocyclopentadiene	9000.	ND
88-06-2	2,4,6-Trichlorophenol	9000.	ND
95-95-4	2,4,5-Trichlorophenol	45000.	ND
91-58-7	2-Chloronaphthalene	9000.	ND
88-74-4	2-Nitroaniline	45000.	ND
131-11-3	Dimethylphthalate	9000.	ND
208-96-8	Acenaphthylene	9000.	ND
99-09-2	3-Nitroaniline	45000.	ND
83-32-9	Acenaphth ne	800.	TR
51-28-5	2,4-Dinitrophenol	45000.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4556
SAMPLE: 9SL SS4
GC/MS FILE: >FC923::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/28/89 23:41
SAMPLE--->EXTRACT:	30.06g-->2mL(1/10 DIL)

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	45000.	ND
132-64-9	Dibenzofuran	450.	TR
121-14-2	2,4-Dinitrotoluene	9000.	ND
606-20-2	2,6-Dinitrotoluene	9000.	ND
84-66-2	Diethylphthalate	9000.	ND
7005-72-3	4-Chlorophenyl-phenylether	9000.	ND
86-73-7	Fluorene	1000.	TR
100-01-6	4-Nitroaniline	45000.	ND
534-52-1	4,6-Dinitro-2-methylphenol	45000.	ND
86-30-6	N-Nitrosodiphenylamine	9000.	ND
101-55-3	4-Bromophenyl-phenylether	9000.	ND
118-74-1	Hexachlorobenzene	9000.	ND
87-86-5	Pentachlorophenol	45000.	ND
85-01-8	Phenanthrene	10000.	
120-12-7	Anthracene	2000.	TR
84-74-2	Di-n-Butyl phthalate	9000.	ND
206-44-0	Fluoranthene	12000.	
129-00-0	Pyrene	11000.	
85-68-7	Butylbenzylphthalate	9000.	ND
91-94-1	3,3'-Dichlorobenzidine	18000.	ND
56-55-3	Benzo(a)Anthracene	5100.	TR
117-81-7	bis(2-Ethylhexyl)phthalate	9000.	ND
218-01-9	Chrysene	5200.	TR
117-84-0	Di-n-Octyl phthalate	9000.	ND
205-99-2	Benzo(b)Fluoranthene	4400.	TR
207-08-9	Benzo(k)Fluoranthene	3900.	TR
50-32-8	Benzo(a)Pyrene	4800.	TR
193-39-5	Indeno(1,2,3-cd)Pyrene	2700.	TR
53-70-3	Dibenzo(a,h)Anthracene	9000.	ND
191-24-2	Benzo(g,h,i)Perylene	2900.	TR

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than det ction limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Sent 9KSL/SS/4

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Soil Lab Sample ID: EA# 4556

Sample wt/vol: 30.13 (g/mL) g Lab File ID: DEC 923

Level: (low/med) Low Date Received: 9/25/89

% Moisture: not dec. 25.9 dec. _____ Date Extracted: 9/26/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 9/28/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: 1/10

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	None Found			
2.				
3.				
4.				
5.				
6.				
7.				
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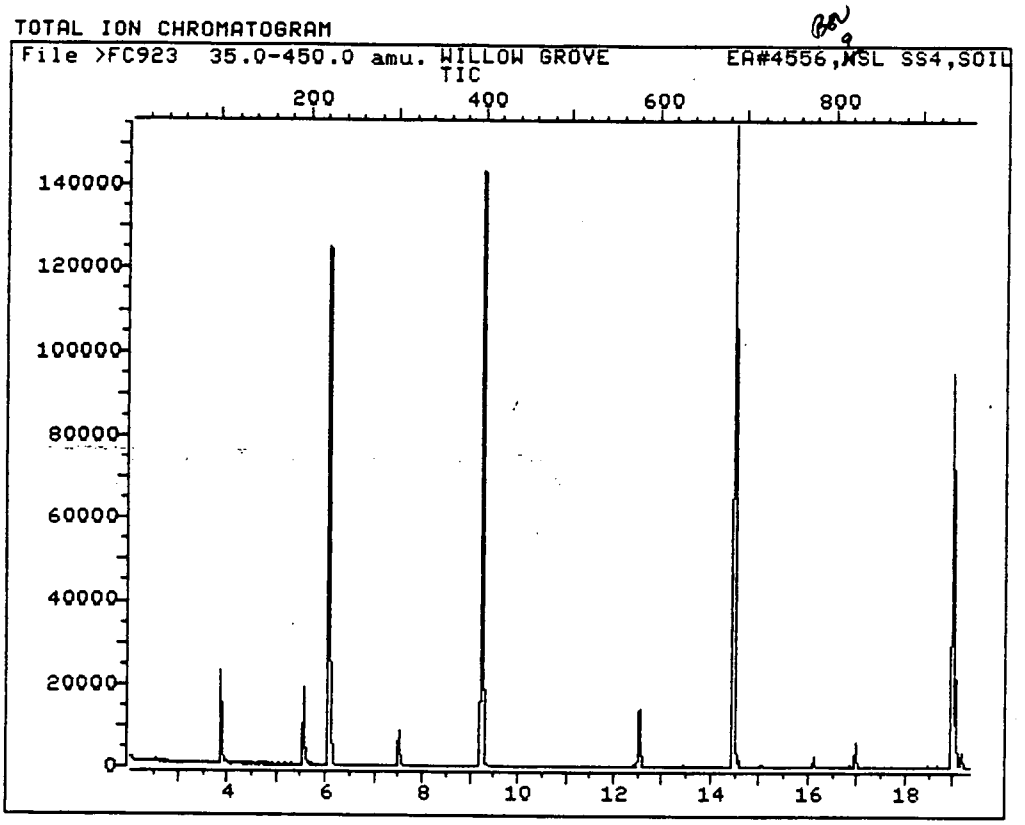
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



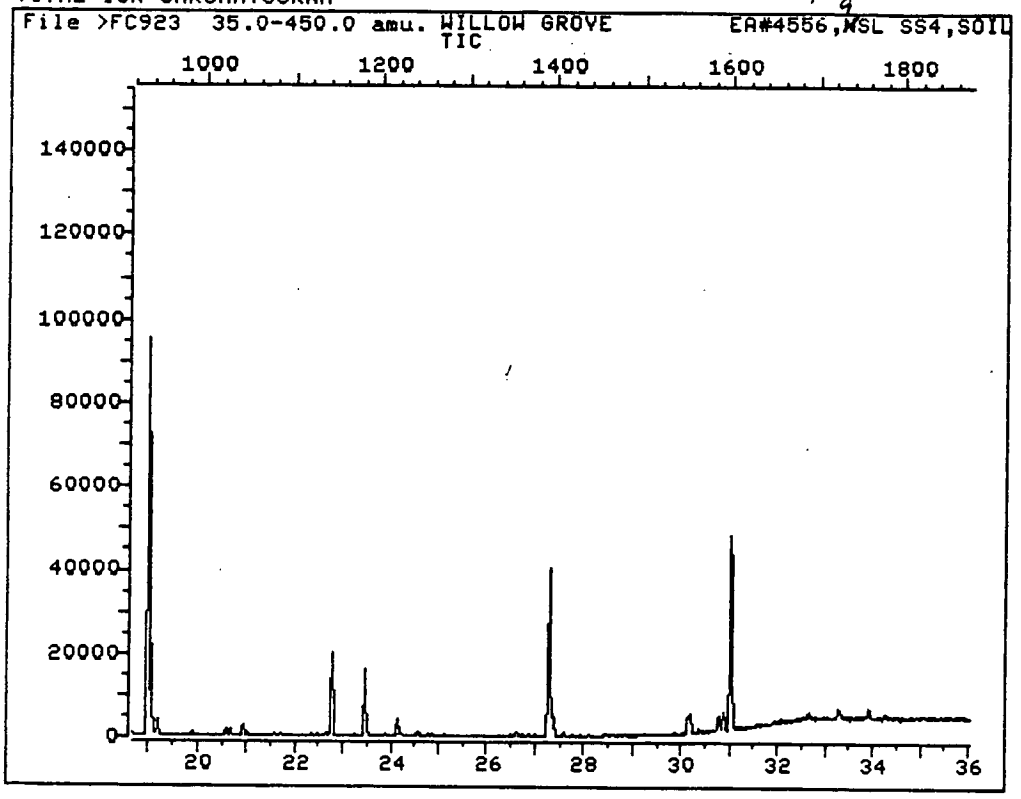
Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,HSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 00:20
Injected at: 890928 23:41

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,HSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 00:20
Injected at: 890928 23:41

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890929 00:20
Output Fil : ^FC923::QT Injected at: 890928 23:41
Data File: >FC923::D5 Dilution Factor: 10.00000
Name: WILLOW GROVE
Misc: EA#4556,HSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.05	152.0	53420	40.00	NG		96
2)	2-Fluorophenol	3.88	112.0	11816	74.78	NG	75%	98
3)	Phenol-d5	5.54	99.0	15945	93.96	NG	94%	88
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG		
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG		
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG		
13)	4-Methylphenol	0.00	108.0	0	0.00	NG		
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG		
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.24	136.0	181720	40.00	NG		87
17)	Nitrobenzene-d5	7.52	82.0	6265	41.47	NG	83%	96
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	Benzoic Acid	0.00	122.0	0	0.00	NG		
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG		
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG		
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG		
31)	*d10-Acenaphthene	14.48	164.0	77093	40.00	NG		99
32)	H xachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.53	172.0	13404	57.68	NG	115%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	14.48	163.0	25611	~~101.64~~	NG		53
39)	Acenaphthylene	14.57	152.0	759	~~2.44~~	NG		54
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	14.57	153.0	1773	8.87	NG		96
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

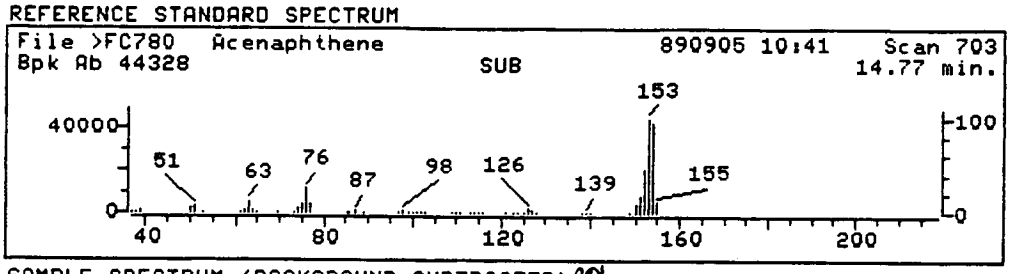
QUANT REPORT
page 2

Output File:^FC923:: Data File:>FC923::D5

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	15.06	168.0	1187	5.02	NG	84
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	16.12	166.0	2048	11.47	NG	87
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	19.00	188.0	88647	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.97	329.9	2625	89.85	NG 90%	89
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	19.07	178.0	22499	111.29	NG	99
59)	Anthracene	19.20	178.0	4188	22.73	NG	99
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	22.77	202.0	23937	135.86	NG	91
62)	*d12-Chrysene	27.29	240.0	39792	40.00	NG	97
63)	Pyrene	23.46	202.0	18809	118.35	NG	97
64)	Terphenyl-d14	24.13	244.0	5379	47.31	NG 95%	84
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	27.23	228.0	5831	56.97	NG	95
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	27.36	228.0	5853	58.00	NG	92
70)	*d12-Perylene	31.02	264.0	43687	40.00	NG	93
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	30.15	252.0	5178	49.49	NG	92
73)	Benzo(k)Fluoranthene	30.19	252.0	4094M	43.36	NG	88
74)	Benzo(a)Pyrene	30.90	252.0	4815	53.39	NG	93
75)	Indeno(1,2,3-cd)Pyrene	33.29	276.0	3309	29.52	NG	99
76)	Dibenzo(a,h)Anthracene	33.31	278.0	961	~~10.84~~	NG	92
77)	Benzo(g,h,i)Perylene	33.91	276.0	3149	32.65	NG	94

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



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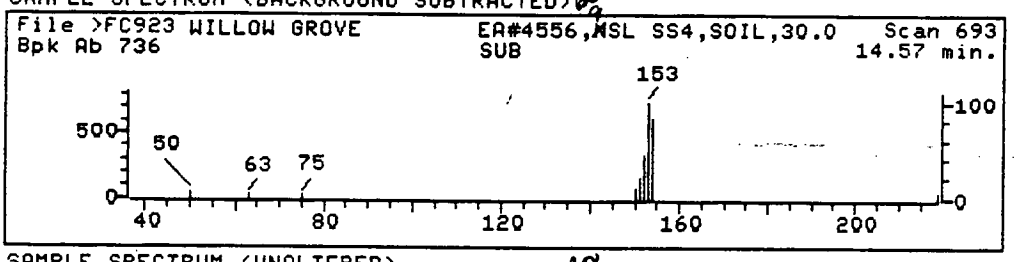

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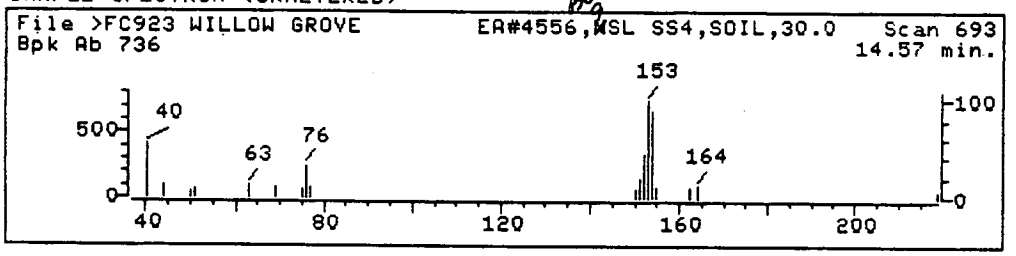
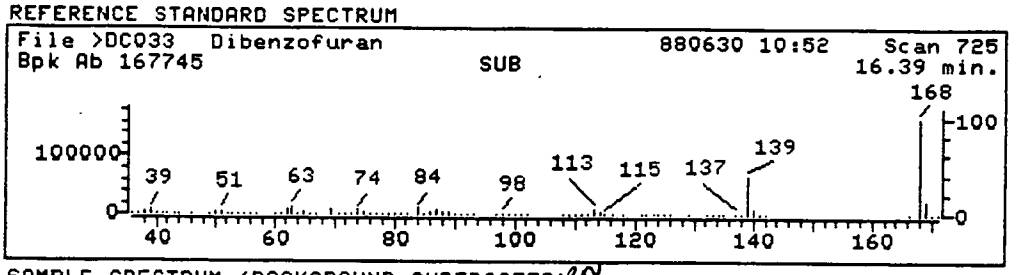


Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,WSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 41
Compound Name: Acenaphthene
Scan Number: 693
Retention Time: 14.57 min.
Quant Ion: 153.0
Area: 1773
Concentration: 8.87 NG
q-value: 96

REFERENCE STANDARD SPECTRUM



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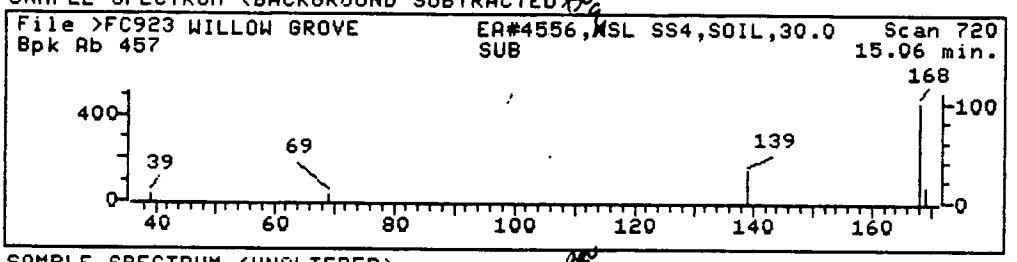

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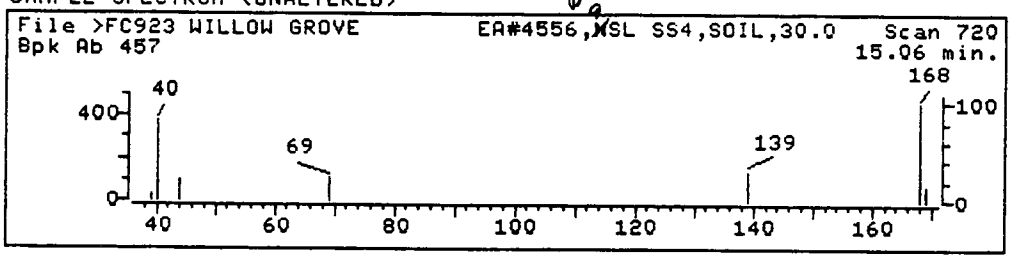
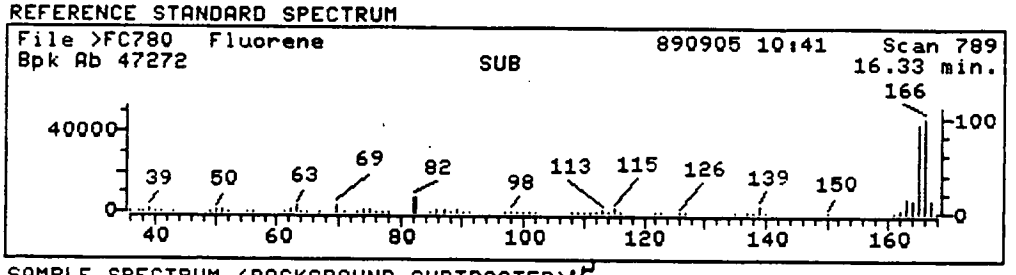


Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 44
Compound Name: Dibenzofuran
Scan Number: 720
Retention Time: 15.06 min.
Quant Ion: 168.0
Area: 1187
Concentration: 5.02 NG
q-value: 84

REFERENCE STANDARD SPECTRUM



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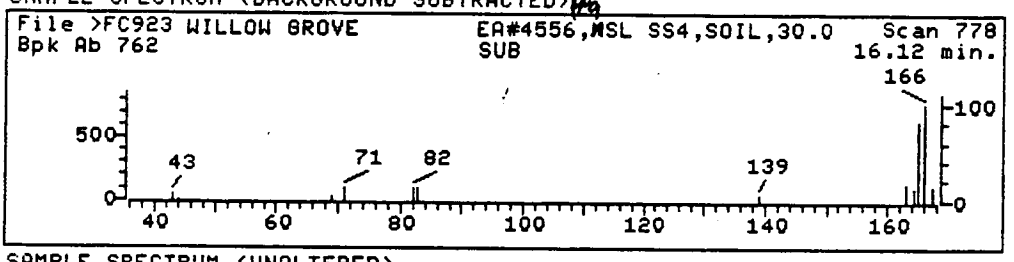

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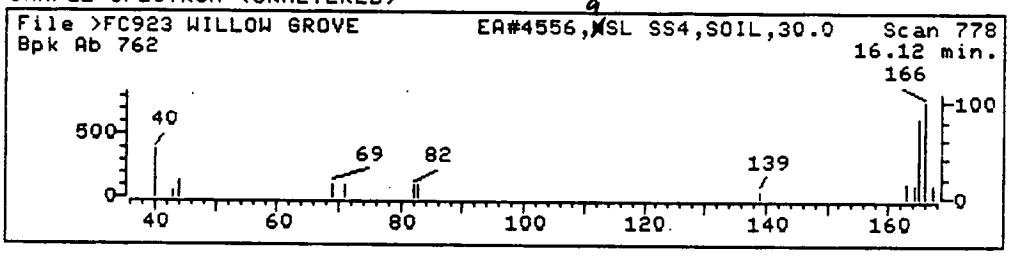

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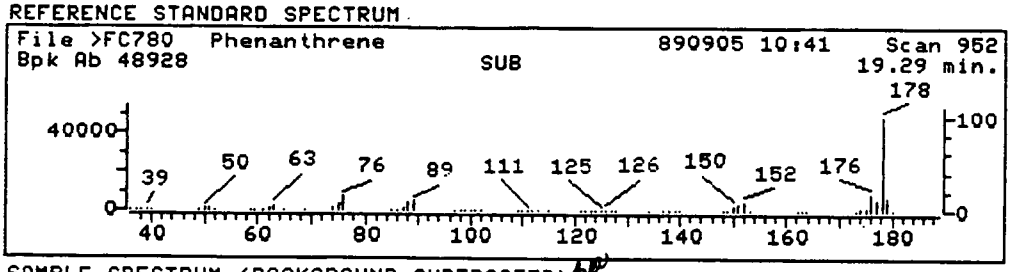
Name: WILLOW GROVE
Misc: EA#4556,MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 49
Compound Name: Fluorene
Scan Number: 778
Retention Time: 16.12 min.
Quant Ion: 166.0
Area: 2048
Concentration: 11.47 NG
q-value: 87

REFERENCE STANDARD SPECTRUM



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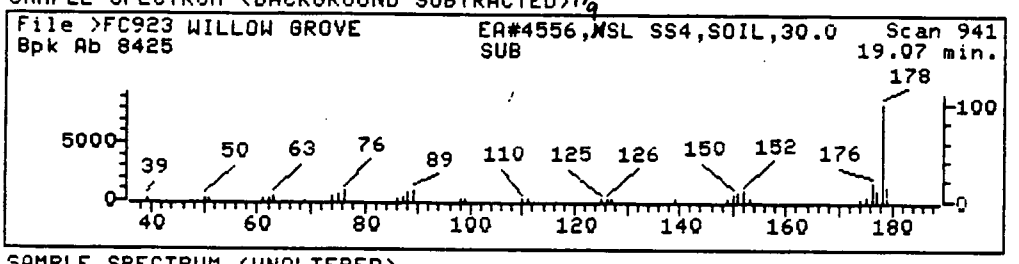

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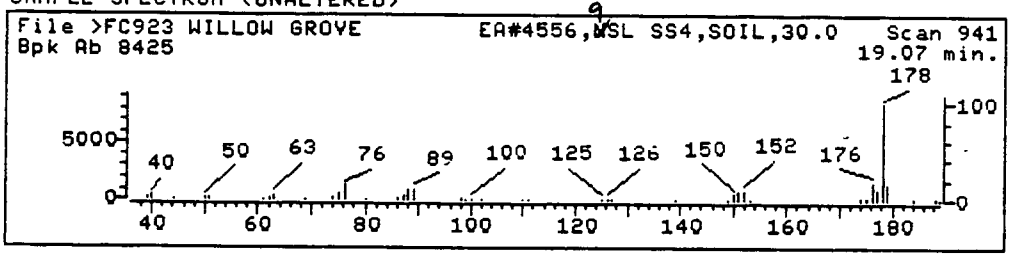

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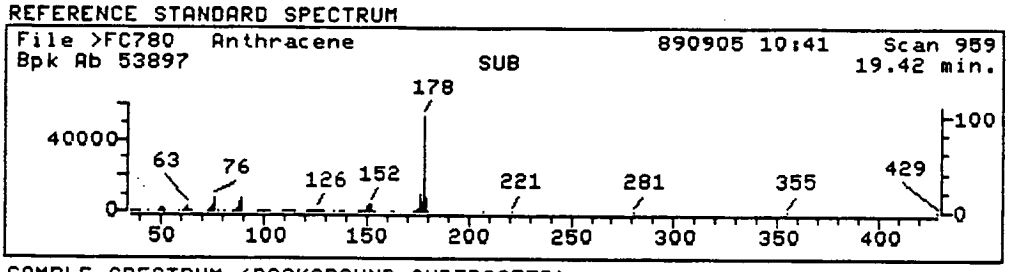
Misc: EA#4556,MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 941
Retention Time: 19.07 min.
Quant Ion: 178.0
Ar a: 22499
Concentration: 111.29 NG
q-value: 99

REFERENCE STANDARD SPECTRUM



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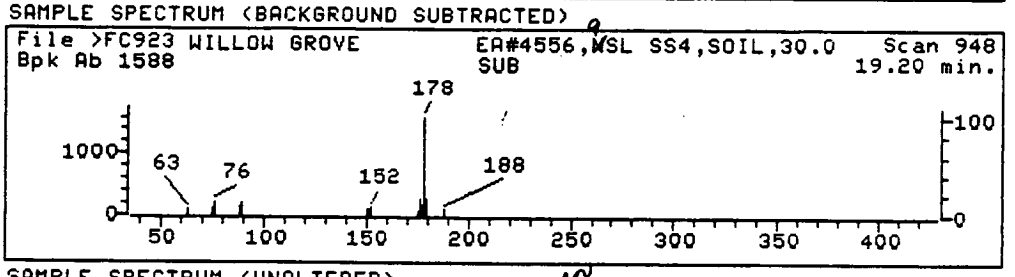

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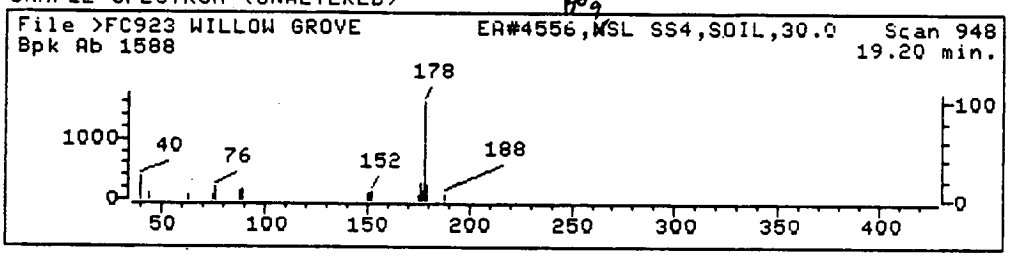

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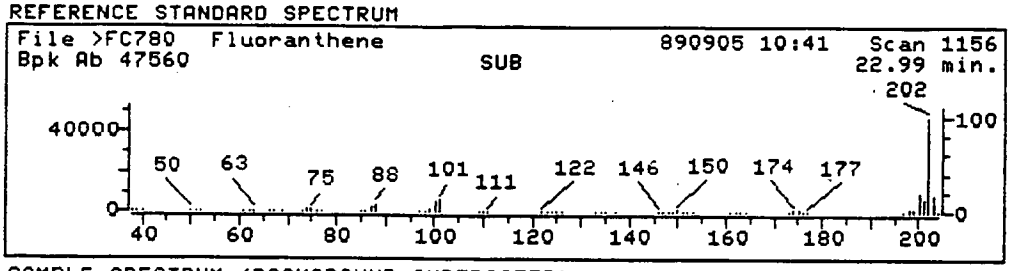
Name: WILLOW GROVE
Misc: EA#4556,WSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 59
Compound Name: Anthracene
Scan Number: 948
Retention Time: 19.20 min.
Quant Ion: 178.0
Area: 4188
Concentration: 22.73 NG
q-value: 99

REFERENCE STANDARD SPECTRUM



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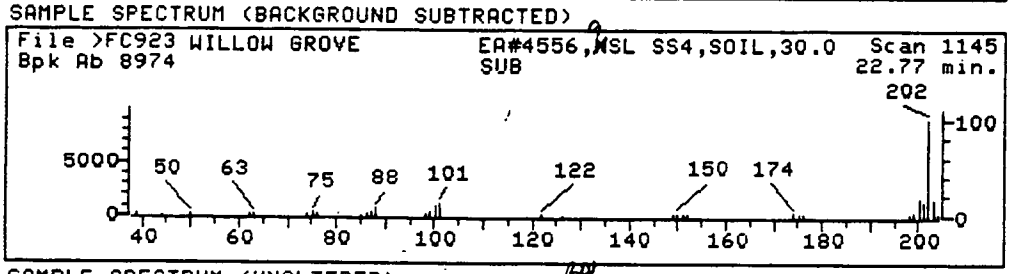

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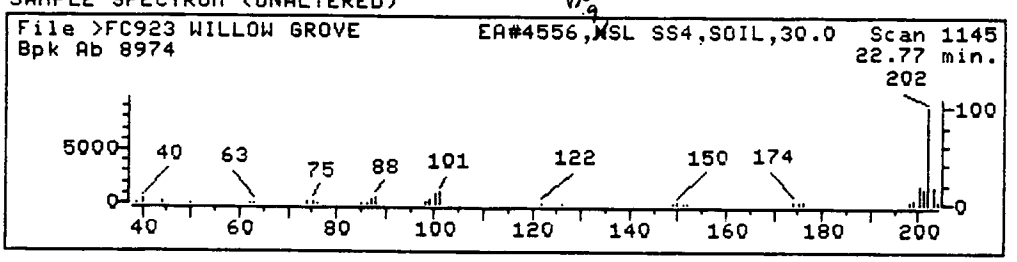

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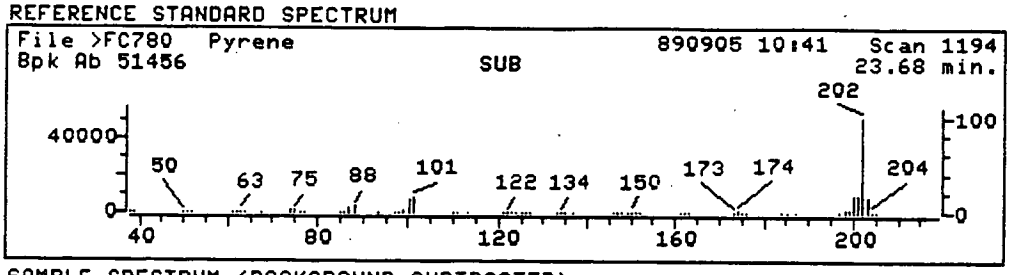
Misc: EA#4556,NSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1145
Retention Time: 22.77 min.
Quant Ion: 202.0
Area: 23937
Concentration: 135.86 NG
q-value: 91

REFERENCE STANDARD SPECTRUM



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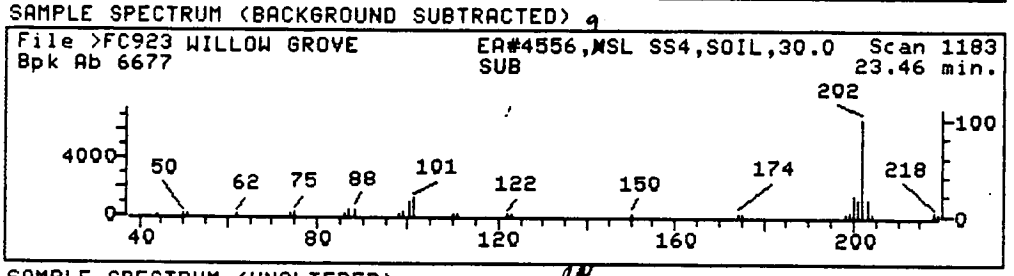
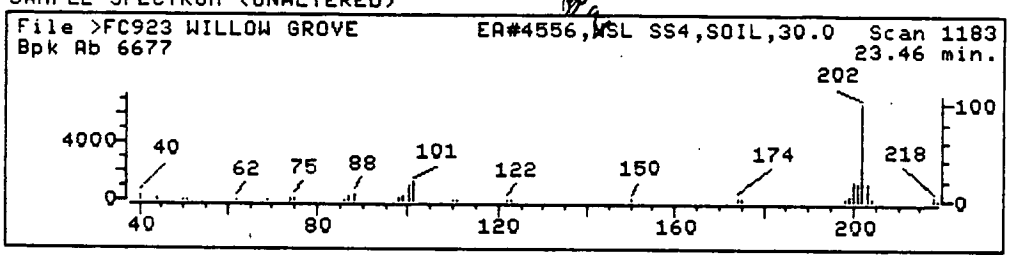


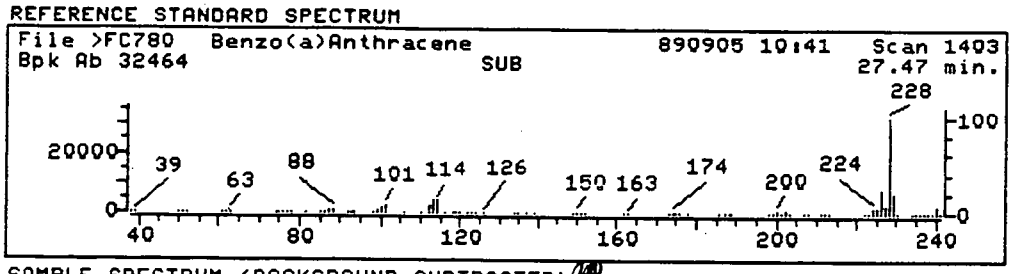
SAMPLE SPECTRUM (UNALTERED)



Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 63
Compound Name: Pyrene
Scan Number: 1183
Retention Time: 23.46 min.
Quant Ion: 202.0
Area: 18809
Concentration: 118.35 NG
q-value: 97

REFERENCE STANDARD SPECTRUM



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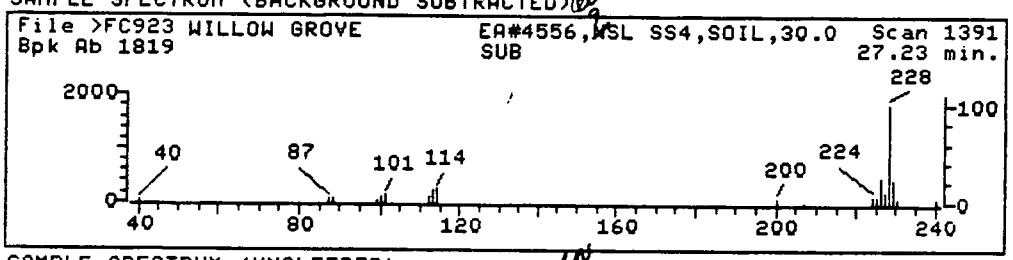
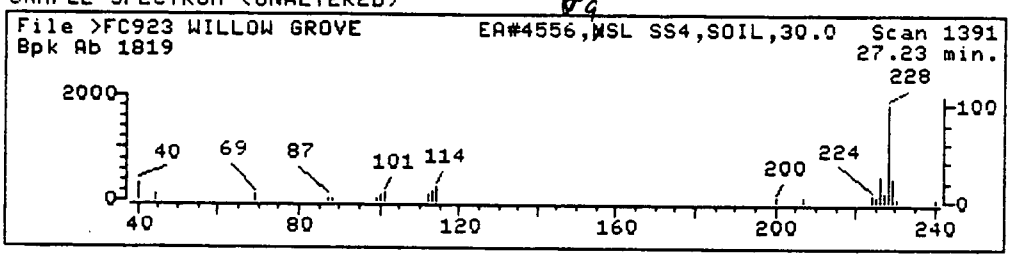


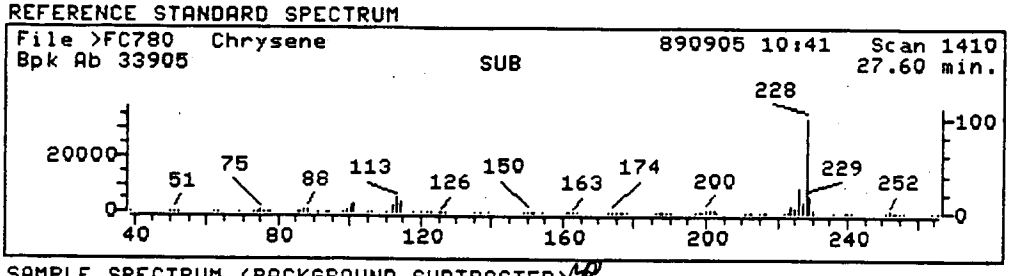
SAMPLE SPECTRUM (UNALTERED)



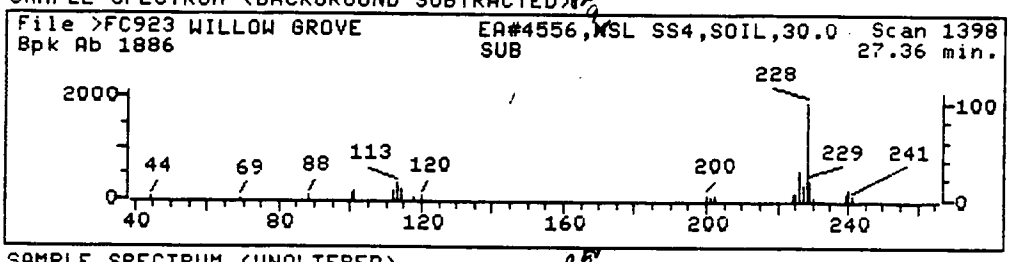
Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1391
Retention Time: 27.23 min.
Quant Ion: 228.0
Area: 5831
Concentration: 56.97 NG
q-value: 95

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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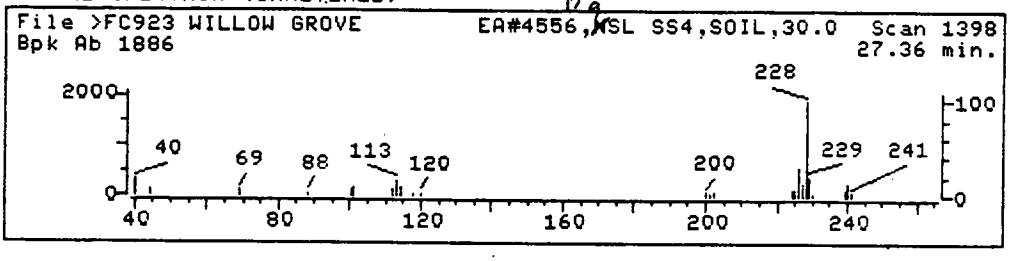
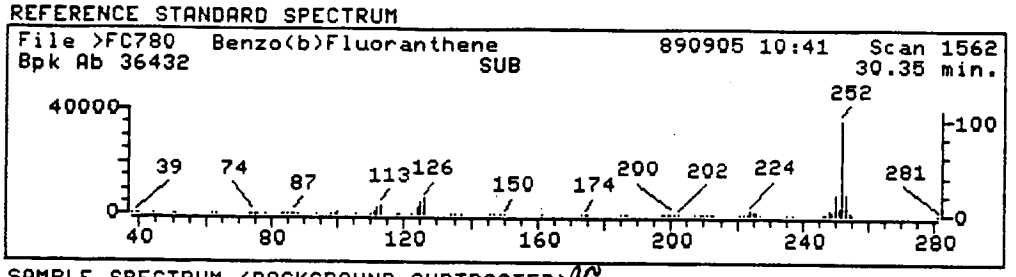


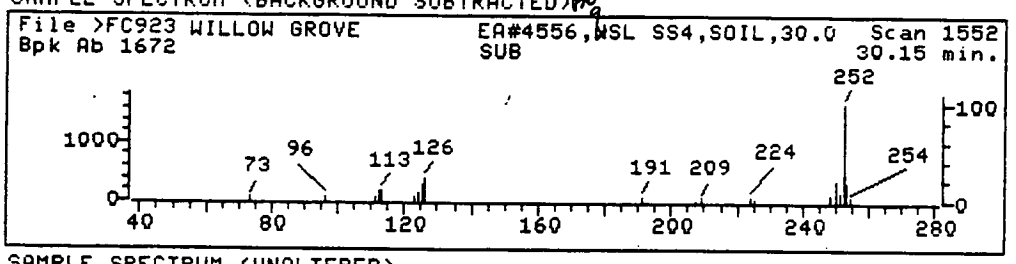
Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 69
Compound Name: Chrysene
Scan Number: 1398
Retention Time: 27.36 min.
Quant Ion: 228.0
Area: 5853
Concentration: 58.00 NG
q-value: 92

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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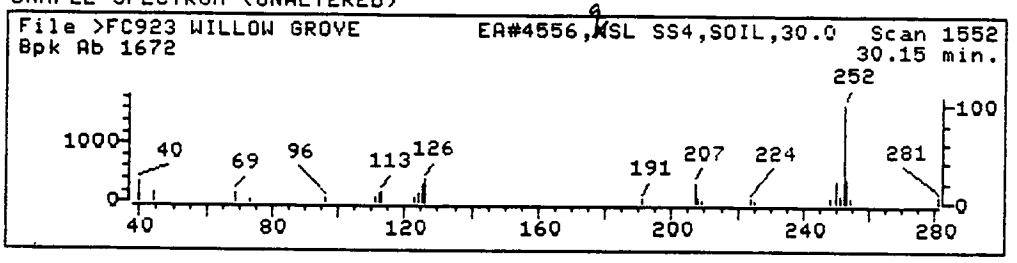
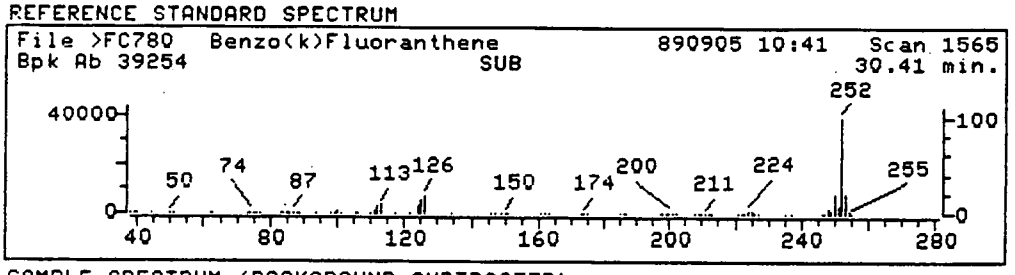


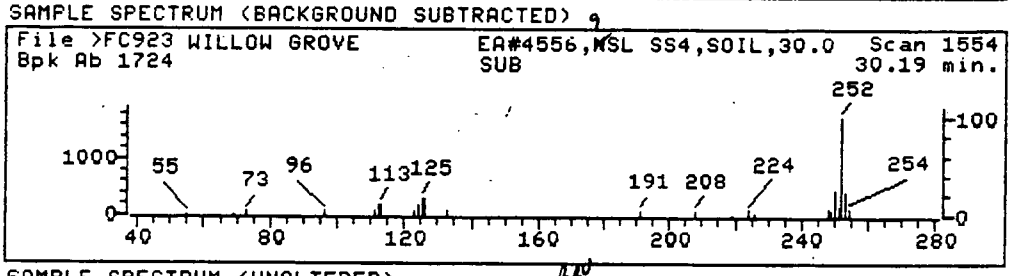
Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1552
Retention Time: 30.15 min.
Quant Ion: 252.0
Area: 5178
Concentration: 49.49 NG
q-value: 92

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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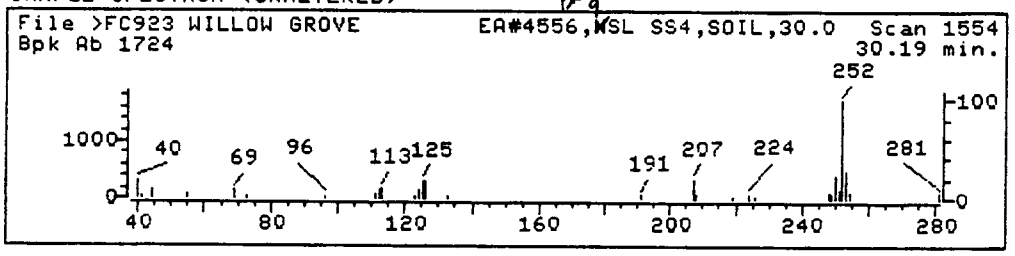
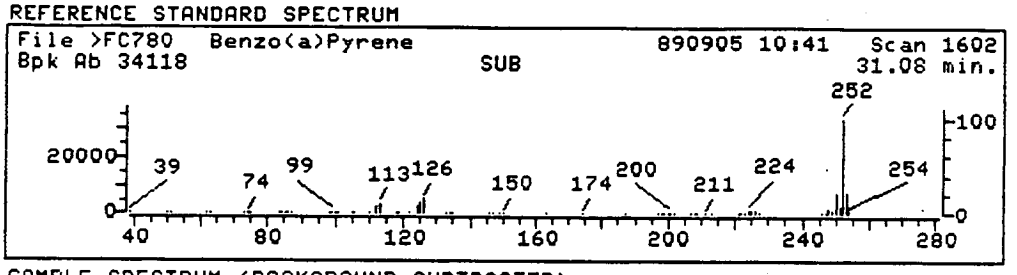


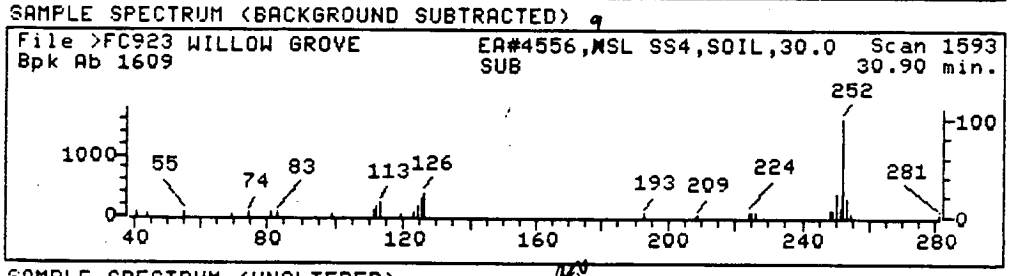
Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,WSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1554
Retention Time: 30.19 min.
Quant Ion: 252.0
Area: 4094M
Concentration: 43.36 NG
q-value: 88

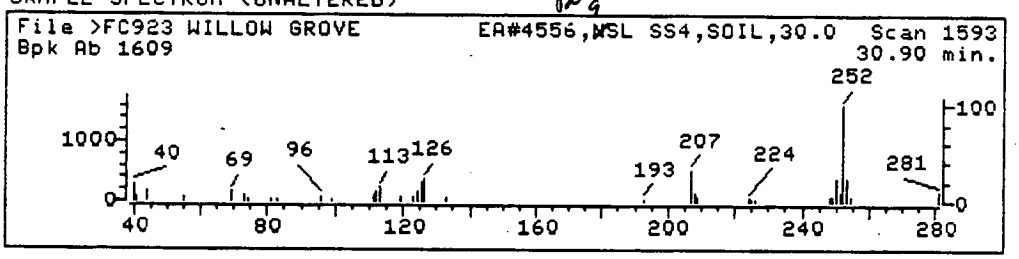
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED) 9



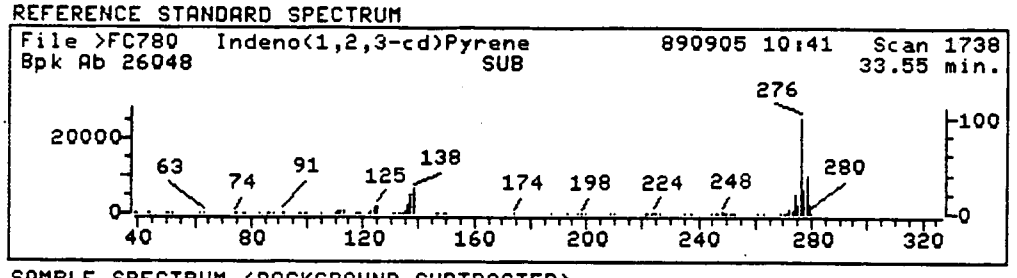
SAMPLE SPECTRUM (UNALTERED) 9



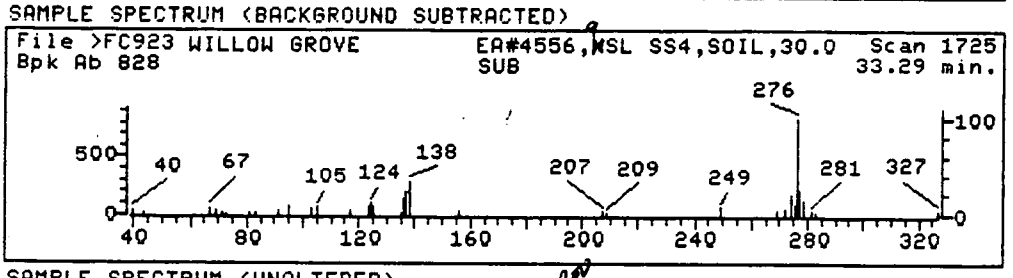
Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556 9 MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1593
Retention Time: 30.90 min.
Quant Ion: 252.0
Area: 4815
Concentration: 53.39 NG
q-value: 93

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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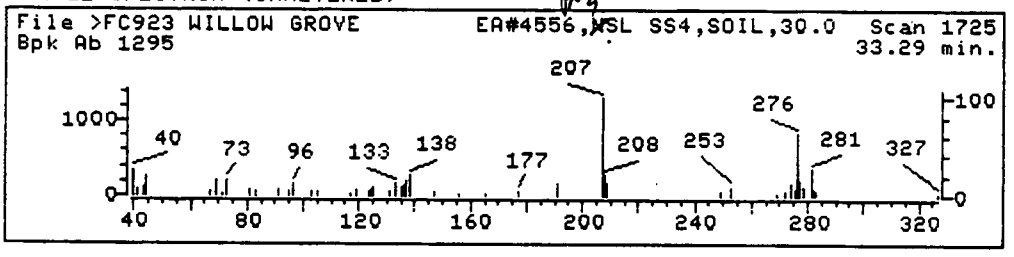
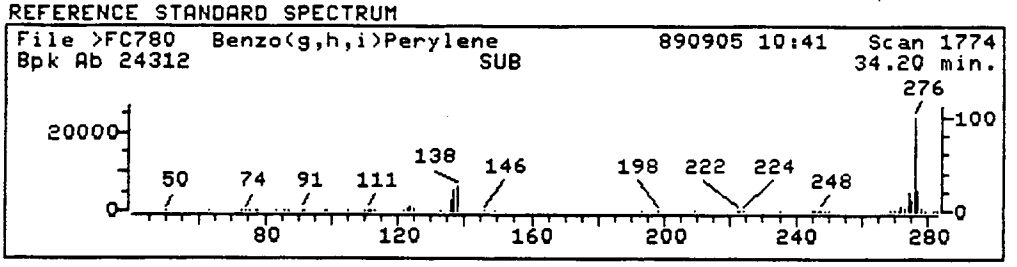


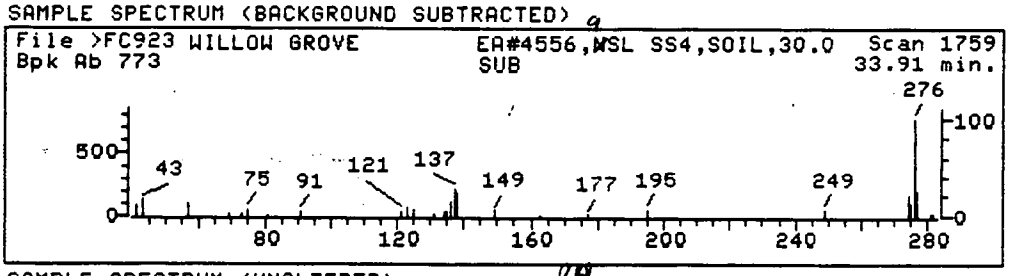
Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1725
Retention Time: 33.29 min.
Quant Ion: 276.0
Area: 3309
Concentration: 29.52 NG
q-value: 99

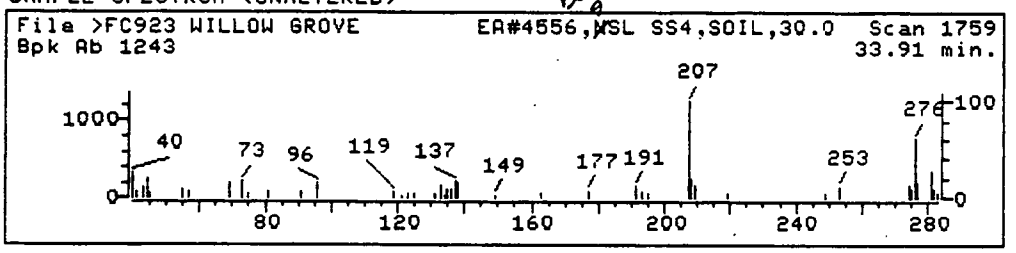
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >FC923::D5 Quant Output File: ^FC923::QT
Name: WILLOW GROVE
Misc: EA#4556,MSL SS4,SOIL,30.06g,2mL, (1/10 DIL) BTL# 5
Quant Time: 890929 00:20 Quant ID File: IDFCLP::BD
Injected at: 890928 23:41 Last Calibration: 890928 19:49

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1759
Retention Time: 33.91 min.
Quant Ion: 276.0
Area: 3149
Concentration: 32.65 NG
q-value: 94

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4557
SAMPLE: UG SS1
GC/MS FILE: >FC924::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/29/89 0:31
SAMPLE--->EXTRACT:	30.13g-->1mL

CAS #		CONC UG/L	OR UG/KG
108-95-2	Phenol	450.	ND
111-44-4	bis(2-Chloroethyl)ether	450.	ND
95-57-8	2-Chlorophenol	450.	ND
541-73-1	1,3-Dichlorobenzene	450.	ND
106-46-7	1,4-Dichlorobenzene	450.	ND
100-51-6	Benzyl Alcohol	450.	ND
95-50-1	1,2-Dichlorobenzene	450.	ND
95-48-7	2-Methylphenol	450.	ND
39638-32-9	bis(2-chloroisopropyl)ether	450.	ND
106-44-5	4-Methylphenol	450.	ND
621-64-7	N-Nitroso-Di-n-propylamine	450.	ND
67-72-1	Hexachloroethane	450.	ND
98-95-3	Nitrobenzene	450.	ND
78-59-1	Isophorone	450.	ND
88-75-5	2-Nitrophenol	450.	ND
105-67-9	2,4-Dimethylphenol	450.	ND
65-85-0	Benzoic Acid	82.	TR
111-91-1	bis(2-Chloroethoxy)methane	450.	ND
120-83-2	2,4-Dichlorophenol	450.	ND
120-82-1	1,2,4-Trichlorobenzene	450.	ND
91-20-3	Naphthalene	450.	ND
106-47-8	4-Chloroaniline	450.	ND
87-68-3	Hexachlorobutadiene	450.	ND
59-50-7	4-Chloro-3-methylphenol	450.	ND
91-57-6	2-Methylnaphthalene	450.	ND
77-47-4	Hexachlorocyclopentadiene	450.	ND
88-06-2	2,4,6-Trichlorophenol	450.	ND
95-95-4	2,4,5-Trichlorophenol	2200.	ND
91-58-7	2-Chloronaphthalene	450.	ND
88-74-4	2-Nitroaniline	2200.	ND
131-11-3	Dimethylphthalate	450.	ND
208-96-8	Acenaphthylene	450.	ND
99-09-2	3-Nitroaniline	2200.	ND
83-32-9	Acenaphthene	450.	ND
51-28-5	2,4-Dinitrophenol	2200.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4557
SAMPLE: UG SS1
GC/MS FILE: >FC924::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/29/89 0:31
SAMPLE--->EXTRACT:	30.13g-->1mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	2200.	ND
132-64-9	Dibenzofuran	450.	ND
121-14-2	2,4-Dinitrotoluene	450.	ND
606-20-2	2,6-Dinitrotoluene	450.	ND
84-66-2	Diethylphthalate	450.	ND
7005-72-3	4-Chlorophenyl-phenylether	450.	ND
86-73-7	Fluorene	450.	ND
100-01-6	4-Nitroaniline	2200.	ND
534-52-1	4,6-Dinitro-2-methylphenol	2200.	ND
86-30-6	N-Nitrosodiphenylamine	450.	ND
101-55-3	4-Bromophenyl-phenylether	450.	ND
118-74-1	Hexachlorobenzene	450.	ND
87-86-5	Pentachlorophenol	2200.	ND
85-01-8	Phenanthrene	150.	TR
120-12-7	Anthracene	450.	ND
84-74-2	Di-n-Butyl phthalate	65.	TR
206-44-0	Fluoranthene	240.	TR
129-00-0	Pyrene	220.	TR
85-68-7	Butylbenzylphthalate	450.	ND
91-94-1	3,3'-Dichlorobenzidine	890.	ND
56-55-3	Benzo(a)Anthracene	110.	TR
117-81-7	bis(2-Ethylhexyl)phthalate	72.	TR
218-01-9	Chrysene	120.	TR
117-84-0	Di-n-Octyl phthalate	450.	ND
205-99-2	Benzo(b)Fluoranthene	110.	TR
207-08-9	Benzo(k)Fluoranthene	85.	TR
50-32-8	Benzo(a)Pyrene	120.	TR
193-39-5	Indeno(1,2,3-cd)Pyrene	57.	TR
53-70-3	Dibenzo(a,h)Anthracene	450.	ND
191-24-2	Benzo(g,h,i)Perylene	61.	TR

Qualifier descriptions: ND - Compound analyzed for but not detected
Number report d is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: UG/SS/1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Soil Lab Sample ID: EA#4557

Sample wt/vol: 30.13 (g/mL) g Lab File ID: 2FC 924

Level: (low/med) Low Date Received: 9/25/89

% Moisture: not dec. 25.7 dec. _____ Date Extracted: 9/26/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 9/29/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: —

Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unknown	12.30	260	J
2.	124174	Ethanol, 2-butoxyethoxy-, acetate	12.43	190	J
3.	57103	Hexadecanoic acid	21.10	230	J
4.	—	Unknown	27.50	500	J
5.	—	Unidentified alkane	30.52	250	J
6.	—	Unidentified aldehyde	31.95	220	J
7.	—	Unidentified alkane	31.88	280	J
8.	—	Unknown	32.66	270	J
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
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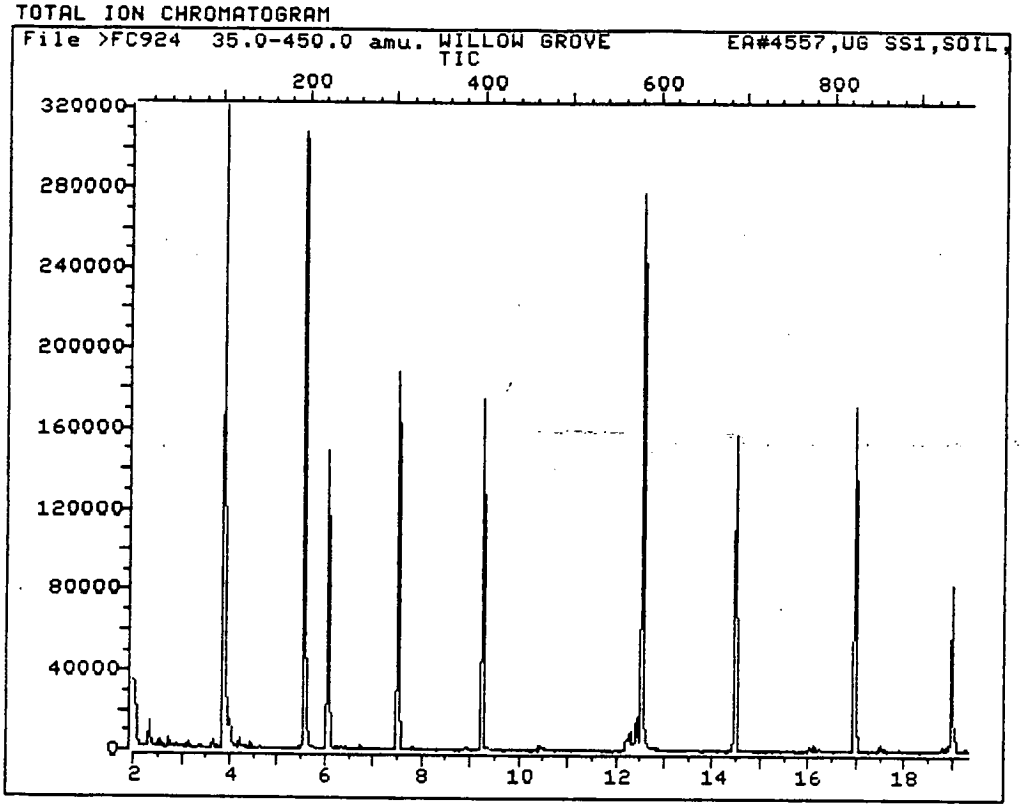
25.					
26.					
27.					
28.					
29.					
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



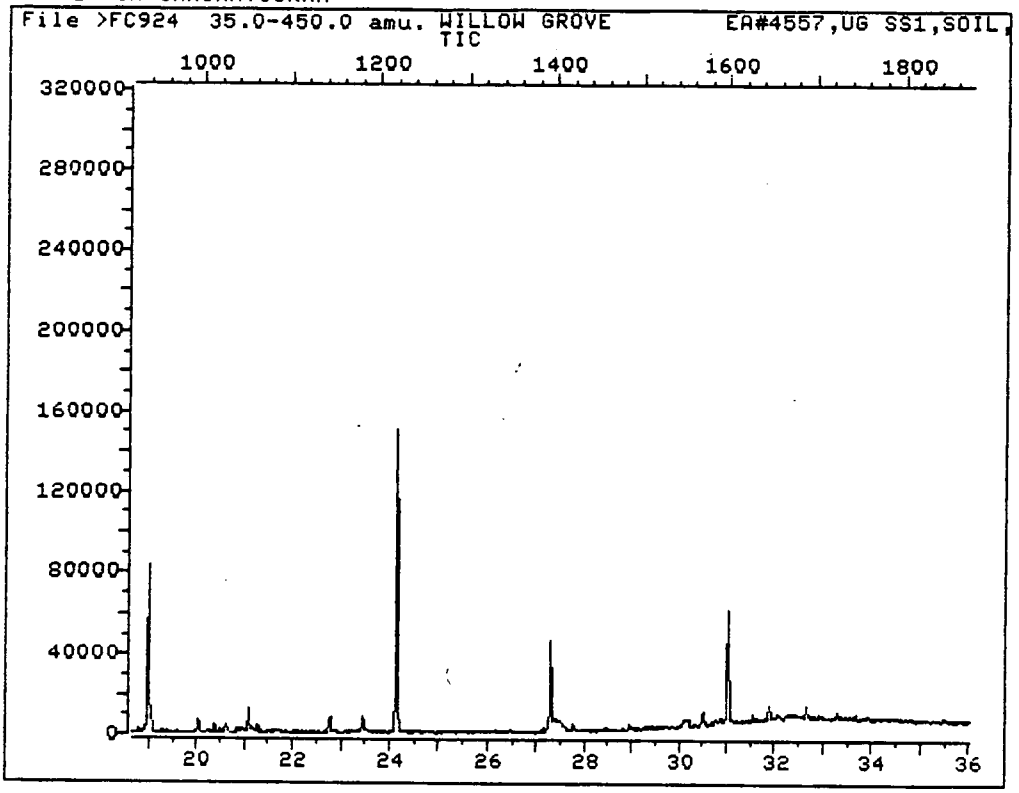
Data File: >FC924::D5 Quant Output File: ^FC924::QT
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 01:10
Injected at: 890929 00:31

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC924::D5 Quant Output File: ^FC924::QT
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 01:10
Injected at: 890929 00:31

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890929 01:10
Output File: ^FC924::QT Inj cted at: 890929 00:31
Data File: >FC924::D5 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6

ID Fil : IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	6.06	152.0	51943	40.00	NG	98
2)	2-Fluorophenol	3.87	112.0	175982	114.54	NG 57%	84
3)	Phenol-d5	5.55	99.0	265732	161.05	NG 81%	90
4)	Ph nol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	9.25	136.0	179296	40.00	NG	88
17)	Nitrobenzene-d5	7.51	82.0	136291	91.44	NG 91%	95
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	8.89	122.0	991	1.84	NG	92
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	14.48	164.0	78061	40.00	NG	95
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	12.54	172.0	219548	93.31	NG 93%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	14.49	163.0	26245	~~10.29~~	NG	53
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Ac naphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

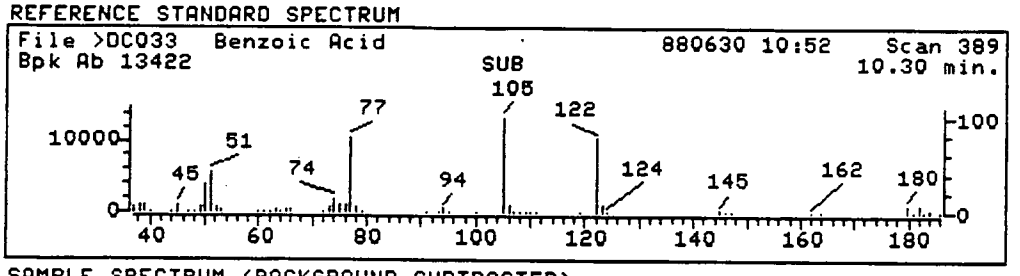
Output File:^FC924::

Data File:>FC924::D5

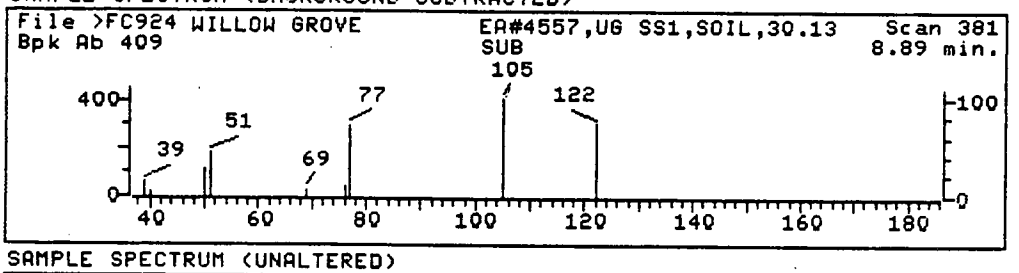
	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	16.24	149.0	1726	~~.71~~	NG	98
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	18.99	188.0	89083	40.00	NG	98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.98	329.9	55562	189.26	NG 95%	94
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	19.07	178.0	7009	3.45	NG	98
59)	Anthracene	19.19	178.0	901	~~.49~~	NG	97
60)	Di-n-Butyl phthalate	21.28	149.0	4402	1.46	NG	98
61)	Fluoranthene	22.78	202.0	9494	5.36	NG	97
62)	*d12-Chrysene	27.29	240.0	42743	40.00	NG	98
63)	Pyrene	23.46	202.0	8230	4.82	NG	98
64)	Terphenyl-d14	24.15	244.0	143650	117.61	NG 118%	88
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	27.25	228.0	2736	2.49	NG	95
68)	bis(2-Ethylhexyl)phthalate	27.78	149.0	2010	1.62	NG	92
69)	Chrysene	27.36	228.0	3014	2.78	NG	94
70)	*d12-Perylene	31.03	264.0	47422	40.00	NG	95
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	30.15	252.0	2802	2.47	NG	93
73)	Benzo(k)Fluoranthene	30.19	252.0	1950M	1.90	NG	87
74)	Benzo(a)Pyrene	30.88	252.0	2648	2.71	NG	94
75)	Indeno(1,2,3-cd)Pyrene	33.28	276.0	1544	1.27	NG	87
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	33.92	276.0	1440	1.38	NG	95

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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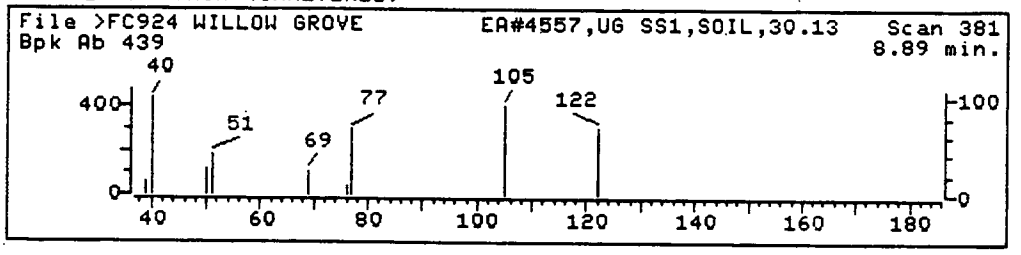
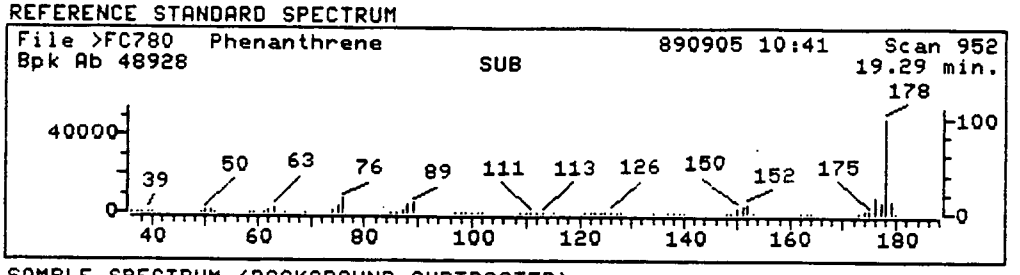


Data File: >FC924::D5 Quant Output File: ^FC924::QT
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 22
Compound Name: Benzoic Acid
Scan Number: 381
Retention Time: 8.89 min.
Quant Ion: 122.0
Area: 991
Concentration: 1.84 NG
q-value: 92

REFERENCE STANDARD SPECTRUM



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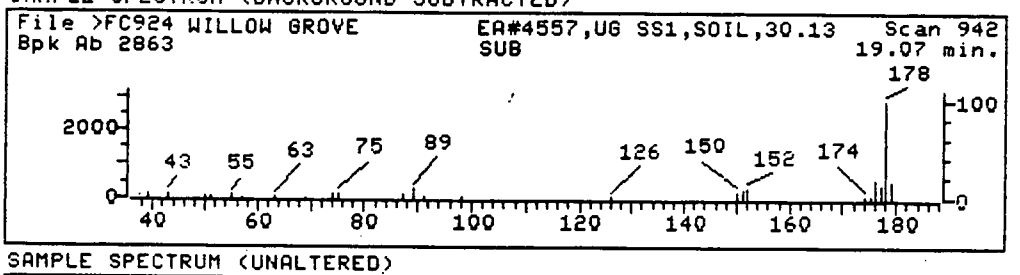

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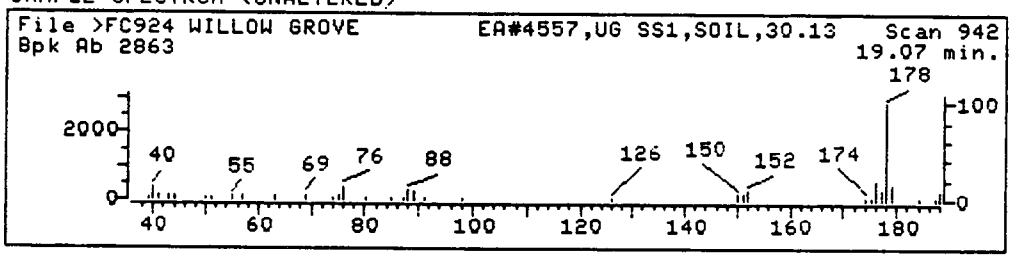

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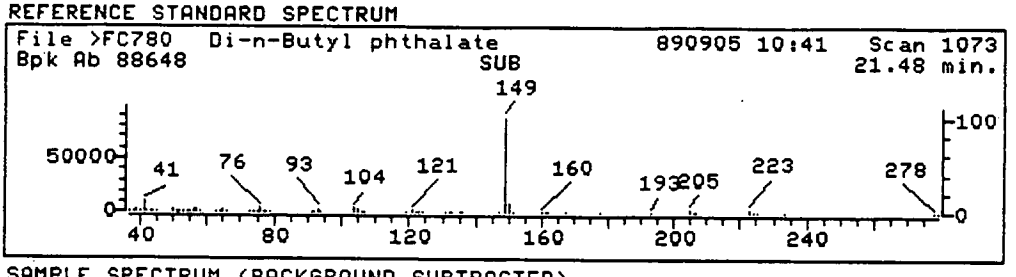
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 942
Retention Time: 19.07 min.
Quant Ion: 178.0
Area: 7009
Concentration: 3.45 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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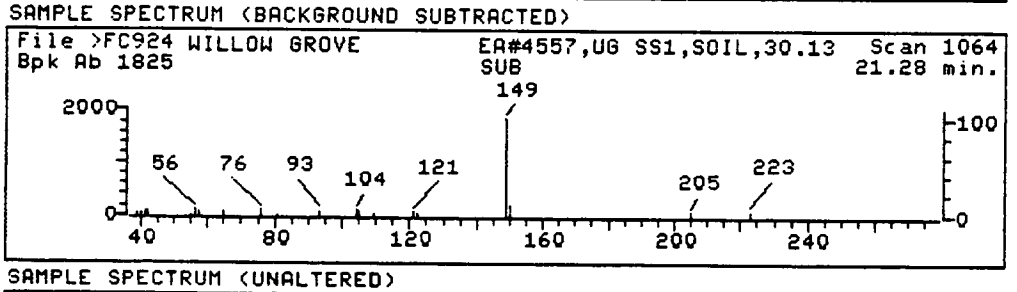

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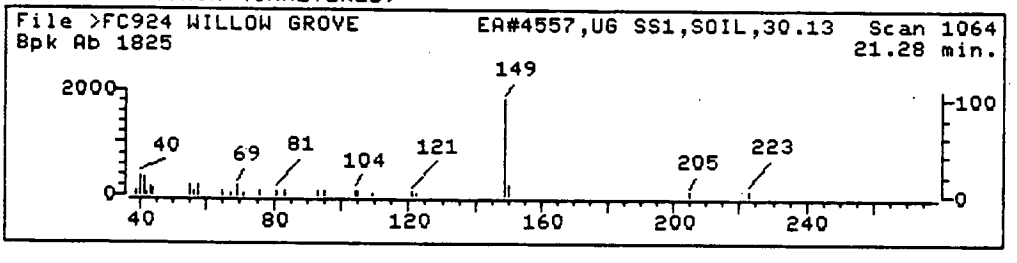

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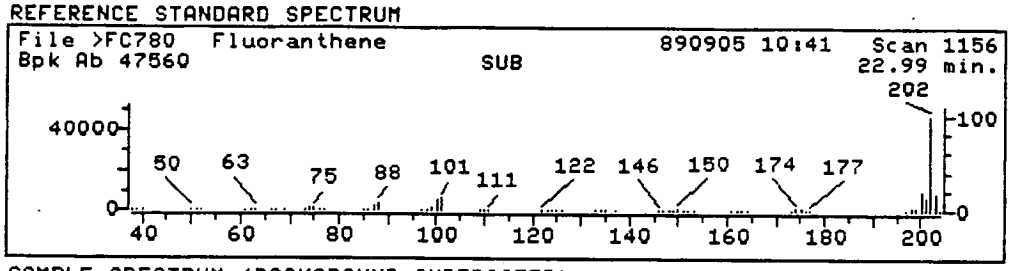
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 60
Compound Name: Di-n-Butyl phthalate
Scan Number: 1064
Retention Time: 21.28 min.
Quant Ion: 149.0
Area: 4402
Concentration: 1.46 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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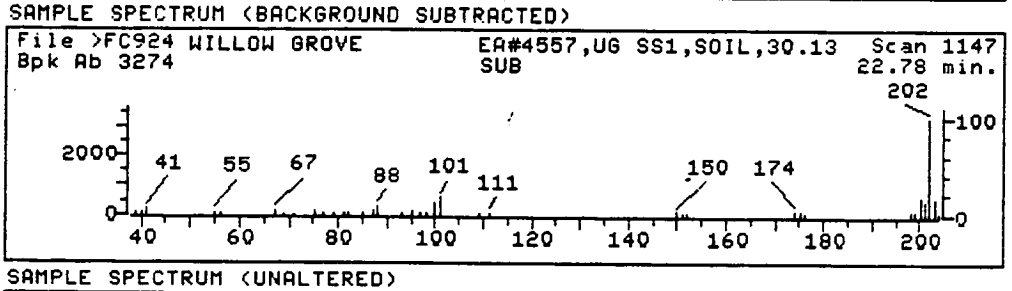

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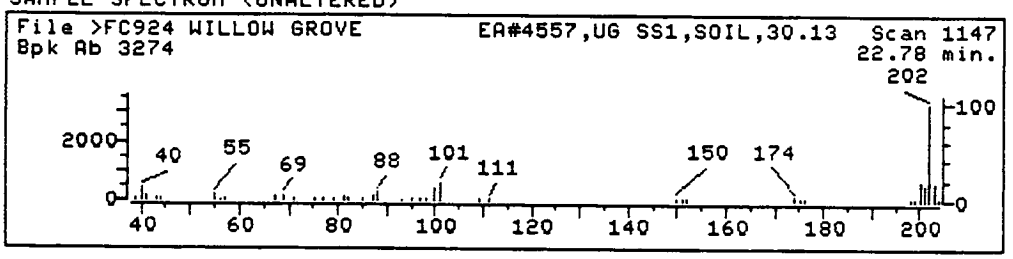

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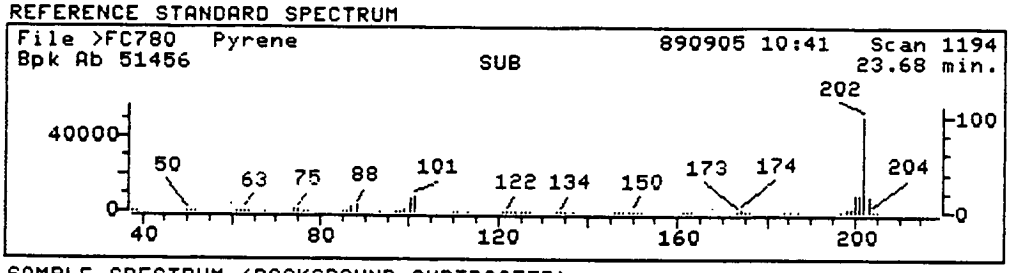
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1147
Retention Time: 22.78 min.
Quant Ion: 202.0
Area: 9494
Concentration: 5.36 NG
q-value: 97

REFERENCE STANDARD SPECTRUM



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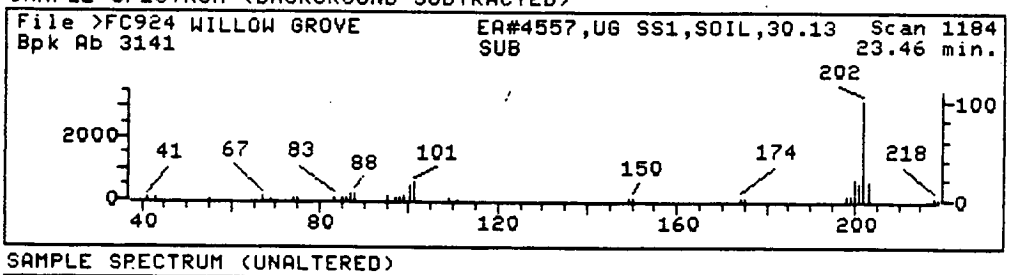

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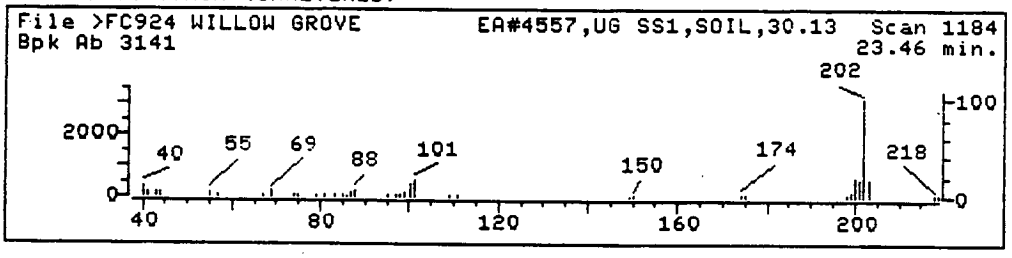

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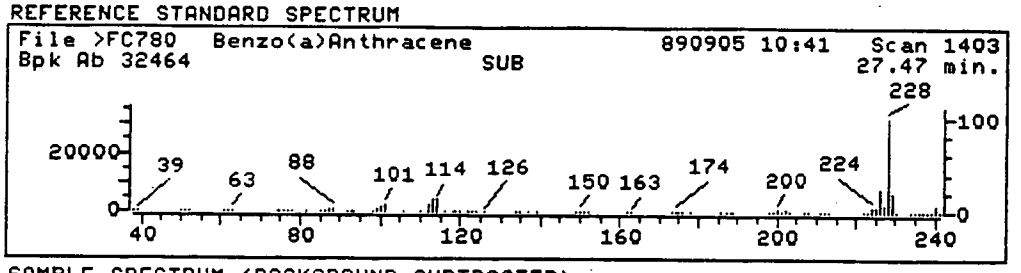
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 63
Compound Name: Pyrene
Scan Number: 1184
Retention Time: 23.46 min.
Quant Ion: 202.0
Area: 8230
Concentration: 4.82 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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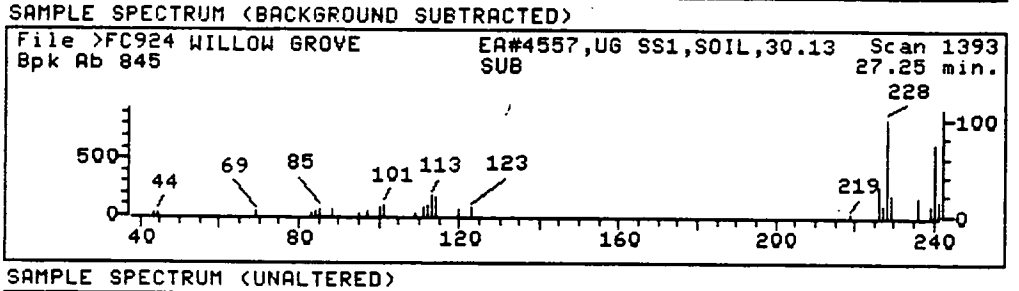

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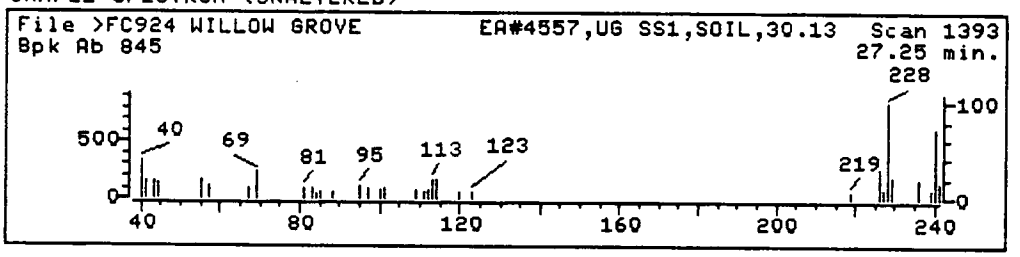
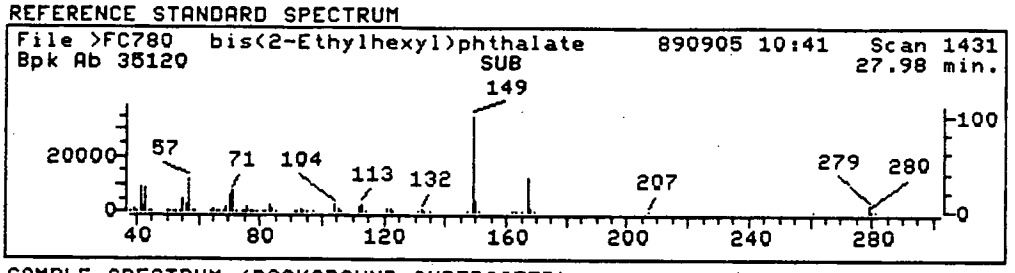


Data File: >FC924::D5 Quant Output File: ^FC924::QT
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1393
Retention Time: 27.25 min.
Quant Ion: 228.0
Area: 2736
Concentration: 2.49 NG
q-value: 95

REFERENCE STANDARD SPECTRUM



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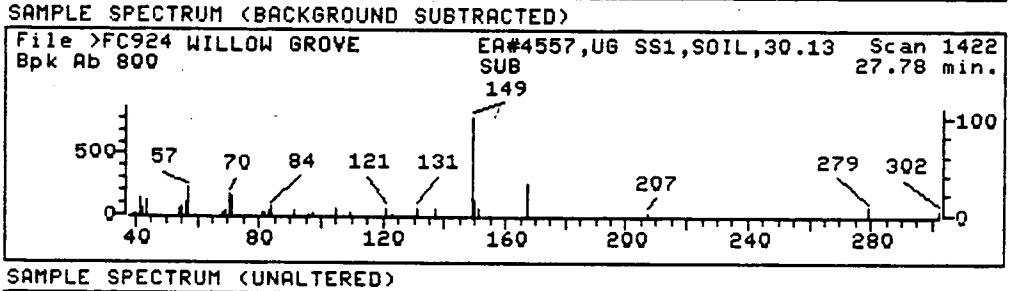

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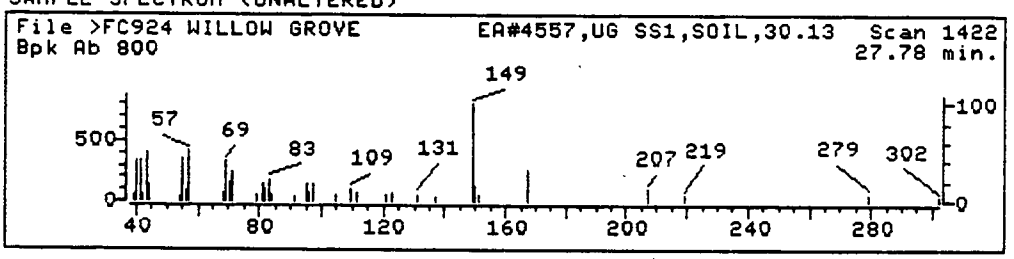

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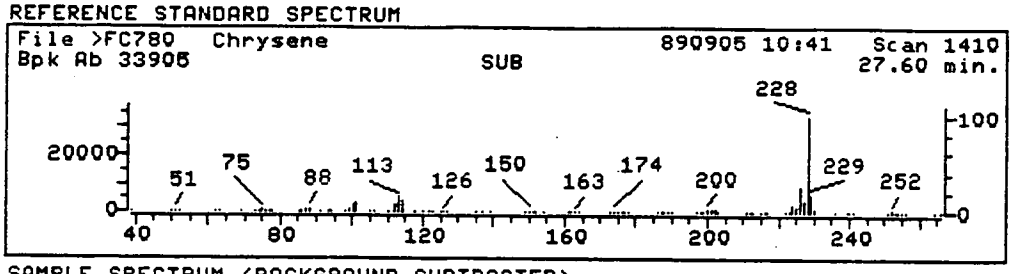
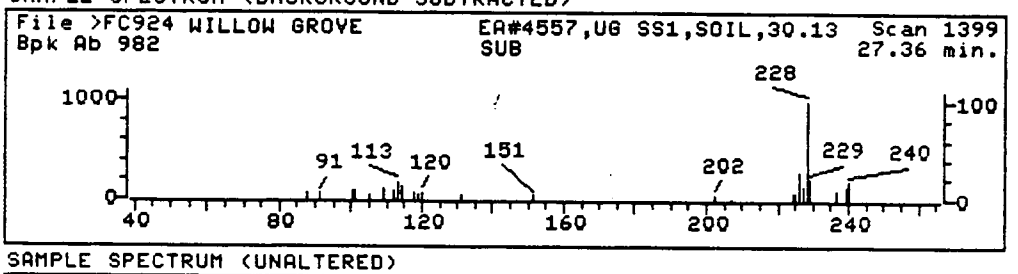
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1422
Retention Time: 27.78 min.
Quant Ion: 149.0
Area: 2010
Concentration: 1.62 NG
q-value: 92

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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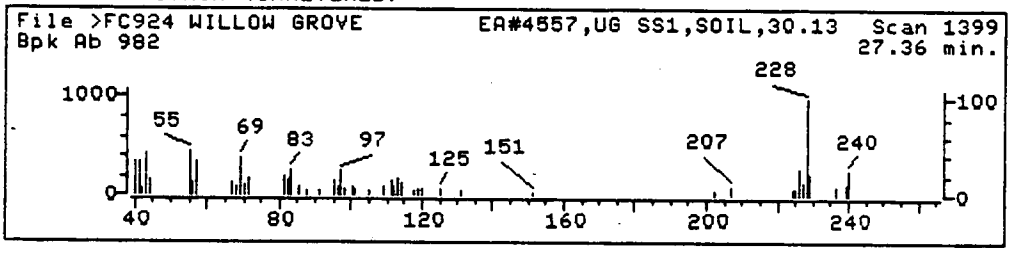

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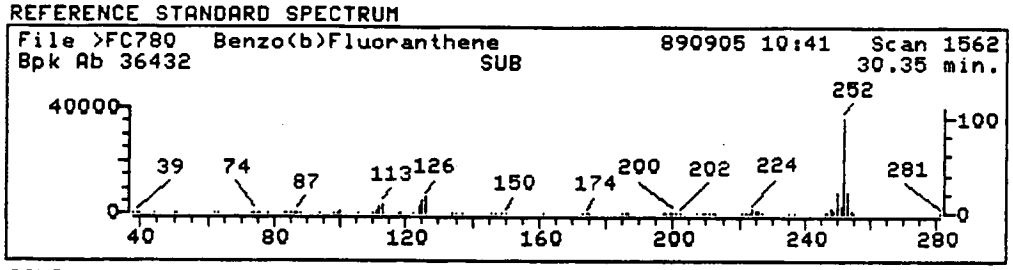
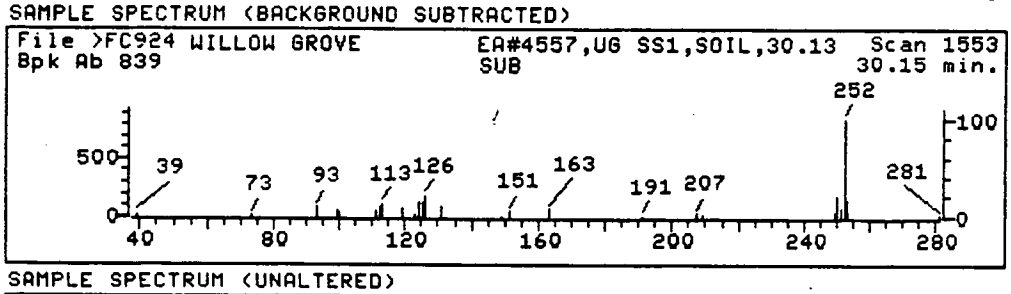
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 69
Compound Name: Chrysene
Scan Number: 1399
Retention Time: 27.36 min.
Quant Ion: 228.0
Area: 3014
Concentration: 2.78 NG
q-value: 94

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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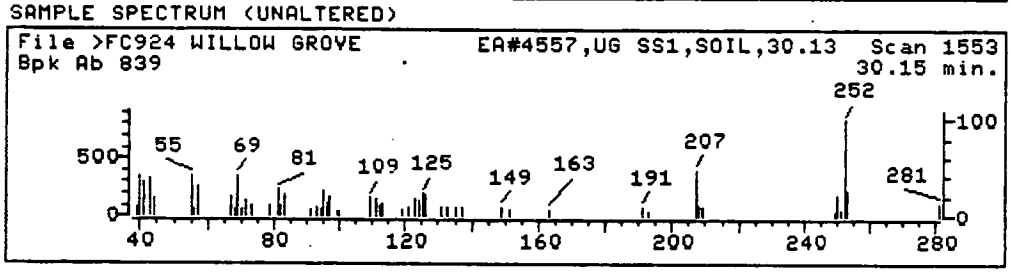

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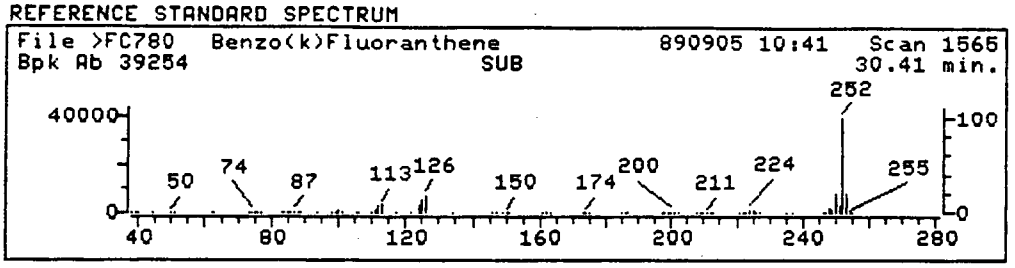
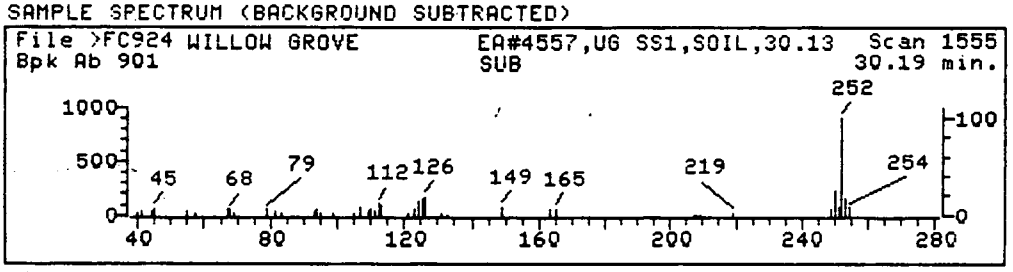
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1553
Retention Time: 30.15 min.
Quant Ion: 252.0
Area: 2802
Concentration: 2.47 NG
q-value: 93

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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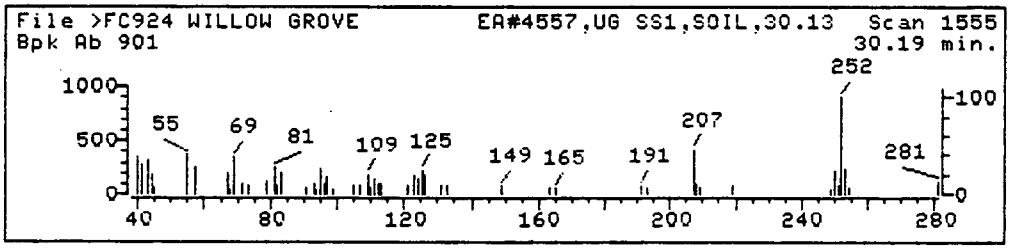

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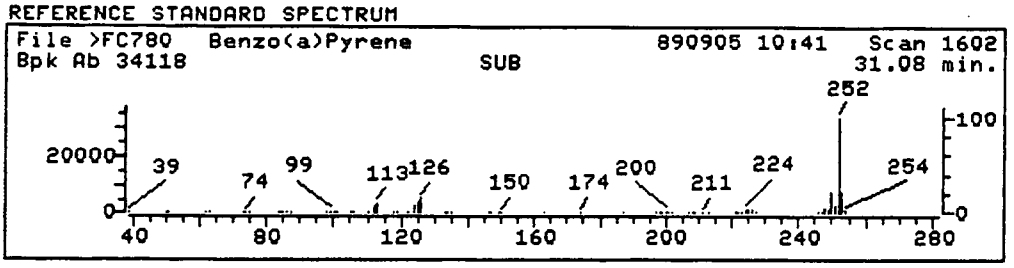
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1555
Retention Time: 30.19 min.
Quant Ion: 252.0
Area: 1950M
Concentration: 1.90 NG
q-value: 87

REFERENCE STANDARD SPECTRUM



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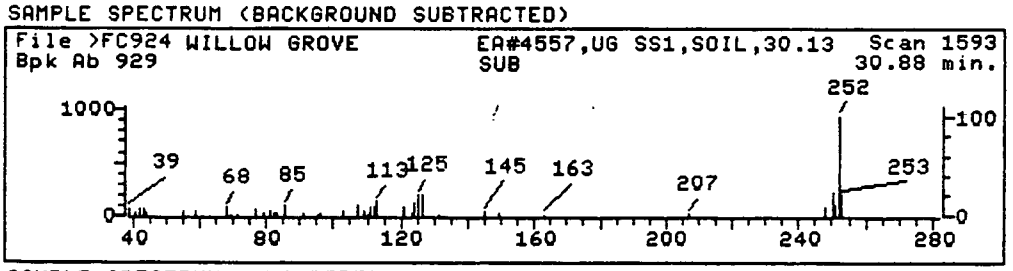

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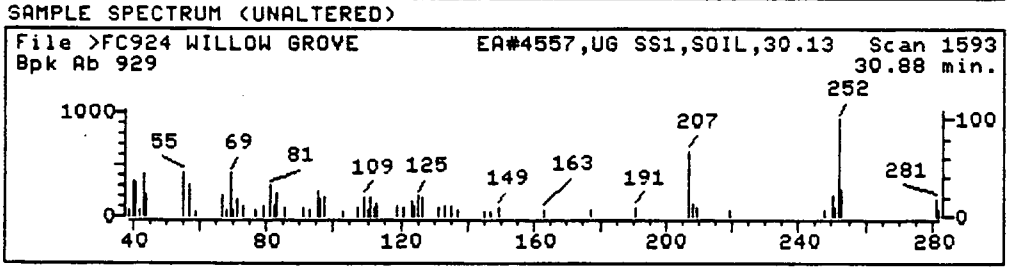

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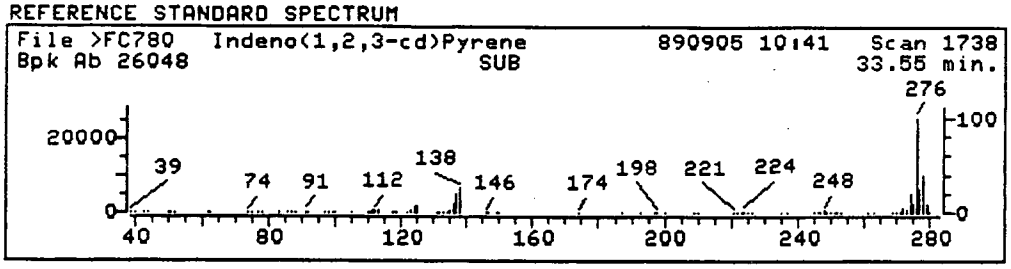
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1593
Retention Time: 30.88 min.
Quant Ion: 252.0
Area: 2648
Concentration: 2.71 NG
q-value: 94

REFERENCE STANDARD SPECTRUM



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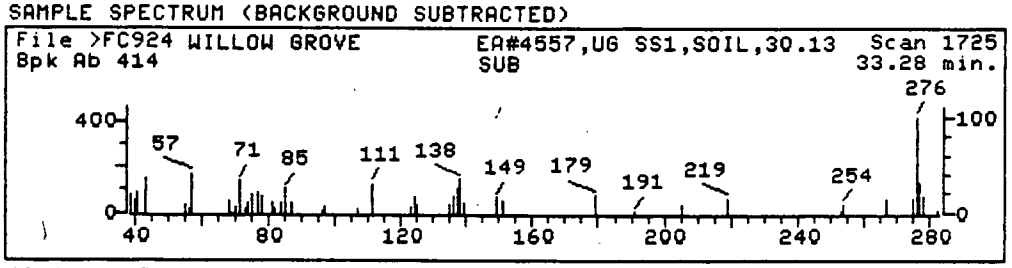
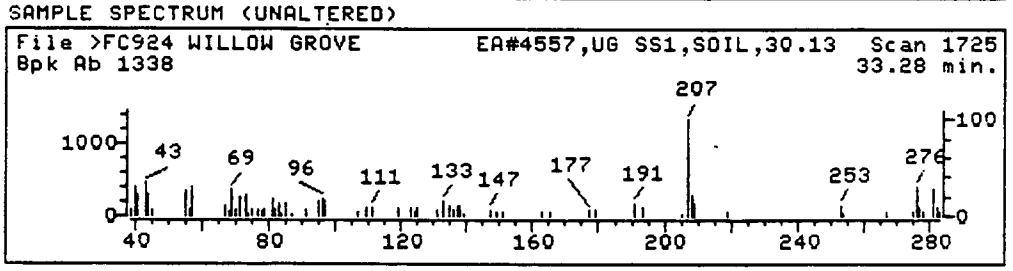


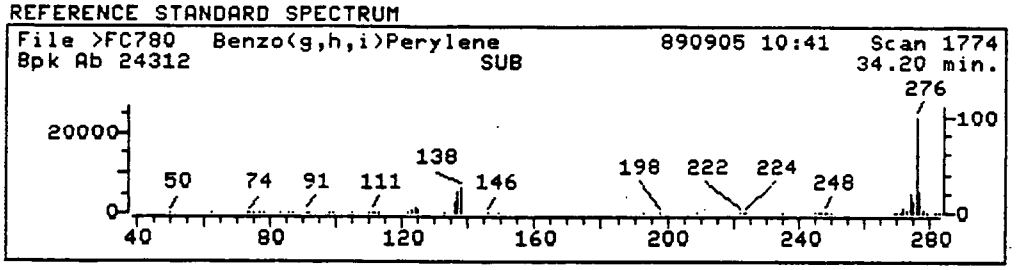
SAMPLE SPECTRUM (UNALTERED)



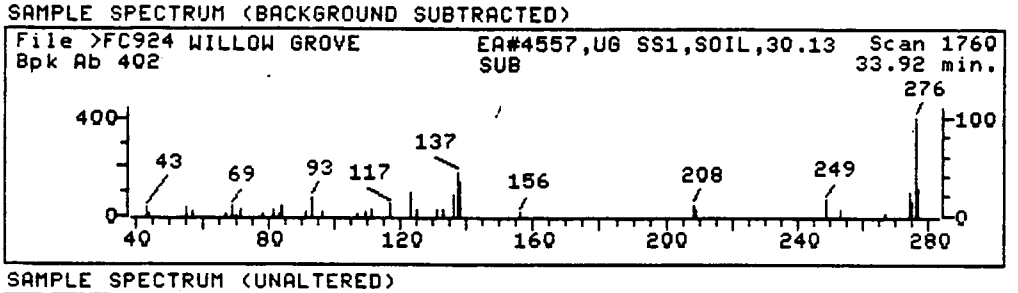
Data File: >FC924::D5 Quant Output File: ^FC924::QT
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1725
Retention Time: 33.28 min.
Quant Ion: 276.0
Area: 1544
Concentration: 1.27 NG
q-value: 87

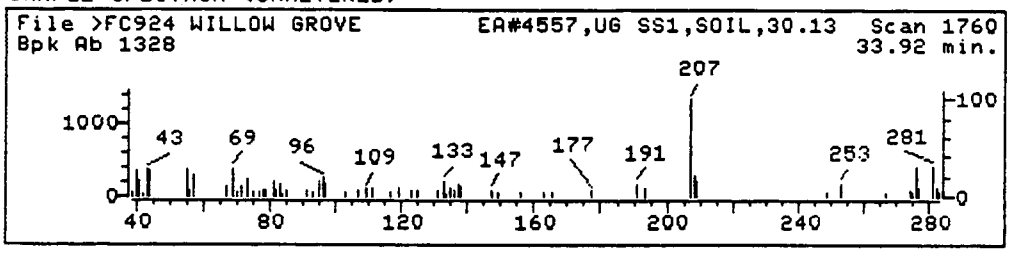
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

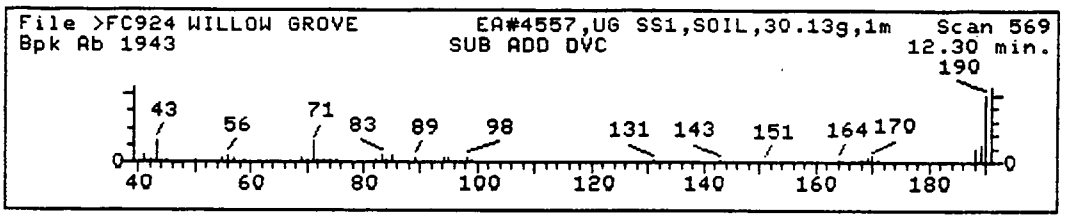


SAMPLE SPECTRUM (UNALTERED)



Data File: >FC924::D5 Quant Output File: ^FC924::QT
Name: WILLOW GROVE
Misc: EA#4557,UG SS1,SOIL,30.13g,1mL, BTL# 6
Quant Time: 890929 01:10 Quant ID File: IDFCLP::BD
Injected at: 890929 00:31 Last Calibration: 890928 19:49

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1760
Retention Time: 33.92 min.
Quant Ion: 276.0
Area: 1440
Concentration: 1.38 NG
q-value: 95



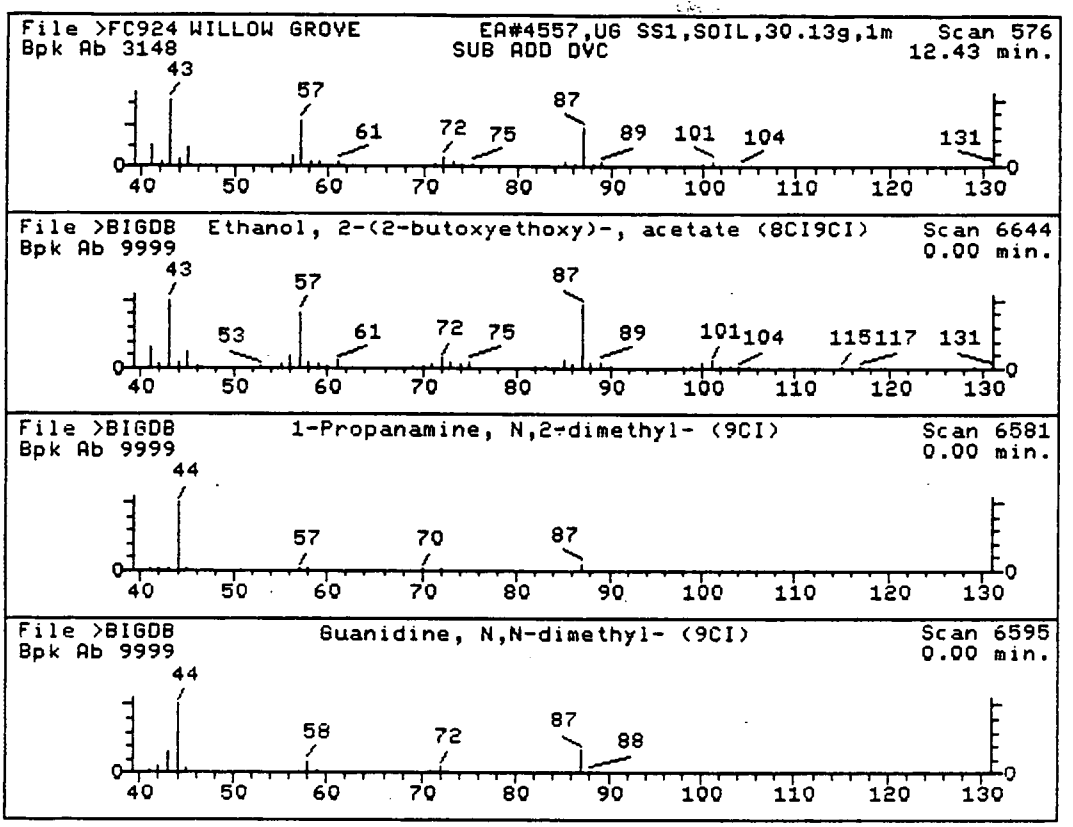
Retention time = 12.30

Area = 57897.00 Tentative Concentration is 260.00

Unknown

Sample file: >FC924 Spectrum #: 569

No data base entries were retrieved.



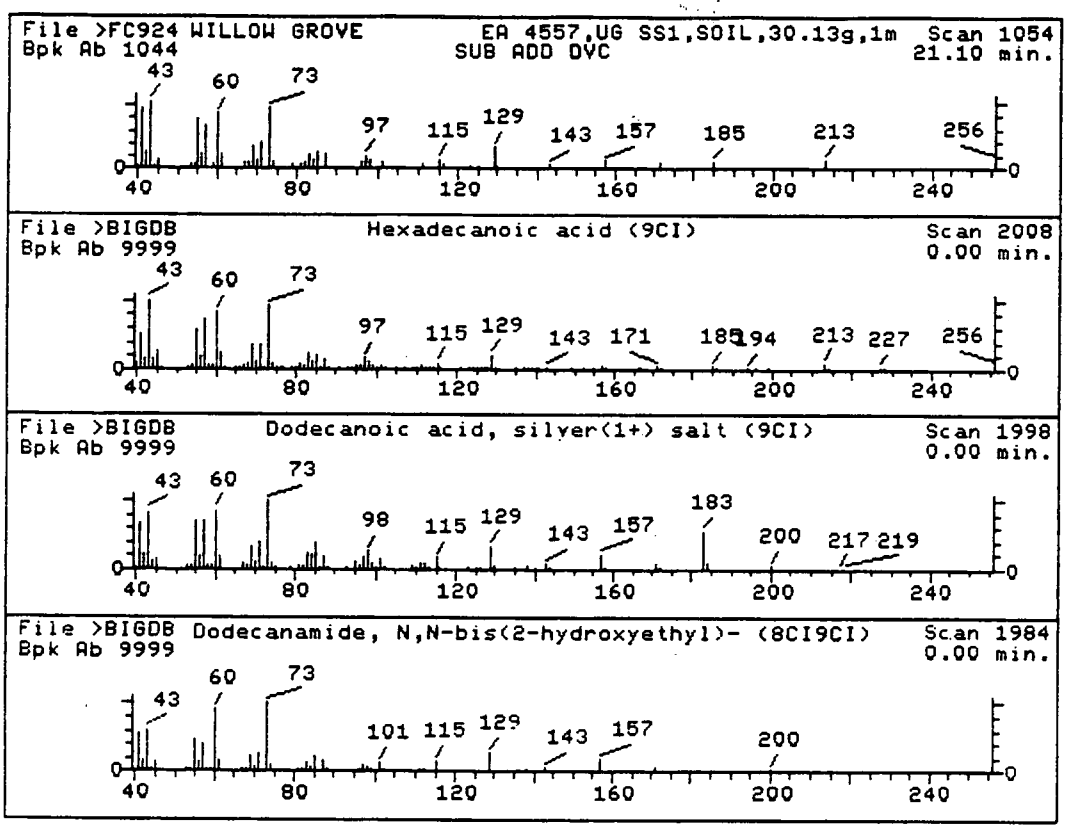
Retention time = 12.43

Area = 43339.00 Tentative Concentration is 190.00

1. Ethanol, 2-(2-butoxyethoxy)-, acetate (8CI9CI)	204	C10H20O4
2. 1-Propanamine, N,2-dimethyl- (9CI)	87	C5H13N
3. Guanidine, N,N-dimethyl- (9CI)	87	C3H9N3
4. Acetamide, N,N-dimethyl- (8CI9CI)	87	C4H9NO
5. 1,3-Dioxolane, 4-methyl- (8CI9CI)	88	C4H8O2
6. Acetamide, N-ethyl- (8CI9CI)	87	C4H9NO
7. 1-Pentanamine (9CI)	87	C5H13N

Sample file: >FC924 Spectrum #: 576
S arch speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83	124174	6644	"BIGDB	93	32	1	0	61	9	54	52
2.	45*	625434	6581	"BIGDB	32	48	2	0	578	23	17	16
3.	28*	6145422	6595	"BIGDB	24	59	2	0	156	38	10	14
4.	27*	127195	6571	"BIGDB	25	71	3	0	127	38	10	13
5.	27*	1072475	6616	"BIGDB	21	83	2	0	113	38	10	13
6.	26*	625503	6614	"BIGDB	27	66	2	0	80	42	8	14
7.	25*	110587	108	"BIGDB	23	50	2	0	723	42	8	13



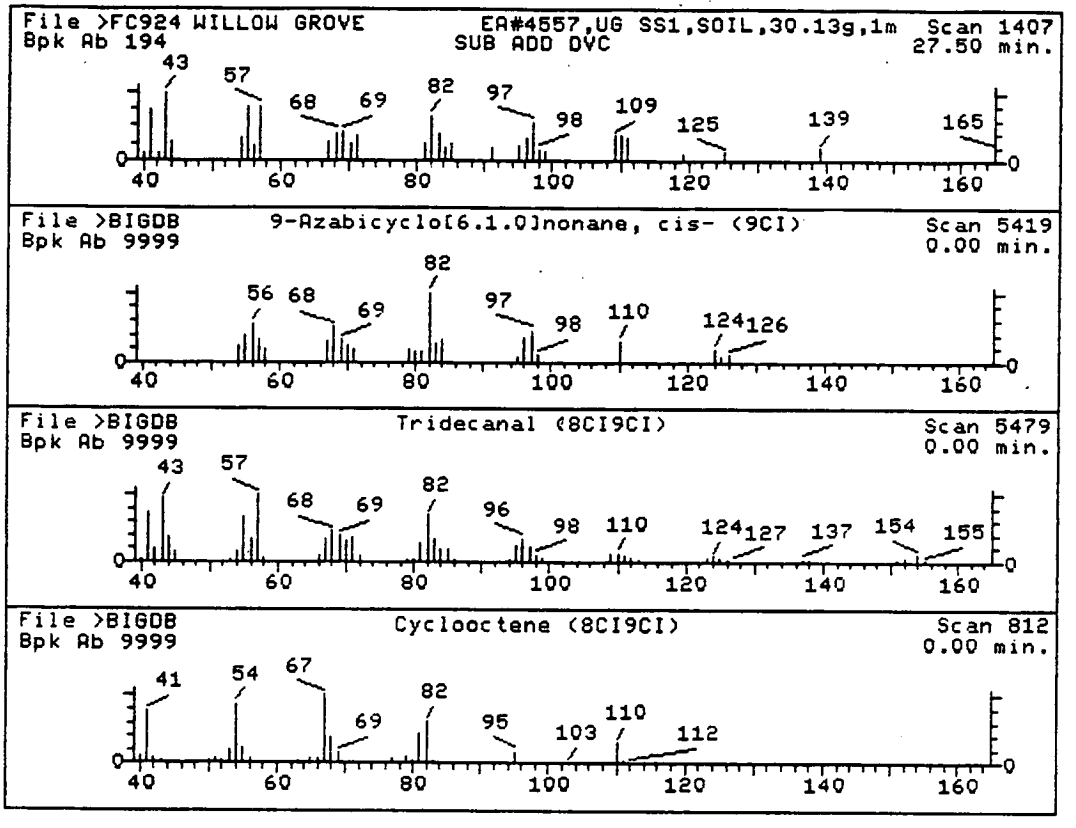
Retention time = 21.10

Area = 33724.00 Tentative Concentration is 230.00

1.	Hexadecanoic acid (9CI)	256	C16H32O2
2.	Dodecanoic acid, silver(1+) salt (9CI)	0	
3.	Dodecanamide, N,N-bis(2-hydroxyethyl)- (8CI9CI)	287	C16H33NO3
4.	Pentadecanoic acid (8CI9CI)	242	C15H30O2
5.	Tetradecanoic acid (9CI)	228	C14H28O2
6.	Heptanoic acid (8CI9CI)	130	C7H14O2
7.	Decanoic acid (8CI9CI)	172	C10H20O2

Sample file: >FC924 Spectrum #: 1054
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	57103	2008	"BIGDB	88	63	1	0	99	17	50	86
2.	60	18268456	1998	"BIGDB	74	101	3	0	92	15	30	13
3.	51	120401	1984	"BIGDB	80	73	1	0	83	30	24	31
4.	45	1002842	2007	"BIGDB	70	80	2	0	90	25	17	16
5.	45	544638	2005	"BIGDB	93	53	2	0	90	32	16	28
6.	43*	111148	1881	"BIGDB	36	61	0	0	82	40	17	32
7.	40	334485	1985	"BIGDB	53	66	0	0	82	35	16	23



Retention time = 27.50

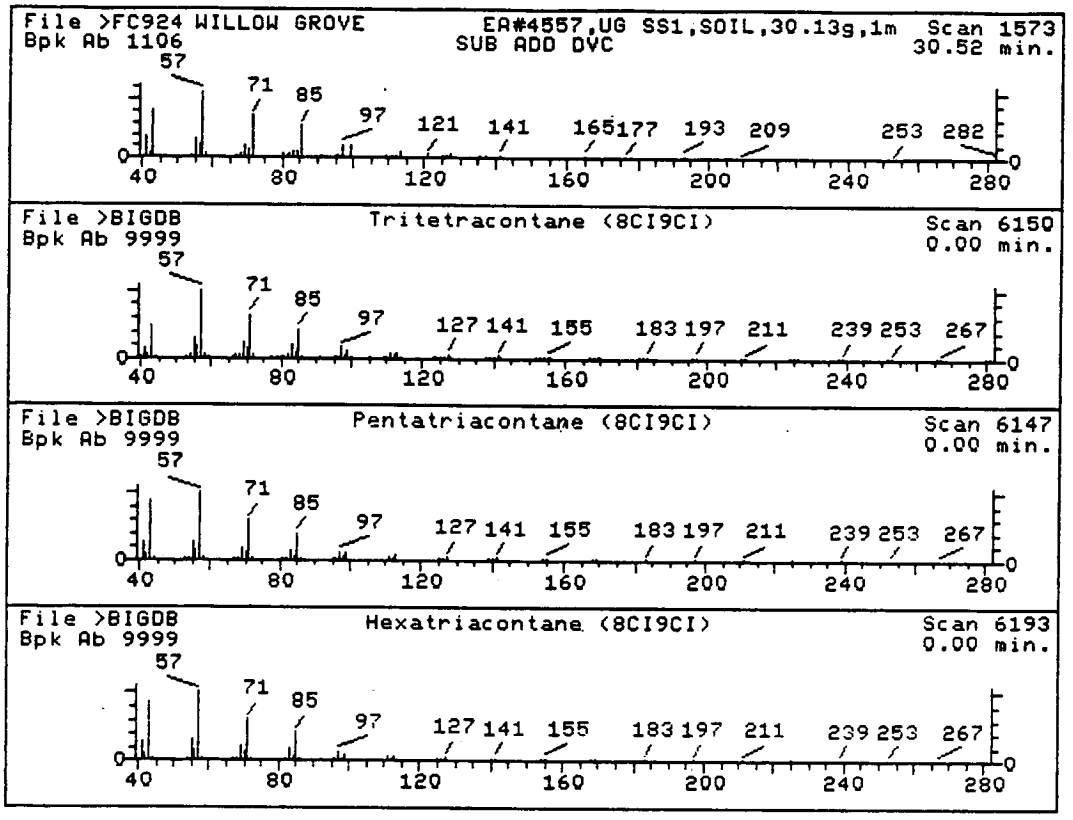
Area = 39903.00 Tentative Concentration is 500.00

1.	9-Azabicyclo[6.1.0]nonane, cis- (9CI)	125	C8H15N
2.	Tridecanal (8CI9CI)	198	C13H26O
3.	Cyclooctene (8CI9CI)	110	C8H14
4.	Bicyclo[5.1.0]octane (8CI9CI)	110	C8H14
5.	Cycloheptane, chloro- (8CI9CI)	132	C7H13Cl
6.	8-Azabicyclo[5.1.0]octane (8CI9CI)	111	C7H13N
7.	Cyclohexane, isocyanato- (9CI)	125	C7H11NO

Unknown

Sample file: >FC924 Spectrum #: 1407
Search speed: 2 Tilting option: S No. of ion ranges search d: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25*	66387857	5419	"BIGDB	25	98	3	0	65	43	8	13
2.	25	10486198	5479	"BIGDB	73	71	2	0	81	47	7	18
3.	20*	931884	812	"BIGDB	30	84	3	0	96	53	5	13
4.	20*	286431	5369	"BIGDB	24	90	3	0	105	54	5	12
5.	15	2453465	5349	"BIGDB	31	59	0	0	65	59	3	17
6.	15*	286442	8105	"BIGDB	33	81	2	0	46	56	3	14
7.	15*	3173533	8294	"BIGDB	27	87	3	0	60	60	3	13



Retention time = 30.52

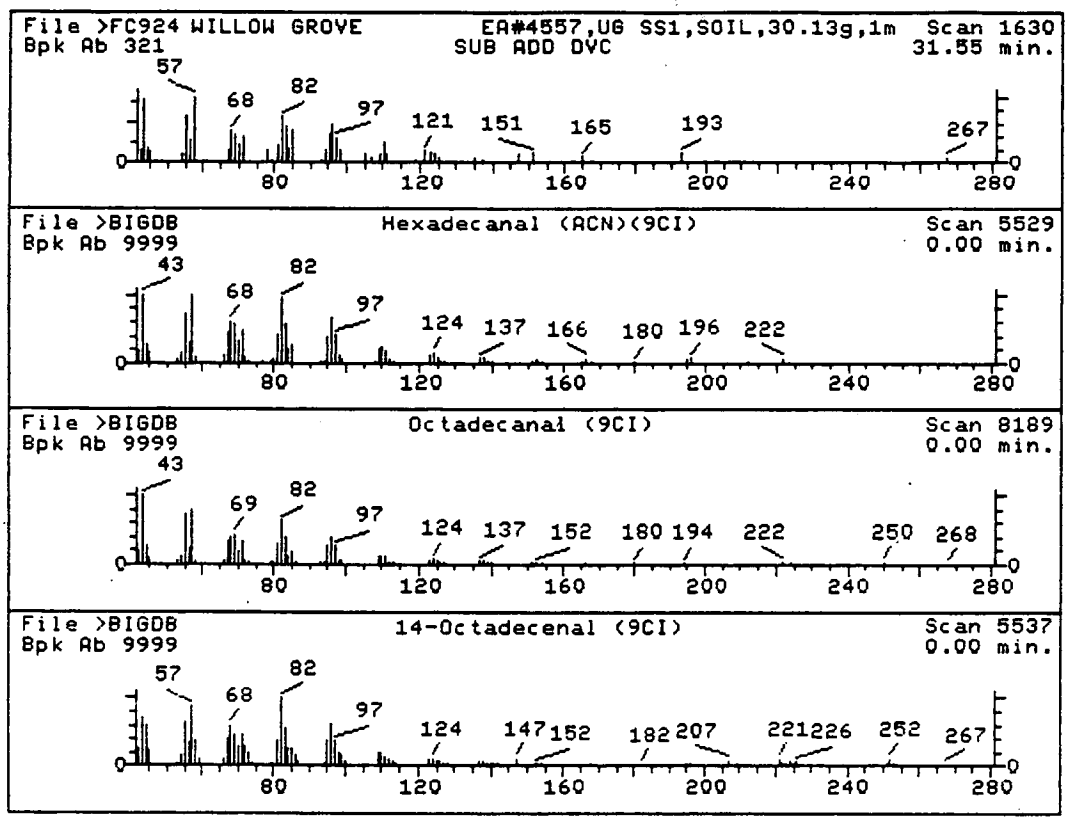
Area = 19515.00 Tentative Concentration is 250.00

Unidentified alkane

1. Tritetracontane (8CI9CI)	604	C43H88
2. Pentatriacontane (8CI9CI)	492	C35H72
3. Hexatriacontane (8CI9CI)	506	C36H74
4. Docosane (8CI9CI)	310	C22H46
5. Heptacosane (8CI9CI)	380	C27H56
6. Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
7. Eicosane, 7-hexyl- (9CI)	366	C26H54

Sample file: >FC924 Spectrum #: 1573
Search speed: 2 Tilting option: S No. of ion ranges searched: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	60	7098217	6150	"BIGDB	76	92	3	0	100	12	30	14
2.	52	630079	6147	"BIGDB	74	77	3	0	80	19	20	13
3.	52	630068	6193	"BIGDB	81	81	3	0	81	19	20	14
4.	49	629970	6221	"BIGDB	80	67	2	0	85	22	22	21
5.	48	593497	6220	"BIGDB	75	78	2	0	81	22	17	19
6.	46	54833486	6161	"BIGDB	71	62	2	0	86	22	17	17
7.	44	55333998	6285	"BIGDB	83	62	3	0	100	22	17	15



Retention time = 31.55

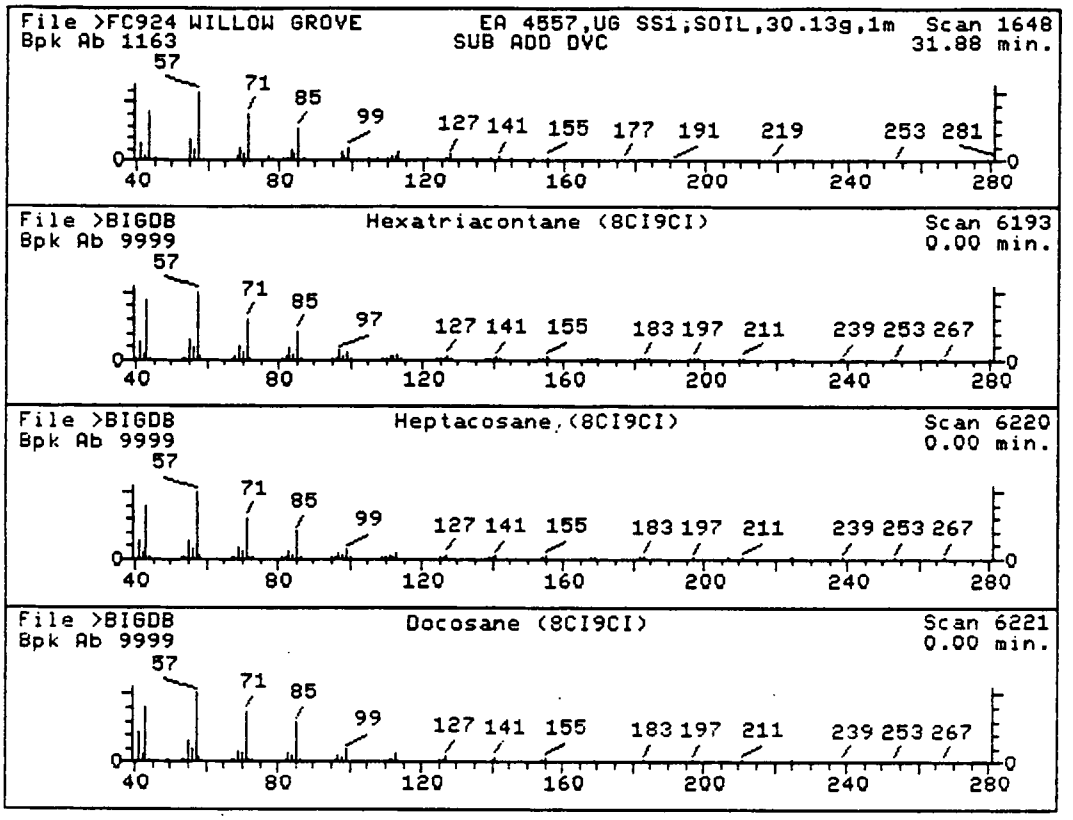
Area = 17215.00 Tentative Concentration is 220.00

1.	Hexadecanal (ACN)(9CI)	240	C16H32O
2.	Octadecanal (9CI)	268	C18H36O
3.	14-Octadecenal (9CI)	266	C18H34O
4.	Tetradecanal (ACN)(9CI)	212	C14H28O
5.	9-Azabicyclo[6.1.0]nonane, cis- (9CI)	125	C8H15N
6.	16-Octadecenal (9CI)	266	C18H34O
7.	7-Azabicyclo[4.1.0]heptane, 1-methyl- (8CI9CI)	111	C7H13N

Unidentified aldehyde

Sample file: >FC924 Spectrum #: 1630
Search speed: 2 Tilting option: S No. of ion ranges searched: 72

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	45	629801	5529	"BIGDB	101	61	3	0	73	28	19	23
2.	40	638664	8189	"BIGDB	88	71	3	0	96	28	14	17
3.	37	56554893	5537	"BIGDB	78	91	3	0	70	28	14	14
4.	36	124254	5498	"BIGDB	101	48	3	0	93	36	14	23
5.	30*	66387857	5419	"BIGDB	49	74	2	0	62	49	10	22
6.	28	56554871	5536	"BIGDB	77	90	3	0	70	36	10	14
7.	20*	25022257	5382	"BIGDB	25	86	2	0	70	55	5	14



Retention time = 31.88

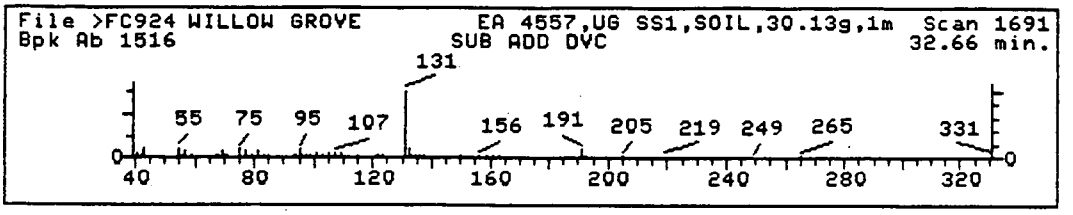
Area = 21785.00 Tentative Concentration is 280.00

1.	Hexatriacontane (8CI9CI)	506	C36H74
2.	Heptacosane (8CI9CI)	380	C27H56
3.	Docosane (8CI9CI)	310	C22H46
4.	Octadecane (8CI9CI)	254	C18H38
5.	Heptadecane, 9-octyl- (8CI9CI)	352	C25H52
6.	Pentatriacontane (8CI9CI)	492	C35H72
7.	Tetratriacontane (8CI9CI)	478	C34H70

Unidentified alkane

Sample file: >FC924 Spectrum #: 1648
Search speed: 2 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	87	630068	6193	"BIGDB	115	47	2	-1	77	5	63	44
2.	87	593497	6220	"BIGDB	110	43	2	0	95	5	63	49
3.	86	629970	6221	"BIGDB	98	49	2	0	82	5	60	31
4.	78	593453	6277	"BIGDB	77	77	3	0	52	5	55	14
5.	76	7225641	6273	"BIGDB	95	48	3	0	100	7	45	21
6.	71	630079	6147	"BIGDB	108	43	2	-2	75	11	38	35
7.	70	14167590	6223	"BIGDB	76	87	3	0	100	7	42	14



Retention time = 32.66

Area = 20937.00 Tentative Concentration is 270.00

Unknown

Sample file: >FC924 Spectrum #: 1691

No data base entries were retrieved.

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4558
SAMPLE: DUP #4
GC/MS FILE: >FC925::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/29/89 1:21
SAMPLE--->EXTRACT:	30.15g-->1mL

CAS #		CONC UG/L	OR UG/KG
108-95-2	Phenol	430.	ND
111-44-4	bis(2-Chloroethyl)ether	430.	ND
95-57-8	2-Chlorophenol	430.	ND
541-73-1	1,3-Dichlorobenzene	430.	ND
106-46-7	1,4-Dichlorobenzene	430.	ND
100-51-6	Benzyl Alcohol	430.	ND
95-50-1	1,2-Dichlorobenzene	430.	ND
95-48-7	2-Methylphenol	430.	ND
39638-32-9	bis(2-chloroisopropyl)ether	430.	ND
106-44-5	4-Methylphenol	430.	ND
621-64-7	N-Nitroso-Di-n-propylamine	430.	ND
67-72-1	Hexachloroethane	430.	ND
98-95-3	Nitrobenzene	430.	ND
78-59-1	Isophorone	430.	ND
88-75-5	2-Nitrophenol	430.	ND
105-67-9	2,4-Dimethylphenol	430.	ND
65-85-0	Benzoic Acid	74.	TR
111-91-1	bis(2-Chloroethoxy)methane	430.	ND
120-83-2	2,4-Dichlorophenol	430.	ND
120-82-1	1,2,4-Trichlorobenzene	430.	ND
91-20-3	Naphthalene	430.	ND
106-47-8	4-Chloroaniline	430.	ND
87-68-3	Hexachlorobutadiene	430.	ND
59-50-7	4-Chloro-3-methylphenol	430.	ND
91-57-6	2-Methylnaphthalene	430.	ND
77-47-4	Hexachlorocyclopentadiene	430.	ND
88-06-2	2,4,6-Trichlorophenol	430.	ND
95-95-4	2,4,5-Trichlorophenol	2100.	ND
91-58-7	2-Chloronaphthalene	430.	ND
88-74-4	2-Nitroaniline	2100.	ND
131-11-3	Dimethylphthalate	430.	ND
208-96-8	Acenaphthylene	430.	ND
99-09-2	3-Nitroaniline	2100.	ND
83-32-9	Acenaphth ne	430.	ND
51-28-5	2,4-Dinitrophenol	2100.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4558
SAMPLE: DUP #4
GC/MS FILE: >FC925::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/29/89 1:21
SAMPLE--->EXTRACT:	30.15g-->1mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	2100.	ND
132-64-9	Dibenzofuran	430.	ND
121-14-2	2,4-Dinitrotoluene	430.	ND
606-20-2	2,6-Dinitrotoluene	430.	ND
84-66-2	Diethylphthalate	430.	ND
7005-72-3	4-Chlorophenyl-phenylether	430.	ND
86-73-7	Fluorene	430.	ND
100-01-6	4-Nitroaniline	2100.	ND
534-52-1	4,6-Dinitro-2-methylphenol	2100.	ND
86-30-6	N-Nitrosodiphenylamine	430.	ND
101-55-3	4-Bromophenyl-phenylether	430.	ND
118-74-1	Hexachlorobenzene	430.	ND
87-86-5	Pentachlorophenol	2100.	ND
85-01-8	Phenanthrene	190.	TR
120-12-7	Anthracene	430.	ND
84-74-2	Di-n-Butyl phthalate	110.	TR
206-44-0	Fluoranthene	280.	TR
129-00-0	Pyrene	210.	TR
85-68-7	Butylbenzylphthalate	430.	ND
91-94-1	3,3'-Dichlorobenzidine	860.	ND
56-55-3	Benzo(a)Anthracene	98.	TR
117-81-7	bis(2-Ethylhexyl)phthalate	430.	ND
218-01-9	Chrysene	120.	TR
117-84-0	Di-n-Octyl phthalate	430.	ND
205-99-2	Benzo(b)Fluoranthene	89.	TR
207-08-9	Benzo(k)Fluoranthene	100.	TR
50-32-8	Benzo(a)Pyrene	100.	TR
193-39-5	Indeno(1,2,3-cd)Pyrene	56.	TR
53-70-3	Dibenzo(a,h)Anthracene	430.	ND
191-24-2	Benzo(g,h,i)Perylene	57.	TR

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DUP#4

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: EA# 4558

Sample wt/vol: 30.15 (g/mL) g Lab File ID: >FC 925

Level: (low/med) LOW Date Received: 9/25/89

% Moisture: not dec. 22.6 dec. _____ Date Extracted: 9/26/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 9/29/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: —

Number TICs found: 5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unidentified ester	20.06	250	J
2.	—	Unknown	27.46	300	J
3.	—	Unknown	30.09	200	J
4.	—	Unidentified alkane	31.69	180	J
5.	—	Unknown alcohol	32.24	350	J
6.					
7.					
8.					
9.					
10.					
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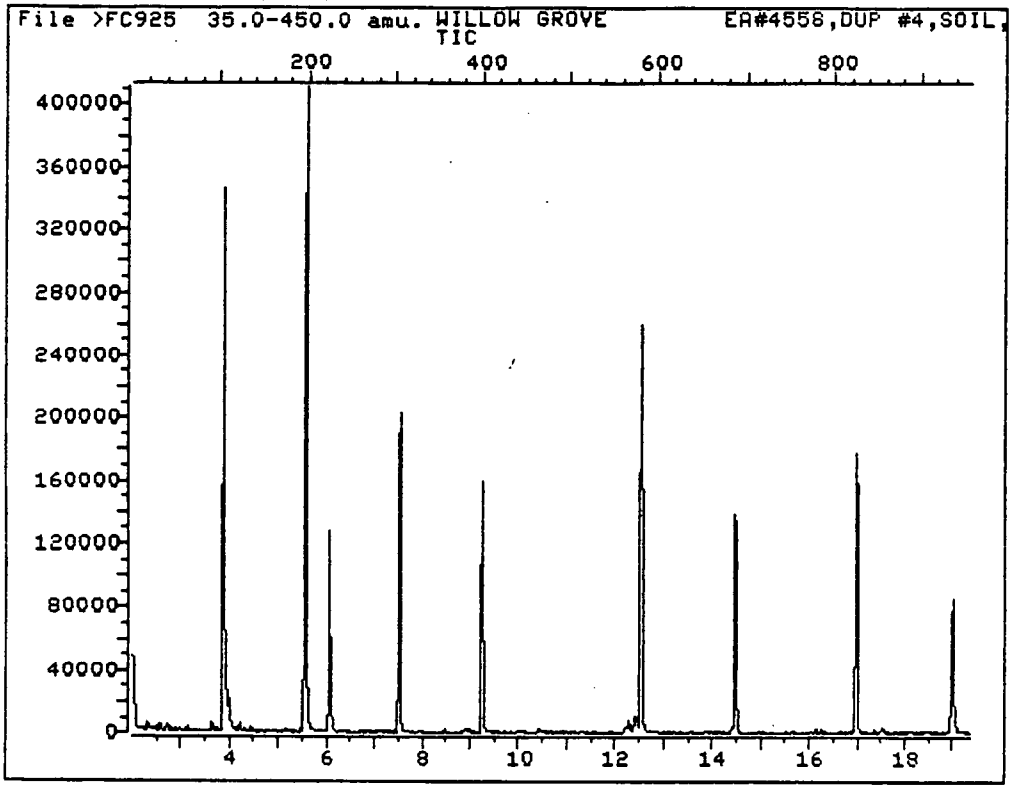
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



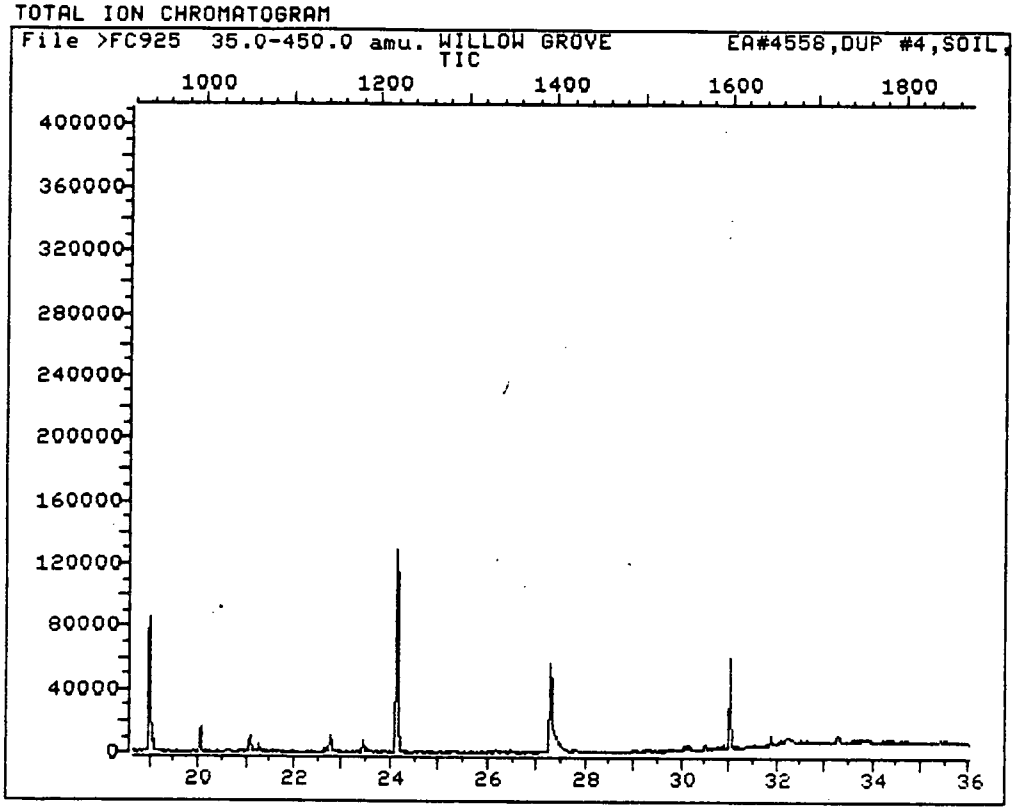
Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 02:00
Injected at: 890929 01:21

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 02:00
Injected at: 890929 01:21

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE
Output File: ^FC925::QT
Data File: >FC925::D5
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL,

Quant Rev: 6
Quant Time: 890929 02:00
Injected at: 890929 01:21
Dilution Factor: 1.00000

BTL# 7

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	6.06	152.0	47862	40.00	NG	98
2)	2-Fluorophenol	3.86	112.0	230281	162.66	NG 81%	83
3)	Phenol-d5	5.57	99.0	303696	199.75	NG /100%	94
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	9.25	136.0	169838	40.00	NG	89
17)	Nitrobenzene-d5	7.53	82.0	154891	109.71	NG 110%	91
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	8.89	122.0	888	1.74	NG ✓	95
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	H xachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	14.48	164.0	73915	40.00	NG	97
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	12.54	172.0	228489	102.55	NG /103%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	14.49	163.0	24918	~~10.31~~	NG	53
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

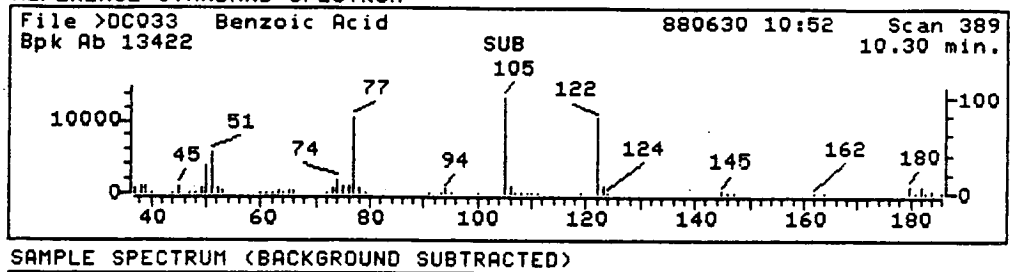
QUANT REPORT
page 2

Output File:^FC925:: Data File:>FC925::D5

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	16.25	149.0	1655	~~.72~~	NG	91
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	16.13	166.0	564	~~.33~~	NG	99
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	19.01	188.0	84524	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	16.98	329.9	62736	225.22	NG 113%	98
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	19.07	178.0	8615	4.47	NG	97
59)	Anthracene	19.21	178.0	769	~~.44~~	NG	99
60)	Di-n-Butyl phthalate	21.28	149.0	7510	2.62	NG	96
61)	Fluoranthene	22.78	202.0	10874	6.47	NG	94
62)	*d12-Chrysene	27.30	240.0	43400	40.00	NG	98
63)	Pyrene	23.45	202.0	8468	4.89	NG	99
64)	Terphenyl-d14	24.14	244.0	131157	105.76	NG 106%	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	27.24	228.0	2545	2.28	NG	93
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	27.37	228.0	3048	2.77	NG	95
70)	*d12-Perylene	31.04	264.0	50521	40.00	NG	94
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	30.15	252.0	2514	2.08	NG	92
73)	Benzo(k)Fluoranthene	30.20	252.0	2564	2.35	NG	96
74)	Benzo(a)Pyrene	30.89	252.0	2487	2.38	NG	94
75)	Indeno(1,2,3-cd)Pyrene	33.29	276.0	1686	1.30	NG	93
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG ND	
77)	Benzo(g,h,i)Perylene	33.93	276.0	1475	1.32	NG	88

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



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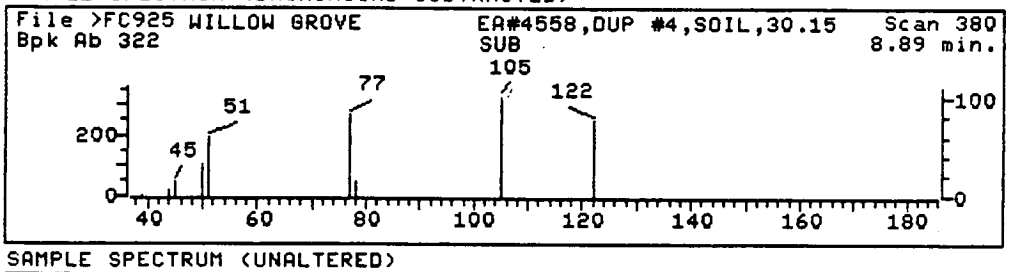

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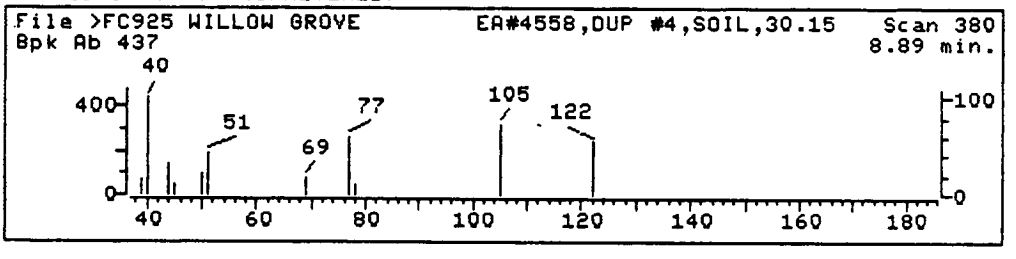
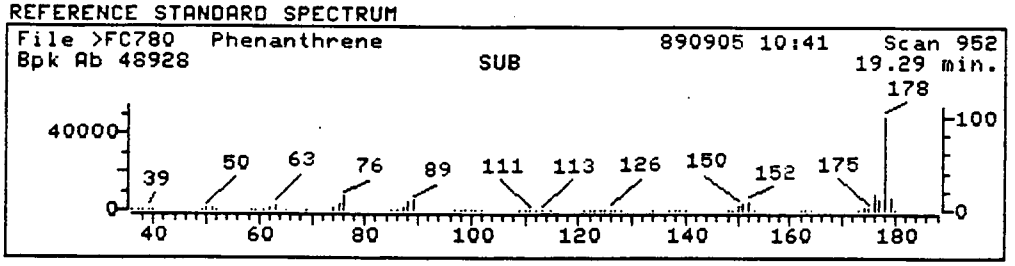


Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 22
Compound Name: Benzoic Acid
Scan Number: 380
Retention Time: 8.89 min.
Quant Ion: 122.0
Area: 888
Concentration: 1.74 NG
q-value: 95

REFERENCE STANDARD SPECTRUM



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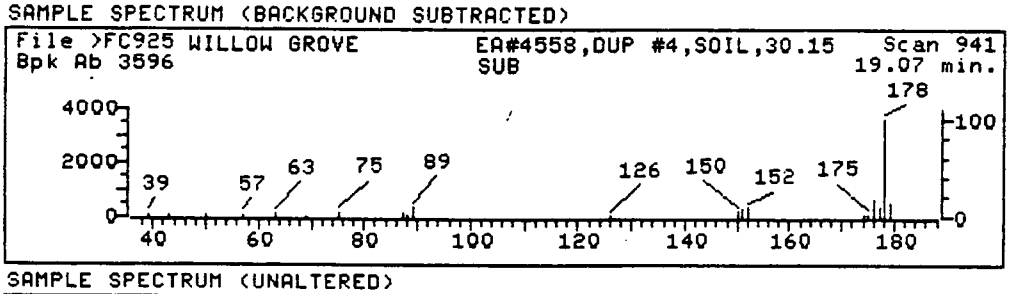

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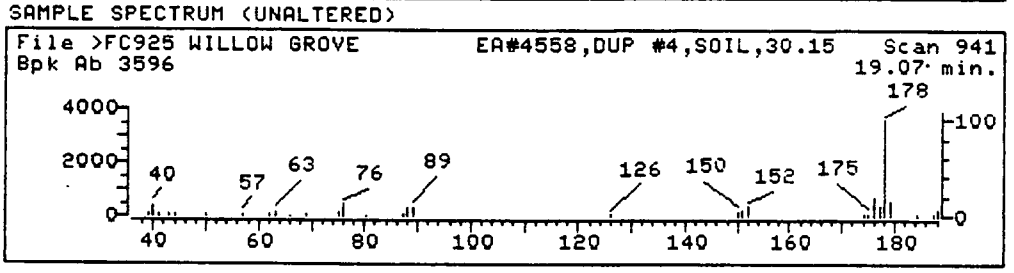
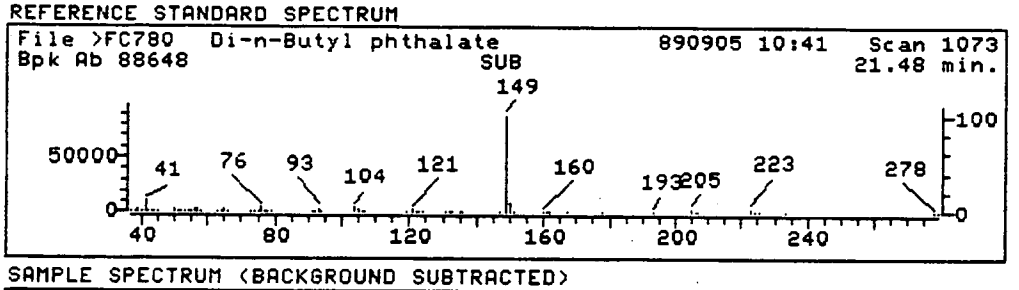


Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 941
Retention Time: 19.07 min.
Quant Ion: 178.0
Area: 8615
Concentration: 4.47 NG
q-value: 97

REFERENCE STANDARD SPECTRUM



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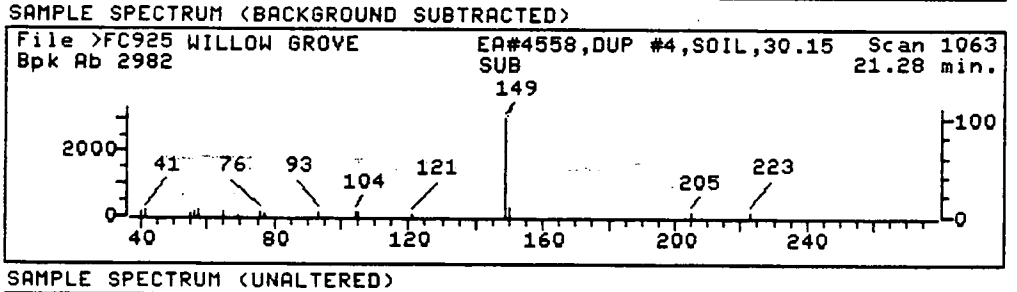

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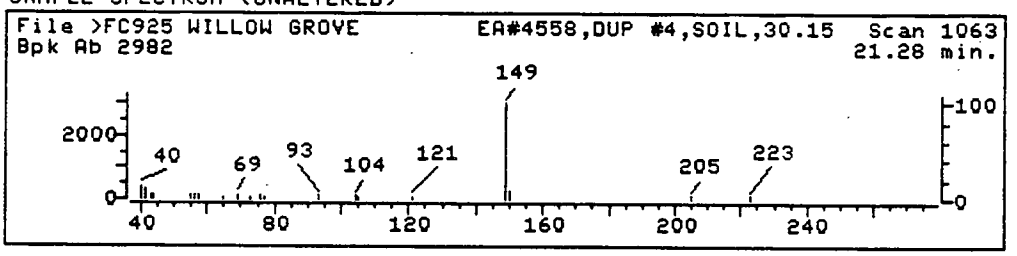

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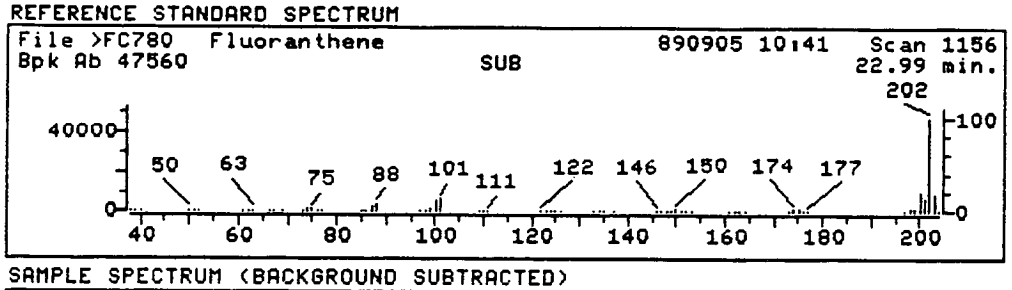
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 60
Compound Name: Di-n-Butyl phthalate
Scan Number: 1063
Retention Time: 21.28 min.
Quant Ion: 149.0
Area: 7510
Concentration: 2.62 NG
q-value: 96

REFERENCE STANDARD SPECTRUM



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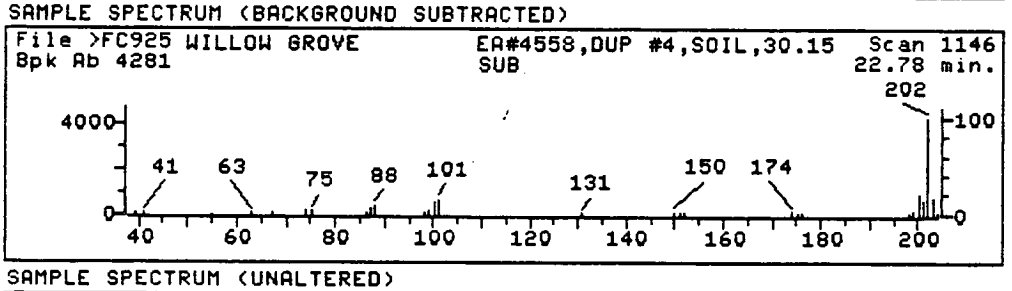

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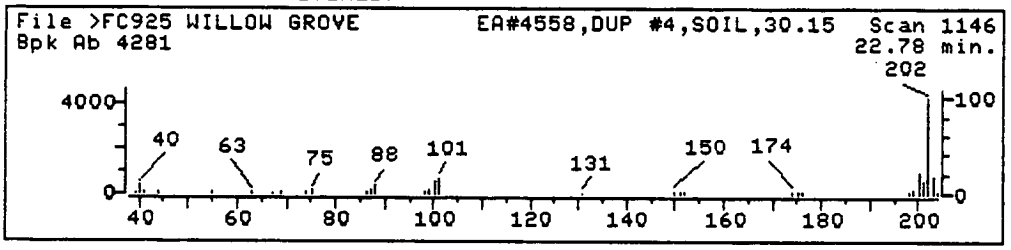
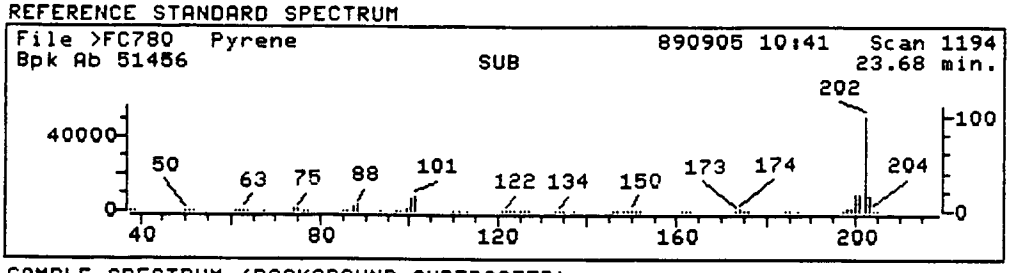


Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1146
Retention Time: 22.78 min.
Quant Ion: 202.0
Area: 10874
Concentration: 6.47 NG
q-value: 94

REFERENCE STANDARD SPECTRUM



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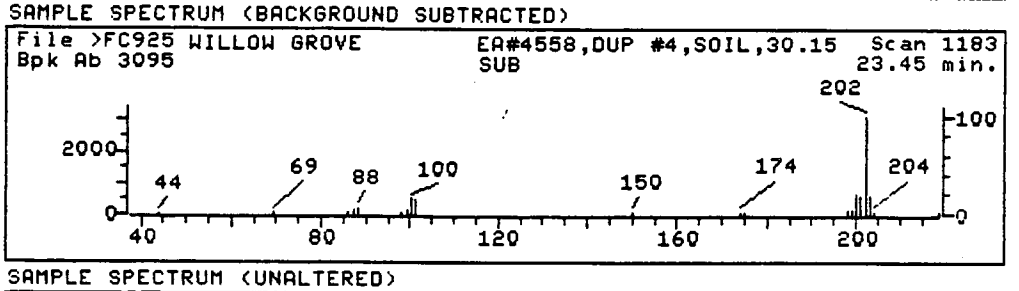

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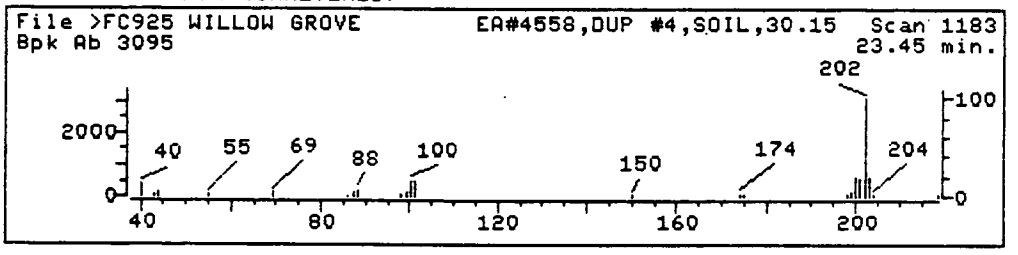
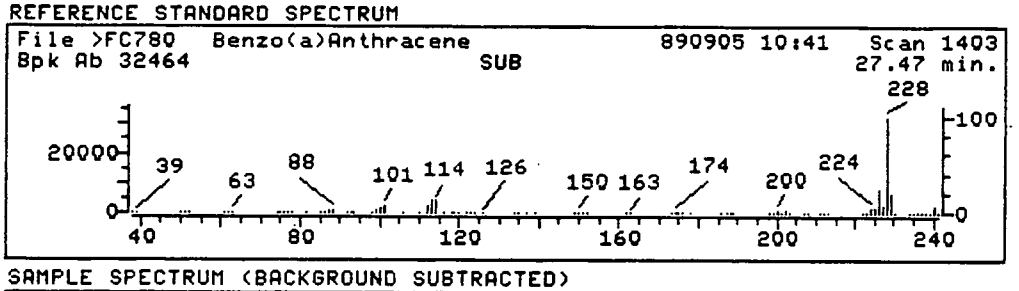


Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 63
Compound Name: Pyrene
Scan Number: 1183
Retention Time: 23.45 min.
Quant Ion: 202.0
Area: 8468
Concentration: 4.89 NG
q-value: 99

REFERENCE STANDARD SPECTRUM



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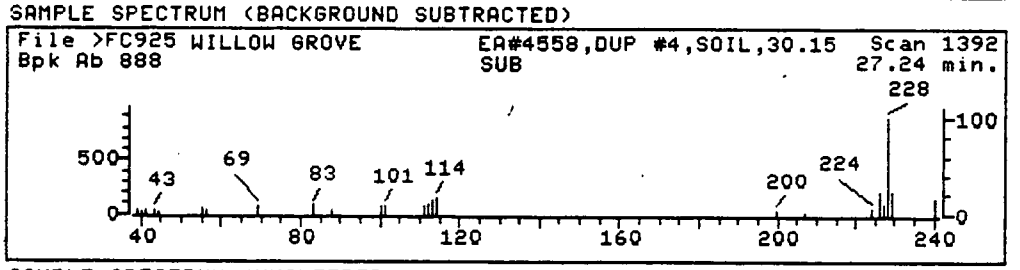

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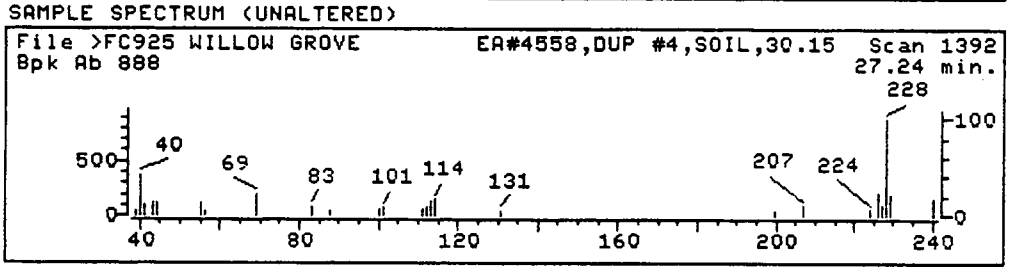
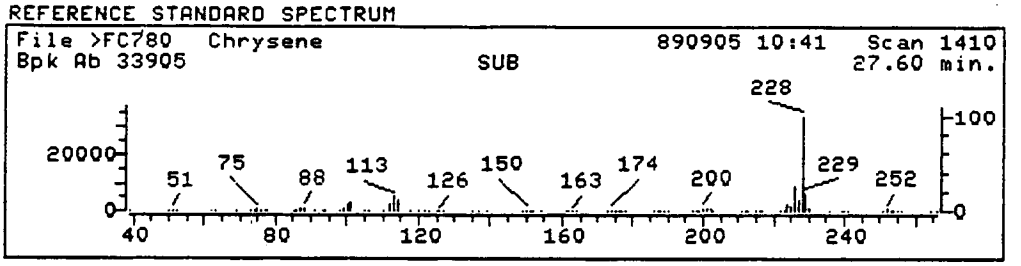


Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1392
Retention Time: 27.24 min.
Quant Ion: 228.0
Area: 2545
Concentration: 2.28 NG
q-value: 93

REFERENCE STANDARD SPECTRUM



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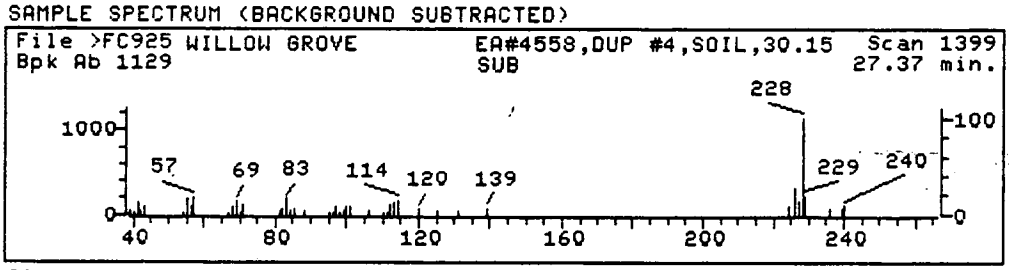

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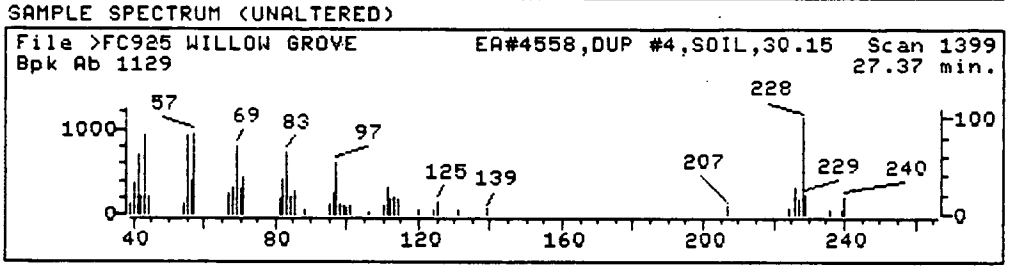

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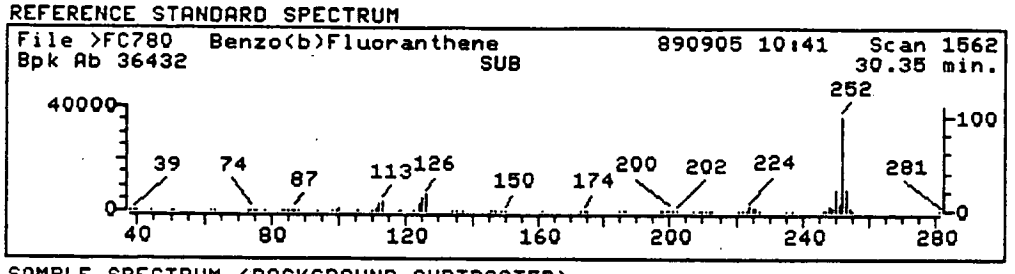
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 69
Compound Name: Chrysene
Scan Number: 1399
Retention Time: 27.37 min.
Quant Ion: 228.0
Area: 3048
Concentration: 2.77 NG
q-value: 95

REFERENCE STANDARD SPECTRUM



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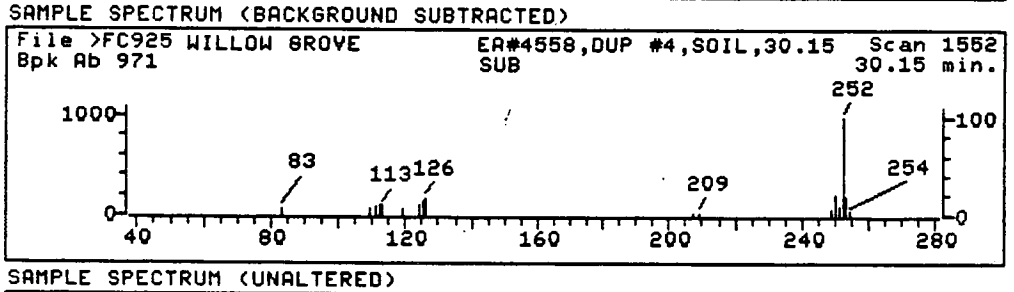
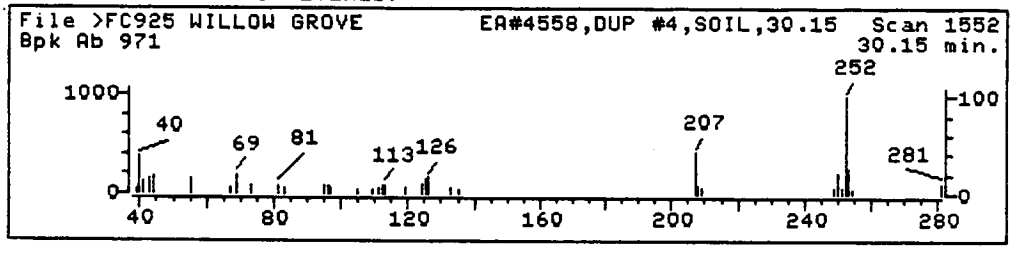


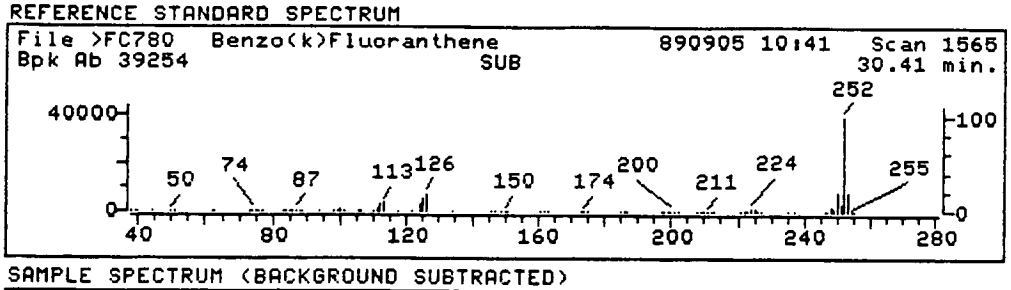
SAMPLE SPECTRUM (UNALTERED)



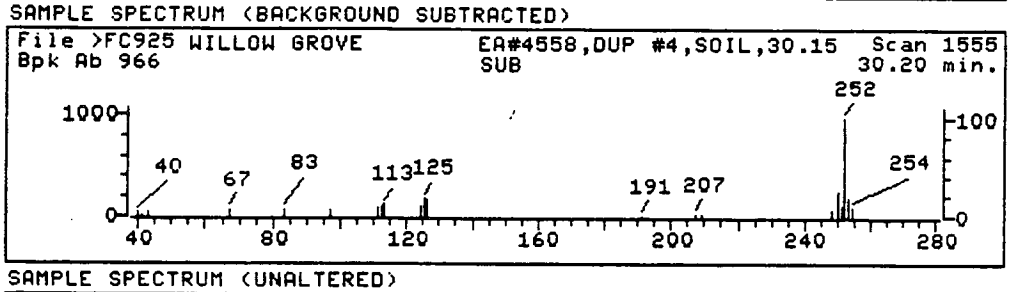
Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1552
Retention Time: 30.15 min.
Quant Ion: 252.0
Area: 2514
Concentration: 2.08 NG
q-value: 92

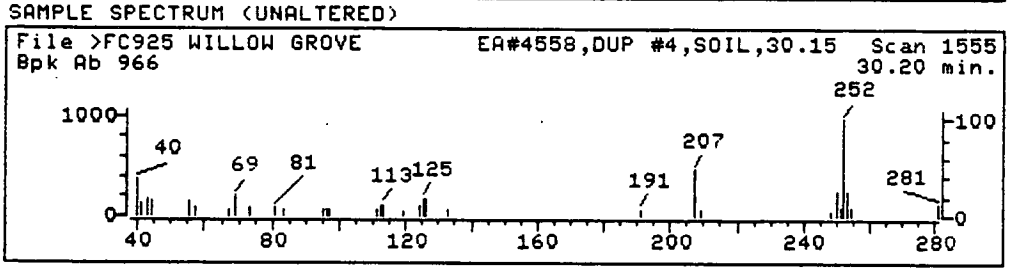
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



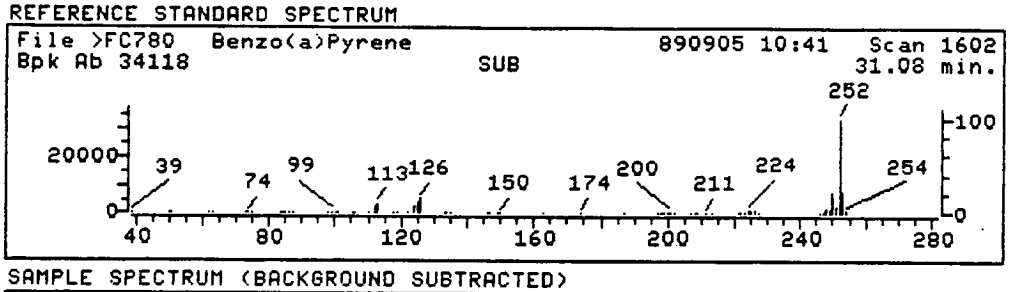
SAMPLE SPECTRUM (UNALTERED)



Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1555
Retention Time: 30.20 min.
Quant Ion: 252.0
Area: 2564
Concentration: 2.35 NG
q-value: 96

REFERENCE STANDARD SPECTRUM



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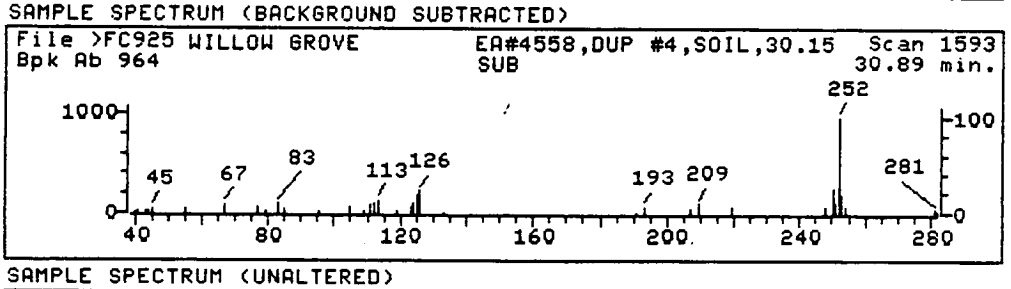
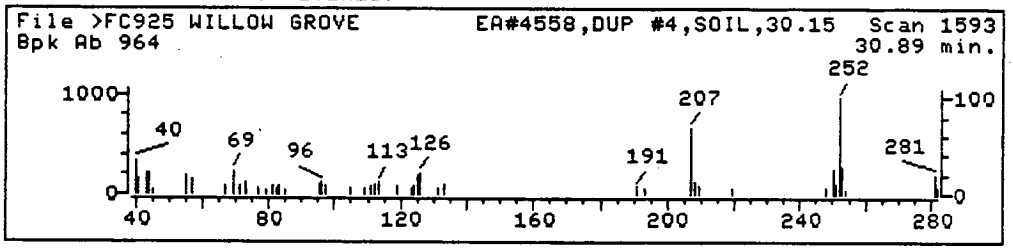


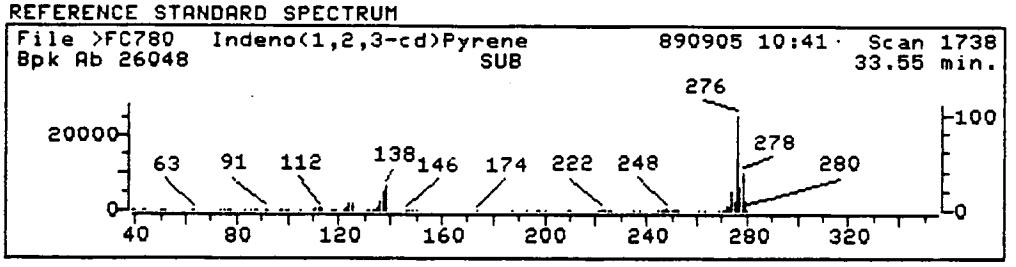
SAMPLE SPECTRUM (UNALTERED)



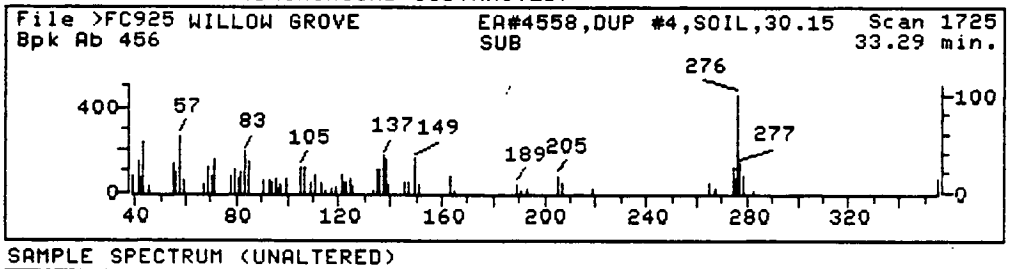
Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1593
Retention Time: 30.89 min.
Quant Ion: 252.0
Area: 2487
Concentration: 2.38 NG
q-value: 94

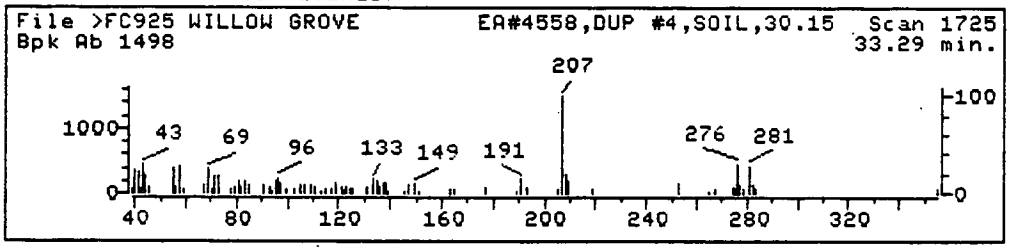
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



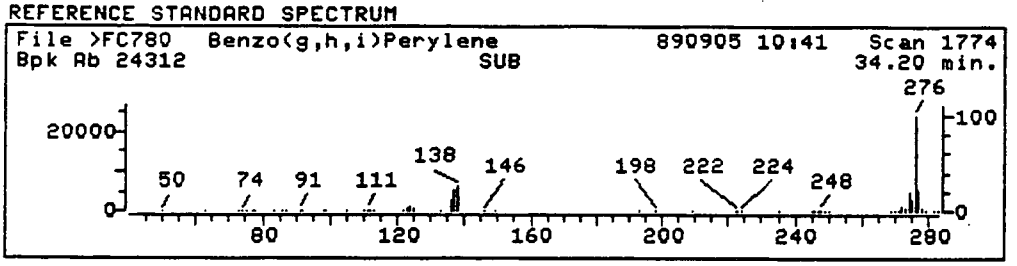
SAMPLE SPECTRUM (UNALTERED)



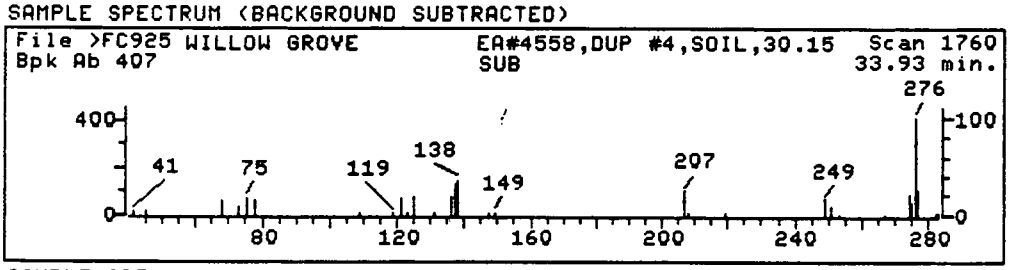
Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1725
Retention Time: 33.29 min.
Quant Ion: 276.0
Area: 1686
Concentration: 1.30 NG
q-value: 93

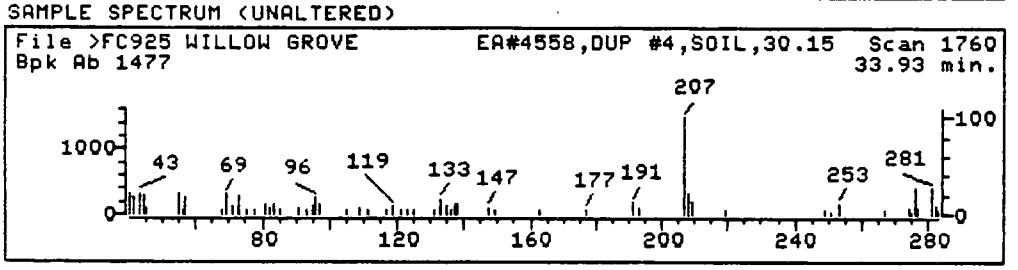
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

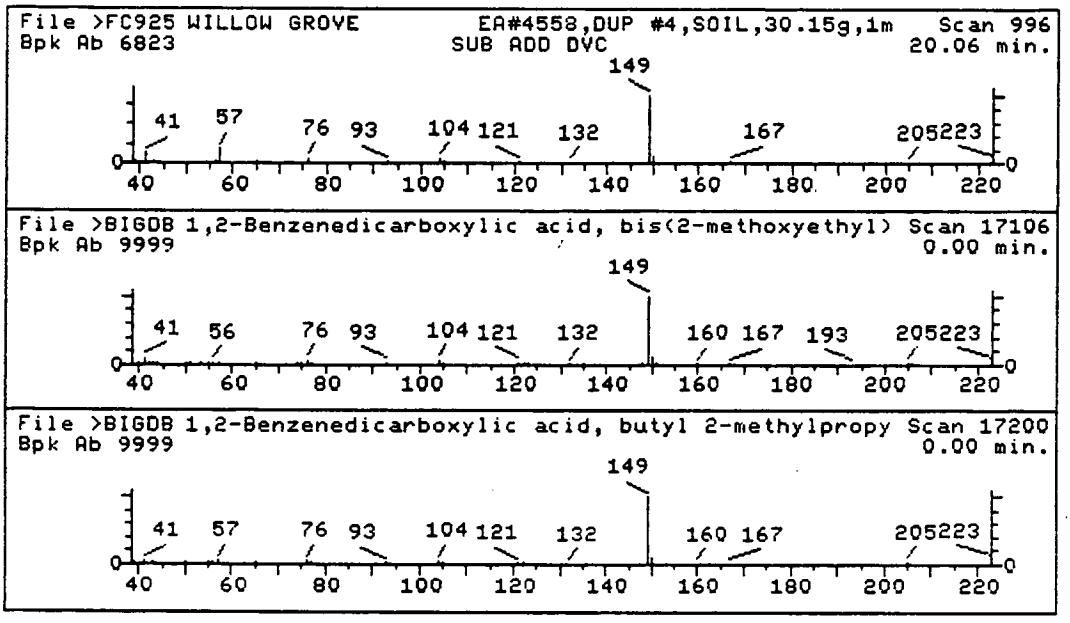


SAMPLE SPECTRUM (UNALTERED)



Data File: >FC925::D5 Quant Output File: ^FC925::QT
Name: WILLOW GROVE
Misc: EA#4558,DUP #4,SOIL,30.15g,1mL, BTL# 7
Quant Time: 890929 02:00 Quant ID File: IDFCLP::BD
Injected at: 890929 01:21 Last Calibration: 890928 19:49

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1760
Retention Time: 33.93 min.
Quant Ion: 276.0
Area: 1475
Concentration: 1.32 NG
q-value: 88



Retention time = 20.06

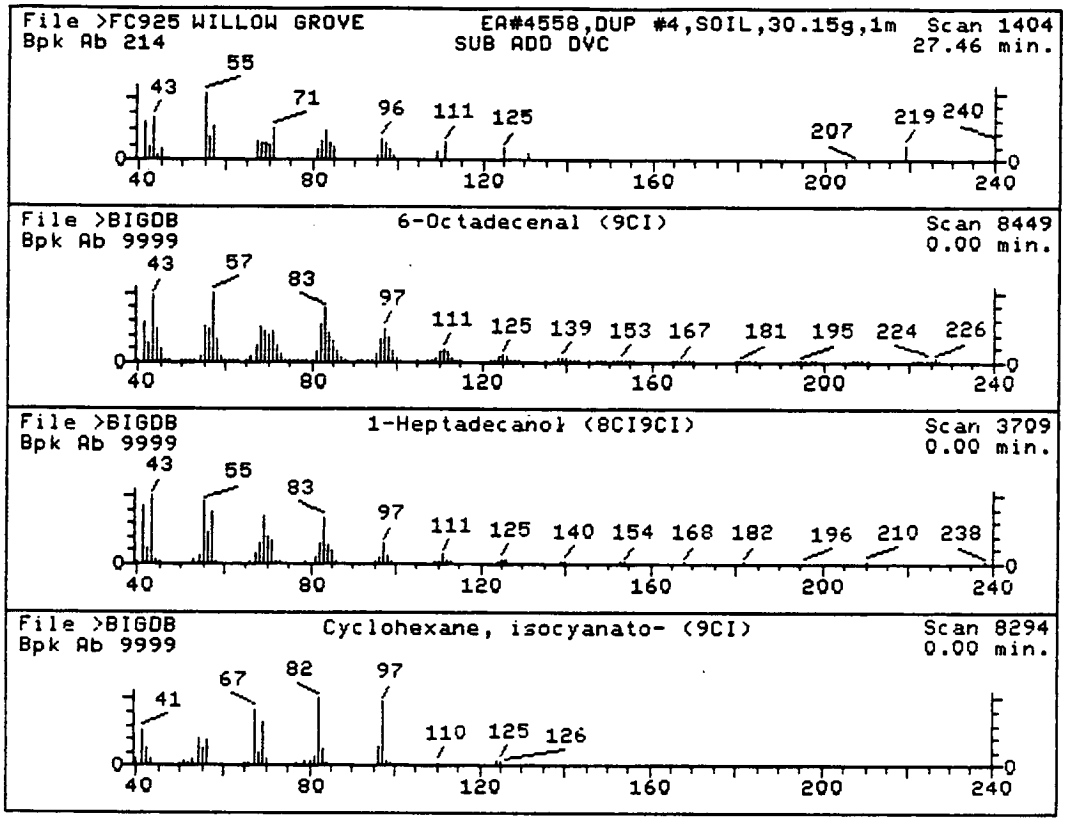
Area = 36885.00 Tentative Concentration is 250.00

Unidentified ester

1. 1,2-Benzenedicarboxylic acid, bis(2-methoxyethyl) es 282 C14H18O6
   ter (9CI)
2. 1,2-Benzenedicarboxylic acid, butyl 2-methylpropyl e 278 C16H22O4
   ster (9CI)

Sample file: >FC925 Spectrum #: 996
Search speed: 2 Tilting option: S No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	76	117828	17106	"BIGDB	66	36	2	0	89	6	45	23
2.	70	17851535	17200	"BIGDB	61	45	2	0	100	6	42	14



Retention time = 27.46

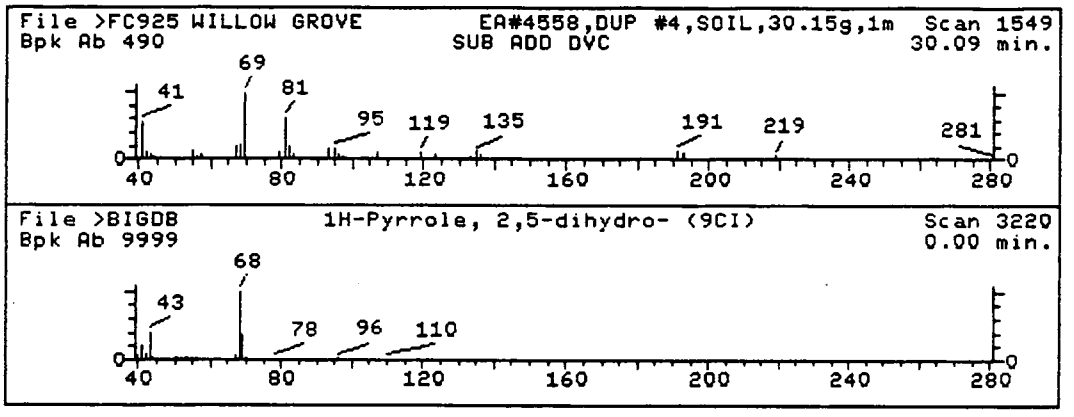
Area = 49220.00 Tentative Concentration is 300.00

1.	6-Octadecenal (9CI)	266	C18H34O
2.	1-Heptadecanol (8CI9CI)	256	C17H36O
3.	Cyclohexane, isocyanato- (9CI)	125	C7H11NO
4.	7-Azabicyclo[4.1.0]heptane, 2-methyl- (9CI)	111	C7H13N
5.	1H-1,2,4-Triazole, 1-butyl- (8CI9CI)	125	C6H11N3

Unknown

Sample file: >FC925 Spectrum #: 1404
Search speed: 2 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	35	56554973	8449	"BIGDB	71	98	3	0	50	30	14	12
2.	30	1454859	3709	"BIGDB	73	82	2	0	60	45	8	18
3.	27*	3173533	8294	"BIGDB	26	88	3	0	192	38	10	13
4.	25*	55903156	8110	"BIGDB	26	82	3	0	179	45	8	13
5.	11*	6086222	12958	"BIGDB	23	80	2	0	33	61	2	13



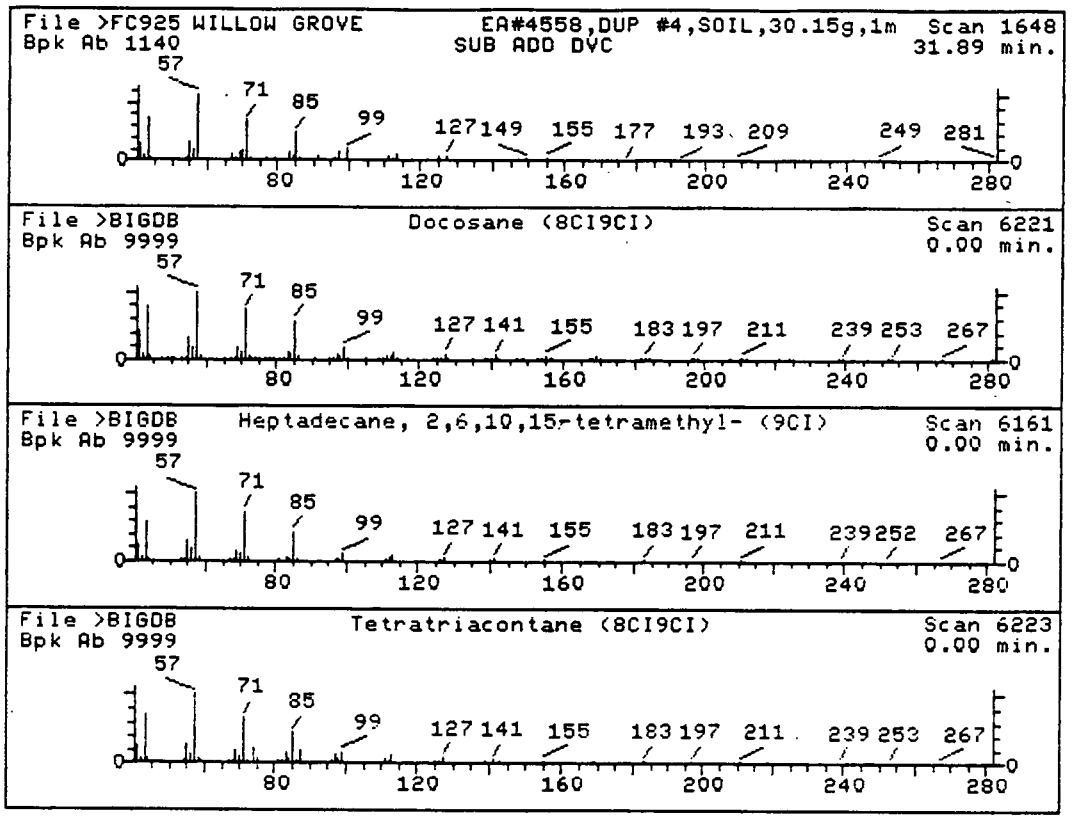
Retention time = 30.09

Area = 16637.00 Tentative Concentration is 200.00

1. 1H-Pyrrole, 2,5-dihydro- (9CI) Unknown 69 C4H7N

Sample file: >FC925 Spectrum #: 1549
Search speed: 2 Tilting option: S No. of ion ranges searched: 49

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	109966	3220	"BIGDB	22	49	3	0	281	53	5	12



Retention time = 31.89

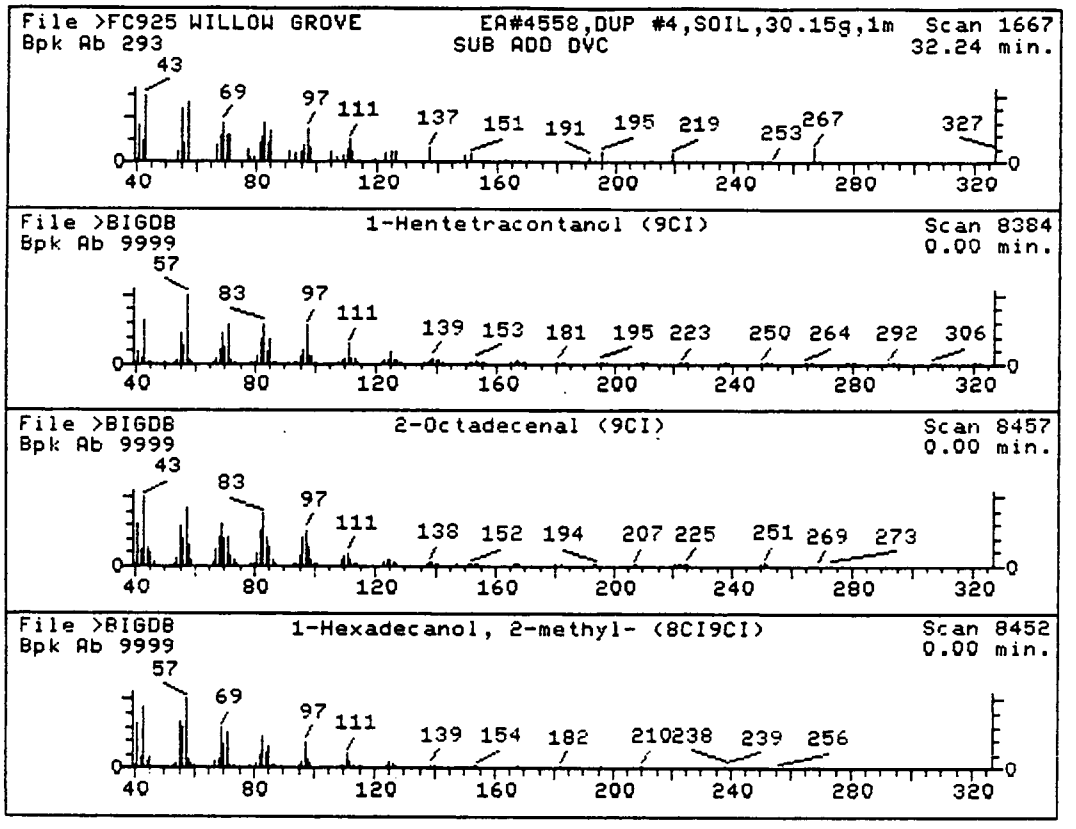
Area = 15432.00 Tentative Concentration is 180.00

1.	Docosane (8CI9CI)	310	C22H46
2.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
3.	Tetratriacontane (8CI9CI)	478	C34H70
4.	Heptadecane, 9-octyl- (8CI9CI)	352	C25H52
5.	Eicosane, 7-hexyl- (9CI)	366	C26H54
6.	Heptacosane (8CI9CI)	380	C27H56
7.	Tetratetracontane (8CI9CI)	618	C44H90

Unidentified alkane

Sample file: >FC925 Spectrum #: 1648
Search speed: 2 Tilting option: S No. of ion ranges searched: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79	629970	6221	"BIGDB	98	49	2	0	75	7	48	31
2.	70	54833486	6161	"BIGDB	66	67	2	0	81	9	42	14
3.	70	14167590	6223	"BIGDB	76	87	3	0	90	7	42	14
4.	70	7225641	6273	"BIGDB	88	55	3	0	97	7	42	17
5.	70	55333998	6285	"BIGDB	82	63	3	0	99	9	42	15
6.	67	593497	6220	"BIGDB	94	59	2	0	82	13	34	28
7.	67	7098228	8906	"BIGDB	87	69	2	0	90	15	34	25



Retention time = 32.24

Area = 29495.00 Tentative Concentration is 350.00

1. 1-Hentetracontanol (9CI)	592	C41H84O
2. 2-Octadecenal (9CI)	266	C18H34O
3. 1-Hexadecanol, 2-methyl- (8CI9CI)	256	C17H36O
4. H xadecanol (VAN8CI9CI)	242	C16H34O
5. 1-Pentadecanol (8CI9CI)	228	C15H32O
6. 1-Hexadecanol (9CI)	242	C16H34O
7. Phosphonic acid, dioctadecyl ester (8CI9CI)	586	C36H75O3P

Unknown alcohol

Sample file: >FC925 Spectrum #: 1667
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	30	40710427	8384	"BIGDB	82	113	2	0	88	50	10	22
2.	25	56554962	8457	"BIGDB	74	91	3	0	79	41	8	13
3.	25	2490484	8452	"BIGDB	74	73	3	0	121	50	7	13
4.	24	29354981	8429	"BIGDB	80	87	2	0	65	54	7	21
5.	24	629765	8410	"BIGDB	75	88	1	0	59	54	7	29
6.	24	36653824	8447	"BIGDB	92	69	2	0	73	54	7	27
7.	21	19047859	8329	"BIGDB	78	122	1	0	64	58	5	30

C. Standards Data

Initial Calibration Data
HSL Compounds

Case No: WILLOW GROVE

Instrument ID: GC/MS#6(F)

Contractor: EA LABORATORIES

Calibration Date: 09/~~27~~21/89

Contract No: 10388.05

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Compound	Laboratory ID: >FC865 RF 20.00	>FC861 RF 50.00	>FC864 RF 80.00	>FC863 RF 120.00	>FC862 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
2-Fluorophenol	1.24568	1.23027	1.15912	1.14176	1.10943	.640	1.17725	4.968		
Phenol-d5	1.42192	1.42870	1.27569	1.22441	1.15894	.919	1.30193	9.218		
Phenol	1.66720	1.65354	1.48828	1.48255	1.35953	.923	1.53022	8.467	*	
bis(2-Chloroethyl)ether	1.54909	1.53674	1.35782	1.27514	1.21172	.940	1.38610	10.988		
2-Chlorophenol	1.40631	1.30817	1.22660	1.18253	1.10450	.944	1.24562	9.327		
1,3-Dichlorobenzene	1.63494	1.50698	1.40261	1.34667	1.25836	.985	1.42991	10.199		
1,4-Dichlorobenzene	1.63231	1.49986	1.40261	1.34667	1.25836	.993	1.42796	10.084	*	
Benzyl Alcohol	.51009	.64004	.58826	.55043	.64728	1.081	.58722	9.966		
1,2-Dichlorobenzene	1.58774	1.49813	1.40532	1.31259	1.22564	1.072	1.40588	10.232		
2-Methylphenol	1.12823	1.09668	.96794	1.03515	.99011	1.134	1.04362	6.541		
bis(2-Chloroisopropyl)ether	3.35481	3.27328	3.09195	2.94820	2.90025	1.130	3.11370	6.363		
4-Methylphenol	1.12448	1.10488	1.02365	1.07300	1.03961	1.198	1.07312	3.958		
N-Nitroso-Di-n-propylamine	1.33666	1.31438	1.26225	.89093	.81346	1.193	1.12354	22.311		**
Hexachloroethane	.78951	.76578	.69634	.66285	.63281	1.181	.70946	9.403		
Nitrobenzene-d5	.38397	.38434	.36189	.36847	.36406	.814	.37255	2.915		
Nitrobenzene	.40116	.38666	.36831	.36316	.35853	.819	.37557	4.753		
Isophorone	.89720	.87479	.82381	.83775	.86073	.882	.85885	3.395		
2-Nitrophenol	.21367	.20912	.20895	.20825	.20266	.904	.20853	1.880	*	
2,4-Dimethylphenol	.35408	.34170	.34207	.34710	.35105	.929	.34720	1.569		
Benzoic Acid	-	.15181	.08571	.15147	.14610	.987	.13378	24.031		
bis(2-Chloroethoxy)methane	.39421	.38271	.37014	.37037	.36882	.956	.37725	2.923		
2,4-Dichlorophenol	.29318	.28119	.28024	.27970	.26170	.972	.27920	4.033	*	
1,2,4-Trichlorobenzene	.36002	.32795	.32413	.31426	.29953	.988	.32518	6.876		
Naphthalene	1.01034	.92679	.84708	.83135	.78098	1.006	.87931	10.240		
4-Chloroaniline	.36809	.34382	.33087	.33008	.31035	1.046	.33664	6.315		
Hexachlorobutadiene	.27115	.22095	.22422	.21107	.19851	1.058	.22518	12.248	*	
4-Chloro-3-methylphenol	.26740	.28085	.27565	.28252	.26961	1.207	.27521	2.423	*	
2-Methylnaphthalene	.67270	.60017	.58953	.57897	.50775	1.217	.58982	9.969		
Hexachlorocyclopentadiene	.53920	.53111	.54012	.50999	.46954	.825	.51799	5.730		**
2,4,6-Trichlorophenol	.42852	.41161	.39854	.38820	.37047	.851	.39947	5.542	*	

RF - Response Factor (Subscript is amount in NG)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Willow Grove

Instrument ID: GC/MS#6(F)

Contractor: EA LABORATORIES

Calibration Date: 09/~~22~~21/89 (JD)

Contract No: 10388.05

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Compound	Laboratory ID: >FC865 RF 20.00	>FC861 RF 50.00	>FC864 RF 80.00	>FC863 RF 120.00	>FC862 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
2,4,5-Trichlorophenol	.41294	.41574	.43039	.41088	.38183	.858	.41036	4.310		
2-Chloronaphthalene	1.25559	1.12161	1.05316	.99296	.94281	.880	1.07323	11.359		
2-Fluorobiphenyl	1.55600	1.38994	1.31010	1.21771	1.14579	.867	1.32391	12.027		
2-Nitroaniline	-	.35756	.34336	.34665	.32489	.925	.34312	3.959		
Dimethylphthalate	1.61949	1.49685	1.45899	1.41129	1.33779	.973	1.46488	7.159		
Acenaphthylene	2.05351	1.88848	1.78559	1.64202	1.54754	.967	1.78343	11.201		
3-Nitroaniline	-	.23256	.21443	.22504	.19924	1.015	.21782	6.633		
Acenaphthene	1.31930	1.21538	1.12411	1.04076	.97735	1.007	1.13538	12.002	*	
2,4-Dinitrophenol	-	.12985	.12694	.15434	.14245	1.035	.13840	9.089		**
4-Nitrophenol	-	.08072	.07604	.08559	.07600	1.064	.07959	5.749		**
Dibenzofuran	1.59247	1.49178	1.37847	1.33602	1.22262	1.040	1.40427	10.158		
2,4-Dinitrotoluene	.34019	.35572	.33252	.34249	.31095	1.066	.33638	4.902		
2,6-Dinitrotoluene	.31699	.32355	.31627	.31401	.30558	.988	.31528	2.056		
Diethylphthalate	1.59011	1.44390	1.37928	1.32757	1.23547	1.122	1.39527	9.528		
4-Chlorophenyl-phenylether	.56871	.51621	.47239	.45107	.41451	1.120	.48458	12.321		
Fluorene	1.19224	1.12781	1.04102	.99634	.90554	1.113	1.05259	10.631		
4-Nitroaniline	-	.15642	.14311	.14723	.10914	1.148	.13897	14.860		
4,6-Dinitro-2-methylphenol	-	.16146	.15484	.15255	.14747	.878	.15408	3.766		
N-Nitrosodiphenylamine	.54182	.50691	.45407	.42222	.38571	.880	.46215	13.622	*	
2,4,6-Tribromophenol	.18577	.17968	.17903	.18022	.17238	.894	.17942	2.656		
4-Bromophenyl-phenylether	.29035	.27821	.27283	.26141	.24768	.933	.27009	6.031		
Hexachlorobenzene	.42810	.40143	.41312	.39317	.37716	.950	.40260	4.808		
Pentachlorophenol	-	.18736	.20063	.20711	.20540	.985	.20012	4.466	*	
Phenanthrene	1.10186	1.08404	1.00386	.97881	.95563	1.004	1.02484	6.321		
Anthracene	1.05236	1.00264	.91980	.90247	.86479	1.011	.94841	8.111		
Di-n-Butyl phthalate	1.56949	1.58638	1.50240	1.44408	1.37441	1.119	1.49535	5.896		
Fluoranthene	.97474	.94517	.88670	.86965	.83610	1.198	.90247	6.263	*	
Pyrene	1.96166	2.19581	1.79281	1.84411	1.92821	.860	1.94452	8.000		
Terphenyl-d14	1.45093	1.60720	1.37754	1.42139	1.40115	.885	1.45164	6.272		
Butylbenzylphthalate	.89116	1.05261	.91375	.92717	.94044	.950	.94502	6.650		

RF - Response Factor (Subscript is amount in NG)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Willow Grove

Instrument ID: GC/MS#6(F)

Contractor: EA LABORATORIES

Calibration Date: 09/~~22~~ 21/89

Contract No: 10388.05

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>FC865	>FC861	>FC864	>FC863	>FC862					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
3,3'-Dichlorobenzidine	.29280	.26365	.37932	.36193	.35195	1.005	.32993	14.941		
Benzo(a)Anthracene	1.17623	1.17895	1.17769	1.16528	1.15836	.998	1.17130	.772		
bis(2-Ethylhexyl)phthalate	1.34170	1.45940	1.28289	1.24061	1.24315	1.017	1.31355	6.944		
Chrysene	1.22153	1.18239	1.16013	1.12829	1.08649	1.003	1.15577	4.455		
Di-n-Octyl phthalate	1.53000	1.95532	1.72345	1.78435	1.82312	.948	1.76325	8.828	*	
Benzo(b)Fluoranthene	.97936	1.11074	1.24070	1.12433	1.07315	.972	1.10566	8.535		
Benzo(k)Fluoranthene	1.08172	1.07280	.86411	.89559	.94618	.974	.97208	10.331		
Benzo(a)Pyrene	.95968	.95549	.90830	.91941	.89419	.996	.92741	3.126	*	
Indeno(1,2,3-cd)Pyrene	1.11590	1.13400	1.12991	1.09447	1.05249	1.074	1.10536	3.017		
Dibenzo(a,h)Anthracene	.86099	.87934	.88612	.84424	.82256	1.075	.85865	3.025		
Benzo(g,h,i)Perylene	.92389	.95707	.91608	.87978	.85448	1.094	.90626	4.404		

RF - Response Factor (Subscript is amount in NG)

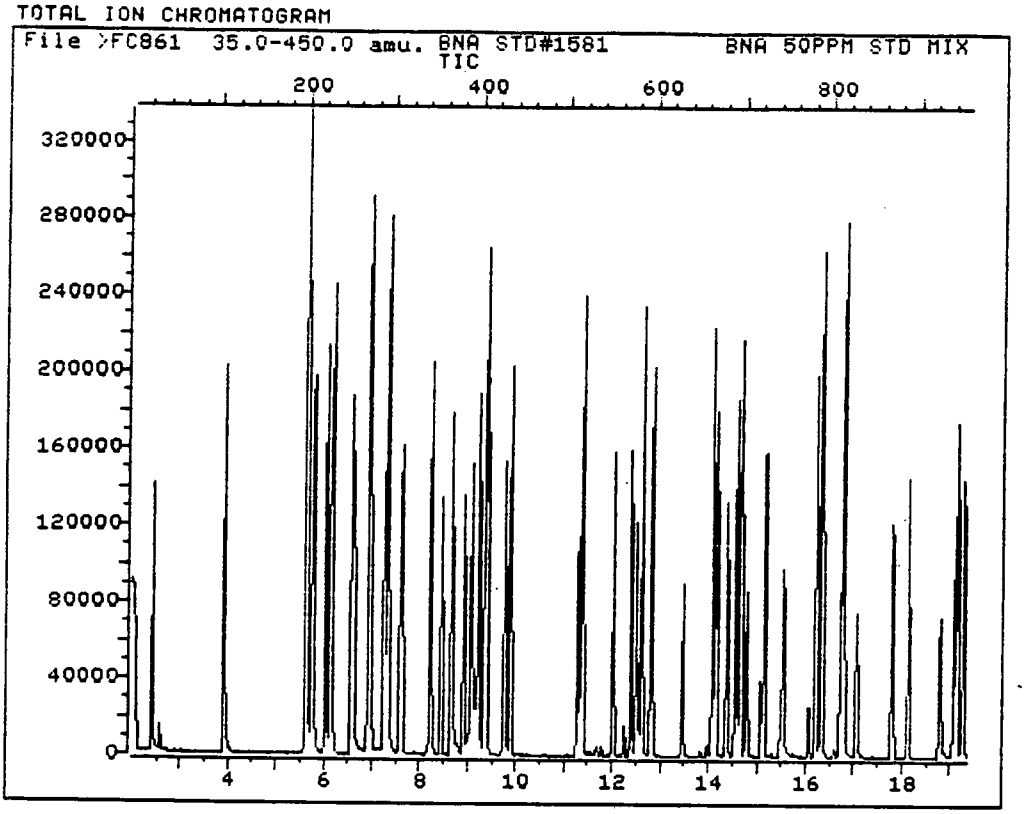
$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



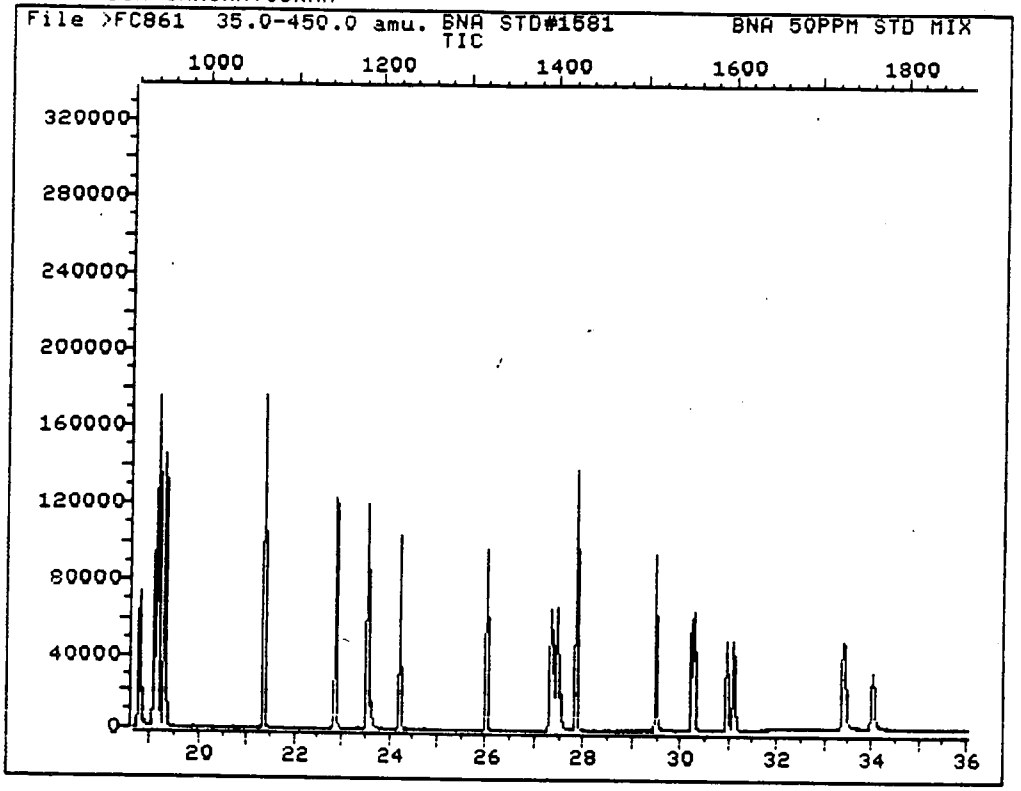
Data File: >FC861::D4 Quant Output File: $FC861::QT
Name: BNA STD#1581
Misc: BNA 50PPM STD MIX BTL#99

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:24
Injected at: 890921 09:51

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC861::D4
Name: BNA STD#1581
Misc: BNA 50PPM STD MIX

Quant Output File: $FC861::QT

BTL#99

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:24
Injected at: 890921 09:51

TIC page 2 of 2

QUANT REPORT

Operator ID: JOHN
Output File: $FC861::QT
Data File: >FC861::D4
Name: BNA STD#1581
Misc: BNA 50PPM STD MIX

Quant Rev: 6
Quant Time: 890922 14:24
Injected at: 890921 09:51
Dilution Factor: 1.00000

BTL#99

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

	Compound	R.T.	Q ion	Area	Conc	Units	c
1)	*d4-1,4-Dichlorobenzene	6.13	152.0	55403	40.00	NG	9
2)	2-Fluorophenol	3.92	112.0	85201	50.00	NG	9
3)	Phenol-d5	5.62	99.0	98943	50.00	NG	9
4)	Phenol	5.64	94.0	114514	50.00	NG	7
5)	bis(2-Chloroethyl)ether	5.75	93.0	106425	50.00	NG	9
6)	2-Chlorophenol	5.79	128.0	90596	50.00	NG	9
7)	1,3-Dichlorobenzene	6.04	146.0	104364	50.00	NG	9
8)	1,4-Dichlorobenzene	6.17	146.0	103871	50.00	NG	9
9)	Benzyl Alcohol	6.62	108.0	44325	50.00	NG	8
10)	1,2-Dichlorobenzene	6.57	146.0	103751	50.00	NG	9
11)	2-Methylphenol	6.95	108.0	75949	50.00	NG	9
12)	bis(2-Chloroisopropyl)ether	6.93	45.0	226687	50.00	NG	8
13)	4-Methylphenol	7.33	108.0	76517	50.00	NG	9
14)	N-Nitroso-Di-n-propylamine	7.31	70.0	91026	50.00	NG	9
15)	Hexachloroethane	7.26	117.0	53033	50.00	NG	9
16)	*d8-Naphthalene	9.35	136.0	215293	40.00	NG	8
17)	Nitrobenzene-d5	7.60	82.0	103432	50.00	NG	9
18)	Nitrobenzene	7.64	77.0	104057	50.00	NG	8
19)	Isophorone	8.22	82.0	235420	50.00	NG	9
20)	2-Nitrophenol	8.44	139.0	56277	50.00	NG	9
21)	2,4-Dimethylphenol	8.67	107.0	91957	50.00	NG	9
22)	Benzoic Acid	9.18	122.0	40855	50.00	NG	9
23)	bis(2-Chloroethoxy)methane	8.93	93.0	102994	50.00	NG	9
24)	2,4-Dichlorophenol	9.07	162.0	75674	50.00	NG	9
25)	1,2,4-Trichlorobenzene	9.24	180.0	88258	50.00	NG	9
26)	Naphthalene	9.40	128.0	249415	50.00	NG	9
27)	4-Chloroaniline	9.78	127.0	92528	50.00	NG	9
28)	Hexachlorobutadiene	9.89	224.7	59462	50.00	NG	9
29)	4-Chloro-3-methylphenol	11.29	107.0	75581	50.00	NG	8
30)	2-Methylnaphthalene	11.38	142.0	161515	50.00	NG	9
31)	*d10-Acenaphthene	14.57	164.0	101764	40.00	NG	9
32)	Hexachlorocyclopentadiene	12.03	237.0	67560	50.00	NG	9
33)	2,4,6-Trichlorophenol	12.40	196.0	52359	50.00	NG	9
34)	2,4,5-Trichlorophenol	12.50	196.0	52884	50.00	NG	9
35)	2-Chloronaphthalene	12.83	162.0	142675	50.00	NG	9
36)	2-Fluorobiphenyl	12.63	172.0	176807	50.00	NG	9
37)	2-Nitroaniline	13.49	65.0	45484	50.00	NG	9
38)	Dimethylphthalate	14.18	163.0	190407	50.00	NG	9
39)	Acenaphthylene	14.10	152.0	240224	50.00	NG	9
40)	3-Nitroaniline	14.79	138.0	29583	50.00	NG	9
41)	Acenaphthene	14.67	153.0	154602	50.00	NG	9
42)	2,4-Dinitrophenol	15.08	184.0	16518	50.00	NG	8

QUANT REPORT
page 2

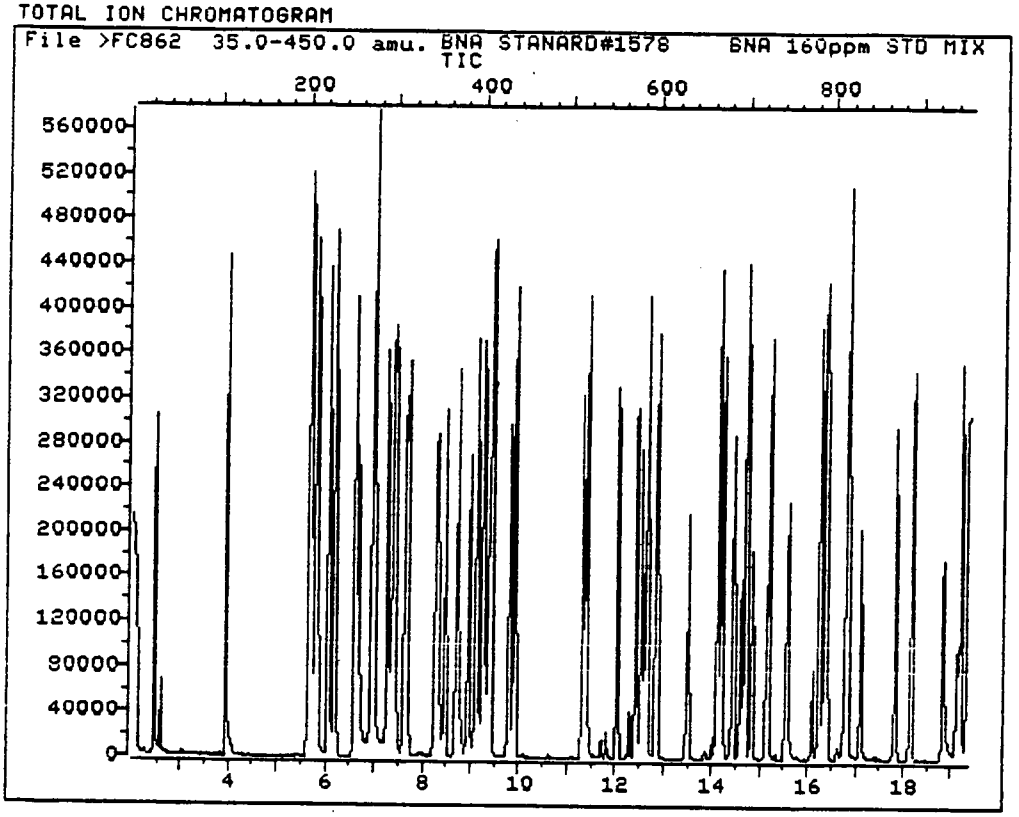
Output File:$FC861::

Data File:>FC861::D4

	Compound	R.T.	Q ion	Area	Conc	Units	c
43)	4-Nitrophenol	15.50	109.0	10268M	50.00	NG	
44)	Dibenzofuran	15.16	168.0	189762	50.00	NG	9
45)	2,4-Dinitrotoluene	15.54	165.0	45250	50.00	NG	7
46)	2,6-Dinitrotoluene	14.39	165.0	41157	50.00	NG	9
47)	Diethylphthalate	16.35	149.0	183671	50.00	NG	9
48)	4-Chlorophenyl-phenylether	16.32	204.0	65664	50.00	NG	8
49)	Fluorene	16.23	166.0	143463	50.00	NG	9
50)	4-Nitroaniline	16.74	138.0	19897	50.00	NG	8
51)	*d10-Phenanthrene	19.10	188.0	128491	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	16.75	198.0	25933	50.00	NG	8
53)	N-Nitrosodiphenylamine	16.81	169.0	81417	50.00	NG	9
54)	2,4,6-Tribromophenol	17.06	329.9	28859	50.00	NG	9
55)	4-Bromophenyl-phenylether	17.81	248.0	44685	50.00	NG	8
56)	Hexachlorobenzene	18.13	283.6	64475	50.00	NG	8
57)	Pentachlorophenol	18.81	266.0	30093	50.00	NG	9
58)	Phenanthrene	19.17	178.0	174112	50.00	NG	9
59)	Anthracene	19.30	178.0	161038	50.00	NG	9
60)	Di-n-Butyl phthalate	21.38	149.0	254794	50.00	NG	9
61)	Fluoranthene	22.87	202.0	151808	50.00	NG	9
62)	*d12-Chrysene	27.39	240.0	51196	40.00	NG	9
63)	Pyrene	23.56	202.0	140521	50.00	NG	9
64)	Terphenyl-d14	24.23	244.0	102853	50.00	NG	8
65)	Butylbenzylphthalate	26.03	149.0	67362	50.00	NG	9
66)	3,3'-Dichlorobenzidine	27.53	252.0	16872	50.00	NG	9
67)	Benzo(a)Anthracene	27.33	228.0	75447	50.00	NG	9
68)	bis(2-Ethylhexyl)phthalate	27.86	149.0	93394	50.00	NG	9
69)	Chrysene	27.46	228.0	75667	50.00	NG	9
70)	*d12-Perylene	31.11	264.0	46979	40.00	NG	9
71)	Di-n-Octyl phthalate	29.49	149.0	114824	50.00	NG	9
72)	Benzo(b)Fluoranthene	30.24	252.0	65227	50.00	NG	9
73)	Benzo(k)Fluoranthene	30.29	252.0	62999	50.00	NG	9
74)	Benzo(a)Pyrene	30.96	252.0	56110	50.00	NG	9
75)	Indeno(1,2,3-cd)Pyrene	33.39	276.0	66593	50.00	NG	9
76)	Dibenzo(a,h)Anthracene	33.43	278.0	51638	50.00	NG	8
77)	Benzo(g,h,i)Perylene	34.03	276.0	56203	50.00	NG	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >FC862::D4
Name: BNA STANARD#1578
Misc: BNA 160ppm STD MIX

Quant Output File: $FC862::QT

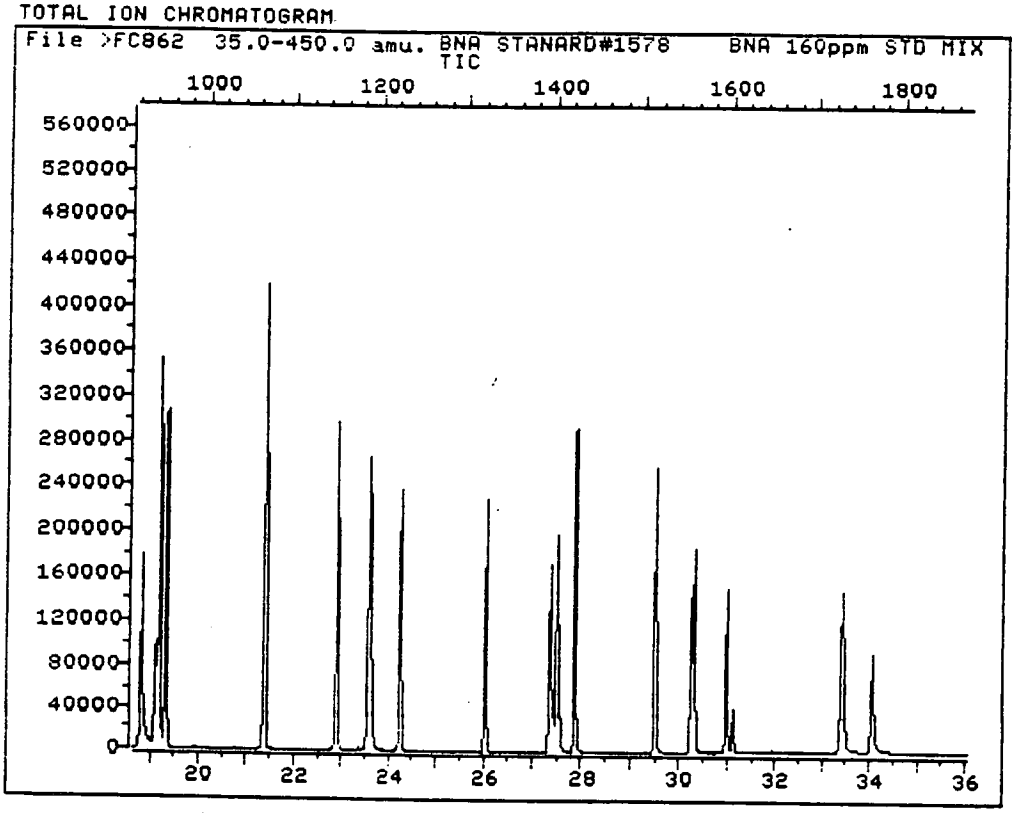
BTL# 1

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:51
Injected at: 890921 11:15

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC862::D4
Name: BNA STANARD#1578
Misc: BNA 160ppm STD MIX

Quant Output File: $FC862::QT

BTL# 1

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:51
Injected at: 890921 11:15

TIC page 2 of 2

QUANT REPORT

Operator ID: JOHN
Output File: $FC862::QT
Data File: >FC862::D4
Name: BNA STANARD#1578
Misc: BNA 160ppm STD MIX

Quant Rev: 6
Quant Time: 890922 14:51
Injected at: 890921 11:15
Dilution Factor: 1.00000

BTL# 1

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

	Compound	R.T.	Q ion	Area	Conc	Units	c
1)	*d4-1,4-Dichlorobenzene	6.16	152.0	49762	40.00	NG	9
2)	2-Fluorophenol	3.95	112.0	220829	144.28	NG	9
3)	Phenol-d5	5.69	99.0	230684	129.79	NG	9
4)	Phenol	5.71	94.0	270611	131.55	NG	8
5)	bis(2-Chloroethyl)ether	5.82	93.0	241190M	126.16	NG	
6)	2-Chlorophenol	5.84	128.0	219848	135.09	NG	9
7)	1,3-Dichlorobenzene	6.07	146.0	250475	133.60	NG	9
8)	1,4-Dichlorobenzene	6.07	146.0	250475	134.24	NG	9
9)	Benzyl Alcohol	6.69	108.0	128840	161.81	NG	8
10)	1,2-Dichlorobenzene	6.62	146.0	243962	130.90	NG	9
11)	2-Methylphenol	7.00	108.0	197079	144.45	NG	8
12)	bis(2-Chloroisopropyl)ether	6.96	45.0	577289	141.77	NG	8
13)	4-Methylphenol	7.42	108.0	206933M	150.55	NG	9
14)	N-Nitroso-Di-n-propylamine	7.38	70.0	161918	99.02	NG	9
15)	Hexachloroethane	7.27	117.0	125959	132.22	NG	9
16)	*d8-Naphthalene	9.38	136.0	186464	40.00	NG	8
17)	Nitrobenzene-d5	7.65	82.0	271537	151.56	NG	9
18)	Nitrobenzene	7.71	77.0	267413	148.36	NG	9
19)	Isophorone	8.31	82.0	641983	157.43	NG	9
20)	2-Nitrophenol	8.49	139.0	151157	155.06	NG	9
21)	2,4-Dimethylphenol	8.74	107.0	261831	164.38	NG	9
22)	Benzoic Acid	9.40	122.0	108969M	153.98	NG	9
23)	bis(2-Chloroethoxy)methane	8.98	93.0	275086	154.19	NG	9
24)	2,4-Dichlorophenol	9.14	162.0	195187	148.90	NG	9
25)	1,2,4-Trichlorobenzene	9.27	180.0	223407	146.13	NG	9
26)	Naphthalene	9.45	128.0	582501	134.83	NG	9
27)	4-Chloroaniline	9.82	127.0	231480	144.43	NG	9
28)	Hexachlorobutadiene	9.93	224.7	148057	143.75	NG	9
29)	4-Chloro-3-methylphenol	11.32	107.0	201092	153.60	NG	8
30)	2-Methylnaphthalene	11.41	142.0	378710	135.36	NG	9
31)	*d10-Acenaphthene	14.61	164.0	97180	40.00	NG	9
32)	Hexachlorocyclopentadiene	12.05	237.0	182519	141.45	NG	9
33)	2,4,6-Trichlorophenol	12.43	196.0	144009	144.01	NG	9
34)	2,4,5-Trichlorophenol	12.54	196.0	148424	146.95	NG	9
35)	2-Chloronaphthalene	12.87	162.0	366491	134.49	NG	9
36)	2-Fluorobiphenyl	12.67	172.0	445391	131.90	NG	9
37)	2-Nitroaniline	13.52	65.0	126292	145.38	NG	9
38)	Dimethylphthalate	14.23	163.0	520025	143.00	NG	9
39)	Acenaphthylene	14.14	152.0	601558	131.11	NG	9
40)	3-Nitroaniline	14.85	138.0	77447	137.07	NG	9
41)	Acenaphthene	14.72	153.0	379915	128.66	NG	9
42)	2,4-Dinitrophenol	15.14	184.0	55373	175.52	NG	9

QUANT REPORT
page 2

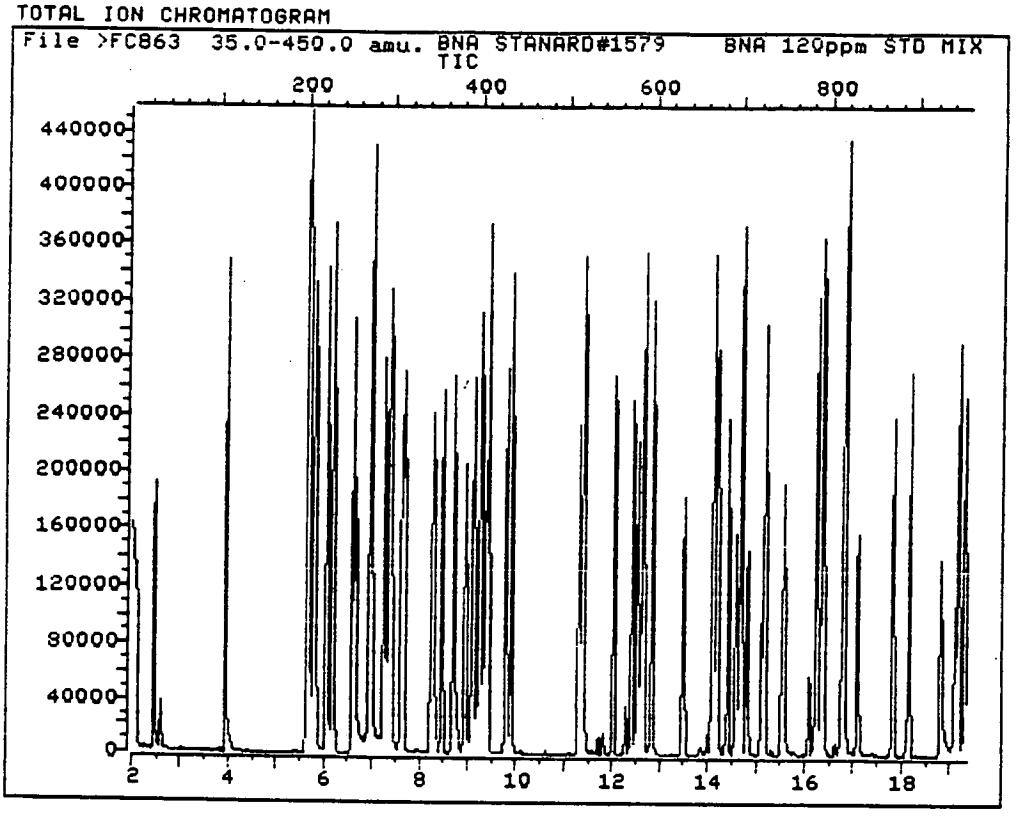
Output File:$FC862::

Data File:>FC862::D4

	Compound	R.T.	Q ion	Area	Conc	Units	c
43)	4-Nitrophenol	15.54	109.0	29544M	150.65	NG	
44)	Dibenzofuran	15.21	168.0	475255	131.13	NG	9
45)	2,4-Dinitrotoluene	15.59	165.0	120874	139.86	NG	8
46)	2,6-Dinitrotoluene	14.45	165.0	118784	151.11	NG	8
47)	Diethylphthalate	16.39	149.0	480253	136.90	NG	9
48)	4-Chlorophenyl-phenylether	16.36	204.0	161130	128.48	NG	8
49)	Fluorene	16.26	166.0	352000	128.47	NG	9
50)	4-Nitroaniline	16.79	138.0	42425	111.64	NG	8
51)	*d10-Phenanthrene	19.12	188.0	114622	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	16.81	198.0	67615	146.14	NG	8
53)	N-Nitrosodiphenylamine	16.85	169.0	176843	121.74	NG	9
54)	2,4,6-Tribromophenol	17.12	329.9	79032	153.50	NG	9
55)	4-Bromophenyl-phenylether	17.85	248.0	113557	142.44	NG	8
56)	Hexachlorobenzene	18.19	283.6	172922	150.33	NG	8
57)	Pentachlorophenol	18.83	266.0	94172	175.40	NG	9
58)	Phenanthrene	19.21	178.0	438145	141.05	NG	9
59)	Anthracene	19.34	178.0	396495	138.00	NG	9
60)	Di-n-Butyl phthalate	21.41	149.0	630151	138.62	NG	9
61)	Fluoranthene	22.92	202.0	383343	141.54	NG	9
62)	*d12-Chrysene	27.42	240.0	46143	40.00	NG	9
63)	Pyrene	23.59	202.0	355894	140.50	NG	9
64)	Terphenyl-d14	24.26	244.0	258613	139.49	NG	8
65)	Butylbenzylphthalate	26.04	149.0	173578	142.95	NG	8
66)	3,3'-Dichlorobenzidine	27.54	252.0	64960	213.59	NG	9
67)	Benzo(a)Anthracene	27.36	228.0	213801	157.21	NG	9
68)	bis(2-Ethylhexyl)phthalate	27.87	149.0	229451	136.29	NG	9
69)	Chrysene	27.51	228.0	200536	147.02	NG	9
70)	*d12-Perylene	31.12	264.0	45024	40.00	NG	9
71)	Di-n-Octyl phthalate	29.50	149.0	328336	149.18	NG	9
72)	Benzo(b)Fluoranthene	30.27	252.0	193270	154.58	NG	9
73)	Benzo(k)Fluoranthene	30.32	252.0	170404	141.12	NG	9
74)	Benzo(a)Pyrene	30.99	252.0	161040	149.73	NG	9
75)	Indeno(1,2,3-cd)Pyrene	33.42	276.0	189550	148.50	NG	9
76)	Dibenzo(a,h)Anthracene	33.46	278.0	148140	149.67	NG	7
77)	B nzo(g,h,i)Perylene	34.08	276.0	153889	142.85	NG	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



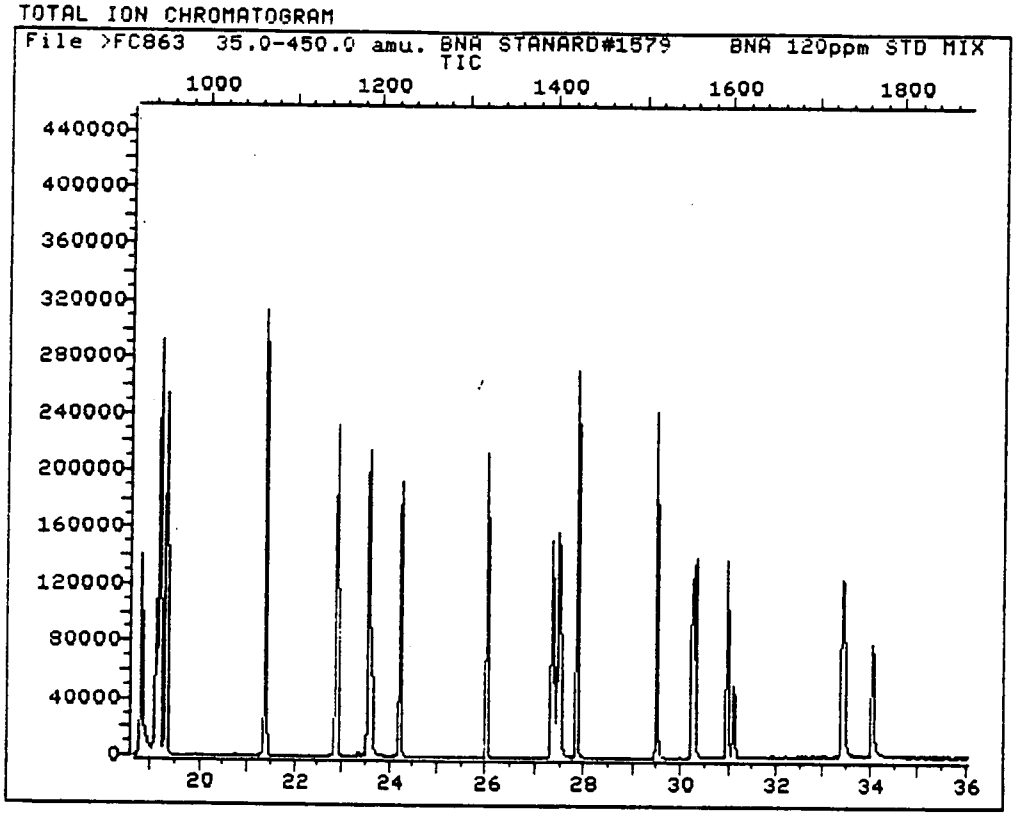
Data File: >FC863::D4 Quant Output File: $FC863::QT
Name: BNA STANARD#1579
Misc: BNA 120ppm STD MIX BTL# 2

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:45
Injected at: 890921 12:08

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC863::D4 Quant Output File: $FC863::QT
Name: BNA STANARD#1579
Misc: BNA 120ppm STD MIX BTL# 2

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:45
Injected at: 890921 12:08

TIC page 2 of 2

QUANT REPORT

Operator ID: JOHN
Output File: $FC863::QT
Data File: >FC863::D4
Name: BNA STANARD#1579
Misc: BNA 120ppm STD MIX

Quant Rev: 6
Quant Time: 890922 14:45
Injected at: 890921 12:08
Dilution Factor: 1.00000

BTL# 2

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*d4-1,4-Dichlorobenzene	6.16	152.0	47218	40.00	NG	9
2)	2-Fluorophenol	3.94	112.0	161735	111.37	NG	9
3)	Phenol-d5	5.66	99.0	173442	102.84	NG	9
4)	Phenol	5.70	94.0	210009	107.59	NG	8
5)	bis(2-Chloroethyl)ether	5.79	93.0	180629	99.57	NG	7
6)	2-Chlorophenol	5.81	128.0	167510	108.47	NG	9
7)	1,3-Dichlorobenzene	6.06	146.0	190761	107.23	NG	9
8)	1,4-Dichlorobenzene	6.06	146.0	190761	107.74	NG	9
9)	Benzyl Alcohol	6.66	108.0	77971	103.20	NG	8
10)	1,2-Dichlorobenzene	6.59	146.0	185933	105.14	NG	9
11)	2-Methylphenol	6.97	108.0	146633	113.27	NG	9
12)	bis(2-Chloroisopropyl)ether	6.95	45.0	417624	108.08	NG	8
13)	4-Methylphenol	7.39	108.0	151995M	116.54	NG	
14)	N-Nitroso-Di-n-propylamine	7.35	70.0	126204	81.34	NG	9
15)	Hexachloroethane	7.26	117.0	93896	103.87	NG	8
16)	*d8-Naphthalene	9.37	136.0	180294	40.00	NG	8
17)	Nitrobenzene-d5	7.63	82.0	199300	115.05	NG	9
18)	Nitrobenzene	7.68	77.0	196429	112.71	NG	9
19)	Isophorone	8.28	82.0	453124	114.92	NG	9
20)	2-Nitrophenol	8.48	139.0	112636	119.50	NG	9
21)	2,4-Dimethylphenol	8.72	107.0	187739	121.90	NG	9
22)	Benzoic Acid	9.33	122.0	81930M	119.73	NG	9
23)	bis(2-Chloroethoxy)methane	8.97	93.0	200326	116.13	NG	9
24)	2,4-Dichlorophenol	9.12	162.0	151286	119.36	NG	8
25)	1,2,4-Trichlorobenzene	9.26	180.0	169978	114.99	NG	9
26)	Naphthalene	9.42	128.0	449661	107.64	NG	9
27)	4-Chloroaniline	9.81	127.0	178534	115.20	NG	9
28)	Hexachlorobutadiene	9.92	224.7	114165	114.63	NG	9
29)	4-Chloro-3-methylphenol	11.31	107.0	152812	120.72	NG	8
30)	2-Methylnaphthalene	11.40	142.0	313154	115.76	NG	9
31)	*d10-Acenaphthene	14.60	164.0	92911	40.00	NG	9
32)	Hexachlorocyclopentadiene	12.04	237.0	142151	115.23	NG	9
33)	2,4,6-Trichlorophenol	12.42	196.0	108204	113.17	NG	9
34)	2,4,5-Trichlorophenol	12.53	196.0	114527	118.60	NG	9
35)	2-Chloronaphthalene	12.86	162.0	276772	106.24	NG	9
36)	2-Fluorobiphenyl	12.66	172.0	339417	105.13	NG	9
37)	2-Nitroaniline	13.51	65.0	96624	116.34	NG	9
38)	Dimethylphthalate	14.22	163.0	393374	113.14	NG	9
39)	Acenaphthylene	14.13	152.0	457686	104.34	NG	9
40)	3-Nitroaniline	14.84	138.0	62726	116.12	NG	9
41)	Acenaphthene	14.71	153.0	290094	102.76	NG	9
42)	2,4-Dinitrophenol	15.13	184.0	43019	142.63	NG	9

QUANT REPORT
page 2

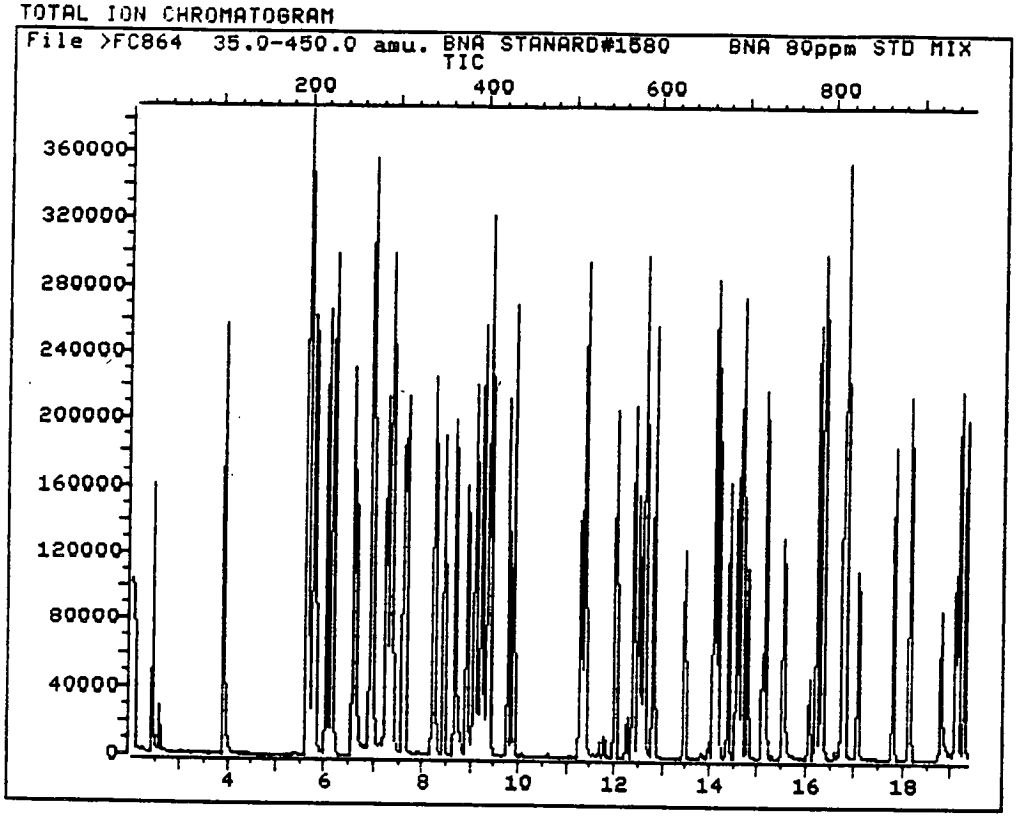
Output File:$FC863::

Data File:>FC863::D4

	Compound	R.T.	Q ion	Area	Conc	Units	c
43)	4-Nitrophenol	15.53	109.0	23858M	127.25	NG	
44)	Dibenzofuran	15.20	168.0	372392	107.47	NG	9
45)	2,4-Dinitrotoluene	15.58	165.0	95464	115.54	NG	8
46)	2,6-Dinitrotoluene	14.44	165.0	87525	116.46	NG	9
47)	Diethylphthalate	16.38	149.0	370037	110.33	NG	9
48)	4-Chlorophenyl-phenylether	16.34	204.0	125728	104.86	NG	8
49)	Fluorene	16.25	166.0	277712	106.01	NG	9
50)	4-Nitroaniline	16.78	138.0	41037	112.95	NG	8
51)	*d10-Phenanthrene	19.12	188.0	116510	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	16.80	198.0	53322	113.38	NG	8
53)	N-Nitrosodiphenylamine	16.83	169.0	147578	99.95	NG	9
54)	2,4,6-Tribromophenol	17.09	329.9	62991	120.36	NG	9
55)	4-Bromophenyl-phenylether	17.83	248.0	91371	112.75	NG	8
56)	Hexachlorobenzene	18.16	283.6	137426	117.53	NG	8
57)	Pentachlorophenol	18.83	266.0	72390	132.65	NG	9
58)	Phenanthrene	19.20	178.0	342122	108.35	NG	9
59)	Anthracene	19.32	178.0	315441	108.01	NG	9
60)	Di-n-Butyl phthalate	21.39	149.0	504748	109.24	NG	9
61)	Fluoranthene	22.90	202.0	303970	110.41	NG	9
62)	*d12-Chrysene	27.41	240.0	50292	40.00	NG	9
63)	Pyrene	23.59	202.0	278232	100.78	NG	9
64)	Terphenyl-d14	24.26	244.0	214453	106.13	NG	8
65)	Butylbenzylphthalate	26.04	149.0	139888	105.70	NG	8
66)	3,3'-Dichlorobenzidine	27.52	252.0	54606	164.73	NG	9
67)	Benzo(a)Anthracene	27.36	228.0	175813	118.61	NG	9
68)	bis(2-Ethylhexyl)phthalate	27.87	149.0	187179	102.01	NG	9
69)	Chrysene	27.49	228.0	170232	114.51	NG	9
70)	*d12-Perylene	31.12	264.0	50949	40.00	NG	9
71)	Di-n-Octyl phthalate	29.50	149.0	272732	109.51	NG	9
72)	Benzo(b)Fluoranthene	30.25	252.0	171850	121.47	NG	9
73)	Benzo(k)Fluoranthene	30.30	252.0	136889M	100.18	NG	9
74)	Benzo(a)Pyrene	30.99	252.0	140529	115.47	NG	9
75)	Indeno(1,2,3-cd)Pyrene	33.42	276.0	167286	115.82	NG	9
76)	Dibenzo(a,h)Anthracene	33.46	278.0	129039	115.21	NG	7
77)	Benzo(g,h,i)Perylene	34.06	276.0	134471	110.31	NG	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >FC864::D4
Name: BNA STANARD#1580
Misc: BNA 80ppm STD MIX

Quant Output File: $FC864::QT

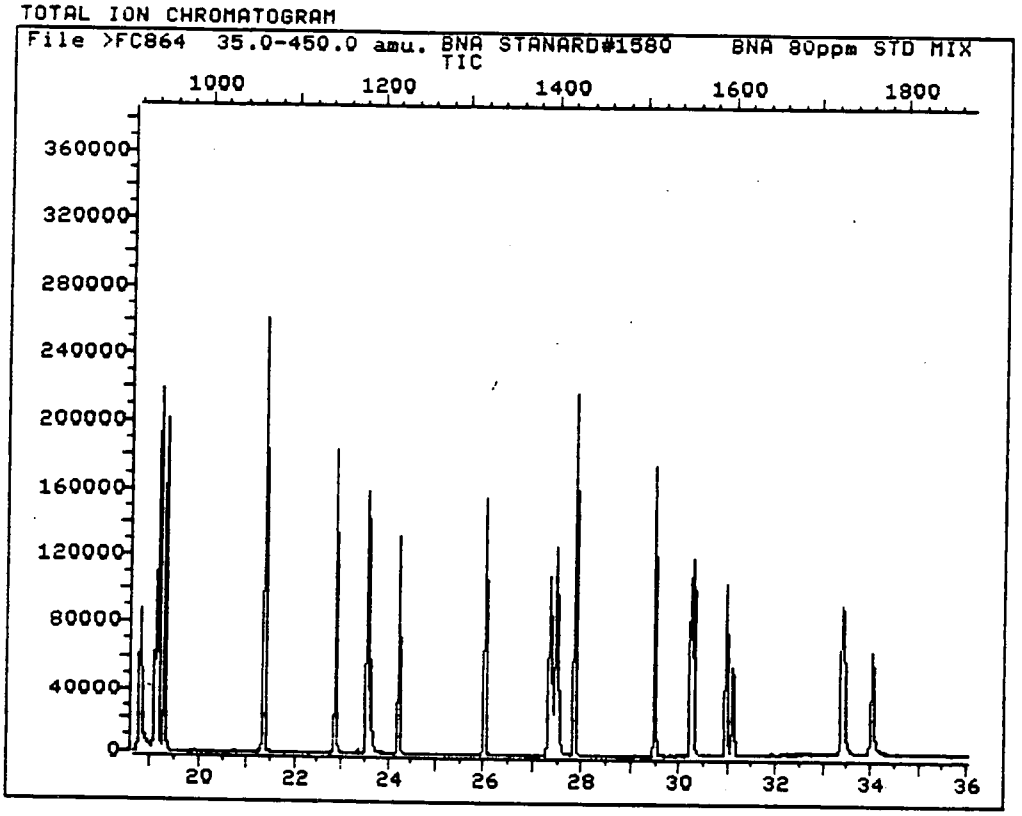
BTL# 3

Id File: IDFCLP::8D
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:39
Injected at: 890921 13:02

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC864::D4
Name: BNA STANARD#1580
Misc: BNA 80ppm STD MIX

Quant Output File: $FC864::QT

BTL# 3

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:39
Injected at: 890921 13:02

TIC page 2 of 2

QUANT REPORT

Operator ID: JOHN
Output File: $FC864::QT
Data File: >FC864::D4
Name: BNA STANARD#1580
Misc: BNA 80ppm STD MIX

Quant Rev: 6
Quant Time: 890922 14:39
Injected at: 890921 13:02
Dilution Factor: 1.00000

BTL# 3

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

	Compound	R.T.	Q ion	Area	Conc	Units	c
1)	*d4-1,4-Dichlorobenzene	6.14	152.0	51157	40.00	NG	9
2)	2-Fluorophenol	3.93	112.0	118594	75.37	NG	9
3)	Phenol-d5	5.65	99.0	130521	71.43	NG	9
4)	Phenol	5.67	94.0	152272	72.00	NG	9
5)	bis(2-Chloroethyl)ether	5.78	93.0	138924	70.69	NG	7
6)	2-Chlorophenol	5.80	128.0	125498	75.01	NG	9
7)	1,3-Dichlorobenzene	6.05	146.0	143507	74.46	NG	9
8)	1,4-Dichlorobenzene	6.05	146.0	143507	74.81	NG	9
9)	Benzyl Alcohol	6.63	108.0	60187	73.53	NG	8
10)	1,2-Dichlorobenzene	6.58	146.0	143784	75.04	NG	9
11)	2-Methylphenol	6.96	108.0	99034	70.61	NG	9
12)	bis(2-Chloroisopropyl)ether	6.94	45.0	316350	75.57	NG	8
13)	4-Methylphenol	7.36	108.0	104734	74.12	NG	9
14)	N-Nitroso-Di-n-propylamine	7.32	70.0	129146	76.83	NG	9
15)	Hexachloroethane	7.25	117.0	71245	72.75	NG	8
16)	*d8-Naphthalene	9.36	136.0	197918	40.00	NG	8
17)	Nitrobenzene-d5	7.61	82.0	143251	75.33	NG	9
18)	Nitrobenzene	7.67	77.0	145792	76.20	NG	8
19)	Isophorone	8.25	82.0	326092	75.34	NG	9
20)	2-Nitrophenol	8.47	139.0	82709	79.93	NG	9
21)	2,4-Dimethylphenol	8.69	107.0	135405	80.09	NG	9
22)	Benzoic Acid	9.21	122.0	33929	45.17	NG	9
23)	bis(2-Chloroethoxy)methane	8.94	93.0	146516	77.37	NG	9
24)	2,4-Dichlorophenol	9.10	162.0	110931	79.73	NG	9
25)	1,2,4-Trichlorobenzene	9.25	180.0	128301	79.07	NG	9
26)	Naphthalene	9.41	128.0	335306	73.12	NG	9
27)	4-Chloroaniline	9.79	127.0	130972	76.99	NG	9
28)	Hexachlorobutadiene	9.90	224.7	88753	81.18	NG	9
29)	4-Chloro-3-methylphenol	11.30	107.0	109112	78.52	NG	8
30)	2-Methylnaphthalene	11.39	142.0	233356	78.58	NG	9
31)	*d10-Acenaphthene	14.59	164.0	96295	40.00	NG	9
32)	H xachlorocyclopentadiene	12.03	237.0	104022	81.36	NG	9
33)	2,4,6-Trichlorophenol	12.41	196.0	76755	77.46	NG	9
34)	2,4,5-Trichlorophenol	12.52	196.0	82889	82.82	NG	9
35)	2-Chloronaphthalene	12.85	162.0	202829	75.12	NG	9
36)	2-Fluorobiphenyl	12.65	172.0	252313	75.41	NG	9
37)	2-Nitroaniline	13.48	65.0	66127	76.82	NG	9
38)	Dimethylphthalate	14.19	163.0	280986	77.98	NG	9
39)	Acenaphthylene	14.12	152.0	343886	75.64	NG	9
40)	3-Nitroaniline	14.81	138.0	41298	73.76	NG	9
41)	Acenaphthene	14.68	153.0	216492	73.99	NG	9
42)	2,4-Dinitrophenol	15.10	184.0	24448	78.21	NG	8

QUANT REPORT
page 2

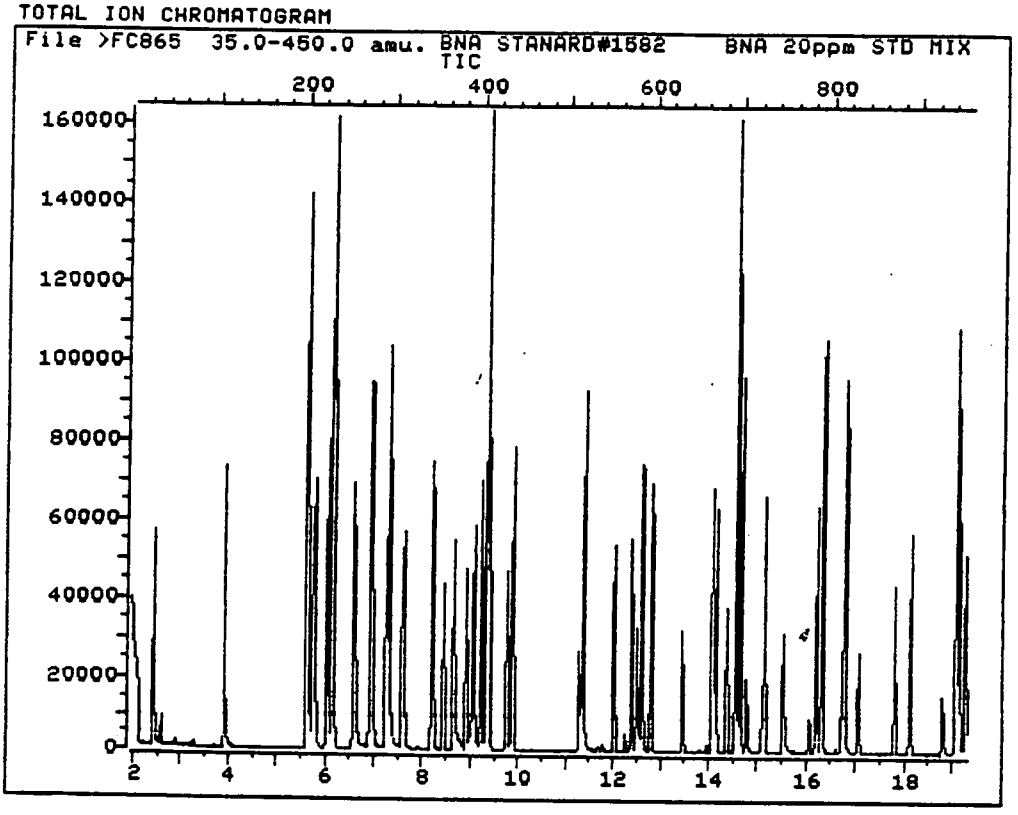
Output File:$FC864::

Data File:>FC864::D4

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	15.51	109.0	14644M	75.36	NG	
44)	Dibenzofuran	15.17	168.0	265480	73.92	NG	9
45)	2,4-Dinitrotoluene	15.55	165.0	64040	74.78	NG	7
46)	2,6-Dinitrotoluene	14.41	165.0	60911	78.20	NG	8
47)	Diethylphthalate	16.37	149.0	265636	76.42	NG	9
48)	4-Chlorophenyl-phenylether	16.33	204.0	90977	73.21	NG	8
49)	Fluorene	16.24	166.0	200491	73.84	NG	9
50)	4-Nitroaniline	16.75	138.0	27561	73.19	NG	9
51)	*d10-Phenanthrene	19.11	188.0	118539	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	16.77	198.0	36708	76.72	NG	8
53)	N-Nitrosodiphenylamine	16.82	169.0	107651	71.66	NG	9
54)	2,4,6-Tribromophenol	17.08	329.9	42445	79.71	NG	9
55)	4-Bromophenyl-phenylether	17.82	248.0	64681	78.45	NG	9
56)	Hexachlorobenzene	18.15	283.6	97941	82.33	NG	8
57)	Pentachlorophenol	18.80	266.0	47565	85.66	NG	9
58)	Phenanthrene	19.18	178.0	237993	74.08	NG	9
59)	Anthracene	19.31	178.0	218064	73.39	NG	9
60)	Di-n-Butyl phthalate	21.38	149.0	356185	75.76	NG	9
61)	Fluoranthene	22.89	202.0	210216	75.05	NG	9
62)	*d12-Chrysene	27.41	240.0	54913	40.00	NG	9
63)	Pyrene	23.56	202.0	196897	65.32	NG	9
64)	Terphenyl-d14	24.23	244.0	151290	68.57	NG	8
65)	Butylbenzylphthalate	26.03	149.0	100353	69.45	NG	9
66)	3,3'-Dichlorobenzidine	27.51	252.0	41659	115.10	NG	9
67)	Benzo(a)Anthracene	27.35	228.0	129341	79.91	NG	9
68)	bis(2-Ethylhexyl)phthalate	27.86	149.0	140895	70.32	NG	9
69)	Chrysene	27.48	228.0	127412	78.49	NG	9
70)	*d12-Perylene	31.11	264.0	57800	40.00	NG	9
71)	Di-n-Octyl phthalate	29.49	149.0	199231	70.51	NG	9
72)	Benzo(b)Fluoranthene	30.24	252.0	143425	89.36	NG	9
73)	Benzo(k)Fluoranthene	30.29	252.0	99891M	64.44	NG	9
74)	Benzo(a)Pyrene	30.98	252.0	104999	76.05	NG	9
75)	Indeno(1,2,3-cd)Pyrene	33.39	276.0	130618	79.71	NG	9
76)	Dibenzo(a,h)Anthracene	33.45	278.0	102435	80.62	NG	7
77)	Benzo(g,h,i)Perylene	34.05	276.0	105899	76.57	NG	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >FC865::D4
Name: BNA STANARD#1582
Misc: BNA 20ppm STD MIX

Quant Output File: $FC865::QT

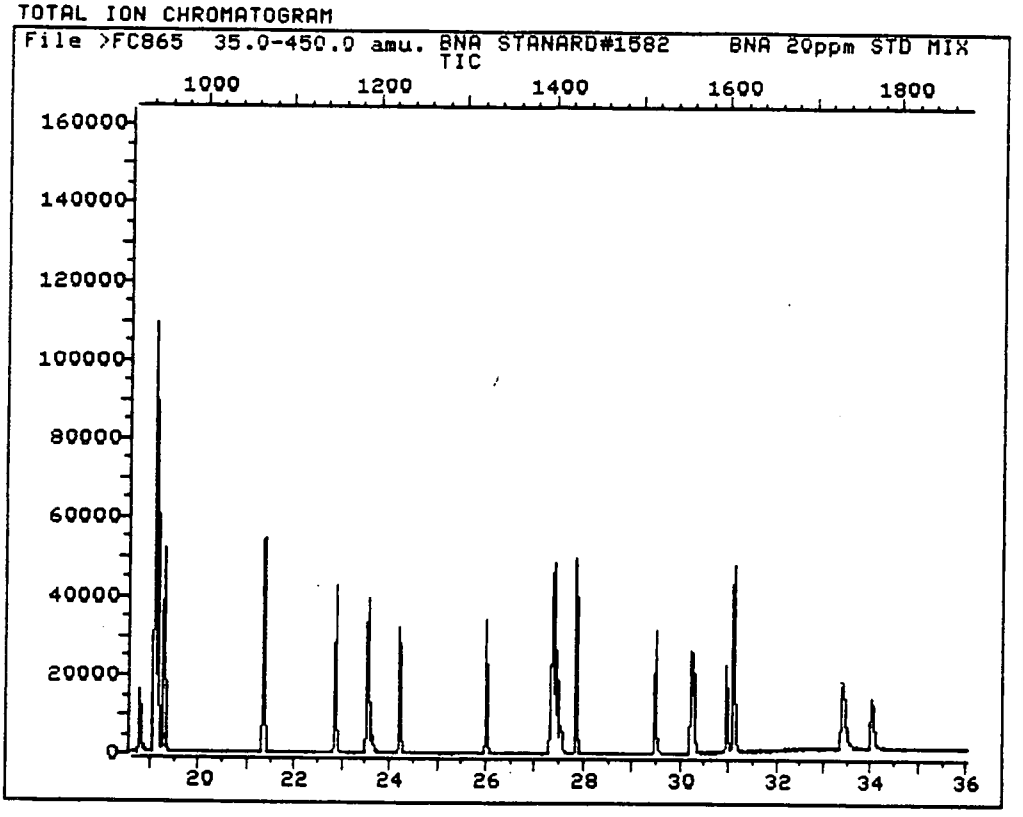
BTL# 4

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:35
Injected at: 890921 13:57

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC865::D4 Quant Output File: $FC865::QT
Name: BNA STANARD#1582
Misc: BNA 20ppm STD MIX BTL# 4

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

Operator ID: JOHN
Quant Time: 890922 14:35
Injected at: 890921 13:57

TIC page 2 of 2

QUANT REPORT

Operator ID: JOHN
Output Fil : $FC865::QT
Data File: >FC865::D4
Name: BNA STANARD#1582
Misc: BNA 20ppm STD MIX

Quant Rev: 6
Quant Time: 890922 14:35
Injected at: 890921 13:57
Dilution Factor: 1.00000

BTL# 4

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890922 14:23

	Compound	R.T.	Q ion	Area	Conc	Units	c
1)	*d4-1,4-Dichlorobenzene	6.13	152.0	47921	40.00	NG	9
2)	2-Fluorophenol	3.92	112.0	29847	20.25	NG	9
3)	Phenol-d5	5.61	99.0	34070	19.91	NG	9
4)	Phenol	5.64	94.0	39947	20.17	NG	8
5)	bis(2-Chloroethyl)ether	5.75	93.0	37117	20.16	NG	8
6)	2-Chlorophenol	5.79	128.0	33696	21.50	NG	9
7)	1,3-Dichlorobenzene	6.04	146.0	39174	21.70	NG	9
8)	1,4-Dichlorobenzene	6.17	146.0	39111	21.77	NG	9
9)	Benzyl Alcohol	6.61	108.0	12222	15.94	NG	9
10)	1,2-Dichlorobenzene	6.59	146.0	38043	21.20	NG	9
11)	2-Methylphenol	6.95	108.0	27033	20.58	NG	8
12)	bis(2-Chloroisopropyl)ether	6.93	45.0	80383	20.50	NG	8
13)	4-Methylphenol	7.31	108.0	26943	20.35	NG	9
14)	N-Nitroso-Di-n-propylamine	7.30	70.0	32027	20.34	NG	9
15)	Hexachloroethane	7.26	117.0	18917	20.62	NG	9
16)	*d8-Naphthalene	9.35	136.0	178028	40.00	NG	9
17)	Nitrobenzene-d5	7.59	82.0	34179	19.98	NG	9
18)	Nitrobenzene	7.64	77.0	35709	20.75	NG	9
19)	Isophorone	8.20	82.0	79863	20.51	NG	8
20)	2-Nitrophenol	8.44	139.0	19020	20.44	NG	8
21)	2,4-Dimethylphenol	8.66	107.0	31518	20.72	NG	9
22)	Benzoic Acid	9.06	122.0	9572	14.17	NG	9
23)	bis(2-Chloroethoxy)methane	8.93	93.0	35090	20.60	NG	9
24)	2,4-Dichlorophenol	9.07	162.0	26097	20.85	NG	9
25)	1,2,4-Trichlorobenzene	9.24	180.0	32047	21.96	NG	9
26)	Naphthalene	9.38	128.0	89934	21.80	NG	9
27)	4-Chloroaniline	9.76	127.0	32765	21.41	NG	9
28)	Hexachlorobutadiene	9.89	224.7	24136	24.54	NG	9
29)	4-Chloro-3-methylphenol	11.29	107.0	23802	19.04	NG	8
30)	2-Methylnaphthalene	11.38	142.0	59880	22.42	NG	8
31)	*d10-Acenaphthene	14.57	164.0	82148	40.00	NG	9
32)	H xachlorocyclopentadiene	12.03	237.0	22147	20.30	NG	9
33)	2,4,6-Trichlorophenol	12.40	196.0	17601	20.82	NG	8
34)	2,4,5-Trichlorophenol	12.50	196.0	16961	19.87	NG	9
35)	2-Chloronaphthalene	12.81	162.0	51572	22.39	NG	9
36)	2-Fluorobiphenyl	12.61	172.0	63911	22.39	NG	9
37)	2-Nitroaniline	13.47	65.0	13908	18.94	NG	9
38)	Dimethylphthalate	14.16	163.0	66519	21.64	NG	9
39)	Acenaphthylene	14.08	152.0	84346	21.75	NG	9
40)	3-Nitroaniline	14.77	138.0	8752	18.32	NG	8
41)	Acenaphthene	14.67	153.0	54189	21.71	NG	9
42)	2,4-Dinitrophenol	15.08	184.0	3442	12.91	NG	7

QUANT REPORT
page 2

Output File:$FC865::

Data File:>FC865::D4

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	15.54	109.0	2026M	12.22	NG	
44)	Dibenzofuran	15.16	168.0	65409	21.35	NG	9
45)	2,4-Dinitrotoluene	15.54	165.0	13973	19.13	NG	8
46)	2,6-Dinitrotoluene	14.38	165.0	13020	19.59	NG	8
47)	Diethylphthalate	16.34	149.0	65312	22.03	NG	9
48)	4-Chlorophenyl-phenylether	16.32	204.0	23359	22.03	NG	8
49)	Fluorene	16.21	166.0	48970	21.14	NG	9
50)	4-Nitroaniline	16.72	138.0	5132	15.98	NG	9
51)	*d10-Phenanthrene	19.09	188.0	106549	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	16.73	198.0	6831	15.88	NG	8
53)	N-Nitrosodiphenylamine	16.79	169.0	28865	21.38	NG	9
54)	2,4,6-Tribromophenol	17.06	329.9	9897	20.68	NG	9
55)	4-Bromophenyl-phenylether	17.81	248.0	15468	20.87	NG	8
56)	Hexachlorobenzene	18.13	283.6	22807	21.33	NG	8
57)	Pentachlorophenol	18.80	266.0	8013	16.06	NG	9
58)	Phenanthrene	19.17	178.0	58701	20.33	NG	9
59)	Anthracene	19.29	178.0	56064	20.99	NG	9
60)	Di-n-Butyl phthalate	21.36	149.0	83614	19.79	NG	9
61)	Fluoranthene	22.87	202.0	51929	20.63	NG	9
62)	*d12-Chrysene	27.40	240.0	49713	40.00	NG	9
63)	Pyrene	23.56	202.0	48760	17.87	NG	9
64)	Terphenyl-d14	24.23	244.0	36065	18.06	NG	8
65)	Butylbenzylphthalate	26.02	149.0	22151	16.93	NG	9
66)	3,3'-Dichlorobenzidine	27.53	252.0	7278	22.21	NG	9
67)	Benzo(a)Anthracene	27.35	228.0	29237	19.95	NG	9
68)	bis(2-Ethylhexyl)phthalate	27.85	149.0	33350	18.39	NG	9
69)	Chrysene	27.47	228.0	30363	20.66	NG	9
70)	*d12-Perylene	31.12	264.0	52426	40.00	NG	9
71)	Di-n-Octyl phthalate	29.49	149.0	40106	15.65	NG	9
72)	B nzo(b)Fluoranthene	30.23	252.0	25672	17.63	NG	9
73)	Benzo(k)Fluoranthene	30.28	252.0	28355	20.17	NG	9
74)	Benzo(a)Pyrene	30.97	252.0	25156	20.09	NG	9
75)	Indeno(1,2,3-cd)Pyrene	33.39	276.0	29251	19.68	NG	9
76)	Dibenzo(a,h)Anthracene	33.44	278.0	22569	19.58	NG	8
77)	Benzo(g,h,i)Perylene	34.04	276.0	24218	19.31	NG	9

* Compound is ISTD

Initial Calibration Data
HSL Compounds

Case No: Willow Grove

Instrument ID: GC/MS#4(D)

Contractor: EA LABORATORIES

Calibration Date: 10/02/89

Contract No: 10388.05

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>DE294	>DE290	>DE293	>DE292	>DE291					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
2-Fluorophenol	1.34266	1.34556	1.40877	1.40267	1.38247	.689	1.37643	2.258		
Phenol-d5	1.57265	1.56181	1.67357	1.69242	1.66986	.907	1.63406	3.777		
Phenol	1.66103	1.68471	1.80089	1.79968	1.85391	.911	1.76004	4.713	*	
bis(2-Chloroethyl)ether	1.50356	1.47122	1.56292	1.53399	1.55480	.937	1.52530	2.488		
2-Chlorophenol	1.39457	1.41720	1.47478	1.48224	1.52885	.951	1.45953	3.684		
1,3-Dichlorobenzene	1.54112	1.53204	1.56119	1.50256	1.56045	.991	1.53947	1.569		
1,4-Dichlorobenzene	1.56660	1.55424	1.52973	1.51820	1.58229	1.005	1.55021	1.694	*	
Benzyl Alcohol	.74827	.77412	.84258	.85849	.87321	1.045	.81933	6.705		
1,2-Dichlorobenzene	1.45033	1.44742	1.46849	1.44717	1.50262	1.059	1.46321	1.622		
2-Methylphenol	1.12727	1.18950	1.22570	1.26203	1.27155	1.078	1.21521	4.846		
bis(2-Chloroisopropyl)ether	1.70013	1.51965	1.88387	1.93852	1.80160	1.090	1.76876	9.372		
4-Methylphenol	1.10894	1.15070	1.24364	1.26052	1.27926	1.124	1.20861	6.164		
N-Nitroso-Di-n-propylamine	1.09186	1.15403	1.18378	1.10296	1.22463	1.137	1.15145	4.818		**
Hexachloroethane	.71448	.78717	.73290	.70455	.74196	1.149	.73621	4.357		
Nitrobenzene-d5	.43377	.46384	.43729	.44462	.44824	.842	.44555	2.631		
Nitrobenzene	.44170	.46398	.44587	.44991	.45117	.846	.45053	1.862		
Isophorone	.88321	.88850	.85898	.87065	.86403	.900	.87308	1.434		
2-Nitrophenol	.21463	.22497	.23206	.23649	.24423	.916	.23048	4.896	*	
2,4-Dimethylphenol	.37675	.42062	.39757	.39624	.41585	.925	.40141	4.364		
Benzoic Acid	-	.15041	.16880	.18503	.19507	.957	.17483	11.181		
bis(2-Chloroethoxy)methane	.38463	.39324	.40328	.40672	.40762	.949	.39910	2.480		
2,4-Dichlorophenol	.29196	.30052	.31364	.31242	.32190	.970	.30809	3.833	*	
1,2,4-Trichlorobenzene	.33192	.32898	.32838	.32534	.33452	.990	.32983	1.064		
Naphthalene	.98112	.99346	.96219	.92537	.84132	1.006	.94069	6.508		
4-Chloroaniline	.36825	.37876	.38860	.39377	.39091	1.022	.38406	2.730		
Hexachlorobutadiene	.22239	.21531	.20176	.19529	.20416	1.048	.20778	5.247	*	
4-Chloro-3-methylphenol	.28750	.31877	.31707	.31882	.32993	1.139	.31442	5.054	*	
2-Methylnaphthalene	.58417	.58350	.58376	.59334	.60033	1.171	.58902	1.283		
Hexachlorocyclopentadiene	.40076	.46028	.44493	.43693	.48007	.855	.44459	6.639		**
2,4,6-Trichlorophenol	.44938	.44484	.48355	.49508	.51860	.869	.47829	6.520	*	

RF - Response Factor (Subscript is amount in NG)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Willow Grove

Instrument ID: GC/MS#4(D)

Contractor: EA LABORATORIES

Calibration Date: 10/02/89

Contract No: 10388-05

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>DE294	>DE290	>DE293	>DE292	>DE291					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
2,4,5-Trichlorophenol	.39484	.42738	.46079	.44245	.46558	.875	.43821	6.530		
2-Chloronaphthalene	1.30898	1.27362	1.31429	1.31491	1.33960	.899	1.31028	1.807		
2-Fluorobiphenyl	1.55875	1.49220	1.56114	1.50837	1.57077	.884	1.53825	2.302		
2-Nitroaniline	-	.48863	.46750	.49021	.48350	.924	.48246	2.151		
Dimethylphthalate	1.61944	1.64538	1.64210	1.61091	1.64723	.962	1.63301	1.020		
Acenaphthylene	1.93851	2.03776	1.98526	2.00858	1.97612	.973	1.98924	1.862		
3-Nitroaniline	-	.26843	.28744	.30262	.29868	.997	.28929	5.296		
Acenaphthene	1.26116	1.29898	1.28127	1.27647	1.29434	1.006	1.28244	1.173	*	
2,4-Dinitrophenol	-	.13103	.14045	.16153	.17997	1.014	.15325	14.296		**
4-Nitrophenol	-	.17569	.14731	.15914	.17442	1.025	.16414	8.228		**
Dibenzofuran	1.55332	1.59931	1.68627	1.70103	1.78418	1.034	1.66482	5.434		
2,4-Dinitrotoluene	.36115	.44147	.45191	.46435	.48541	1.041	.44086	10.767		
2,6-Dinitrotoluene	.34907	.38849	.39435	.39515	.40197	.974	.38581	5.465		
Diethylphthalate	1.67124	1.75451	1.63413	1.66196	1.70016	1.087	1.68440	2.715		
4-Chlorophenyl-phenylether	.54893	.54816	.58047	.55249	.59016	1.095	.56404	3.508		
Fluorene	1.17529	1.24765	1.23155	1.20240	1.26432	1.094	1.22424	2.911		
4-Nitroaniline	-	.17236	.18684	.19343	.16556	1.105	.17954	7.142		
4,6-Dinitro-2-methylphenol	-	.14153	.15374	.16260	.16521	.885	.15577	6.861		
N-Nitrosodiphenylamine	.57264	.56154	.59609	.59056	.61876	.888	.58792	3.760	*	
2,4,6-Tribromophenol	.15053	.13290	.15443	.15073	.16475	.905	.15067	7.627		
4-Bromophenyl-phenylether	.26078	.22988	.25008	.24842	.26828	.938	.25149	5.784		
Hexachlorobenzene	.35731	.29908	.31491	.29905	.32557	.958	.31919	7.548		
Pentachlorophenol	-	.14852	.17096	.17401	.18792	.982	.17035	9.581	*	
Phenanthrene	1.11156	1.06792	1.14656	1.12705	1.16585	1.004	1.12379	3.320		
Anthracene	.99978	.96985	1.06043	1.07060	1.10276	1.010	1.04068	5.225		
Di-n-Butyl phthalate	1.79926	1.81942	1.71362	1.57036	1.43824	1.090	1.66818	9.692		
Fluoranthene	.89250	.87374	.95116	.95721	.97566	1.171	.93005	4.761	*	
Pyrene	2.18331	2.53668	2.35184	2.34335	2.42801	.876	2.36864	5.465		
Terphenyl-d14	1.56041	1.76407	1.73318	1.75481	1.82322	.893	1.72714	5.731		
Butylbenzylphthalate	1.23695	1.62557	1.33363	1.35050	1.30481	.946	1.37029	10.884		

RF - Response Factor (Subscript is amount in NG)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: Willow Grove

Instrument ID: GC/MS#4(D)

Contractor: EA LABORATORIES

Calibration Date: 10/02/89

Contract No: 10388-05

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>DE294	>DE290	>DE293	>DE292	>DE291					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
3,3'-Dichlorobenzidine	.27615	.25415	.32578	.34392	.35549	.997	.31110	14.129		
Benzo(a)Anthracene	1.18572	1.27693	1.21201	1.26231	1.27234	.998	1.24186	3.276		
bis(2-Ethylhexyl)phthalate	1.66360	2.00356	1.64900	1.64528	1.57339	1.006	1.70697	9.927		
Chrysene	1.16226	1.20915	1.18572	1.19990	1.17867	1.003	1.18714	1.542		
Di-n-Octyl phthalate	2.17798	2.80936	2.65847	2.73932	2.71860	.923	2.62075	9.666	*	
Benzo(b)Fluoranthene	1.10199	1.11774	1.37019	1.25423	1.45246	.961	1.25932	12.200		
Benzo(k)Fluoranthene	1.13935	1.11551	1.05936	1.18886	1.04068	.963	1.10875	5.425		
Benzo(a)Pyrene	.96507	.96768	1.03003	1.04153	1.11239	.994	1.02334	5.944	*	
Indeno(1,2,3-cd)Pyrene	1.04615	1.15272	1.12670	1.13057	1.20127	1.139	1.13148	4.965		
Dibenzo(a,h)Anthracene	.78017	.87540	.85581	.88436	.90271	1.141	.85969	5.531		
Benzo(g,h,i)Perylene	.82852	.86802	.86621	.88540	.95884	1.180	.88140	5.447		

RF - Response Factor (Subscript is amount in NG)

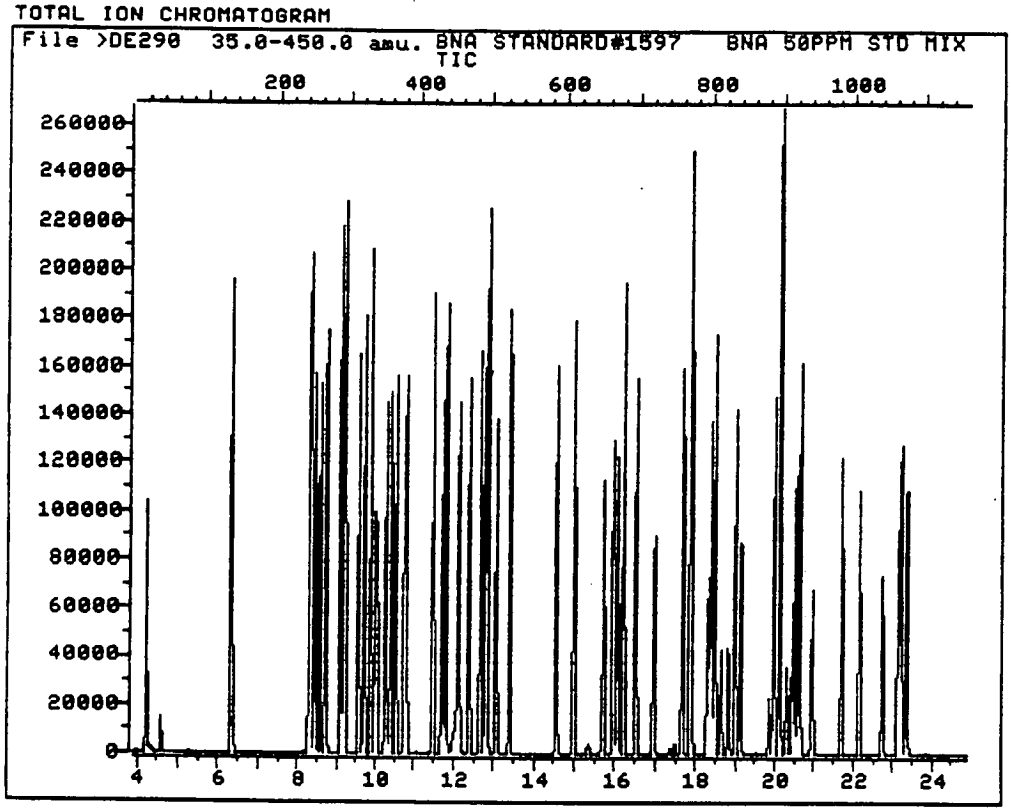
$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



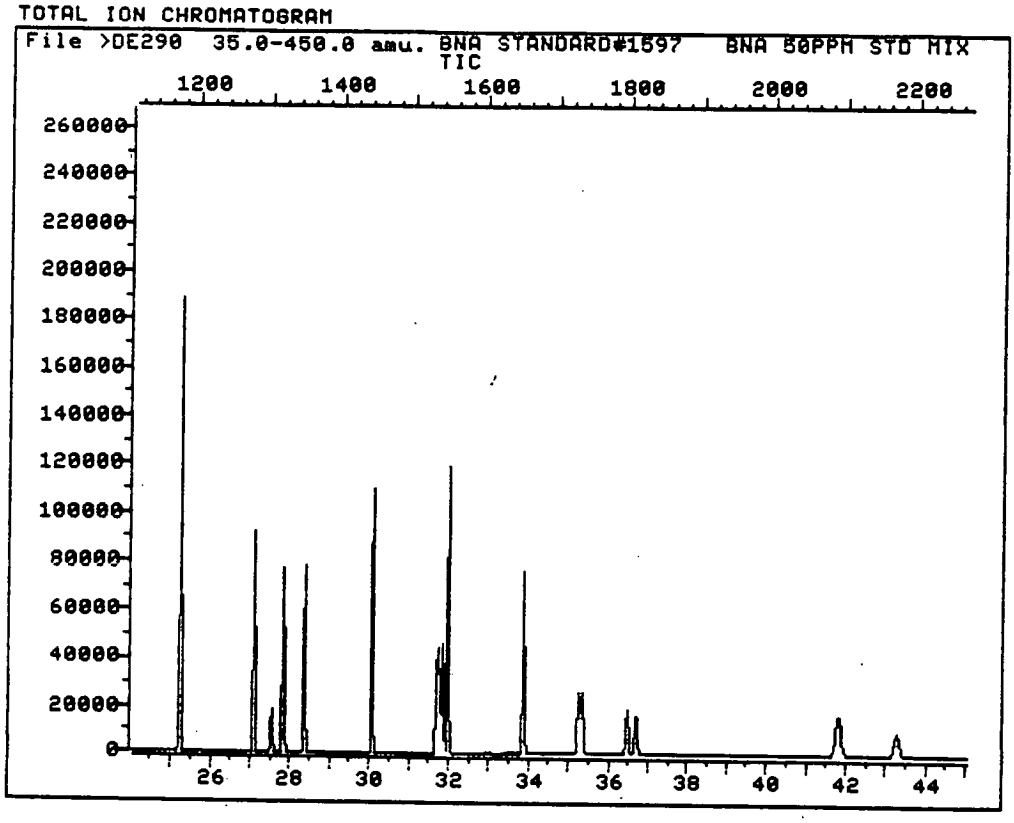
Data File: >DE290::W6 Quant Output File: ^DE290::QT
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 12:29
Injected at: 891002 09:34

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE290::W6
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX

Quant Output File: ^DE290::QT

BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 12:29
Injected at: 891002 09:34

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA
Output File: ^DE290::QT
Data File: >DE290::W6
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX

Quant Rev: 6
Quant Time: 891002 12:29
Injected at: 891002 09:34
Dilution Factor: 1.00000

BTL#99

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	57362	40.00	NG	9
2)	2-Fluorophenol	6.33	112.0	96480	50.00	NG	9
3)	Phenol-d5	8.32	99.0	111986	50.00	NG	9
4)	Phenol	8.36	94.0	120798	50.00	NG	7
5)	bis(2-Chloroethyl)ether	8.59	93.0	105490	50.00	NG	9
6)	2-Chlorophenol	8.74	128.0	101617	50.00	NG	9
7)	1,3-Dichlorobenzene	9.10	146.0	109851	50.00	NG	9
8)	1,4-Dichlorobenzene	9.23	146.0	111443	50.00	NG	9
9)	B nzyl Alcohol	9.59	108.0	55506	50.00	NG	8
10)	1,2-Dichlorobenzene	9.72	146.0	103784	50.00	NG	9
11)	2-Methylphenol	9.90	108.0	85290	50.00	NG	9
12)	bis(2-Chloroisopropyl)ether	10.01	45.0	108963	50.00	NG	9
13)	4-Methylphenol	10.31	108.0	82508	50.00	NG	9
14)	N-Nitroso-Di-n-propylamine	10.42	70.0	82747	50.00	NG	9
15)	Hexachloroethane	10.57	117.0	56442	50.00	NG	8
16)	*d8-Naphthalene	12.80	136.0	190650	40.00	NG	9
17)	Nitrobenzene-d5	10.77	82.0	110538	50.00	NG	9
18)	Nitrobenzene	10.82	77.0	110573	50.00	NG	9
19)	Isophorone	11.49	82.0	211741	50.00	NG	9
20)	2-Nitrophenol	11.73	139.0	53613	50.00	NG	9
21)	2,4-Dimethylphenol	11.84	107.0	100240	50.00	NG	9
22)	Benzoic Acid	12.16	122.0	35845	50.00	NG	8
23)	bis(2-Chloroethoxy)methane	12.15	93.0	93714	50.00	NG	9
24)	2,4-Dichlorophenol	12.40	162.0	71617	50.00	NG	9
25)	1,2,4-Trichlorobenzene	12.67	180.0	78400	50.00	NG	9
26)	Naphthalene	12.87	128.0	236754	50.00	NG	9
27)	4-Chloroaniline	13.09	127.0	90264	50.00	NG	9
28)	Hexachlorobutadiene	13.41	224.7	51310	50.00	NG	9
29)	4-Chloro-3-methylphenol	14.57	107.0	75968	50.00	NG	8
30)	2-Methylnaphthalene	14.99	142.0	139056	50.00	NG	9
31)	*d10-Acenaphthene	18.40	164.0	75931	40.00	NG	9
32)	Hexachlorocyclopentadiene	15.71	237.0	43687	50.00	NG	9
33)	2,4,6-Trichlorophenol	15.97	196.0	42221	50.00	NG	8
34)	2,4,5-Trichlorophenol	16.08	196.0	40564	50.00	NG	9
35)	2-Chloronaphthalene	16.53	162.0	120884	50.00	NG	9
36)	2-Fluorobiphenyl	16.24	172.0	141630	50.00	NG	9
37)	2-Nitroaniline	16.98	65.0	46378	50.00	NG	9
38)	Dimethylphthalate	17.69	163.0	156169	50.00	NG	9
39)	Acenaphthylene	17.89	152.0	193411	50.00	NG	9
40)	3-Nitroaniline	18.32	138.0	25478	50.00	NG	8
41)	Acenaphthene	18.51	153.0	123291	50.00	NG	9
42)	2,4-Dinitrophen l	18.63	184.0	12437	50.00	NG	7

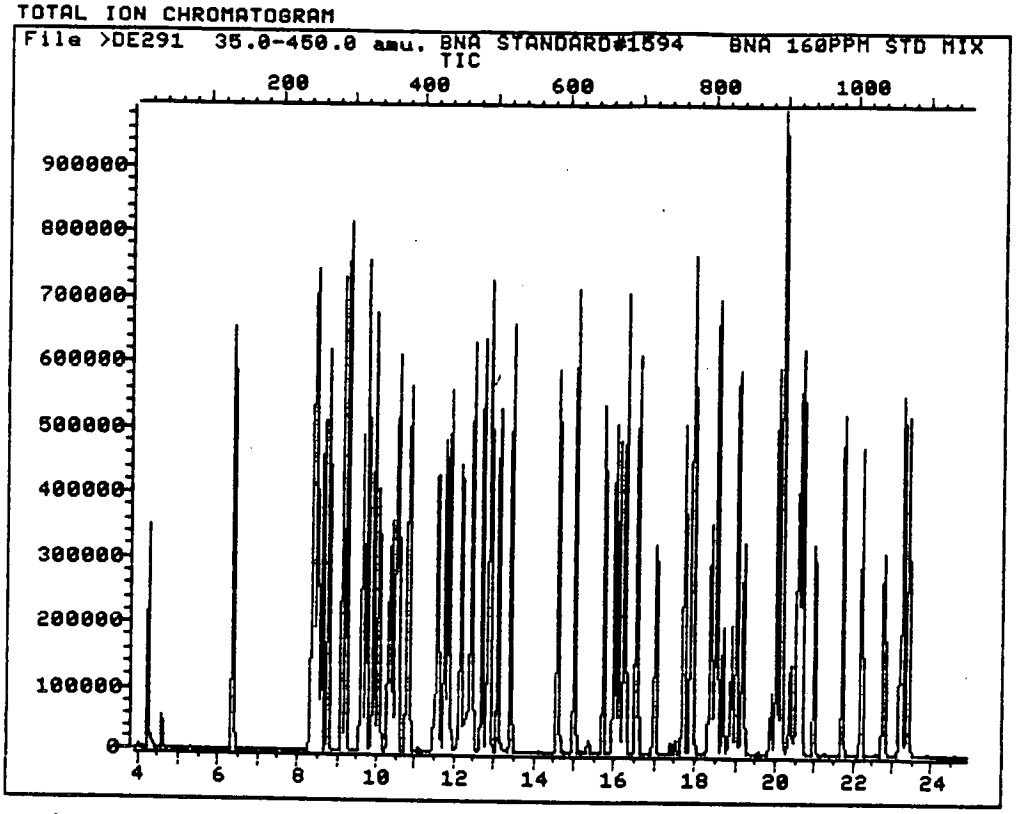
QUANT REPORT
page 2

Output File:^DE290:: Data File:>DE290::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.83	109.0	16675	50.00	NG	9
44)	Dibenzofuran	19.00	168.0	151797	50.00	NG	8
45)	2,4-Dinitrotoluene	19.14	165.0	41902	50.00	NG	9
46)	2,6-Dinitrotoluene	17.91	165.0	36873	50.00	NG	8
47)	Diethylphthalate	19.97	149.0	166527	50.00	NG	9
48)	4-Chlorophenyl-phenylether	20.14	204.0	52028	50.00	NG	8
49)	Fluorene	20.12	166.0	118419	50.00	NG	9
50)	4-Nitroaniline	20.30	138.0	16359M	50.00	NG	
51)	*d10-Phenanthrene	23.14	188.0	105616	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	20.46	198.0	18685M	50.00	NG	
53)	N-Nitrosodiphenylamine	20.54	169.0	74134	50.00	NG	9
54)	2,4,6-Tribromophenol	20.95	330.0	17545	50.00	NG	8
55)	4-Bromophenyl-phenylether	21.70	248.0	30349M	50.00	NG	
56)	Hexachlorobenzene	22.17	284.0	39485	50.00	NG	8
57)	Pentachlorophenol	22.75	266.0	19607	50.00	NG	9
58)	Phenanthrene	23.24	178.0	140987	50.00	NG	9
59)	Anthracene	23.36	178.0	128039	50.00	NG	9
60)	Di-n-Butyl phthalate	25.25	149.0	240200	50.00	NG	9
61)	Fluoranthene	27.11	202.0	115351	50.00	NG	9
62)	*d12-Chrysene	31.78	240.0	32790	40.00	NG	9
63)	Pyrene	27.84	202.0	103972	50.00	NG	9
64)	Terphenyl-d14	28.38	244.0	72305	50.00	NG	8
65)	Butylbenzylphthalate	30.08	149.0	66628	50.00	NG	9
66)	3,3'-Dichlorobenzidine	31.69	252.0	10417	50.00	NG	9
67)	Benzo(a)Anthracene	31.73	228.0	52338	50.00	NG	9
68)	bis(2-Ethylhexyl)phthalate	31.98	149.0	82121	50.00	NG	9
69)	Chrysene	31.87	228.0	49560	50.00	NG	9
70)	*d12-Perylene	36.71	264.0	29179	40.00	NG	9
71)	Di-n-Octyl phthalate	33.87	149.0	102468	50.00	NG	9
72)	Benzo(b)Fluoranthene	35.26	252.0	40768	50.00	NG	9
73)	Benzo(k)Fluoranthene	35.35	252.0	40687	50.00	NG	9
74)	Benzo(a)Pyrene	36.49	252.0	35295	50.00	NG	9
75)	Indeno(1,2,3-cd)Pyrene	41.78	276.0	42044M	50.00	NG	9
76)	Dibenzo(a,h)Anthracene	41.87	278.0	31929	50.00	NG	8
77)	Benzo(g,h,i)Perylene	43.30	276.0	31660	50.00	NG	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >DE291::W6
Name: BNA STANDARD#1594
Misc: BNA 160PPM STD MIX

Quant Output File: ^DE291::QT

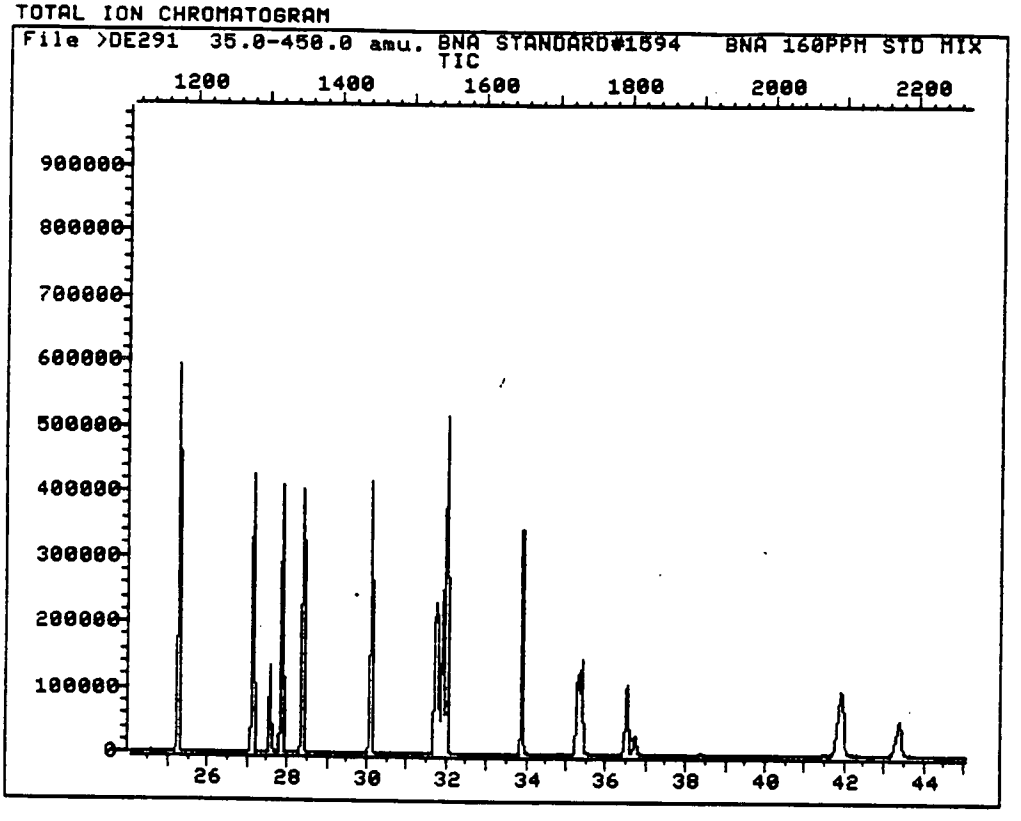
BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 11:46
Injected at: 891002 10:58

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE291::W6
Name: BNA STANDARD#1594
Misc: BNA 160PPM STD MIX

Quant Output File: ^DE291::QT

BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 11:46
Injected at: 891002 10:58

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA
Output File: ^DE291::QT
Data File: >DE291::W6
Name: BNA STANDARD#1594
Misc: BNA 160PPM STD MIX

Quant Rev: 6
Quant Time: 891002 11:46
Injected at: 891002 10:58
Dilution Factor: 1.00000

BTL# 1

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.21	152.0	76329	40.00	NG	8
2)	2-Fluorophenol	6.35	112.0	422090	164.39	NG	8
3)	Phenol-d5	8.39	99.0	509834	171.07	NG	9
4)	Phenol	8.43	94.0	566027	176.07	NG	9
5)	bis(2-Chloroethyl)ether	8.65	93.0	474706	169.09	NG	9
6)	2-Chlorophenol	8.78	128.0	466782	172.60	NG	9
7)	1,3-Dichlorobenzene	9.12	146.0	476431	162.97	NG	9
8)	1,4-Dichlorobenzene	9.27	146.0	483098	162.89	NG	9
9)	Benzyl Alcohol	9.66	108.0	266605	180.48	NG	8
10)	1,2-Dichlorobenzene	9.75	146.0	458774	166.10	NG	9
11)	2-Methylphenol	9.95	108.0	388224	171.04	NG	9
12)	bis(2-Chloroisopropyl)ether	10.05	45.0	550057	189.69	NG	8
13)	4-Methylphenol	10.39	108.0	390578M	177.88	NG	9
14)	N-Nitroso-Di-n-propylamine	10.52	70.0	373899M	169.79	NG	9
15)	Hexachloroethane	10.57	117.0	226532	150.81	NG	9
16)	*d8-Naphthalene	12.84	136.0	276601	40.00	NG	8
17)	Nitrobenzene-d5	10.83	82.0	495940	154.62	NG	9
18)	Nitrobenzene	10.88	77.0	499177	155.58	NG	9
19)	Isophorone	11.59	82.0	955971M	155.59	NG	8
20)	2-Nitrophenol	11.77	139.0	270217	173.70	NG	9
21)	2,4-Dimethylphenol	11.90	107.0	460102	158.19	NG	9
22)	Benzoic Acid	12.46	122.0	215828M	207.51	NG	9
23)	bis(2-Chloroethoxy)methane	12.19	93.0	450989	165.85	NG	9
24)	2,4-Dichlorophenol	12.46	162.0	356153	171.39	NG	9
25)	1,2,4-Trichlorobenzene	12.71	180.0	370110	162.69	NG	9
26)	Naphthalene	12.91	128.0	930836	135.50	NG	9
27)	4-Chloroaniline	13.13	127.0	432508	165.13	NG	9
28)	H xachlorobutadiene	13.44	224.7	225884	151.72	NG	8
29)	4-Chloro-3-methylphenol	14.62	107.0	365033	165.60	NG	8
30)	2-Methylnaphthalene	15.03	142.0	664211	164.61	NG	9
31)	*d10-Acenaphthene	18.43	164.0	116047	40.00	NG	9
32)	Hexachlorocyclopentadiene	15.74	237.0	222845	166.88	NG	9
33)	2,4,6-Trichlorophenol	16.01	196.0	240726	186.53	NG	9
34)	2,4,5-Trichlorophenol	16.12	196.0	216117	174.30	NG	9
35)	2-Chloronaphthalene	16.58	162.0	621826	168.29	NG	9
36)	2-Fluorobiphenyl	16.29	172.0	729132	168.42	NG	9
37)	2-Nitroaniline	17.03	65.0	224433	158.32	NG	9
38)	Dimethylphthalate	17.75	163.0	764624	160.18	NG	9
39)	Acenaphthylene	17.94	152.0	917289	155.16	NG	9
40)	3-Nitroaniline	18.39	138.0	138644	178.03	NG	9
41)	Acenaphthene	18.55	153.0	600816	159.43	NG	9
42)	2,4-Dinitrophenol	18.70	184.0	83541	219.76	NG	9

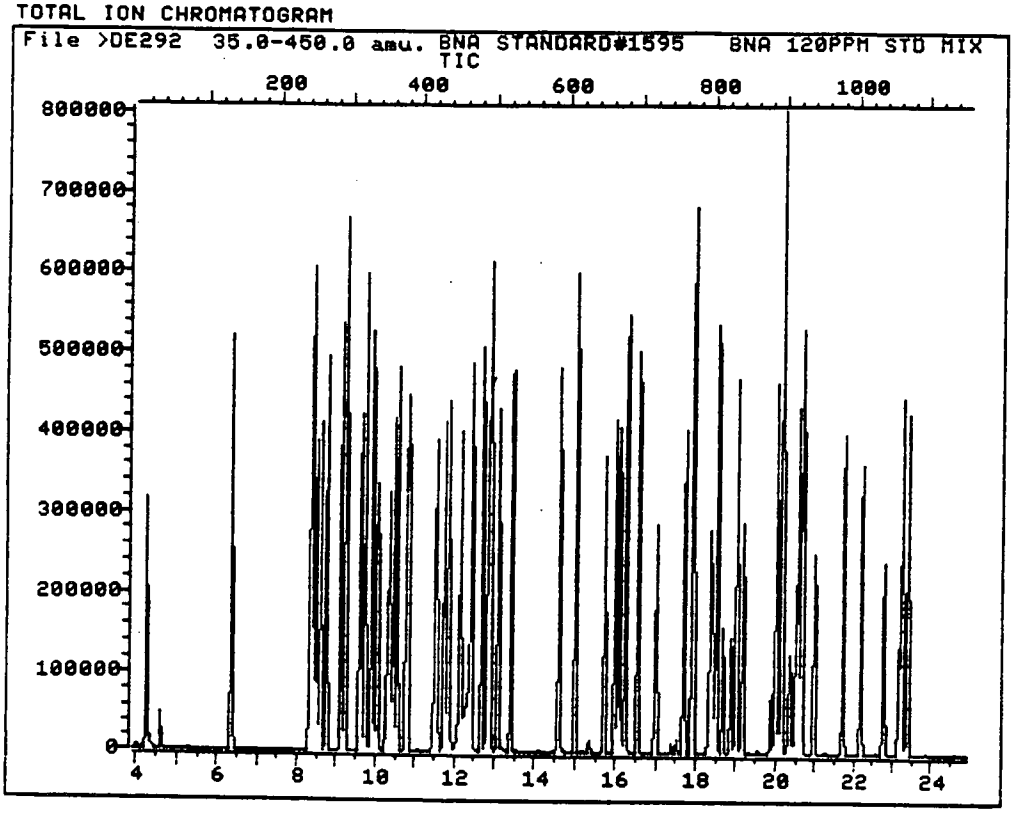
QUANT REPORT
page 2

Output File:^DE291:: Data File:>DE291::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.92	109.0	80964	158.85	NG	8
44)	Dibenzofuran	19.06	168.0	828196	178.49	NG	9
45)	2,4-Dinitrotoluene	19.21	165.0	225321	175.92	NG	8
46)	2,6-Dinitrotoluene	17.97	165.0	186589M	165.55	NG	
47)	Diethylphthalate	20.04	149.0	789192	155.04	NG	9
48)	4-Chlorophenyl-phenylether	20.17	204.0	273944	172.26	NG	9
49)	Fluorene	20.17	166.0	586883	162.14	NG	9
50)	4-Nitroaniline	20.40	138.0	76849	153.69	NG	7
51)	*d10-Phenanthrene	23.18	188.0	167726	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	20.55	198.0	110840	186.77	NG	7
53)	N-Nitrosodiphenylamine	20.60	169.0	415129	176.31	NG	9
54)	2,4,6-Tribromophenol	21.00	330.0	110529	198.35	NG	8
55)	4-Bromophenyl-phenylether	21.75	248.0	179987M	186.72	NG	
56)	Hexachlorobenzene	22.22	284.0	218428	174.17	NG	8
57)	Pentachlorophenol	22.78	266.0	126076	202.45	NG	9
58)	Phenanthrene	23.27	178.0	782174	174.67	NG	9
59)	Anthracene	23.42	178.0	739845	181.93	NG	9
60)	Di-n-Butyl phthalate	25.28	149.0	964923	126.48	NG	9
61)	Fluoranthene	27.16	202.0	654572	178.66	NG	9
62)	*d12-Chrysene	31.82	240.0	62577	40.00	NG	9
63)	Pyrene	27.89	202.0	607750	153.15	NG	9
64)	Terphenyl-d14	28.42	244.0	456366	165.36	NG	8
65)	Butylbenzylphthalate	30.10	149.0	326604	128.43	NG	9
66)	3,3'-Dichlorobenzidine	31.71	252.0	88983	223.80	NG	9
67)	Benzo(a)Anthracene	31.77	228.0	318477	159.43	NG	9
68)	bis(2-Ethylhexyl)phthalate	32.00	149.0	393831	125.65	NG	9
69)	Chrysene	31.91	228.0	295031	155.97	NG	9
70)	*d12-Perylene	36.73	264.0	47447	40.00	NG	9
71)	Di-n-Octyl phthalate	33.89	149.0	515957	154.83	NG	9
72)	Benzo(b)Fluoranthene	35.30	252.0	275659	207.91	NG	9
73)	Benzo(k)Fluoranthene	35.39	252.0	197509	149.27	NG	9
74)	Benzo(a)Pyrene	36.53	252.0	211118	183.93	NG	9
75)	Indeno(1,2,3-cd)Pyrene	41.88	276.0	227986	166.74	NG	9
76)	Dibenzo(a,h)Anthracene	41.95	278.0	171324	164.99	NG	9
77)	Benzo(g,h,i)Perylene	43.40	276.0	181977	176.74	NG	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >DE292::W6
Name: BNA STANDARD#1595
Misc: BNA 120PPM STD MIX

Quant Output File: ^DE292::QT

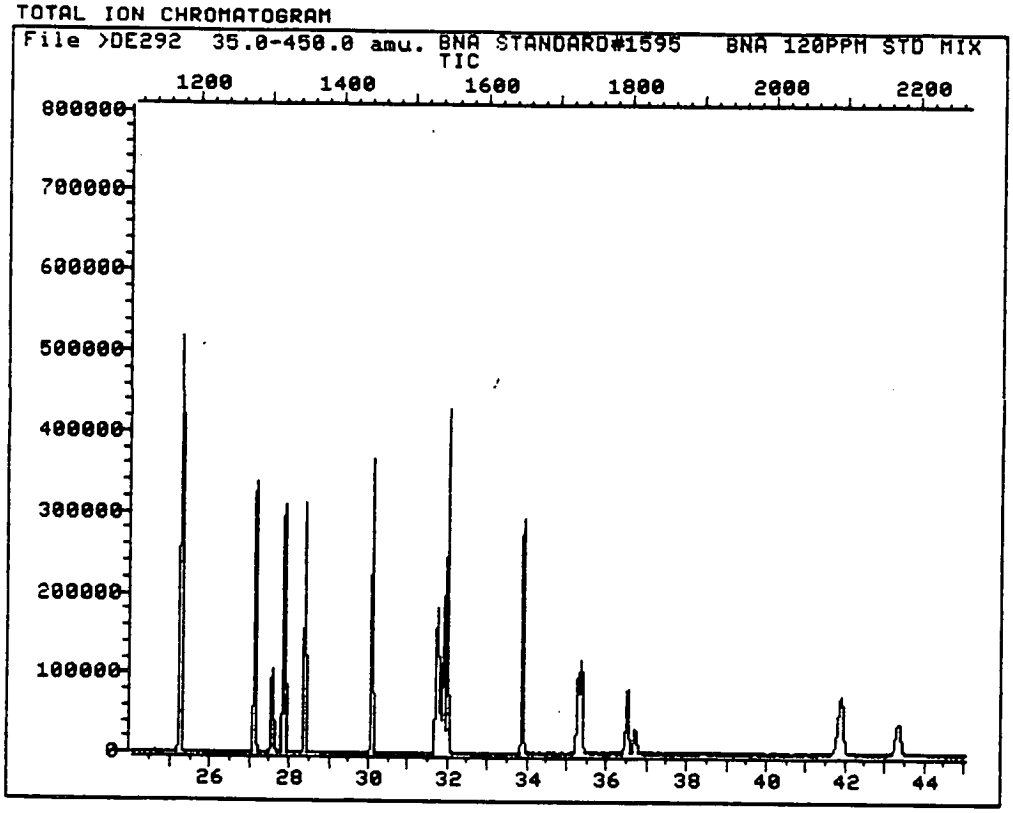
BTL# 2

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 12:43
Injected at: 891002 11:54

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE292::W6
Name: BNA STANDARD#1595
Misc: BNA 120PPM STD MIX

Quant Output File: ^DE292::QT

BTL# 2

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 12:43
Injected at: 891002 11:54

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA
Output File: ^DE292::QT
Data File: >DE292::W6
Name: BNA STANDARD#1595
Misc: BNA 120PPM STD MIX

Quant Rev: 6
Quant Time: 891002 12:43
Injected at: 891002 11:54
Dilution Factor: 1.00000

BTL# 2

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

	Compound	R.T.	Q ion	Area	Conc	Units	c
1)	*d4-1,4-Dichlorobenzene	9.20	152.0	81854	40.00	NG	9
2)	2-Fluorophenol	6.34	112.0	344442	125.09	NG	E
3)	Phenol-d5	8.37	99.0	415594	130.03	NG	9
4)	Phenol	8.41	94.0	441933	128.19	NG	9
5)	bis(2-Chloroethyl)ether	8.62	93.0	376689	125.12	NG	9
6)	2-Chlorophenol	8.77	128.0	363983	125.51	NG	9
7)	1,3-Dichlorobenzene	9.11	146.0	368971	117.69	NG	9
8)	1,4-Dichlorobenzene	9.26	146.0	372813	117.22	NG	9
9)	Benzyl Alcohol	9.64	108.0	210812	133.08	NG	E
10)	1,2-Dichlorobenzene	9.75	146.0	355371	119.98	NG	9
11)	2-Methylphenol	9.93	108.0	309906	127.32	NG	9
12)	bis(2-Chloroisopropyl)ether	10.04	45.0	476027	153.08	NG	E
13)	4-Methylphenol	10.36	108.0	309537	131.45	NG	9
14)	N-Nitroso-Di-n-propylamine	10.49	70.0	270845	114.69	NG	9
15)	H xachloroethane	10.58	117.0	173010	107.40	NG	9
16)	*d8-Naphthalene	12.83	136.0	287484	40.00	NG	8
17)	Nitrobenzene-d5	10.80	82.0	383460	115.03	NG	9
18)	Nitrobenzene	10.86	77.0	388024	116.36	NG	9
19)	Isophorone	11.56	82.0	750894	117.59	NG	E
20)	2-Nitrophenol	11.76	139.0	203965	126.15	NG	9
21)	2,4-Dimethylphenol	11.87	107.0	341734	113.04	NG	9
22)	Benzoic Acid	12.38	122.0	159581M	147.62	NG	9
23)	bis(2-Chloroethoxy)methane	12.18	93.0	350779	124.11	NG	9
24)	2,4-Dichlorophenol	12.45	162.0	269449	124.75	NG	9
25)	1,2,4-Trichlorobenzene	12.71	180.0	280593	118.67	NG	9
26)	Naphthalene	12.90	128.0	798087	111.78	NG	9
27)	4-Chloroaniline	13.12	127.0	339610	124.76	NG	9
28)	Hexachlorobutadiene	13.43	224.7	168431	108.85	NG	9
29)	4-Chloro-3-methylphenol	14.61	107.0	274963	120.02	NG	8
30)	2-Methylnaphthalene	15.03	142.0	511723	122.02	NG	9
31)	*d10-Acenaphthene	18.42	164.0	118358	40.00	NG	9
32)	Hexachlorocyclopentadiene	15.73	237.0	155142	113.91	NG	9
33)	2,4,6-Trichlorophenol	16.00	196.0	175791	133.55	NG	9
34)	2,4,5-Trichlorophenol	16.11	196.0	157103	124.23	NG	9
35)	2-Chloronaphthalene	16.57	162.0	466891	123.89	NG	9
36)	2-Fluorobiphenyl	16.28	172.0	535583	121.30	NG	9
37)	2-Nitroaniline	17.02	65.0	174060	120.39	NG	9
38)	Dimethylphthalate	17.73	163.0	571993	117.49	NG	9
39)	Acenaphthylene	17.93	152.0	713193	118.28	NG	9
40)	3-Nitroaniline	18.36	138.0	107452	135.28	NG	9
41)	Acenaphthene	18.53	153.0	453243	117.92	NG	9
42)	2,4-Dinitrophenol	18.69	184.0	57355	147.93	NG	8

QUANT REPORT
page 2

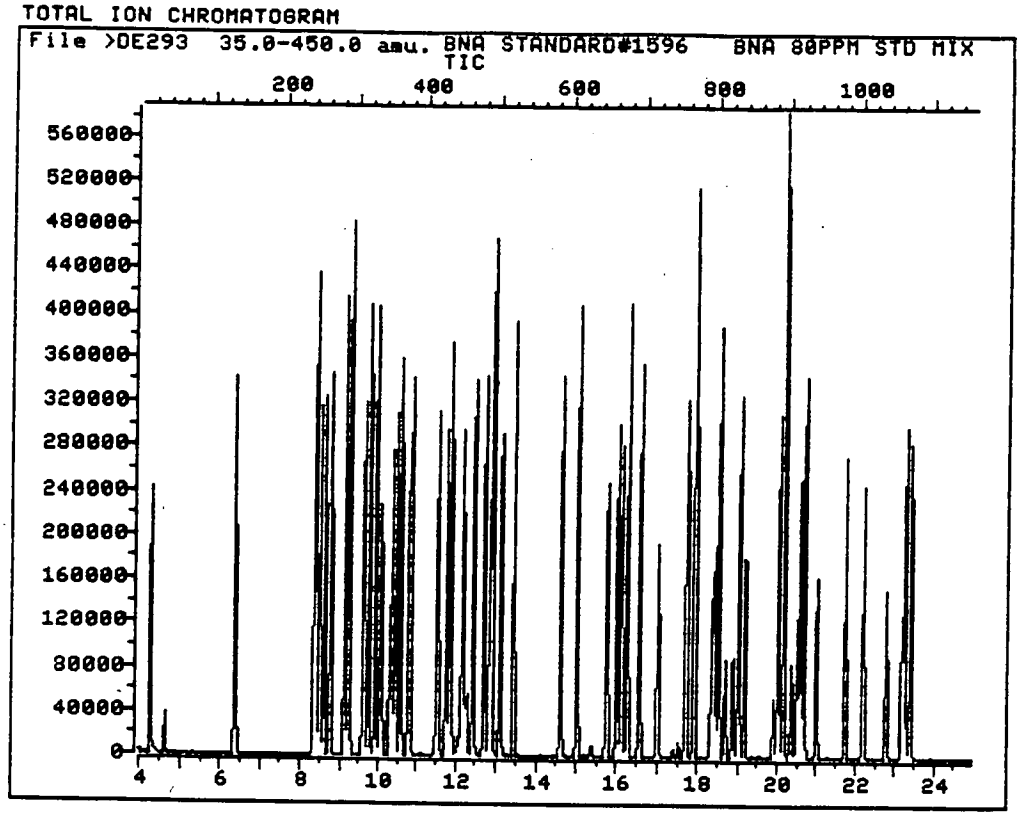
Output File:^DE292::

Data File:>DE292::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.89	109.0	56507	108.70	NG	9
44)	Dibenzofuran	19.04	168.0	603990	127.63	NG	9
45)	2,4-Dinitrotoluene	19.20	165.0	164878	126.22	NG	9
46)	2,6-Dinitrotoluene	17.95	165.0	140309	122.06	NG	9
47)	Diethylphthalate	20.03	149.0	590119	113.67	NG	9
48)	4-Chlorophenyl-phenylether	20.16	204.0	196176	120.95	NG	9
49)	Fluorene	20.16	166.0	426942	115.65	NG	9
50)	4-Nitroaniline	20.38	138.0	68682	134.67	NG	7
51)	*d10-Phenanthrene	23.17	188.0	169473	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	20.52	198.0	82671	137.87	NG	7
53)	N-Nitrosodiphenylamine	20.60	169.0	300252	126.20	NG	9
54)	2,4,6-Tribromophenol	21.00	330.0	76633	136.10	NG	9
55)	4-Bromophenyl-phenylether	21.74	248.0	126302M	129.68	NG	
56)	Hexachlorobenzene	22.21	284.0	152043	119.99	NG	8
57)	Pentachlorophenol	22.77	266.0	88470	140.60	NG	9
58)	Phenanthrene	23.26	178.0	573014	126.64	NG	9
59)	Anthracene	23.41	178.0	544312	132.47	NG	9
60)	Di-n-Butyl phthalate	25.27	149.0	798403	103.57	NG	9
61)	Fluoranthene	27.14	202.0	486665	131.46	NG	9
62)	*d12-Chrysene	31.81	240.0	63605	40.00	NG	9
63)	Pyrene	27.88	202.0	447146	110.85	NG	9
64)	Terphenyl-d14	28.41	244.0	334845	119.37	NG	8
65)	Butylbenzylphthalate	30.11	149.0	257695	99.69	NG	9
66)	3,3'-Dichlorobenzidine	31.70	252.0	65625	162.39	NG	9
67)	Benzo(a)Anthracene	31.76	228.0	240868	118.63	NG	9
68)	bis(2-Ethylhexyl)phthalate	32.01	149.0	313944	98.54	NG	9
69)	Chrysene	31.91	228.0	228958	119.08	NG	9
70)	*d12-Perylene	36.73	264.0	50176	40.00	NG	9
71)	Di-n-Octyl phthalate	33.90	149.0	412345	117.01	NG	9
72)	Benzo(b)Fluoranthene	35.30	252.0	188797	134.65	NG	9
73)	Benzo(k)Fluoranthene	35.39	252.0	178957	127.89	NG	9
74)	Benzo(a)Pyrene	36.53	252.0	156779	129.16	NG	9
75)	Indeno(1,2,3-cd)Pyrene	41.86	276.0	170182	117.69	NG	9
76)	Dibenzo(a,h)Anthracene	41.91	278.0	133121	121.23	NG	8
77)	Benzo(g,h,i)Perylene	43.35	276.0	133277	122.40	NG	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >DE293::W6
Name: BNA STANDARD#1596
Misc: BNA 80PPM STD MIX

Quant Output File: ^DE293::QT

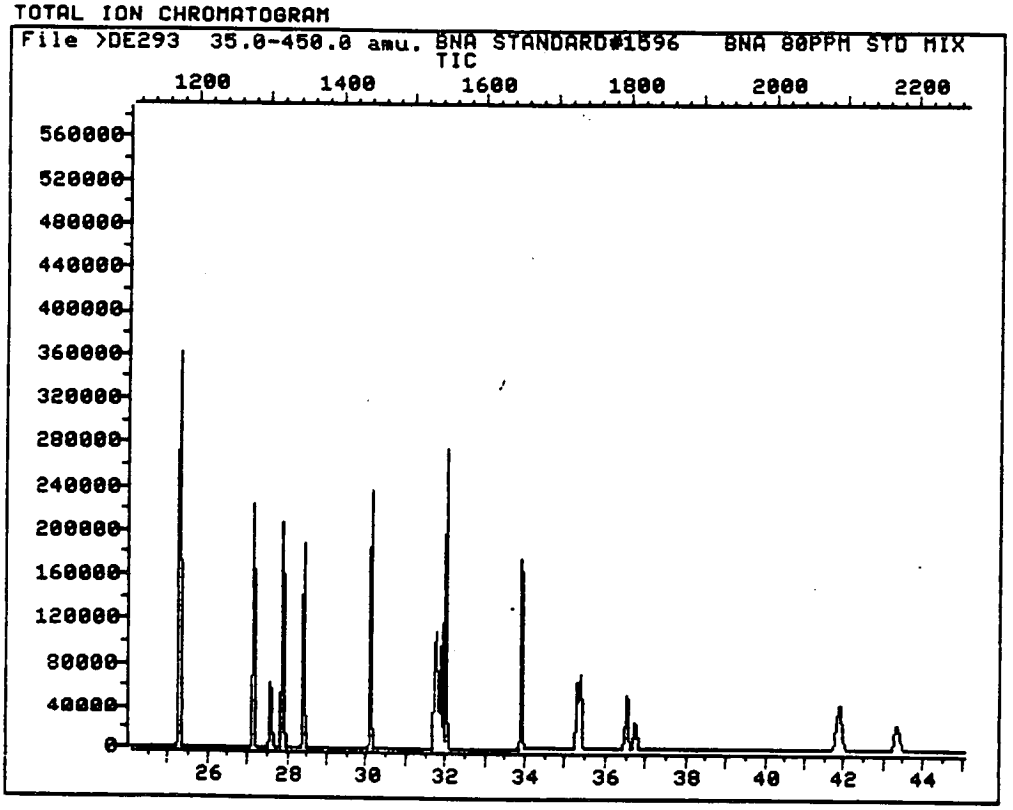
BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 13:40
Injected at: 891002 12:51

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE293::W6 Quant Output File: ^DE293::QT
Name: BNA STANDARD#1596
Misc: BNA 80PPM STD MIX BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 13:40
Injected at: 891002 12:51

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA
Output File: ^DE293::QT
Data File: >DE293::W6
Name: BNA STANDARD#1596
Misc: BNA 80PPM STD MIX

Quant Rev: 6
Quant Time: 891002 13:40
Injected at: 891002 12:51
Dilution Factor: 1.00000

BTL# 3

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.22	152.0	81238	40.00	NG	9
2)	2-Fluorophenol	6.35	112.0	228892	83.76	NG	8
3)	Phenol-d5	8.36	99.0	271915	85.72	NG	9
4)	Phenol	8.40	94.0	292602	85.52	NG	9
5)	bis(2-Chloroethyl)ether	8.64	93.0	253937	84.99	NG	9
6)	2-Chlorophenol	8.76	128.0	239617	83.25	NG	9
7)	1,3-Dichlorobenzene	9.14	146.0	253656	81.52	NG	9
8)	1,4-Dichlorobenzene	9.27	146.0	248545	78.74	NG	9
9)	Benzyl Alcohol	9.63	108.0	136899	87.08	NG	8
10)	1,2-Dichlorobenzene	9.76	146.0	238595	81.16	NG	9
11)	2-Methylphenol	9.94	108.0	199147	82.43	NG	9
12)	bis(2-Chloroisopropyl)ether	10.05	45.0	306084	99.17	NG	8
13)	4-Methylphenol	10.36	108.0	202062	86.46	NG	9
14)	N-Nitroso-Di-n-propylamine	10.49	70.0	192336	82.06	NG	9
15)	Hexachloroethane	10.59	117.0	119079	74.48	NG	9
16)	*d8-Naphthalene	12.84	136.0	288213	40.00	NG	8
17)	Nitrobenzene-d5	10.81	82.0	252065	75.42	NG	9
18)	Nitrobenzene	10.87	77.0	257013	76.88	NG	9
19)	Isophorone	11.56	82.0	495141	77.34	NG	9
20)	2-Nitrophenol	11.77	139.0	133766	82.52	NG	9
21)	2,4-Dimethylphenol	11.88	107.0	229169	75.62	NG	9
22)	Benzoic Acid	12.30	122.0	97303	89.78	NG	9
23)	bis(2-Chloroethoxy)methane	12.19	93.0	232463	82.04	NG	9
24)	2,4-Dichlorophenol	12.46	162.0	180791	83.49	NG	9
25)	1,2,4-Trichlorobenzene	12.72	180.0	189286	79.85	NG	9
26)	Naphthalene	12.92	128.0	554631	77.48	NG	9
27)	4-Chloroaniline	13.14	127.0	223997	82.08	NG	9
28)	Hexachlorobutadiene	13.46	224.7	116301	74.97	NG	9
29)	4-Chloro-3-methylphenol	14.62	107.0	182768	79.57	NG	8
30)	2-Methylnaphthalene	15.04	142.0	336493	80.03	NG	9
31)	*d10-Acenaphthene	18.43	164.0	116687	40.00	NG	9
32)	Hexachlorocyclopentadiene	15.76	237.0	103834	77.33	NG	9
33)	2,4,6-Trichlorophenol	16.02	196.0	112847	86.96	NG	9
34)	2,4,5-Trichlorophenol	16.13	196.0	107536	86.25	NG	9
35)	2-Chloronaphthalene	16.58	162.0	306721	82.55	NG	9
36)	2-Fluorobiphenyl	16.29	172.0	364330	83.70	NG	9
37)	2-Nitroaniline	17.03	65.0	109102	76.54	NG	9
38)	Dimethylphthalate	17.74	163.0	383224	79.84	NG	9
39)	Acenaphthylene	17.94	152.0	463308	77.94	NG	9
40)	3-Nitroaniline	18.38	138.0	67081	85.66	NG	9
41)	Acenaphthene	18.54	153.0	299016	78.91	NG	9
42)	2,4-Dinitrophenol	18.68	184.0	32778	85.75	NG	9

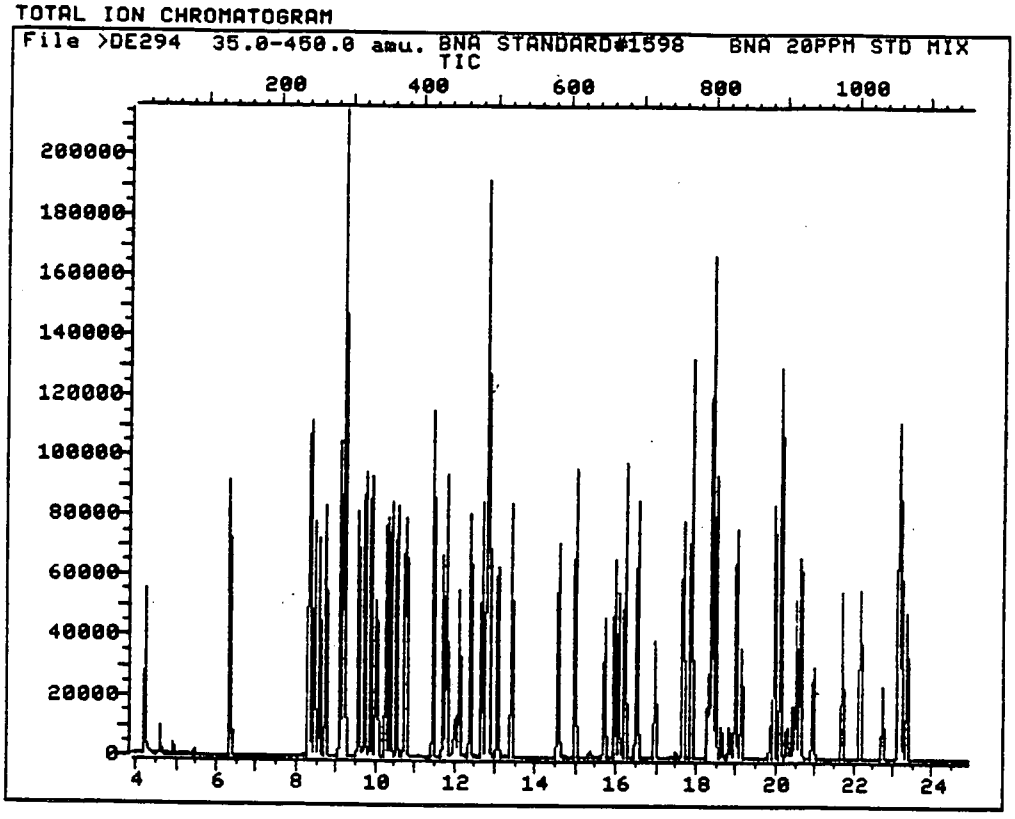
QUANT REPORT
page 2

Output File:^DE293:: Data File:>DE293::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.90	109.0	34379	67.08	NG	9
44)	Dibenzofuran	19.05	168.0	393531	84.35	NG	9
45)	2,4-Dinitrotoluene	19.19	165.0	105465	81.89	NG	8
46)	2,6-Dinitrotoluene	17.96	165.0	92031	81.21	NG	9
47)	Diethylphthalate	20.03	149.0	381364	74.51	NG	9
48)	4-Chlorophenyl-phenylether	20.17	204.0	135466	84.71	NG	9
49)	Fluorene	20.17	166.0	287411	78.97	NG	9
50)	4-Nitroaniline	20.37	138.0	43603	86.72	NG	7
51)	*d10-Phenanthrene	23.20	188.0	158656	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	20.52	198.0	48785	86.90	NG	8
53)	N-Nitrosodiphenylamine	20.59	169.0	189146	84.92	NG	9
54)	2,4,6-Tribromophenol	21.01	330.0	49001	92.96	NG	8
55)	4-Bromophenyl-phenylether	21.75	248.0	79353M	87.03	NG	
56)	Hexachlorobenzene	22.22	284.0	99925	84.23	NG	8
57)	Pentachlorophenol	22.78	266.0	54249	92.09	NG	9
58)	Phenanthrene	23.27	178.0	363818	85.89	NG	9
59)	Anthracene	23.42	178.0	336486	87.47	NG	9
60)	Di-n-Butyl phthalate	25.28	149.0	543753	75.35	NG	9
61)	Fluoranthene	27.17	202.0	301813	87.09	NG	9
62)	*d12-Chrysene	31.82	240.0	58627	40.00	NG	9
63)	Pyrene	27.89	202.0	275763	74.17	NG	9
64)	Terphenyl-d14	28.42	244.0	203222	78.60	NG	8
65)	Butylbenzylphthalate	30.12	149.0	156374	65.63	NG	9
66)	3,3'-Dichlorobenzidine	31.73	252.0	38199	102.55	NG	9
67)	Benzo(a)Anthracene	31.77	228.0	142113	75.93	NG	9
68)	bis(2-Ethylhexyl)phthalate	32.02	149.0	193352	65.84	NG	9
69)	Chrysene	31.91	228.0	139031	78.45	NG	9
70)	*d12-Perylene	36.75	264.0	45822	40.00	NG	9
71)	Di-n-Octyl phthalate	33.91	149.0	243633	75.70	NG	9
72)	Benzo(b)Fluoranthene	35.30	252.0	125570	98.07	NG	9
73)	Benzo(k)Fluoranthene	35.39	252.0	97084	75.97	NG	9
74)	Benzo(a)Pyrene	36.53	252.0	94396	85.15	NG	9
75)	Indeno(1,2,3-cd)Pyrene	41.86	276.0	103255	78.19	NG	9
76)	Dibenzo(a,h)Anthracene	41.93	278.0	78430	78.21	NG	8
77)	Benzo(g,h,i)Perylene	43.37	276.0	79383	79.83	NG	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >DE294::W6
Name: BNA STANDARD#1598
Misc: BNA 20PPM STD MIX

Quant Output File: ^DE294::QT

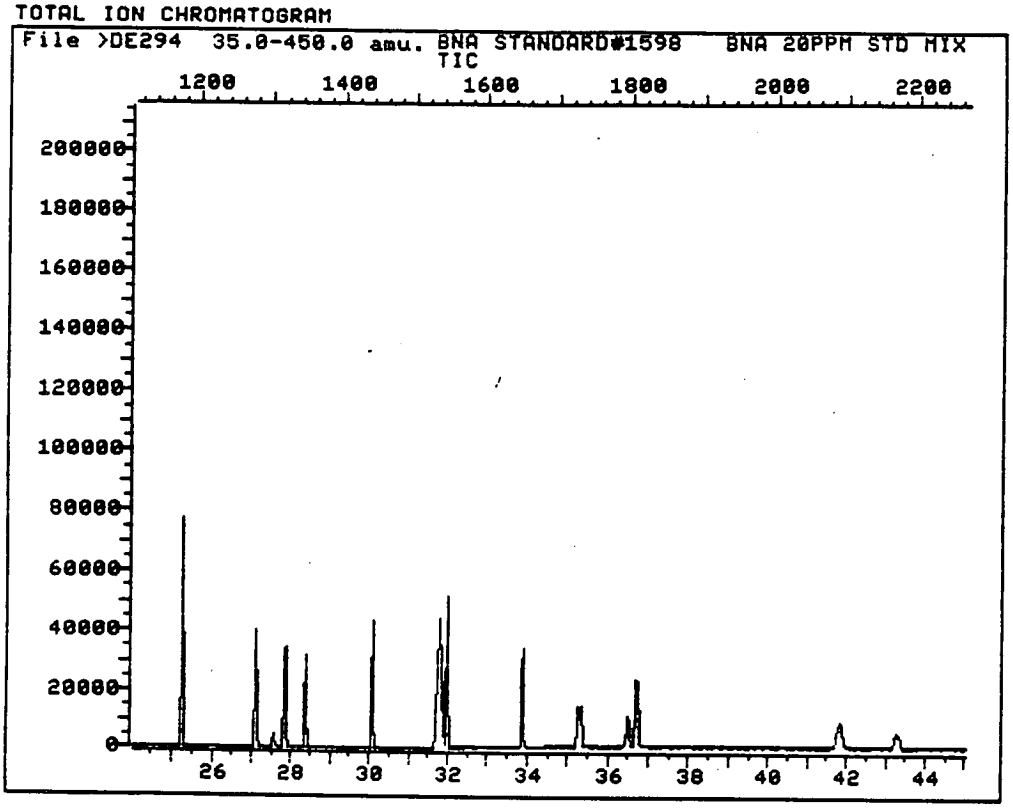
BTL# 4

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 14:36
Injected at: 891002 13:47

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE294::W6
Name: BNA STANDARD#1598
Misc: BNA 20PPM STD MIX

Quant Output File: ^DE294::QT

BTL# 4

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 14:36
Injected at: 891002 13:47

TIC page 2 of 2

QUANT REPORT

Op rator ID: BHADRA
Output File: ^DE294::QT
Data File: >DE294::W6
Name: BNA STANDARD#1598
Misc: BNA 20PPM STD MIX

Quant Rev: 6
Quant Time: 891002 14:36
Injected at: 891002 13:47
Dilution Factor: 1.00000

BTL# 4

ID File: IDDCLP::BD
Titl : HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	76940	40.00	NG	9
2)	2-Fluorophenol	6.33	112.0	51652	19.96	NG	8
3)	Phenol-d5	8.30	99.0	60500	20.14	NG	9
4)	Phenol	8.34	94.0	63900	19.72	NG	8
5)	bis(2-Chloroethyl)ether	8.59	93.0	57842	20.44	NG	9
6)	2-Chlorophenol	8.72	128.0	53649	19.68	NG	9
7)	1,3-Dichlorobenzene	9.10	146.0	59287	20.12	NG	9
8)	1,4-Dichlorobenzene	9.23	146.0	60267	20.16	NG	9
9)	Benzyl Alcohol	9.57	108.0	28786	19.33	NG	8
10)	1,2-Dichlorobenzene	9.74	146.0	55794	20.04	NG	9
11)	2-Methylphenol	9.90	108.0	43366	18.95	NG	9
12)	bis(2-Chloroisopropyl)ether	10.01	45.0	65404	22.38	NG	9
13)	4-Methylphenol	10.28	108.0	42661	19.27	NG	9
14)	N-Nitroso-Di-n-propylamine	10.41	70.0	42004	18.92	NG	9
15)	Hexachloroethane	10.57	117.0	27486	18.15	NG	9
16)	*d8-Naphthalene	12.80	136.0	252866	40.00	NG	9
17)	Nitrobenzene-d5	10.75	82.0	54843	18.70	NG	9
18)	Nitrobenzene	10.81	77.0	55845	19.04	NG	9
19)	Isophorone	11.48	82.0	111667	19.88	NG	9
20)	2-Nitrophenol	11.73	139.0	27136	19.08	NG	9
21)	2,4-Dimethylphenol	11.82	107.0	47634	17.91	NG	9
22)	Benzoic Acid	12.06	122.0	11516	12.11	NG	9
23)	bis(2-Chloroethoxy)methane	12.13	93.0	48630	19.56	NG	9
24)	2,4-Dichlorophenol	12.40	162.0	36914	19.43	NG	9
25)	1,2,4-Trichlorobenzene	12.67	180.0	41966	20.18	NG	9
26)	Naphthalene	12.87	128.0	124046	19.75	NG	9
27)	4-Chloroaniline	13.07	127.0	46559	19.44	NG	9
28)	Hexachlorobutadiene	13.42	224.7	28118	20.66	NG	9
29)	4-Chloro-3-methylphenol	14.58	107.0	36350	18.04	NG	9
30)	2-Methylnaphthalene	14.99	142.0	73858	20.02	NG	9
31)	*d10-Acenaphthene	18.39	164.0	100668	40.00	NG	9
32)	Hexachlorocyclopentadiene	15.72	237.0	20172	17.41	NG	9
33)	2,4,6-Trichlorophenol	15.97	196.0	22619	20.20	NG	9
34)	2,4,5-Trichlorophenol	16.08	196.0	19874	18.48	NG	9
35)	2-Chloronaphthalene	16.53	162.0	65886	20.56	NG	9
36)	2-Fluorobiphenyl	16.24	172.0	78458	20.89	NG	9
37)	2-Nitroaniline	16.97	65.0	19446	15.81	NG	9
38)	Dimethylphthalate	17.68	163.0	81513	19.68	NG	9
39)	Acenaphthylene	17.88	152.0	97573	19.03	NG	9
40)	3-Nitroaniline	18.30	138.0	11594	17.16	NG	9
41)	Acenaphthene	18.50	153.0	63479	19.42	NG	9
42)	2,4-Dinitrophenol	18.64	184.0	3249	9.85	NG	7

QUANT REPORT
page 2

Output File:^DE294::

Data File:>DE294::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.83	109.0	4723	10.68	NG	9
44)	Dibenzofuran	19.01	168.0	78185	19.42	NG	9
45)	2,4-Dinitrotoluene	19.13	165.0	18178	16.36	NG	9
46)	2,6-Dinitrotoluene	17.90	165.0	17570	17.97	NG	8
47)	Diethylphthalate	19.97	149.0	84120	19.05	NG	9
48)	4-Chlorophenyl-phenylether	20.13	204.0	27630	20.03	NG	9
49)	Fluorene	20.13	166.0	59157	18.84	NG	9
50)	4-Nitroaniline	20.29	138.0	6075	14.01	NG	7
51)	*d10-Phenanthrene	23.16	188.0	120652	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	20.44	198.0	6548	15.34	NG	8
53)	N-Nitrosodiphenylamine	20.53	169.0	34545	20.40	NG	9
54)	2,4,6-Tribromophenol	20.95	330.0	9081	22.65	NG	9
55)	4-Bromophenyl-phenylether	21.71	248.0	15732M	22.69	NG	
56)	Hexachlorobenzene	22.18	284.0	21555	23.89	NG	8
57)	Pentachlorophenol	22.74	266.0	7635	17.04	NG	9
58)	Phenanthrene	23.23	178.0	67056	20.82	NG	9
59)	Anthracene	23.36	178.0	60313	20.62	NG	9
60)	Di-n-Butyl phthalate	25.24	149.0	108542	19.78	NG	9
61)	Fluoranthene	27.11	202.0	53841	20.43	NG	9
62)	*d12-Chrysene	31.80	240.0	45279	40.00	NG	9
63)	Pyrene	27.84	202.0	49429	17.21	NG	9
64)	Terphenyl-d14	28.38	244.0	35327	17.69	NG	8
65)	Butylbenzylphthalate	30.08	149.0	28004	15.22	NG	9
66)	3,3'-Dichlorobenzidine	31.69	252.0	6252	21.73	NG	9
67)	B nzo(a)Anthracene	31.73	228.0	26844	18.57	NG	9
68)	bis(2-Ethylhexyl)phthalate	32.00	149.0	37663	16.61	NG	9
69)	Chrysene	31.88	228.0	26313	19.22	NG	9
70)	*d12-Perylene	36.71	264.0	42770	40.00	NG	9
71)	Di-n-Octyl phthalate	33.89	149.0	46576	15.51	NG	9
72)	Benzo(b)Fluoranthene	35.26	252.0	23566	19.72	NG	9
73)	Benzo(k)Fluoranthene	35.35	252.0	24365	20.43	NG	9
74)	Benzo(a)Pyrene	36.49	252.0	20638	19.95	NG	9
75)	Indeno(1,2,3-cd)Pyrene	41.79	276.0	22372	18.15	NG	9
76)	Dibenzo(a,h)Anthracene	41.88	278.0	16684	17.82	NG	8
77)	Benzo(g,h,i)Perylene	43.29	276.0	17718	19.09	NG	9

* Compound is ISTD

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 09/28/89

Contractor: EA LABORATORIES

Time: 18:49

Contract No: 10388.05

Laboratory ID: >FC918

Instrument ID: GC/MS#6(F)

Initial Calibration Date: ~~09/22/89~~ 09/21/89

DEH

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorophenol	1.17725	1.18315	.50		
Phenol-d5	1.30193	1.27063	2.40		
Phenol	1.53022	1.48422	3.01	*	
bis(2-Chloroethyl)ether	1.38610	1.32462	4.44		
2-Chlorophenol	1.24562	1.21147	2.74		
1,3-Dichlorobenzene	1.42991	1.38771	2.95		
1,4-Dichlorobenzene	1.42796	1.38771	2.82	*	
Benzyl Alcohol	.58722	.59754	1.76		
1,2-Dichlorobenzene	1.40588	1.36169	3.14		
2-Methylphenol	1.04362	.96901	7.15		
bis(2-Chloroisopropyl)ether	3.11370	2.71821	12.70		
4-Methylphenol	1.07312	.91987	14.28		
N-Nitroso-Di-n-propylamine	1.12354	1.10261	1.86		**
Hexachloroethane	.70946	.71828	1.24		
Nitrobenzene-d5	.37255	.33251	10.75		
Nitrobenzene	.37557	.33549	10.67		
Isophorone	.85885	.79019	8.00		
2-Nitrophenol	.20853	.18673	10.45	*	
2,4-Dimethylphenol	.34720	.29688	14.49		
Benzoic Acid	.13378	.12044	9.97		
bis(2-Chloroethoxy)methane	.37723	.33232	11.91		
2,4-Dichlorophenol	.27920	.25156	9.90	*	
1,2,4-Trichlorobenzene	.32518	.29584	9.02		
Naphthalene	.87931	.81576	7.23		
4-Chloroaniline	.33664	.28804	14.44		
Hexachlorobutadiene	.22518	.20207	10.26	*	
4-Chloro-3-methylphenol	.27521	.23239	15.56	*	
2-Methylnaphthalene	.58982	.51861	12.07		
Hexachlorocyclopentadiene	.51799	.40169	22.45		**
2,4,6-Trichlorophenol	.39947	.36727	8.06	*	
2,4,5-Trichlorophenol	.41036	.35633	13.17		
2-Chloronaphthalene	1.07323	.96981	9.64		

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 09/28/89

Contractor: EA LABORATORIES

Time: 18:49

Contract No:

Laboratory ID: >FC918

Instrument ID: GC/MS#6(F)

Initial Calibration Date: ~~09/22/89~~ 09/21/89

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorobiphenyl	1.32391	1.20569	8.93		
2-Nitroaniline	.34312	.27135	20.92		
Dimethylphthalate	1.46488	1.30737	10.75		
Acenaphthylene	1.78343	1.61264	9.58		
3-Nitroaniline	.21782	.17867	17.97		
Acenaphthene	1.13538	1.03691	8.67	*	
2,4-Dinitrophenol	.13840	.10435	24.60		**
4-Nitrophenol	.07959	.06501	18.32		**
Dibenzofuran	1.40427	1.22688	12.63		
2,4-Dinitrotoluene	.33638	.28112	16.43		
2,6-Dinitrotoluene	.31528	.27108	14.02		
Diethylphthalate	1.39527	1.24526	10.75		
4-Chlorophenyl-phenylether	.48458	.42109	13.10		
Fluorene	1.05259	.92628	12.00		
4-Nitroaniline	.13897	.12542	9.75		
4,6-Dinitro-2-methylphenol	.15408	.13961	9.39		
N-Nitrosodiphenylamine	.46215	.42538	7.96	*	
2,4,6-Tribromophenol	.17942	.13182	26.53		
4-Bromophenyl-phenylether	.27009	.22146	18.01		
Hexachlorobenzene	.40260	.31721	21.21		
Pentachlorophenol	.20012	.14996	25.07	*	
Phenanthrene	1.02484	.91224	10.99		
Anthracene	.94841	.83123	12.36		
Di-n-Butyl phthalate	1.49535	1.35763	9.21		
Fluoranthene	.90247	.79501	11.91	*	
Pyrene	1.94452	1.59760	17.84		
Terphenyl-d14	1.45164	1.14299	21.26		
Butylbenzylphthalate	.94502	.80563	14.75		
3,3'-Dichlorobenzidine	.32993	.24066	27.06		
Benzo(a)Anthracene	1.17130	1.02890	12.16		
bis(2-Ethylhexyl)phthalate	1.31355	1.16190	11.54		
Chrysene	1.15577	1.01445	12.23		

OK to proceed WMA

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 09/28/89

Contractor: EA LABORATORIES

Time: 18:49

Contract No:

Laboratory ID: >FC918

Instrument ID: GC/MS#6(F)

Initial Calibration Date: ~~09/22/89~~ 09/21/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Di-n-Octyl phthalate	1.76325	1.53150	13.14	*	
Benzo(b)Fluoranthene	1.10566	.95801	13.35		
Benzo(k)Fluoranthene	.97208	.86451	11.07		
Benzo(a)Pyrene	.92741	.82570	10.97	*	
Indeno(1,2,3-cd)Pyrene	1.10536	1.02621	7.16		
Dibenzo(a,h)Anthracene	.85865	.81205	5.43		
Benzo(g,h,i)Perylene	.90626	.88304	2.56		

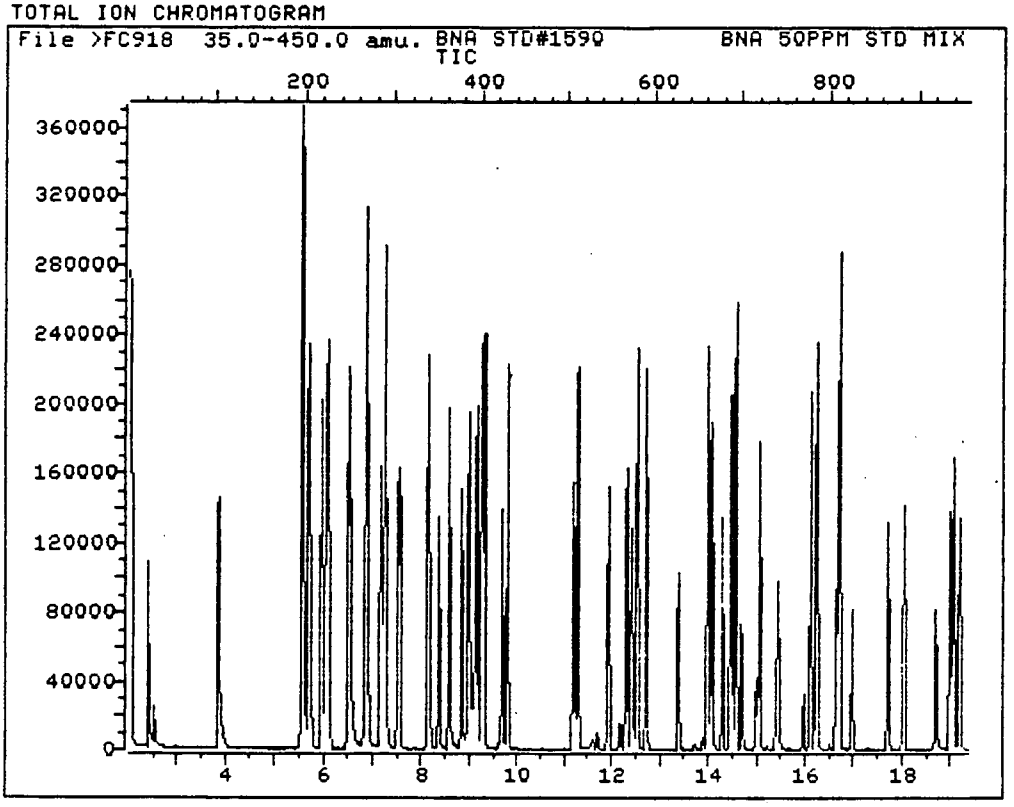
RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



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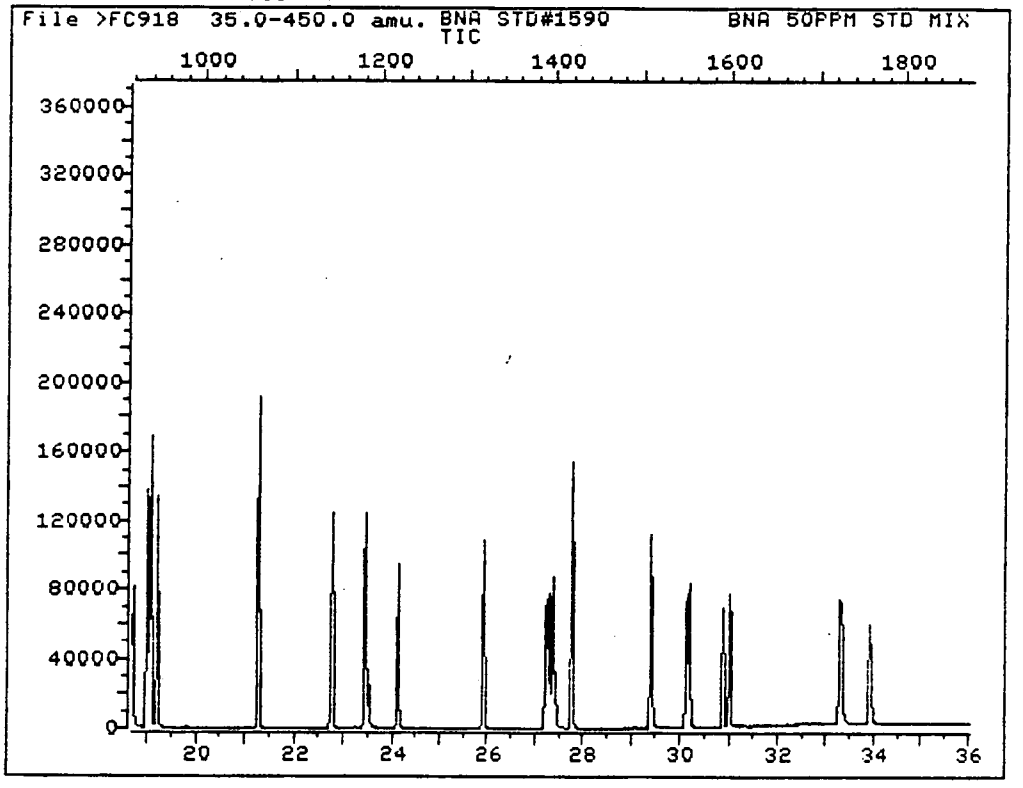
Name: BNA STD#1590
Misc: BNA 50PPM STD MIX BTL#99

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891001 23:42

Operator ID: UNCLE
Quant Time: 891001 23:47
Injected at: 890928 18:49

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC918::D5 Quant Output File: ^FC918::QT
Name: BNA STD#1590
Misc: BNA 50PPM STD MIX BTL#99

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891001 23:42

Operator ID: UNCLE
Quant Time: 891001 23:47
Injected at: 890928 18:49

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE
Output File: ^FC918::QT
Data File: >FC918::D5
Name: BNA STD#1590
Misc: BNA 50PPM STD MIX

Quant Rev: 6
Quant Time: 891001 23:47
Injected at: 890928 18:49
Dilution Factor: 1.00000

BTL#99

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891001 23:42

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	6.06	152.0	71436	40.00	NG	96
2)	2-Fluorophenol	3.86	112.0	105649M	50.00	NG	
3)	Phenol-d5	5.56	99.0	113461	50.00	NG	93
4)	Phenol	5.58	94.0	132533	50.00	NG	96
5)	bis(2-Chloroethyl)ether	5.69	93.0	118282	50.00	NG	88
6)	2-Chlorophenol	5.71	128.0	108178	50.00	NG	95
7)	1,3-Dichlorobenzene	5.96	146.0	123916	50.00	NG	95
8)	1,4-Dichlorobenzene	6.09	146.0	120381M	50.00	NG	96
9)	Benzyl Alcohol	6.55	108.0	53357	50.00	NG	86
10)	1,2-Dichlorobenzene	6.51	146.0	121592	50.00	NG	98
11)	2-Methylphenol	6.87	108.0	86528	50.00	NG	95
12)	bis(2-Chloroisopropyl)ether	6.85	45.0	242723	50.00	NG	84
13)	4-Methylphenol	7.25	108.0	82140	50.00	NG	97
14)	N-Nitroso-Di-n-propylamine	7.24	70.0	98458	50.00	NG	93
15)	Hexachloroethane	7.18	117.0	64139	50.00	NG	92
16)	*d8-Naphthalene	9.27	136.0	267291	40.00	NG	88
17)	Nitrobenzene-d5	7.53	82.0	111095	50.00	NG	93
18)	Nitrobenzene	7.56	77.0	112091	50.00	NG	91
19)	Isophorone	8.14	82.0	264013	50.00	NG	88
20)	2-Nitrophenol	8.36	139.0	62390	50.00	NG	90
21)	2,4-Dimethylphenol	8.60	107.0	99192	50.00	NG	96
22)	Benzoic Acid	9.11	122.0	40239	50.00	NG	96
23)	bis(2-Chloroethoxy)methane	8.85	93.0	111032	50.00	NG	96
24)	2,4-Dichlorophenol	9.00	162.0	84048	50.00	NG	91
25)	1,2,4-Trichlorobenzene	9.16	180.0	98845	50.00	NG	90
26)	Naphthalene	9.31	128.0	272557	50.00	NG	98
27)	4-Chloroaniline	9.69	127.0	96238	50.00	NG	95
28)	Hexachlorobutadiene	9.81	224.7	67515	50.00	NG	96
29)	4-Chloro-3-methylphenol	11.19	107.0	77645	50.00	NG	84
30)	2-Methylnaphthalene	11.28	142.0	173276	50.00	NG	89
31)	*d10-Acenaphthene	14.48	164.0	123912	40.00	NG	94
32)	Hexachlorocyclopentadiene	11.94	237.0	62218	50.00	NG	98
33)	2,4,6-Trichlorophenol	12.30	196.0	56886	50.00	NG	96
34)	2,4,5-Trichlorophenol	12.41	196.0	55192	50.00	NG	93
35)	2-Chloronaphthalene	12.74	162.0	150214	50.00	NG	97
36)	2-Fluorobiphenyl	12.54	172.0	186750	50.00	NG	95
37)	2-Nitroaniline	13.39	65.0	42029	50.00	NG	98
38)	Dimethylphthalate	14.10	163.0	202499	50.00	NG	99
39)	Acenaphthylene	14.01	152.0	249782	50.00	NG	95
40)	3-Nitroaniline	14.70	138.0	27674	50.00	NG	88
41)	Acenaphthene	14.59	153.0	160607	50.00	NG	93
42)	2,4-Dinitrophenol	15.01	184.0	16162	50.00	NG	95

QUANT REPORT
page 2

Output File:^FC918:: Data File:>FC918::D5

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	15.41	109.0	10069M	50.00	NG	
44)	Dibenzofuran	15.08	168.0	190031	50.00	NG	94
45)	2,4-Dinitrotoluene	15.46	165.0	43542	50.00	NG	88
46)	2,6-Dinitrotoluene	14.32	165.0	41988	50.00	NG	91
47)	Diethylphthalate	16.26	149.0	192879	50.00	NG	93
48)	4-Chlorophenyl-phenylether	16.24	204.0	65222	50.00	NG	90
49)	Fluorene	16.13	166.0	143471	50.00	NG	98
50)	4-Nitroaniline	16.64	138.0	19427	50.00	NG	84
51)	*d10-Phenanthrene	19.00	188.0	148223	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	16.66	198.0	25866	50.00	NG	89
53)	N-Nitrosodiphenylamine	16.71	169.0	78813	50.00	NG	95
54)	2,4,6-Tribromophenol	16.97	329.9	24424	50.00	NG	98
55)	4-Bromophenyl-phenylether	17.73	248.0	41031	50.00	NG	85
56)	Hexachlorobenzene	18.04	283.6	58772	50.00	NG	91
57)	Pentachlorophenol	18.71	266.0	27784	50.00	NG	98
58)	Phenanthrene	19.07	178.0	169018	50.00	NG	99
59)	Anthracene	19.20	178.0	154010	50.00	NG	99
60)	Di-n-Butyl phthalate	21.28	149.0	251540	50.00	NG	97
61)	Fluoranthene	22.77	202.0	147298	50.00	NG	90
62)	*d12-Chrysene	27.31	240.0	67879	40.00	NG	96
63)	Pyrene	23.46	202.0	135554	50.00	NG	98
64)	Terphenyl-d14	24.13	244.0	96981	50.00	NG	86
65)	Butylbenzylphthalate	25.93	149.0	68357	50.00	NG	89
66)	3,3'-Dichlorobenzidine	27.43	252.0	20420	50.00	NG	96
67)	Benzo(a)Anthracene	27.25	228.0	87301	50.00	NG	97
68)	bis(2-Ethylhexyl)phthalate	27.78	149.0	98586	50.00	NG	96
69)	Chrysene	27.38	228.0	86075	50.00	NG	95
70)	*d12-Perylene	31.03	264.0	70566	40.00	NG	93
71)	Di-n-Octyl phthalate	29.41	149.0	135090	50.00	NG	98
72)	B nzo(b)Fluoranthene	30.14	252.0	84504	50.00	NG	92
73)	Benzo(k)Fluoranthene	30.21	252.0	76256	50.00	NG	91
74)	Benzo(a)Pyrene	30.88	252.0	72833	50.00	NG	95
75)	Indeno(1,2,3-cd)Pyrene	33.30	276.0	90519	50.00	NG	96
76)	Dibenzo(a,h)Anthracene	33.33	278.0	71629	50.00	NG	81
77)	Benzo(g,h,i)Perylene	33.93	276.0	77891	50.00	NG	90

* Compound is ISTD

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 10/02/89

Contractor: EA LABORATORIES

Time: 13:50

Contract No: 10388.05

Laboratory ID: >FC932

Instrument ID: GC/MS#6(F)

Initial Calibration Date: 09/~~27~~21/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorophenol	1.17725	1.10860	5.83		
Phenol-d5	1.30193	1.31126	.72		
Phenol	1.53022	1.55366	1.53	*	
bis(2-Chloroethyl)ether	1.38610	1.34272	3.13		
2-Chlorophenol	1.24562	1.21504	2.45		
1,3-Dichlorobenzene	1.42991	1.35207	5.44		
1,4-Dichlorobenzene	1.42796	1.29278	9.47	*	
Benzyl Alcohol	.58722	.60974	3.84		
1,2-Dichlorobenzene	1.40588	1.32077	6.05		
2-Methylphenol	1.04362	1.11977	7.30		
bis(2-Chloroisopropyl)ether	3.11370	3.13987	.84		
4-Methylphenol	1.07312	1.00069	6.75		
N-Nitroso-Di-n-propylamine	1.12354	1.23631	10.04		**
Hexachloroethane	.70946	.69329	2.28		
Nitrobenzene-d5	.37255	.34664	6.95		
Nitrobenzene	.37557	.34145	9.08		
Isophorone	.85885	.80698	6.04		
2-Nitrophenol	.20853	.19024	8.77	*	
2,4-Dimethylphenol	.34720	.28638	17.52		
Benzoic Acid	.13378	.13735	2.67		
bis(2-Chloroethoxy)methane	.37725	.34508	8.53		
2,4-Dichlorophenol	.27920	.25094	10.12	*	
1,2,4-Trichlorobenzene	.32518	.29479	9.35		
Naphthalene	.87931	.83491	5.05		
4-Chloroaniline	.33664	.29972	10.97		
Hexachlorobutadiene	.22518	.20140	10.56	*	
4-Chloro-3-methylphenol	.27521	.25466	7.47	*	
2-Methylnaphthalene	.58982	.53517	9.27		
Hexachlorocyclopentadiene	.51799	.33308	35.70		**
2,4,6-Trichlorophenol	.39947	.35304	11.62	*	
2,4,5-Trichlorophenol	.41036	.36803	10.31		
2-Chloronaphthalene	1.07323	.94363	12.08		

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 10/02/89

Contractor: EA LABORATORIES

Time: 13:50

Contract No: 10388.05

Laboratory ID: >FC932

Instrument ID: GC/MS#6(F)

Initial Calibration Date: 09/~~22~~ 21/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorobiphenyl	1.32391	1.18035	10.84		
2-Nitroaniline	.34312	.31903	7.02		
Dimethylphthalate	1.46488	1.36226	7.01		
Acenaphthylene	1.78343	1.66526	6.63		
3-Nitroaniline	.21782	.20205	7.24		
Acenaphthene	1.13538	1.04713	7.77	*	
2,4-Dinitrophenol	.13840	.13744	.69		**
4-Nitrophenol	.07959	.07844	1.44		**
Dibenzofuran	1.40427	1.25936	10.32		
2,4-Dinitrotoluene	.33638	.30933	8.04		
2,6-Dinitrotoluene	.31528	.28809	8.62		
Diethylphthalate	1.39527	1.32108	5.32		
4-Chlorophenyl-phenylether	.48458	.43023	11.22		
Fluorene	1.05259	.97890	7.00		
4-Nitroaniline	.13897	.15169	9.15		
4,6-Dinitro-2-methylphenol	.15408	.14570	5.44		
N-Nitrosodiphenylamine	.46215	.41145	10.97	*	
2,4,6-Tribromophenol	.17942	.14121	21.30		
4-Bromophenyl-phenylether	.27009	.22107	18.15		
Hexachlorobenzene	.40260	.33379	17.09		
Pentachlorophenol	.20012	.15435	22.87	*	
Phenanthrene	1.02484	.89470	12.70		
Anthracene	.94841	.81103	14.49		
Di-n-Butyl phthalate	1.49535	1.39297	6.85		
Fluoranthene	.90247	.78483	13.04	*	
Pyrene	1.94452	1.41189	27.39		
Terphenyl-d14	1.45164	1.06610	26.56		
Butylbenzylphthalate	.94502	.73996	21.70		
3,3'-Dichlorobenzidine	.32993	.32170	2.49		
Benzo(a)Anthracene	1.17130	.97830	16.48		
bis(2-Ethylhexyl)phthalate	1.31355	1.02547	21.93		
Chrysene	1.15577	.98975	14.36		

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 10/02/89

Contractor: EA LABORATORIES

Time: 13:50

Contract No: 10388.05

Laboratory ID: >FC932

Instrument ID: GC/MS#6(F)

Initial Calibration Date: 09/~~22~~ 21/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Di-n-Octyl phthalate	1.76325	1.42428	19.22	*	
Benzo(b)Fluoranthene	1.10566	.93839	15.13		
Benzo(k)Fluoranthene	.97208	.90214	7.19		
Benzo(a)Pyrene	.92741	.82727	10.80	*	
Indeno(1,2,3-cd)Pyrene	1.10536	1.08580	1.77		
Dibenzo(a,h)Anthracene	.85865	.86101	.28		
Benzo(g,h,i)Perylene	.90626	.90573	.06		

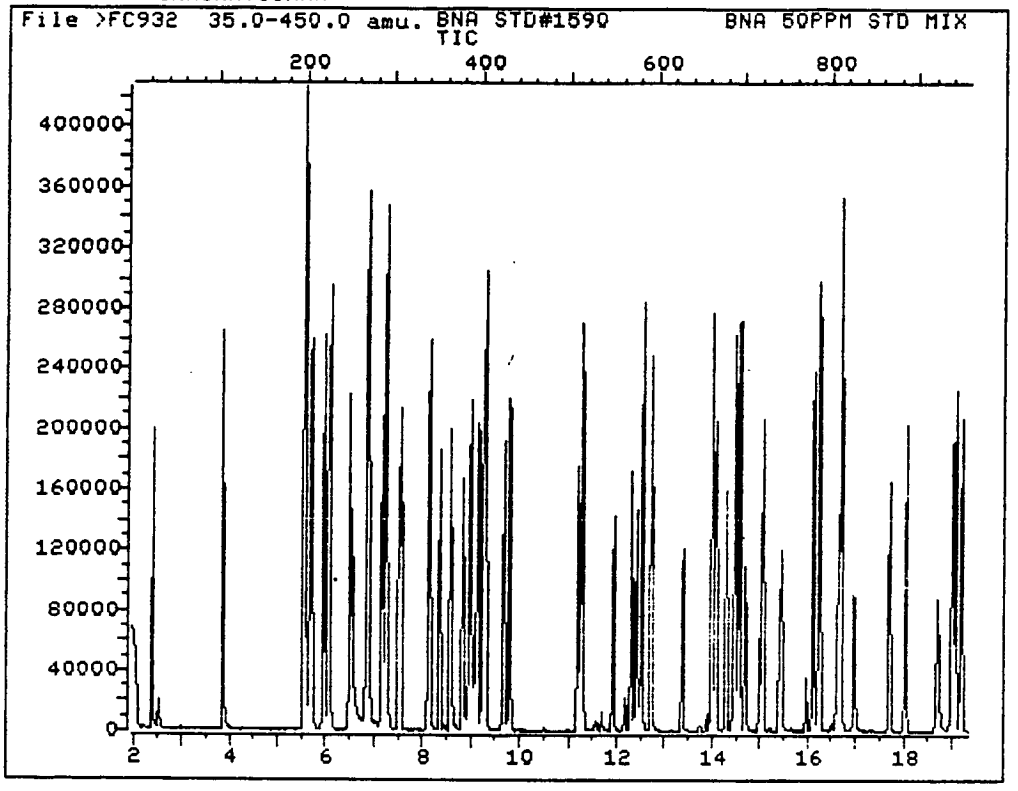
RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



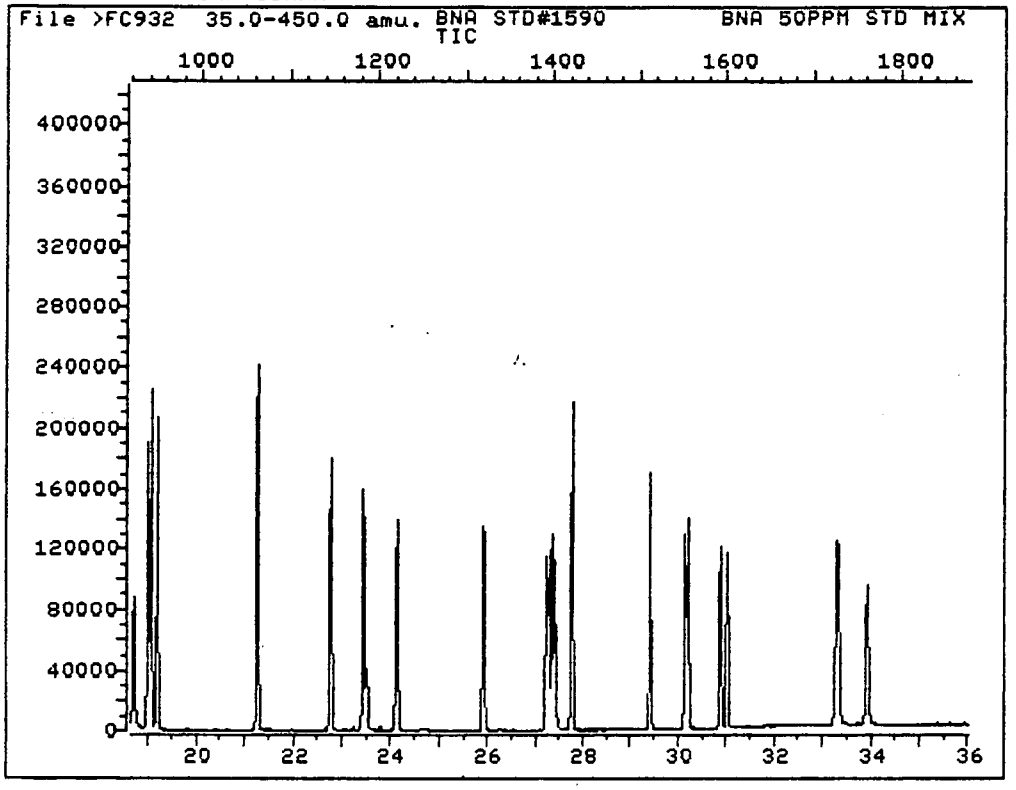
Data File: >FC932::D4 Quant Output File: ^FC932::QT
Name: BNA STD#1590
Misc: BNA 50PPM STD MIX BTL#99

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: BILL
Quant Time: 891002 15:54
Injected at: 891002 13:50

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC932::D4 Quant Output File: ^FC932::QT
Name: BNA STD#1590
Misc: BNA 50PPM STD MIX BTL#99

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: BILL
Quant Time: 891002 15:54
Injected at: 891002 13:50

TIC page 2 of 2

QUANT REPORT

Operator ID: BILL Quant Rev: 6 Quant Time: 891002 15:54
Output File: ^FC932::QT Injected at: 891002 13:50
Data File: >FC932::D4 Dilution Factor: 1.00000
Name: BNA STD#1590
Misc: BNA 50PPM STD MIX BTL#99

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	6.06	152.0	74338	40.00	NG	96
2)	2-Fluorophenol	3.86	112.0	103014	50.00	NG	97
3)	Phenol-d5	5.55	99.0	121846	50.00	NG	93
4)	Phenol	5.58	94.0	144370	50.00	NG	86
5)	bis(2-Chloroethyl)ether	5.69	93.0	124769	50.00	NG	75
6)	2-Chlorophenol	5.71	128.0	112905	50.00	NG	99
7)	1,3-Dichlorobenzene	5.97	146.0	125638	50.00	NG	97
8)	1,4-Dichlorobenzene	6.09	146.0	120128M	50.00	NG	97
9)	Benzyl Alcohol	6.55	108.0	56659	50.00	NG	87
10)	1,2-Dichlorobenzene	6.49	146.0	122729	50.00	NG	98
11)	2-Methylphenol	6.87	108.0	104052	50.00	NG	93
12)	bis(2-Chloroisopropyl)ether	6.85	45.0	291765	50.00	NG	87
13)	4-Methylphenol	7.25	108.0	92987	50.00	NG	99
14)	N-Nitroso-Di-n-propylamine	7.24	70.0	114881	50.00	NG	91
15)	Hexachloroethane	7.16	117.0	64422	50.00	NG	97
16)	*d8-Naphthalene	9.25	136.0	295955	40.00	NG	87
17)	Nitrobenzene-d5	7.53	82.0	128237	50.00	NG	88
18)	Nitrobenzene	7.56	77.0	126319	50.00	NG	88
19)	Isophorone	8.14	82.0	298539	50.00	NG	93
20)	2-Nitrophenol	8.36	139.0	70377	50.00	NG	96
21)	2,4-Dimethylphenol	8.60	107.0	105946	50.00	NG	97
22)	Benzoic Acid	9.11	122.0	50812	50.00	NG	98
23)	bis(2-Chloroethoxy)methane	8.85	93.0	127661	50.00	NG	99
24)	2,4-Dichlorophenol	9.00	162.0	92834	50.00	NG	94
25)	1,2,4-Trichlorobenzene	9.14	180.0	109056	50.00	NG	98
26)	Naphthalene	9.31	128.0	308869	50.00	NG	98
27)	4-Chloroaniline	9.69	127.0	110880	50.00	NG	98
28)	Hexachlorobutadiene	9.80	224.7	74505	50.00	NG	96
29)	4-Chloro-3-methylphenol	11.19	107.0	94210	50.00	NG	81
30)	2-Methylnaphthalene	11.29	142.0	197983	50.00	NG	93
31)	*d10-Acenaphthene	14.48	164.0	148669	40.00	NG	94
32)	Hexachlorocyclopentadiene	11.94	237.0	61899	50.00	NG	98
33)	2,4,6-Trichlorophenol	12.30	196.0	65608	50.00	NG	95
34)	2,4,5-Trichlorophenol	12.41	196.0	68394	50.00	NG	93
35)	2-Chloronaphthalene	12.74	162.0	175360	50.00	NG	99
36)	2-Fluorobiphenyl	12.54	172.0	219351	50.00	NG	94
37)	2-Nitroaniline	13.39	65.0	59287	50.00	NG	95
38)	Dimethylphthalate	14.08	163.0	253157	50.00	NG	91
39)	Acenaphthylene	14.01	152.0	309466	50.00	NG	92
40)	3-Nitroaniline	14.70	138.0	37548	50.00	NG	90
41)	Acenaphthene	14.57	153.0	194594	50.00	NG	95
42)	2,4-Dinitrophenol	14.99	184.0	25541	50.00	NG	85

QUANT REPORT
page 2

Output File:^FC932:: Data File:>FC932::D4

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	15.41	109.0	14577M	50.00	NG	
44)	Dibenzofuran	15.06	168.0	234034	50.00	NG	90
45)	2,4-Dinitrotoluene	15.44	165.0	57484	50.00	NG	78
46)	2,6-Dinitrotoluene	14.30	165.0	53537	50.00	NG	87
47)	Diethylphthalate	16.26	149.0	245505	50.00	NG	93
48)	4-Chlorophenyl-phenylether	16.23	204.0	79952	50.00	NG	86
49)	Fluorene	16.13	166.0	181916	50.00	NG	99
50)	4-Nitroaniline	16.64	138.0	28189	50.00	NG	91
51)	*d10-Phenanthrene	19.00	188.0	199476	40.00	NG	98
52)	4,6-Dinitro-2-methylphenol	16.66	198.0	36329	50.00	NG	86
53)	N-Nitrosodiphenylamine	16.72	169.0	102592	50.00	NG	96
54)	2,4,6-Tribromophenol	16.97	329.9	35209	50.00	NG	92
55)	4-Bromophenyl-phenylether	17.72	248.0	55122	50.00	NG	90
56)	Hexachlorobenzene	18.04	283.6	83229	50.00	NG	87
57)	Pentachlorophenol	18.71	266.0	38486	50.00	NG	96
58)	Phenanthrene	19.08	178.0	223090	50.00	NG	99
59)	Anthracene	19.20	178.0	202226	50.00	NG	99
60)	Di-n-Butyl phthalate	21.29	149.0	347331	50.00	NG	96
61)	Fluoranthene	22.78	202.0	195694	50.00	NG	95
62)	*d12-Chrysene	27.30	240.0	104576	40.00	NG	98
63)	Pyrene	23.45	202.0	184562	50.00	NG	99
64)	Terphenyl-d14	24.14	244.0	139361	50.00	NG	88
65)	Butylbenzylphthalate	25.92	149.0	96728	50.00	NG	87
66)	3,3'-Dichlorobenzidine	27.43	252.0	42053	50.00	NG	95
67)	Benzo(a)Anthracene	27.24	228.0	127883	50.00	NG	97
68)	bis(2-Ethylhexyl)phthalate	27.77	149.0	134049	50.00	NG	96
69)	Chrysene	27.37	228.0	129380	50.00	NG	94
70)	*d12-Perylene	31.02	264.0	111757	40.00	NG	93
71)	Di-n-Octyl phthalate	29.40	149.0	198967	50.00	NG	99
72)	Benzo(b)Fluoranthene	30.15	252.0	131089	50.00	NG	93
73)	Benzo(k)Fluoranthene	30.20	252.0	126026	50.00	NG	93
74)	Benzo(a)Pyrene	30.89	252.0	115566	50.00	NG	98
75)	Indeno(1,2,3-cd)Pyrene	33.29	276.0	151682	50.00	NG	99
76)	Dibenzo(a,h)Anthracene	33.33	278.0	120280	50.00	NG	79
77)	Benzo(g,h,i)Perylene	33.93	276.0	126527	50.00	NG	96

* Compound is ISTD

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 10/03/89

Contractor: EA LABORATORIES

Time: 10:28

Contract No: 10388.05

Laboratory ID: >DE309

Instrument ID: GC/MS#4(D)

Initial Calibration Date: 10/02/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorophenol	1.37643	1.37065	.42		
Phenol-d5	1.63406	1.55960	4.56		
Phenol	1.76004	1.71943	2.31	*	
bis(2-Chloroethyl)ether	1.52530	1.53269	.48		
2-Chlorophenol	1.45953	1.43669	1.57		
1,3-Dichlorobenzene	1.53947	1.52721	.80		
1,4-Dichlorobenzene	1.55021	1.54285	.47	*	
Benzyl Alcohol	.81933	.76253	6.93		
1,2-Dichlorobenzene	1.46321	1.45307	.69		
2-Methylphenol	1.21521	1.23606	1.72		
bis(2-Chloroisopropyl)ether	1.76876	1.73760	1.76		
4-Methylphenol	1.20861	1.16374	3.71		
N-Nitroso-Di-n-propylamine	1.15145	1.20343	4.51		**
Hexachloroethane	.73621	.76647	4.11		
Nitrobenzene-d5	.44555	.45141	1.31		
Nitrobenzene	.45053	.45065	.03		
Isophorone	.87308	.89013	1.95		
2-Nitrophenol	.23048	.22056	4.30	*	
2,4-Dimethylphenol	.40141	.39299	2.10		
Benzoic Acid	.17483	.12382	29.18		
bis(2-Chloroethoxy)methane	.39910	.39760	.38		
2,4-Dichlorophenol	.30809	.28989	5.91	*	
1,2,4-Trichlorobenzene	.32983	.30621	7.16		
Naphthalene	.94069	.93325	.79		
4-Chloroaniline	.38406	.34437	10.33		
Hexachlorobutadiene	.20778	.18896	9.06	*	
4-Chloro-3-methylphenol	.31442	.31341	.32	*	
2-Methylnaphthalene	.58902	.54946	6.72		
Hexachlorocyclopentadiene	.44459	.36567	17.75		**
2,4,6-Trichlorophenol	.47829	.42711	10.70	*	
2,4,5-Trichlorophenol	.43821	.40934	6.59		
2-Chloronaphthalene	1.31028	1.24914	4.67		

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 10/03/89

Contractor: EA LABORATORIES

Time: 10:28

Contract No: 10388.05

Laboratory ID: >DE309

Instrument ID: GC/MS#4(D)

Initial Calibration Date: 10/02/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorobiphenyl	1.53825	1.51249	1.67		
2-Nitroaniline	.48246	.46531	3.55		
Dimethylphthalate	1.63301	1.60305	1.83		
Acenaphthylene	1.98924	2.00050	.57		
3-Nitroaniline	.28929	.23490	18.80		
Acenaphthene	1.28244	1.27560	.53	*	
2,4-Dinitrophenol	.15325	.09740	36.44		**
4-Nitrophenol	.16414	.12070	26.47		**
Dibenzofuran	1.66482	1.60902	3.35		
2,4-Dinitrotoluene	.44086	.41344	6.22		
2,6-Dinitrotoluene	.38581	.36916	4.32		
Diethylphthalate	1.68440	1.69740	.77		
4-Chlorophenyl-phenylether	.56404	.54619	3.16		
Fluorene	1.22424	1.25030	2.13		
4-Nitroaniline	.17954	.13397	25.38		
4,6-Dinitro-2-methylphenol	.15577	.13750	11.73		
N-Nitrosodiphenylamine	.58792	.61117	3.96	*	
2,4,6-Tribromophenol	.15067	.11871	21.21		
4-Bromophenyl-phenylether	.25149	.24092	4.20		
Hexachlorobenzene	.31919	.17330	45.71		
Pentachlorophenol	.17035	.13890	18.46	*	
Phenanthrene	1.12379	1.15407	2.69		
Anthracene	1.04068	1.02531	1.48		
Di-n-Butyl phthalate	1.66818	1.82722	9.53		
Fluoranthene	.93005	.82419	11.38	*	
Pyrene	2.36864	2.43740	2.90		
Terphenyl-d14	1.72714	1.64355	4.84		
Butylbenzylphthalate	1.37029	1.50537	9.86		
3,3'-Dichlorobenzidine	.31110	.19044	38.78		
Benzo(a)Anthracene	1.24186	1.17740	5.19		
bis(2-Ethylhexyl)phthalate	1.70697	1.91051	11.92		
Chrysene	1.18714	1.16150	2.16		

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 10/03/89

Contractor: EA LABORATORIES

Time: 10:28

Contract No: 10388-05

Laboratory ID: >DE309

Instrument ID: GC/MS#4(D)

Initial Calibration Date: 10/02/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Di-n-Octyl phthalate	2.62075	3.10369	18.43	*	
Benzo(b)Fluoranthene	1.25932	1.46944	16.69		
Benzo(k)Fluoranthene	1.10875	1.06373	4.06		
Benzo(a)Pyrene	1.02334	1.00692	1.60	*	
Indeno(1,2,3-cd)Pyrene	1.13148	.95595	15.51		
Dibenzo(a,h)Anthracene	.85969	.72908	15.19		
Benzo(g,h,i)Perylene	.88140	.81928	7.05		

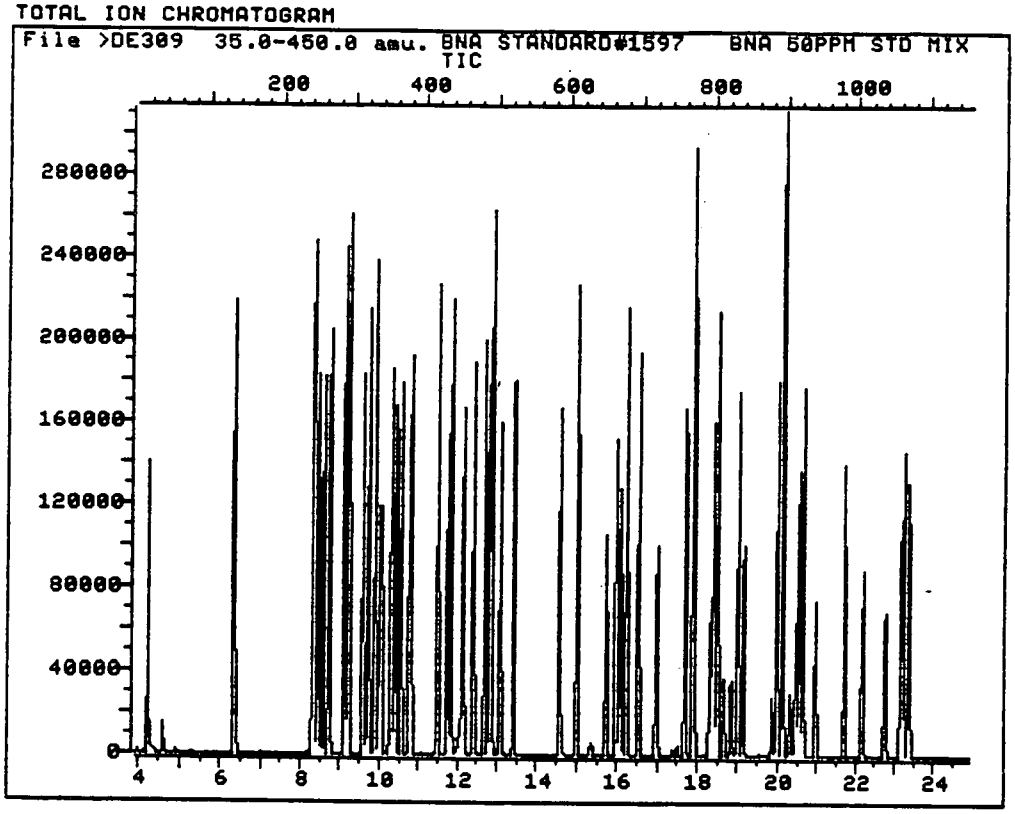
RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



Data File: >DE309::W6
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX

Quant Output File: ^DE309::QT

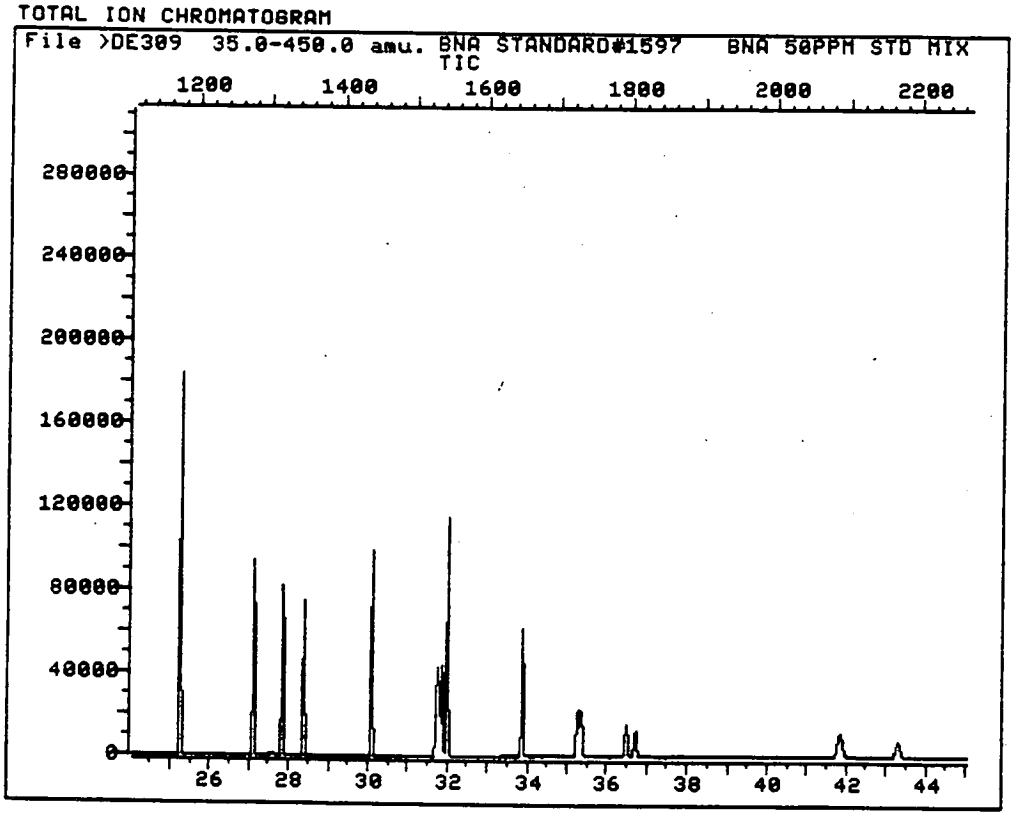
BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891003 11:36
Injected at: 891003 10:28

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE309::W6
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX

Quant Output File: ^DE309::QT

BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891003 11:36
Injected at: 891003 10:28

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA
Output File: ^DE309::QT
Data File: >DE309::W6
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX

Quant Rev: 6
Quant Time: 891003 11:36
Injected at: 891003 10:28
Dilution Factor: 1.00000

BTL#99

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.20	152.0	68413	40.00	NG	9
2)	2-Fluorophenol	6.34	112.0	117213	50.00	NG	9
3)	Phenol-d5	8.33	99.0	133371	50.00	NG	9
4)	Phenol	8.37	94.0	147039	50.00	NG	8
5)	bis(2-Chloroethyl)ether	8.60	93.0	131070	50.00	NG	9
6)	2-Chlorophenol	8.75	128.0	122860	50.00	NG	9
7)	1,3-Dichlorobenzene	9.11	146.0	130601	50.00	NG	9
8)	1,4-Dichlorobenzene	9.24	146.0	131939	50.00	NG	9
9)	Benzyl Alcohol	9.60	108.0	65209	50.00	NG	8
10)	1,2-Dichlorobenzene	9.73	146.0	124261	50.00	NG	9
11)	2-Methylphenol	9.91	108.0	105703	50.00	NG	9
12)	bis(2-Chloroisopropyl)ether	10.04	45.0	148593	50.00	NG	9
13)	4-Methylphenol	10.33	108.0	99519	50.00	NG	9
14)	N-Nitroso-Di-n-propylamine	10.43	70.0	102913	50.00	NG	9
15)	Hexachloroethane	10.58	117.0	65546	50.00	NG	8
16)	*d8-Naphthalene	12.83	136.0	230405	40.00	NG	9
17)	Nitrobenzene-d5	10.78	82.0	130009	50.00	NG	9
18)	Nitrobenzene	10.83	77.0	129790	50.00	NG	9
19)	Isophorone	11.50	82.0	256364	50.00	NG	8
20)	2-Nitrophenol	11.74	139.0	63522	50.00	NG	9
21)	2,4-Dimethylphenol	11.85	107.0	113185	50.00	NG	9
22)	Benzoic Acid	12.19	122.0	35660	50.00	NG	9
23)	bis(2-Chloroethoxy)methane	12.16	93.0	114511	50.00	NG	9
24)	2,4-Dichlorophenol	12.43	162.0	83491	50.00	NG	9
25)	1,2,4-Trichlorobenzene	12.70	180.0	88189	50.00	NG	9
26)	Naphthalene	12.88	128.0	268783	50.00	NG	9
27)	4-Chloroaniline	13.10	127.0	99181	50.00	NG	9
28)	Hexachlorobutadiene	13.43	224.7	54421	50.00	NG	9
29)	4-Chloro-3-methylphenol	14.58	107.0	90264	50.00	NG	9
30)	2-Methylnaphthalene	15.02	142.0	158249	50.00	NG	9
31)	*d10-Acenaphthene	18.41	164.0	88665	40.00	NG	9
32)	Hexachlorocyclopentadiene	15.73	237.0	40528	50.00	NG	9
33)	2,4,6-Trichlorophenol	16.00	196.0	47337	50.00	NG	8
34)	2,4,5-Trichlorophenol	16.09	196.0	45368	50.00	NG	9
35)	2-Chloronaphthalene	16.56	162.0	138444	50.00	NG	9
36)	2-Fluorobiphenyl	16.25	172.0	167631	50.00	NG	9
37)	2-Nitroaniline	16.99	65.0	51571	50.00	NG	8
38)	Dimethylphthalate	17.70	163.0	177668	50.00	NG	9
39)	Acenaphthylene	17.90	152.0	221718	50.00	NG	9
40)	3-Nitroaniline	18.34	138.0	26034	50.00	NG	8
41)	Acenaphthene	18.52	153.0	141376	50.00	NG	9
42)	2,4-Dinitrophenol	18.66	184.0	10795	50.00	NG	6
43)	4-Nitrophen l	18.86	109.0	13377	50.00	NG	8

	Compound	R.T.	Q ion	Ar a	C nc	Units	q
44)	Dibenzofuran	19.02	168.0	178330	50.00	NG	9
45)	2,4-Dinitrotoluene	19.15	165.0	45822	50.00	NG	9
46)	2,6-Dinitrotoluene	17.92	165.0	40914	50.00	NG	7
47)	Diethylphthalate	20.00	149.0	188125	50.00	NG	8
48)	4-Chlorophenyl-phenylether	20.15	204.0	60535	50.00	NG	9
49)	Fluorene	20.13	166.0	138572	50.00	NG	9
50)	4-Nitroaniline	20.31	138.0	14848	50.00	NG	9
51)	*d10-Phenanthrene	23.17	188.0	110949	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	20.47	198.0	19070	50.00	NG	9
53)	N-Nitrosodiphenylamine	20.57	169.0	84761	50.00	NG	9
54)	2,4,6-Tribromophenol	20.96	330.0	16464	50.00	NG	8
55)	4-Bromophenyl-phenylether	21.71	248.0	33412	50.00	NG	9
56)	Hexachlorobenzene	22.20	284.0	24034	50.00	NG	8
57)	Pentachlorophenol	22.75	266.0	19264	50.00	NG	9
58)	Phenanthrene	23.24	178.0	160053	50.00	NG	9
59)	Anthracene	23.38	178.0	142197	50.00	NG	9
60)	Di-n-Butyl phthalate	25.27	149.0	253410	50.00	NG	9
61)	Fluoranthene	27.13	202.0	114304	50.00	NG	9
62)	*d12-Chrysene	31.81	240.0	33967	40.00	NG	9
63)	Pyrene	27.86	202.0	103489	50.00	NG	9
64)	Terphenyl-d14	28.38	244.0	69783	50.00	NG	8
65)	Butylbenzylphthalate	30.09	149.0	63916	50.00	NG	9
66)	3,3'-Dichlorobenzidine	31.70	252.0	8086	50.00	NG	9
67)	Benzo(a)Anthracene	31.75	228.0	49991	50.00	NG	9
68)	bis(2-Ethylhexyl)phthalate	31.99	149.0	81118	50.00	NG	9
69)	Chrysene	31.88	228.0	49316	50.00	NG	9
70)	*d12-Perylene	36.74	264.0	21489	40.00	NG	9
71)	Di-n-Octyl phthalate	33.89	149.0	83369	50.00	NG	9
72)	Benzo(b)Fluoranthene	35.29	252.0	39471	50.00	NG	9
73)	Benzo(k)Fluoranthene	35.36	252.0	28573	50.00	NG	9
74)	Benzo(a)Pyrene	36.50	252.0	27047	50.00	NG	9
75)	Indeno(1,2,3-cd)Pyrene	41.81	276.0	25678	50.00	NG	9
76)	Dibenzo(a,h)Anthracene	41.90	278.0	19584	50.00	NG	9
77)	Benzo(g,h,i)Perylene	43.31	276.0	22007	50.00	NG	9

* Compound is ISTD

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 10/04/89

Contractor: EA LABORATORIES

Time: 11:28

Contract No: 10388-05

Laboratory ID: >DE321

Instrument ID: GC/MS#4(D)

Initial Calibration Date: 10/02/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorophenol	1.37643	1.36203	1.05		
Phenol-d5	1.63406	1.55436	4.88		
Phenol	1.76004	1.70769	2.97	*	
bis(2-Chloroethyl)ether	1.52530	1.52435	.06		
2-Chlorophenol	1.45953	1.42814	2.15		
1,3-Dichlorobenzene	1.53947	1.55403	.95		
1,4-Dichlorobenzene	1.55021	1.58788	2.43	*	
Benzyl Alcohol	.81933	.74802	8.70		
1,2-Dichlorobenzene	1.46321	1.46961	.44		
2-Methylphenol	1.21521	1.19485	1.68		
bis(2-Chloroisopropyl)ether	1.76876	1.61975	8.42		
4-Methylphenol	1.20861	1.13368	6.20		
N-Nitroso-Di-n-propylamine	1.15145	1.16804	1.44		**
Hexachloroethane	.73621	.78333	6.40		
Nitrobenzene-d5	.44555	.41557	6.73		
Nitrobenzene	.45053	.43831	2.71		
Isophorone	.87308	.87139	.19		
2-Nitrophenol	.23048	.21229	7.89	*	
2,4-Dimethylphenol	.40141	.37154	7.44		
Benzoic Acid	.17483	.12581	28.04		
bis(2-Chloroethoxy)methane	.39910	.38600	3.28		
2,4-Dichlorophenol	.30809	.28615	7.12	*	
1,2,4-Trichlorobenzene	.32983	.31902	3.28		
Naphthalene	.94069	.97775	3.94		
4-Chloroaniline	.38406	.35861	6.63		
Hexachlorobutadiene	.20778	.20268	2.46	*	
4-Chloro-3-methylphenol	.31442	.30629	2.59	*	
2-Methylnaphthalene	.58902	.56922	3.36		
Hexachlorocyclopentadiene	.44459	.39228	11.77		**
2,4,6-Trichlorophenol	.47829	.43270	9.53	*	
2,4,5-Trichlorophenol	.43821	.40039	8.63		
2-Chloronaphthalene	1.31028	1.27719	2.53		

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 10/04/89

Contractor: EA LABORATORIES

Time: 11:28

Contract No: 10388.05

Laboratory ID: >DE321

Instrument ID: GC/MS#4(D)

Initial Calibration Date: 10/02/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorobiphenyl	1.53825	1.50198	2.36		
2-Nitroaniline	.48246	.43539	9.76		
Dimethylphthalate	1.63301	1.61207	1.28		
Acenaphthylene	1.98924	2.04695	2.90		
3-Nitroaniline	.28929	.25230	12.79		
Acenaphthene	1.28244	1.27996	.19	*	
2,4-Dinitrophenol	.15325	.11561	24.56		**
4-Nitrophenol	.16414	.14353	12.56		**
Dibenzofuran	1.66482	1.60428	3.64		
2,4-Dinitrotoluene	.44086	.41451	5.98		
2,6-Dinitrotoluene	.38581	.37133	3.75		
Diethylphthalate	1.68440	1.70788	1.39		
4-Chlorophenyl-phenylether	.56404	.54498	3.38		
Fluorene	1.22424	1.25361	2.40		
4-Nitroaniline	.17954	.16514	8.02		
4,6-Dinitro-2-methylphenol	.15577	.14467	7.13		
N-Nitrosodiphenylamine	.58792	.62286	5.94	*	
2,4,6-Tribromophenol	.15067	.13306	11.68		
4-Bromophenyl-phenylether	.25149	.24196	3.79		
Hexachlorobenzene	.31919	.29301	8.20		
Pentachlorophenol	.17035	.14556	14.55	*	
Phenanthrene	1.12379	1.10598	1.58		
Anthracene	1.04068	.98598	5.26		
Di-n-Butyl phthalate	1.66818	1.80113	7.97		
Fluoranthene	.93005	.92557	.48	*	
Pyrene	2.36864	2.19602	7.29		
Terphenyl-d14	1.72714	1.56561	9.35		
Butylbenzylphthalate	1.37029	1.34971	1.50		
3,3'-Dichlorobenzidine	.31110	.28819	7.36		
Benzo(a)Anthracene	1.24186	1.23416	.62		
bis(2-Ethylhexyl)phthalate	1.70697	1.73326	1.54		
Chrysene	1.18714	1.19430	.60		

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove

Calibration Date: 10/04/89

Contractor: EA LABORATORIES

Time: 11:28

Contract No: 10388-05

Laboratory ID: >DE321

Instrument ID: GC/MS#4(D)

Initial Calibration Date: 10/02/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Di-n-Octyl phthalate	2.62075	2.78187	6.15	*	
Benzo(b)Fluoranthene	1.25932	1.31126	4.12		
Benzo(k)Fluoranthene	1.10875	1.03470	6.68		
Benzo(a)Pyrene	1.02334	.99893	2.39	*	
Indeno(1,2,3-cd)Pyrene	1.13148	1.06978	5.45		
Dibenzo(a,h)Anthracene	.85969	.79711	7.28		
Benzo(g,h,i)Perylene	.88140	.86665	1.67		

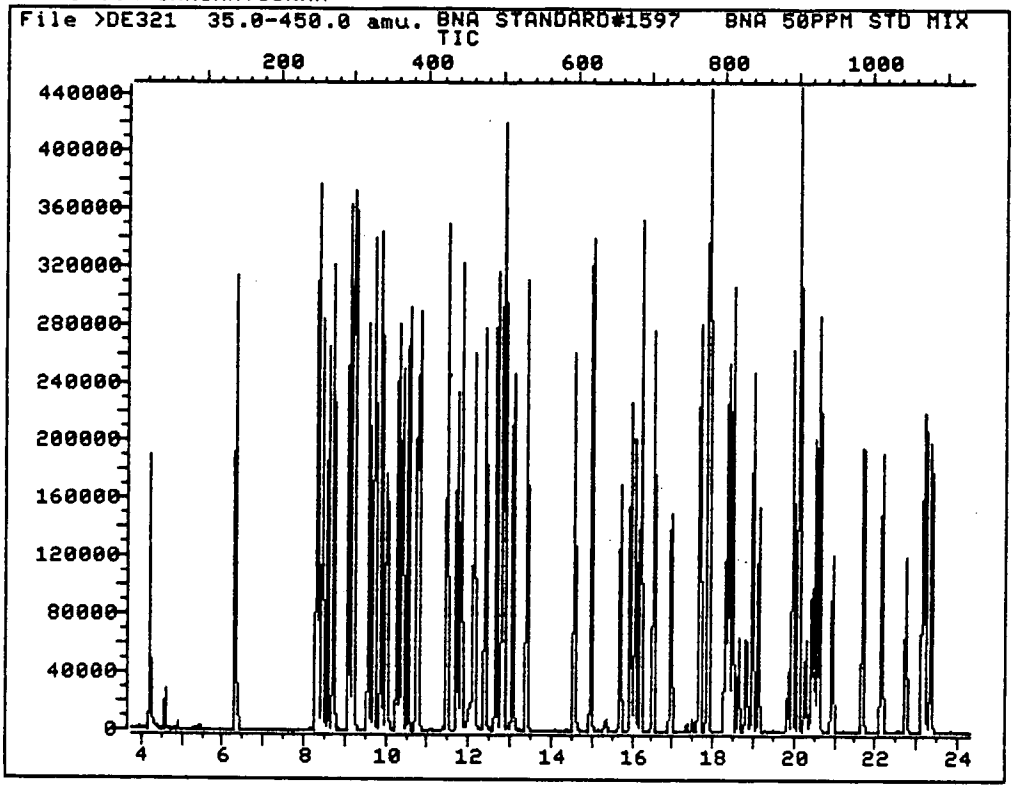
RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



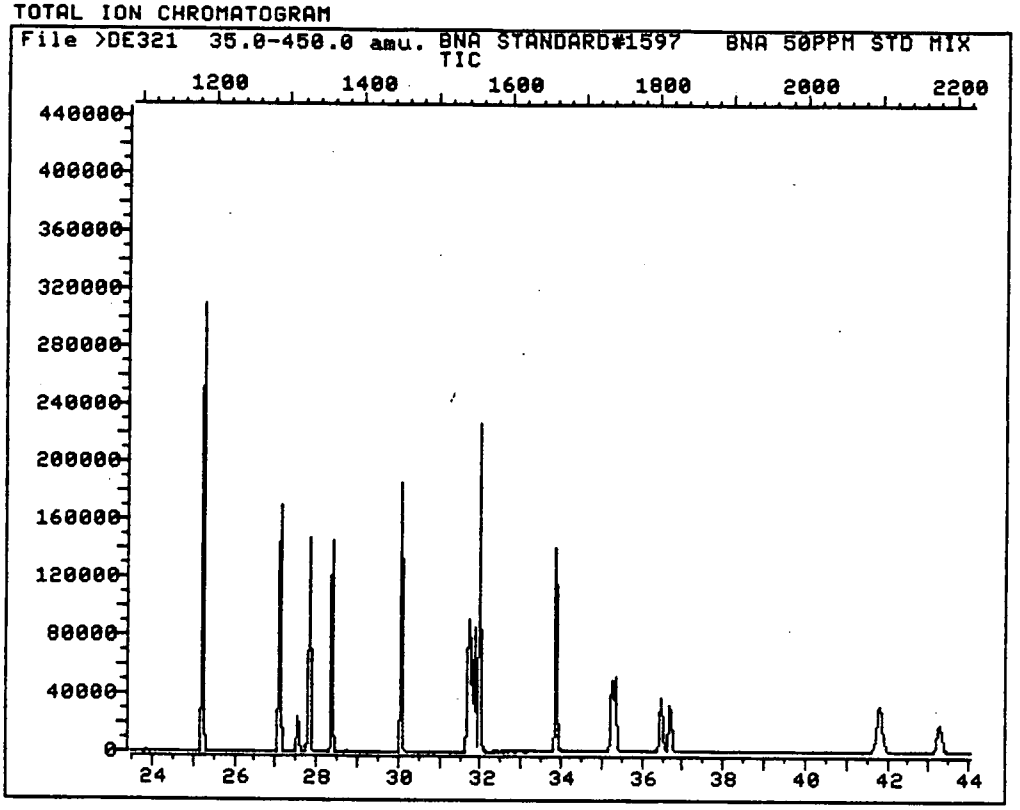
Data File: >DE321::W7 Quant Output File: ^DE321::QT
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 12:44
Injected at: 891004 11:28

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE321::W7 Quant Output File: ^DE321::QT
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

Operator ID: BHADRA
Quant Time: 891004 12:44
Injected at: 891004 11:28

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA
Output File: ^DE321::QT
Data File: >DE321::W7
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX

Quant Rev: 6
Quant Time: 891004 12:44
Inj cted at: 891004 11:28
Dilution Factor: 1.00000

BTL#99

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891004 12:44

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.18	152.0	102616	40.00	NG	91
2)	2-Fluorophenol	6.32	112.0	174708	50.00	NG	85
3)	Phenol-d5	8.31	99.0	199378	50.00	NG	98
4)	Phenol	8.35	94.0	219045	50.00	NG	85
5)	bis(2-Chloroethyl)ether	8.58	93.0	195528	50.00	NG	94
6)	2-Chlorophenol	8.73	128.0	183187	50.00	NG	95
7)	1,3-Dichlorobenzene	9.09	146.0	199335	50.00	NG	97
8)	1,4-Dichlorobenzene	9.22	146.0	203677	50.00	NG	97
9)	Benzyl Alcohol	9.58	108.0	95949	50.00	NG	83
10)	1,2-Dichlorobenzene	9.72	146.0	188507	50.00	NG	96
11)	2-Methylphenol	9.89	108.0	153263	50.00	NG	96
12)	bis(2-Chloroisopropyl)ether	10.01	45.0	207765	50.00	NG	99
13)	4-Methylphenol	10.30	108.0	145417	50.00	NG	96
14)	N-Nitroso-Di-n-propylamine	10.41	70.0	149824	50.00	NG	97
15)	Hexachloroethane	10.56	117.0	100478	50.00	NG	84
16)	*d8-Naphthalene	12.79	136.0	362292	40.00	NG	90
17)	Nitrobenzene-d5	10.76	82.0	188196	50.00	NG	94
18)	Nitrobenzene	10.81	77.0	198495	50.00	NG	96
19)	Isophorone	11.48	82.0	394623	50.00	NG	90
20)	2-Nitrophenol	11.72	139.0	96138	50.00	NG	94
21)	2,4-Dimethylphenol	11.83	107.0	168258	50.00	NG	94
22)	Benzoic Acid	12.17	122.0	56975	50.00	NG	95
23)	bis(2-Chloroethoxy)methane	12.14	93.0	174808	50.00	NG	93
24)	2,4-Dichlorophenol	12.39	162.0	129589	50.00	NG	91
25)	1,2,4-Trichlorobenzene	12.68	180.0	144473	50.00	NG	97
26)	Naphthalene	12.86	128.0	442790	50.00	NG	97
27)	4-Chloroaniline	13.08	127.0	162402	50.00	NG	98
28)	Hexachlorobutadiene	13.41	224.7	91786	50.00	NG	93
29)	4-Chloro-3-methylphenol	14.56	107.0	138708	50.00	NG	91
30)	2-Methylnaphthalene	15.00	142.0	257778	50.00	NG	94
31)	*d10-Acenaphthene	18.39	164.0	141287	40.00	NG	97
32)	Hexachlorocyclopentadiene	15.71	237.0	69280	50.00	NG	98
33)	2,4,6-Trichlorophenol	15.96	196.0	76419	50.00	NG	89
34)	2,4,5-Trichlorophenol	16.07	196.0	70713	50.00	NG	94
35)	2-Chloronaphthalene	16.52	162.0	225563	50.00	NG	95
36)	2-Fluorobiphenyl	16.23	172.0	265263	50.00	NG	95
37)	2-Nitroaniline	16.98	65.0	76893	50.00	NG	91
38)	Dimethylphthalate	17.68	163.0	284706	50.00	NG	96
39)	Acenaphthylene	17.88	152.0	361510	50.00	NG	95
40)	3-Nitroaniline	18.30	138.0	44558	50.00	NG	92
41)	Acenaphthene	18.48	153.0	226053	50.00	NG	94
42)	2,4-Dinitrophenol	18.63	184.0	20418	50.00	NG	82
43)	4-Nitrophenol	18.82	109.0	25349	50.00	NG	90

	Compound	R.T.	Q ion	Area	Conc	Units	q
44)	Dibenzofuran	18.99	168.0	283330	50.00	NG	9
45)	2,4-Dinitrotoluene	19.13	165.0	73206	50.00	NG	9
46)	2,6-Dinitrotoluene	17.90	165.0	65581	50.00	NG	9
47)	Diethylphthalate	19.97	149.0	301626	50.00	NG	9
48)	4-Chlorophenyl-phenylether	20.13	204.0	96249	50.00	NG	8
49)	Fluorene	20.11	166.0	221399	50.00	NG	9
50)	4-Nitroaniline	20.29	138.0	29165	50.00	NG	9
51)	*d10-Phenanthrene	23.14	188.0	177457	40.00	NG	9
52)	4,6-Dinitro-2-methylphenol	20.44	198.0	32091	50.00	NG	8
53)	N-Nitrosodiphenylamine	20.53	169.0	138164	50.00	NG	9
54)	2,4,6-Tribromophenol	20.95	330.0	29516	50.00	NG	8
55)	4-Bromophenyl-phenylether	21.69	248.0	53672	50.00	NG	9
56)	Hexachlorobenzene	22.16	284.0	64996	50.00	NG	8
57)	Pentachlorophenol	22.72	266.0	32289	50.00	NG	9
58)	Phenanthrene	23.21	178.0	245330	50.00	NG	9
59)	Anthracene	23.36	178.0	218711	50.00	NG	9
60)	Di-n-Butyl phthalate	25.24	149.0	399529	50.00	NG	9
61)	Fluoranthene	27.11	202.0	205311	50.00	NG	9
62)	*d12-Chrysene	31.78	240.0	67019	40.00	NG	9
63)	Pyrene	27.83	202.0	183969	50.00	NG	9
64)	Terphenyl-d14	28.38	244.0	131157	50.00	NG	9
65)	Butylbenzylphthalate	30.08	149.0	113070	50.00	NG	8
66)	3,3'-Dichlorobenzidine	31.67	252.0	24143	50.00	NG	9
67)	Benzo(a)Anthracene	31.73	228.0	103390	50.00	NG	9
68)	bis(2-Ethylhexyl)phthalate	31.98	149.0	145202	50.00	NG	9
69)	Chrysene	31.85	228.0	100051	50.00	NG	9
70)	*d12-Perylene	36.70	264.0	52875	40.00	NG	9
71)	Di-n-Octyl phthalate	33.87	149.0	183864	50.00	NG	9
72)	Benzo(b)Fluoranthene	35.24	252.0	86666	50.00	NG	9
73)	Benzo(k)Fluoranthene	35.34	252.0	68387	50.00	NG	9
74)	Benzo(a)Pyrene	36.48	252.0	66023	50.00	NG	9
75)	Indeno(1,2,3-cd)Pyrene	41.79	276.0	70706	50.00	NG	9
76)	Dibenzo(a,h)Anthracene	41.84	278.0	52684	50.00	NG	8
77)	Benzo(g,h,i)Perylene	43.29	276.0	57280	50.00	NG	9

* Compound is ISTD

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 10/10/89

Contractor: EA LABORATORIES

Time: 10:50

Contract No:

Laboratory ID: >DE356

Instrument ID: GC/MS#4(D)

Initial Calibration Date: 10/02/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorophenol	1.37643	1.35212	1.77		
Phenol-d5	1.63406	1.55213	5.01		
Phenol	1.76004	1.68210	4.43	*	
bis(2-Chloroethyl)ether	1.52530	1.56142	2.37		
2-Chlorophenol	1.45953	1.38487	5.12		
1,3-Dichlorobenzene	1.53947	1.54948	.65		
1,4-Dichlorobenzene	1.55021	1.58450	2.21	*	
Benzyl Alcohol	.81933	.75942	7.31		
1,2-Dichlorobenzene	1.46321	1.49005	1.83		
2-Methylphenol	1.21521	1.15313	5.11		
bis(2-Chloroisopropyl)ether	1.76876	1.79464	1.46		
4-Methylphenol	1.20861	1.15148	4.73		
N-Nitroso-Di-n-propylamine	1.15145	1.16070	.80		**
Hexachloroethane	.73621	.69800	5.19		
Nitrobenzene-d5	.44555	.41533	6.78		
Nitrobenzene	.45053	.42235	6.25		
Isophorone	.87308	.85100	2.53		
2-Nitrophenol	.23048	.21299	7.59	*	
2,4-Dimethylphenol	.40141	.32768	18.37		
Benzoic Acid	.17483	.10556	39.62		
bis(2-Chloroethoxy)methane	.39910	.39711	.50		
2,4-Dichlorophenol	.30809	.29257	5.04	*	
1,2,4-Trichlorobenzene	.32983	.33660	2.05		
Naphthalene	.94069	.99072	5.32		
4-Chloroaniline	.38406	.35600	7.31		
Hexachlorobutadiene	.20778	.22100	6.36	*	
4-Chloro-3-methylphenol	.31442	.29820	5.16	*	
2-Methylnaphthalene	.58902	.59287	.65		
Hexachlorocyclopentadiene	.44459	.12857	71.08		**
2,4,6-Trichlorophenol	.47829	.42684	10.76	*	
2,4,5-Trichlorophenol	.43821	.40599	7.35		
2-Chloronaphthalene	1.31028	1.27446	2.73		

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 10/10/89

Contractor: EA LABORATORIES

Time: 10:50

Contract No:

Laboratory ID: >DE356

Instrument ID: GC/MS#4(D)

Initial Calibration Date: 10/02/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorobiphenyl	1.53825	1.49635	2.72		
2-Nitroaniline	.48246	.41500	13.98		
Dimethylphthalate	1.63301	1.57616	3.48		
Acenaphthylene	1.98924	1.98251	.34		
3-Nitroaniline	.28929	.25102	13.23		
Acenaphthene	1.28244	1.25197	2.38	*	
2,4-Dinitrophenol	.15325	.09183	40.08		**
4-Nitrophenol	.16414	.12054	26.56		**
Dibenzofuran	1.66482	1.66173	.19		
2,4-Dinitrotoluene	.44086	.43071	2.30		
2,6-Dinitrotoluene	.38581	.37633	2.46		
Diethylphthalate	1.68440	1.71999	2.11		
4-Chlorophenyl-phenylether	.56404	.61351	8.77		
Fluorene	1.22424	1.29871	6.08		
4-Nitroaniline	.17954	.16128	10.17		
4,6-Dinitro-2-methylphenol	.15577	.11148	28.43		
N-Nitrosodiphenylamine	.58792	.54755	6.87	*	
2,4,6-Tribromophenol	.15067	.14108	6.36		
4-Bromophenyl-phenylether	.25149	.25251	.41		
Hexachlorobenzene	.31919	.32165	.77		
Pentachlorophenol	.17035	.14408	15.42	*	
Phenanthrene	1.12379	1.08204	3.71		
Anthracene	1.04068	.98259	5.58		
Di-n-Butyl phthalate	1.66818	1.63618	1.92		
Fluoranthene	.93005	.92767	.26	*	
Pyrene	2.36864	2.09445	11.58		
Terphenyl-d14	1.72714	1.58780	8.07		
Butylbenzylphthalate	1.37029	1.26920	7.38		
3,3'-Dichlorobenzidine	.31110	.23465	24.57		
Benzo(a)Anthracene	1.24186	1.21757	1.96		
bis(2-Ethylhexyl)phthalate	1.70697	1.63854	4.01		
Chrysene	1.18714	1.20057	1.13		

RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 10/10/89

Contractor: EA LABORATORIES

Time: 10:50

Contract No:

Laboratory ID: >DE356

Instrument ID: GC/MS#4(D)

Initial Calibration Date: 10/02/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Di-n-Octyl phthalate	2.62075	2.58578	1.33	*	
Benzo(b)Fluoranthene	1.25932	1.17086	7.02		
Benzo(k)Fluoranthene	1.10875	1.21155	9.27		
Benzo(a)Pyrene	1.02334	1.03283	.93	*	
Indeno(1,2,3-cd)Pyrene	1.13148	1.14154	.89		
Dibenzo(a,h)Anthracene	.85969	.86127	.18		
Benzo(g,h,i)Perylene	.88140	.87762	.43		

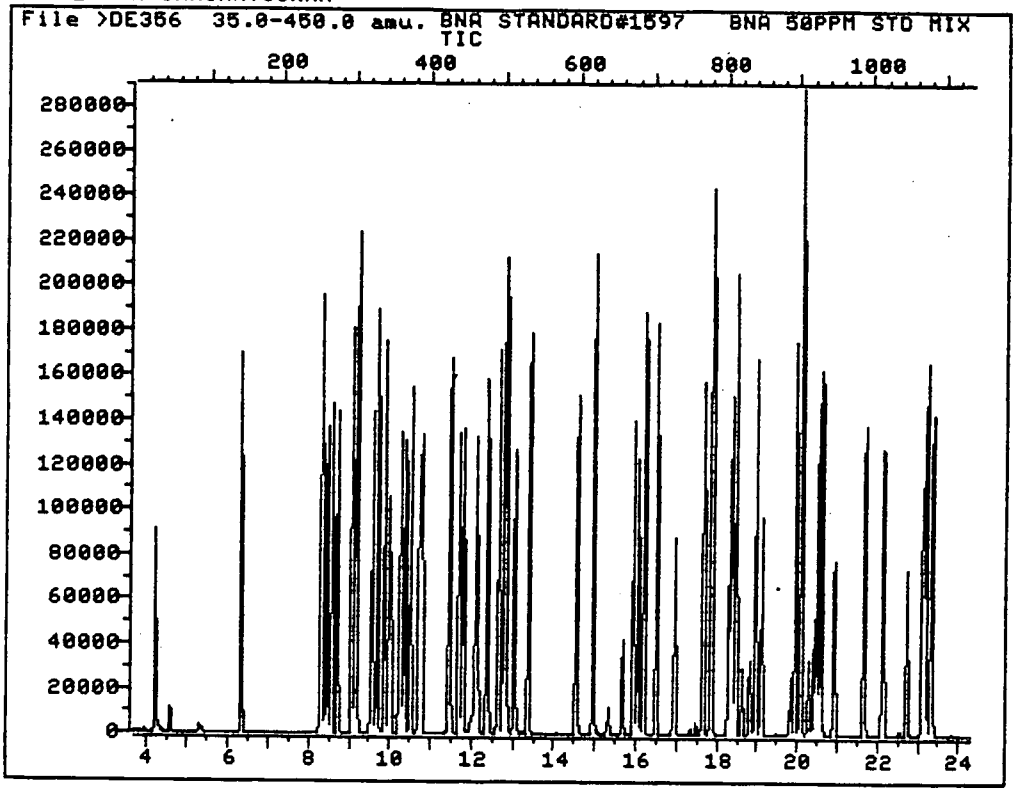
RF - Response Factor from daily standard file at 50.00 NG

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



Data File: >DE356::W7
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX

Quant Output File: ^DE356::QT

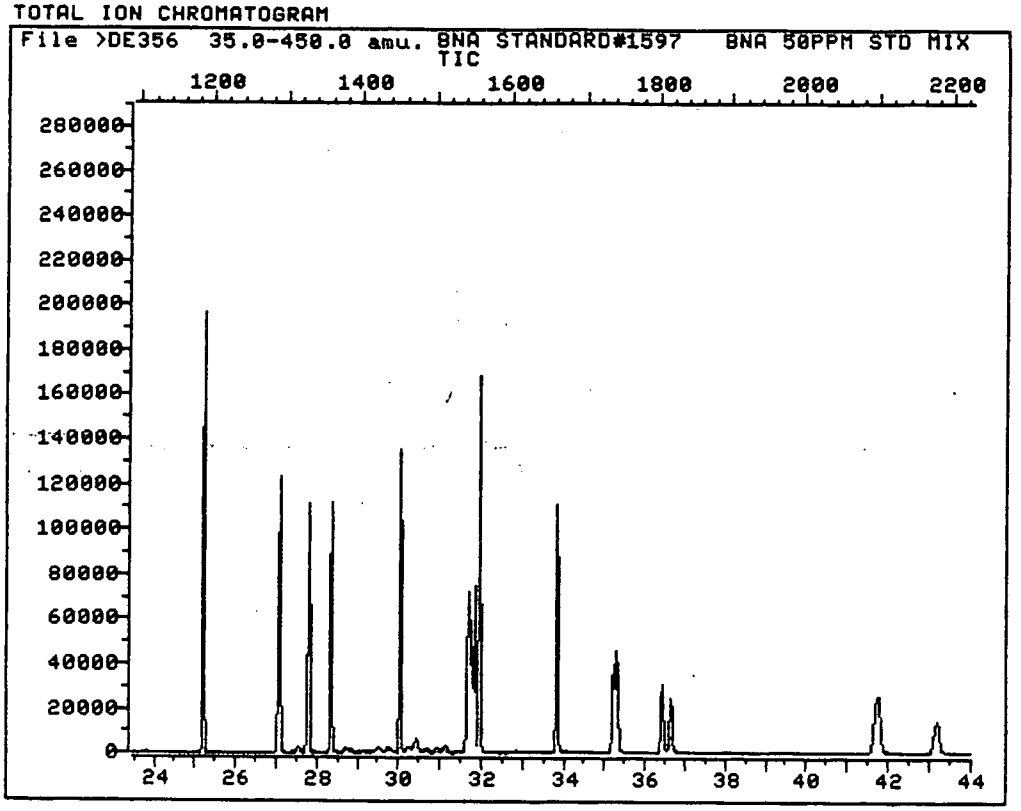
BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 12:01
Injected at: 891010 10:50

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE356::W7 Quant Output File: ^DE356::QT
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 12:01
Injected at: 891010 10:50

TIC page 2 of 2

QUANT REPORT

Op rator ID: BHADRA
Output File: ^DE356::QT
Data File: >DE356::W7
Name: BNA STANDARD#1597
Misc: BNA 50PPM STD MIX

Quant Rev: 6
Quant Time: 891010 12:01
Injected at: 891010 10:50
Dilution Factor: 1.00000

BTL#99

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.17	152.0	56672	40.00	NG	94
2)	2-Fluorophenol	6.31	112.0	95784	50.00	NG	87
3)	Phenol-d5	8.30	99.0	109953	50.00	NG	94
4)	Phenol	8.34	94.0	119160	50.00	NG	91
5)	bis(2-Chloroethyl)ether	8.57	93.0	110611	50.00	NG	98
6)	2-Chlorophenol	8.70	128.0	98104	50.00	NG	97
7)	1,3-Dichlorobenzene	9.08	146.0	109765	50.00	NG	98
8)	1,4-Dichlorobenzene	9.21	146.0	112246	50.00	NG	96
9)	Benzyl Alcohol	9.57	108.0	53797	50.00	NG	90
10)	1,2-Dichlorobenzene	9.70	146.0	105555	50.00	NG	97
11)	2-Methylphenol	9.88	108.0	81688	50.00	NG	95
12)	bis(2-Chloroisopropyl)ether	9.99	45.0	127132	50.00	NG	87
13)	4-Methylphenol	10.30	108.0	81571	50.00	NG	98
14)	N-Nitroso-Di-n-propylamine	10.41	70.0	82224	50.00	NG	95
15)	Hexachloroethane	10.53	117.0	49446	50.00	NG	92
16)	*d8-Naphthalene	12.78	136.0	207222	40.00	NG	90
17)	Nitrobenzene-d5	10.75	82.0	107582	50.00	NG	95
18)	Nitrobenzene	10.80	77.0	109400	50.00	NG	96
19)	Isophorone	11.47	82.0	220432	50.00	NG	91
20)	2-Nitrophenol	11.71	139.0	55171	50.00	NG	93
21)	2,4-Dimethylphenol	11.80	107.0	84878	50.00	NG	97
22)	Benzoic Acid	12.16	122.0	27342	50.00	NG	95
23)	bis(2-Chloroethoxy)methane	12.13	93.0	102862	50.00	NG	98
24)	2,4-Dichlorophenol	12.38	162.0	75783	50.00	NG	94
25)	1,2,4-Trichlorobenzene	12.65	180.0	87189	50.00	NG	93
26)	Naphthalene	12.84	128.0	256624	50.00	NG	99
27)	4-Chloroaniline	13.05	127.0	92214	50.00	NG	96
28)	Hexachlorobutadiene	13.40	224.7	57244	50.00	NG	95
29)	4-Chloro-3-methylphenol	14.56	107.0	77241	50.00	NG	88
30)	2-Methylnaphthalene	14.97	142.0	153569	50.00	NG	92
31)	*d10-Acenaphthene	18.36	164.0	89946	40.00	NG	93
32)	Hexachlorocyclopentadiene	15.68	237.0	14456	50.00	NG	98
33)	2,4,6-Trichlorophenol	15.95	196.0	47991	50.00	NG	90
34)	2,4,5-Trichlorophenol	16.06	196.0	45646	50.00	NG	93
35)	2-Chloronaphthalene	16.51	162.0	143291	50.00	NG	96
36)	2-Fluorobiphenyl	16.21	172.0	168238	50.00	NG	92
37)	2-Nitroaniline	16.95	65.0	46659	50.00	NG	95
38)	Dimethylphthalate	17.67	163.0	177212	50.00	NG	97
39)	Acenaphthylene	17.86	152.0	222899	50.00	NG	92
40)	3-Nitroaniline	18.29	138.0	28223	50.00	NG	93
41)	Acenaphthene	18.47	153.0	140762	50.00	NG	93
42)	2,4-Dinitrophenol	18.62	184.0	10325	50.00	NG	88

QUANT REPORT
page 2

Output File:^DE356::

Data File:>DE356::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.82	109.0	12277	50.00	NG	94
44)	Dibenzofuran	18.98	168.0	186832	50.00	NG	99
45)	2,4-Dinitrotoluene	19.13	165.0	48426	50.00	NG	92
46)	2,6-Dinitrotoluene	17.89	165.0	42312	50.00	NG	90
47)	Diethylphthalate	19.96	149.0	193383	50.00	NG	92
48)	4-Chlorophenyl-phenylether	20.10	204.0	68978	50.00	NG	89
49)	Fluorene	20.09	166.0	146017	50.00	NG	95
50)	4-Nitroaniline	20.29	138.0	18133	50.00	NG	91
51)	*d10-Phenanthrene	23.11	188.0	140979	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	20.43	198.0	19646	50.00	NG	77
53)	N-Nitrosodiphenylamine	20.52	169.0	96492	50.00	NG	96
54)	2,4,6-Tribromophenol	20.92	330.0	24862	50.00	NG	87
55)	4-Bromophenyl-phenylether	21.66	248.0	44499	50.00	NG	84
56)	Hexachlorobenzene	22.13	284.0	56683	50.00	NG	88
57)	Pentachlorophenol	22.71	266.0	25391	50.00	NG	98
58)	Phenanthrene	23.20	178.0	190682	50.00	NG	97
59)	Anthracene	23.35	178.0	173156	50.00	NG	99
60)	Di-n-Butyl phthalate	25.21	149.0	288333	50.00	NG	96
61)	Fluoranthene	27.08	202.0	163478	50.00	NG	92
62)	*d12-Chrysene	31.76	240.0	57182	40.00	NG	96
63)	Pyrene	27.80	202.0	149706	50.00	NG	97
64)	Terphenyl-d14	28.35	244.0	113492	50.00	NG	88
65)	Butylbenzylphthalate	30.05	149.0	90719	50.00	NG	98
66)	3,3'-Dichlorobenzidine	31.66	252.0	16772	50.00	NG	97
67)	Benzo(a)Anthracene	31.70	228.0	87029	50.00	NG	97
68)	bis(2-Ethylhexyl)phthalate	31.96	149.0	117119	50.00	NG	95
69)	Chrysene	31.85	228.0	85814	50.00	NG	95
70)	*d12-Perylene	36.67	264.0	45306	40.00	NG	95
71)	Di-n-Octyl phthalate	33.84	149.0	146439	50.00	NG	99
72)	Benzo(b)Fluoranthene	35.22	252.0	66309	50.00	NG	93
73)	Benzo(k)Fluoranthene	35.31	252.0	68613	50.00	NG	93
74)	Benzo(a)Pyrene	36.43	252.0	58492	50.00	NG	97
75)	Indeno(1,2,3-cd)Pyrene	41.70	276.0	64648	50.00	NG	95
76)	Dibenzo(a,h)Anthracene	41.80	278.0	48776	50.00	NG	90
77)	Benzo(g,h,i)Perylene	43.21	276.0	49702	50.00	NG	97

* Compound is ISTD

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SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES

Contract: 10388.05

Lab Code: EAENG

Case No.: Willow Grove

SAS No.:

SDG No.:

Lab File ID (Standard): ~~F6~~ >FC918

Date Analyzed: 9-28-89

Instrument ID: F6

Time Analyzed: 18:49

	IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
12 HOUR STD	71436	6.06	267291	9.27	123912	14.48
UPPER LIMIT	142872	6.56	534582	9.77	247824	14.98
LOWER LIMIT	35718	5.56	133646	8.77	61956	13.98
EPA SAMPLE NO.						
01 AL SS4 (EA#4550)	53612	6.05	182890	9.24	79555	14.48
29 MSL SS1 (EA#4553)	50203	6.06	171803	9.26	74161	14.48
39 MSL SS2 (EA#4554)	57038	6.05	206904	9.24	93309	14.48
49 MSL SS3 (EA#4555)	53451	6.05	178477	9.24	78464	14.48
59 MSL SS4 (EA#4556)	53420	6.05	181720	9.24	77093	14.48
06 UG SS1 (EA#4557)	51943	6.06	179296	9.25	78061	14.48
07 Dup#4 (EA#4558)	47862	6.06	169838	9.25	73915	14.48
08 Dup#4 (EA#4558) [MS]	46577	6.07	174229	9.26	79358	14.48
09 Dup#4 (EA#4558) [MSD]	49733	6.07	177944	9.26	81162	14.48
10 LCS (LCS#5554)	57007	6.07	185263	9.26	85583	14.48
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

Page 1 of 1

FORM VIII SV-1

1/87 Rev.

9C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES

Contract: 10388.05

Lab Code: EAENG

Case No.: Willow Grove

SAS No.:

SDG No.

Lab File ID (Standard): ~~E6~~ >FC918

Date Analyzed: 9-28-89

Instrument ID: F6

Time Analyzed: 18:49

	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
12 HOUR STD	148223	19.00	67879	27.31	70566	31.03
UPPER LIMIT	296446	19.50	135758	27.81	141132	31.53
LOWER LIMIT	74112	18.50	33940	26.81	35283	30.53
EPA SAMPLE NO						
01 BL SS4 (EA#4552)	87871	19.00	37513	27.29	37648	31.03
* 02 MSL SS1 (EA#4553)	80971	19.00	36539	27.29	39373	31.03
03 MSL SS2 (EA#4554)	111609	19.00	42116	27.29	41867	31.03
04 MSL SS3 (EA#4555)	90072	19.00	36172	27.29	39334	31.02
05 MSL SS4 (EA#4556)	86647	19.00	39792	27.29	43687	31.02
06 IUG SS1 (EA#4557)	84083	18.99	42743	27.29	47422	31.03
07 DUP#4 (EA#4558)	84524	19.01	43900	27.30	50521	31.04
08 DUP#4 (EA#4558) MS	84492	19.00	40658	27.31	47714	31.02
09 DUP#4 (EA#4558) MSD	87814	19.00	38820	27.29	43759	31.03
10 LCS (LCS#554)	94619	18.02	41382	27.31	43917	31.03
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard ar a.

Column used to flag internal standard area values with an asterisk

page 1 of 1

FORM VIII SV-2

1/87 Rev.

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES

Contract: 10388.05

Lab Code: EAENG

Case No.: WILLOW GROVE

SAS No.:

SDG No.:

Lab File ID (Standard): 7FC932

Date Analyzed: 10-02-89

Instrument ID: F6

Time Analyzed: 13:50

	IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
12 HOUR STD	74338		6.06	295955		9.25	148669		14.48
UPPER LIMIT	148676		6.56	591910		9.75	297338		14.98
LOWER LIMIT	37169		5.56	147978		8.75	74335		13.98
EPA SAMPLE NO.									
01 BLK #028	77951		6.05	309369		9.25	152435		14.49
02 NEL SS 1 (EA#4547)	71735		6.05	259841		9.25	125439		14.47
03 NEL SS 2 (EA#4548)	66424		6.06	254281		9.25	122119		14.47
04 AL SS 1 (EA#4549)	83888		6.04	316277		9.25	150888		14.47
05 AL SS 2 (EA#4550)	76305		6.06	289027		9.25	140252		14.47
06 AL SS 3 (EA#4551)	80913		6.05	301684		9.24	142006		14.47
07 NEL SWS 2 (EA#4538)	68880		6.04	264001		9.25	126329		14.47
08 AL SWS 2 (EA#4538)	58618		6.05	214372		9.24	102853		14.47
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

Page 1 of 1

FORM VIII SV-1

1/87 Rev.

9C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES

Contract: 10388.05

Lab Code: EAENG

Case No.: WILLOW GROVE

SAS No.: .

SDG No.

Lab File ID (Standard): >FC932

Date Analyzed: 10.02.89

Instrument ID: F6

Time Analyzed: 13:50

	IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
12 HOUR STD	199476		19.00	104576		27.30	111757		31.02
UPPER LIMIT	398952		19.50	209152		27.80	223514		31.52
LOWER LIMIT	99738		18.50	52288		26.80	558785		30.52
EPA SAMPLE NO.									
01 BLK #028	206071		19.00	102508		27.30	101925		31.04
02 NEL SS1 (EA#4547)	156912		18.99	69956		27.29	71492		31.03
03 NEL SS2 (EA#4548)	147184		19.01	57447		27.30	56788		31.02
04 AL SS1 (EA#4549)	197993		18.99	83982		27.28	84942		31.02
05 AL SS2 (EA#4550)	174817		18.99	75542		27.28	81481		31.02
06 AL SS3 (EA#4551)	171525		19.00	67180		27.29	66693		31.03
07 NEL SWS2 (EA#4535)	159827		18.98	69066		27.28	71827		31.02
08 AL SWS2 (EA#4538)	124207		18.98	60894		27.29	62707		31.03
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal stansard ar a.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2

1/87 Rev.

3B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES

Contract: 10388-05

Lab Code: EAENG

Case No.: Willow Grove SAS No.: SDG No.:

Lab File ID (Standard): >DE290 50PPm Std.

Date Analyzed: 10/2/89

Instrument ID: GC/MS #4

Time Analyzed: 9:34

	IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
12 HOUR STD	57362		9.19	190650		12.80	75931		18.40
UPPER LIMIT	114724		9.69	381300		13.30	151862		18.90
LOWER LIMIT	28681		8.69	95325		12.30	37965		17.90
EPA SAMPLE NO.									
01 Blank #032	68960		9.20	210980		12.80	79709		18.40
02 WRW-1	72099		9.20	222735		12.81	83383		18.38
03 WRW-2	69420		9.19	214721		12.80	85242		18.39
04 WRW-3	71775		9.19	227270		12.80	91059		18.40
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

Page 1 of 1

FORM VIII SV-1

1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES

Contract: 10388.05

Lab Code: EAENG

Case No.: Willow Grove

SAS No.:

SDG No.

Lab File ID (Standard): >DE290 50 ppm std

Date Analyzed: 10/2/89

Instrument ID: GC/MS #4

Time Analyzed: 9:34

	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
12 HOUR STD	105616.	23.14	32790	31.78	29179	36.71
UPPER LIMIT	211232	23.64	65580	32.28	58358	37.21
LOWER LIMIT	52808	22.64	16395	31.28	14589	36.21
EPA SAMPLE NO.						
01 Blank #032	87336	23.15	28220	31.80	25412	36.71
02 WRW-1	92012	23.15	30410	31.78	29409	36.71
03 WRW-2	98625	23.14	32464	31.79	31271	36.72
04 WRW-3	100925	23.15	36264	31.79	35210	36.72
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2

1/87 Rev.

3B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES

Contract: 10388-05

Lab Code: EAENG

Case No.: Willow Grove SAS No.: . SDG No.: .

Lab File ID (Standard): DE309 50 ppm std.

Date Analyzed: 10/3/89

Instrument ID: GC/MS # 4

Time Analyzed: 10:28

	IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
12 HOUR STD	68413	9.20	230405	12.83	88665	18.41
UPPER LIMIT	136826	9.70	460810	13.33	177330	18.91
LOWER LIMIT	34206	8.70	115202	12.33	44332	17.91
EPA SAMPLE NO.						
EA#45210 01 ALW-2	70838	9.19	220317	12.87	81286	18.41
#4543 02 MSL SWS 3	62457	9.19	207307	12.80	76459	18.39
#4545 03 Duplicate #2	55068	9.19	186788	12.87	70573	18.39
ms 04 Duplicate #2 (ms)	51068	9.20	178157	12.81	64632	18.40
msd 05 Duplicate #2 (msd)	53980	9.19	194342	12.79	69778	18.39
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

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FORM VIII SV-1

1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: . SDG No.

Lab File ID (Standard): >DE309 50 ppm std Date Analyzed: 10/3/89

Instrument ID: GC/MS #4 Time Analyzed: 10:28

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	110949.	23.17	33967	31.81	21489	36.74
	UPPER LIMIT	221898	23.67	67934	32.31	42978	37.24
	LOWER LIMIT	55474	22.67	16983	31.31	10744	36.24
	EPA SAMPLE NO.						
01	ALW-2	87112	23.15	29600	31.80	22931	36.73
02	NSL SWS 3	79464	23.15	22190	31.79	18308	36.71
03	Duplicate #2	73005	23.15	18368	31.79	15769	36.71
04	Duplicate #2(MS)	69797	23.15	18299	31.79	15520	36.71
05	Duplicate #2(MSD)	73964	23.15	18235	31.79	15315	36.71
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2

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SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES Contract: 10388-05

Lab Code: EAENG Case No.: Willow Grove SAS No.: . SDG No.: .

Lab File ID (Standard): DE321 50 PPm std. Date Analyzed: 10/4/89

Instrument ID: GC/MS #4 Time Analyzed: 11:28

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	102616	9.18	362292	12.79	141287	18.39
UPPER LIMIT	205232	9.68	724584	13.29	282574	18.89
LOWER LIMIT	51308	8.68	181146	12.29	70643	17.89
EPA SAMPLE NO.						
01 9 MSL SWS 2	87808	9.19	289626	12.80	107269	18.38
02 9 MSL SWS 4	111430	9.19	368328	12.79	140083	18.37
03 UG SVS-1	106070	9.18	358267	12.79	141388	18.39
04 9 MSL SWS 1	97217	9.19	321880	12.79	118460	18.39
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1

1/87 Rev.

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SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES

Contract: 10388.05

Lab Code: EAENG

Case No.: Willow Grove

SAS No.:

SDG No.

Lab File ID (Standard):

Date Analyzed: 10/4/89

Instrument ID: GC/MS #4

Time Analyzed: 11:28

	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
12 HOUR STD	177457	23.14	67019	31.78	52875	36.70
UPPER LIMIT	354914	23.64	134038	32.28	105750	37.20
LOWER LIMIT	88728	22.64	33509	31.28	26437	36.20
EPA SAMPLE NO.						
01	a DSL SWS 2	115472	35243	31.78	30723	36.69
02	a DSL SWS 4	160129	60299	31.77	58155	36.70
03	UG SUS-1	165759	67982	31.78	63974	36.69
04	a DSL SWS 1	119985	32979 *	31.78	28706	36.71
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard ar a.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2

1/87 R v.

3B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES

Contract: 10388.05

Lab Code: EAENG

Case No.: Willow Grove

SAS No.:

SDG No.:

Lab File ID (Standard): >DE356 50 ppm std.

Date Analyzed: 10/10/89

Instrument ID: GC/MS #4

Time Analyzed: 10:50

	IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
12 HOUR STD	56672		9.17	207222		12.78	89946		18.36
UPPER LIMIT	113344		9.67	414444		13.28	179892		18.86
LOWER LIMIT	28336		8.67	103611		12.28	44973		17.86
EPA SAMPLE NO.									
01 Blank #040	86333		9.16	275303		12.78	125187		18.38
02 NEL SWS 3	75017		9.17	244034		12.78	103377		18.36
03 AL SWS 1	73801		9.17	237340		12.78	103621		18.37
04 AL SWS 3	63419		9.16	201509		12.78	87752		18.36
05 AL SWS 4	74556		9.16	232999		12.79	102151		18.36
06 LCS #585	75945		9.18	246387		12.78	109389		18.38
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1

1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: . SDG No.

Lab File ID (Standard): >DE356 50 PPm std. Date Analyzed: 10/10/89

Instrument ID: GC/MS #4 Time Analyzed: 10:50

	IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
12 HOUR STD	140979		23.11	57182		31.76	45306		36.67
UPPER LIMIT	281958		23.61	114364		32.26	90612		36.17
LOWER LIMIT	70489		22.61	28591		31.26	22653		35.17
EPA SAMPLE NO.									
01 Blank # 040	147482		23.12	49312		31.76	38934		36.67
02 NEL SWS 3	125203		23.12	39892		31.77	39852		36.66
03 AL SWS 1	131534		23.12	41482		31.75	34003		36.66
04 AL SWS 3	102993		23.13	35316		31.75	33213		36.66
05 A2 SWS 4	124118		23.13	42596		31.77	34947		36.68
06 LCS # 585	120593		23.13	35010		31.76	29913		36.67
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal stansard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk.

FORM VIII SV-2

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D. Raw QC Data

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: BL#028
SAMPLE: -----
GC/MS FILE: >FC933::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 15:37
SAMPLE--->EXTRACT:	30.00g-->1mL

CAS #		CONC UG/L	OR UG/KG
108-95-2	Phenol	330.	ND
111-44-4	bis(2-Chloroethyl)ether	330.	ND
95-57-8	2-Chlorophenol	330.	ND
541-73-1	1,3-Dichlorobenzene	330.	ND
106-46-7	1,4-Dichlorobenzene	330.	ND
100-51-6	Benzyl Alcohol	330.	ND
95-50-1	1,2-Dichlorobenzene	330.	ND
95-48-7	2-Methylphenol	330.	ND
39638-32-9	bis(2-chloroisopropyl)ether	330.	ND
106-44-5	4-Methylphenol	330.	ND
621-64-7	N-Nitroso-Di-n-propylamine	330.	ND
67-72-1	Hexachloroethane	330.	ND
98-95-3	Nitrobenzene	330.	ND
78-59-1	Isophorone	330.	ND
88-75-5	2-Nitrophenol	330.	ND
105-67-9	2,4-Dimethylphenol	330.	ND
65-85-0	Benzoic Acid	330.	ND
111-91-1	bis(2-Chloroethoxy)methane	330.	ND
120-83-2	2,4-Dichlorophenol	330.	ND
120-82-1	1,2,4-Trichlorobenzene	330.	ND
91-20-3	Naphthalene	330.	ND
106-47-8	4-Chloroaniline	330.	ND
87-68-3	Hexachlorobutadiene	330.	ND
59-50-7	4-Chloro-3-methylphenol	330.	ND
91-57-6	2-Methylnaphthalene	330.	ND
77-47-4	Hexachlorocyclopentadiene	330.	ND
88-06-2	2,4,6-Trichlorophenol	330.	ND
95-95-4	2,4,5-Trichlorophenol	1700.	ND
91-58-7	2-Chloronaphthalene	330.	ND
88-74-4	2-Nitroaniline	1700.	ND
131-11-3	Dimethylphthalate	330.	ND
208-96-8	Acenaphthylene	330.	ND
99-09-2	3-Nitroaniline	1700.	ND
83-32-9	Acenaphthene	330.	ND
51-28-5	2,4-Dinitrophenol	1700.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: BL#028
SAMPLE: -----
GC/MS FILE: >FC933::D4
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	10/02/89 15:37
SAMPLE--->EXTRACT:	30.00g-->1mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	1700.	ND
132-64-9	Dibenzofuran	330.	ND
121-14-2	2,4-Dinitrotoluene	330.	ND
606-20-2	2,6-Dinitrotoluene	330.	ND
84-66-2	Diethylphthalate	330.	ND
7005-72-3	4-Chlorophenyl-phenylether	330.	ND
86-73-7	Fluorene	330.	ND
100-01-6	4-Nitroaniline	1700.	ND
534-52-1	4,6-Dinitro-2-methylphenol	1700.	ND
86-30-6	N-Nitrosodiphenylamine	330.	ND
101-55-3	4-Bromophenyl-phenylether	330.	ND
118-74-1	Hexachlorobenzene	330.	ND
87-86-5	Pentachlorophenol	1700.	ND
85-01-8	Phenanthrene	330.	ND
120-12-7	Anthracene	330.	ND
84-74-2	Di-n-Butyl phthalate	45.	TR
206-44-0	Fluoranthene	330.	ND
129-00-0	Pyrene	330.	ND
85-68-7	Butylbenzylphthalate	330.	ND
91-94-1	3,3'-Dichlorobenzidine	670.	ND
56-55-3	Benzo(a)Anthracene	330.	ND
117-81-7	bis(2-Ethylhexyl)phthalate	52.	TR
218-01-9	Chrysene	330.	ND
117-84-0	Di-n-Octyl phthalate	330.	ND
205-99-2	Benzo(b)Fluoranthene	330.	ND
207-08-9	Benzo(k)Fluoranthene	330.	ND
50-32-8	Benzo(a)Pyrene	330.	ND
193-39-5	Indeno(1,2,3-cd)Pyrene	330.	ND
53-70-3	Dibenzo(a,h)Anthracene	330.	ND
191-24-2	Benzo(g,h,i)Perylene	330.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK 028

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: WILLOW GROVE SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BLANK #028

Sample wt/vol: 30.0 (g/mL) g Lab File ID: >FC 933

Level: (low/med) LOW Date Received: 09/25/89

% Moisture: not dec. N/A dec. _____ Date Extracted: 09/26/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/02/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: —

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	UNKNOWN CMPD.	27.64	1500	J
2.	—	UNKNOWN CMPD.	32.78	250	J
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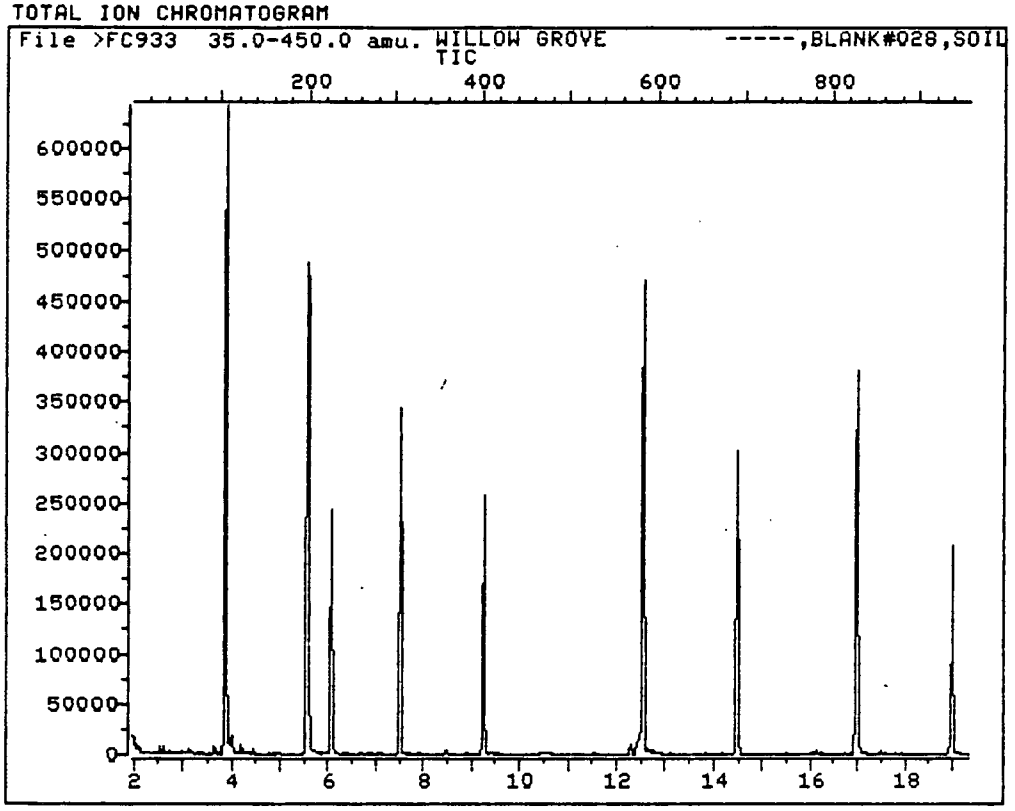
FORM I SV-TIC 1/87 Rev.

TOTAL ION CHROMATOGRAM



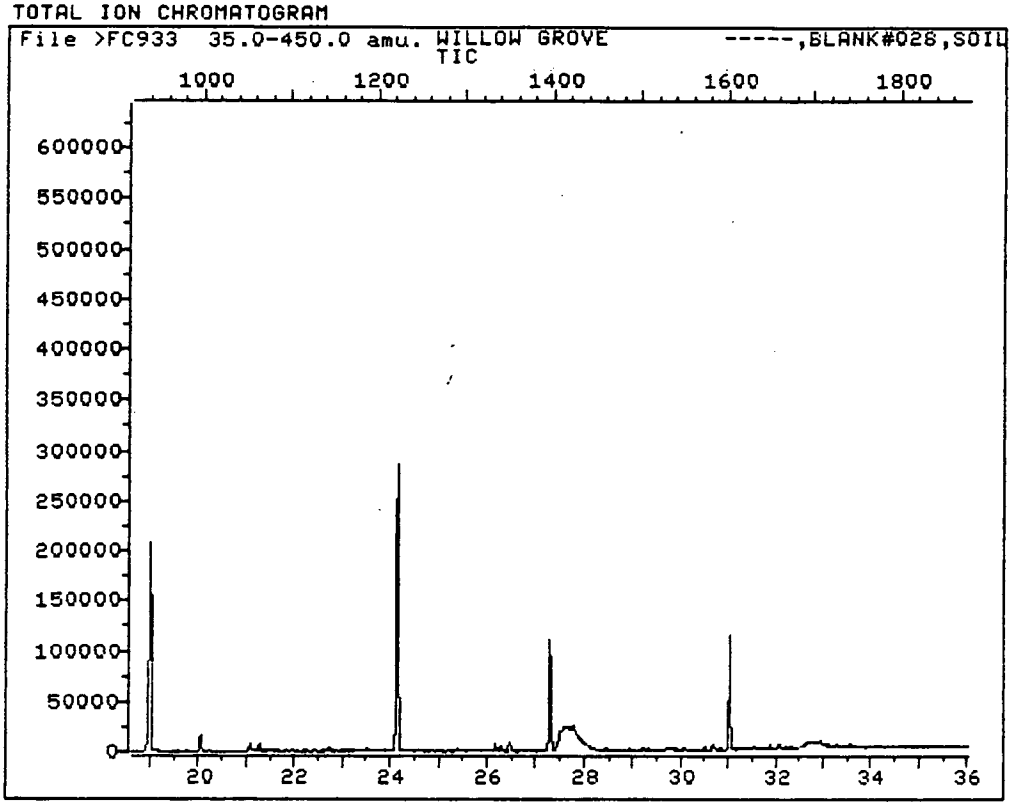
Data File: >FC933::D4 Quant Output File: ^FC933::QT
Name: WILLOW GROVE
Misc: -----,BLANK#028,SOIL,30.0g,1mL, BL#028FOR4547-58 BTL# 1

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 16:16
Injected at: 891002 15:37

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC933::D4 Quant Output File: ^FC933::QT
Name: WILLOW GROVE
Misc: -----,BLANK#028,SOIL,30.0g,1mL, BL#028FOR4547-58 BTL# 1

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

Operator ID: JUANEAU
Quant Time: 891002 16:16
Injected at: 891002 15:37

TIC page 2 of 2

QUANT REPORT

Operator ID: JUANEAU Quant Rev: 6 Quant Time: 891002 16:16
Output File: ^FC933::QT Injected at: 891002 15:37
Data File: >FC933::D4 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: -----,BLANK#028,SOIL,30.0g,1mL, BL#028FOR4547-58 BTL# 1

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 891002 15:39

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	6.05	152.0	77951	40.00	NG	9
2)	2-Fluorophenol	3.88	112.0	295729	136.89	NG 68%	98
3)	Phenol-d5	5.56	99.0	450863	176.44	NG 88%	9
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	9.25	136.0	309369	40.00	NG	88
17)	Nitrobenzene-d5	7.52	82.0	242895	90.60	NG 91%	91
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	8.88	122.0	571	~~.54~~	NG	9
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	14.49	164.0	152435	40.00	NG	98
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	12.55	172.0	410837	91.33	NG 91%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	14.49	163.0	51130	~~9.85~~	NG	53
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

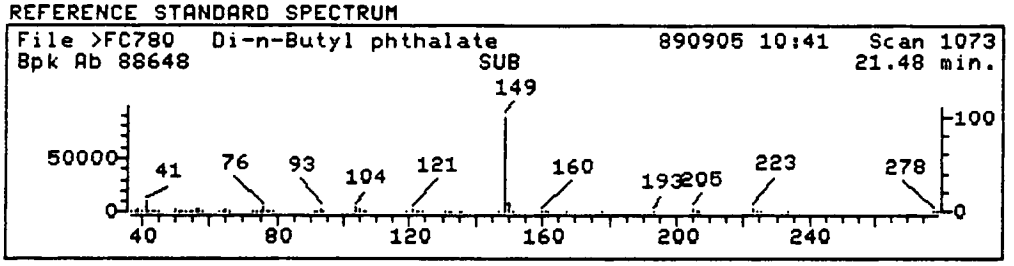
QUANT REPORT
page 2

Output File:^FC933:: Data File:>FC933::D4

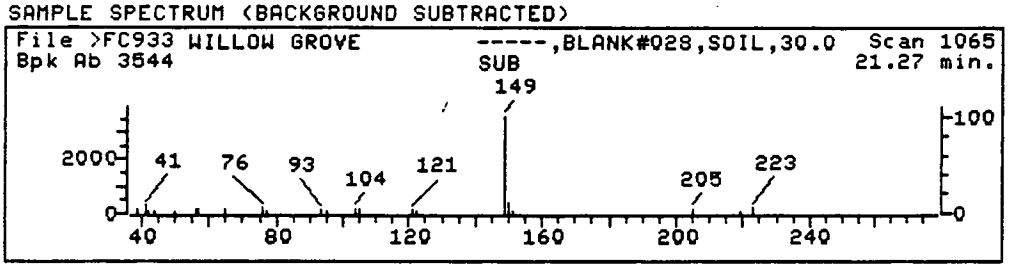
	Compound	R.T.	Q ion	Area	Conc	Units		q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG		
44)	Dibenzofuran	0.00	168.0	0	0.00	NG		
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG		
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG		
47)	Diethylphthalate	16.25	149.0	2283	~~.45~~	NG		94
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG		
49)	Fluorene	0.00	166.0	0	0.00	NG		
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG		
51)	*d10-Phenanthrene	19.00	188.0	206071	40.00	NG		99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG		
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG		
54)	2,4,6-Tribromophenol	16.99	329.9	152960	210.27	NG	105%	96
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG		
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG		
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG		
58)	Phenanthrene	0.00	178.0	0	0.00	NG		
59)	Anthracene	0.00	178.0	0	0.00	NG		
60)	Di-n-Butyl phthalate	21.27	149.0	9611	1.34	NG		99
61)	Fluoranthene	0.00	202.0	0	0.00	NG		
62)	*d12-Chrysene	27.30	240.0	102508	40.00	NG		98
63)	Pyrene	0.00	202.0	0	0.00	NG		
64)	Terphenyl-d14	24.16	244.0	315499	115.48	NG	115%	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG		
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG		
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG		
68)	bis(2-Ethylhexyl)phthalate	27.77	149.0	4076	1.55	NG		96
69)	Chrysene	0.00	228.0	0	0.00	NG		
70)	*d12-Perylene	31.04	264.0	101925	40.00	NG		93
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG		
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG		
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG		
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG		
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG		
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG		
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG		

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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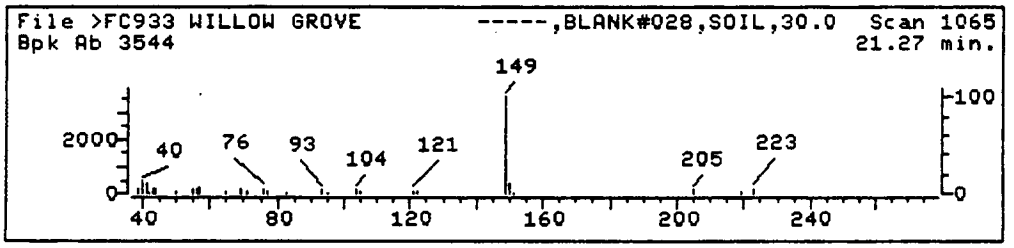
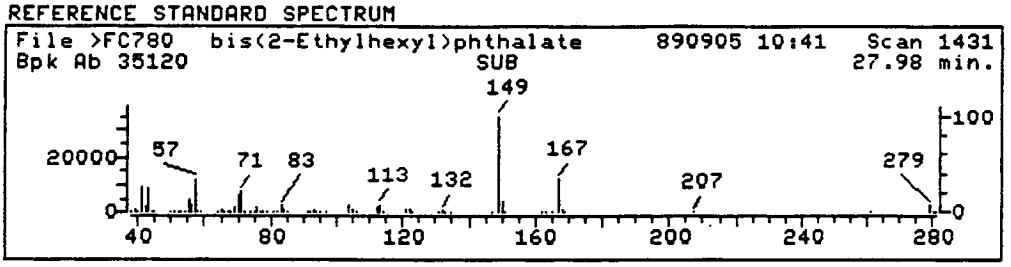


Data File: >FC933::D4 Quant Output File: ^FC933::QT
Name: WILLOW GROVE
Misc: -----,BLANK#028,SOIL,30.0g,1mL, BL#028FOR4547-58 BTL# 1
Quant Time: 891002 16:16 Quant ID File: IDFCLP::BD
Injected at: 891002 15:37 Last Calibration: 891002 15:39

Compound No: 60
Compound Name: Di-n-Butyl phthalate
Scan Number: 1065
Retention Time: 21.27 min.
Quant Ion: 149.0
Area: 9611
Concentration: 1.34 NG
q-value: 99

REFERENCE STANDARD SPECTRUM



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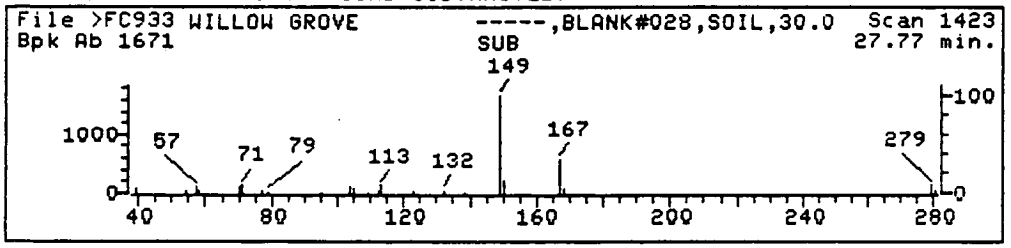

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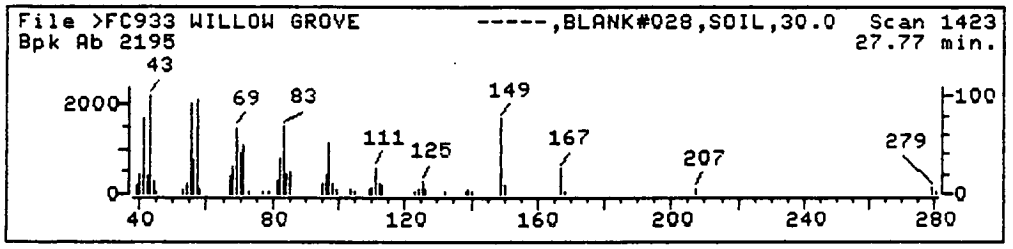
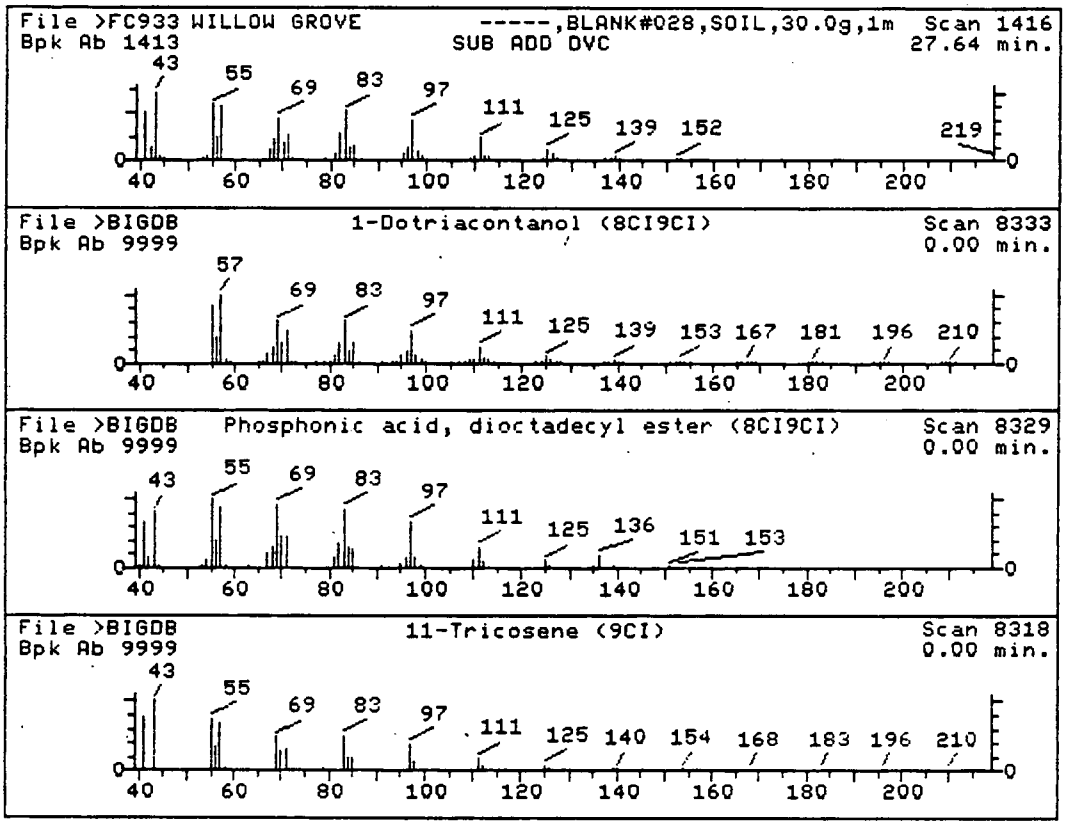


Data File: ~>FC933::D4 Quant Output File: ^FC933::QT
Name: WILLOW GROVE
Misc: -----,BLANK#028,SOIL,30.0g,1mL, BL#028FOR4547-58 BTL# 1
Quant Time: 891002 16:16 Quant ID File: IDFCLP::BD
Injected at: 891002 15:37 Last Calibration: 891002 15:39

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1423
Retention Time: 27.77 min.
Quant Ion: 149.0
Area: 4076
Concentration: 1.55 NG
q-value: 96



UNKNOWN CMPD.

Retention time = 27.64

Area = 341879.0 Tentative Concentration is 1500.00

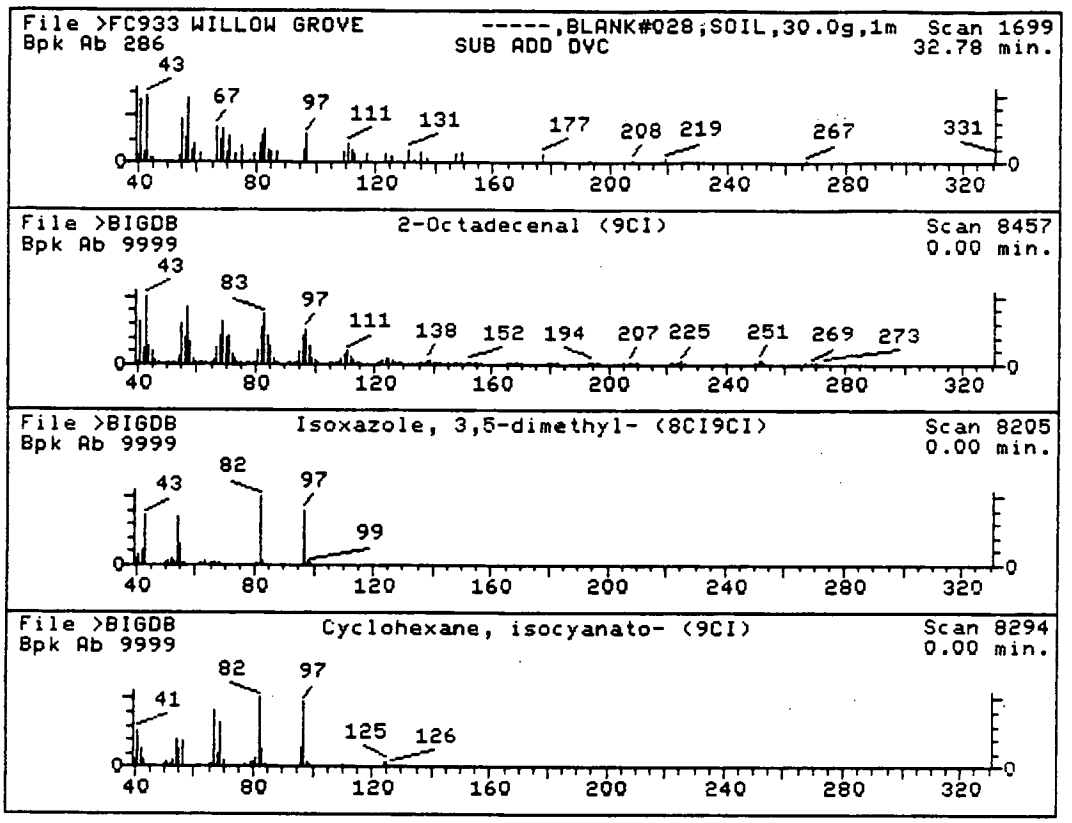
1. 1-Dotriacontanol (8CI9CI)	466	C32H66O
2. Phosphonic acid, dioctadecyl ester (8CI9CI)	586	C36H75O3P
3. 11-Tricosene (9CI)	322	C23H46
4. Hexadecanol (VAN8CI9CI)	242	C16H34O
5. 1-Tetracosanol (8CI9CI)	354	C24H50O
6. 1-Hexacosanol (8CI9CI)	382	C26H54O
7. 9-Eicosene, (E)- (9CI)	280	C20H40

Sample file: >FC933 Spectrum #: 1416
Search speed: 2 Tilting option: S No. of ion ranges searched: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83	6624799	8333	"BIGDB	126	55	2	-2	59	7	54	52
2.	83	19047859	8329	"BIGDB	127	73	2	-1	53	10	54	53

FC933

3.	74	52078565	8318	"BIGDB	112	40	2	-1	87	14	39	41
4.	67	29354981	8429	"BIGDB	100	67	3	0	73	12	34	23
5.	66	506514	8291	"BIGDB	115	49	2	-1	92	16	31	44
6.	66	506525	8292	"BIGDB	114	49	2	-1	95	16	31	44
7.	60	74685293	8336	"BIGDB	98	72	3	-1	69	12	30	13



UNKNOWN CMPD.

Retention time = 32.78

Ar a = 55132.00 Tentative Concentration is 250.00

1.	2-Octadecenal (9CI)	266	C18H34O
2.	Isoxazole, 3,5-dimethyl- (8CI9CI)	97	C5H7NO
3.	Cyclohexane, isocyanato- (9CI)	125	C7H11NO
4.	Cyclohexadecane (8CI9CI)	224	C16H32
5.	Cyclohexane, 1,2-dimethyl-, cis- (8CI9CI)	112	C8H16
6.	H xadecane, 1,1-bis(dodecyloxy)- (9CI)	594	C40H82O2
7.	9-Eicosene, (E)- (9CI)	280	C20H40

Sampl file: >FC933 Spectrum #: 1699
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25	56554962	8457	"BIGDB	76	89	3	0	67	46	7	14
2.	25*	300878	8205	"BIGDB	22	61	3	0	41	49	7	12
3.	25*	3173533	8294	"BIGDB	23	76	3	0	41	49	7	12
4.	15	295658	8442	"BIGDB	75	81	3	0	59	58	3	13
5.	15*	2207014	10775	"BIGDB	31	67	1	0	43	58	3	17
6.	15	56554644	5501	"BIGDB	70	123	3	0	79	58	3	12
7.	11	74685293	8336	"BIGDB	78	92	3	0	59	65	2	14

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
BLANK(#032)

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/02/89 17:33
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes
DE 297

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Blank # 032
EA # 4518-21; 4535-46

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (~~soil~~/water) water Lab Sample ID: Blank # 032

Sample wt/vol: 1000 (g/mL) 2ml Lab File ID: DE 297

Level: (low/~~med~~) low Date Received: N/A

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (~~SepF~~/Cont/~~Sonc~~) Cont Date Analyzed: 10/2/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 7

CONCENTRATION UNITS: (ug/L or ~~ug/Kg~~) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 541059	cyclotrisiloxane hexmethyl	5.32	21.00	
2. —	unknown	28.85	15.00	
3. —	unknown	30.41	19.00	
4. —	unknown	33.27	25.00	
5. —	unknown	34.68	22.00	
6. —	unknown	36.31	17.00	
7. —	unknown	38.25	20.00	
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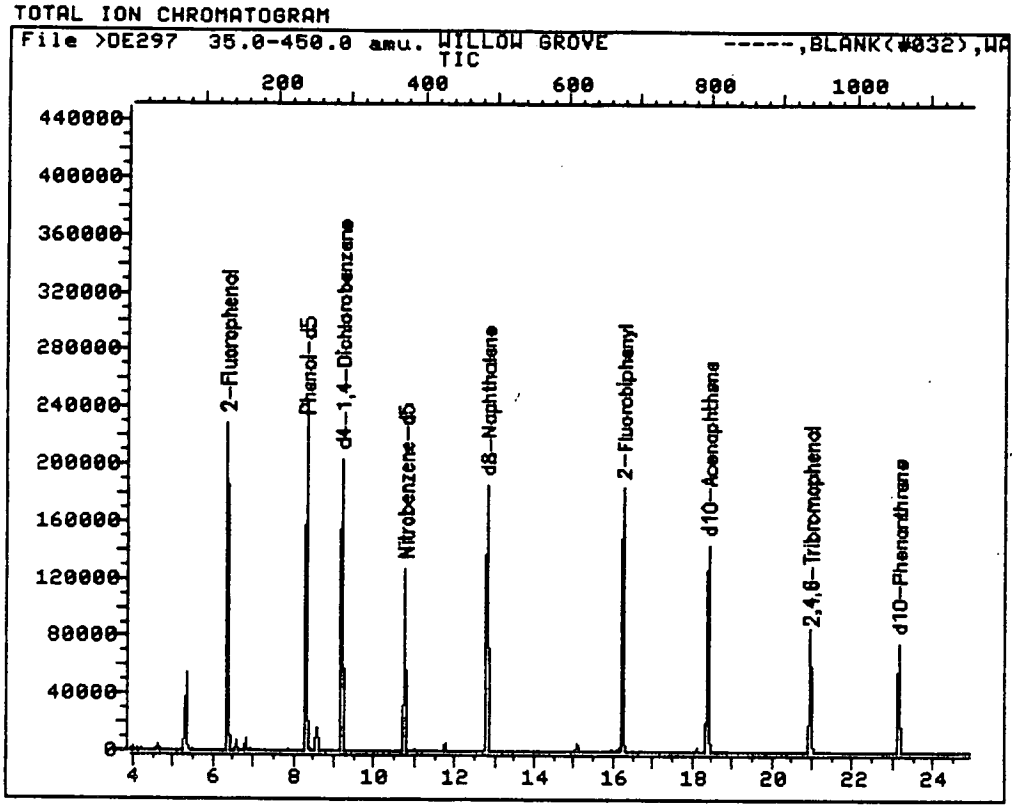
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



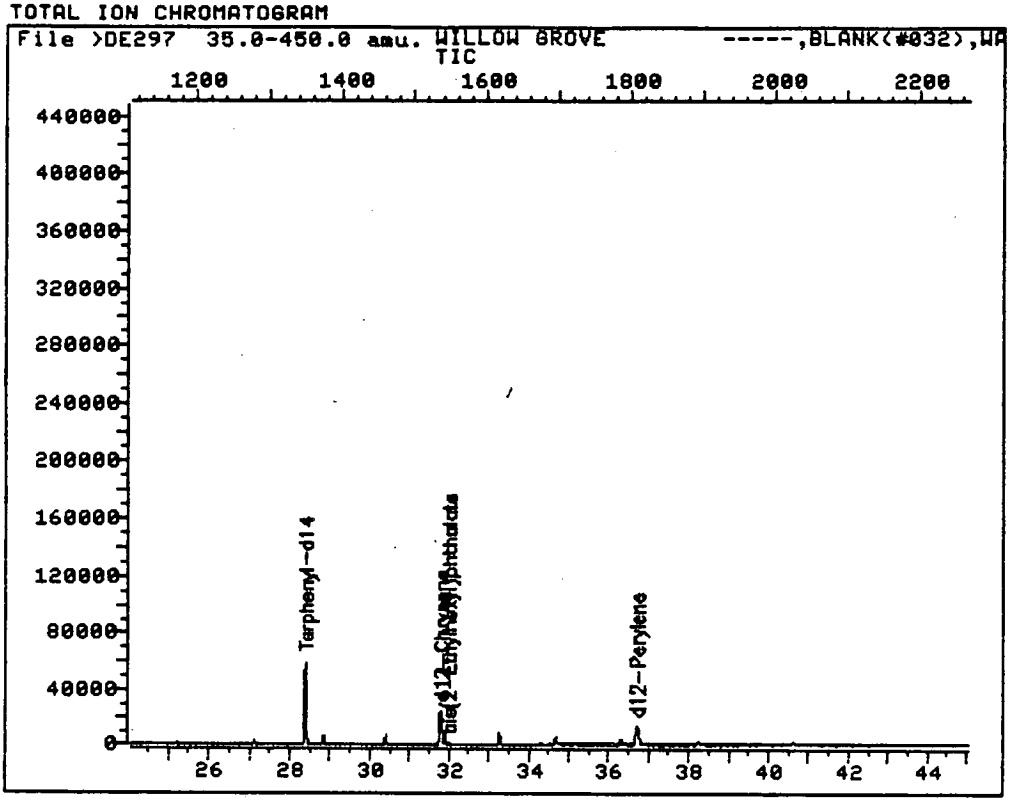
Data File: >DE297::W6 Quant Output File: ^DE297::QT
Name: WILLOW GROVE
Misc: -----,BLANK(#032),WATER,1000ml,2,E4518-21,4535-46 (2) BTL# 7

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 18:21
Injected at: 891002 17:33

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE297::W6 Quant Output File: ^DE297::QT
Name: WILLOW GROVE
Misc: -----,BLANK(#032),WATER,1000ml,2,E4518-21,4535-46 (2) BTL# 7

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

Operator ID: BHADRA
Quant Time: 891002 18:21
Injected at: 891002 17:33

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891002 18:21
Output File: ^DE297::QT Injected at: 891002 17:33
Data File: >DE297::W6 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: -----,BLANK(#032),WATER,1000ml,2,E4518-21,4535-46 (2) BTL# 7

ID Fil : IDDCLP::BD
Titl : HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891002 10:50

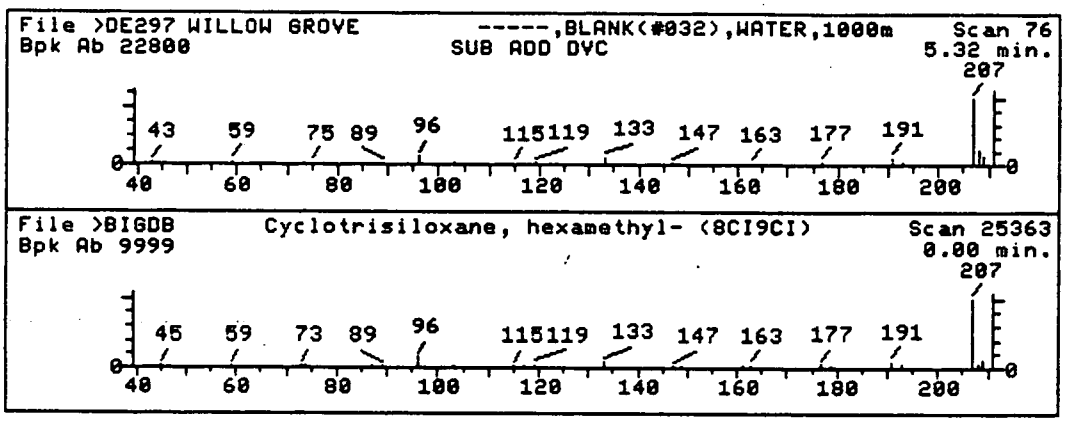
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.20	152.0	68960	40.00	NG	96
2)	2-Fluorophenol	6.34	112.0	130615	56.31	NG ✓56%	84
3)	Phenol-d5	8.31	99.0	198565	73.75	NG ✓74%	96
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.80	136.0	210980	40.00	NG	94
17)	Nitrobenzene-d5	10.76	82.0	97610	39.90	NG ✓80%	98
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.40	164.0	79709	40.00	NG	94
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.25	172.0	136751	45.99	NG ✓92%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphth ne	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^DE297:: Data File:>DE297::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.15	188.0	87336	40.00	NG	98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.95	330.0	25502	87.89	NG ✓88%	86
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.80	240.0	28220	40.00	NG	97
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.40	244.0	59107	47.49	NG ✓95%	89
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	B nzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	32.00	149.0	1201	~~.85~~	~~NG~~	92
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.71	264.0	25412	40.00	NG	96
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	B nzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



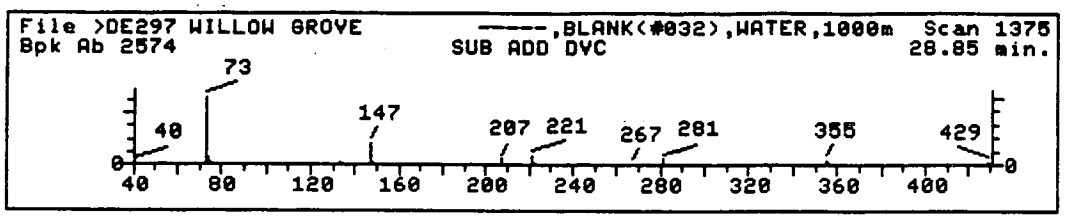
Retention time = 5.32

Area = 125790.0 Tentative Concentration is 21.00

✓1. Cyclotrisiloxane, hexamethyl- (8CI9CI) 222 C6H18O3Si3

Sample file: >DE297 Spectrum #: 76
Search speed: 2 Tilting option: S No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	83	541059	25363	"BIGDB	93	16	0	0	87	13	51	72



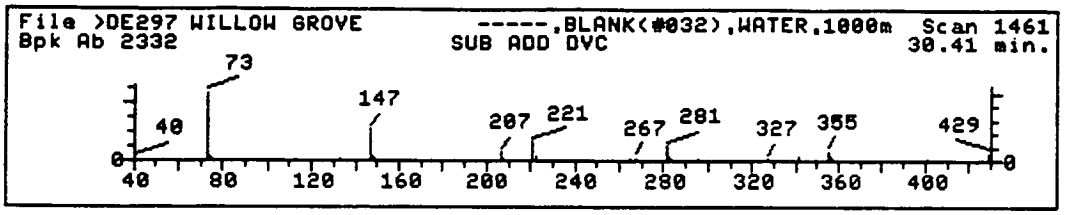
unknown

R tention time = 28.85

Area = 16048.00 Tentative Concentration is 15.00

Sample file: >DE297 Spectrum #: 1375

No data base entries were retrieved.



Unknown

Retention time = 30.41

Area = 20298.00 Tentative Concentration is 19.00

Sample file: >DE297 Spectrum #: 1461

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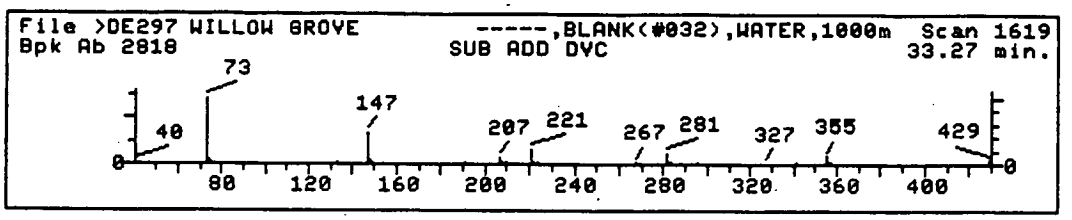
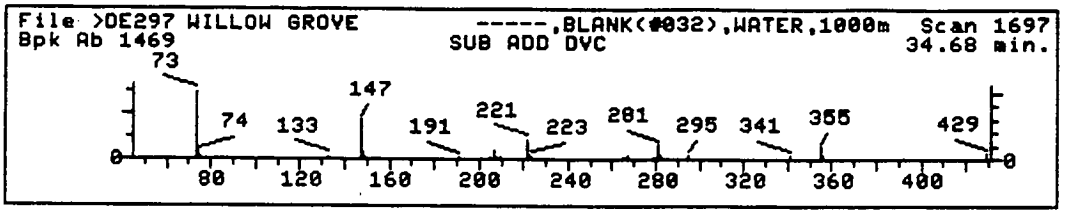


Retention time = 33.27 Unknown

Area = 27358.00 Tentative Concentration is 25.00

Sample file: >DE297 Spectrum #: 1619

No data base entries were retrieved.

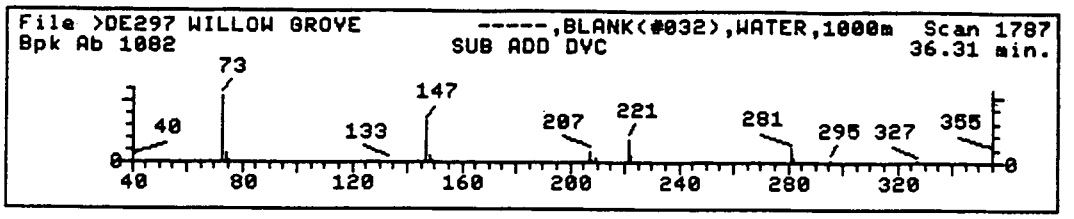


Retention time = 34.68 Unknown

Area = 19509.00 Tentative Concentration is 22.00

Sampl file: >DE297 Spectrum #: 1697

No data base entries were retrieved.



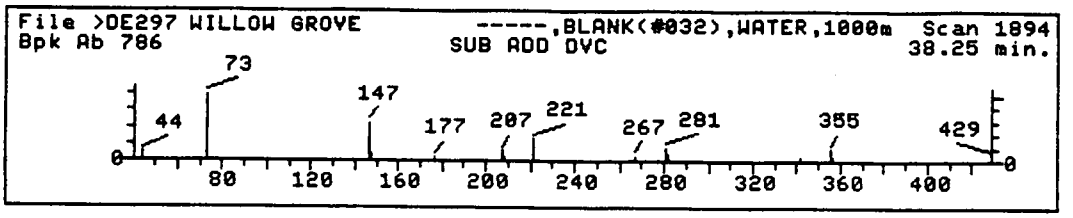
Unknown

Retention time = 36.31

Area = 14597.00 Tentative Concentration is 17.00

Sample file: >DE297 Spectrum #: 1787

No data base entries were retrieved.



Unknown

Retention time = 38.25

Area = 17332.00 Tentative Concentration is 20.00

Sample file: >DE297 Spectrum #: 1894

No data base entries were retrieved.

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
BLANK(#040)

For Reext. Samples.

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 10/04/89
Date Analyzed: 10/10/89 12:09
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Blank #040

Lab Name: EA Laboratories Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) water Lab Sample ID: Blank #040

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: ZDE357

Level: (low/med) low Date Received: N/A

% Moisture: not dec. — dec. — Date Extracted: 10/4/89

Extraction: (SepF/Cont/Sonc) cont. Date Analyzed: 10/10/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: 3

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unknown	6.13	39.00	
2.	—	Unknown	6.62	9.00	
3.	930687	2-Cyclohexen-1-one	7.57	9.00	
4.					
5.					
6.					
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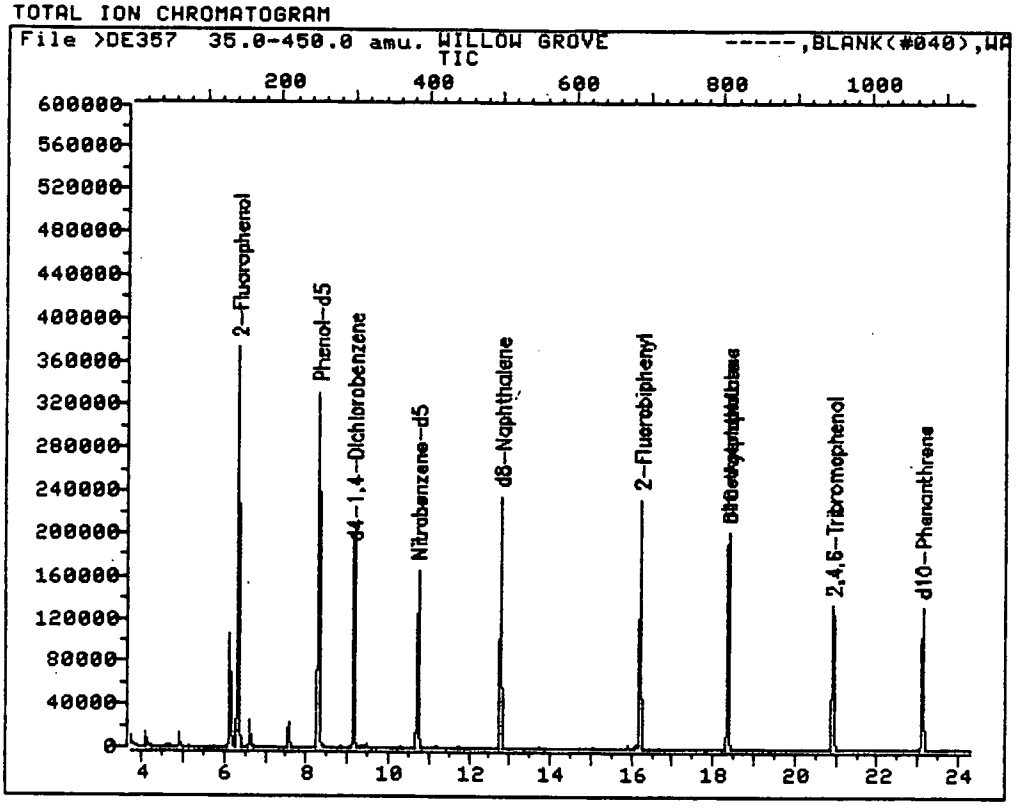
29.					
30.					

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



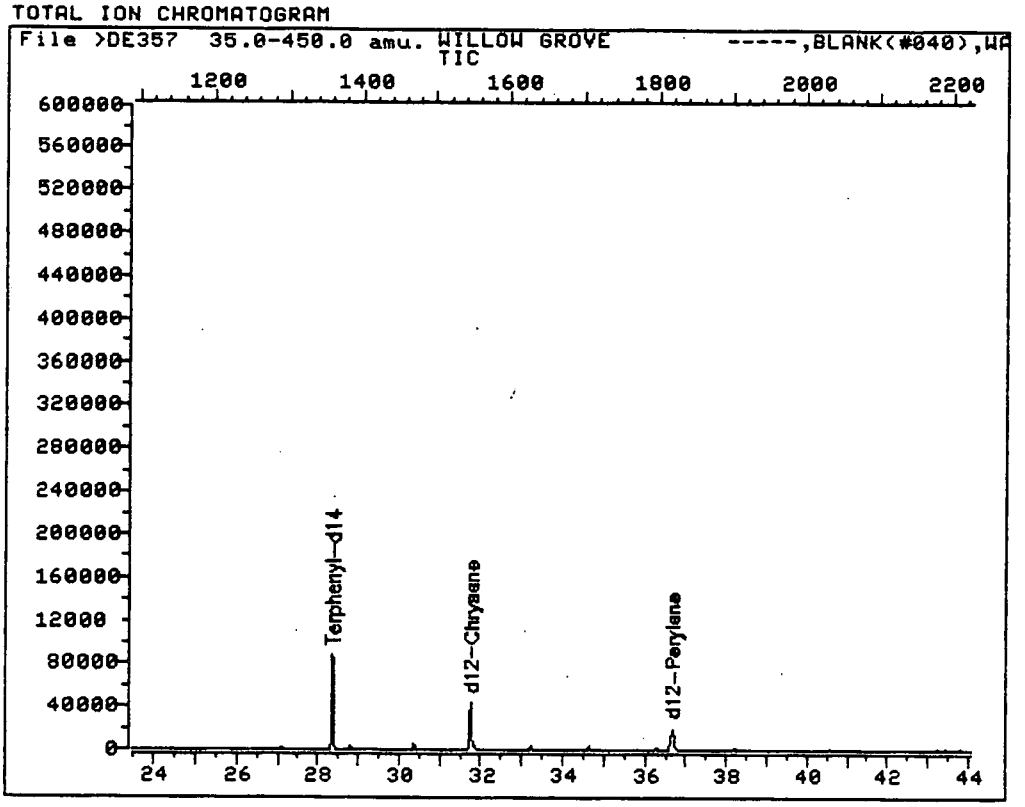
Data File: >DE357::W7 Quant Output File: ^DE357::QT
Name: WILLOW GROVE
Mi c: -----,BLANK(#040),WATER,1000ml,2, EA#4536,37,39,40(RE)BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 12:56
Injected at: 891010 12:09

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE357::W7 Quant Output File: ^DE357::QT
Name: WILLOW GROVE
Misc: -----,BLANK(#040),WATER,1000ml,2, EA#4536,37,39,40(RE)BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

Operator ID: BHADRA
Quant Time: 891010 12:56
Injected at: 891010 12:09

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Tim : 891010 12:56
Output File: ^DE357::QT Injected at: 891010 12:09
Data File: >DE357::W7 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: -----,BLANK(#040),WATER,1000ml,2, EA#4536,37,39,40(RE)BTL# 1

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891010 12:00

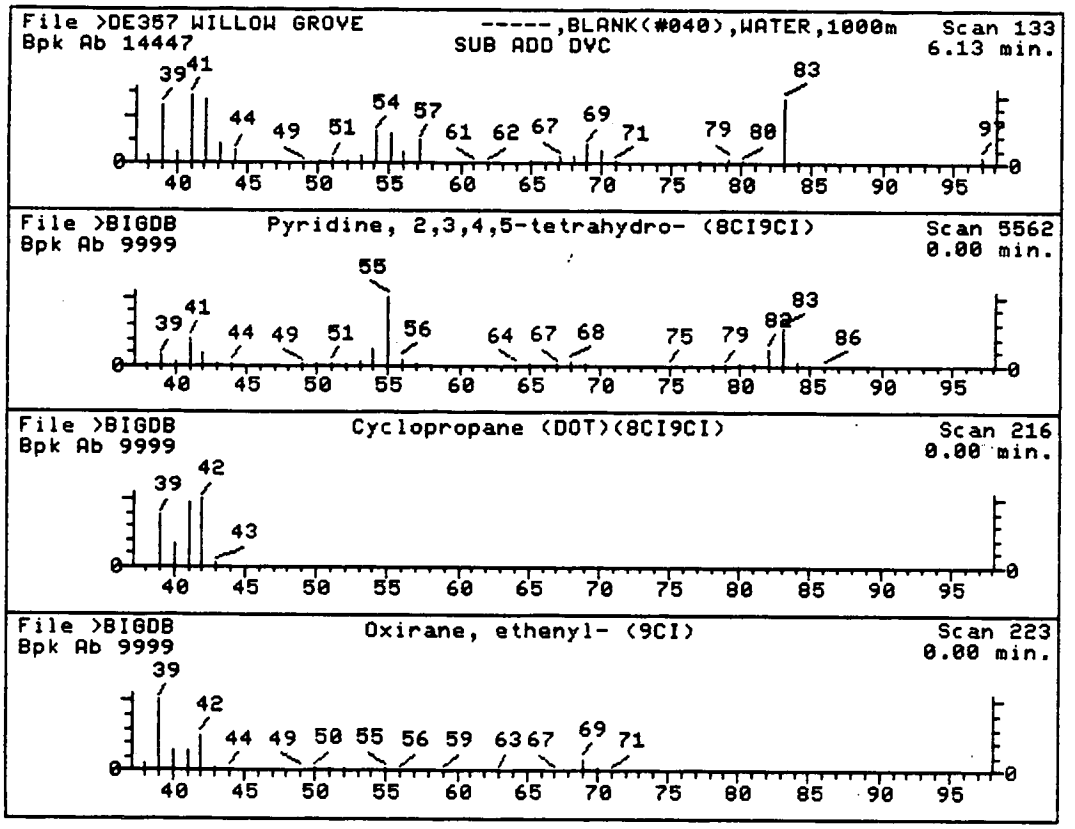
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.16	152.0	86333	40.00	NG	95
2)	2-Fluorophenol	6.33	112.0	230865	79.11	NG 79%	98
3)	Phenol-d5	8.31	99.0	284379	84.89	NG 85%	89
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	NG	
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	NG	
8)	1,4-Dichlorobenzene	0.00	146.0	0	0.00	NG	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	0.00	70.0	0	0.00	NG	
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.78	136.0	275303	40.00	NG	89
17)	Nitrobenzene-d5	10.74	82.0	133440	46.68	NG 93%	97
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	B nzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	0.00	180.0	0	0.00	NG	
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	0.00	107.0	0	0.00	NG	
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.38	164.0	125187	40.00	NG	98
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.22	172.0	204037	43.57	NG 87%	93
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	18.38	163.0	41601	~~8.43~~	~~NG~~	53
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Ac naphthene	0.00	153.0	0	0.00	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
pag 2

Output File:^DE357:: Data File:>DE357::W7

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Di thylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.12	188.0	147482	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.93	330.0	48865	93.94	NG ~94 ß	91
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	P ntachlorophenol	0.00	266.0	0	0.00	NG	
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.76	240.0	49312	40.00	NG	97
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	28.35	244.0	101655	51.93	NG ~104 ß	86
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.67	264.0	38934	40.00	NG	95
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD



Ret ntion time = 6.13 Unknown

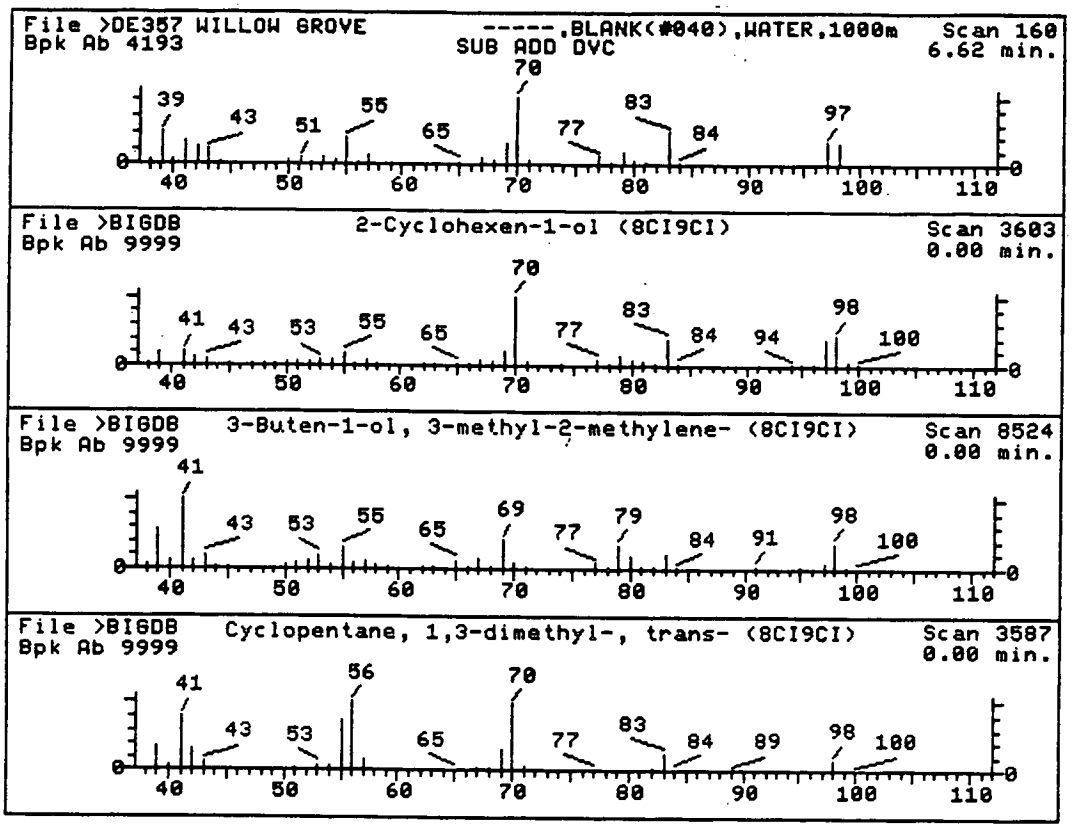
Area = 273960.0 Tentative Concentration is 39.00

1.	Pyridine, 2,3,4,5-tetrahydro- (8CI9CI)	83 C5H9N
2.	Cyclopropane (DOT)(8CI9CI)	42 C3H6
3.	Oxirane, ethenyl- (9CI)	70 C4H6O
4.	Cyclopropane, ethyl- (8CI9CI)	70 C5H10
5.	Cyclobutanone (8CI9CI)	70 C4H6O

Sample file: >DE357 Spectrum #: 133
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	505180	5562	"BIGDB	38	55	2	0	177	55	5	18
2.	20*	75194	216	"BIGDB	25	65	1	0	91	52	5	14
3.	13*	930223	223	"BIGDB	33	54	0	0	57	64	3	30
4.	12*	1191964	3479	"BIGDB	32	54	0	0	68	62	2	27

5.	11*	1191953	3478	"BIGDB	26	50	0	0	91	64	2	18



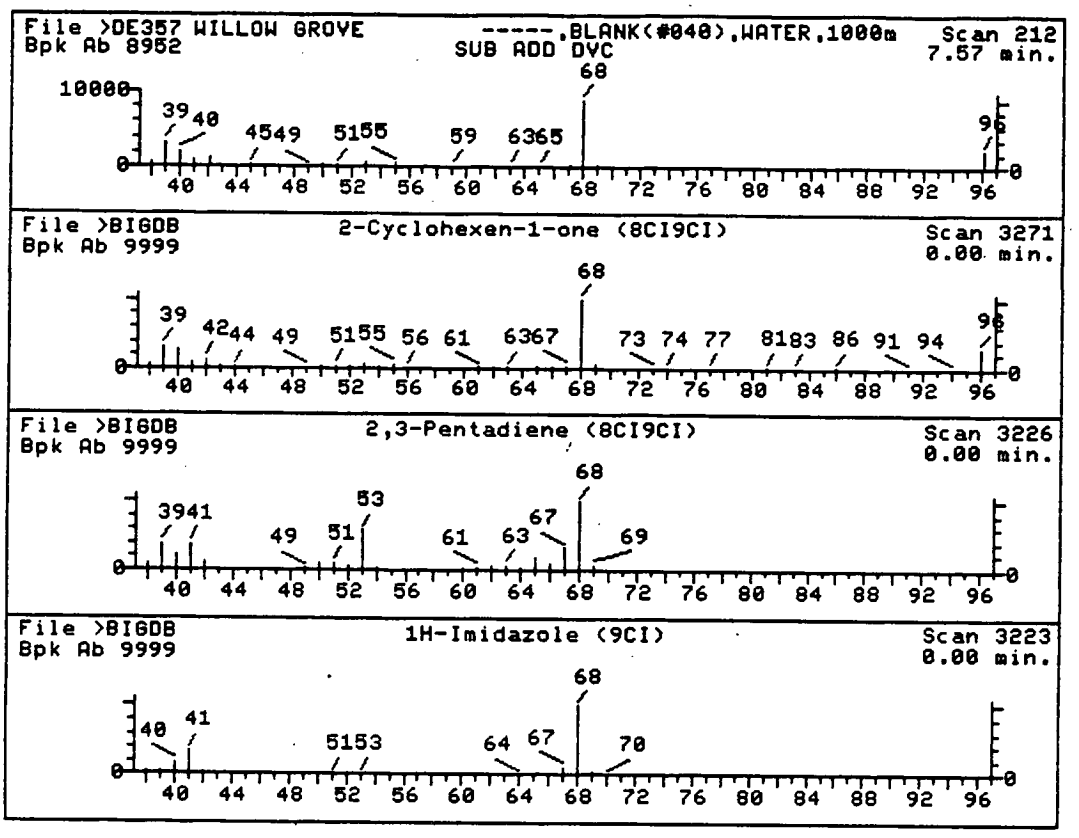
Retenti n time = 6.62 unknown

Area = 62549.00 Tentative Concentration is 9.00

1. 2-Cyclohexen-1-ol (8CI9CI) 98 C6H10O
2. 3-Buten-1-ol, 3-methyl-2-methylene- (8CI9CI) 98 C6H10O
3. Cyclopentane, 1,3-dimethyl-, trans- (8CI9CI) 98 C7H14
4. Cyclopentane, 1,3-dimethyl-, cis- (8CI9CI) 98 C7H14
5. Cyclopentane, 1,2-dimethyl-, cis- (8CI9CI) 98 C7H14
6. 4-Penten-2-one, 4-methyl- (8CI9CI) 98 C6H10O
7. 1-Pentene, 2,3-dimethyl- (8CI9CI) 98 C7H14

Sampl file: >DE357 Spectrum #: 160
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	39*	822673	3603	"BIGDB	48	51	2	0	75	33	16	22
2.	25*	26431130	8524	"BIGDB	45	63	2	2	50	46	7	12
3.	25*	1759586	3587	"BIGDB	28	74	3	0	103	50	7	13
4.	25*	2532583	3589	"BIGDB	28	78	3	0	100	50	7	13
5.	20*	1192183	3585	"BIGDB	36	66	3	0	108	51	5	13
6.	15*	3744023	8502	"BIGDB	33	46	2	0	194	56	3	16
7.	15*	3404726	3591	"BIGDB	29	71	3	0	91	59	3	13



Retention time = 7.57

Area = 65446.00 Tentative Concentration is 9.00

✓ 1. 2-Cyclohexen-1-one (8CI9CI)	96	C6H8O
2. 2,3-Pentadiene (8CI9CI)	68	C5H8
3. 1H-Imidazole (9CI)	68	C3H4N2
4. Furan (8CI9CI)	68	C4H4O
5. 1H-Pyrazole (9CI)	68	C3H4N2
6. 1,3-Pentadiene (8CI9CI)	68	C5H8
7. 1,4-Pentadiene (8CI9CI)	68	C5H8

Sample file: >DE357 Spectrum #: 212
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84*	930687	3271	"BIGDB	68	17	2	0	88	8	55	60
2.	52*	591968	3226	"BIGDB	22	81	2	0	100	19	20	13
3.	42*	288324	3223	"BIGDB	21	46	2	0	100	25	17	13
4.	37*	110009	3221	"BIGDB	23	49	1	0	72	30	14	14
5.	37*	288131	3222	"BIGDB	29	63	2	0	79	26	14	14
6.	25*	504609	3213	"BIGDB	38	65	2	0	52	50	7	14
7.	25*	591935	3224	"BIGDB	38	69	2	0	62	50	7	14

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
DUPLICATE#2(MS)

EA# 4545MS

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/03/89 16:48
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	200.	
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	190.	
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	77.	
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	91.	
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	84.	
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	190.	
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	95.	
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	170.	
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	76.	
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrososdiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	170.	
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	130.	
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Duplicate #2 MS #2

Lab Name: EA laboratories Contract: 10388-05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Water Lab Sample ID: EA # 4545 MS.

Sample wt/vol: 1000ml (g/mL) 2ml Lab File ID: >DE314

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (SepF/Cont/Sonc) Cont. Date Analyzed: 10/3/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: — CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. —	Not required	—	—	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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19.				
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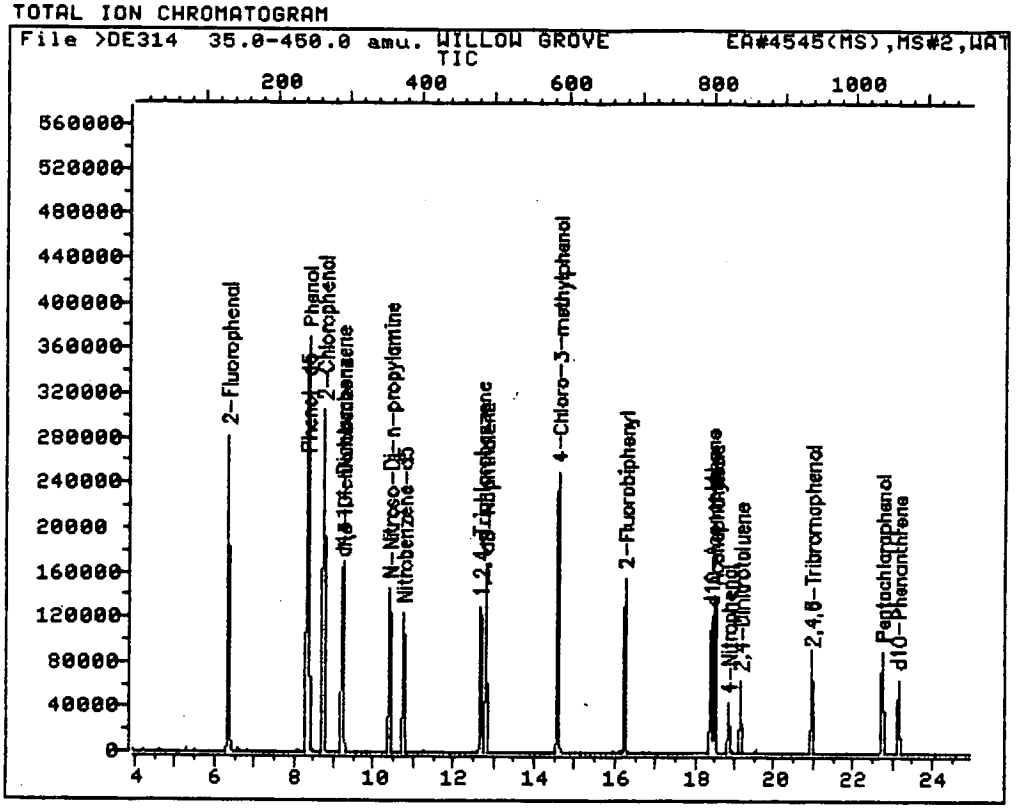
27.				
28.				
29.				
30.				

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



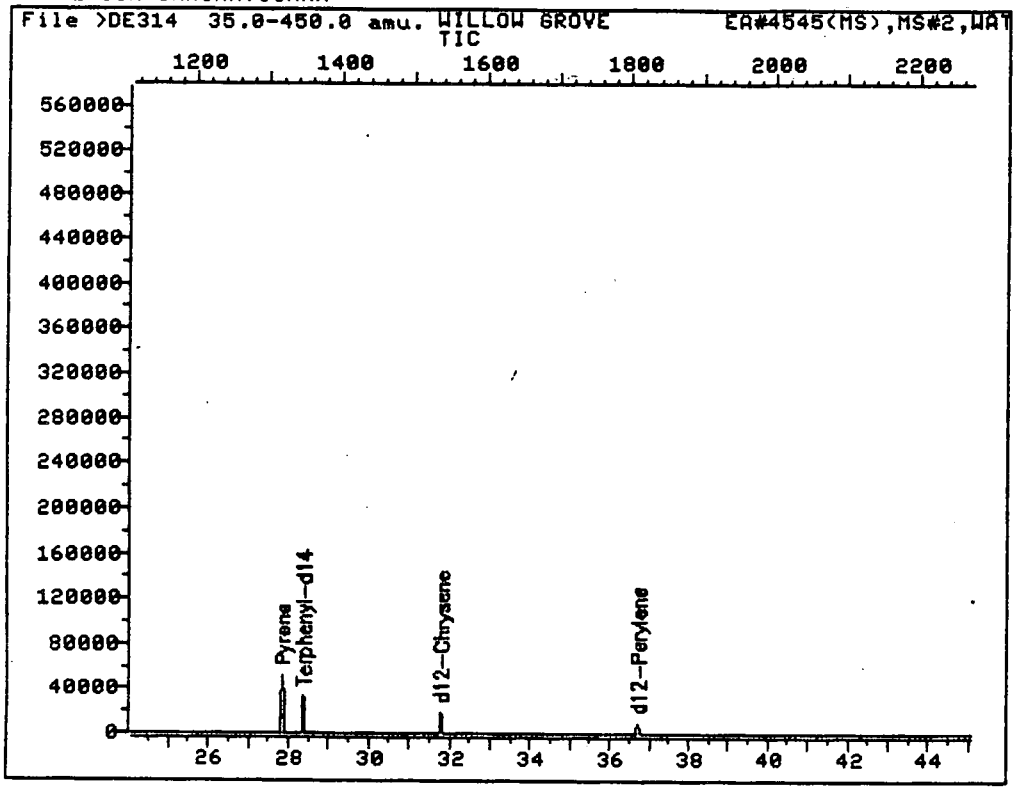
Data File: >DE314::W6 Quant Output File: ^DE314::QT
Name: WILLOW GROVE
Misc: EA#4545(MS),MS#2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 5

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Op rator ID: BHADRA
Quant Time: 891004 08:04
Injected at: 891003 16:48

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE314::W6 Quant Output File: ^DE314::QT
Name: WILLOW GROVE
Misc: EA#4545(MS),MS#2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 5

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891004 08:04
Injected at: 891003 16:48

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 891004 08:04
Output File: ^DE314::QT Injected at: 891003 16:48
Data Fil : >DE314::W6 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#4545(MS),MS#2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 5

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.20	152.0	51068	40.00	NG	97
2)	2-Fluorophenol	6.34	112.0	142751	81.58	NG 82 %	97
3)	Phenol-d5	8.33	99.0	188455	94.65	NG 95 %	98
4)	Phenol	8.37	94.0	222487	101.35	NG	87
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	8.75	128.0	178122	97.11	NG	97
7)	1,3-Dichlorobenzene	9.24	146.0	75724	~~38.84~~	~~NG~~	99
8)	1,4-Dichlorobenzene	9.24	146.0	75724	38.44	NG	98
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	10.40	70.0	70119	45.64	NG	98
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.81	136.0	178157	40.00	NG	95
17)	Nitrobenzene-d5	10.76	82.0	88866	44.20	NG 88 %	95
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	12.68	180.0	57131	41.89	NG	94
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	14.60	107.0	130311	93.35	NG	90
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.40	164.0	64632	40.00	NG	93
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.25	172.0	108217	44.28	NG 89 %	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	18.49	152.0	47923	~~14.83~~	~~NG~~	64
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	18.49	153.0	97747	47.42	NG	94
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
pag 2

Output File:^DE314:: Data File:>DE314::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.84	109.0	16970	87.02	NG	92
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	19.15	165.0	25350	37.95	NG	88
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.15	188.0	69797	40.00	NG	99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.96	330.0	19219	92.78	NG 93%	94
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	22.75	266.0	20937	86.38	NG	98
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.79	240.0	18299	40.00	NG	99
63)	Pyrene	27.84	202.0	70836	63.53	NG	95
64)	Terphenyl-d14	28.38	244.0	31428	41.80	NG 84%	88
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.71	264.0	15520	40.00	NG	97
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	B nzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	B nzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4558(MS)
SAMPLE: DUP #4(MS)
GC/MS FILE: >FC926::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/29/89 2:11
SAMPLE--->EXTRACT:	30.44g-->1mL

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	8900.	
111-44-4	bis(2-Chloroethyl)ether	420.	ND
95-57-8	2-Chlorophenol	9700.	
541-73-1	1,3-Dichlorobenzene	420.	ND
106-46-7	1,4-Dichlorobenzene	4100.	
100-51-6	Benzyl Alcohol	420.	ND
95-50-1	1,2-Dichlorobenzene	420.	ND
95-48-7	2-Methylphenol	420.	ND
39638-32-9	bis(2-chloroisopropyl)ether	420.	ND
106-44-5	4-Methylphenol	420.	ND
621-64-7	N-Nitroso-Di-n-propylamine	5700.	
67-72-1	Hexachloroethane	420.	ND
98-95-3	Nitrobenzene	420.	ND
78-59-1	Isophorone	420.	ND
88-75-5	2-Nitrophenol	420.	ND
105-67-9	2,4-Dimethylphenol	420.	ND
65-85-0	Benzoic Acid	48.	TR
111-91-1	bis(2-Chloroethoxy)methane	420.	ND
120-83-2	2,4-Dichlorophenol	420.	ND
120-82-1	1,2,4-Trichlorobenzene	4700.	
91-20-3	Naphthalene	420.	ND
106-47-8	4-Chloroaniline	420.	ND
87-68-3	Hexachlorobutadiene	420.	ND
59-50-7	4-Chloro-3-methylphenol	10000.	
91-57-6	2-Methylnaphthalene	420.	ND
77-47-4	Hexachlorocyclopentadiene	420.	ND
88-06-2	2,4,6-Trichlorophenol	420.	ND
95-95-4	2,4,5-Trichlorophenol	2100.	ND
91-58-7	2-Chloronaphthalene	420.	ND
88-74-4	2-Nitroaniline	2100.	ND
131-11-3	Dimethylphthalate	420.	ND
208-96-8	Acenaphthylene	420.	ND
99-09-2	3-Nitroaniline	2100.	ND
83-32-9	Acenaphthene	5100.	
51-28-5	2,4-Dinitrophenol	2100.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4558(MS)
SAMPLE: DUP #4(MS)
GC/MS FILE: >FC926::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/29/89 2:11
SAMPLE--->EXTRACT:	30.44g-->1mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	13000.	
132-64-9	Dibenzofuran	420.	ND
121-14-2	2,4-Dinitrotoluene	6000.	
606-20-2	2,6-Dinitrotoluene	420.	ND
84-66-2	Diethylphthalate	420.	ND
7005-72-3	4-Chlorophenyl-phenylether	420.	ND
86-73-7	Fluorene	420.	ND
100-01-6	4-Nitroaniline	2100.	ND
534-52-1	4,6-Dinitro-2-methylphenol	2100.	ND
86-30-6	N-Nitrosodiphenylamine	420.	ND
101-55-3	4-Bromophenyl-phenylether	420.	ND
118-74-1	Hexachlorobenzene	420.	ND
87-86-5	Pentachlorophenol	13000.	
85-01-8	Phenanthrene	140.	TR
120-12-7	Anthracene	420.	ND
84-74-2	Di-n-Butyl phthalate	420.	ND
206-44-0	Fluoranthene	210.	TR
129-00-0	Pyrene	4900.	
85-68-7	Butylbenzylphthalate	420.	ND
91-94-1	3,3'-Dichlorobenzidine	850.	ND
56-55-3	Benzo(a)Anthracene	69.	TR
117-81-7	bis(2-Ethylhexyl)phthalate	72.	TR
218-01-9	Chrysene	92.	TR
117-84-0	Di-n-Octyl phthalate	420.	ND
205-99-2	Benzo(b)Fluoranthene	73.	TR
207-08-9	Benzo(k)Fluoranthene	64.	TR
50-32-8	Benzo(a)Pyrene	70.	TR
193-39-5	Indeno(1,2,3-cd)Pyrene	43.	TR
53-70-3	Dibenzo(a,h)Anthracene	420.	ND
191-24-2	Benzo(g,h,i)Perylene	420.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but l ss than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DUP#4(MS)

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Soil Lab Sample ID: EA# 4558 (MS)

Sample wt/vol: 30.44 (g/mL) g Lab File ID: >FC 926

Level: (low/med) Low Date Received: 9/25/89

% Moisture: not dec. 22.6 dec. _____ Date Extracted: 9/26/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 9/29/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: —

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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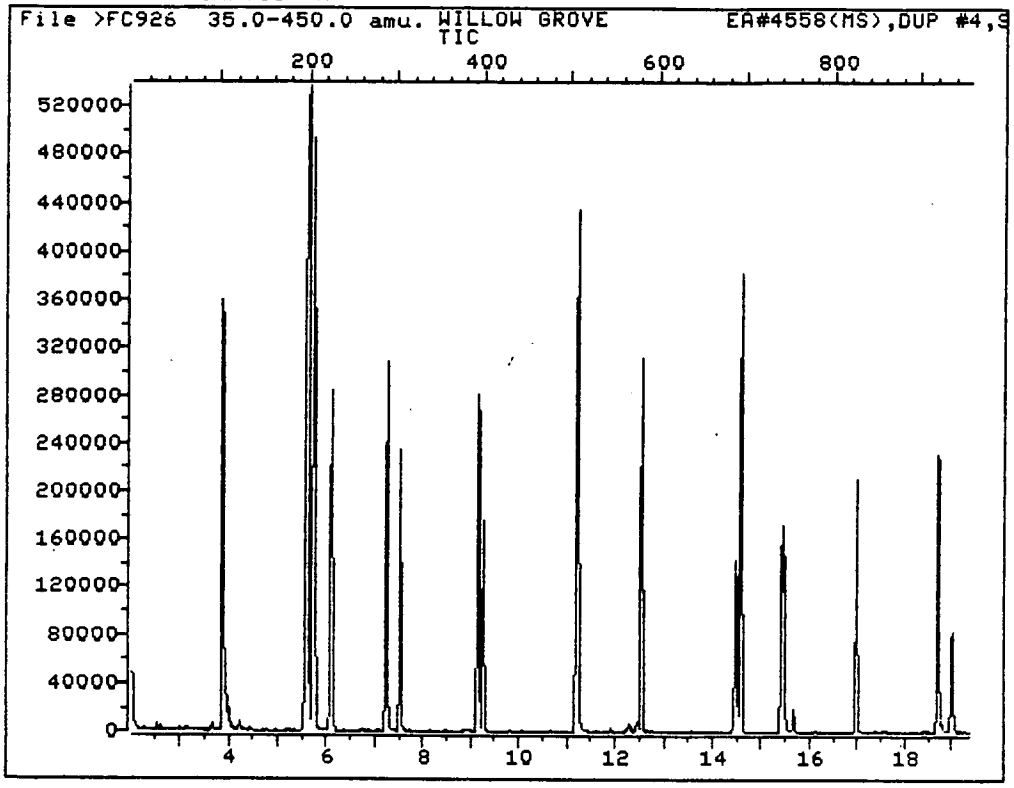
Not Required

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



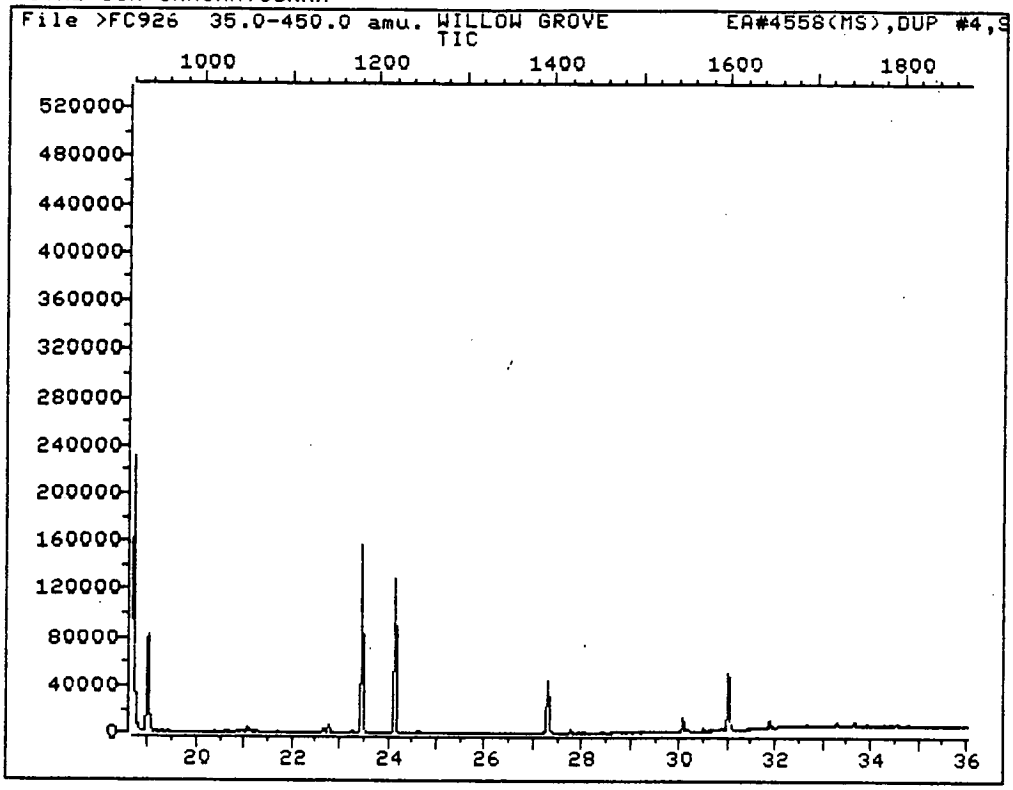
Data File: >FC926::D5 Quant Output File: ^FC926::QT
Name: WILLOW GROVE
Misc: EA#4558(MS),DUP #4,SOIL,30.44g,1mL, BTL# 8

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 02:50
Injected at: 890929 02:11

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC926::D5 Quant Output File: ^FC926::QT
Name: WILLOW GROVE
Misc: EA#4558(MS),DUP #4,SOIL,30.44g,1mL, BTL# 8

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 02:50
Injected at: 890929 02:11

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE
Output File: ^FC926::QT
Data File: >FC926::D5
Name: WILLOW GROVE
Misc: EA#4558(MS),DUP #4,SOIL,30.44g,1mL,

Quant Rev: 6
Quant Time: 890929 02:50
Injected at: 890929 02:11
Dilution Factor: 1.00000
BTL# 8

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	6.07	152.0	46577	40.00	NG		95
2)	2-Fluorophenol	3.87	112.0	244281	177.31	NG	89%	81
3)	Phenol-d5	5.59	99.0	305157	206.25	NG	103%	95
4)	Phenol	5.63	94.0	362358	209.67	NG		76
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	5.74	128.0	322690	228.75	NG		97
7)	1,3-Dichlorobenzene	6.10	146.0	156580	~~96.90~~	NG		95
8)	1,4-Dichlorobenzene	6.10	146.0	156580	96.90	NG		95
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG		
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG		
11)	2-Methylphenol	0.00	108.0	0	0.00	NG		
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG		
13)	4-Methylphenol	7.26	108.0	570	~~.53~~	NG		95
14)	N-Nitroso-Di-n-propylamine	7.24	70.0	173214	134.91	NG		93
15)	Hexachloroethane	0.00	117.0	0	0.00	NG		
16)	*d8-Naphthalene	9.26	136.0	174229	40.00	NG		89
17)	Nitrobenzene-d5	7.53	82.0	165863	114.52	NG	115%	89
18)	Nitrobenzene	0.00	77.0	0	0.00	NG		
19)	Isophorone	0.00	82.0	0	0.00	NG		
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG		
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG		
22)	Benzoic Acid	8.89	122.0	590	1.12	NG		92
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG		
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG		
25)	1,2,4-Trichlorobenzene	9.15	180.0	143070	111.03	NG		93
26)	Naphthalene	0.00	128.0	0	0.00	NG		
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG		
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG		
29)	4-Chloro-3-methylphenol	11.22	107.0	242684	239.75	NG		80
30)	2-Methylnaphthalene	11.62	142.0	644	~~.29~~	NG		92
31)	*d10-Acenaphthene	14.48	164.0	79358	40.00	NG		98
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG		
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG		
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG		
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG		
36)	2-Fluorobiphenyl	12.54	172.0	247456	103.45	NG	103%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG		
39)	Acenaphthylene	14.59	152.0	115722	~~36.17~~	NG		71
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG		
41)	Acenaphthene	14.59	153.0	247049	120.09	NG		93
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG		

QUANT REPORT
page 2

Output File:^FC926:: Data File:>FC926::D5

	Compound	R.T.	Q ion	Area	Conc	Units		q
43)	4-Nitrophenol	15.43	109.0	40477M	313.84	NG		
44)	Dibenzofuran	0.00	168.0	0	0.00	NG		
45)	2,4-Dinitrotoluene	15.46	165.0	78751	141.20	NG		77
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG		
47)	Diethylphthalate	0.00	149.0	0	0.00	NG		
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG		
49)	Fluorene	0.00	166.0	0	0.00	NG		
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG		
51)	*d10-Phenanthrene	19.00	188.0	84492	40.00	NG		99
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG		
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG		
54)	2,4,6-Tribromophenol	16.99	329.9	71144	255.50	NG	128%	95
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG		
56)	H xachlorobenzene	0.00	283.6	0	0.00	NG		
57)	Pentachlorophenol	18.71	266.0	96614	305.01	NG		98
58)	Phenanthrene	19.07	178.0	6229	3.23	NG		99
59)	Anthracene	19.07	178.0	6229	~~3.55~~	NG		99
60)	Di-n-Butyl phthalate	21.28	149.0	1591	~~.55~~	NG		96
61)	Fluoranthene	22.79	202.0	8293	4.94	NG		94
62)	*d12-Chrysene	27.31	240.0	40658	40.00	NG		96
63)	Pyrene	23.46	202.0	189126	116.47	NG		97
64)	Terphenyl-d14	24.15	244.0	122940	105.82	NG	106%	89
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG		
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG		
67)	Benzo(a)Anthracene	27.25	228.0	1696	1.62	NG		91
68)	bis(2-Ethylhexyl)phthalate	27.78	149.0	2014	1.71	NG		97
69)	Chrysene	27.36	228.0	2223	2.16	NG		95
70)	*d12-Perylene	31.02	264.0	47714	40.00	NG		93
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG		
72)	Benzo(b)Fluoranthene	30.15	252.0	1977	1.73	NG		95
73)	Benzo(k)Fluoranthene	30.19	252.0	1547M	1.50	NG		92
74)	Benzo(a)Pyrene	30.88	252.0	1631	1.66	NG		95
75)	Indeno(1,2,3-cd)Pyrene	33.28	276.0	1227	1.00	NG		98
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG		
77)	Benzo(g,h,i)Perylene	33.91	276.0	981	~~.93~~	NG		93

* Compound is ISTD

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
DUPLICATE#2(MSD)
EA#45~~85~~ MSD

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 09/28/89
Date Analyzed: 10/03/89 17:46
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		ug/L or ug/Kg (Circle One)	
108-95-2	Phenol	220.	
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	210.	
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	80.	
100-51-6	Benzyl Alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	87.	
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic Acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	82.	
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	190.	
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U

C.A.S. Number		ug/L or ug/Kg (Circle One)	
83-32-9	Acenaphthene	94.	
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	220.	
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	81.	
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	190.	
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-Butyl phthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	130.	
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)Anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-Octyl phthalate	10.	U
205-99-2	Benzo(b)Fluoranthene	10.	U
207-08-9	Benzo(k)Fluoranthene	10.	U
50-32-8	Benzo(a)Pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10.	U
53-70-3	Dibenzo(a,h)Anthracene	10.	U
191-24-2	Benzo(g,h,i)Perylene	10.	U

(1)-Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Duplicate #2
MSD #2

Lab Name: EA Laboratories. Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Water Lab Sample ID: EA # 4545 MSD.

Sample wt/vol: 1000ml (g/mL) 2ml. Lab File ID: >DE 315

Level: (low/med) low Date Received: 9/25/89

% Moisture: not dec. — dec. — Date Extracted: 9/28/89

Extraction: (SepF/Cont/Sonc) Cont. Date Analyzed: 10/3/89

GPC Cleanup: (Y/N) N pH: — Dilution Factor: —

Number TICs found: —

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. —	not required	—	—	
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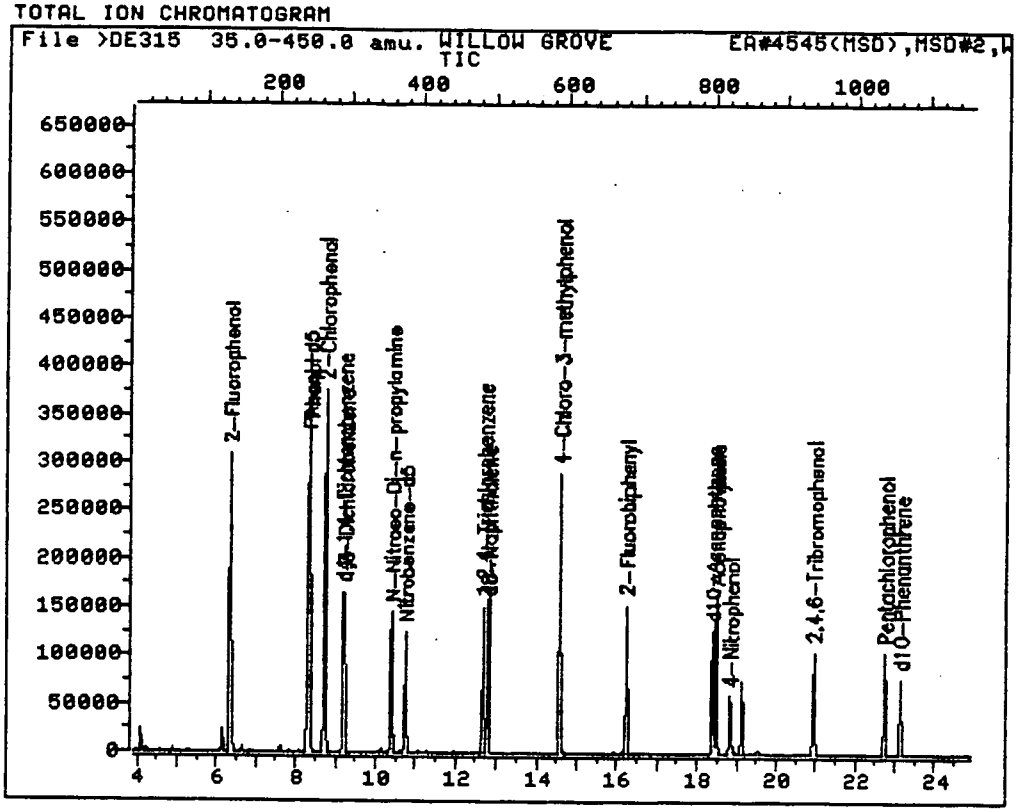
FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



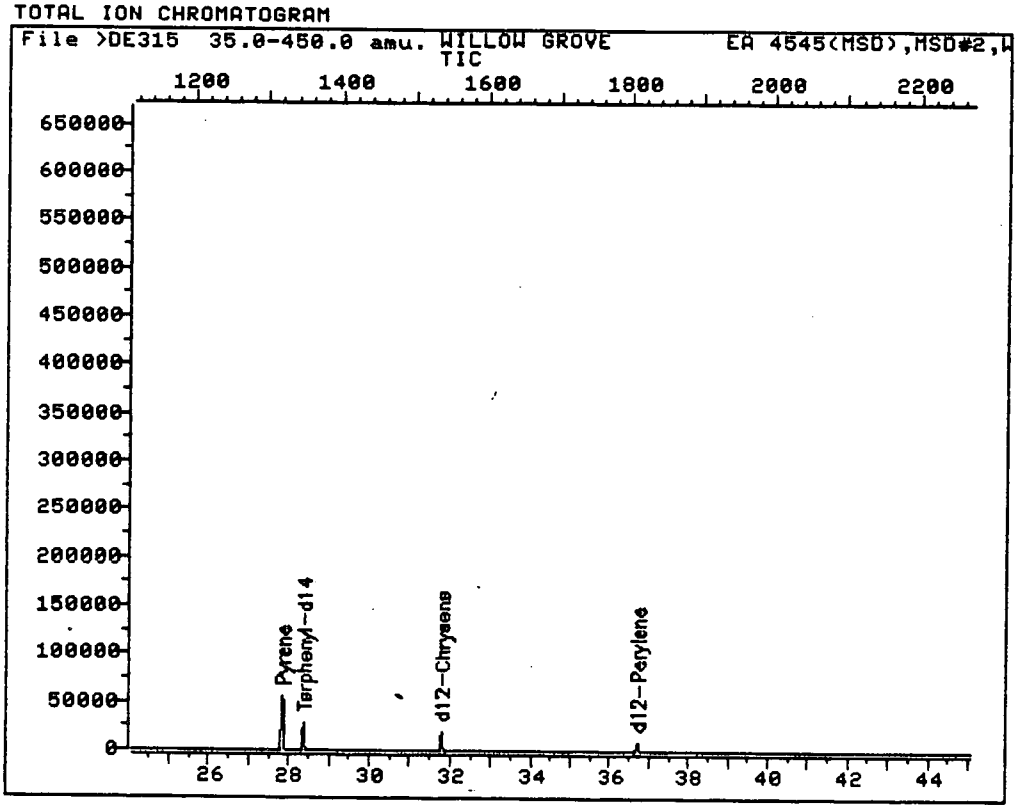
Data File: >DE315::W6 Quant Output File: ^DE315::QT
Name: WILLOW GROVE
Misc: EA#4545(MSD),MSD#2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 6

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891004 08:10
Injected at: 891003 17:46

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DE315::W6 Quant Output File: ^DE315::QT
Name: WILLOW GROVE
Misc: EA#4545(MSD),MSD#2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 6

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

Operator ID: BHADRA
Quant Time: 891004 08:10
Injected at: 891003 17:46

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA
Output File: ^DE315::QT
Data File: >DE315::W6
Name: WILLOW GROVE
Misc: EA#4545(MSD),MSD#2,WATER,1000ml,2, WILLOW GROVE (2) BTL# 6

Quant R v: 6
Quant Time: 891004 08:10
Injected at: 891003 17:46
Dilution Factor: 1.00000

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 891003 11:34

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.19	152.0	53980	40.00	NG	94
2)	2-Fluorophenol	6.33	112.0	166931	90.25	NG 90 %	88
3)	Phenol-d5	8.34	99.0	204489	97.16	NG 97 %	97
4)	Phenol	8.38	94.0	254294	109.59	NG	81
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	8.74	128.0	204109	105.28	NG	99
7)	1,3-Dichlorobenzene	9.23	146.0	82852	~~40.20 NG~~		98
8)	1,4-Dichlorobenzene	9.23	146.0	82852	39.79	NG	97
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	10.40	70.0	70567	43.45	NG	95
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	12.79	136.0	194342	40.00	NG	91
17)	Nitrobenzene-d5	10.77	82.0	95395	43.50	NG 87 %	89
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	0.00	122.0	0	0.00	NG	
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	12.69	180.0	61223	41.15	NG	95
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	14.59	107.0	147952	97.16	NG	90
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	18.39	164.0	69778	40.00	NG	94
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	16.23	172.0	113850	43.15	NG 86 %	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	18.50	152.0	51084	~~14.64 NG~~		63
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	18.50	153.0	104071	46.77	NG	94
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^DE315::

Data File:>DE315::W6

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.84	109.0	22948	108.99	NG	93
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	19.15	165.0	29345M	40.69	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	0.00	166.0	0	0.00	NG	
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	23.15	188.0	73964	40.00	NG	98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG	
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG	
54)	2,4,6-Tribromophenol	20.96	330.0	19986	91.05	NG 91%	88
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	NG	
57)	Pentachlorophenol	22.75	266.0	24250	94.41	NG	99
58)	Phenanthrene	0.00	178.0	0	0.00	NG	
59)	Anthracene	0.00	178.0	0	0.00	NG	
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG	
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	31.79	240.0	18235	40.00	NG	96
63)	Pyrene	27.84	202.0	70428	63.38	NG	95
64)	Terphenyl-d14	28.38	244.0	24272	32.39	NG 65%	90
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG	
67)	Benzo(a)Anthracene	0.00	228.0	0	0.00	NG	
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	36.71	264.0	15315	40.00	NG	96
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	0.00	252.0	0	0.00	NG	
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG	
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	NG	
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	NG	

* Compound is ISTD

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4558(MSD)
SAMPLE: DUP #4(MSD)
GC/MS FILE: >FC927::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 1

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/29/89 3:02
SAMPLE--->EXTRACT:	30.21g-->1mL

CAS #		CONC UG/L OR UG/KG	
108-95-2	Phenol	8200.	
111-44-4	bis(2-Chloroethyl)ether	430.	ND
95-57-8	2-Chlorophenol	9100.	
541-73-1	1,3-Dichlorobenzene	430.	ND
106-46-7	1,4-Dichlorobenzene	3700.	
100-51-6	Benzyl Alcohol	430.	ND
95-50-1	1,2-Dichlorobenzene	430.	ND
95-48-7	2-Methylphenol	430.	ND
39638-32-9	bis(2-chloroisopropyl)ether	430.	ND
106-44-5	4-Methylphenol	430.	ND
621-64-7	N-Nitroso-Di-n-propylamine	5400.	
67-72-1	Hexachloroethane	430.	ND
98-95-3	Nitrobenzene	430.	ND
78-59-1	Isophorone	430.	ND
88-75-5	2-Nitrophenol	430.	ND
105-67-9	2,4-Dimethylphenol	430.	ND
65-85-0	Benzoic Acid	60.	TR
111-91-1	bis(2-Chloroethoxy)methane	430.	ND
120-83-2	2,4-Dichlorophenol	430.	ND
120-82-1	1,2,4-Trichlorobenzene	4400.	
91-20-3	Naphthalene	430.	ND
106-47-8	4-Chloroaniline	430.	ND
87-68-3	Hexachlorobutadiene	430.	ND
59-50-7	4-Chloro-3-methylphenol	9900.	
91-57-6	2-Methylnaphthalene	430.	ND
77-47-4	Hexachlorocyclopentadiene	430.	ND
88-06-2	2,4,6-Trichlorophenol	430.	ND
95-95-4	2,4,5-Trichlorophenol	2100.	ND
91-58-7	2-Chloronaphthalene	430.	ND
88-74-4	2-Nitroaniline	2100.	ND
131-11-3	Dimethylphthalate	430.	ND
208-96-8	Acenaphthylene	430.	ND
99-09-2	3-Nitroaniline	2100.	ND
83-32-9	Acenaphthene	4800.	
51-28-5	2,4-Dinitrophenol	2100.	ND

EA LABORATORIES

CLIENT: WILLOW GROVE
LAB NO.: EA#4558(MSD)
SAMPLE: DUP #4(MSD)
GC/MS FILE: >FC927::D5
DATE REC'D: 09/25/89
INSTRUMENT ID: F6

ORGANICS ANALYSIS DATA SHEET
SEMI-VOLATILE COMPOUNDS
PAGE 2

MATRIX:	SOIL
DATE EXTRACTED:	09/26/89
DATE ANALYZED:	09/29/89 3:02
SAMPLE--->EXTRACT:	30.21g-->1mL

CAS #		CONC UG/L OR UG/KG	
100-02-7	4-Nitrophenol	13000.	
132-64-9	Dibenzofuran	430.	ND
121-14-2	2,4-Dinitrotoluene	5800.	
606-20-2	2,6-Dinitrotoluene	430.	ND
84-66-2	Diethylphthalate	430.	ND
7005-72-3	4-Chlorophenyl-phenylether	430.	ND
86-73-7	Fluorene	430.	ND
100-01-6	4-Nitroaniline	2100.	ND
534-52-1	4,6-Dinitro-2-methylphenol	2100.	ND
86-30-6	N-Nitrosodiphenylamine	430.	ND
101-55-3	4-Bromophenyl-phenylether	430.	ND
118-74-1	Hexachlorobenzene	430.	ND
87-86-5	Pentachlorophenol	13000.	
85-01-8	Phenanthrene	100.	TR
120-12-7	Anthracene	430.	ND
84-74-2	Di-n-Butyl phthalate	430.	ND
206-44-0	Fluoranthene	160.	TR
129-00-0	Pyrene	4700.	
85-68-7	Butylbenzylphthalate	430.	ND
91-94-1	3,3'-Dichlorobenzidine	860.	ND
56-55-3	Benzo(a)Anthracene	62.	TR
117-81-7	bis(2-Ethylhexyl)phthalate	77.	TR
218-01-9	Chrysene	79.	TR
117-84-0	Di-n-Octyl phthalate	430.	ND
205-99-2	Benzo(b)Fluoranthene	66.	TR
207-08-9	Benzo(k)Fluoranthene	61.	TR
50-32-8	Benzo(a)Pyrene	65.	TR
193-39-5	Indeno(1,2,3-cd)Pyrene	430.	ND
53-70-3	Dibenzo(a,h)Anthracene	430.	ND
191-24-2	Benzo(g,h,i)Perylene	430.	ND

Qualifier descriptions: ND - Compound analyzed for but not detected
Number reported is method detection limit
TR - Present but less than detection limit

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Dup#4 (MSD)

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EAENG Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Matrix: (soil/water) Soil Lab Sample ID: EA# 4558 (MSD)

Sample wt/vol: 30.21 (g/mL) g Lab File ID: >FC 927

Level: (low/med) Low Date Received: 9/25/89

% Moisture: not dec. 22.6 dec. _____ Date Extracted: 9/26/89

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 9/29/89

GPC Cleanup: (Y/N) N pH: N/A Dilution Factor: —

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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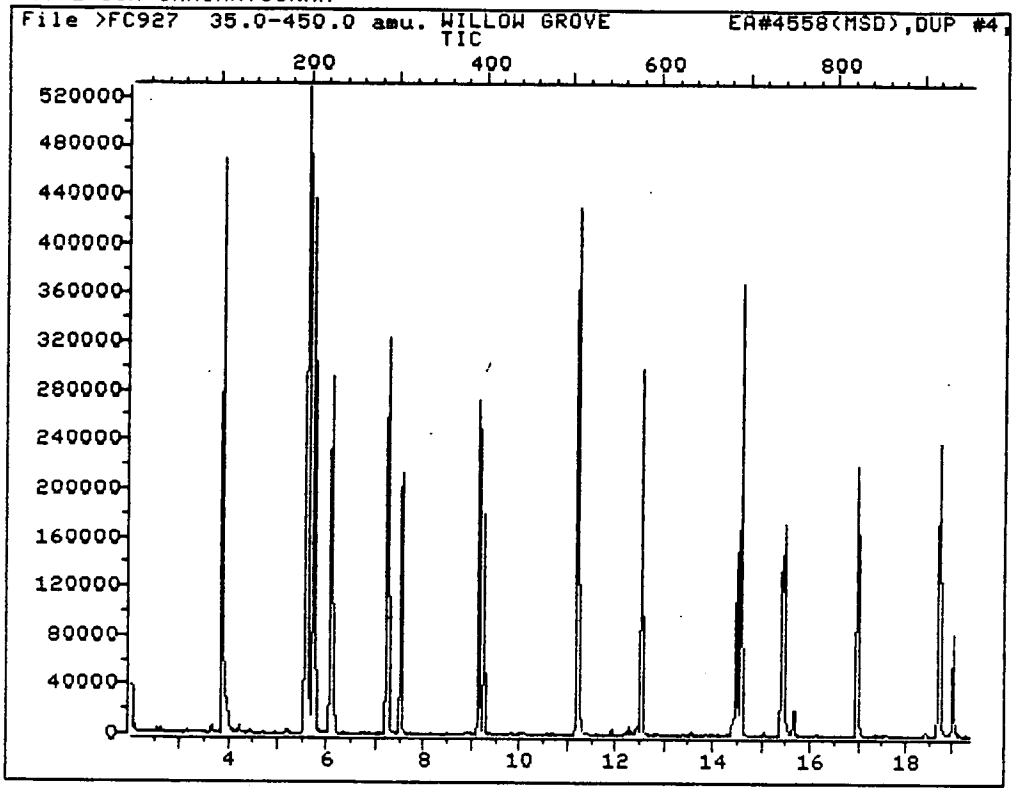
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

NO TICs FOUND

FORM I SV-TIC

1/87 Rev.

TOTAL ION CHROMATOGRAM



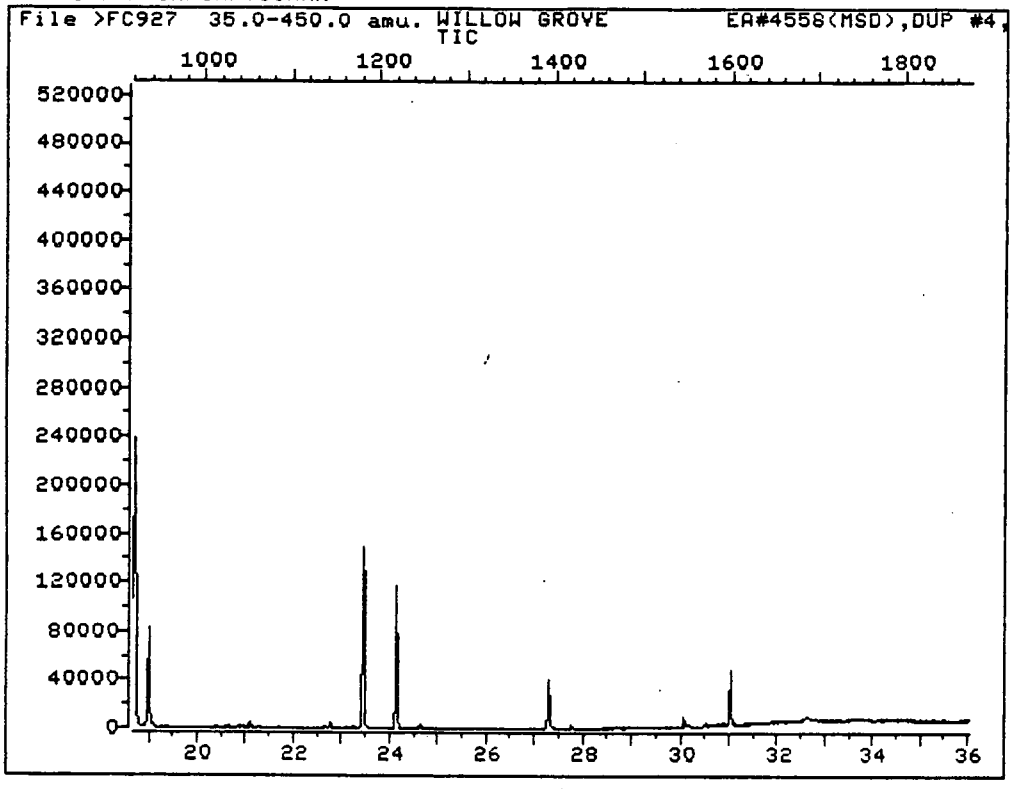
Data File: >FC927::D5 Quant Output File: ^FC927::QT
Name: WILLOW GROVE
Misc: EA#4558(MSD),DUP #4,SOIL,30.21g,1mL, BTL# 9

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 03:41
Injected at: 890929 03:02

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FC927::D5 Quant Output File: ^FC927::QT
Name: WILLOW GROVE
Misc: EA#4558(MSD),DUP #4,SOIL,30.21g,1mL, BTL# 9

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

Operator ID: UNCLE
Quant Time: 890929 03:41
Injected at: 890929 03:02

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE
Output File: ^FC927::QT
Data File: >FC927::D5
Name: WILLOW GROVE
Misc: EA#4558(MSD),DUP #4,SOIL,30.21g,1mL,

Quant Rev: 6
Quant Time: 890929 03:41
Injected at: 890929 03:02
Dilution Factor: 1.00000

BTL# 9

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890928 19:49

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	6.07	152.0	49733	40.00	NG	98
2)	2-Fluorophenol	3.87	112.0	250638	170.38	NG 85%	89
3)	Phenol-d5	5.60	99.0	306089	193.75	NG 97%	96
4)	Phenol	5.61	94.0	355435	192.61	NG	76
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	5.72	128.0	321578	213.50	NG	99
7)	1,3-Dichlorobenzene	6.10	146.0	148492	~~86.06~~	NG	97
8)	1,4-Dichlorobenzene	6.10	146.0	148492	86.06	NG	97
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	NG	
11)	2-Methylphenol	0.00	108.0	0	0.00	NG	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	NG	
13)	4-Methylphenol	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	7.25	70.0	171685	125.23	NG	93
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	9.26	136.0	177944	40.00	NG	88
17)	Nitrobenzene-d5	7.54	82.0	165328	111.77	NG 112%	89
18)	Nitrobenzene	0.00	77.0	0	0.00	NG	
19)	Isophorone	0.00	82.0	0	0.00	NG	
20)	2-Nitrophenol	0.00	139.0	0	0.00	NG	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	NG	
22)	Benzoic Acid	8.90	122.0	750	1.40	NG	96
23)	bis(2-Chloroethoxy)methane	0.00	93.0	0	0.00	NG	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	NG	
25)	1,2,4-Trichlorobenzene	9.15	180.0	136031	103.36	NG	93
26)	Naphthalene	0.00	128.0	0	0.00	NG	
27)	4-Chloroaniline	0.00	127.0	0	0.00	NG	
28)	Hexachlorobutadiene	0.00	224.7	0	0.00	NG	
29)	4-Chloro-3-methylphenol	11.22	107.0	239545	231.71	NG	86
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	14.48	164.0	81162	40.00	NG	95
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	NG	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	NG	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	NG	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	NG	
36)	2-Fluorobiphenyl	12.54	172.0	234765	95.96	NG 96%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	14.59	152.0	110956	~~33.91~~	NG	69
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	14.59	153.0	236684	112.50	NG	94
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

QUANT REPORT
page 2

Output File:^FC927::

Data File:>FC927::D5

	Compound	R.T.	Q ion	Area	Conc	Units		q
43)	4-Nitrophenol	15.43	109.0	39576M	300.04	NG		
44)	Dibenzofuran	0.00	168.0	0	0.00	NG		
45)	2,4-Dinitrotoluene	15.46	165.0	76866	134.76	NG		77
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG		
47)	Diethylphthalate	0.00	149.0	0	0.00	NG		
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG		
49)	Fluorene	0.00	166.0	0	0.00	NG		
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG		
51)	*d10-Phenanthrene	19.00	188.0	87814	40.00	NG		98
52)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	NG		
53)	N-Nitrosodiphenylamine	0.00	169.0	0	0.00	NG		
54)	2,4,6-Tribromophenol	16.99	329.9	74623	257.86	NG	129%x	97
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG		
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG		
57)	Pentachlorophenol	18.71	266.0	96286	292.48	NG		98
58)	Phenanthrene	19.07	178.0	4668	2.33	NG		97
59)	Anthracene	19.03	178.0	4668	~~2.56~~	NG		97
60)	Di-n-Butyl phthalate	21.29	149.0	1717	.58	NG		99
61)	Fluoranthene	22.77	202.0	6347	3.64	NG		94
62)	*d12-Chrysene	27.29	240.0	38820	40.00	NG		98
63)	Pyrene	23.46	202.0	169812	109.52	NG		98
64)	Terphenyl-d14	24.15	244.0	116880	105.37	NG	105%	88
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG		
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG		
67)	Benzo(a)Anthracene	27.23	228.0	1454	1.46	NG		85
68)	bis(2-Ethylhexyl)phthalate	27.78	149.0	2039	1.81	NG		97
69)	Chrysene	27.36	228.0	1818	1.85	NG		91
70)	*d12-Perylene	31.03	264.0	43799	40.00	NG		94
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG		
72)	Benzo(b)Fluoranthene	30.16	252.0	1618	1.54	NG		81
73)	Benzo(k)Fluoranthene	30.19	252.0	1352M	1.43	NG		88
74)	Benzo(a)Pyrene	30.90	252.0	1377	1.52	NG		92
75)	Indeno(1,2,3-cd)Pyrene	33.30	276.0	785	~~.70~~	NG		91
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG		
77)	Benzo(g,h,i)Perylene	33.94	276.0	859	~~.89~~	NG		82

* Compound is ISTD

E. Quality Assurance Summary

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove Analysis: TCL semivolatiles

EA Laboratories Report No. 890657 Method: U.S. EPA-CLP

Reviewed by: William M. Adams Date: 11/1/89

1. Water samples were extracted within 5 days of sample receipt (soils samples within 10 days) and analyzed within 40 days of extraction.

   ✓ Yes ____ No

2. The 12-hour tuning period for ~~DFPP~~ DFTPP was met for all samples.

   ✓ Yes ____ No

3. Initial calibration criteria were met for all samples: a five-point calibration curve was run, the RSD is <30% for all CCC compounds, and the mean RRF for SPCC compounds is >0.050.

   ✓ Yes ____ No

4. Continuing calibration criteria were met for all samples: the response factor percent difference from the mean initial calibration response factor for all CCC compounds was ≤25%, and the RRF for SPCC compounds is >0.050.

   ✓ Yes ____ No

5. Surrogate recovery limits were met for all samples.

   ✓ Yes ____ No

6. MS and MSD criteria were met for all samples.

   See Comments

   ____ Yes ✓ No

7. Method blank criteria were met for all samples: phthalates are ≤5X CRQL, all other compounds are <CRQL.

   ✓ Yes ____ No

(Revised 2 June 1989)

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

'roject: Willow Grove NAS Analysis: TCL semivolatiles

:A Laboratories Report No. 890657 Method: U.S. EPA-CLP

:eviewed by: W. A. Adams (mmu) Date: 11/1/89

:. Laboratory control sample criteria were met for all samples.
See Comments.
____ Yes ✓ No

. Field and equipment blanks: no target compounds were detected in the samples at concentrations <5X the concentration found in the highest associated blank.
N/A
____ Yes ____ No

omments: ① MS & MSD requirements for % recoveries were slightly higher than ~~range~~ CLP ranges, but no unusually so; as the limits are advisory only, there is no significant impact on data quality.

② For some unexplainable reason, 4-nitrophenol was missing from the LCS #557 associated with these samples. Recoveries of this compound in the MS, MSD were good, even a little high; response factor from daily standard was very good; surrogate recoveries for the LCS were fine; ~~and~~ also, there was no evidence of peculiar spectrometry. A non-conformance was filed concerning this anomaly.

(Revised 2 June 1989)

5. PESTICIDE DATA

A. QC Summary

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: EA LABORATORIES
Lab Code: EALABS
Case No.: WILLOW
Contract:10388.05
SAS No.: N/A
SDG No.: N/

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	PBLK016	81.8%	
02	PBLK017	98.9%	
03	NELW-1	73.3%	
04	NELW-2	77.4%	
05	NELW-3	95.5%	
06	ALW-3	83.8%	
07	ALW-1	66.0%	
08	RR2W-2	99.5%	
09	RR2W-4	92.7%	
10	RR2W-3	51.4%	
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ADVISORY
QC LIMITS
(24-154)

S1 (DBC) = Dibutylchlorendate

Column used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

C Coelution

FORM II PEST-1

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: EA LABORATORIES
Lab Code: EALABS
Case No.: WILLOW
Contract: 10388.05
SAS No.: N/A
SDG No.: N/

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	PBLK020	87.8%	
02	9WSLW-3	84.7%	
03	9WSLW-3B	98.1%	
04	9WSLW-1	95.0%	
05	9WSLW-1B	89.8%	
06	9WSLW-2	94.8%	
07	9WSLW-4	87.4%	
08	9WSLW-4B	94.4%	
09	PRW-2	77.1%	
10	PRW-1	73.3%	
11	PRW-3	81.9%	
12	PRW-4	76.2%	
13	DUPLICATE #1	88.7%	
14	DUPLICATE #1 MS	94.0%	
15	DUPLICATE #1 MSD	102.8%	
16	LAB CONTROL SAMPLE	96.4%	
17	LAB CONTROL SAMPLE	98.7%	
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ADVISORY
QC LIMITS
(24-154)

S1 (DBC) = Dibutylchlorendate

Column used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

C Coelution

FORM II PEST-1

1/87 Rev.

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: EA LABORATORIES
Lab Code: EALABS
Case No.: WILLOW
Contract: 10388.05
SAS No.: N/A
SDG No.: N/

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	RRZW-1	19.7%	
02	NEL/SWS-1	66.6%	
03	PBLK033	70.9%	
04	WRW-1	67.9%	
05	WRW-2	64.0%	
06	WRW-3	68.8%	
07	ALW-2	59.0%	
08	NEL SWS 2	42.8%	
09	NEL SWS 3	44.1%	
10	AL SWS 1	68.3%	
11	AL SWS 2	64.5%	
12	AL SWS 3	64.1%	
13	AL SWS 4	71.6%	
14	9MSL SWS 1	62.8%	
15	9MSL SWS 2	62.3%	
16	9MSL SWS 3	50.9%	
17	9MSL SWS 4	63.7%	
18	DUPLICATE #2	59.4%	
19	DUPLICATE #2 MS	54.2%	
20	DUPLICATE #2 MSD	59.6%	
21	UG SWS 1	49.8%	
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ADVISORY QC LIMITS (24-154)

S1 (DBC) = Dibutylchlorendate

Column used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

C C elution

2E
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: EA LABORATORIES Contract:10388.05
Lab Code: EALABS Case No.: WILLOW SAS No.: N/A SDG No.: N/

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	DUP #4	117.6%	
02	DUP #4 MS	113.4%	
03	DUP #4 MSD	80.0%	
04	NSL SS 3	83.6%	
05	NSL SS 4	249.1%	*
06	LAB. CON. SAMPLE	79.8%	
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ADVISORY QC LIMITS (24-154)

S1 (DBC) = Dibutylchlorendate

Column used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

C Coelution

2E
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: EA LABORATORIES Contract:10388.05
Lab Code: EALABS Case No.: WILLOW SAS No.: N/A SDG No.: N/

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	PBLK029	138.6%	
02	NEL SS-1	166.0%	*
03	NEL SS-2	148.9%	
04	AL SS 1	152.7%	
05	AL SS 2	203.2%	*
06	AL SS 3	159.5%	*
07	AL SS 4	233.7%	*
08	NSL SS 1	178.8%	*
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ADVISORY QC LIMITS (24-154)

S1 (DBC) = Dibutylchlorendate

Column used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

C Coelution

3E

WATER PESTICIDE MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EA LABORATORIES Contract: 10388.05 SDG No.: N/A
Lab Code: EALABS Case No.:WILLOW SAS No.: N/A
Matrix Spike-EPA Sample No.:DUPLICATE #1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
Lindane	0.20	0	0.16	80.0%		56-123
Heptachlor	0.20	0	0.13	65.0%		40-131
Aldrin	0.20	0	0.13	65.0%		40-120
Dieldrin	0.50	0	0.41	82.0%		52-126
Endrin	0.50	0	0.41	82.0%		56-121
4,4'-DDT	0.50	0	0.39	78.0%		38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMIT RPD	QC LIMIT REC
Lindane	0.20	0.18	90.0%		-12.5%		15	56-123
Heptachlor	0.20	0.15	75.0%		-15.4%		20	40-131
Aldrin	0.20	0.15	75.0%		-15.4%		22	40-120
Dieldrin	0.50	0.46	92.0%		-12.2%		18	52-126
Endrin	0.50	0.47	94.0%		-14.6%		21	56-121
4,4'-DDT	0.50	0.43	86.0%		-10.3%		27	38-127

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

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

Comments:

3E

WATER PESTICIDE MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EA LABORATORIES Contract: 10388.05 SDG No.: N/A
Lab Code: EALABS Case No.:WILLOW SAS No.: N/A
Matrix Spike-EPA Sample No.:DUPLICATE #2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
Lindane	0.20	0	0.13	65.0%		56-123
Heptachlor	0.20	0	0.13	65.0%		40-131
Aldrin	0.20	0	0.13	65.0%		40-120
Dieldrin	0.50	0.22	0.29	58.0%		52-126
Endrin	0.50	0	0.37	74.0%		56-121
4,4'-DDT	0.50	0	0.30	60.0%		38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMIT RPD	QC LIMIT REC
Lindane	0.20	0.16	80.0%		-23.1%	*	15	56-123
Heptachlor	0.20	0.15	75.0%		-15.4%		20	40-131
Aldrin	0.20	0.15	75.0%		-15.4%		22	40-120
Dieldrin	0.50	0.39	78.0%		-34.5%	*	18	52-126
Endrin	0.50	0.44	88.0%		-18.9%		21	56-121
4,4'-DDT	0.50	0.36	72.0%		-20.0%		27	38-127

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

* Values outside of QC limits

RPD: 2 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

Comments:

3E

SOIL PESTICIDE MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EA LABORATORIES Contract: 10388.05 SDG No.: N/A
Lab Code: EALABS Case No.:WILLOW SAS No.: N/A
Matrix Spike-EPA Sample No.:DUP #4

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	#	QC LIMITS REC.
Lindane	8.6	0	10	116.3%		56-123
Heptachlor	8.6	0	6.6	76.7%		40-131
Aldrin	8.6	40	50	116.3%		40-120
Dieldrin	21	220	281	290.5%*		52-126
Endrin	21	0	34	161.9%*		56-121
4,4'-DDT	21	0	30	142.9%*		38-127

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (mg/Kg)	MSD % REC	#	% RPD	#	QC LIMIT RPD	QC LIMIT REC
Lindane	8.6	7.0	81.4%	35	~~30.0%~~*		15	56-123
Heptachlor	8.6	5.0	58.1%	28	~~24.2%~~*		20	40-131
Aldrin	8.6	26	0.0%*	63	~~100.0%~~*		22	40-120
Dieldrin	21	175	0.0%*	46	~~100.0%~~*		18	52-126
Endrin	21	22	104.8%	43	~~35.3%~~*		21	56-121
4,4'-DDT	21	18	85.7%	50	~~40.0%~~*		27	38-127

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

* Values outside of QC limits

RPD: 6 out of 6 outside limits
Spike Recovery: 5 out of 12 outside limits

Comments:

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: EA LABORATORIES
Lab Code: EALABS
Lab Sample ID: PBLK020
Matrix: WATER
Date Extracted: 22 SEPT 89
Date Analyzed (1): 26 SEPT 89
Time Analyzed (1): 05:06
Instrument ID (1): 7D
GC Column ID (1): SPB-5
.32 ID x 30m

Contract: 10388.05
Case No.: WILLOW
Lab File ID: WILLOW
Level: LOW
Extraction: CONT
Date Analyzed (2): 4 OCT 89
Time Analyzed (2): 11:53
Instrument ID (2): 4C
GC Column ID (2): SPB-608
.53 ID x 3

SAS No.: N/A
SDG No.: N/A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	9NSLW-3	4451	26 SEPT 89	
02	9NSLW-3B	4452	26 SEPT 89	
03	9NSLW-1	4453	26 SEPT 89	
04	9NSLW-1B	4454	26 SEPT 89	
05	9NSLW-2	4455	26 SEPT 89	
06	9NSLW-4	4456	26 SEPT 89	
07	9NSLW-4B	4457	27 SEPT 89	
08	PRW-2	4458	27 SEPT 89	4 OCT 89
09	PRW-1	4459	27 SEPT 89	
10	PRW-3	4460	27 SEPT 89	4 OCT 89
11	PRW-4	4461	27 SEPT 89	
12	DUPLICATE #1	4477	27 SEPT 89	
13	DUPLICATE #1 MS	4477MS	27 SEPT 89	
14	DUPLICATE #1 MSD	4477MSD	27 SEPT 89	
15	LAB CONTROL SAMPLE	LCS540	27 SEPT 89	
16	LAB CONTROL SAMPLE	LCS541	27 SEPT 89	
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COMMENTS:

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: EA LABORATORIES
Lab Code: EALABS
Lab Sample ID: PBLK016
Matrix: WATER
Date Extracted: 21 SEPT 89
Date Analyzed (1): 29 SEPT 89
Time Analyzed (1): 17:57
Instrument ID (1): 4C
GC Column ID (1): SPB-608
.32 ID x 30m

Contract: 10388.05
Case No.: WILLOW
Lab File ID: WILLOW
Level: LOW
Extraction: CONT
Date Analyzed (2):
Time Analyzed (2):
Instrument ID (2):
GC Column ID (2):

SAS No.: N/A
SDG No.: N/A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	NELW-1	4415	29 SEPT 89	
02	NELW-2	4416	29 SEPT 89	
03	NELW-3	4417	29 SEPT 89	
04	ALW-3	4418	29 SEPT 89	
05	ALW-1	4419	29 SEPT 89	
06	RR2W-2	4420	29 SEPT 89	
07	RR2W-4	4421	29 SEPT 89	
08	RR2W-3	4422	30 SEPT 89	
09	RR2W-1	4423	04 OCT 89	
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COMMENTS:

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name:	EA LABORATORIES	Contract:	10388.05
Lab Code:	EALABS	Case No.:	WILLOW
Lab Sample ID:	PBLK033	Lab File ID:	WILLOW
Matrix:	WATER	Level:	LOW
Date Extracted:	28 SEPT 89	Extraction:	CONT
Date Analyzed (1):	05 OCT 89	Date Analyzed (2):	08 OCT 89
Time Analyzed (1):	08:39	Time Analyzed (2):	00:03
Instrument ID (1):	4C	Instrument ID (2):	7A
GC Column ID (1):	SPB-608 .53m ID x 30m	GC Column ID (2):	SPB-5 .53m ID x30m

SAS No.: N/A

SDG No.: N/A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	NEL/SWS-1	4424 RE	04 OCT 89	
02	WRW-1	4518	05 OCT 89	
03	WRW-2	4519	05 OCT 89	
04	WRW-3	4520	05 OCT 89	
05	ALW-2	4521	05 OCT 89	
06	NEL SWS 2	4535	05 OCT 89	
07	NEL SWS 3	4536	05 OCT 89	
08	AL SWS 1	4537	05 OCT 89	
09	AL SWS 2	4538	05 OCT 89	
10	AL SWS 3	4539	05 OCT 89	08 OCT 89
11	AL SWS 4	4540	05 OCT 89	
12	9MSL SWS 1	4541	05 OCT 89	
13	9MSL SWS 2	4542	05 OCT 89	
14	9MSL SWS 3	4543	05 OCT 89	
15	9MSL SWS 4	4544	05 OCT 89	
16	DUPLICATE #2	4545	05 OCT 89	08 OCT 89
17	DUPLICATE #2 MS	4545 MS	05 OCT 89	
18	DUPLICATE #2 MSD	4545 MSD	05 OCT 89	
19	U6 SWS 1	4546	05 OCT 89	
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26				

COMMENTS:

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name:	EA LABORATORIES	Contract:	10388.05
Lab Code:	EALABS	Case No.:	WILLOW SAS No.: N/A
Lab Sample ID:	PBLK029	Lab File ID:	WILLOW SDG No.: N/A
Matrix:	SOIL	Level:	LOW
Date Extracted:	26 SEPT 89	Extraction:	SOXHLET
Date Analyzed (1):	16 OCT 89	Date Analyzed (2):	6 NOV 89
Time Analyzed (1):	04:14	Time Analyzed (2):	02:12
Instrument ID (1):	7C	Instrument ID (2):	5D
GC Column ID (1):	SPB-5 .32m ID x 30m	GC Column ID (2):	RTX-35 .32 mm ID 0m

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	NEL SS 1	4547	10 OCT 89	6 NOV 89
02	NEL SS 2	4548	10 OCT 89	6 NOV 89
03	AL SS 1	4549	10 OCT 89	6 NOV 89
04	AL SS 2	4550	10 OCT 89	6 NOV 89
05	AL SS 3	4551	10 OCT 89	6 NOV 89
06	AL SS 4	4552	10 OCT 89	6 NOV 89
07	NSL SS 1	4553	10 OCT 89	6 NOV 89
08	NSL SS 2	4554	16 OCT 89	6 NOV 89
09	NSL SS 3	4555	11 OCT 89	6 NOV 89
10	NSL SS 4	4556	11 OCT 89	24 OCT 89
11	UG SS 1	4557	16 OCT 89	24 OCT 89
12	DUPLICATE #4	4558	11 OCT 89	24 OCT 89
13	DUPLICATE #4 MS	4558 MS	11 OCT 89	
14	DUPLICATE #4 MSD	4558 MSD	11 OCT 89	
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COMMENTS:

B. Sample Data

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ALW-2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4521

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: ALW-2
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C

RT: INTG → OFF

OV: START FINAL TIME 1

5.37

OV: START → PROM RATE 2

8.85

10.06

OV: START FINAL TIME 2

15.49

16.48

17.30 DBC

RT: STOP RUN

[hp] 5880A SAMPLER INJECTION @ 11:35 OCT 5, 1989
SAMPLE # : 33 ID CODE : WG 4521

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00			BASELINE @ START RUN = 163.93			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.10			RT: INTG → OFF			
5.00			RP: REJECT → 500			
8.85			RT: INTG → ON			
17.30	2046.74	PV	0.080	402.68	209.91	12.482
	14350.50	BB	0.123	1832.84	286.12	87.518

TOTAL AREA = 16397.30
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NEL SWS 2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4535

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

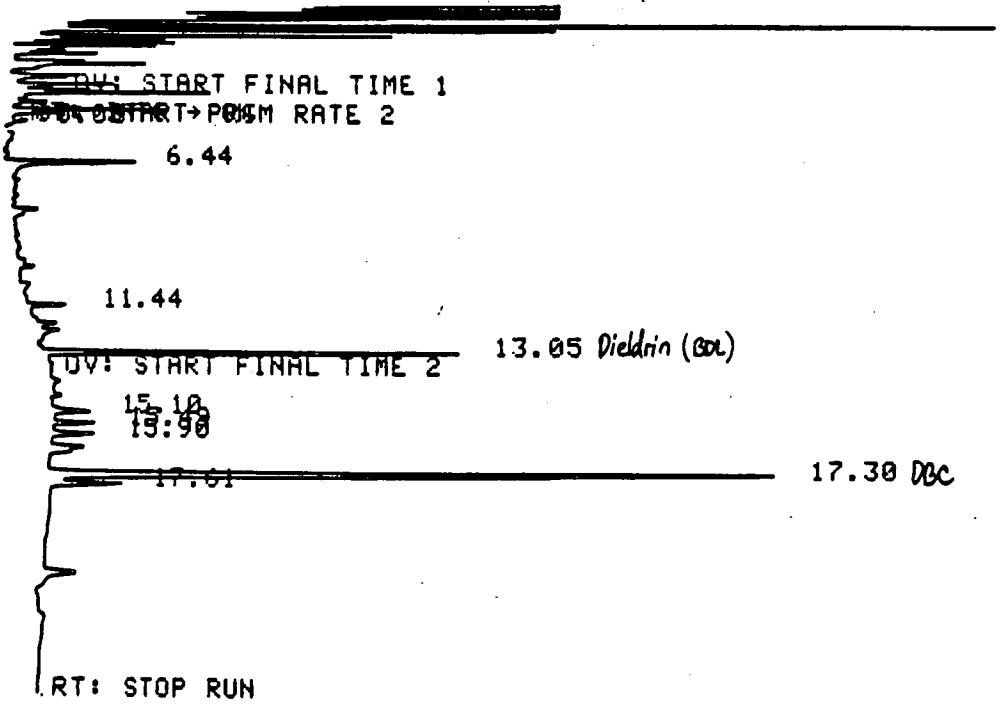
GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: NEL SWS 2
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C

AV: SHARE BRSMOMATBT: INTG → OFF



[hp] 5880A SAMPLER INJECTION @ 12:11 OCT 5, 1989
SAMPLE # : ID CODE :
34 WG 4535
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 163.93			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
6.44	1285.42	PV	0.081	248.17	220.41	7.523
13.05	3223.95	VP	0.065	779.85	293.12	18.869
15.49	536.55	PP	0.101	83.18	307.27	3.140
15.90	602.84	PP	0.112	84.09	304.00	3.528
17.30	10417.30	BV	0.122	1331.54	301.08	60.971
17.61	1019.51	VB	0.119	133.96	298.83	5.967

TOTAL AREA = 17085.60
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NEL SWS 3

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4536

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

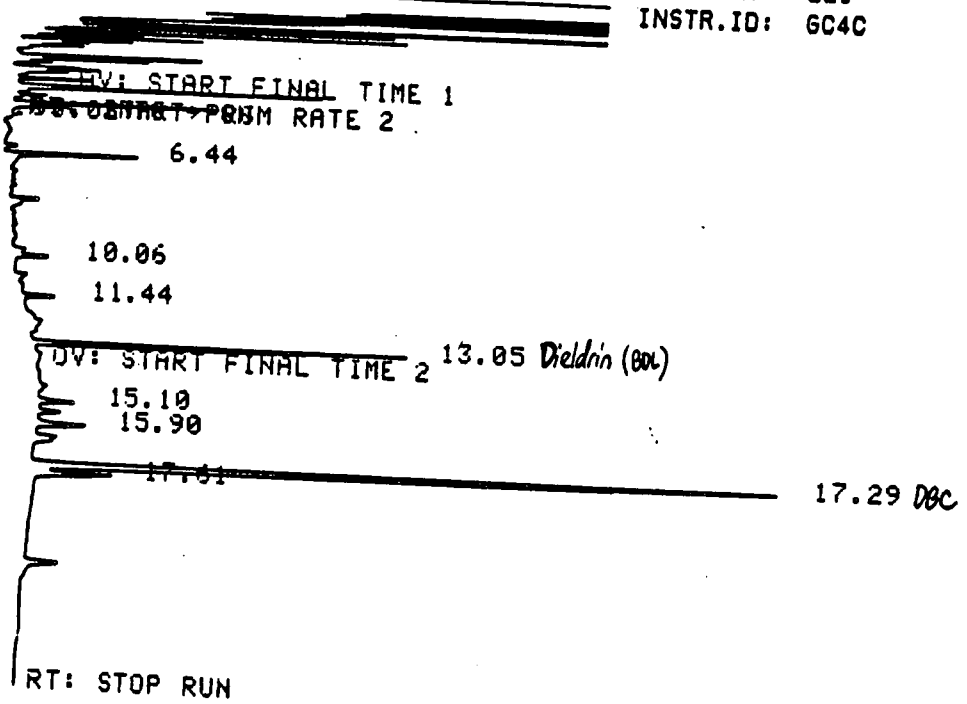
GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: NEL SWS 3
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C

RV: SRARE BRGMONATBTI INTG → OFF



IT OF PAPER
P 5880A SAMPLER INJECTION @ 12:48 OCT 5, 1989
SAMPLE # : ID CODE :
35 WG 4536
EA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00						
0.00						
0.00						
0.10						
0.00						
.44	1295.09	BV	0.080	253.51	223.12	7.718
.05	2936.09	VB	0.066	699.24	295.43	17.498
.90	695.66	PP	0.115	94.72	307.50	4.146
.29	10722.00	BV	0.123	1360.91	302.46	63.899
.61	1130.74	VB	0.121	146.61	301.22	6.739

BASELINE @ START RUN = 164.52
THRESHOLD @ START RUN = 7
PEAK WIDTH @ START RUN = 0.04
RT: INTG → OFF
RP: REJECT → 500
RT: INTG → ON

AL AREA = 16779.50
TIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AL SWS 1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4537

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

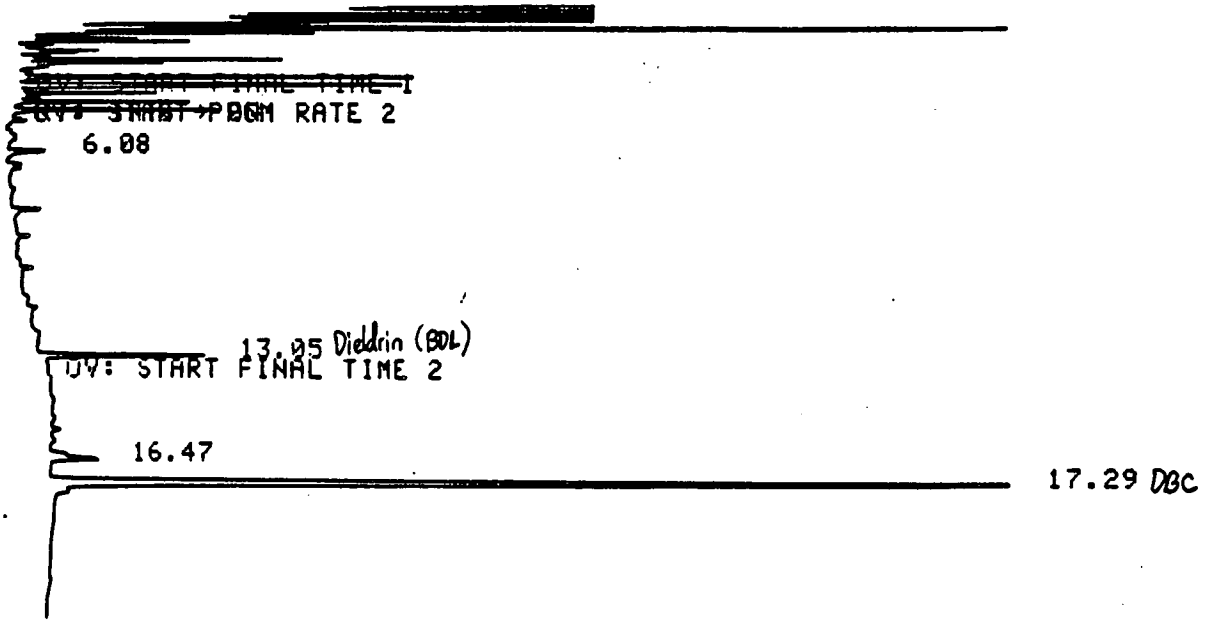
GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: AL SWS1
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C

RT: SABRE BROMORATET1 INTG → OFF



[hp] 5880A SAMPLER INJECTION @ 13:24 OCT 5, 1989
SAMPLE # : ID CODE :
36 WG 4537
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 164.09			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
13.05	1302.75	BV	0.067	302.32	276.18	7.011
16.47	669.93	VB	-----	90.15	287.09	3.605
17.29	16608.20	BH	0.123	2116.35	288.50	89.383

TOTAL AREA = 18580.90
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AL SWS 2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4538

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

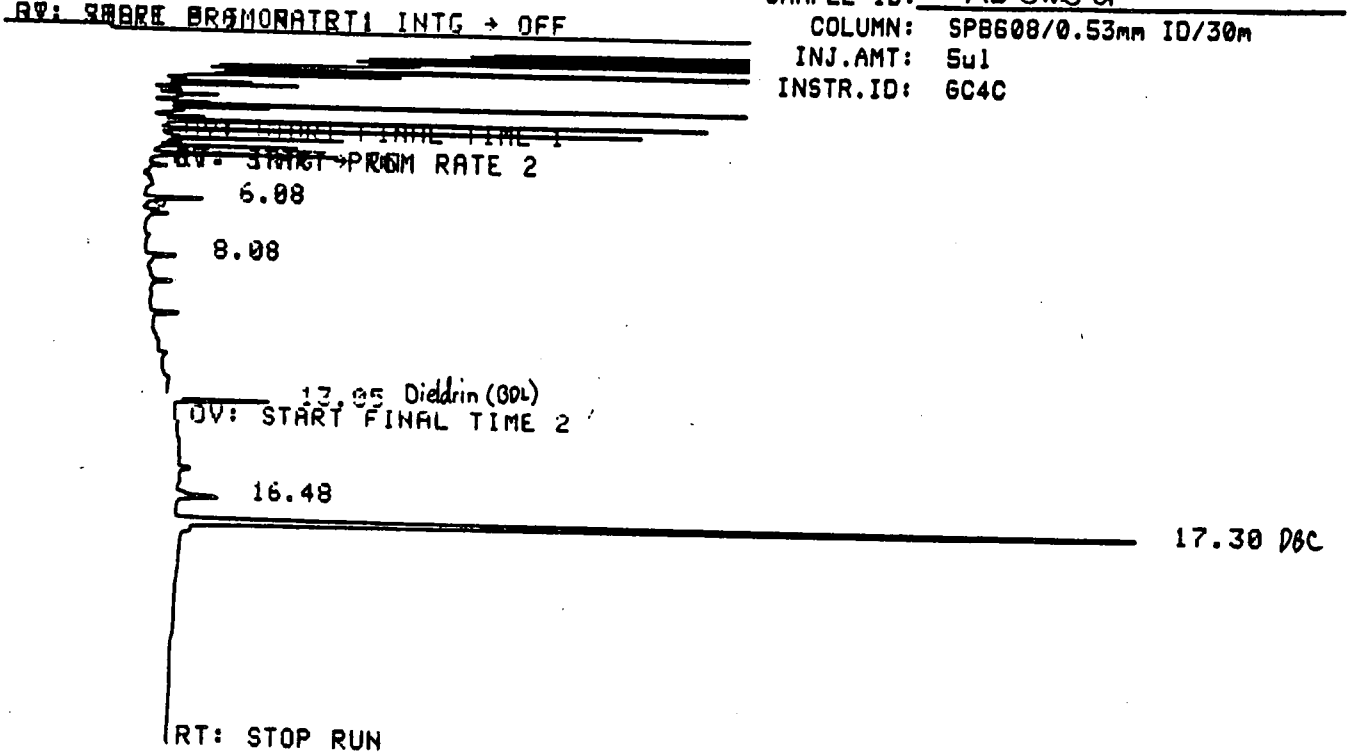
Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: AL SWS 2
COLUMN: SP8608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C



[hp] 5880A SAMPLER INJECTION @ 15:00 OCT 5, 1989
SAMPLE # : ID CODE :
38 WG 4538
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00			BASELINE @ START RUN = 163.82			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.10			RT: INTG → OFF			
5.00			RP: REJECT → 500			
6.08	598.05	BV	RT: INTG → ON 0.08	119.95	208.37	3.504
13.05	785.71	BB	0.067	182.73	270.06	4.603
17.30	15684.20	BH	0.123	1997.15	282.85	91.893

TOTAL AREA = 17068.00
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AL SWS 3

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4539

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

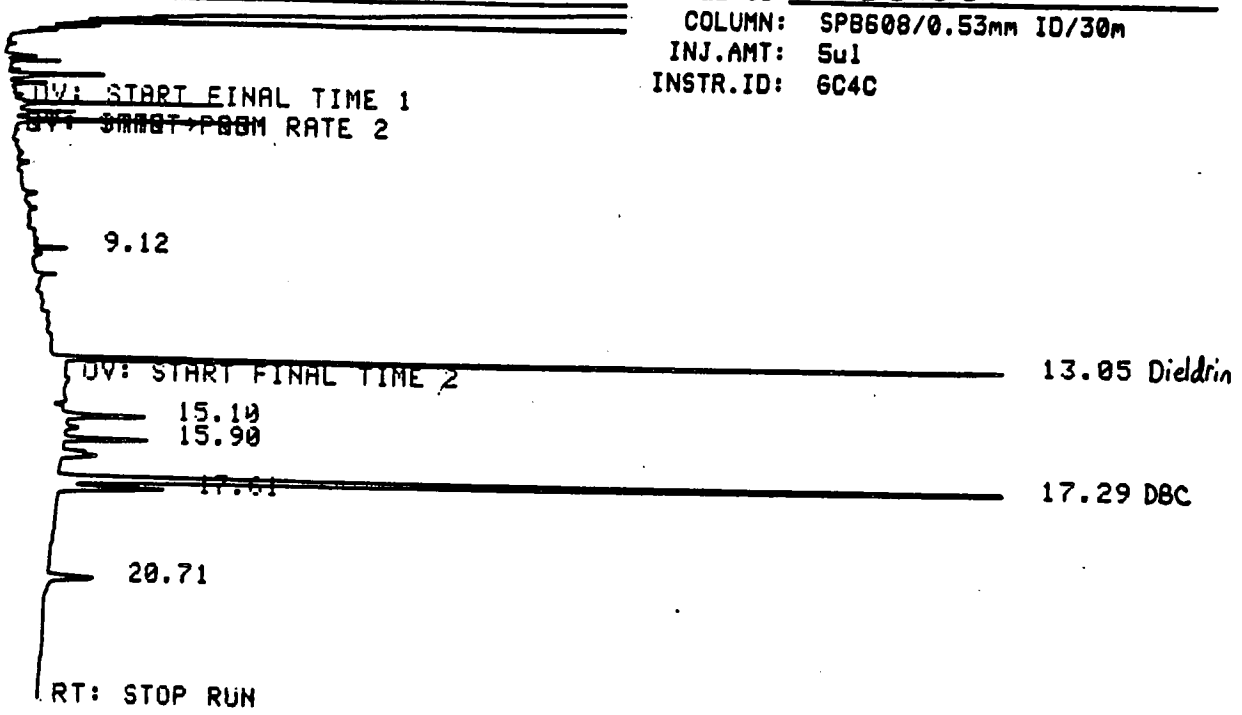
GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.24	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

AV: SABRE BRGMORATRT1 INTG → OFF

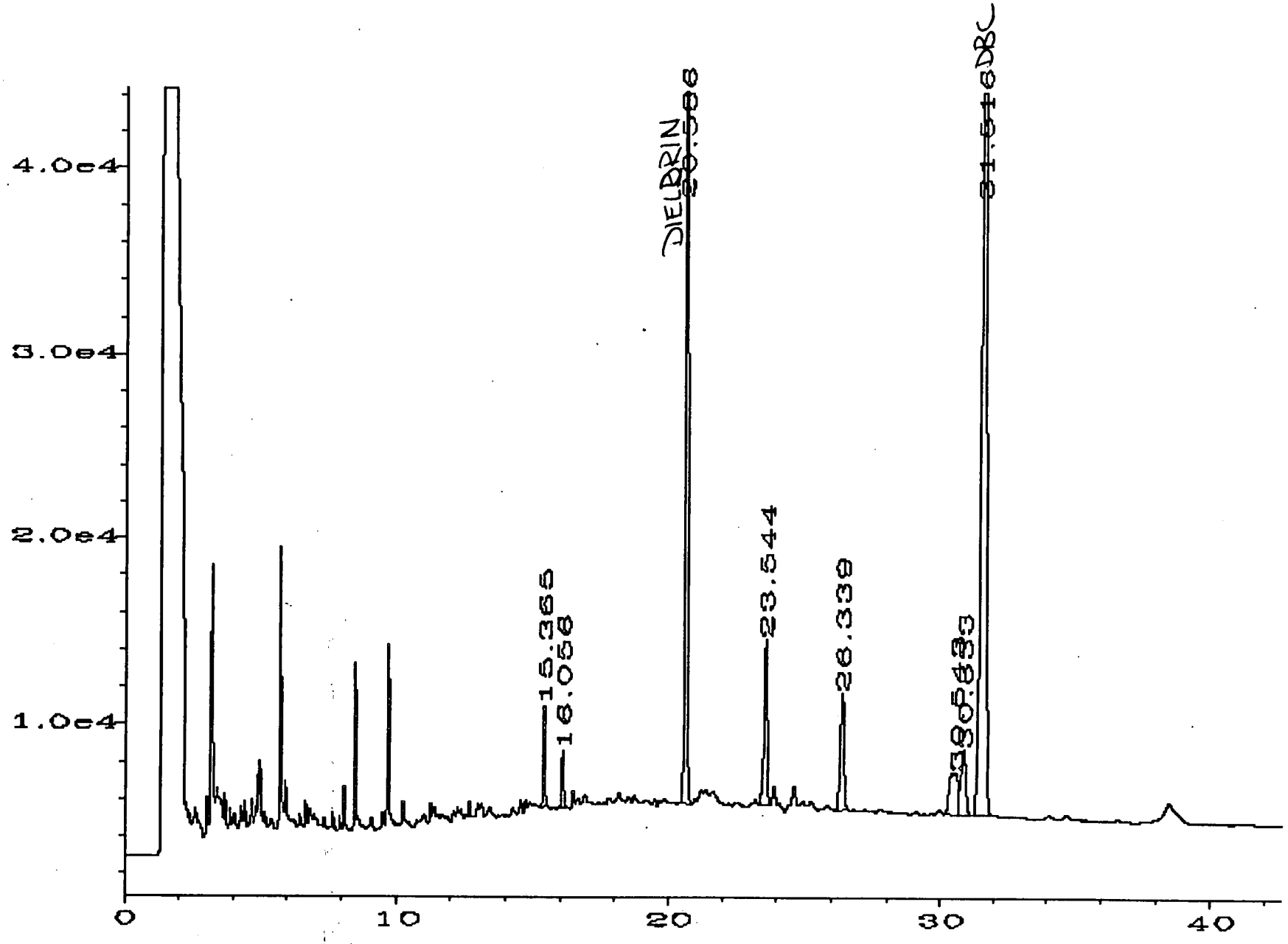
SAMPLE ID: ALSWS3
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: 6C4C



[hp] 5880A SAMPLER INJECTION @ 15:37 OCT 5, 1989
SAMPLE # : ID CODE :
39 WG 4539
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 163.18			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
13.05	8330.24	BV	0.067	1956.89	299.32	29.498
15.10	760.33	BP	0.088	135.49	335.90	2.692
15.90	1114.61	PV	0.110	158.03	316.83	3.947
17.29	15605.00	BV	0.124	1974.06	309.18	55.259
17.61	1538.38	VP	0.120	201.37	306.97	5.448
20.71	891.15	BB	0.157	89.00	291.47	3.156

TOTAL AREA = 28239.70
MULTIPLIER = 1



Sig. 1 in C:\HPCHEM\2\DATA\WILLOW\015F0101.D

Area Percent Report

Data File Name : C:\HPCHEM\2\DATA\WILLOW\015F0101.D
Operator : JIM O'KEEFE
Acquired on : 08 Oct 89 00:51 AM
Sample Name : WG4539
Run Time Bar Code:
Instrument Method: PEST.MTH
Analysis Method : PEST.MTH

Instrument : Pesticide
Vial Number : 15
Injection Number: 1
Sequence Line : 1

Sig. 1 in C:\HPCHEM\2\DATA\WILLOW\015F0101.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	15.365	23790	5416	BB	0.069	2.1015
2	16.056	15091	3030	BB	0.076	1.3330
3	20.586	274398	48916	BB	0.088	24.2389
4	23.544	68045	8893	BV	0.117	6.0108
5	26.339	55405	6244	BB	0.138	4.8942
6	30.543	49858	2249	BV	0.356	4.4042
7	30.833	42149	3511	VB	0.185	3.7232
8	31.516	603319	47080	BB	0.200	53.2941

Total area = 1132056

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AL SWS 4

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4540

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

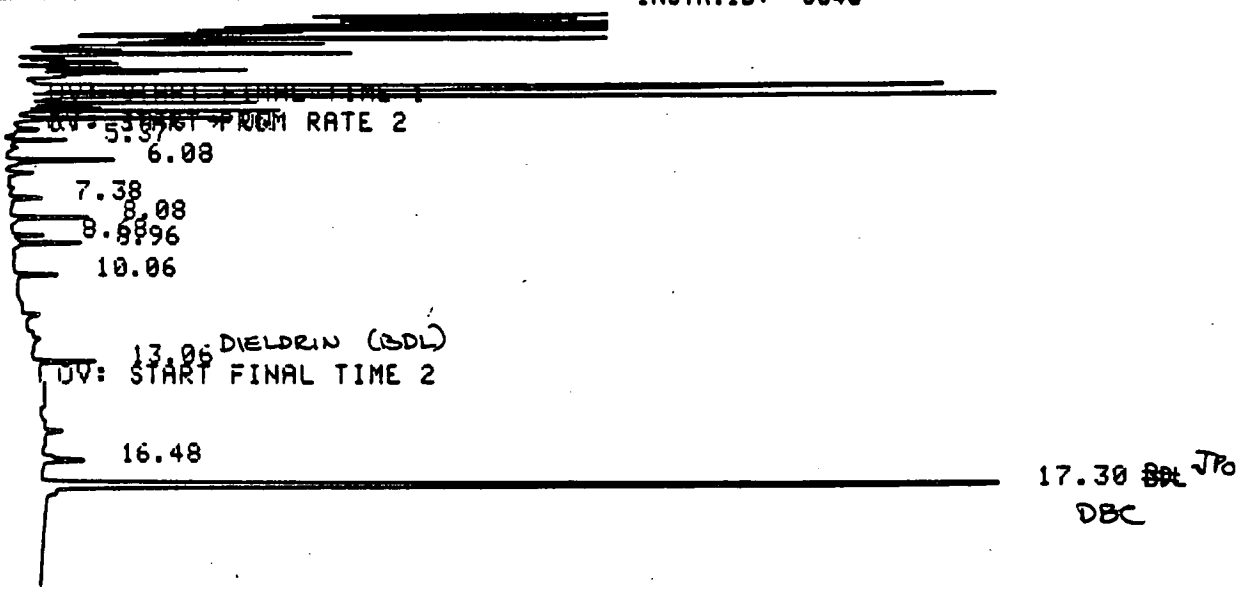
GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: AL SWS 4
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: 6C4C

RT: SHARE BROMONATRT: INTG → OFF



[hp] 5880A SAMPLER INJECTION @ 16:14 OCT 5, 1989
SAMPLE # : ID CODE :
40 WG 4540
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 162.86			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
6.08	935.10	BV	0.071	205.92	221.44	4.760
8.08	694.12	BB	0.07	146.68	232.36	3.534
8.96	593.82	VV	0.071	131.85	233.54	3.023
17.30	17420.90	BH	0.123	2216.40	287.28	88.683

TOTAL AREA = 19644.00

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WSL SWS 1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4541

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

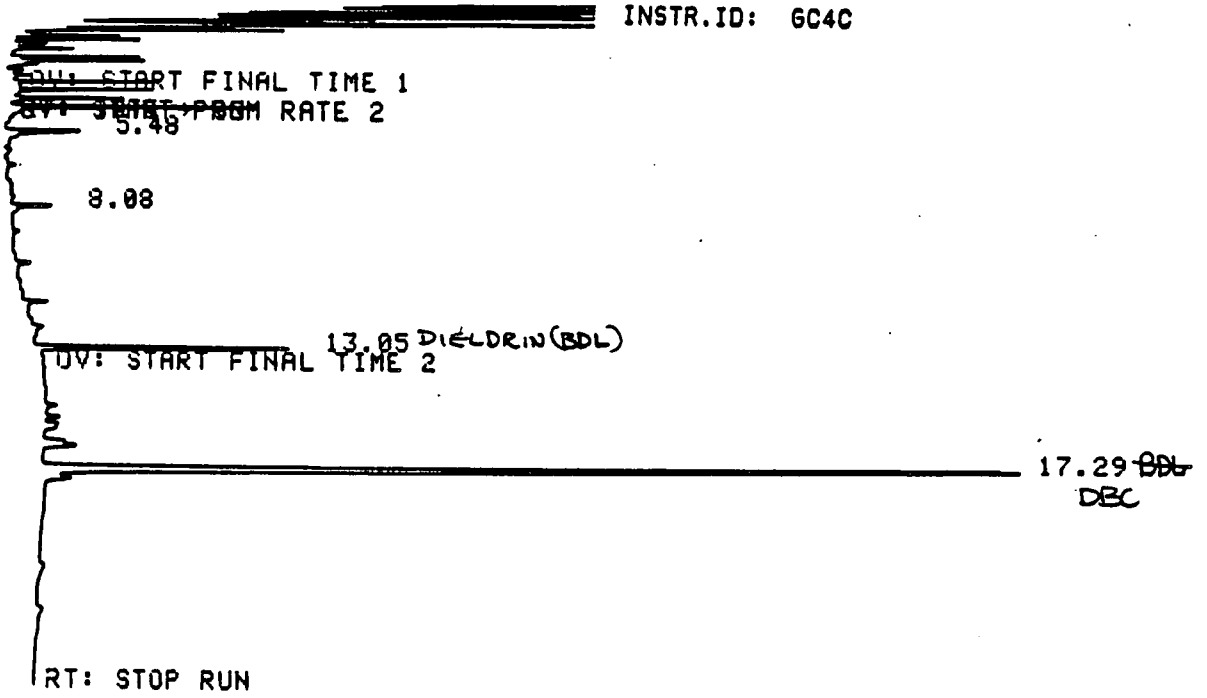
CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

MULTIPLIER = 1

SAMPLE ID: 9 MSL SWS 1
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C

BV: SABRE BROMONATE: INTG → OFF

DV: START FINAL TIME 1
BV: START→PROGM RATE 2



[hp] 5880A SAMPLER INJECTION @ 16:46 OCT 5, 1999
SAMPLE # : ID CODE :
41 WG 4541
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 163.24			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
5.48	695.14	BV	0.077	141.47	220.46	3.875
13.05	1974.54	BB	0.066	471.23	278.01	11.006
17.29	15270.80	BH	0.123	1944.18	289.34	85.119

TOTAL AREA = 17940.50
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MSL SWS 2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4542

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

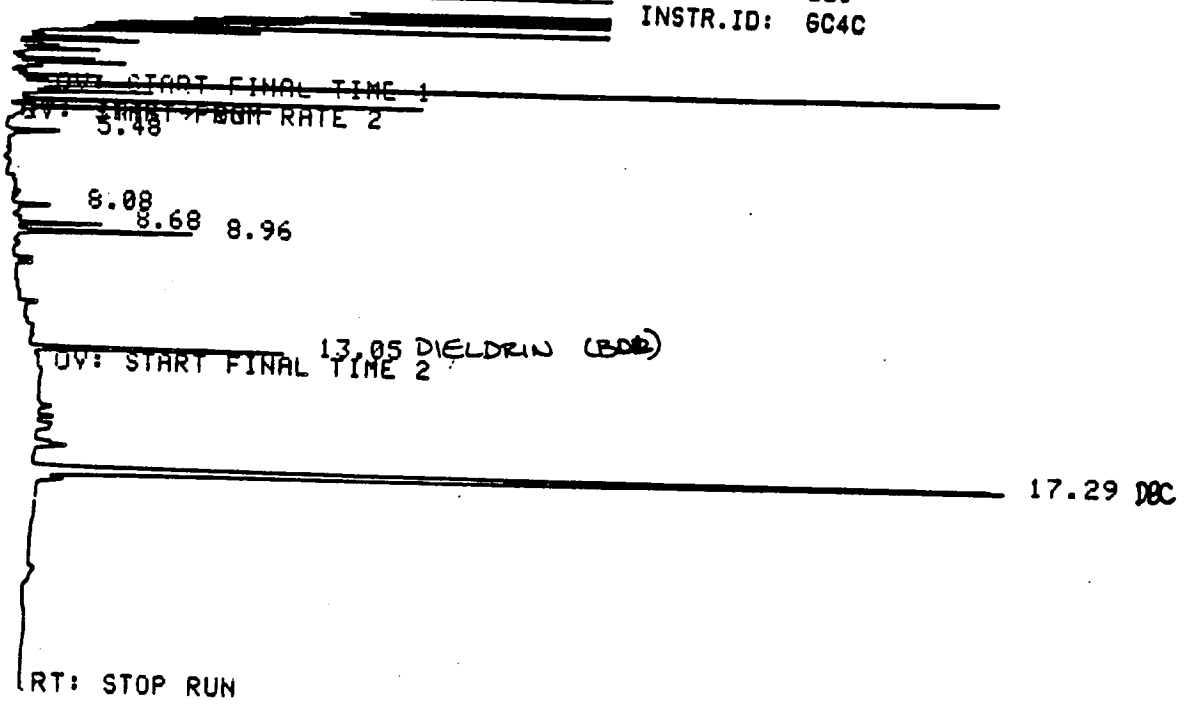
GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: 9 NSL SWS 2
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C

RT: INTG → OFF



[hp] 5880A SAMPLER INJECTION @ 17:23 OCT 5, 1989
SAMPLE # : ID CODE :
42 WG 4542
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00			BASELINE @ START RUN = 163.13			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.10			RT: INTG → OFF			
5.00			RP: REJECT → 500			
5.48			RT: INTG → ON			
8.68	602.11	VV	0.085	110.52	218.51	3.032
8.96	664.15	VV	0.064	163.05	241.79	3.345
13.05	1463.61	VP	0.068	334.97	241.69	7.371
17.29	1965.43	BB	0.065	470.63	283.41	9.898
	15160.80	BH	0.122	1940.13	289.39	76.353

TOTAL AREA = 19856.10
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MSL SWS 3

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4543

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

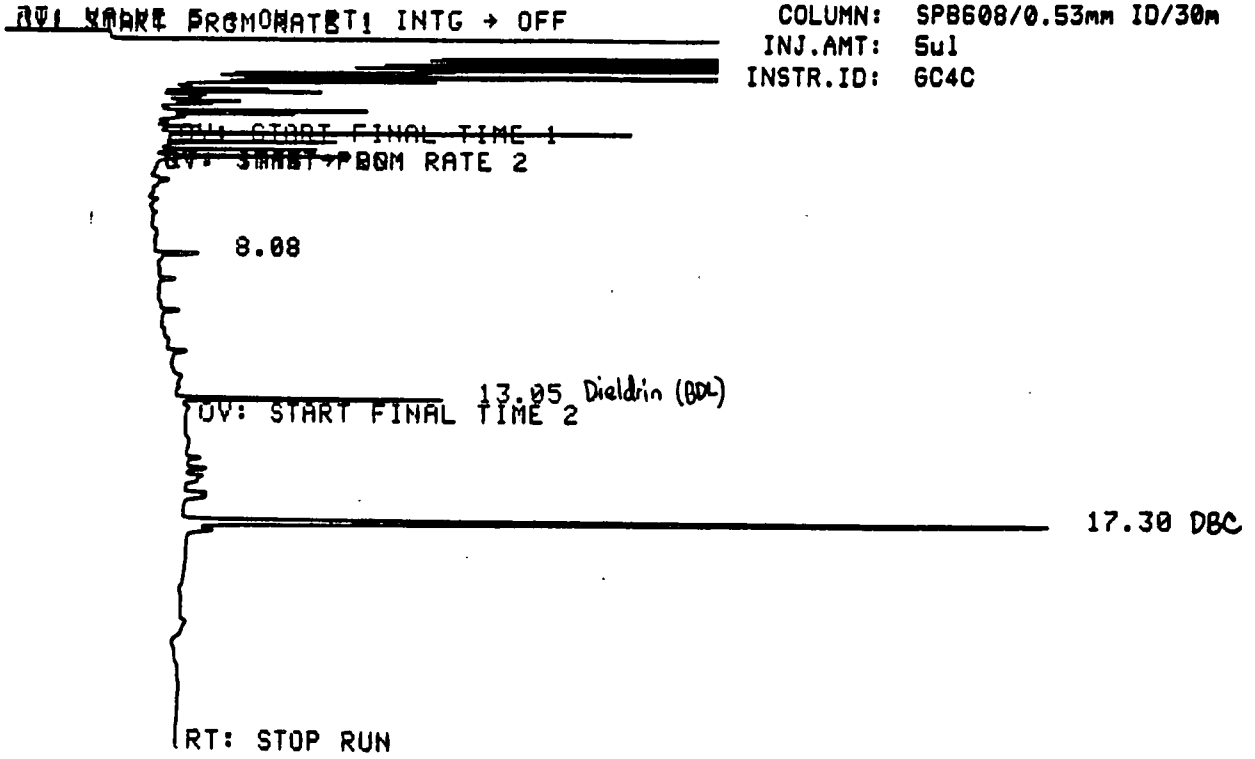
Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: 9 ASL SWS 3
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C



[hp] 5880A SAMPLER INJECTION @ 18:34 OCT 5, 1989
SAMPLE # : ID CODE :
44 WG 4543
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 163.56			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
13.05	2080.75	BB	0.066	493.87	270.10	14.391
17.30	12377.60	BH	0.123	1573.12	279.54	85.609

TOTAL AREA = 14458.30
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WSL SWS 4

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4544

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

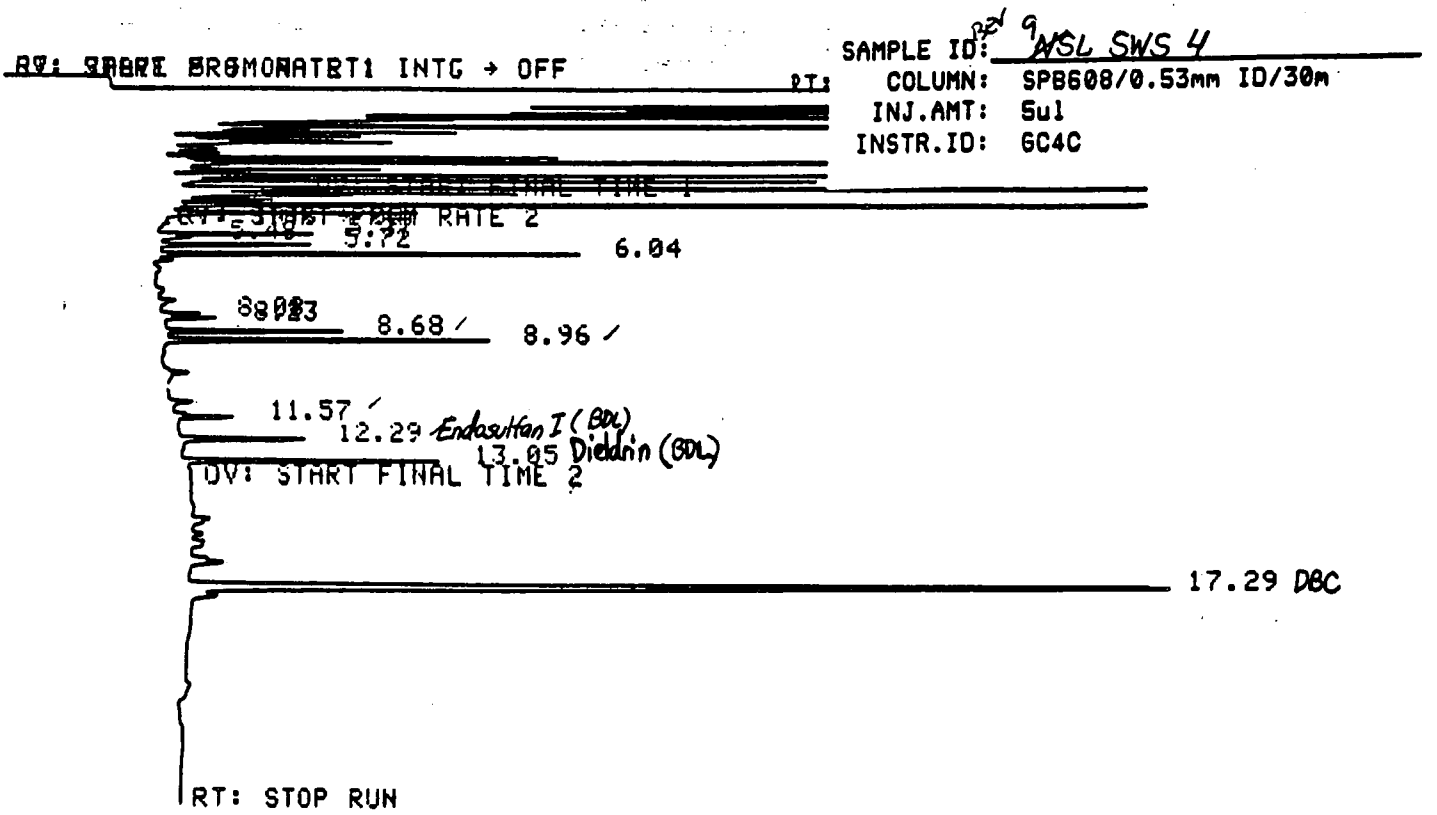
Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U



[hp] 5880A SAMPLER INJECTION @ 19:10 OCT 5, 1989

SAMPLE # : ID CODE :

45 WG 4544

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 163.34			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
5.37	1016.58	VV	0.053	302.00	216.57	3.655
5.72	1116.40	VV	0.060	291.90	220.04	4.013
6.04	2917.56	VB	0.058	790.38	223.25	10.488
8.23	503.08	VV	0.070	112.31	228.04	1.809
8.68	1303.47	VV	0.060	340.79	231.93	4.686
8.96	2389.31	VV	0.061	609.17	234.41	8.589
12.29	1063.46	BB	0.073	229.06	269.81	3.823
13.05	2008.75	BB	0.066	477.44	274.64	7.221
17.29	15498.50	BH	0.123	1979.63	284.44	55.716

TOTAL AREA = 27817.10

MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUPLICATE #2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4545

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

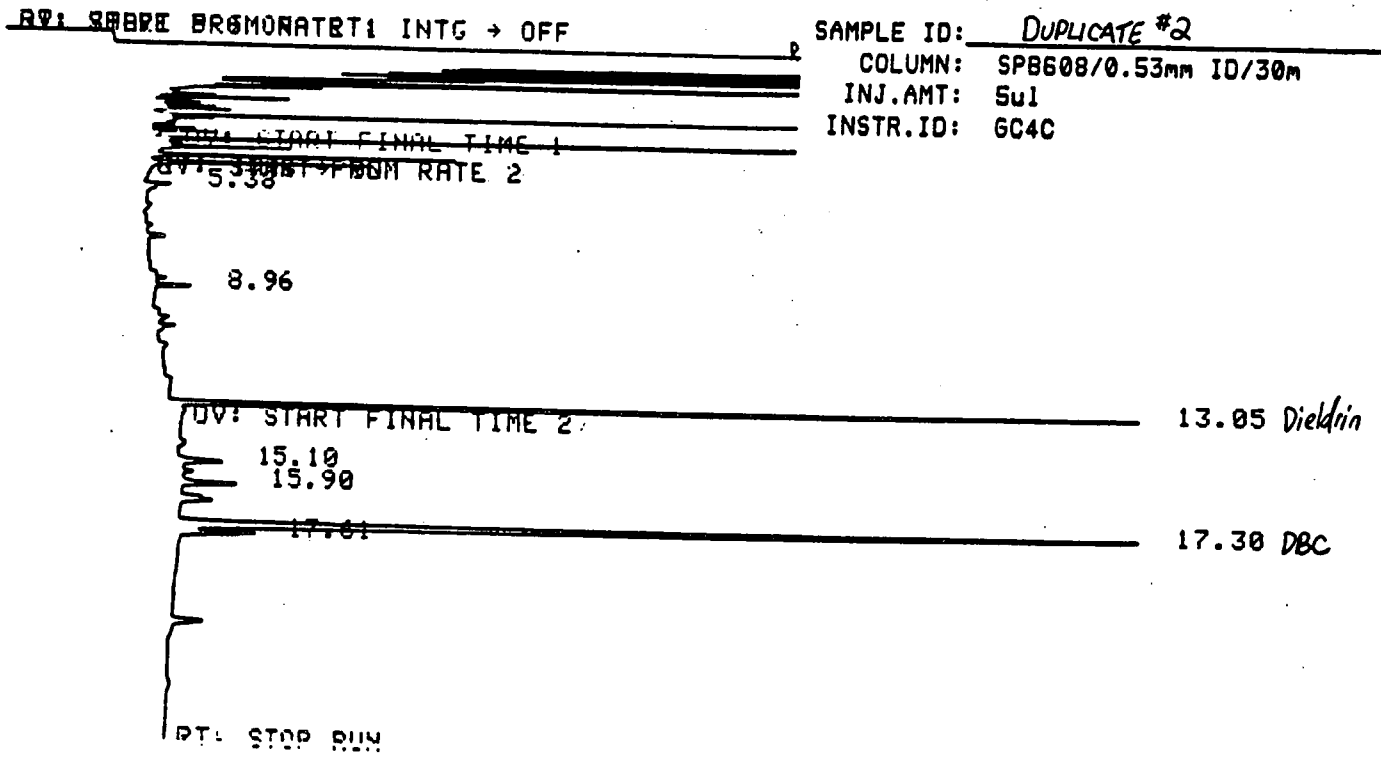
Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.22	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

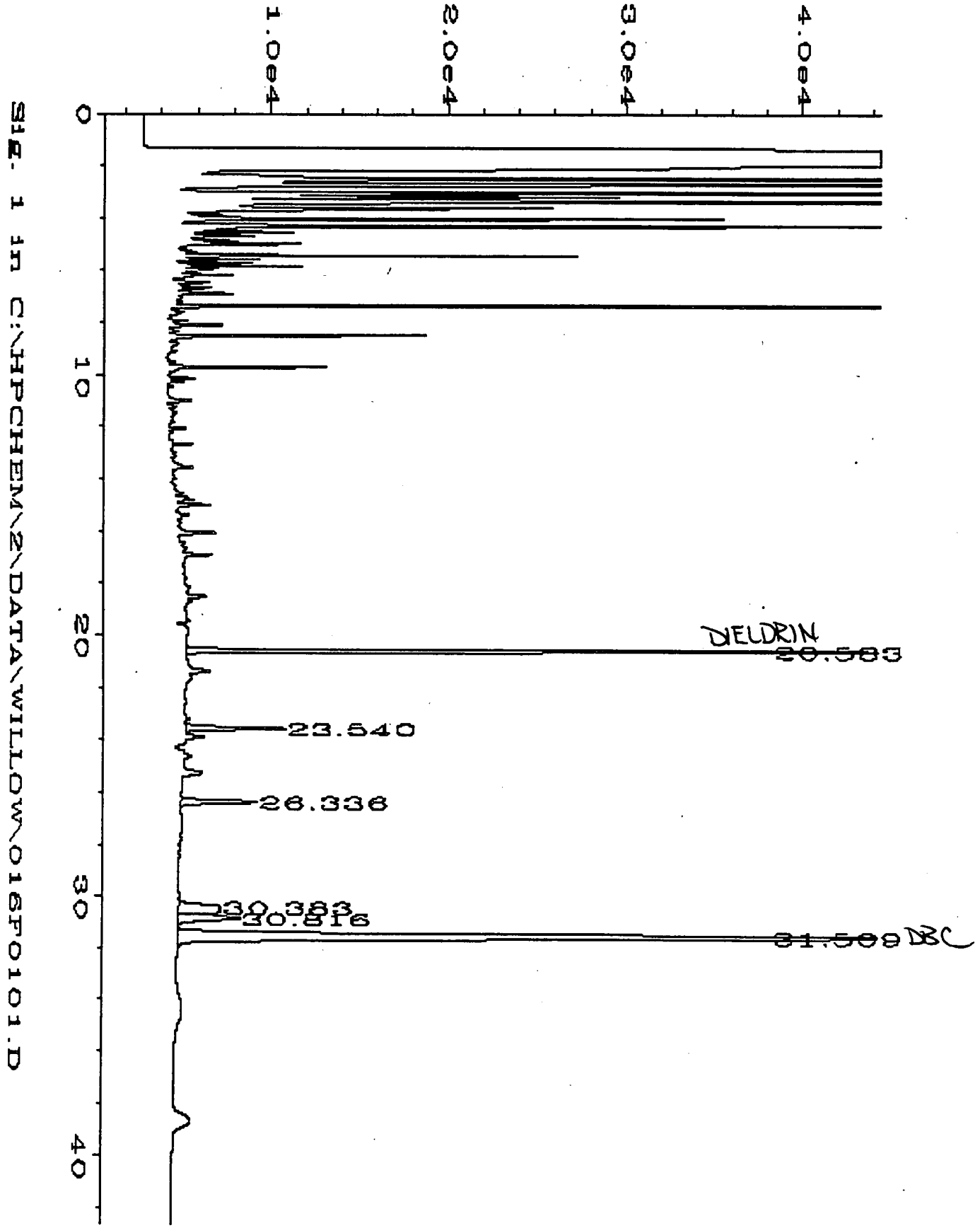
SAMPLE ID: DUPLICATE #2
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C



[hp] 5880A SAMPLER INJECTION @ 19:47 OCT 5, 1989
SAMPLE # : ID CODE :
46 WG 4545
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00			BASELINE @ START RUN = 162.92			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.10			RT: INTG → OFF			
5.00			RP: REJECT → 500			
13.05	7705.17	BV	RT: INTG → ON 0.066	1837.70	271.93	32.304
15.90	536.21	BB	0.089	94.83	299.27	2.248
17.30	14456.10	BV	0.123	1835.36	281.17	60.606
17.61	1154.94	VP	0.124	146.25	279.93	4.842

TOTAL AREA = 23852.40
MULTIPLIER = 1



Sig- 1 in C:\HPCHEM\2\DATA\WILLOW\016F0101.D

Area Perc nt Report

Data File Name : C:\HPCHEM\2\DATA\WILLOW\016F0101.D
Operator : JIM O'KEEFE
Acquired on : 08 Oct 89 01:38 AM
Sample Name : WG4545
Run Time Bar Code:
Instrument Method: PEST.MTH
Analysis Method : PEST.MTH

Instrument : Pesticide
Vial Number : 16
Injection Number: 1
Sequence Line : 1

Sig. 1 in C:\HPCHEM\2\DATA\WILLOW\016F0101.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	20.583	245269	45177	BB	0.085	24.9966
2	23.540	41716	5550	BB	0.117	4.2515
3	26.336	37315	4223	BB	0.138	3.8029
4	30.383	54064	2368	BV	0.369	5.5099
5	30.816	44524	3390	VB	0.198	4.5376
6	31.509	558322	43384	BB	0.202	56.9015

Total area = 981209

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

UG SWS 1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4546

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

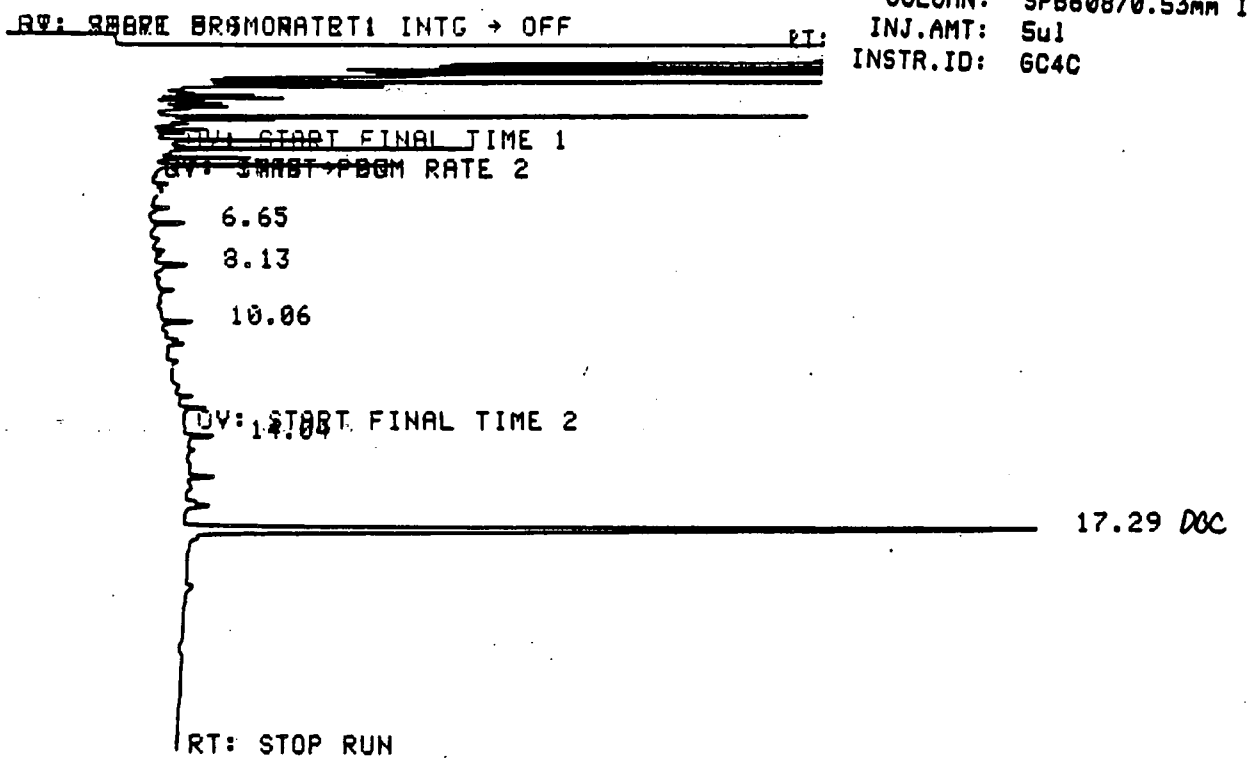
Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: UG SWS-1
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C



[hp] 5880A SAMPLER INJECTION @ 22:13 OCT 5, 1989
SAMPLE # : ID CODE :
50 WG4546
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 164.25			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
17.29	12107.30	BH	0.122	1555.45	276.61	100.000

TOTAL AREA = 12107.30
MULTIPLIER = 1

C. Standards Data

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: EA LABORATORIES
Lab Code: EALABS Case No: WILLOW
Instrument ID: 70

Contract: 10388.05
SAS No.: N/A SDG No.: N/A
GC Column ID: SPB-5
.32 ID x 30m

DATE(S) OF ANALYSIS	FROM:	25 SEPT 89	DATE OF ANALYSIS	27 SEPT 89		
	TO:	27 SEPT 89	TIME OF ANALYSIS	03:18		
TIME(S) OF ANALYSIS	FROM:	04:39	EPA SAMPLE NO.	INDA		
	TO:	11:49	(STANDARD #)	S649		

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	% D
alpha BHC	12.376	12.351	12.401	2.62E+06				
beta BHC	13.163	13.137	13.189	1.38E+06				
delta BHC	14.121	14.093	14.149	2.43E+06				
gamma BHC	13.413	13.386	13.440	2.25E+06	13.395	2.30E+06	Y	-2.39%
Heptachlor	15.795	15.763	15.827	2.26E+06	15.776	2.48E+06	Y	-9.44%
Aldrin	16.983	16.949	17.017	1.07E+06	16.964	1.15E+06	Y	-6.69%
Hept. Epoxide	18.269	18.232	18.306	2.09E+06	18.248	2.25E+06	Y	-8.30%
Endosulfan I	19.672	19.633	19.711	1.92E+06	19.647	2.05E+06	Y	-7.01%
Dieldrin	20.769	20.727	20.811	1.84E+06	20.741	1.99E+06	Y	-8.53%
4,4'-DDE	20.372	20.331	20.413	1.94E+06				
Endrin	21.847	21.803	21.891	1.40E+06				
Endosulfan II	22.265	22.220	22.310	2.01E+06	22.234	2.15E+06	Y	-6.83%
4,4'-DDD	22.396	22.351	22.441	1.53E+06				
Endosulfan Sulf.	24.650	24.601	24.699	1.70E+06				
4,4'-DDT	24.593	24.544	24.642	1.44E+06	24.558	1.54E+06	Y	-6.84%
Methoxychlor	28.740	28.683	28.797	8.80E+06	28.691	9.32E+06	Y	-5.83%
Endrin Ketone	28.092	28.036	28.148	2.22E+06				
alpha Chlordane	19.722	19.683	19.761	2.07E+06				
gamma Chlordane	19.133	19.095	19.171	2.23E+06				
Toxaphene	22.656	22.611	22.701	2.80E+05				
Aroclor 1016	15.176	15.146	15.206	1.98E+05				
Aroclor 1221	12.297	12.272	12.322	1.23E+05				
Aroclor 1232	12.295	12.270	12.320	6.21E+04				
Aroclor 1242	15.154	15.124	15.184	1.07E+05				
Aroclor 1248	18.242	18.206	18.278	1.03E+05				
Aroclor 1254	20.786	20.744	20.828	1.74E+05				
Aroclor 1260	23.162	23.116	23.208	1.58E+05				

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: EA LABORATORIES
Lab Code: EALABS Case No: WILLOW
Instrument ID: 7D

Contract: 10388.05
SAS No.: N/A SDG No.: N/A
GC Column ID: SPB-5
.32 ID x 30m

DATE(S) OF ANALYSIS	FROM: 25 SEPT 89	DATE OF ANALYSIS	27 SEPT 89
	TO: 27 SEPT 89	TIME OF ANALYSIS	08:53 -09:55
TIME(S) OF ANALYSIS	FROM: 04:39	EPA SAMPLE NO. (STANDARD #)	IND8 IND8
	TO: 11:49		S649 S650

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	% D
alpha BHC	12.376	12.364	12.401	2.62E+06	12.356	2.84E+06	Y	-8.69%
beta BHC	13.163	13.150	13.189	1.38E+06	13.144	1.50E+06	Y	-8.57%
delta BHC	14.121	14.107	14.149	2.43E+06	14.103	2.57E+06	Y	-5.6%
gamma BHC	13.413	13.400	13.440	2.25E+06	13.387	1.85E+06	Y	17.59%
Heptachlor	15.795	15.779	15.827	2.26E+06	15.767	2.11E+06	Y	6.88%
Aldrin	16.983	16.966	17.017	1.07E+06	16.954	9.61E+05	Y	10.57%
Hept. Epoxide	18.269	18.251	18.306	2.08E+06	18.237	1.91E+06	Y	8.12%
Endosulfan I	19.672	19.652	19.711	1.92E+06	19.635	1.72E+06	Y	10.58%
Dieldrin	20.769	20.748	20.811	1.84E+06	20.728	1.69E+06	Y	8.13%
4,4'-DDE	20.372	20.352	20.413	1.94E+06	20.342	2.09E+06	Y	-7.76%
Endrin	21.847	21.825	21.891	1.40E+06	21.810	0.00E+00	Y	1.61%
Endosulfan II	22.265	22.243	22.310	2.01E+06	22.219	1.83E+06	Y	8.80%
4,4'-DDD	22.396	22.374	22.441	1.53E+06	22.359	1.63E+06	Y	-6.85%
Endosulfan Sulf.	24.650	24.625	24.699	1.70E+06	24.601	1.79E+06	Y	-5.47%
4,4'-DDT	24.593	24.568	24.642	1.44E+06	24.541	1.31E+06	Y	9.05%
Methoxychlor	28.740	28.711	28.797	8.80E+06	28.669	8.24E+06	Y	6.37%
Endrin Ketone	28.092	28.064	28.148	2.22E+06	28.028	2.40E+06	Y	-7.87%
alpha Chlordane	19.722	19.702	19.761	2.07E+06	19.693	2.25E+06	Y	-8.98%
gamma Chlordane	19.133	19.114	19.171	2.23E+06	19.105	2.42E+06	Y	-8.22%
Toxaphene	22.656	22.611	22.701	2.80E+05				
Aroclor 1016	15.176	15.146	15.206	1.98E+05				
Aroclor 1221	12.297	12.272	12.322	1.23E+05				
Aroclor 1232	12.295	12.270	12.320	6.21E+04				
Aroclor 1242	15.154	15.124	15.184	1.07E+05				
Aroclor 1248	18.242	18.206	18.278	1.03E+05				
Aroclor 1254	20.786	20.744	20.828	1.74E+05				
Aroclor 1260	23.162	23.116	23.208	1.58E+05				

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: EA LABORATORIES
Lab Code: EALABS Case No: WILLOW
Instrument ID: 4C

Contract: 10388.05
SAS No.: N/A SDG No.: N/A
GC Column ID: SPB-608
.32 ID x 30m

DATE(S) OF ANALYSIS	FROM:	29 SEPT 89		DATE OF ANALYSIS	2 OCT 89	2 OCT 89		
	TO:	2 OCT 89		TIME OF ANALYSIS	00:14	00:50		
TIME(S) OF ANALYSIS	FROM:	09:25		EPA SAMPLE NO. (STANDARD #)	IN0A S649	IN0B S650		
	TO:	00:50						

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	% D
alpha BHC	7.400	7.393	7.415	8.80E+04	7.410	9.87E+04	Y	-12.20%
beta BHC	8.530	8.521	8.547	4.39E+04	8.540	4.91E+04	Y	-11.77%
delta BHC	9.390	9.381	9.409	7.46E+04	9.400	8.57E+04	Y	-15.0%
gamma BHC	8.340	8.332	8.357	7.29E+04	8.330	9.05E+04	Y	-24.07%
Heptachlor	9.260	9.251	9.279	6.50E+04	9.250	8.45E+04	Y	-29.98%
Aldrin	10.060	10.050	10.080	3.54E+04	10.060	4.31E+04	Y	-21.60%
Hept. Epoxide	11.420	11.409	11.443	6.47E+04	11.420	7.86E+04	Y	-21.63%
Endosulfan I	12.310	12.298	12.335	5.89E+04	12.300	7.10E+04	Y	-20.42%
Dieldrin	13.040	13.027	13.066	5.67E+04	13.040	6.93E+04	Y	-22.22%
4,4'-DDE	12.850	12.837	12.876	5.54E+04	12.860	6.43E+04	Y	-16.15%
Endrin	13.870	13.856	13.898	4.65E+04	13.880	5.45E+04	Y	-17.28%
Endosulfan II	14.360	14.346	14.389	5.28E+04	14.360	6.21E+04	Y	-17.76%
4,4'-DDD	14.210	14.196	14.238	4.14E+04	14.220	4.89E+04	Y	-18.01%
Endosulfan Sulf.	15.740	15.724	15.771	4.98E+04	15.750	5.77E+04	Y	-15.90%
4,4'-DDT	15.090	15.075	15.120	3.94E+04	15.090	5.00E+04	Y	-27.10%
Methoxychlor	18.260	18.242	18.297	2.22E+05	18.260	2.74E+05	Y	-23.34%
Endrin Ketone	18.580	18.561	18.617	6.20E+04	18.590	7.24E+04	Y	-16.82%
alpha Chlordane	12.260	12.248	12.285	6.62E+04	12.270	7.45E+04	Y	-12.56%
gamma Chlordane	11.880	11.868	11.904	7.02E+04	11.890	7.91E+04	Y	-12.70%
Toxaphene	14.190	14.162	14.218	9.60E+03				
Aroclor 1016	9.200	9.182	9.218	7.57E+03				
Aroclor 1221	7.240	7.226	7.254	4.70E+03				
Aroclor 1232	9.200	9.182	9.218	3.54E+03				
Aroclor 1242	8.250	8.234	8.267	3.71E+03				
Aroclor 1248	11.480	11.457	11.503	4.76E+03				
Aroclor 1254	13.220	13.194	13.246	6.75E+03				
Aroclor 1260	13.980	13.952	14.008	5.08E+03				

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: EA LABORATORIES
Lab Code: EALABS Case No: WILLOW
Instrument ID: 4C

Contract: 10388.05
SAS No.: N/A SDG No.: N/A
GC Column ID: SPB-608
.53 ID x 30m

DATE(S) OF ANALYSIS	FROM:	03 OCT 89	DATE OF ANALYSIS	04 OCT 89	05 OCT 89
	TO:	03 OCT 89	TIME OF ANALYSIS	21:37	14:29
TIME(S) OF ANALYSIS	FROM:	14:36	EPA SAMPLE NO.	INDA	INDB
	TO:	20:04	(STANDARD ID)	S649	S650

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	% D
alpha BHC	7.410	7.395	7.425	9.90E+04	7.420	9.47E+04	Y	4.35%
beta BHC	8.540	8.523	8.557	4.92E+04	8.560	4.64E+04	Y	5.73%
delta BHC	9.400	9.381	9.419	9.02E+04	9.420	8.32E+04	Y	7.76%
gamma BHC	8.330	8.313	8.347	8.79E+04	8.350	8.04E+04	Y	8.49%
Heptachlor	9.250	9.232	9.269	8.12E+04	9.270	7.89E+04	Y	2.91%
Aldrin	10.050	10.030	10.070	4.09E+04	10.070	3.80E+04	Y	7.17%
Hept. Epoxide	11.410	11.387	11.433	7.67E+04	11.430	7.05E+04	Y	8.08%
Endosulfan I	12.300	12.275	12.325	6.96E+04	12.320	6.33E+04	Y	9.03%
Dieldrin	13.040	13.014	13.066	6.83E+04	13.050	6.23E+04	Y	8.80%
4,4'-DDE	12.850	12.824	12.876	6.86E+04	12.870	6.36E+04	Y	7.27%
Endrin	13.870	13.842	13.898	5.57E+04	13.890	5.14E+04	Y	7.65%
Endosulfan II	14.350	14.321	14.379	6.24E+04	14.380	5.69E+04	Y	8.91%
4,4'-DDD	14.220	14.192	14.248	5.12E+04	14.230	4.65E+04	Y	9.13%
Endosulfan Sulf.	15.750	15.719	15.782	5.96E+04	15.770	5.58E+04	Y	6.31%
4,4'-DDT	15.090	15.060	15.120	5.19E+04	15.110	4.62E+04	Y	11.09%
Methoxychlor	18.250	18.214	18.287	2.91E+05	18.290	2.74E+05	Y	5.77%
Endrin Ketone	18.590	18.553	18.627	7.37E+04	18.620	6.68E+04	Y	9.32%
alpha Chlordane	12.260	12.235	12.285	7.60E+04	12.280	7.16E+04	Y	5.78%
gamma Chlordane	11.880	11.856	11.904	8.02E+04	11.900	7.47E+04	Y	6.88%
Toxaphene	14.190	14.162	14.218	1.09E+04				
Aroclor 1016	9.210	9.192	9.228	7.26E+03				
Aroclor 1221	7.250	7.236	7.265	4.13E+03				
Aroclor 1232	8.260	8.243	8.277	2.09E+03				
Aroclor 1242	11.480	11.457	11.503	2.74E+03				
Aroclor 1248	10.740	10.719	10.761	3.61E+03				
Aroclor 1254	13.220	13.194	13.246	6.31E+03				
Aroclor 1260	13.980	13.952	14.008	5.31E+03				

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: CR LABORATORIES
Lab Code: CRLABS Case No: WILLOW
Instrument ID: 4C

Contract: 10388.05
SAS No.: N/A SDG No.: N/A
GC Column ID: SPB-608
.53 ID x 30m

DATE(S) OF ANALYSIS	FROM: 03 OCT 89	DATE OF ANALYSIS	05 OCT 89 06 OCT 89
	TO: 03 OCT 89	TIME OF ANALYSIS	21:36 10:38
TIME(S) OF ANALYSIS	FROM: 14:36	EPA SAMPLE NO.	INDA AR1260
	TO: 20:04	(STANDARD #)	S649 S643

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	% D
alpha BHC	7.410	7.403	7.425	9.90E+04				
beta BHC	8.540	8.531	8.557	4.92E+04				
delta BHC	9.400	9.391	9.419	9.02E+04				
gamma BHC	8.330	8.322	8.347	9.79E+04	8.340	8.46E+04	Y	3.70%
Heptachlor	9.250	9.241	9.269	9.12E+04	9.260	8.46E+04	Y	-4.13%
Aldrin	10.050	10.040	10.070	4.09E+04	10.070	3.99E+04	Y	2.67%
Hept. Epoxide	11.410	11.399	11.433	7.67E+04	11.430	7.38E+04	Y	3.85%
Endosulfan I	12.300	12.288	12.325	6.96E+04	12.320	6.56E+04	Y	5.75%
Dieldrin	13.040	13.027	13.066	6.83E+04	13.050	6.38E+04	Y	6.51%
4,4'-DDE	12.850	12.837	12.876	6.86E+04				
Endrin	13.870	13.856	13.898	5.57E+04				
Endosulfan II	14.350	14.336	14.379	6.24E+04	14.370	5.87E+04	Y	5.90%
4,4'-DDD	14.220	14.206	14.248	5.12E+04				
Endosulfan Sulf.	15.750	15.734	15.782	5.96E+04				
4,4'-DDT	15.090	15.075	15.120	5.19E+04	15.110	4.50E+04	Y	13.33%
Methoxychlor	18.250	18.232	18.287	2.91E+05	18.280	2.70E+05	Y	7.24%
Endrin Ketone	18.590	18.571	18.627	7.37E+04				
alpha Chlordane	12.260	12.248	12.285	7.60E+04				
gamma Chlordane	11.880	11.868	11.904	8.02E+04				
Toxaphene	14.190	14.162	14.218	1.09E+04				
Aroclor 1016	9.210	9.192	9.228	7.26E+03				
Aroclor 1221	7.250	7.236	7.265	4.13E+03				
Aroclor 1232	8.260	8.243	8.277	2.09E+03				
Aroclor 1242	11.480	11.457	11.503	2.74E+03				
Aroclor 1248	10.740	10.719	10.761	3.61E+03				
Aroclor 1254	13.220	13.194	13.246	6.31E+03				
Aroclor 1260	13.980	13.952	14.008	5.31E+03	14.010	5.14E+03	Y	3.20%

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: EA LABORATORIES
Lab Code: EALABS Case No: WILLOW
Instrument ID: 4C

Contract: 10388.05
SAS No.: N/A SDG No.: N/A
GC Column ID: SPB-608
.53 ID x 30m

DATE(S) OF ANALYSIS	FROM:	03 OCT 89		DATE OF ANALYSIS	06 OCT 89	06 OCT 89		
	TO:	03 OCT 89		TIME OF ANALYSIS	09:46	10:14		
TIME(S) OF ANALYSIS	FROM:	14:36		EPA SAMPLE NO. (STANDARD #)	INDA S649	INDB S650		

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	% D
alpha BHC	7.410	7.395	7.425	9.90E+04	7.430	5.42E+00	Y	99.99%
beta BHC	8.540	8.523	8.557	4.92E+04	8.560	9.31E+00	Y	99.98%
delta BHC	9.400	9.381	9.419	9.02E+04	9.430	9.16E+00	Y	99.99%
gamma BHC	8.330	8.313	8.347	8.79E+04	8.350	7.69E+04	Y	12.54%
Heptachlor	9.250	9.232	9.269	8.12E+04	9.270	5.91E+04	Y	27.28%
Aldrin	10.050	10.030	10.070	4.09E+04	10.070	3.59E+04	Y	12.23%
Hept. Epoxide	11.410	11.387	11.433	7.67E+04	11.430	6.48E+04	Y	15.57%
Endosulfan I	12.300	12.275	12.325	6.96E+04	12.320	5.53E+04	Y	20.64%
Dieldrin	13.040	13.014	13.066	6.83E+04	13.050	5.64E+04	Y	17.37%
4,4'-DDE	12.850	12.824	12.876	6.86E+04	12.880	8.75E+00	Y	99.99%
Endrin	13.870	13.842	13.898	5.57E+04	13.900	7.89E+00	Y	99.99%
Endosulfan II	14.350	14.321	14.379	6.24E+04	14.380	5.37E+04	Y	13.95%
4,4'-DDD	14.220	14.192	14.248	5.12E+04	14.240	1.61E+01	Y	99.97%
Endosulfan Sulf.	15.750	15.719	15.782	5.96E+04	15.790	1.43E+01	Y	99.98%
4,4'-DDT	15.090	15.060	15.120	5.19E+04	0.000	0.00E+00	Y	100.00%
Methoxychlor	18.250	18.214	18.287	2.91E+05	18.290	1.27E+04	Y	95.62%
Endrin Ketone	18.590	18.553	18.627	7.37E+04	18.640	7.55E+00	Y	99.99%
alpha Chlordane	12.260	12.235	12.285	7.60E+04	12.290	8.30E+00	Y	99.99%
gamma Chlordane	11.880	11.856	11.904	8.02E+04	11.910	8.53E+00	Y	99.99%
Toxaphene	14.190	14.162	14.218	1.09E+04				
Aroclor 1016	9.210	9.192	9.228	7.26E+03				
Aroclor 1221	7.250	7.236	7.265	4.13E+03				
Aroclor 1232	8.260	8.243	8.277	2.09E+03				
Aroclor 1242	11.480	11.457	11.503	2.74E+03				
Aroclor 1248	10.740	10.719	10.761	3.61E+03				
Aroclor 1254	13.220	13.194	13.246	6.31E+03				
Aroclor 1260	13.980	13.952	14.008	5.31E+03				

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: EA LABORATORIES
Lab Code: EALABS Case No: WILLOW
Instrument ID: 7A

Contract: 10388.05
SAS No.: N/A SDG No.: N/A
GC Column ID: SPB-5
.53m ID x 30m

DATE(S) OF ANALYSIS	FROM: 07 OCT 89	DATE OF ANALYSIS	08 OCT 89
	TO: 07 OCT 89	TIME OF ANALYSIS	01:08
TIME(S) OF ANALYSIS	FROM: 04:13	EPA SAMPLE NO. (STANDARD #)	INDA S649
	TO: 11:16		

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	% D
alpha BHC	12.269	12.244	12.294	2.30E+06				
beta BHC	13.052	13.026	13.078	1.25E+06				
delta BHC	14.011	13.983	14.039	2.02E+06				
gamma BHC	13.328	13.301	13.355	2.04E+06	13.320	2.04E+06	Y	-0.10%
Heptachlor	15.702	15.671	15.733	2.20E+06	15.695	2.16E+06	Y	1.81%
Aldrin	16.886	16.852	16.920	9.74E+05	16.879	9.52E+05	Y	2.23%
Hept. Epoxide	18.167	18.131	18.203	1.99E+06	18.158	1.91E+06	Y	3.93%
Endosulfan I	19.552	19.513	19.591	1.88E+06	19.541	1.78E+06	Y	5.52%
Dieldrin	20.634	20.593	20.675	1.79E+06	20.622	1.76E+06	Y	1.69%
4,4'-DDE	20.216	20.176	20.256	1.80E+06				
Endrin	21.655	21.612	21.698	1.22E+06				
Endosulfan II	22.109	22.065	22.153	1.89E+06	22.094	1.84E+06	Y	2.43%
4,4'-DDD	22.207	22.163	22.251	1.40E+06				
Endosulfan Sulf.	24.408	24.359	24.457	1.68E+06				
4,4'-DDT	24.409	24.360	24.458	1.56E+06	24.390	1.53E+06	Y	1.86%
Methoxychlor	28.497	28.440	28.554	8.87E+06	28.468	8.61E+06	Y	2.97%
Endrin Ketone	27.783	27.727	27.839	2.24E+06				
alpha Chlordane	19.566	19.527	19.605	2.05E+06				
gamma Chlordane	18.986	18.948	19.024	2.13E+06				
Toxaphene	22.437	22.392	22.482	1.92E+05				
Aroclor 1016	15.050	15.020	15.080	2.06E+05				
Aroclor 1221	12.195	12.171	12.219	1.27E+05				
Aroclor 1232	15.056	15.026	15.086	8.77E+04				
Aroclor 1242	15.055	15.025	15.085	1.79E+05				
Aroclor 1248	18.293	18.256	18.330	1.13E+05				
Aroclor 1254	20.639	20.598	20.680	1.85E+05				
Aroclor 1260	24.671	24.622	24.720	2.04E+05				

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

D. Raw QC Data

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK016

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: PBLK016

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: N/A

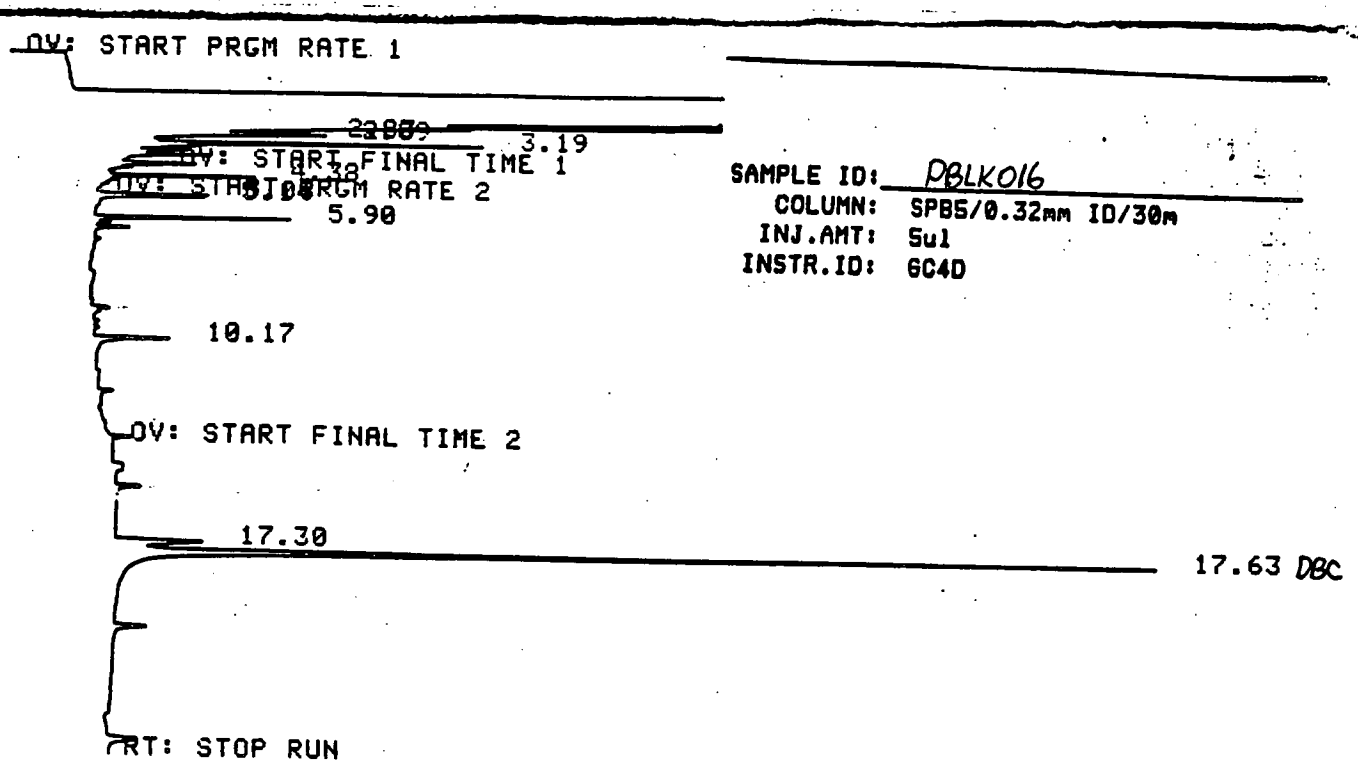
% Moisture: dec. N/A not dec. Date Extracted: 21 SEPT 89

Extraction: CONT Date Analyzed: 29 SEPT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

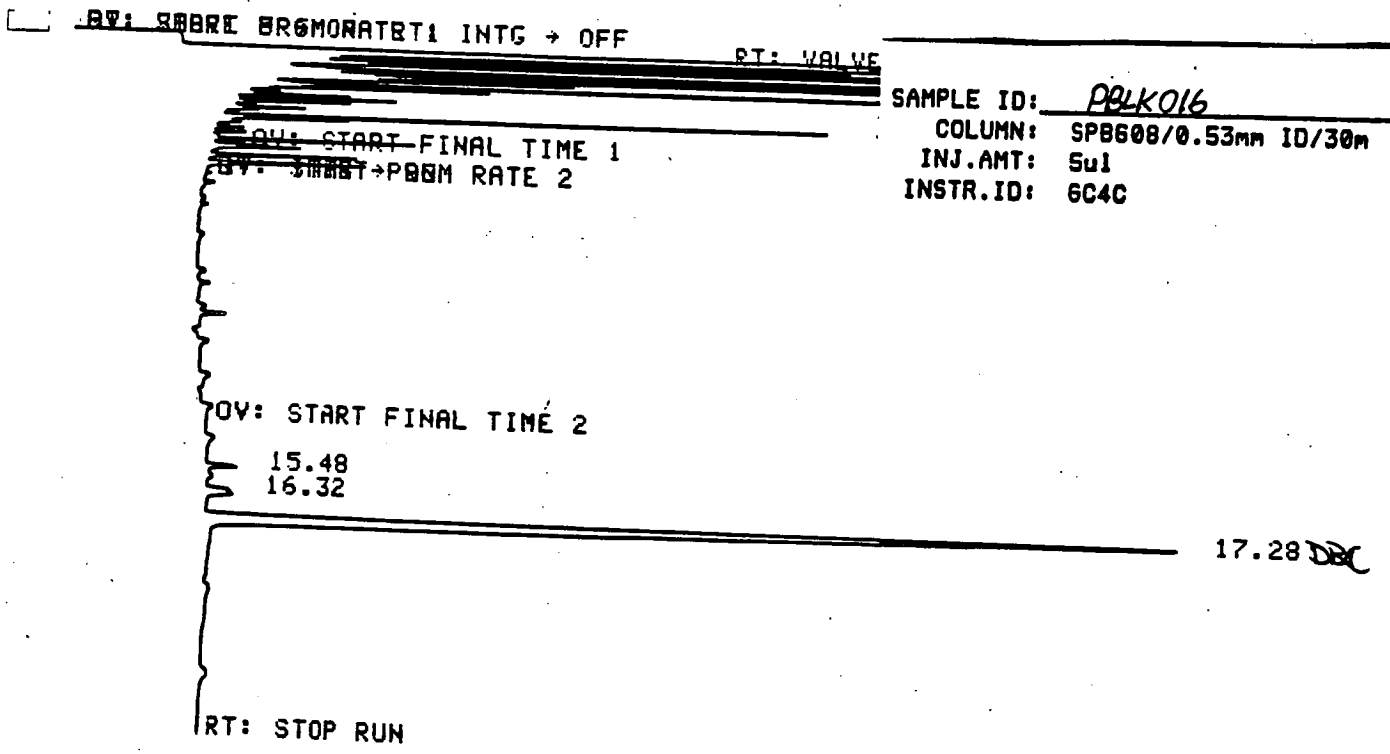


026

[hp] 5880A SAMPLER INJECTION @ 00:47 SEP 27, 1989
SAMPLE # : ID CODE :
14 PBLK016
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 136.98			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.364	24607.10	BV	-----	10256.90	146.90	11.302
1.449	103705.00	VV	*-----*	6929.79	147.68	47.629
1.756	21850.60	VV	-----	3482.77	150.50	10.036
1.891	10607.10	VV	-----	2792.98	151.73	4.872
1.945	10130.60	VV	-----	2575.00	152.23	4.653
2.030	13655.20	VV	-----*	2284.31	153.00	6.272
2.147	11482.70	VV	-----	1560.53	154.08	5.274
2.345	4631.58	VV	-----	712.75	155.90	2.127
2.492	3871.95	VV	-----	700.27	157.25	1.778
2.832	637.56	VV	-----	190.55	160.37	0.293
2.886	1292.86	VV	-----	204.24	160.87	0.594
3.185	1261.33	VV	-----	344.34	163.62	0.579
4.380	355.78	BV	0.043	128.26	173.62	0.163
5.076	226.87	BV	-----	94.38	166.95	0.104
5.140	334.32	VP	-----	92.46	166.38	0.154
5.896	613.99	BV	0.055	174.39	161.46	0.282
10.170	412.87	BV	0.10	67.75	163.52	0.190
17.299	627.80	BV	-----	73.08	189.26	0.288
17.633	7427.54	VB	0.112*	1035.48	203.72	3.411

TOTAL AREA = 217733.00
MULTIPLIER = 1



[hp] 5880A SAMPLER INJECTION @ 17:57 SEP 29, 1989

SAMPLE # : 14 ID CODE : PBLK016

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00						
0.00						
0.00						
0.10						
5.00						
17.28	15856.10	BB	0.124	1997.00	199.02	100.000

BASELINE @ START RUN = 145.92
THRESHOLD @ START RUN = 7
PEAK WIDTH @ START RUN = 0.04
RT: INTG → OFF
RP: REJECT → 500
RT: INTG → ON

TOTAL AREA = 15856.10
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK017

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: PBLK017

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: N/A

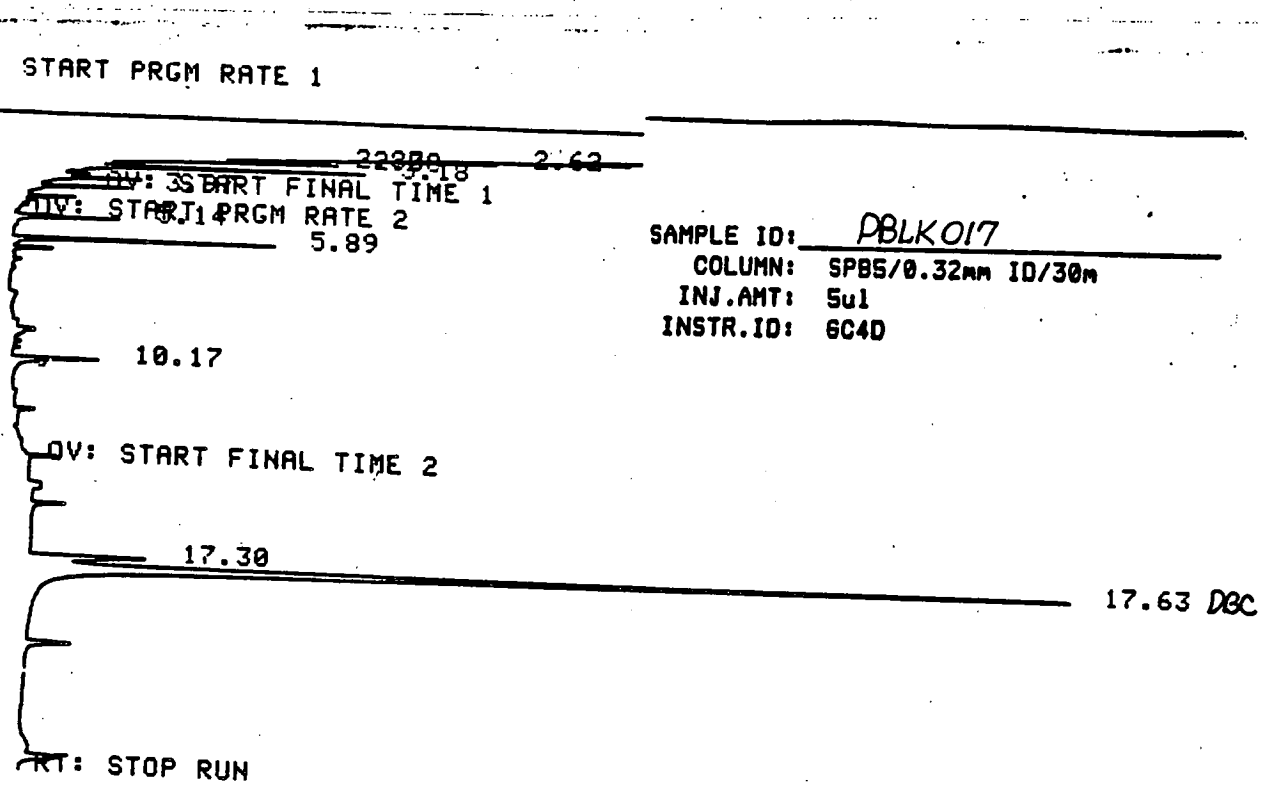
% Moisture: dec. N/A not dec. Date Extracted: 21 SEPT 89

Extraction: CONT Date Analyzed: 29 SEPT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U



027

[hp] 5880A SAMPLER INJECTION @ 01:24 SEP 27, 1989
SAMPLE # : ID CODE :
15 PBLK017

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00						
0.00						
0.00						
1.363	55786.80	BV	-----	21302.50	147.28	13.441
1.446	270872.00	VV	-----*	15107.20	148.49	65.261
1.886	52979.00	VV	-----*	4773.47	154.93	12.764
2.145	17209.30	VV	-----	2190.77	158.73	4.146
2.620	1863.72	VV	-----	427.85	165.67	0.449
2.831	802.08	VV	-----	265.08	168.77	0.193
2.880	1967.24	VV	-----	280.01	169.49	0.474
3.184	1397.48	VV	-----	300.64	173.93	0.337
3.967	318.99	BV	0.062	81.08	183.10	0.077
5.139	317.27	VP	0.06	89.08	167.50	0.076
5.893	815.96	BV	0.05	232.51	161.69	0.197
10.170	483.69	BV	0.10	77.13	165.28	0.117
17.299	856.52	BV	-----	97.78	193.35	0.206
17.634	9391.57	VB	-----*	1283.25	211.78	2.263

BASELINE @ START RUN = 137.02
THRESHOLD @ START RUN = 7
PEAK WIDTH @ START RUN = 0.04
RP: EXTEND RT → ON

TOTAL AREA = 415061.00
MULTIPLIER = 1

082

RT: SAMPLE BRGMONATRT1 INTG → OFF

PT:

SAMPLE ID: PBLK017
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: 6C4C

RT: START FINAL TIME 1
RT: START→PROM RATE 2

10.04

RT: START FINAL TIME 2

15.47
16.45

17.27 DBX

RT: STOP RUN

[hp] 5880A SAMPLER INJECTION @ 18:33 SEP 29, 1989
SAMPLE # : ID CODE :
15 PBLK017
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00			BASELINE @ START RUN = 148.79			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.10			RT: INTG → OFF			
5.00			RP: REJECT → 500			
16.45			RT: INTG → ON			
17.27	534.92	VB	-----	72.42	200.81	2.716
	19163.40	BB	0.125	2400.75	202.35	97.284

TOTAL AREA = 19698.30
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK020

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: PBLK020

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: N/A

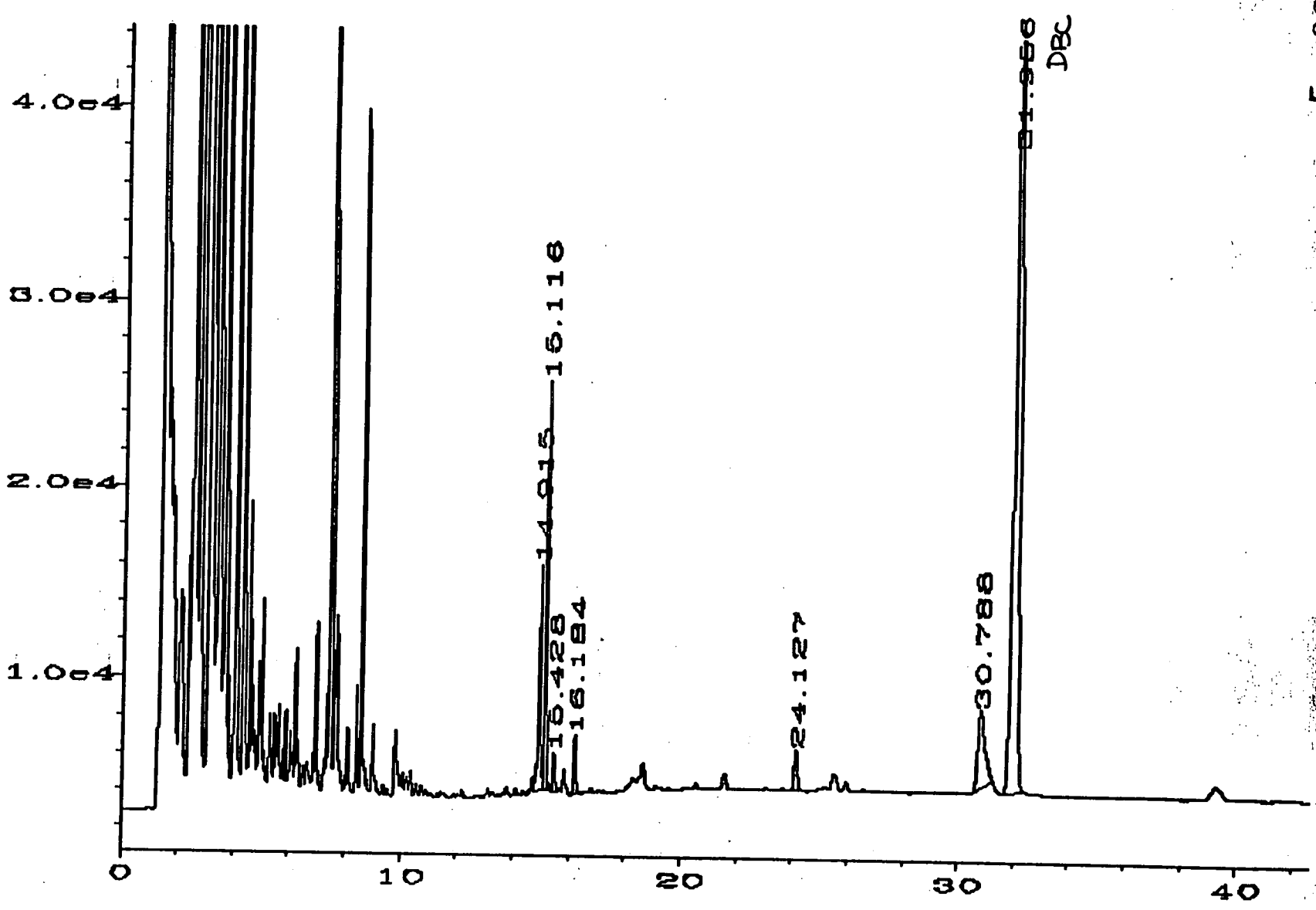
% Moisture: dec. N/A not dec. Date Extracted: 22 SEPT 89

Extraction: CONT Date Analyzed: 26 SEPT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U



Sig. 1 in C:\HPCHEM\2\DATA\MECHAN\014F0101.D

Area Percent Report

Data File Name : C:\HPCHEM\2\DATA\MECHAN\014F0101.D
Operator : JIM O'KEEFE
Acquired on : 26 Sep 89 05:06 PM
Sample Name : PBLK020 METHOD BLANK
Run Time Bar Code:
Instrument Method: SPB5.MTH
Analysis Method : SPB5.MTH

Instrument : Pesticide
Vial Number : 14
Injection Number: 1
Sequence Line : 1

Sig. 1 in C:\HPCHEM\2\DATA\MECHAN\014F0101.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	14.915	55320	11929	VV	0.068	6.8856
2	15.116	85447	21772	VV	0.061	10.6355
3	15.428	10241	2125	BB	0.072	1.2747
4	16.184	15884	3132	BB	0.078	1.9771
5	24.127	17225	2157	BB	0.126	2.1440
6	30.788	71487	4146	BB	0.252	8.8979
7	31.956	547808	43023	BB	0.199	68.1851

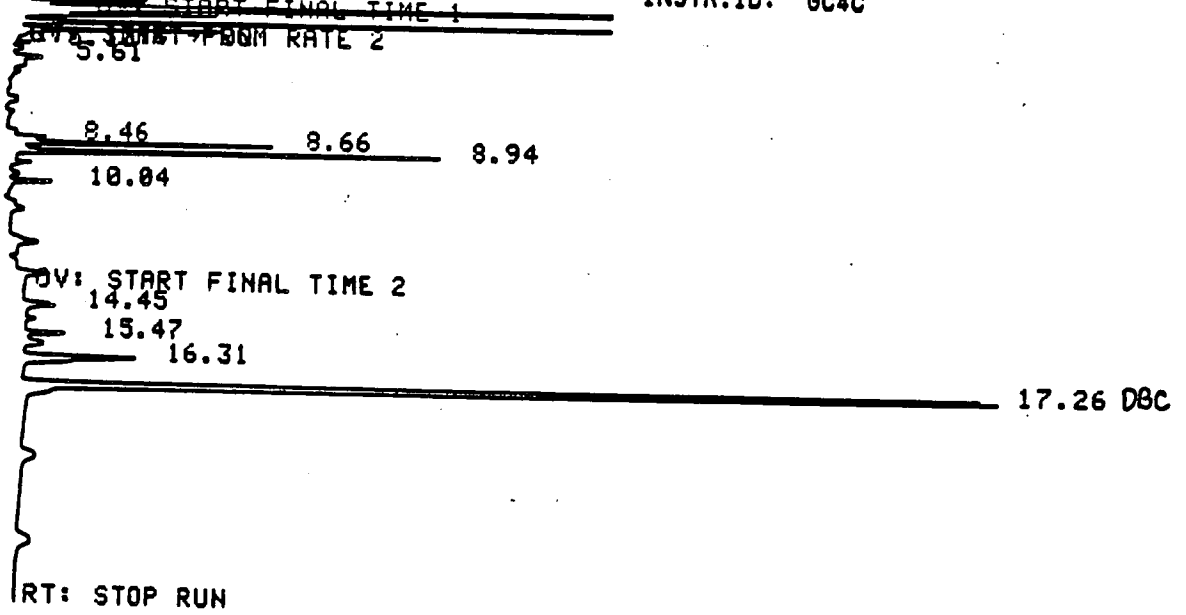
Total area = 803414

START AUTO SEQ 14, 25

RV: SHORE BROMOHATRT1 INTG → OFF RT: VALVE

SAMPLE ID: PBLK020
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C

RV: START FINAL TIME 1
RV: START FLOW RATE 2



[hp] 5880A SAMPLER INJECTION @ 11:53 OCT 4, 1989
SAMPLE # : ID CODE :
14 PBLK020

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00			BASELINE @ START RUN = 141.67			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.10			RT: INTG → OFF			
5.00			RP: REJECT → 500			
5.61			RT: INTG → ON			
8.66	572.74	VV	-----	60.05	193.37	2.001
8.94	2019.67	VV	0.065	490.08	200.28	7.056
15.47	3576.27	VB	0.069	811.20	201.89	12.495
16.31	519.33	BV	0.099	82.39	226.19	1.814
17.26	1689.22	BV	-----	211.53	221.85	5.902
	20244.30	BB	0.126	2507.54	221.76	70.731

TOTAL AREA = 28621.50
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK033

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: PBLK033

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: N/A

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

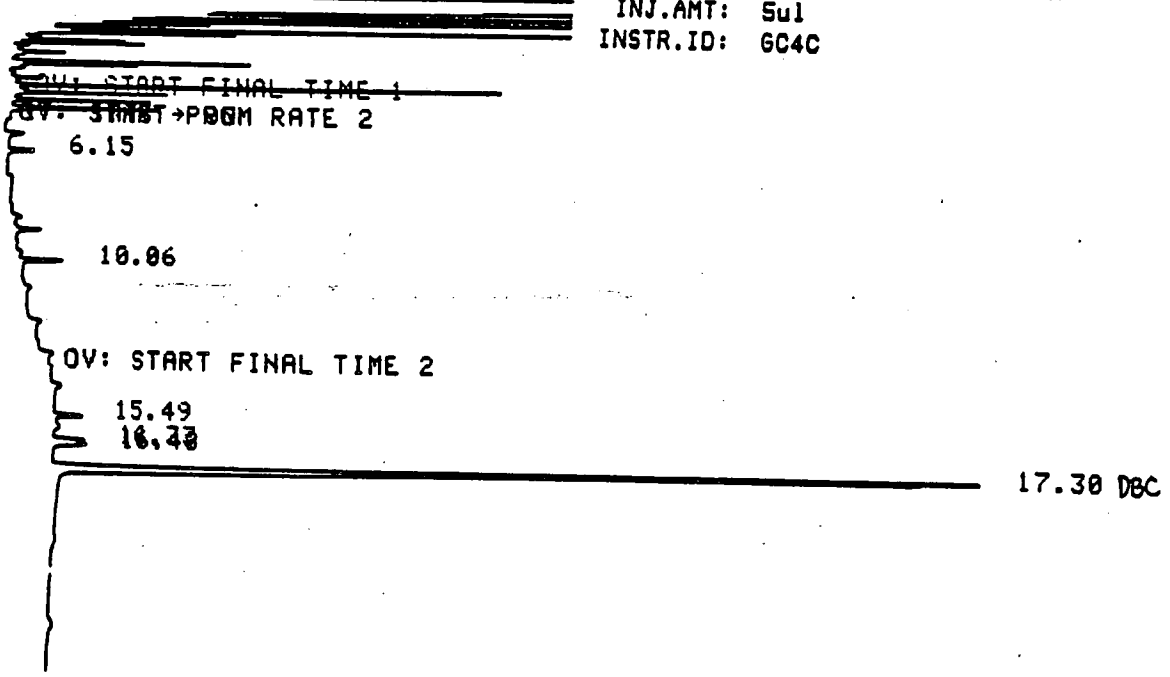
CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

START AUTO SEQ 28, 39

SAMPLE ID: PBLK033
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C

RT: START BROMORATE1 INTG → OFF



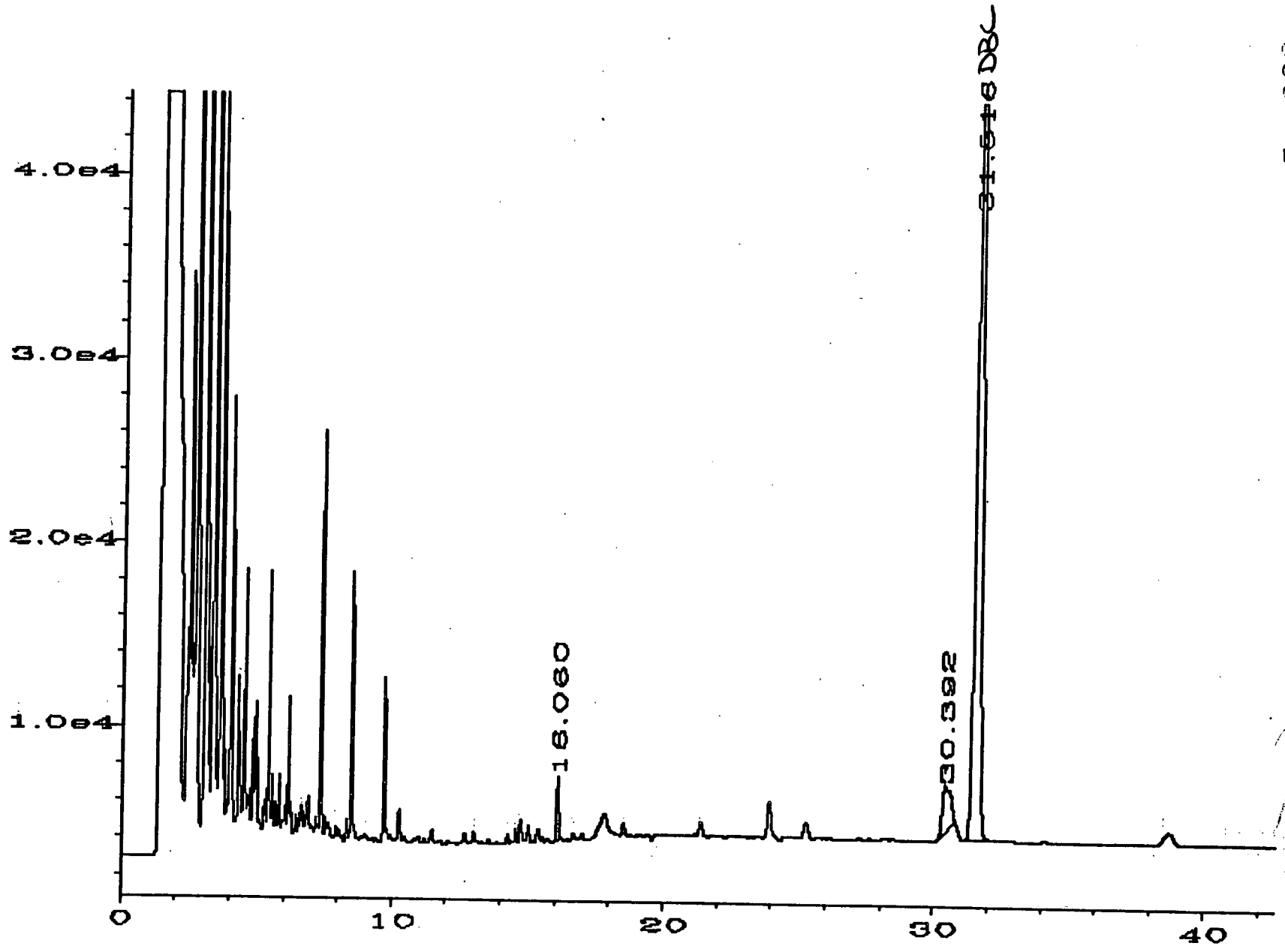
[hp] 5880A SAMPLER INJECTION @ 08:39 OCT 5, 1989
SAMPLE # : ID CODE :
28 PBLK 033
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00						
0.00						
0.00						
0.10						
5.00						
17.30	17255.60	BB	0.124	2170.68	290.10	100.000

BASELINE @ START RUN = 146.49
THRESHOLD @ START RUN = 7
PEAK WIDTH @ START RUN = 0.04
RT: INTG → OFF
RP: REJECT → 500
RT: INTG → ON

TOTAL AREA = 17255.60
MULTIPLIER = 1

152



Sig. 1 in C:\HPCHEM\2\DATA\WILLOW\014F0101.D

Area Percent Report

Data File Name : C:\HPCHEM\2\DATA\WILLOW\014F0101.D
Operator : JIM O'KEEFE
Acquired on : 08 Oct 89 00:03 AM
Sample Name : PBLK033
Run Time Bar Code:
Instrument Method: PEST.MTH
Analysis Method : PEST.MTH

Instrument : Pesticide
Vial Number : 14
Injection Number: 1
Sequence Line : 1

Sig. 1 in C:\HPCHEM\2\DATA\WILLOW\014F0101.D

Pk#	Ret Time	Area	Height	Type	Width	Ar a %
1	16.060	18233	3456	BB	0.082	2.3890
2	30.392	52579	2560	BB	0.308	6.8892
3	31.516	692403	53461	BB	0.203	90.7218

Total area = 763215

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUPLICATE #1 MS

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4477MS

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 21 SEPT 89

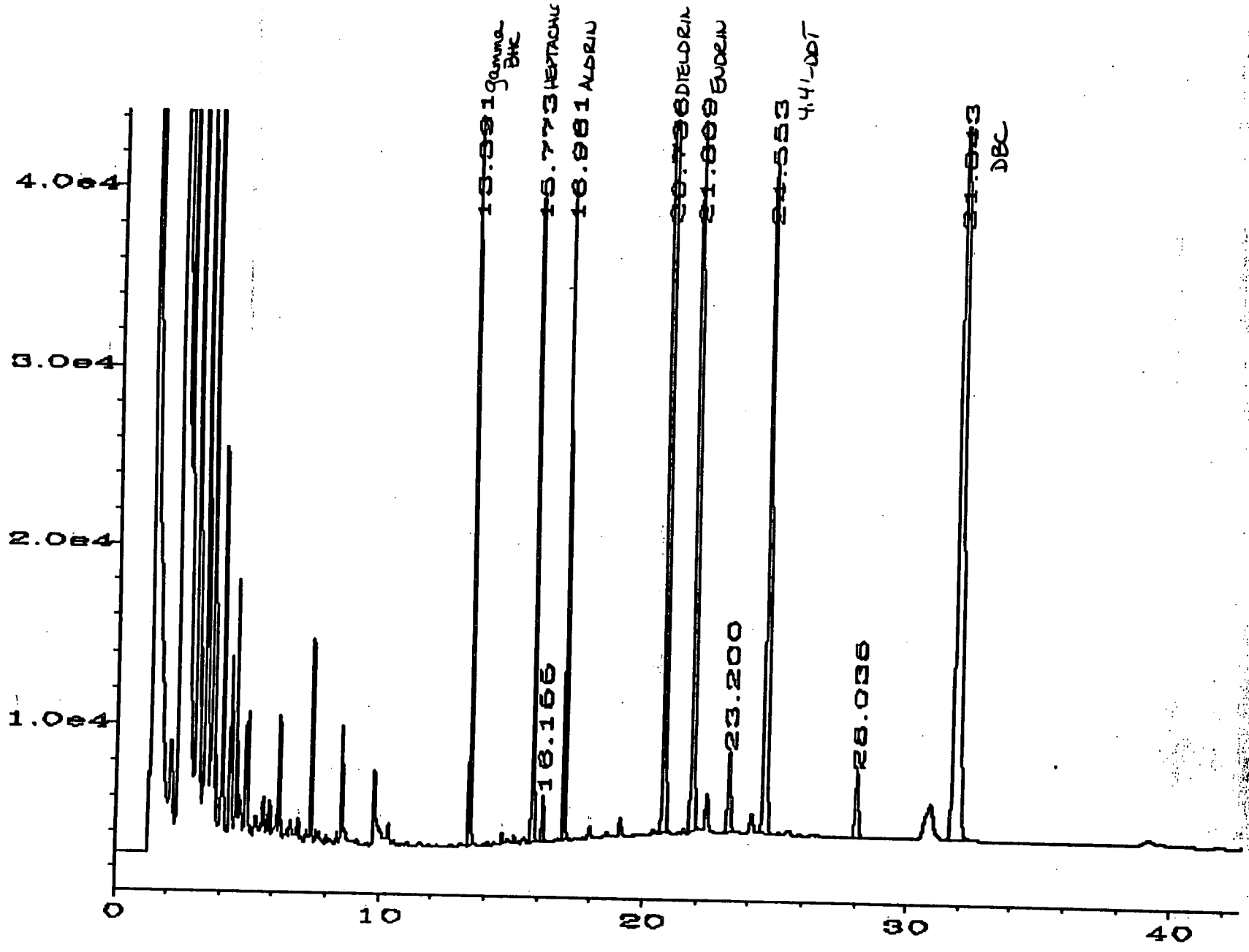
% Moisture: dec. N/A not dec. Date Extracted: 22 SEPT 89

Extraction: CONT Date Analyzed: 27 SEPT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U



Sig. 1 in C:\HPCHEM\2\DATA\MECHAN\029F0101.D

Area Percent Report

Data File Name : C:\HPCHEM\2\DATA\MECHAN\029F0101.D
Operator : JIM O'KEEFE
Acquired on : 27 Sep 89 07:02 AM
Sample Name : WG4477MS Duplicate #1 Matrix Spike
Run Time Bar Code:
Instrument Method: SPB5.MTH
Analysis Method : SPB5.MTH

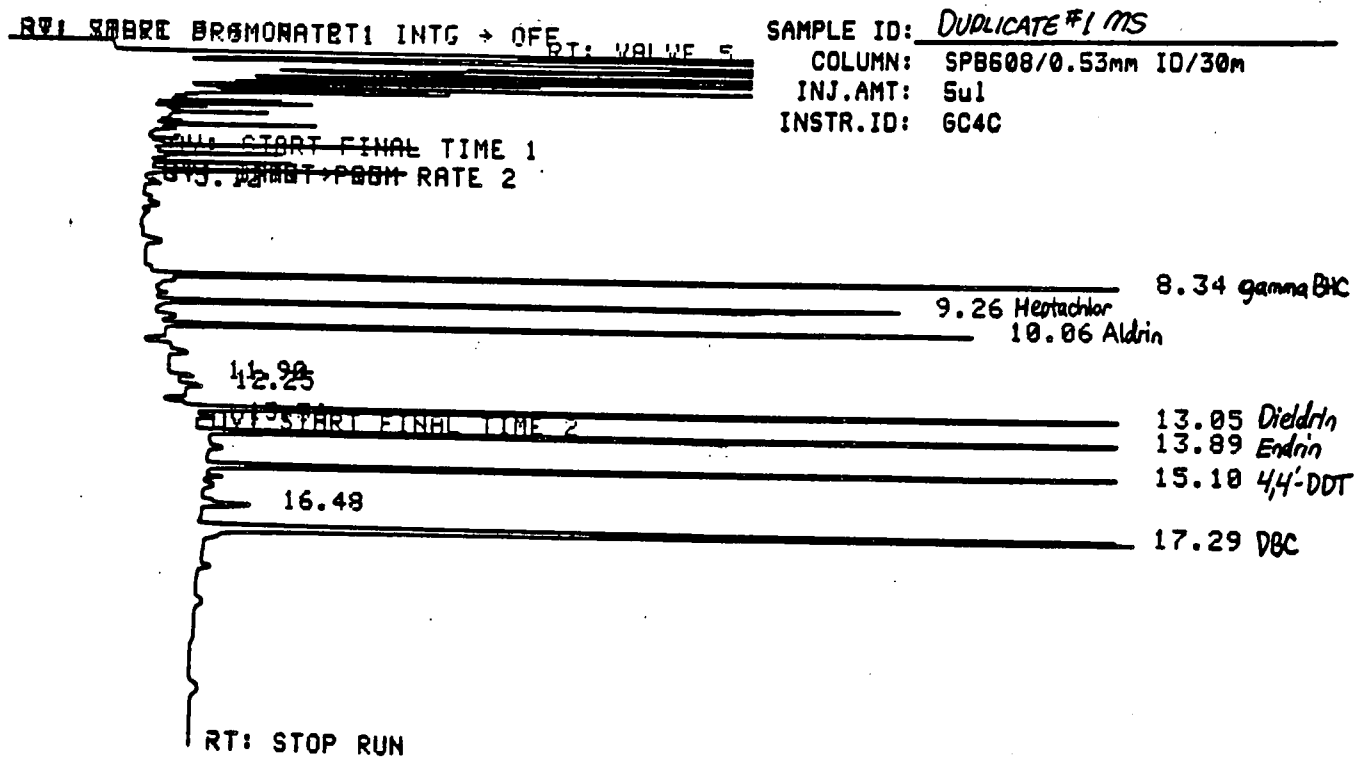
Instrument : Pesticide
Vial Number : 29
Injection Number: 1
Sequence Line : 1

Sig. 1 in C:\HPCHEM\2\DATA\MECHAN\029F0101.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	13.391	181014	49252	BB	0.058	8.7020
2	15.773	146427	35944	BB	0.064	7.0393
3	16.155	12093	2563	BB	0.073	0.5814
4	16.961	143047	35775	BB	0.063	6.8768
5	20.736	379431	68423	BB	0.088	18.2406
6	21.809	284277	46230	BB	0.097	13.6662
7	23.200	32358	4424	BB	0.114	1.5556
8	24.553	279446	37389	BB	0.118	13.4339
9	28.035	36057	3733	BB	0.149	1.7334
10	31.843	585997	46089	BB	0.201	28.1710

Total area = 2080147

SAMPLE ID: DUPLICATE #1 MS
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C



[hp] 5880A SAMPLER INJECTION @ 20:24 OCT 4, 1989
SAMPLE # : ID CODE :
23 WG4477MS

148

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 168.79			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
8.34	7088.36	BV	0.056	1996.79	233.05	9.062
9.26	5835.81	PB	0.065	1400.17	237.58	7.461
10.06	6556.55	BB	0.067	1525.72	244.67	8.382
13.05	14136.20	VV	0.067	3293.59	303.09	18.073
13.89	12707.10	BB	0.068	2916.60	323.87	16.246
15.10	10402.40	BP	0.080	2033.11	332.86	13.299
16.48	720.34	VV	-----	97.23	323.50	0.921
17.29	20771.30	BB	0.126	2588.31	322.72	26.556

TOTAL AREA = 78218.00
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUPLICATE #2 MS

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4545 MS

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

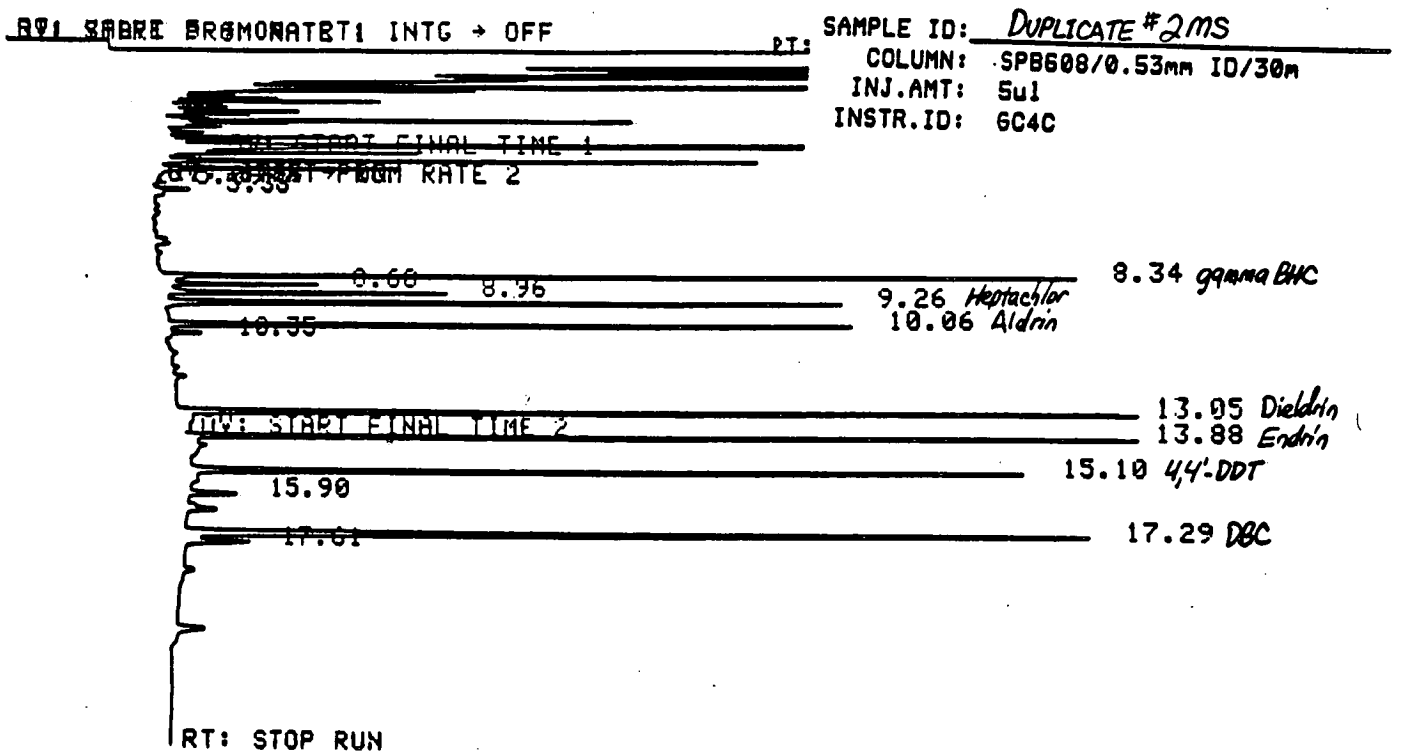
Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.22	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: DUPLICATE #2MS
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C



[hp] 5880A SAMPLER INJECTION @ 20:23 OCT 5, 1989
SAMPLE # : ID CODE :
47 WG 4545MS
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 162.65			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
8.34	6058.45	VV	0.056	1709.09	242.26	8.431
8.68	1224.20	VV	0.063	304.84	244.59	1.704
8.96	2521.38	VP	0.072	545.40	246.56	3.509
9.26	5413.39	VB	0.066	1277.47	251.35	7.533
10.06	5511.63	BB	0.066	1300.74	247.87	7.670
13.05	18286.30	BV	0.068	4226.60	283.06	25.447
13.88	10333.50	BB	0.068	2388.08	297.96	14.380
15.10	7854.22	BB	0.080	1546.46	312.38	10.930
15.90	507.98	BB	0.090	88.05	300.26	0.707
17.29	13183.20	BV	0.122	1685.27	288.57	18.346
17.61	965.52	VP	0.121	125.28	286.42	1.344

TOTAL AREA = 71859.80
MULTIPLIER = 1

167

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUPLICATE #1 MSD

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4477MSD

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 21 SEPT 89

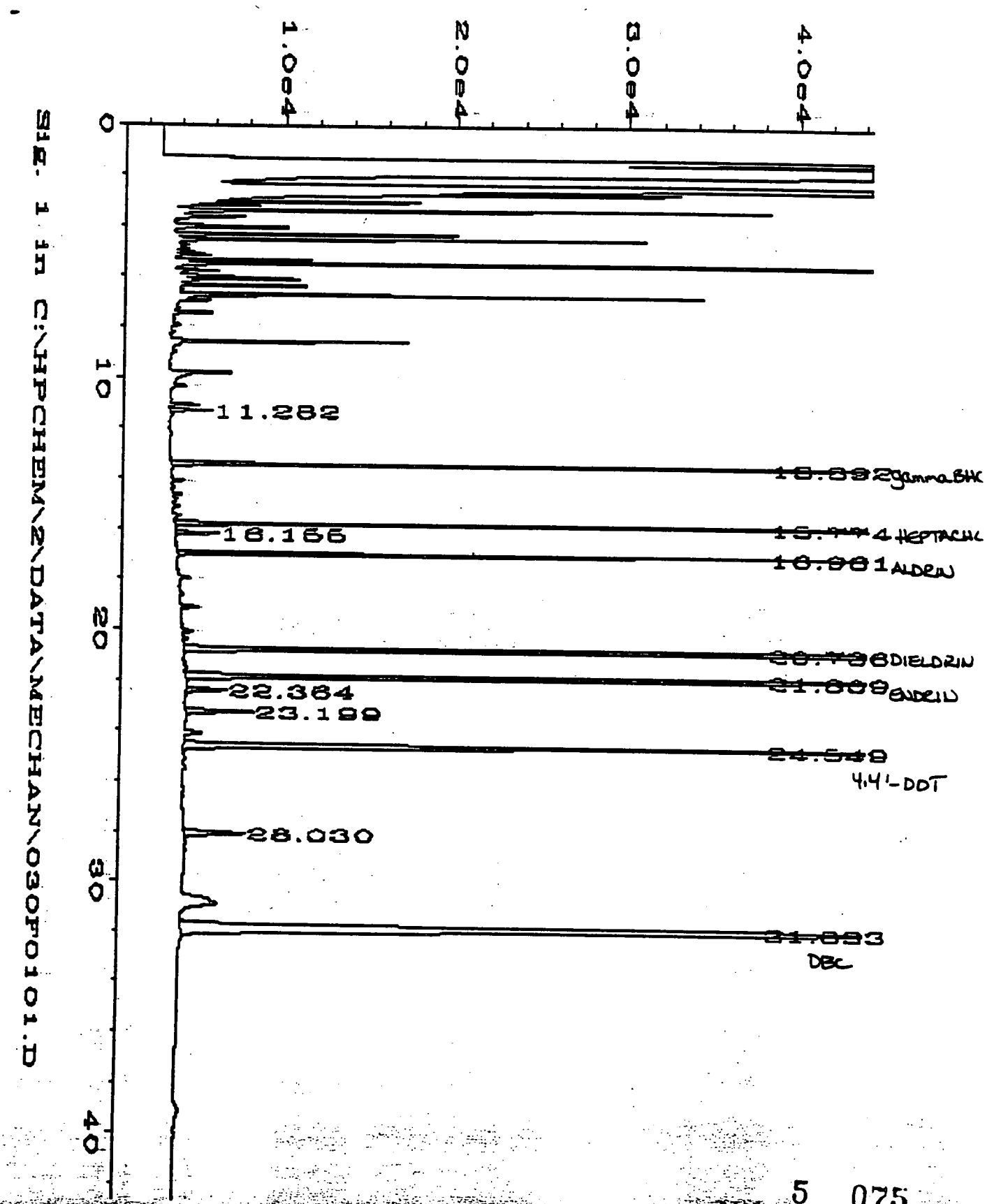
% Moisture: dec. N/A not dec. Date Extracted: 22 SEPT 89

Extraction: CONT Date Analyzed: 27 SEPT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U



SIG. 1 in C:\HPCHEM\2\DATA\MECHAN\030F0101.D

Area Percent Report

Data File Name : C:\HPCHEM\2\DATA\MECHAN\030F0101.D
Operator : JIM O'KEEFE
Acquired on : 27 Sep 89 07:57 AM
Sample Name : WG4477MSD Duplicate #1
Run Time Bar Code: Matrix Spike Duplicate
Instrument Method: SPB5.MTH
Analysis Method : SPB5.MTH

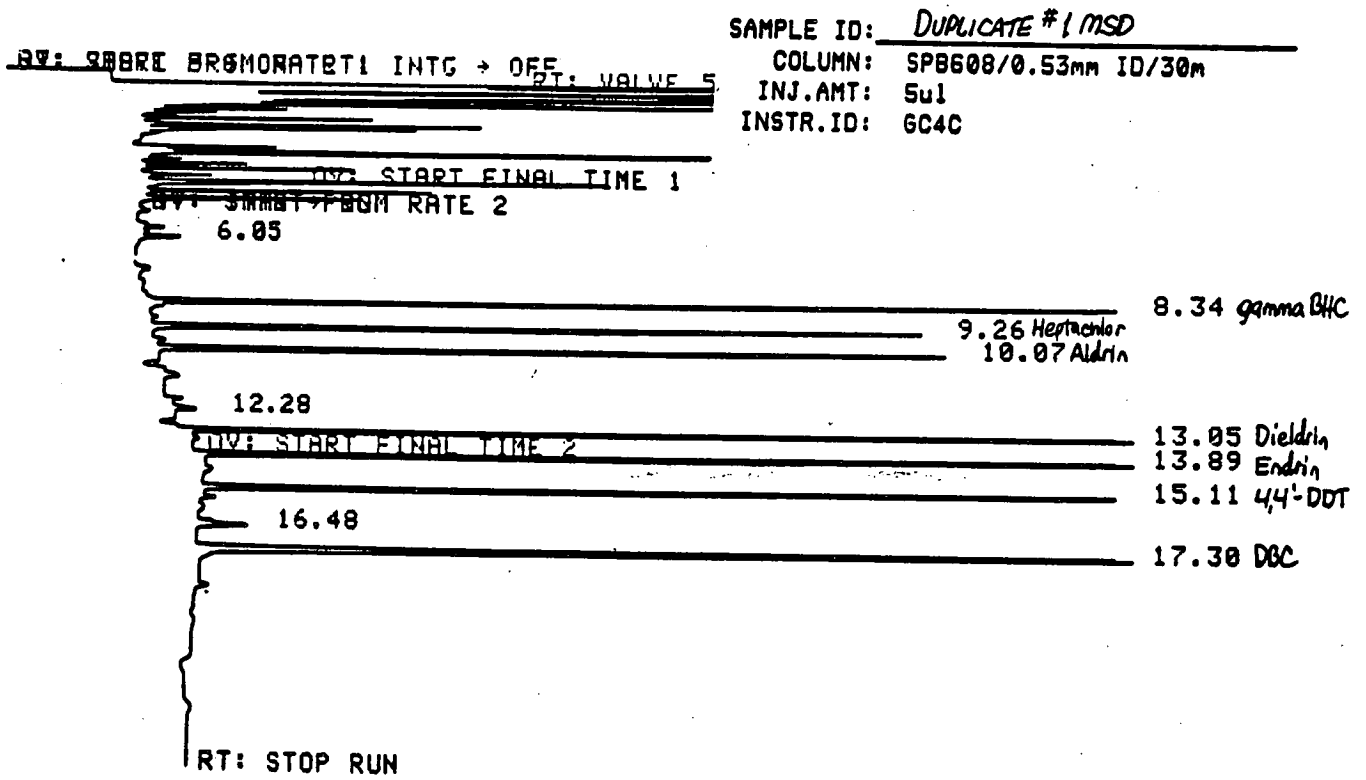
Instrument : Pesticide
Vial Number : 30
Injection Number: 1
Sequence Line : 1

Sig. 1 in C:\HPCHEM\2\DATA\MECHAN\030F0101.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	11.282	9354	2501	BB	0.058	0.4004
2	13.392	204094	54552	BB	0.059	8.7354
3	15.774	165767	40642	BB	0.064	7.0950
4	16.155	11892	2550	BB	0.072	0.5090
5	16.961	165158	41111	BB	0.063	7.0689
6	20.736	420866	75629	BB	0.089	18.0135
7	21.809	327090	53191	BB	0.097	13.9998
8	22.364	15698	2402	BB	0.102	0.6719
9	23.199	28942	3970	BB	0.113	1.2387
10	24.549	311497	41467	BB	0.119	13.3324
11	28.030	34965	3638	BB	0.150	1.4965
12	31.833	641066	50156	BB	0.203	27.4383

Total area = 2336388

SAMPLE ID: DUPLICATE #1 MSD
COLUMN: SPB608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C



[hp] 5880A SAMPLER INJECTION @ 21:01 OCT 4, 1989
SAMPLE # : ID CODE :
24 WG4477MSD
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 167.21			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
8.34	7293.56	VV	0.056	2038.36	220.16	9.370
9.26	6050.42	BB	0.065	1449.88	227.88	7.773
10.07	6264.76	BB	0.066	1482.97	237.29	8.048
13.05	14287.70	BV	0.067	3355.61	292.30	18.356
13.89	12808.80	BB	0.068	2954.45	316.79	16.456
15.11	10385.70	BB	0.080	2039.93	328.08	13.343
16.49	694.76	VB	-----	95.15	317.16	0.893
17.30	20052.10	BB	0.124	2521.96	318.81	25.761

TOTAL AREA = 77837.80
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUPLICATE #2 MSD

Lab Name: EA LABORATORIES Contract: 10388.1

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 4545 MSD

Sample wt/vol: 1000 ml Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. N/A not dec. Date Extracted: 28 SEPT 89

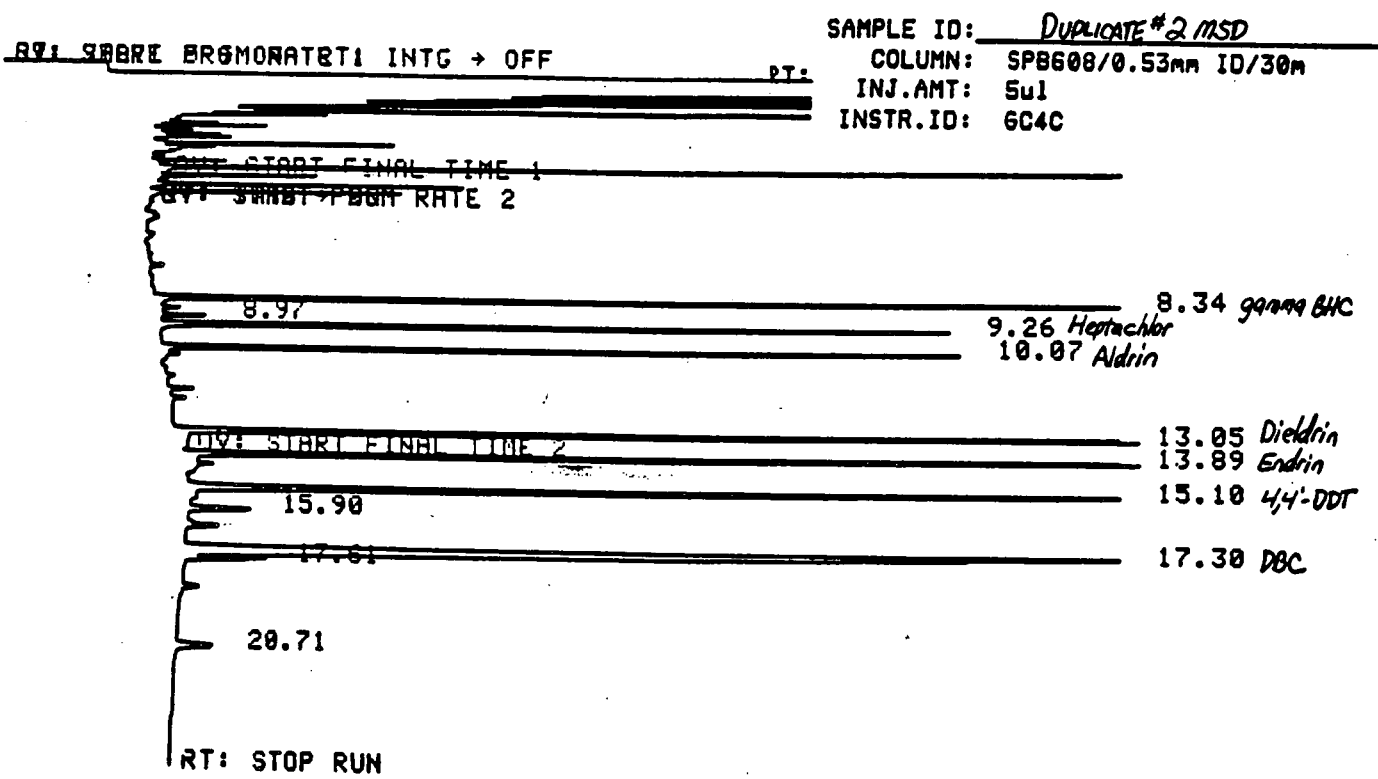
Extraction: CONT Date Analyzed: 05 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.22	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
332313-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

SAMPLE ID: Duplicate #2 MSD
COLUMN: SP8608/0.53mm ID/30m
INJ.AMT: 5ul
INSTR.ID: GC4C



[hp] 5880A SAMPLER INJECTION @ 21:00 OCT 5, 1989
SAMPLE # : ID CODE :
48 WG 4545 MSD
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 162.70			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RT: INTG → OFF			
0.10			RP: REJECT → 500			
5.00			RT: INTG → ON			
8.34	7200.32	BB	0.056	2029.63	239.50	8.947
9.26	6222.45	VB	0.066	1481.87	241.46	7.732
10.07	6348.89	BB	0.066	1495.35	245.37	7.889
13.05	21609.70	PV	0.068	5012.43	281.60	26.853
13.89	12387.40	BB	0.068	2872.13	298.17	15.393
15.10	9641.92	BB	0.081	1866.11	309.41	11.981
15.90	665.96	BB	0.092	113.55	300.18	0.828
17.30	14493.70	BV	0.123	1848.38	289.55	18.010
17.61	1176.19	VB	0.117	156.83	287.58	1.462
20.71	727.36	BB	0.152	75.05	273.70	0.904

TOTAL AREA = 80473.90
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK029

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: PBLK029

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: N/A

% Moisture: dec. N/A not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 16 OCT 89

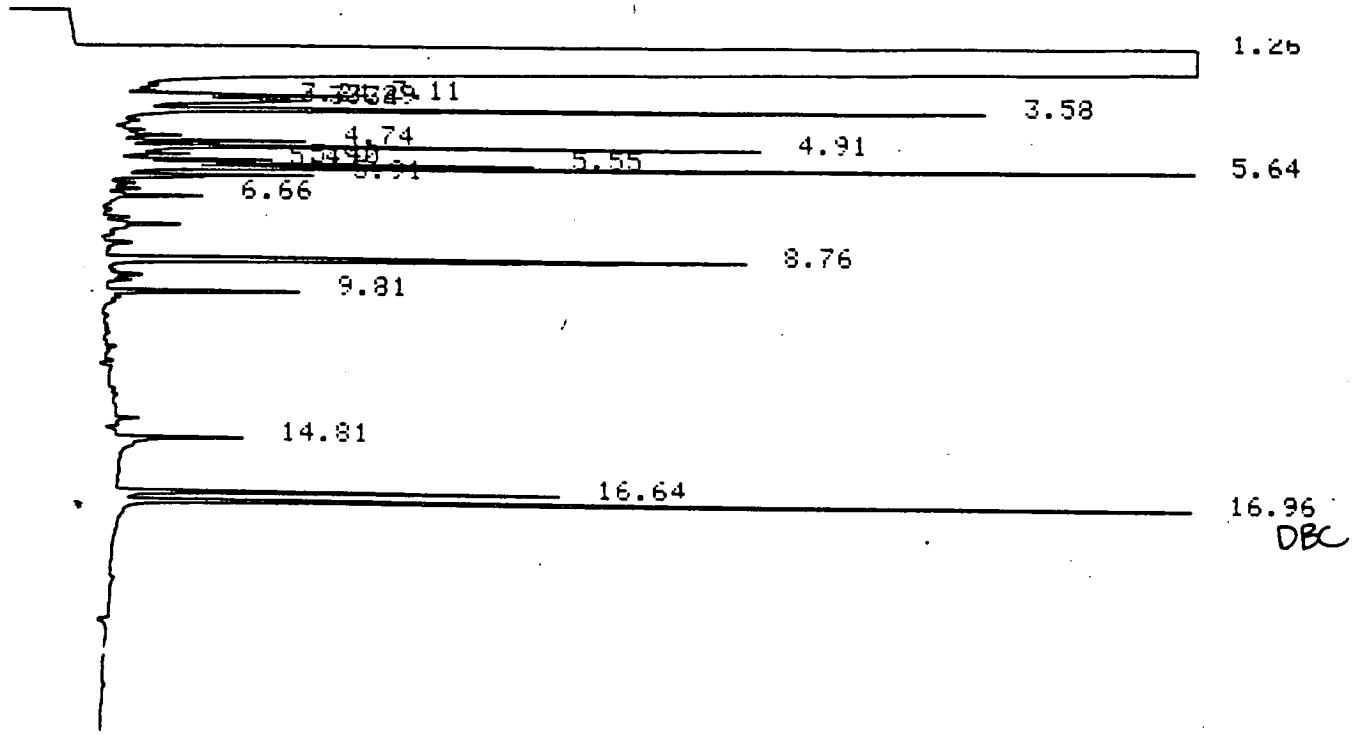
GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	8.0	U
319-85-7	beta-BHC	8.0	U
319-86-8	delta-BHC	8.0	U
58-89-9	gamma-BHC (Lindane)	8.0	U
76-44-8	Heptachlor	8.0	U
309-00-2	Aldrin	8.0	U
1024-57-3	Heptachlor epoxide	8.0	U
959-98-8	Endosulfan I	8.0	U
60-57-1	Dieldrin	16	U
72-55-9	4,4'-DDE	16	U
72-20-8	Endrin	16	U
332313-65-9	Endosulfan II	16	U
72-54-8	4,4'-DDD	16	U
1031-07-8	Endosulfan sulfate	16	U
50-29-3	4,4'-DDT	16	U
72-43-5	Methoxychlor	80	U
53494-70-5	Endrin Ketone	16	U
5103-71-9	alpha-Chlordane	80	U
5103-74-2	gamma-Chlordane	80	U
8001-35-2	Toxaphene	160	U
12674-11-2	Aroclor-1016	80	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	80	U
53469-21-9	Aroclor-1242	80	U
12672-29-6	Aroclor-1248	80	U
11097-69-1	Aroclor-1254	160	U
11096-82-5	Aroclor-1260	160	U

17.851 362.02 VB 0.076

TOTAL AREA = 29289.80
MULTIPLIER = 1

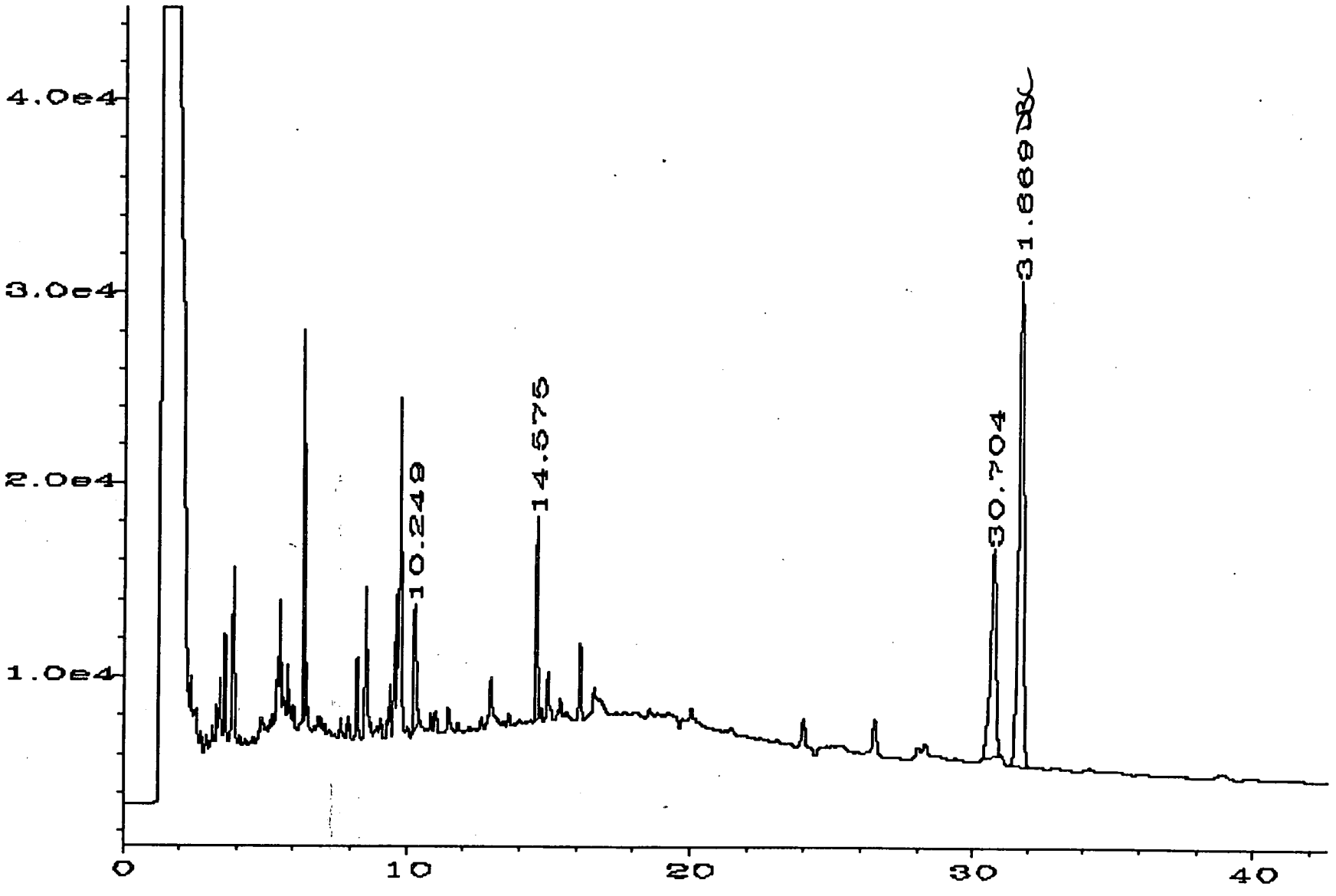
SAMPLE ID: METHOD BLANK
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D



[hp] 5880A SAMPLER INJECTION @ 00:38 OCT 10, 1989
SAMPLE # : ID CODE :
14 PBLK029
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 119.79			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.260	2175740.00	BB	-----*	167025.00	128.32	98.878
3.109	1054.52	PV	-----	194.51	170.66	0.048
3.243	433.52	VV	-----	112.52	172.36	0.020
3.286	471.78	VV	-----	151.82	172.91	0.021
3.335	880.73	VV	-----	137.03	173.53	0.040
3.582	3490.75	VB	-----*	744.46	176.66	0.159
4.738	522.03	PV	0.052	157.27	166.40	0.024
4.914	2004.83	VV	0.06	556.69	165.99	0.091
5.398	435.14	PV	0.053	127.74	166.98	0.020
5.487	308.16	VV	-----	107.01	168.92	0.014
5.554	979.94	VV	-----	353.56	170.37	0.045
5.642	3897.17	VB	0.05	1282.14	172.28	0.177
5.915	434.50	BV	-----	160.89	170.75	0.020
6.665	250.90	VP	0.05	77.20	157.57	0.011
8.763	2248.76	BB	0.06	558.63	152.26	0.102
9.813	653.27	BV	0.062	166.23	153.40	0.030
14.808	654.94	BV	0.09	110.09	160.24	0.030
16.641	1575.70	BP	0.064	384.56	165.04	0.072
16.956	4385.74	PB	0.061	1122.08	173.45	0.199

TOTAL AREA = 2200430.00
MULTIPLIER = 1



Sig. 1 in C:\HPCHEM\2\DATA\PEST\014F0101.D

Ar a Percent Report

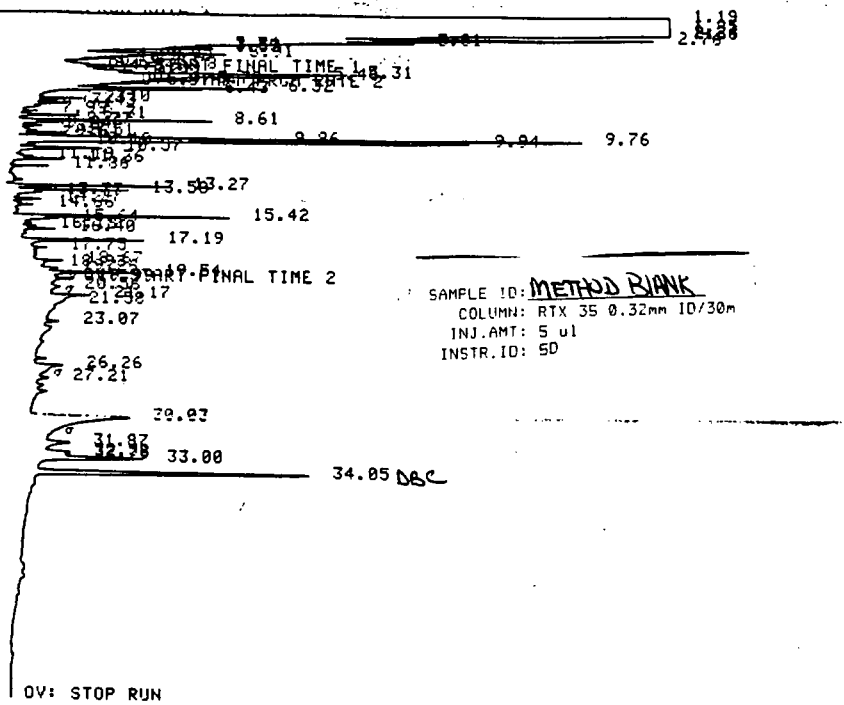
Data File Name : C:\HPCHEM\2\DATA\PEST\014F0101.D
Operator : Jim O'Keefe
Acquired on : 16 Oct 89 04:14 PM
Sample Name : PBLK029
Run Time Bar Code:
Instrument Method: PEST.MTH
Analysis Method : PEST.MTH

Instrum nt : Pesticide
Vial Number : 14
Injection Number: 1
Sequence Line : 1

Sig. 1 in C:\HPCHEM\2\DATA\PEST\014F0101.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	10.249	42227	6546	BB	0.100	7.5084
2	14.575	45117	10464	BB	0.068	8.0223
3	30.704	150167	10852	BB	0.207	26.7012
4	31.669	324887	25335	BB	0.198	57.7681

Total area = 562398



[hp] 5880A SAMPLER INJECTION @ 02:12 NOV 6, 1989
SAMPLE # : ID CODE :
7 BLK 029
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 141.22			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
1.19	1086850.00	PV	*0.092*	184764.00	163.88	95.806
1.85	32235.40	VV	-----*	2619.12	229.06	2.842
2.24	1071.15	VV	-----	231.64	268.07	0.094
2.36	1316.40	VB	-----*	150.01	279.30	0.116
2.76	845.27	PV	-----*	111.11	270.63	0.075
3.01	525.78	VP	-----	49.74	249.32	0.046
3.34	65.74	PV	-----	8.09	221.49	0.006
3.53	111.45	VP	-----	23.52	206.44	0.010
3.91	470.65	PV	*-----	48.42	186.13	0.041
4.05	132.71	VV	-----	21.38	185.02	0.012
4.20	60.15	VV	-----	11.95	183.86	0.005
4.69	23.75	PV	-----	5.18	183.03	0.002
4.78	109.80	VV	-----	23.24	184.84	0.010
4.94	29.87	VP	-----	5.74	187.81	0.003
5.08	66.50	PV	-----*	11.16	191.23	0.006
5.21	15.73	VV	-----	4.70	194.71	0.001
5.31	535.82	VV	-----*	77.72	197.59	0.047
5.46	406.32	VV	-----*	62.02	201.67	0.036
5.78	116.53	BP	-----	18.63	205.22	0.010
5.97	51.13	PV	-----	9.55	196.81	0.005
6.32	195.19	PV	-----	65.37	182.91	0.017
6.43	192.83	VB	-----	45.87	180.30	0.017
7.10	50.98	PV	0.055	14.64	170.55	0.004
7.23	44.65	VV	-----	7.05	169.73	0.004
7.43	86.26	VV	-----	11.42	168.55	0.008
7.99	23.84	PP	-----	4.88	165.22	0.002
8.31	90.42	VB	0.072	19.60	164.50	0.008
8.61	272.22	BV	0.065	65.81	163.97	0.024
8.77	104.34	VV	-----	14.75	163.83	0.009
9.04	55.40	VV	-----	8.34	163.58	0.005
9.37	45.46	VV	-----	6.48	163.26	0.004
9.51	62.50	VV	-----	16.55	163.14	0.006
9.61	42.44	VV	-----	11.88	163.05	0.004
9.76	872.00	VV	-----	194.04	162.91	0.077
9.86	313.90	VV	-----	87.94	162.81	0.028
9.94	664.25	VV	-----	156.11	162.74	0.059
10.10	127.40	VV	-----	19.14	162.60	0.011
10.57	256.21	VV	-----*	30.05	162.16	0.023
11.19	48.00	VV	-----	7.06	161.36	0.004
11.36	102.73	VV	-----	17.81	161.42	0.009
11.86	64.11	BV	0.076	13.16	160.96	0.006
13.27	320.87	PV	0.091	55.38	160.15	0.028
13.58	258.51	VV	-----	40.69	160.70	0.023
13.77	98.52	VV	-----	10.68	161.02	0.009
14.27	56.60	VV	0.092	9.60	161.90	0.005
14.66	41.44	VB	-----	6.48	162.61	0.004
15.42	411.41	PV	0.089	72.51	163.89	0.036
15.64	51.95	VB	-----	10.77	166.78	0.005
16.18	19.88	PV	-----	4.39	165.41	0.002
16.40	60.90	VV	0.087	10.94	165.31	0.005
17.19	276.49	BV	0.106	40.82	165.94	0.024
17.75	24.70	PV	0.088	4.05	169.17	0.002

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (ea.); Cat. No. 2-2888 (box of 10 pads)

10.16	127.40	VV	-----	19.14	162.60	0.011
10.57	256.21	VV	-----*	30.05	162.16	0.023
11.19	46.66	VV	-----	7.06	161.36	0.004
11.36	102.73	VV	-----	17.81	161.42	0.009
11.86	64.11	BV	0.076	13.16	160.96	0.006
13.27	320.87	PV	0.091	55.38	160.15	0.028
13.58	258.51	VV	-----	40.69	160.70	0.023
13.77	98.52	VV	-----	18.68	161.02	0.009
14.27	56.60	VV	0.092	9.60	161.90	0.005
14.66	41.44	VB	-----	6.48	162.61	0.004
15.42	411.41	PV	0.089	72.51	163.89	0.036
15.64	51.95	VB	-----	10.77	166.78	0.005
16.18	19.88	PV	-----	4.39	165.41	0.002
16.40	60.90	VV	0.087	10.94	165.31	0.005
17.19	276.49	BV	0.106	40.82	165.94	0.024
17.75	24.78	BV	0.080	4.85	168.47	0.002
18.67	69.58	BV	-----	8.90	170.02	0.006
18.93	7.63	VB	-----	1.66	171.34	0.001
19.26	44.04	BV	-----	4.76	172.48	0.004
19.54	181.28	VV	0.090	31.67	174.24	0.016
19.99	33.18	BB	0.083	6.25	176.46	0.003
20.56	35.93	BV	-----	2.99	175.07	0.003
21.17	154.07	PV	-----	13.13	175.26	0.014
21.58	11.88	VB	-----	1.96	177.60	0.001
23.07	32.77	BP	0.111	4.61	172.84	0.003
26.26	200.00	PV	0.34	9.32	169.13	0.018
27.21	31.31	BB	0.138	3.56	170.04	0.003
30.03	1240.64	BV	-----*	33.96	167.25	0.109
31.87	279.60	VV	-----	11.47	169.01	0.025
32.58	133.52	VV	-----	11.22	169.68	0.012
32.76	97.44	VV	-----	10.95	169.86	0.009
33.00	447.29	VB	-----	36.32	170.08	0.039
34.05	1050.54	BB	0.174	94.34	169.83	0.093

TOTAL AREA = 1134420.00
MULTIPLIER = 1

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SAMPLE ID: METHOD BLANK
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 5D

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NEL SS-1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4547

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 52.7 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 10 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

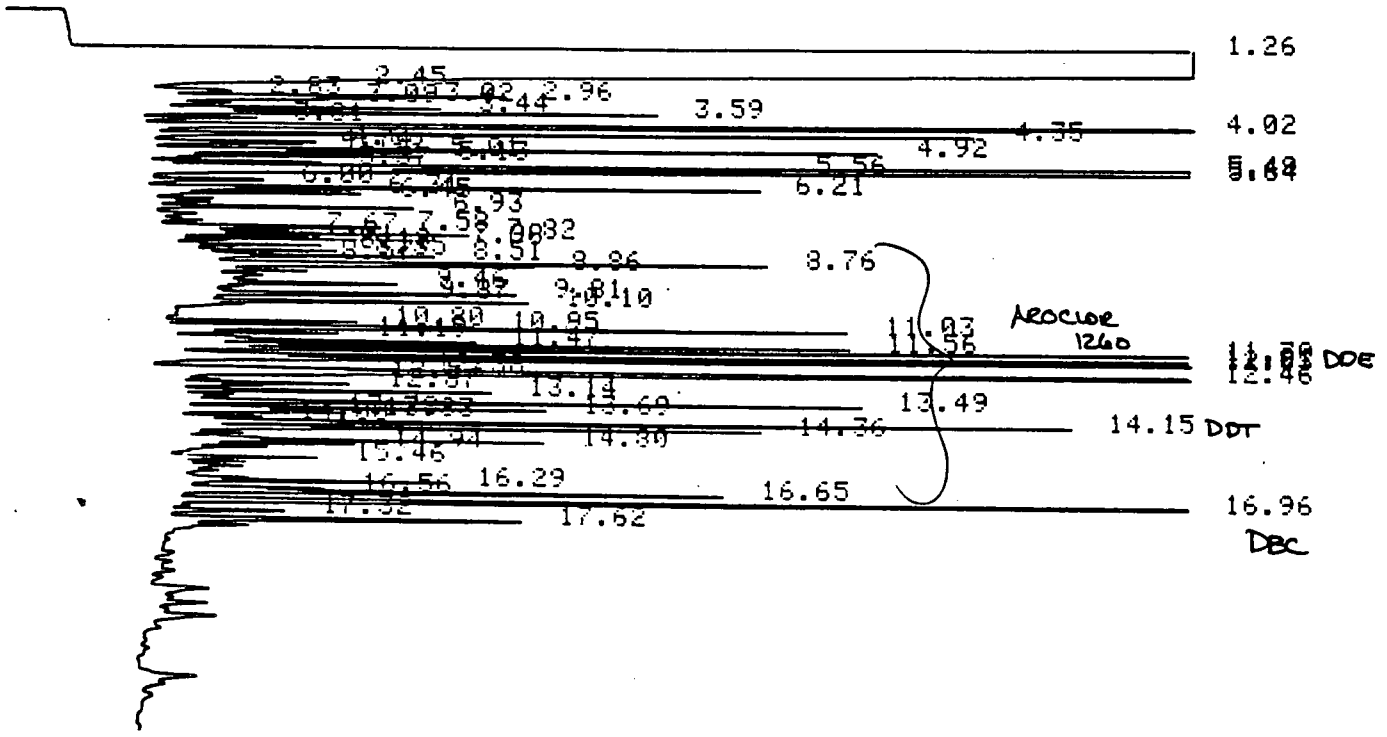
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	17	U
319-85-7	beta-BHC	17	U
319-86-8	delta-BHC	17	U
58-89-9	gamma-BHC (Lindane)	17	U
76-44-8	Heptachlor	17	U
309-00-2	Aldrin	17	U
1024-57-3	Heptachlor epoxide	17	U
959-98-8	Endosulfan I	17	U
60-57-1	Dieldrin	34	U
72-55-9	4,4'-DDE	7.4	J
72-20-8	Endrin	34	U
332313-65-9	Endosulfan II	34	U
72-54-8	4,4'-DDD	34	U
1031-07-8	Endosulfan sulfate	34	U
50-29-3	4,4'-DDT	66	
72-43-5	Methoxychlor	170	U
53494-70-5	Endrin Ketone	34	U
5103-71-9	alpha-Chlordane	170	U
5103-74-2	gamma-Chlordane	170	U
8001-35-2	Toxaphene	340	U
12674-11-2	Aroclor-1016	170	U
11104-28-2	Aroclor-1221	170	U
11141-16-5	Aroclor-1232	170	U
53469-21-9	Aroclor-1242	170	U
12672-29-6	Aroclor-1248	170	U
11097-69-1	Aroclor-1254	340	U
11096-82-5	Aroclor-1260	230	J

16.956 4385.74 PB 0.061 11:

SAMPLE ID: NEL SS #1
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

RKL

TOTAL AREA = 2200430.00
MULTIPLIER = 1



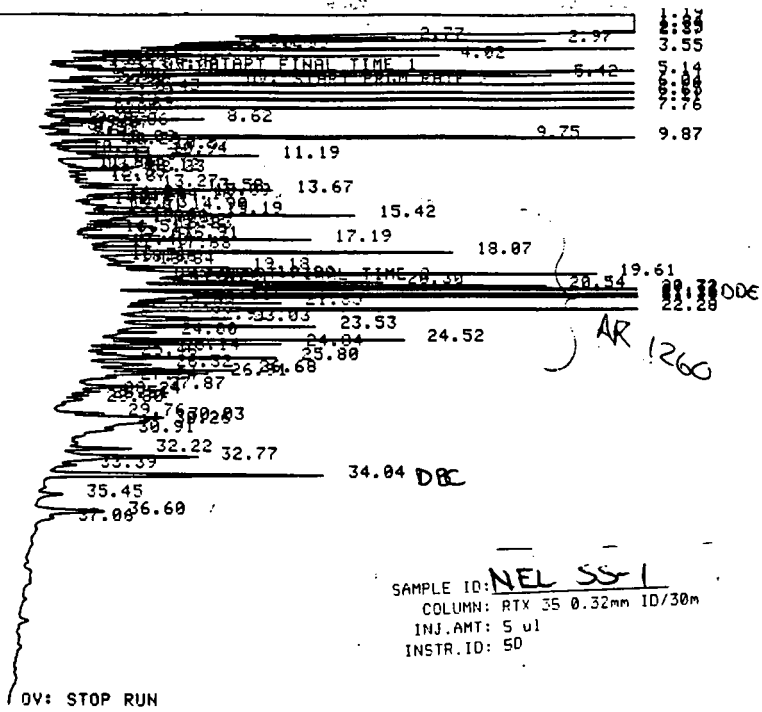
[hp] 5880A SAMPLER INJECTION @ 01:24 OCT 10, 1989
SAMPLE # : ID CODE :
15 WG4547
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 120.15			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT + ON			
1.262	1730510.00	BV	-----*	135165.00	127.79	92.826
2.449	1712.25	VV	-----	209.09	145.65	0.092
2.826	1142.54	VV	-----	114.10	151.33	0.061
2.960	1390.91	VV	-----	347.96	153.34	0.075
3.018	919.96	VV	-----	260.15	154.23	0.049
3.090	1029.17	VV	-----	193.32	155.30	0.055
3.438	1408.10	VV	-----	284.22	160.54	0.076
3.591	2424.61	VV	-----	471.96	162.85	0.130
3.810	603.53	VV	-----	120.07	166.15	0.032
4.025	12841.30	VV	0.063	3196.40	169.37	0.689
4.349	2915.54	VV	0.06	740.42	174.25	0.156
4.660	518.39	VV	-----	157.31	178.94	0.028
4.738	626.43	VV	-----	145.45	180.12	0.034
4.915	2144.37	VV	0.052	648.01	182.79	0.115
5.010	815.56	VV	-----	235.79	184.21	0.044
5.133	814.24	VV	-----	241.05	186.07	0.044
5.371	572.35	VV	0.059	151.27	189.64	0.031
5.487	2620.67	VV	-----	953.12	191.39	0.141
5.564	1923.60	VV	-----	550.17	192.54	0.103
5.645	3452.85	VB	0.06	921.45	193.76	0.185
6.001	435.74	BP	0.071	96.64	195.54	0.023
6.210	1693.48	PV	0.050	535.22	190.19	0.091

087

4.915	2144.37	VV	0.052	648.01	182.79	0.115
5.010	815.56	VV	-----	235.79	184.21	0.044
5.133	814.24	VV	-----	241.05	186.07	0.044
5.371	572.35	VV	0.059	151.27	189.64	0.031
5.487	2620.67	VV	-----	953.12	191.39	0.141
5.564	1923.60	VV	-----	550.17	192.54	0.103
5.645	3452.85	VB	0.06	921.45	193.76	0.185
6.001	435.74	BP	0.071	96.64	195.54	0.023
6.210	1693.48	PV	0.050	535.22	190.19	0.091
6.310	525.02	VV	-----	176.33	190.60	0.028
6.448	539.21	VV	-----	185.61	191.16	0.029
6.928	784.33	VV	0.054	229.03	193.11	0.042
7.580	1075.53	VV	-----*	197.40	195.75	0.058
7.671	327.70	VV	-----	118.48	196.11	0.018
7.820	1140.24	VV	-----	271.81	196.72	0.061
7.978	798.89	VV	0.051	243.06	197.36	0.043
8.177	617.14	VV	-----	144.86	198.17	0.033
8.345	550.49	VV	-----	157.25	198.85	0.030
8.510	953.58	VV	-----	240.66	199.52	0.051
8.567	416.59	VV	-----	128.07	199.75	0.022
8.765	2229.66	VV	-----	534.13	200.55	0.120
8.862	1451.71	VV	-----	326.53	200.94	0.078
9.464	953.42	VV	-----	205.57	203.39	0.051
9.813	1130.68	VV	-----	306.36	204.80	0.061
9.875	762.00	VV	-----	205.39	205.05	0.041
10.098	1408.85	VV	-----	315.18	205.96	0.076
10.797	604.90	BP	0.058	164.38	208.78	0.032
10.949	736.88	PV	-----	265.51	209.50	0.040
11.032	2612.91	VV	-----	595.15	210.01	0.140
11.195	597.65	VV	-----	147.42	210.99	0.032
11.470	954.52	VV	-----	262.52	212.65	0.051
11.564	2014.87	VV	0.053	593.13	213.21	0.108
11.705	2761.58	VV	0.045	956.58	214.06	0.148
11.913	3594.60	VV	0.045	1254.21	215.32	0.193
12.028	6212.58	VB	0.05	1992.48	216.01	0.333
12.384	596.55	BV	-----	213.14	195.83	0.032
12.457	27875.40	VV	0.047	9275.20	196.21	1.495
12.572	681.94	VV	-----	173.04	196.83	0.037
12.866	670.73	VV	-----	168.88	198.37	0.036
13.139	1363.92	VV	-----*	289.45	199.82	0.073
13.486	2356.70	VV	0.060	614.75	201.65	0.126
13.695	1123.67	VV	-----	334.66	202.76	0.060
13.783	337.56	VV	-----	130.17	203.23	0.018
13.830	689.50	VV	-----	160.20	203.48	0.037
13.997	292.13	VV	-----	86.49	204.36	0.016
14.148	3453.76	VV	0.068	795.69	205.16	0.185
14.359	2460.03	VV	0.074	522.56	206.28	0.132
14.801	1335.11	VV	-----	327.80	208.61	0.072
14.938	644.19	VV	-----	162.64	209.33	0.035
15.456	608.20	BV	0.074	128.80	211.69	0.033
16.289	1127.39	VV	-----	232.97	211.77	0.060
16.556	533.87	VV	-----	133.89	211.79	0.029
16.652	2320.90	VV	0.075	484.43	211.80	0.124
16.957	5253.08	VV	0.060	1381.13	211.82	0.282
17.322	558.62	VP	0.087	100.51	211.86	0.030
17.620	1690.08	BH	0.087	303.40	213.71	0.091

TOTAL AREA = 1864250.00
MULTIPLIER = 1



[hp] 5880A SAMPLER INJECTION @ 03:07 NOV 6, 1989
SAMPLE # : ID CODE :
8 WG 4547
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 141.03			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
0.86	79.34	BV	-----	3.77	143.93	0.008
1.19	968560.00	VV	*0.08 *	184790.00	147.72	91.932
1.84	22795.20	VV	-----*	1870.44	155.28	2.164
2.25	2198.07	VV	-----	427.70	160.01	0.209
2.37	3778.38	VV	-----	282.16	161.31	0.359
2.77	1371.23	VV	-----	137.96	165.97	0.130
2.97	1830.15	VV	-----*	187.39	168.20	0.174
3.24	460.62	VV	-----	81.10	171.30	0.044
3.35	680.46	VV	-----	84.68	172.58	0.065
3.55	1688.42	VV	-----	316.81	174.89	0.160
3.90	431.50	VV	*-----	54.73	178.97	0.041
4.02	771.08	VV	-----	137.86	180.35	0.073
4.28	98.90	VV	-----	18.48	183.36	0.009
4.36	145.58	VV	-----	33.94	184.22	0.014
4.55	34.62	BV	-----	7.80	185.75	0.003
4.78	86.45	PV	0.075	18.06	185.09	0.008
4.92	36.81	VV	-----	12.30	184.98	0.003
5.00	168.06	VV	-----	35.09	184.90	0.016
5.14	2064.55	VV	-----*	349.50	184.77	0.196
5.42	803.28	VV	0.07	173.32	184.52	0.076
5.67	56.59	VV	-----	15.50	184.30	0.005
5.75	30.26	VV	-----	14.04	184.23	0.003
5.80	68.01	VV	-----	17.35	184.18	0.006
6.04	1362.23	VV	-----*	237.13	183.96	0.129
6.33	93.12	VV	-----	19.57	183.70	0.009
6.43	170.16	VV	-----	29.53	183.61	0.016
6.65	785.12	VV	-----	212.52	183.42	0.075
7.11	5592.85	VV	-----*	1627.46	183.00	0.531
7.42	134.25	VV	-----	15.67	182.72	0.013
7.69	60.00	VV	-----	21.44	182.49	0.006
7.76	1535.08	VV	-----	475.31	182.41	0.146
8.06	95.20	VV	0.088	16.86	182.16	0.009
8.36	38.14	VV	-----	8.13	181.88	0.004
8.62	339.95	VV	0.094	56.64	181.65	0.032
8.77	52.52	VV	-----	11.31	181.52	0.005
8.86	110.90	VV	-----	20.97	181.43	0.011
9.07	84.25	VP	-----	14.86	181.24	0.008
9.36	29.89	PB	-----	6.98	184.77	0.003
9.51	17.31	BV	-----	5.41	186.43	0.002
9.61	17.60	VP	-----	4.85	184.63	0.002
9.75	676.62	PV	-----	160.94	183.64	0.064
9.87	1755.53	VV	-----*	426.55	183.83	0.167
10.09	85.60	VV	-----	16.54	184.17	0.008
10.26	106.73	VV	-----	17.86	184.43	0.010
10.57	210.79	VV	0.095	34.61	184.92	0.020
10.82	22.98	VV	-----	5.53	185.33	0.002
10.94	193.58	VV	-----	33.40	185.51	0.018
11.19	432.83	VV	*-----	71.08	185.90	0.041
11.36	124.83	VV	-----	19.05	185.17	0.012
11.86	30.10	VV	-----	6.81	186.96	0.003
11.94	29.05	VV	-----	6.77	187.08	0.003

-2887 (ind): Cat. No. 2-2888 Box of 10 (add)
© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (ind): Cat. No. 2-2888 Box of 10 (add)

11.19	432.83	VV	*-----	71.08	185.90	0.041
11.36	124.88	VV	-----	19.05	186.17	0.012
11.86	30.10	VV	-----	6.81	186.96	0.003
11.94	29.05	VV	-----	6.77	187.08	0.003
12.04	33.49	VV	-----	8.85	187.23	0.003
12.12	96.43	VV	-----	22.11	187.37	0.009
12.23	152.58	VV	-----	23.58	187.53	0.014
12.55	114.85	VV	-----	9.44	188.04	0.011
12.87	109.42	VV	-----	9.50	188.53	0.010
13.27	242.96	VV	*-----	26.57	189.17	0.023
13.58	203.86	VV	-----	41.60	189.65	0.019
13.67	593.64	VV	-----*	71.90	189.79	0.056
13.89	233.61	VV	-----	43.75	190.15	0.022
14.04	65.87	VV	-----	13.93	190.38	0.006
14.16	142.33	VV	-----	30.21	190.57	0.014
14.27	85.31	VV	-----	13.22	190.74	0.008
14.49	35.10	VV	-----	7.97	191.09	0.003
14.73	127.71	VV	-----	13.56	191.47	0.012
14.90	158.28	VV	-----	34.29	191.74	0.015
15.01	51.85	VV	-----	11.70	191.91	0.005
15.19	255.30	VV	-----	45.82	192.19	0.024
15.42	631.66	VV	0.102	97.28	192.55	0.060
15.64	100.91	VV	-----	19.27	192.90	0.010
15.80	149.30	VV	-----	19.35	193.15	0.014
16.02	167.49	VV	-----	25.28	193.50	0.016
16.23	163.47	VV	-----	27.07	193.83	0.016
16.51	45.70	VV	-----	9.01	194.26	0.004
16.91	116.25	PV	0.065	27.94	195.18	0.011
17.03	42.20	VV	-----	11.42	195.73	0.004
17.19	594.15	VV	-----*	78.39	196.51	0.056
17.48	48.24	VV	-----	7.63	197.91	0.005
17.68	102.18	VV	0.074	21.58	198.92	0.010
18.07	1052.98	VV	-----*	122.49	200.77	0.100
18.51	11.31	VV	-----	2.44	202.91	0.001
18.66	35.00	VV	-----	4.98	203.65	0.003
18.84	104.80	VP	-----	10.24	204.53	0.010
19.18	185.28	PV	-----	39.48	207.90	0.018
19.61	1166.77	BV	0.113	161.02	212.02	0.111
19.80	345.28	VV	-----*	43.84	211.75	0.033
19.97	68.25	VV	-----	14.53	211.50	0.006
20.09	106.13	VV	-----	19.62	211.33	0.010
20.21	114.92	VV	-----	22.74	211.15	0.011
20.30	406.23	VV	-----	83.56	211.02	0.039
20.54	669.25	VV	-----	144.89	210.67	0.064
20.72	1126.99	VV	*-----	209.56	210.39	0.107
21.16	1846.74	PV	*0.073	397.18	210.09	0.175
21.36	2784.22	VV	0.069	631.03	210.13	0.264
21.51	129.65	VV	-----	23.64	210.16	0.012
21.85	286.81	VV	0.082	54.49	210.23	0.027
22.08	70.01	VV	-----	11.06	210.29	0.007
22.28	5350.35	VP	0.09 *	981.29	210.33	0.508
22.91	122.13	BV	-----	22.24	210.34	0.012
23.03	383.94	VV	-----*	36.73	210.15	0.036
23.53	593.80	VP	-----*	66.80	209.40	0.056
24.00	69.66	PB	0.082	13.23	208.90	0.007
24.52	642.82	BV	0.097	103.65	202.65	0.061
24.84	441.29	VP	0.108	64.01	200.78	0.042
25.14	202.23	PV	0.134	23.71	199.48	0.019
25.48	63.18	VV	-----	10.06	198.60	0.006
25.80	654.72	VV	*-----	65.68	197.79	0.062
26.32	346.49	VV	*-----	24.00	196.44	0.033
26.68	448.83	VV	-----	53.86	195.50	0.043
26.91	494.26	VV	-----	44.79	194.92	0.047
27.24	206.30	VV	-----	14.53	194.08	0.020
27.87	295.88	VV	-----	25.93	192.45	0.028
28.24	123.49	VV	-----	11.48	191.48	0.012
28.51	66.46	VV	-----	8.01	190.80	0.006
28.80	76.71	VV	-----	6.75	190.06	0.007
29.76	129.69	BV	-----	16.40	187.83	0.012
30.03	531.16	VV	-----	37.33	187.58	0.050
30.26	958.12	VV	-----*	32.97	187.37	0.091
30.91	428.86	VV	-----	20.79	186.79	0.041
32.22	329.01	VV	-----	28.13	185.59	0.031
32.77	919.80	VV	-----*	51.20	185.09	0.087
33.39	158.38	VV	-----	10.19	184.53	0.015
34.04	1064.43	VB	0.175	95.37	183.93	0.101
35.45	116.78	PB	0.213	8.59	181.30	0.011
36.60	419.75	PV	0.271	24.24	180.15	0.040
37.06	122.11	VP	-----	6.51	180.04	0.012

TOTAL AREA = 1053560.00
MULTIPLIER = 1

SAMPLE ID: NEL SS-1
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 50

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NEL SS-2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4548

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 53.9 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 10 OCT 89

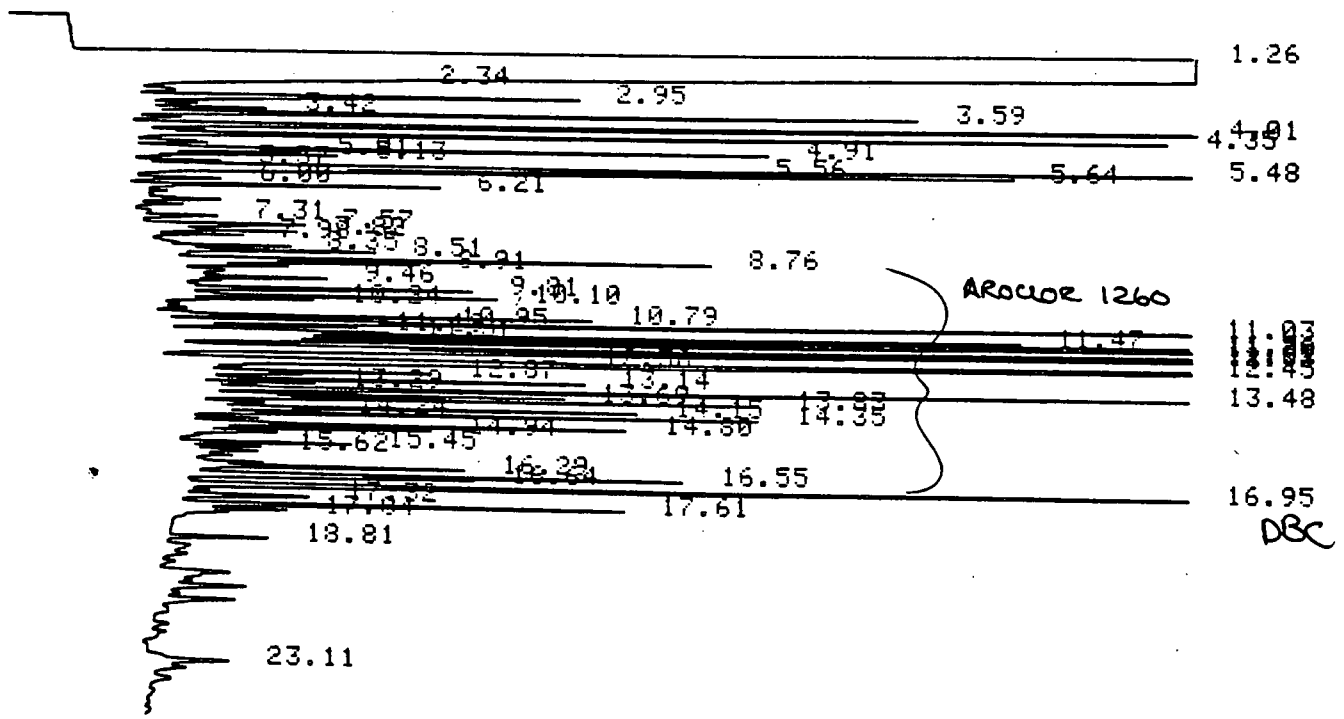
GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	17	U
319-85-7	beta-BHC	17	U
319-86-8	delta-BHC	17	U
58-89-9	gamma-BHC (Lindane)	17	U
76-44-8	Heptachlor	17	U
309-00-2	Aldrin	17	U
1024-57-3	Heptachlor epoxide	17	U
959-98-8	Endosulfan I	17	U
60-57-1	Dieldrin	35	U
72-55-9	4,4'-DDE	35	U
72-20-8	Endrin	35	U
332313-65-9	Endosulfan II	35	U
72-54-8	4,4'-DDD	35	U
1031-07-8	Endosulfan sulfate	35	U
50-29-3	4,4'-DDT	35	U
72-43-5	Methoxychlor	170	U
53494-70-5	Endrin Ketone	35	U
5103-71-9	alpha-Chlordane	170	U
5103-74-2	gamma-Chlordane	170	U
8001-35-2	Toxaphene	350	U
12674-11-2	Aroclor-1016	170	U
11104-28-2	Aroclor-1221	170	U
11141-16-5	Aroclor-1232	170	U
53469-21-9	Aroclor-1242	170	U
12672-29-6	Aroclor-1248	170	U
11097-69-1	Aroclor-1254	350	U
11096-82-5	Aroclor-1260	260	J

17.322	558.62	VP	0.087	1
17.620	1690.08	BH	0.087	3

SAMPLE ID: NELSS 2
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

TOTAL AREA = 1864250.00
MULTIPLIER = 1



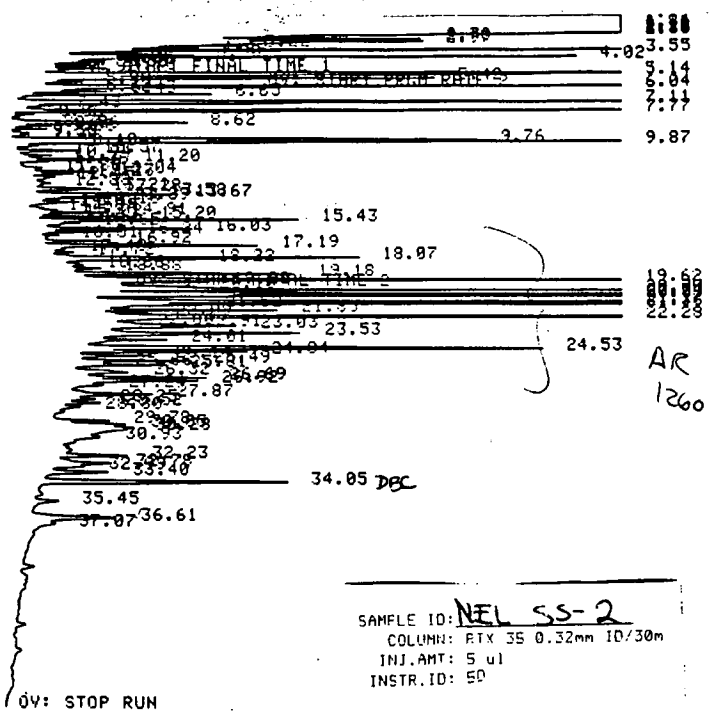
[hp] 5880A SAMPLER INJECTION @ 02:10 OCT 10, 1989
SAMPLE # : ID CODE :
16 WG4548
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 121.22			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.260	1499980.00	BV	-----*	114517.00	128.98	89.294
2.338	2615.27	VV	-----	260.82	148.09	0.156
2.954	3039.95	VV	-----*	406.85	159.00	0.181
3.422	716.95	VV	-----	126.49	167.28	0.043
3.586	3221.06	VV	0.07	692.92	170.19	0.192
4.012	8248.22	PV	0.066	1957.41	177.75	0.491
4.346	3097.63	VB	0.05	901.71	183.69	0.184
4.914	1899.77	PV	0.054	553.29	179.80	0.113
5.006	512.65	VV	-----	142.19	179.62	0.031
5.130	592.69	VV	-----	174.53	179.38	0.035
5.375	240.67	PV	0.054	70.15	184.02	0.014
5.485	3242.21	VV	-----	1157.56	190.91	0.193
5.560	1742.63	VV	-----	510.46	195.58	0.104
5.643	2385.52	VB	0.05	745.97	200.76	0.142
6.000	358.03	BP	0.073	76.91	177.79	0.021
6.210	891.07	PV	0.052	267.55	174.98	0.053
7.314	237.11	VV	-----	71.14	180.49	0.014
7.570	534.57	VV	-----	145.29	181.77	0.032
7.820	451.03	VV	-----	136.27	183.01	0.027
7.976	364.04	VV	-----	89.93	183.79	0.022
8.347	500.87	VV	-----	128.97	185.64	0.030

5 09.

5.130	592.69	VV	-----	174.53	179.38	0.035
5.375	240.67	PV	0.054	70.15	184.02	0.014
5.485	3242.21	VV	-----	1157.56	190.91	0.193
5.560	1742.63	VV	-----	510.46	195.58	0.104
5.643	2385.52	VB	0.05	745.97	200.76	0.142
6.000	358.03	BP	0.073	76.91	177.79	0.021
6.210	891.07	PV	0.052	267.55	174.98	0.053
7.314	237.11	VV	-----	71.14	180.49	0.014
7.570	534.57	VV	-----	145.29	181.77	0.032
7.820	451.03	VV	-----	136.27	183.01	0.027
7.976	364.04	VV	-----	89.93	183.79	0.022
8.347	500.87	VV	-----	128.97	185.64	0.030
8.511	926.47	VV	-----	202.07	186.46	0.055
8.764	2287.84	VV	-----	495.85	187.72	0.136
8.910	883.29	VV	-----	237.77	188.45	0.053
9.460	694.54	VV	-----	155.23	191.19	0.041
9.811	1480.62	VV	-----	280.16	192.94	0.088
10.097	1416.61	VV	-----	301.12	194.37	0.084
10.236	614.89	VV	-----	140.68	195.07	0.037
10.792	1362.34	VV	0.056	382.75	197.84	0.081
10.947	595.47	VV	-----	231.07	198.61	0.035
11.027	6095.54	VV	0.064	1497.81	199.00	0.363
11.188	751.27	VV	-----	173.36	199.81	0.045
11.370	891.84	VV	-----	199.24	200.72	0.053
11.468	2610.58	VV	-----	754.82	201.21	0.155
11.562	3157.21	VV	-----	939.71	201.67	0.188
11.702	5875.27	VV	0.046	2013.01	202.37	0.350
11.911	7404.93	VV	0.047	2492.95	203.41	0.441
12.026	10684.80	VB	0.05 *	3166.26	203.99	0.636
12.383	830.58	BV	-----	352.24	204.37	0.049
12.455	65639.30	VV	0.05 *	21119.20	204.69	3.908
12.866	968.10	VV	-----	230.60	206.56	0.058
13.136	1699.52	VV	0.073	365.10	207.80	0.101
13.288	437.95	VV	-----	126.77	208.49	0.026
13.484	3678.97	VV	-----*	943.06	209.38	0.219
13.691	1189.03	VV	-----	344.41	210.32	0.071
13.831	2198.65	VV	0.067	514.75	210.96	0.131
14.146	1563.61	VV	-----	406.18	212.40	0.093
14.244	440.19	VV	-----	127.12	212.85	0.026
14.354	2322.62	VV	0.071	512.38	213.35	0.138
14.798	1526.34	VV	-----	394.47	215.37	0.091
14.936	832.82	VV	-----	221.38	216.00	0.050
15.452	646.16	BV	0.069	147.69	219.28	0.038
15.617	251.27	VV	-----	68.47	222.00	0.015
16.285	908.54	VV	0.061	233.86	233.04	0.054
16.553	1668.27	BV	-----	427.25	232.88	0.099
16.645	1110.46	VP	-----	245.44	229.61	0.066
16.955	4713.19	VV	0.059	1240.31	223.84	0.281
17.320	654.32	VV	0.092	111.02	221.67	0.039
17.612	2200.13	VV	0.089	387.61	219.91	0.131
17.837	545.01	VV	-----	94.59	218.56	0.032
18.810	408.85	BP	0.075	85.46	211.41	0.024
23.106	779.14	BH	-----	70.55	194.60	0.046

TOTAL AREA = 1679820.00
MULTIPLIER = 1



AR 1260

[hp] 5880A SAMPLER INJECTION @ 04:07 NOV 6, 1989
SAMPLE # : ID CODE :
9 WG 4548

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 140.07			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
0.88	129.25	BV	*-----*	12.91	142.07	0.013
1.19	880197.00	VV	*0.07	184132.00	143.31	89.267
1.84	16741.80	VV	-----*	1671.47	145.95	1.698
2.10	5380.95	VV	-----	655.58	146.97	0.546
2.25	2741.55	VV	-----	508.11	147.60	0.278
2.36	3169.27	VV	-----	277.40	148.02	0.321
2.78	1672.77	VV	-----	167.30	149.71	0.170
2.97	2114.08	VV	-----*	166.72	150.45	0.214
3.22	594.11	VV	-----	103.12	151.49	0.060
3.35	788.66	VV	-----	88.02	152.00	0.080
3.55	2045.13	VV	-----	303.55	152.79	0.207
3.90	746.89	VV	*-----	83.85	154.22	0.076
4.02	1467.38	VV	-----	215.98	154.69	0.149
4.27	323.78	VV	-----	51.97	155.68	0.033
4.35	447.45	VV	-----	52.04	156.02	0.045
4.56	553.42	VV	-----	49.37	156.85	0.056
4.78	397.09	VV	-----	51.02	157.74	0.040
4.92	178.97	VV	-----	37.46	158.29	0.018
5.14	2813.24	VV	-----*	463.62	159.18	0.285
5.42	1041.42	VV	-----	160.91	160.32	0.106
5.80	385.23	VV	-----	38.31	161.82	0.039
6.04	2480.52	VV	-----*	423.62	162.79	0.252
6.32	160.74	VV	-----	36.39	163.93	0.016
6.43	376.27	VV	-----	44.30	164.37	0.038
6.65	444.81	VV	-----	79.29	165.23	0.045
7.11	5160.10	VV	-----*	1401.49	167.09	0.523
7.43	176.35	VV	-----	21.64	168.36	0.018
7.77	1976.50	VV	-----	571.38	169.71	0.200
8.06	94.01	VV	-----	12.91	170.90	0.010
8.62	379.45	VV	*-----	62.86	173.14	0.038
8.79	58.49	VV	-----	11.59	173.83	0.006
8.86	78.81	VV	-----	15.34	174.10	0.008
9.08	67.78	VV	-----	12.92	174.97	0.007
9.36	43.99	BV	-----	6.05	175.75	0.004
9.52	36.62	VP	-----	6.02	175.69	0.004
9.76	666.96	PV	-----	160.54	175.74	0.068
9.87	1954.42	VV	-----*	500.76	175.89	0.198
10.10	82.51	VV	-----	15.17	176.17	0.008
10.57	149.68	VV	0.103	22.68	176.78	0.015
10.94	71.11	VV	-----	12.19	177.25	0.007
11.20	222.05	VV	-----	35.53	177.57	0.023
11.36	62.32	VV	-----	10.68	177.78	0.006
11.79	33.32	VV	-----	7.62	178.33	0.003
11.86	30.24	VV	-----	7.52	178.42	0.003
12.04	107.05	VV	-----	26.18	178.65	0.011
12.23	156.71	VV	-----	18.21	178.89	0.016
12.45	86.91	VV	-----	11.50	179.17	0.009
12.88	76.96	VV	-----	9.40	179.71	0.008
13.21	92.51	VV	-----	22.34	180.15	0.009
13.28	174.21	VV	-----	26.38	180.23	0.018
13.58	199.60	VV	-----	41.51	180.61	0.020

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (and) Cat. No. 2-2888 (box of 10 pads)
© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (and) Cat. No. 2-2888 (box of 10 pads)

12.04	107.05	VV	-----	26.18	178.65	0.011
12.23	156.71	VV	-----	18.21	178.89	0.016
12.45	86.91	VV	-----	11.50	179.17	0.009
12.88	76.96	VV	-----	9.40	179.71	0.008
13.21	92.51	VV	-----	22.34	180.15	0.009
13.28	174.21	VV	-----	26.38	180.23	0.018
13.58	199.60	VV	-----	41.51	180.61	0.020
13.67	399.70	VV	-----*	50.26	180.73	0.041
13.89	155.64	VV	-----	28.17	181.01	0.016
14.16	85.47	VV	-----	17.67	181.35	0.009
14.28	74.71	VV	-----	9.76	181.50	0.008
14.58	23.96	VV	-----	5.10	181.89	0.002
14.74	52.37	VV	-----	9.49	182.09	0.005
14.91	121.32	VV	-----	26.57	182.30	0.012
15.02	66.31	VV	-----	10.55	182.44	0.007
15.20	177.53	VV	0.077	36.10	182.66	0.019
15.43	545.45	VV	0.094	91.07	182.96	0.055
15.65	108.88	VV	-----	16.23	183.24	0.011
16.03	306.78	VV	0.089	54.06	183.73	0.031
16.24	176.32	VV	-----	30.08	183.99	0.018
16.51	46.05	VV	-----	7.74	184.34	0.005
16.92	134.10	VV	-----	25.34	184.86	0.014
17.19	600.18	VV	-----*	75.30	185.21	0.061
17.48	84.00	VV	-----	9.23	185.58	0.009
17.72	102.73	VV	-----	11.50	185.88	0.010
18.07	805.18	VV	-----	108.53	186.32	0.082
18.22	377.66	VV	-----	52.43	186.51	0.038
18.66	144.80	VV	-----	13.76	187.07	0.015
18.88	195.22	VV	-----	19.53	187.36	0.020
19.18	641.13	VV	-----*	85.01	187.74	0.065
19.62	2310.20	VV	0.104	348.35	188.30	0.234
19.80	495.97	VV	-----	54.89	188.53	0.050
20.10	397.82	VV	-----	50.14	188.90	0.040
20.30	1499.42	VV	*-----	253.36	189.17	0.152
20.54	1188.88	VV	-----	242.37	189.46	0.121
20.73	2542.33	VV	0.071	562.46	189.71	0.258
21.17	3862.73	VV	*0.072	834.86	190.26	0.392
21.36	4864.23	VV	0.069	1111.58	190.52	0.493
21.52	308.07	VV	-----	49.82	190.72	0.031
21.85	489.64	VV	-----	75.49	191.14	0.050
22.09	267.06	VV	-----	32.02	191.45	0.027
22.28	12761.10	VV	0.09 *	2258.68	191.69	1.294
22.80	137.02	VV	-----	24.98	192.35	0.014
22.91	272.24	VV	-----	41.43	192.49	0.028
23.03	758.50	VV	-----*	60.08	192.65	0.077
23.53	1143.54	VV	-----*	81.16	193.28	0.116
24.01	463.81	VV	-----	34.92	193.89	0.047
24.53	1094.60	VV	0.104	164.02	194.55	0.111
24.84	551.69	VV	-----	61.62	194.95	0.056
25.14	288.80	VV	-----	28.18	195.32	0.029
25.49	306.87	VV	-----	41.16	195.78	0.031
25.66	78.95	VV	-----	13.85	195.98	0.008
25.81	325.04	VV	-----	32.65	196.18	0.033
26.32	286.91	VV	*-----	19.19	196.83	0.029
26.69	377.26	VV	-----	45.12	197.30	0.038
26.92	431.75	VV	-----	42.07	197.59	0.044
27.24	97.73	VB	-----	9.97	198.01	0.010
27.87	327.77	BV	0.181	28.41	195.85	0.033
28.25	111.49	VV	-----	10.47	194.55	0.011
28.52	107.56	VV	-----	12.99	193.65	0.011
28.80	87.82	VV	-----	7.29	192.70	0.009
29.78	94.54	BP	-----	14.86	194.83	0.010
30.05	94.01	PB	-----*	9.91	205.32	0.010
30.28	12.96	BB	-----	2.36	214.37	0.001
30.93	63.85	BP	-----	5.26	201.52	0.006
32.23	197.17	VV	0.139	22.15	193.59	0.020
32.78	252.16	VV	-----	19.12	191.45	0.026
32.99	109.20	VV	-----	10.74	190.63	0.011
33.40	214.76	VP	0.165	20.41	189.03	0.022
34.05	916.30	PB	0.172	83.34	186.94	0.093
35.45	109.56	BB	0.210	8.18	184.17	0.011
36.61	507.23	BH	0.273	29.13	183.15	0.051
37.07	163.49	HH	-----	8.06	183.15	0.017

TOTAL AREA = 986028.00
MULTIPLIER = 1

SAMPLE ID: NEL SS-2
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 50

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AL SS 1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4549

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 35.3 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 10 OCT 89

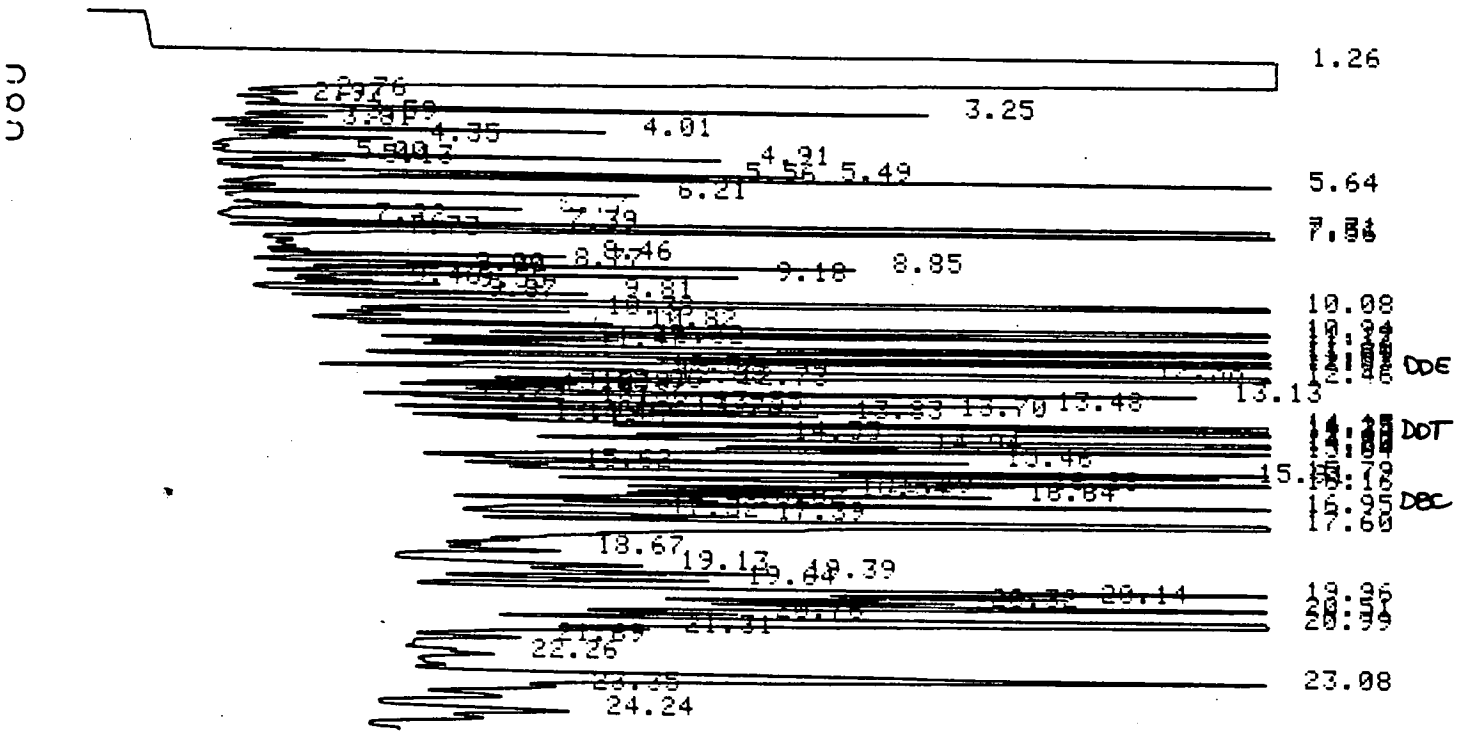
GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	12	U
319-85-7	beta-BHC	12	U
319-86-8	delta-BHC	12	U
58-89-9	gamma-BHC (Lindane)	12	U
76-44-8	Heptachlor	12	U
309-00-2	Aldrin	12	U
1024-57-3	Heptachlor epoxide	12	U
959-98-8	Endosulfan I	12	U
60-57-1	Dieldrin	25	U
72-55-9	4,4'-DDE	15	4
72-20-8	Endrin	25	U
332313-65-9	Endosulfan II	25	U
72-54-8	4,4'-DDD	25	U
1031-07-8	Endosulfan sulfate	25	U
50-29-3	4,4'-DDT	42	
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin Ketone	25	U
5103-71-9	alpha-Chlordane	120	U
5103-74-2	gamma-Chlordane	120	U
8001-35-2	Toxaphene	250	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	250	U
11096-82-5	Aroclor-1260	250	U

23.106 779.14 BH -----

SAMPLE ID: AL SS 1
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

TOTAL AREA = 1679820.00
MULTIPLIER = 1



[hp] 5880A SAMPLER INJECTION @ 02:57 OCT 10, 1989
SAMPLE # : ID CODE :
17 WG4549
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 122.38			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.264	2167870.00	BB	-----*	178280.00	131.60	81.277
2.762	330.49	BP	SYM\	46.84	204.18	0.012
2.967	111.02	PV	-----	36.27	196.34	0.004
3.253	3780.87	VV	0.10	612.57	189.54	0.142
3.594	515.46	VP	-----	96.29	181.45	0.019
3.812	406.34	PV	0.080	79.29	177.69	0.015
4.010	1382.35	VV	0.063	342.76	177.93	0.052
4.349	661.31	VV	0.07	155.41	178.35	0.025
4.915	1491.01	PV	0.053	444.07	179.77	0.056
5.004	326.77	VV	-----	89.36	180.39	0.012
5.127	392.61	VP	-----	111.80	181.24	0.015
5.486	1475.35	PV	-----	495.73	198.67	0.055
5.560	1369.84	VV	-----	407.29	203.70	0.051
5.642	3120.12	VB	0.05	1018.85	209.38	0.117
6.208	1220.54	PV	0.052	367.27	184.17	0.046
6.767	1016.00	VB	0.062	255.54	191.47	0.038
7.224	275.42	VV	-----	93.33	193.48	0.010
7.308	3421.05	VV	0.047	1139.39	193.55	0.128
7.386	764.81	VP	-----	262.69	193.61	0.029
7.557	23498.50	PV	0.050	7379.73	194.27	0.881
7.725	477.45	VV	-----	121.07	195.80	0.018
8.465	1599.41	VV	0.09	284.65	202.53	0.060

5 097

6.767	1016.00	VB	0.062	255.54	191.47	0.038
7.224	275.42	VV	-----	93.33	193.48	0.010
7.308	3421.05	VV	0.047	1139.39	193.55	0.128
7.386	764.81	VP	-----	262.69	193.61	0.029
7.557	23498.50	PV	0.050	7379.73	194.27	0.881
7.725	477.45	VV	-----	121.07	195.80	0.018
8.465	1599.41	VV	0.09	284.65	202.53	0.060
8.767	869.81	VV	-----	256.53	205.29	0.033
8.852	2363.96	VV	-----*	535.20	206.05	0.089
8.998	827.75	VV	-----	167.02	207.40	0.031
9.180	1740.16	VV	0.063	430.44	209.05	0.065
9.457	360.73	VV	-----	107.21	211.57	0.014
9.551	598.47	VP	-----	164.40	212.42	0.022
9.812	962.43	PV	-----	277.21	229.05	0.036
9.875	439.93	VP	-----	148.16	237.19	0.016
10.081	27190.60	PV	0.057	7513.85	267.23	1.019
10.382	653.69	BV	0.054	191.20	300.31	0.025
10.817	1105.73	PV	0.065	264.35	265.18	0.041
10.943	22939.70	VV	0.058*	6236.83	265.71	0.860
11.173	4301.50	VV	0.073	926.02	266.68	0.161
11.324	1405.07	VV	-----*	267.63	267.31	0.053
11.474	1019.16	VV	-----	216.15	267.93	0.038
11.601	10707.00	VV	*-----	2308.99	268.47	0.401
11.706	3061.56	VV	-----	935.58	268.91	0.115
11.913	6083.39	VV	0.049	1946.65	269.77	0.228
12.030	6805.26	VV	0.053	1993.36	270.26	0.255
12.319	752.00	PV	-----	276.33	272.62	0.028
12.384	1670.81	VV	-----	701.64	274.27	0.063
12.457	107179.00	VV	0.05 *	33969.30	276.16	4.018
12.675	874.78	VV	-----	272.01	281.69	0.033
12.734	1434.14	VV	-----	324.32	283.19	0.054
12.863	794.66	VV	-----	212.22	286.47	0.030
12.969	651.96	VV	-----	197.04	289.17	0.024
13.030	559.75	VV	-----	161.18	290.71	0.021
13.128	3196.71	VV	0.067	750.50	293.21	0.120
13.291	227.12	VV	-----	79.97	297.37	0.009
13.362	706.77	VV	-----	186.49	299.18	0.026
13.485	2041.45	VV	-----	584.42	302.29	0.077
13.548	1037.19	VV	-----	282.68	303.90	0.039
13.696	1845.01	VV	-----	493.24	307.66	0.069
13.765	609.54	VV	-----	259.50	309.42	0.023
13.832	1651.81	VV	-----	397.60	311.13	0.062
13.992	564.52	VV	-----	129.25	315.21	0.021
14.068	539.43	VV	-----	156.09	317.14	0.020
14.147	2911.76	VV	-----	806.97	319.13	0.109
14.252	2939.18	VV	-----	1026.68	321.81	0.110
14.339	36905.60	VV	0.062*	9266.47	324.02	1.384
14.545	1755.90	VV	-----	324.61	329.28	0.066
14.719	8839.91	VV	-----	2218.48	333.69	0.331
14.798	4381.76	VV	-----*	858.92	335.70	0.164
14.938	1923.75	VV	-----	439.07	339.28	0.072
15.040	10010.30	VV	0.08	2022.70	341.87	0.375
15.460	2669.02	VV	0.085	489.38	352.56	0.100
15.623	755.55	VV	-----	115.79	356.69	0.028
15.789	4297.26	VV	-----	801.37	360.93	0.161
15.910	4259.33	VV	-----*	701.05	363.99	0.160
16.157	9215.42	VV	-----	1742.29	370.29	0.346
16.281	2059.90	VV	-----	509.14	373.44	0.077
16.389	2444.83	VV	-----*	358.73	376.19	0.092
16.545	1554.73	VV	-----	333.13	380.16	0.058
16.642	2016.98	VV	-----	480.38	382.64	0.076
16.818	1070.39	VV	-----	236.71	387.11	0.040
16.955	4834.63	VB	0.07	1126.03	390.59	0.181
17.322	502.93	BV	-----	156.71	392.27	0.019
17.395	1390.23	VV	-----	251.24	389.68	0.052
17.597	55203.30	VV	0.09 *	9853.73	382.49	2.070
18.666	1003.01	VP	-----	139.14	344.55	0.038
19.128	2084.59	PV	-----	221.67	336.30	0.078
19.388	3254.88	VV	-----	332.75	335.68	0.122
19.639	2019.93	VV	0.113	280.56	335.07	0.076
19.962	6158.75	VV	-----	848.48	334.30	0.231
20.136	4757.89	VV	-----	593.34	333.88	0.178
20.319	3750.34	VV	-----	496.65	333.45	0.141
20.507	8587.63	VV	-----	1038.41	332.99	0.322
20.758	2573.89	VV	-----	308.66	332.40	0.096
20.994	16573.80	VV	-----*	1589.08	331.83	0.621
21.308	2383.06	VV	-----	231.56	331.07	0.089
21.687	1026.43	VV	-----	119.41	330.17	0.038
22.260	924.78	VV	-----	97.42	328.80	0.035
23.077	10963.90	VV	*-----	807.37	326.83	0.411
23.354	1833.29	VV	-----	154.97	326.17	0.069
24.241	2149.84	PH	-----	168.97	324.74	0.081

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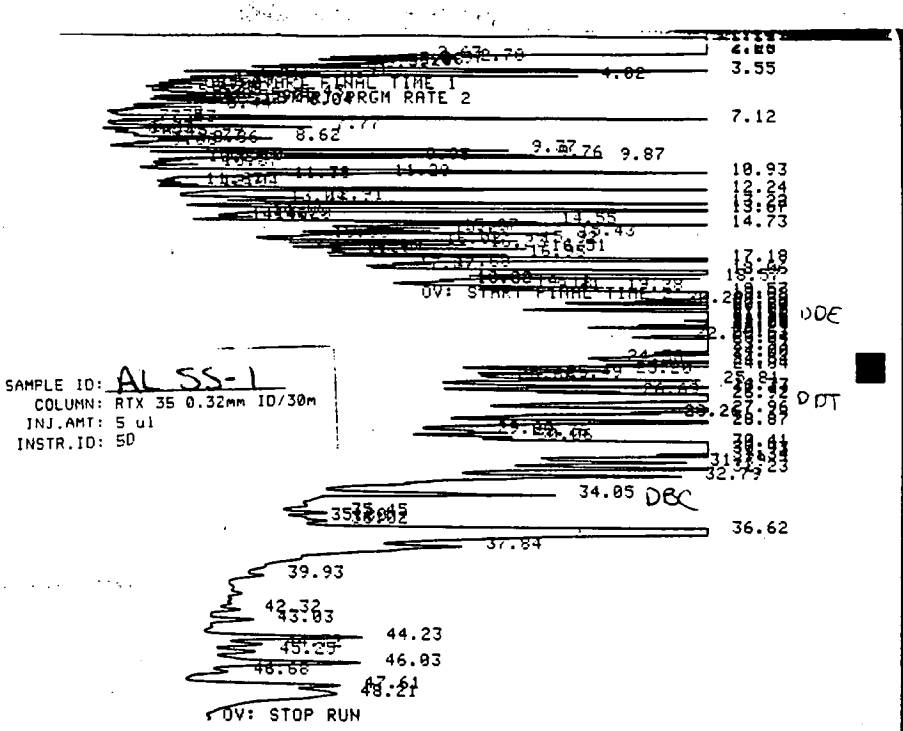

[hp] 5880A SAMPLER INJECTION @ 05:05 NOV 6, 1989
SAMPLE # : ID CODE :
10 WG 4549
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 140.26			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
0.86	314.78	BV	-----*	27.98	142.31	0.022
1.19	1185720.00	VV	*0.10 *	184810.00	143.84	82.620
2.09	4312.97	VV	-----	559.12	147.96	0.301
2.26	8411.95	VV	-----*	906.18	148.73	0.586
2.63	751.33	VV	-----	134.25	150.44	0.052
2.78	1524.07	VV	-----	148.57	151.10	0.106
2.97	875.18	VV	-----	133.93	151.96	0.061
3.08	1126.68	VV	-----	125.80	152.47	0.079
3.23	697.15	VV	-----	121.21	153.17	0.049
3.35	926.99	VV	-----	112.75	153.73	0.065
3.55	2617.94	VV	-----	394.75	154.64	0.182
3.91	922.35	VV	*-----	95.95	156.29	0.064
4.02	1425.13	VV	-----*	184.81	156.82	0.099
4.31	531.61	VV	-----	64.06	158.13	0.037
4.57	628.03	VV	-----	54.67	159.31	0.044
4.78	566.13	VV	-----	52.40	160.30	0.039
5.00	436.67	VV	-----	47.44	161.30	0.030
5.31	303.89	VV	-----	44.34	162.74	0.021
5.43	441.75	VV	-----	73.90	163.26	0.031
5.57	243.35	VV	-----	38.52	163.89	0.017
5.68	174.41	VV	-----	42.73	164.39	0.012
5.75	359.25	VV	-----	62.52	164.76	0.025
5.90	273.84	VV	-----	57.53	165.40	0.019
6.04	776.65	VV	*-----*	74.26	166.08	0.054
6.44	380.77	VV	-----	44.16	167.89	0.027
7.12	948.50	VV	0.066	224.85	171.00	0.066
7.35	65.03	VV	-----	17.12	172.06	0.005
7.43	132.16	VV	-----	20.54	172.42	0.009
7.77	315.70	VV	-----	75.58	173.99	0.022
8.15	76.02	VV	-----	11.08	175.75	0.005
8.23	35.79	VV	-----	9.36	176.08	0.002
8.45	163.05	VV	*-----	13.09	177.12	0.011
8.62	387.69	VV	*-----	57.77	177.91	0.027
8.77	116.06	VV	-----	23.90	178.56	0.008
8.86	190.85	VV	-----	28.53	179.01	0.013
9.08	78.19	VP	-----	13.51	180.00	0.005
9.37	1004.25	PV	-----*	134.87	182.73	0.070
9.76	586.36	VV	-----	137.03	189.86	0.041
9.87	582.73	VV	-----	156.45	192.03	0.041
9.95	356.29	VV	-----	87.20	193.39	0.025
10.10	69.63	VP	-----	16.01	196.22	0.005
10.26	21.38	PB	-----	3.61	202.16	0.001
10.57	102.48	PP	-----	15.93	194.81	0.007
10.93	1876.73	PV	0.118	247.98	192.03	0.131
11.20	653.29	VV	-----*	76.24	193.32	0.046
11.38	302.17	VV	-----	40.88	194.14	0.021
11.87	59.67	VV	-----	8.51	196.44	0.004
12.04	49.05	VP	0.058	13.26	197.26	0.003
12.24	1619.67	PV	0.11 *	241.19	198.21	0.113
12.91	381.21	VV	-----	45.04	201.59	0.027
13.04	207.76	VV	-----	31.41	202.22	0.014

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12.04	49.05	VP	0.058	13.26	197.26	0.003
12.24	1619.67	PV	0.11 *	241.19	198.21	0.113
12.91	381.21	VV	-----	45.04	201.59	0.027
13.04	207.76	VV	-----	31.41	202.22	0.014
13.22	1951.72	VV	-----*	398.12	203.12	0.136
13.67	8285.05	VV	*0.082*	1578.87	205.39	0.577
14.05	163.52	VV	-----	20.20	207.30	0.011
14.28	146.08	VV	-----	20.23	208.45	0.010
14.40	44.98	VP	-----	11.29	209.02	0.003
14.55	773.79	PV	-----	117.02	210.70	0.054
14.73	1988.38	VV	-----*	226.88	213.40	0.139
15.07	732.95	VV	-----	75.13	218.38	0.051
15.25	424.05	VV	-----	69.25	221.06	0.030
15.43	769.50	VV	-----	110.04	223.78	0.054
15.63	159.34	VV	-----	21.71	226.76	0.011
15.92	470.54	VV	-----	89.60	231.20	0.033
16.02	250.10	VV	-----	55.05	232.58	0.017
16.23	598.68	VV	-----	67.05	235.77	0.042
16.51	451.85	VV	-----	83.85	240.06	0.031
16.67	91.07	VV	-----	17.38	242.36	0.006
16.81	122.83	VV	*-----	16.36	244.49	0.009
16.93	448.80	VV	-----*	70.35	246.27	0.031
17.18	5648.84	VV	0.13 *	664.25	250.01	0.394
17.68	247.11	VV	-----	33.17	257.53	0.017
17.87	106.13	VV	-----	17.82	260.36	0.007
18.06	20422.40	VV	0.09	3455.86	263.28	1.423
18.57	905.59	VV	-----*	113.11	270.85	0.063
18.82	120.10	VV	-----	23.51	274.55	0.008
18.89	128.67	VP	-----	22.72	275.67	0.009
19.18	150.69	PV	-----	34.38	284.30	0.011
19.28	367.43	VV	-----	61.82	288.44	0.026
19.41	145.66	VV	-----	27.97	294.04	0.010
19.57	10820.80	VV	0.096*	1770.44	300.79	0.754
19.88	3126.86	VV	-----*	441.67	313.86	0.218
20.20	234.41	VV	-----	43.97	327.24	0.016
20.30	360.07	VV	-----	76.33	331.61	0.025
20.60	5096.87	BV	-----	659.74	332.45	0.355
20.72	1433.12	VP	-----	293.28	328.95	0.100
21.05	2618.11	PV	-----	455.51	322.24	0.182
21.17	5690.42	VV	-----	902.96	321.54	0.397
21.36	4777.73	VV	-----	745.76	320.39	0.333
21.71	719.71	VV	-----	81.78	318.39	0.050
21.85	1241.38	VV	-----	213.17	317.57	0.086
22.00	752.90	VV	-----*	80.14	316.69	0.052
22.29	23544.90	VV	0.090*	4118.89	315.02	1.641
22.63	705.29	VV	-----	95.93	313.05	0.049
22.76	397.00	VV	-----	61.47	312.25	0.028
23.04	7885.76	VV	*-----	657.03	310.66	0.549
23.53	5334.17	VV	-----*	300.84	307.81	0.372
24.00	1694.64	VV	-----	100.06	305.05	0.118
24.38	251.01	VV	-----	47.64	302.86	0.017
24.54	1959.57	VV	-----*	187.39	301.96	0.137
24.84	797.04	VV	-----	106.79	300.19	0.056
25.20	645.83	VV	-----	55.15	298.08	0.045
25.49	255.76	VV	-----	32.73	296.43	0.018
25.66	80.66	VV	-----	17.17	295.46	0.006
25.81	746.27	VV	0.132	88.81	294.58	0.052
26.33	1154.32	VV	*-----	124.44	291.56	0.080
26.69	468.08	VV	-----	66.39	289.46	0.033
26.92	17937.10	VV	0.18 *	1519.73	288.11	1.250
27.96	4334.02	VV	-----	374.56	282.08	0.302
28.26	1614.32	VV	-----	89.55	280.31	0.112
28.87	3072.26	VV	-----*	197.64	276.77	0.214
29.60	336.90	VV	-----	32.83	272.56	0.023
29.76	474.87	VV	-----	45.82	271.60	0.033
30.06	646.47	VV	-----	48.87	269.88	0.045
30.41	6404.59	VV	-----	337.59	267.83	0.446
30.93	5758.98	VV	-----	274.88	264.81	0.401
31.34	1843.34	VV	-----	129.93	262.41	0.128
31.79	2210.32	VV	-----	118.87	259.83	0.154
32.23	3035.88	VV	-----	176.39	257.26	0.212
32.79	2812.50	VV	-----*	123.01	254.04	0.196
34.05	1249.30	VV	0.226	86.73	246.67	0.087
35.45	181.38	BV	-----	15.45	239.19	0.013
35.80	83.97	VV	-----	9.38	238.25	0.006
36.02	292.03	VV	-----	17.06	237.67	0.020
36.62	18174.30	VV	0.310*	918.22	236.05	1.266
37.84	2456.61	VV	-----*	68.67	232.76	0.171
39.93	95.45	BB	-----	7.09	225.65	0.007
42.32	127.41	VB	-----	8.87	216.12	0.009
43.03	225.28	BV	0.239	14.77	214.61	0.016
44.23	972.18	BV	0.279	54.60	212.55	0.068
44.72	379.39	VV	-----	21.01	211.62	0.026
45.25	436.12	VV	-----	19.78	210.60	0.030
46.03	1401.58	VV	-----	57.50	209.10	0.098
46.68	282.54	VP	-----	13.39	207.86	0.020
47.61	1019.59	PH	-----	52.68	206.85	0.071
48.21	3257.25	HH	*-----*	51.49	206.85	0.227

TOTAL AREA = 1435150.(
MULTIPLIER = 1

SAMPLE ID: AL SS-1
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 50

SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (pad); Cat. No. 2-2888 (box of 10 pads)

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AL SS 2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4550

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 41.8 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 10 OCT 89

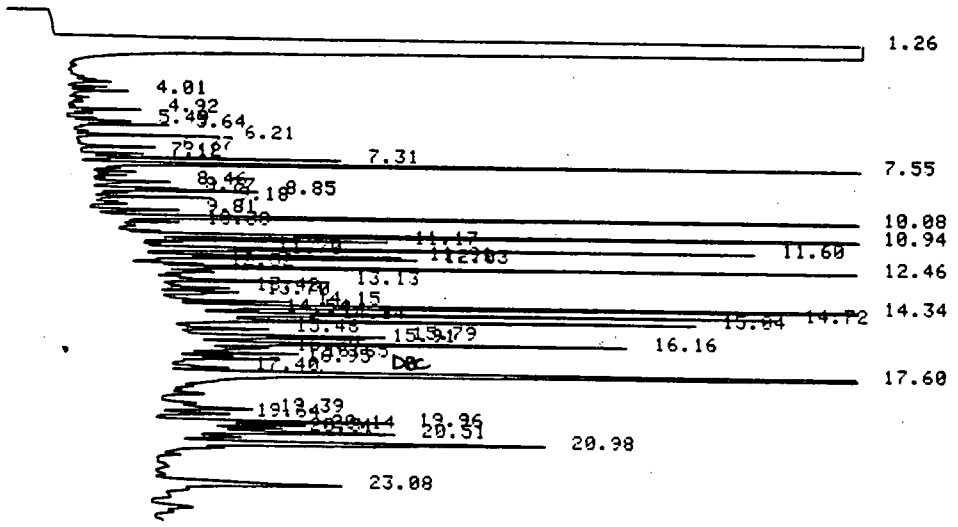
GPC Cleanup: (Y/N) N pH: Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	138	U
319-85-7	beta-BHC	138	U
319-86-8	delta-BHC	138	U
58-89-9	gamma-BHC (Lindane)	138	U
76-44-8	Heptachlor	138	U
309-00-2	Aldrin	138	U
1024-57-3	Heptachlor epoxide	138	U
959-98-8	Endosulfan I	138	U
60-57-1	Dieldrin	275	U
72-55-9	4,4'-DDE	275	U
72-20-8	Endrin	275	U
332313-65-9	Endosulfan II	275	U
72-54-8	4,4'-DDD	275	U
1031-07-8	Endosulfan sulfate	275	U
50-29-3	4,4'-DDT	275	U
72-43-5	Methoxychlor	1400	U
53494-70-5	Endrin Ketone	275	U
5103-71-9	alpha-Chlordane	1400	U
5103-74-2	gamma-Chlordane	1400	U
8001-35-2	Toxaphene	2800	U
12674-11-2	Aroclor-1016	1400	U
11104-28-2	Aroclor-1221	1400	U
11141-16-5	Aroclor-1232	1400	U
53469-21-9	Aroclor-1242	1400	U
12672-29-6	Aroclor-1248	1400	U
11097-69-1	Aroclor-1254	2800	U
11096-82-5	Aroclor-1260	2800	U

24.241 2149.84 PH -----

SAMPLE ID: AL SS 2
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

TOTAL AREA = 2667270.00
MULTIPLIER = 1



[hp] 5880A SAMPLER INJECTION @ 03:43 OCT 10, 1989
SAMPLE # : ID CODE :
18 WG4550 10X
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 125.92			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.261	208945.00	BB	-----*	15564.20	134.45	64.335
4.012	287.25	PV	0.065	69.17	151.47	0.088
4.916	297.13	BV	0.053	87.07	149.17	0.091
5.487	215.69	VV	-----	71.36	152.83	0.066
5.645	373.20	VV	0.050	116.50	153.84	0.115
6.207	594.51	VP	0.05	172.84	157.44	0.183
6.770	390.21	VP	0.06	94.26	161.18	0.120
7.120	212.09	VV	-----	76.21	164.37	0.065
7.307	1006.19	VB	0.050	313.85	166.60	0.310
7.554	8497.48	BV	0.05	2581.59	165.11	2.616
8.464	667.15	VV	0.10	102.08	170.16	0.205
8.766	374.91	VV	-----	110.22	171.84	0.115
8.852	860.34	VV	-----	208.28	172.32	0.265
9.180	612.53	VV	0.065	148.67	174.14	0.189
9.811	372.87	BV	-----	106.10	178.16	0.115
10.076	10028.30	VV	0.058	2686.13	181.65	3.088
10.380	496.08	VV	-----	98.68	185.65	0.153
10.938	7721.19	VV	0.057	2109.98	193.02	2.377
11.171	1787.72	VV	-----	340.60	196.09	0.550
11.598	3391.05	VV	0.068	783.89	201.72	1.044
11.702	707.39	VV	-----	168.13	203.09	0.218
11.912	1201.34	VV	-----	347.96	205.87	0.370
12.028	1385.91	VV	-----	365.30	207.39	0.427
12.316	398.00	VV	-----	101.54	211.19	0.123
12.456	4897.10	VV	0.047	1624.12	213.04	1.508
13.126	1256.91	VV	[illegible]	214.18	221.07	0.387
13.485	419.73	VV	-----	118.00	226.61	0.129
13.697	877.90	VV	-----	128.06	229.40	0.270
14.149	771.68	VV	-----	183.00	235.37	0.238
14.337	12447.50	VV	0.065	3004.67	237.85	3.833
14.540	829.91	VV	-----	140.34	240.52	0.256
14.718	3616.84	VV	-----	770.97	242.87	1.114
14.836	905.00	VV	-----	204.50	244.43	0.279
15.040	3648.12	VV	0.09	665.29	247.12	1.123
15.460	880.73	VV	-----	140.57	252.66	0.271
15.787	1490.24	VV	-----	277.70	256.97	0.459
15.909	1618.19	VV	-----	251.29	258.57	0.498
16.159	3143.35	VV	-----	566.90	261.87	0.968
16.389	935.57	VV	-----	128.57	264.90	0.288
16.654	766.88	VV	-----	160.85	268.40	0.236
16.954	643.03	VV	-----	135.51	272.36	0.198
17.398	437.22	BP	0.099	69.35	275.09	0.135
17.595	17917.30	PV	0.09	3095.20	273.49	5.517
19.387	1001.12	VV	-----	116.81	259.17	0.308
19.635	561.60	VP	0.097	90.38	257.18	0.173
19.961	1922.84	PH	-----	288.06	255.58	0.592

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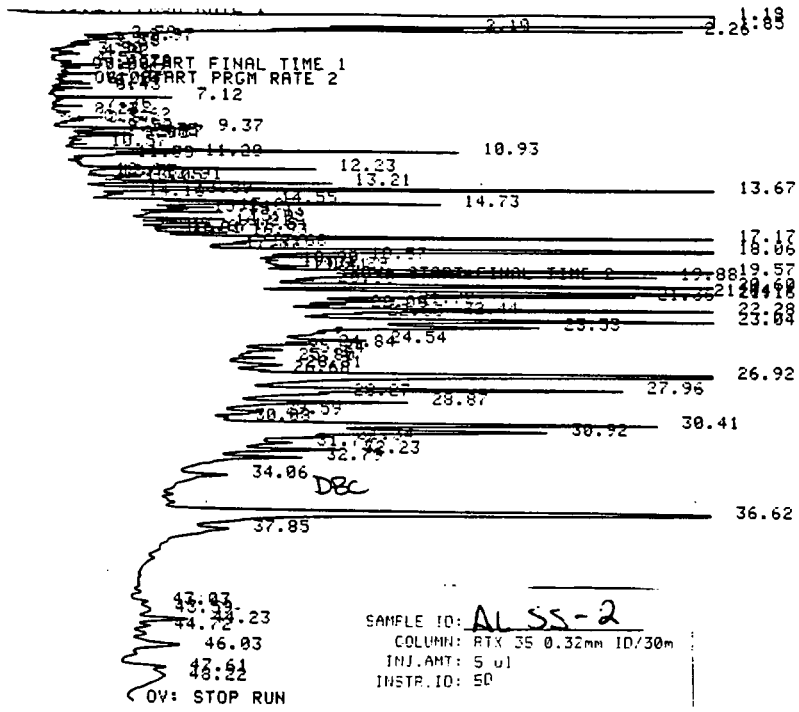
083

5 102



[hp] 5880A SAMPLER INJECTION @ 06:05 NOV 6, 1989
SAMPLE # : ID CODE :
11 WG 4550 10
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 141.65			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
0.92	91.63	BP	*-----	9.81	145.58	0.037
1.18	124826.00	PV	0.07 *	26881.50	154.35	50.272
1.85	2190.10	VV	-----	239.58	183.50	0.882
2.10	820.33	VV	-----	106.56	194.65	0.330
2.26	774.35	VB	-----	174.33	201.56	0.312
2.79	62.51	BV	-----	8.10	171.44	0.025
2.97	124.18	VV	-----	16.10	169.54	0.050
3.23	25.68	VV	-----	6.45	166.65	0.010
3.38	68.71	VV	-----	8.83	165.05	0.028
3.90	47.11	PV	-----	7.55	160.52	0.019
4.02	60.45	VV	-----	9.51	160.62	0.024
4.57	41.78	PV	-----	5.91	161.42	0.017
4.78	80.30	VV	0.083	15.17	162.77	0.032
5.00	30.83	VB	-----	6.14	164.13	0.012
5.43	48.01	VP	-----	12.50	163.56	0.019
6.00	36.89	VV	-----	9.11	161.99	0.015
6.14	39.62	VV	-----	11.93	161.73	0.016
6.43	58.40	PV	0.070	13.93	161.27	0.024
7.12	144.11	VV	-----	40.70	161.15	0.058
7.76	32.45	PV	-----	10.09	161.07	0.013
8.23	20.00	VV	-----	5.52	161.28	0.008
8.62	92.20	VV	-----	16.32	161.47	0.037
8.76	41.63	VV	-----	8.57	161.53	0.017
8.87	61.29	VV	-----	9.77	161.58	0.025
9.37	273.48	PV	-----	47.24	161.85	0.110
9.52	133.20	VV	-----	16.38	161.98	0.054
9.75	118.33	VV	-----	24.92	162.16	0.048
9.87	99.93	VV	-----	26.61	162.26	0.040
9.95	148.48	VV	-----	21.24	162.32	0.060
10.57	88.88	VV	-----	9.75	162.85	0.036
10.93	1007.51	VV	0.115	137.03	163.14	0.406
11.20	338.78	VV	-----*	41.28	163.36	0.136
11.38	134.80	VV	-----	18.00	163.51	0.054
12.23	684.45	VV	0.12	86.49	164.22	0.276
12.64	41.48	VV	-----	9.90	164.56	0.017
12.73	61.26	VV	-----	11.66	164.63	0.025
12.91	254.46	VV	-----	26.61	164.78	0.102
13.05	146.59	VV	-----	19.84	164.89	0.059
13.21	584.11	VV	-----*	91.18	165.03	0.235
13.67	3215.53	VV	0.085	592.85	165.41	1.295
13.89	231.49	VV	-----	35.55	165.59	0.093
14.16	124.35	VV	-----	19.60	165.82	0.050
14.55	459.46	VV	-----	64.31	166.15	0.185
14.73	1201.58	VV	-----*	127.38	166.39	0.484
15.07	458.47	VV	-----	49.81	166.57	0.185
15.24	335.08	VV	-----	40.71	166.71	0.135
15.43	539.68	VV	-----	52.21	166.87	0.217
15.92	628.42	VV	-----*	52.52	167.28	0.253
16.21	678.01	VV	-----	47.34	167.52	0.273
16.51	412.66	VV	-----	53.49	167.77	0.166
16.67	227.72	VV	-----	32.61	167.90	0.092

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (pad): Cat. No. 2-2888 Box of 10 pads)

13.89	231.49	VV	-----	35.55	165.59	0.093
14.16	124.35	VV	-----	19.60	165.82	0.050
14.55	459.46	VV	-----	64.31	166.15	0.185
14.73	1201.58	VV	-----*	127.38	166.30	0.484
15.07	458.47	VV	-----	49.81	166.57	0.185
15.24	335.08	VV	-----	40.71	166.71	0.135
15.43	539.68	VV	-----	52.21	166.87	0.217
15.92	628.42	VV	-----*	52.52	167.28	0.253
16.21	678.01	VV	-----	47.34	167.52	0.273
16.51	412.66	VV	-----	53.49	167.77	0.166
16.67	227.72	VV	-----	32.61	167.90	0.092
16.81	198.76	VV	-----	30.01	168.01	0.080
16.93	529.34	VV	-----*	52.52	168.11	0.213
17.17	3569.29	VV	-----*	298.68	168.31	1.437
17.68	595.11	VV	-----	58.40	168.73	0.240
17.87	368.02	VV	-----	49.44	168.89	0.148
18.06	9269.11	VV	0.11	1318.07	169.05	3.733
18.57	1119.39	VV	-----*	92.03	169.47	0.451
18.90	1081.66	VV	*-----	68.39	169.75	0.436
19.17	731.87	VV	*-----	68.31	169.97	0.295
19.29	626.60	VV	-----	78.08	170.07	0.252
19.41	490.87	VV	-----	71.64	170.16	0.198
19.57	4730.78	VV	0.115	641.46	170.31	1.905
19.88	2711.41	VV	-----*	197.64	170.56	1.092
20.30	881.89	VV	-----	79.61	170.90	0.355
20.60	3746.40	VV	-----*	302.43	171.16	1.509
21.04	1594.26	VV	-----	208.26	171.52	0.642
21.16	1923.15	VV	-----	233.41	171.62	0.775
21.36	2250.29	VV	-----	188.46	171.78	0.906
21.72	1804.27	VV	-----	106.12	172.08	0.727
22.00	1177.79	VV	-----	89.27	172.32	0.474
22.28	2037.81	VV	-----	282.42	172.56	0.821
22.44	1248.90	VV	-----	120.82	172.68	0.503
22.63	777.48	VV	-----	94.44	172.83	0.313
23.04	4903.38	VV	-----	311.61	173.18	1.975
23.53	3709.94	VV	-----*	154.55	173.59	1.494
24.54	1538.58	VV	-----	93.88	174.42	0.620
24.84	1053.01	VV	-----	76.01	174.67	0.424
25.24	1297.47	VV	-----	65.16	175.00	0.523
25.80	823.84	VV	-----	61.62	175.47	0.332
26.31	1653.60	VV	-----	63.66	175.89	0.666
26.68	595.66	VV	-----	59.28	176.20	0.240
26.92	9423.13	VV	-----*	590.86	176.40	3.795
27.96	2705.15	VV	-----	179.94	177.26	1.089
28.27	1900.96	VV	-----	78.66	177.52	0.766
28.87	2725.77	VV	-----	105.24	178.01	1.098
29.59	875.46	VV	-----	54.27	178.61	0.353
30.00	**678.71**	**VV**	-----	43.21	179.01	0.273
30.41	3679.38	VV	-----	190.13	179.29	1.482
30.92	3489.07	VV	-----	151.64	179.71	1.405
31.34	1222.50	VV	-----	77.41	180.06	0.492
31.77	1364.74	VV	-----	63.21	180.41	0.550
32.23	1772.16	VV	-----	79.13	180.80	0.714
32.79	2607.71	VV	-----	65.71	181.26	1.050
34.06	2251.31	VV	-----	39.24	182.32	0.907
36.62	7437.95	VV	-----*	336.69	184.43	2.996
37.85	2010.27	VV	-----*	36.66	185.45	0.810
43.03	89.20	BV	-----	5.63	189.33	0.036
43.59	243.12	VV	-----	7.09	189.90	0.098
44.23	379.67	VV	-----	20.15	188.42	0.153
44.72	143.19	VV	-----	7.63	188.04	0.058
46.03	534.33	VV	-----	18.65	187.06	0.215
47.61	291.23	PH	-----	14.86	186.16	0.117
48.22	988.95	HH	-----*	14.68	186.16	0.398

TOTAL AREA = 248301.00
MULTIPLIER = 1

SAMPLE ID: AL SS-2
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 5D

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (pad): Cat. No. 2-2888 (box of 10 pads)

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AL SS 3

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4551

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 23.4 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 10 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

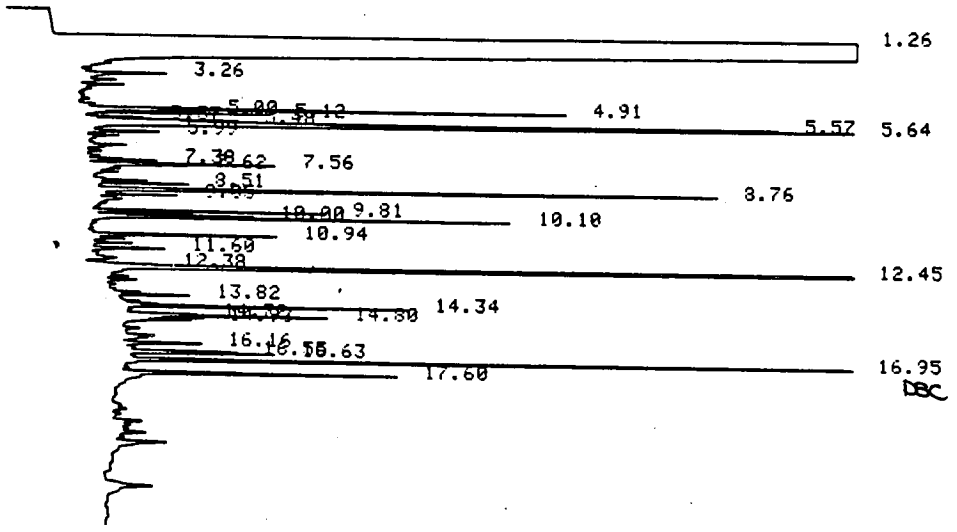
CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	10	U
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	21	U
72-55-9	4,4'-DDE	21	U
72-20-8	Endrin	21	U
332313-65-9	Endosulfan II	21	U
72-54-8	4,4'-DDD	21	U
1031-07-8	Endosulfan sulfate	21	U
50-29-3	4,4'-DDT	21	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin Ketone	21	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	210	U
11096-82-5	Aroclor-1260	210	U

[illegible]	1171.18	VV	-----	150.32	133.50	6.873
1.894	2083.33	VV	-----	166.95	133.69	12.226
10.107	1513.95	BB	0.043	[illegible]	[illegible]	[illegible]
12.966	1875.76	BV	0.045			
14.249	2439.79	BB	0.047			
16.954	2335.23	BB	0.060			

SAMPLE ID: AL SS 3
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

TOTAL AREA = 17040.40
MULTIPLIER = 1



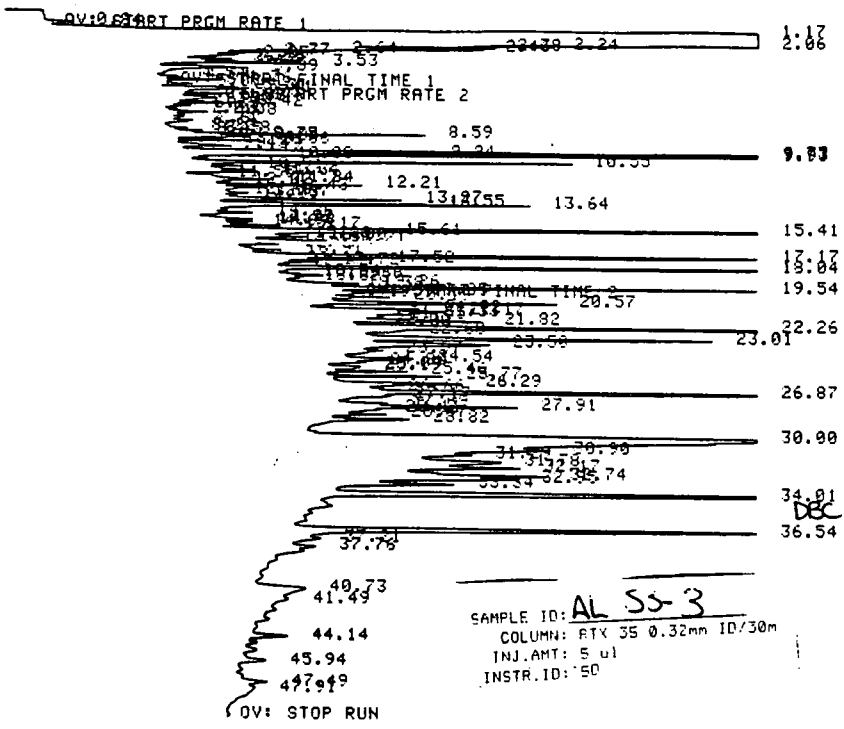
[hp] 5880A SAMPLER INJECTION @ 05:15 OCT 10, 1989
SAMPLE # : ID CODE :
20 WG4551
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 124.14			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.260	1880840.00	BB	-----*	141106.00	133.16	96.376
3.258	550.08	BV	0.09	98.35	165.82	0.028
4.911	1854.21	VV	0.050	585.30	166.63	0.095
5.004	490.56	VV	-----	140.40	166.68	0.025
5.125	709.44	VV	0.050	222.27	166.74	0.036
5.373	214.13	PV	0.051	66.21	170.59	0.011
5.481	510.37	VV	-----	176.40	175.80	0.026
5.566	2580.73	VV	-----	835.25	179.90	0.132
5.640	3797.02	VB	0.05	1190.33	183.46	0.195
5.995	373.19	BP	0.070	83.67	174.03	0.019
7.385	244.85	VP	-----	82.32	172.65	0.013
7.562	720.70	PV	-----	226.06	173.56	0.037
7.623	444.94	VV	-----	119.58	174.06	0.023
8.509	376.24	VV	0.053	111.36	181.17	0.019
8.759	3161.83	BV	0.07	759.75	182.35	0.162
9.055	379.46	VV	0.059	100.04	180.88	0.019
9.806	1089.61	BV	0.060	283.23	178.12	0.056
9.997	513.07	VV	0.042	193.38	180.25	0.026
10.099	1963.74	VB	0.061	504.88	181.39	0.101
10.942	886.23	PV	0.062	225.36	177.19	0.045
11.602	416.41	BV	0.074	88.42	177.68	0.021
12.379	252.06	PV	-----	82.59	173.20	0.013
12.451	36951.40	VV	0.05	12068.10	174.83	1.893
13.825	310.51	VV	0.054	90.09	205.93	0.016
14.338	1407.83	VB	0.064	345.72	217.55	0.072
14.720	265.14	BV	-----	85.90	219.66	0.014
14.796	1038.26	VV	-----	245.83	219.43	0.053
14.932	383.74	VV	-----	93.93	219.02	0.020
16.160	562.80	PV	0.092	95.45	215.60	0.029
16.548	544.96	VV	-----	139.17	215.49	0.028
16.634	794.45	VV	-----	186.04	215.47	0.041
16.948	5048.61	VV	0.061	1295.02	215.37	0.259
17.597	1880.87	BH	0.088	334.60	215.21	0.096

TOTAL AREA = 1951560.00
MULTIPLIER = 1

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (pad); Cat. No. 2-2888 (box of 10 pads)

085



[hp] 5880A SAMPLER INJECTION @ 13:01 NOV 6, 1989
SAMPLE # : ID CODE :
14 WG 4551
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 145.21			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
0.84	83.70	BV	-----	8.45	146.71	0.007
1.17	1057010.00	VV	*0.09 *	184707.00	148.22	92.305
2.06	2921.61	VV	-----	374.15	152.20	0.255
2.24	835.86	VV	-----	166.19	152.99	0.073
2.38	979.93	VV	-----	145.68	153.65	0.086
2.46	1022.01	VV	-----	141.38	153.99	0.089
2.64	516.55	VV	-----	87.58	154.78	0.045
2.77	666.29	VV	-----	63.80	155.36	0.058
2.95	758.94	VV	-----	55.92	156.19	0.066
3.22	308.85	VV	-----	52.09	157.39	0.027
3.33	172.21	VV	-----	50.81	157.87	0.015
3.39	313.28	VV	-----	52.52	158.14	0.027
3.53	749.33	VV	-----	76.95	158.76	0.065
3.89	312.61	VV	*-----	54.93	160.38	0.071
4.54	227.07	VV	-----	27.76	163.29	0.020
4.64	200.04	VV	-----	28.73	163.74	0.017
4.76	422.93	VV	-----	42.03	164.30	0.037
5.07	357.52	VV	-----	30.52	165.69	0.031
5.31	289.17	VV	-----	45.14	166.73	0.025
5.41	461.88	VV	-----	46.31	167.19	0.040
5.73	343.48	VV	-----*	40.69	168.63	0.030
5.98	226.75	VV	-----	34.61	169.73	0.020
6.03	291.60	VV	-----	34.45	169.99	0.025
6.30	137.63	VV	-----	28.58	171.18	0.012
6.42	254.40	VV	-----	38.61	171.69	0.022
6.65	189.56	VV	-----	22.76	172.72	0.017
7.00	105.48	VV	-----	19.82	174.32	0.009
7.08	180.68	VV	-----	26.60	174.67	0.016
7.67	99.88	VV	-----	18.85	177.30	0.009
7.74	178.78	VV	-----	16.89	177.62	0.016
8.22	77.20	VV	-----	14.48	179.77	0.007
8.38	83.05	VV	-----	18.69	180.51	0.007
8.45	42.31	VV	-----	15.57	180.79	0.004
8.59	557.08	VV	-----*	93.95	181.45	0.049
8.75	167.38	VV	-----	33.16	182.13	0.015
8.84	185.18	VV	-----	33.39	182.53	0.016
9.06	195.00	VV	-----	35.72	183.53	0.017
9.43	162.22	VV	-----	20.00	185.18	0.014
9.49	155.44	VV	-----	24.17	185.45	0.014
9.73	881.92	VV	-----	214.59	186.52	0.077
9.84	323.96	VV	-----	89.04	187.05	0.028
9.93	920.25	VV	-----	208.92	187.43	0.080
10.08	263.13	VV	-----	35.05	188.10	0.023
10.55	890.00	VV	0.103	135.94	190.21	0.078
10.91	174.42	VV	-----	21.31	191.80	0.015
11.17	260.56	VV	-----*	24.55	192.98	0.023
11.34	168.84	VP	-----	25.11	193.72	0.015
11.55	44.37	PV	-----	7.89	195.31	0.004

S.SUPELCO INC. Bellefonte PA. Col No 3.2883 hrdb. Col No 3.2883 hrsc10.pcol

10.55	890.00	VV	0.103	135.94	190.21	0.073
10.91	174.42	VV	-----	21.31	191.80	0.015
11.17	260.56	VV	-----*	24.55	192.98	0.023
11.34	168.84	VP	-----	25.11	193.72	0.015
11.55	44.37	PV	-----	7.89	195.31	0.004
11.84	271.38	VV	*-----,	24.96	198.64	0.024
12.02	45.60	VV	-----	8.20	200.70	0.004
12.21	271.43	VV	0.084	50.82	202.98	0.024
12.43	116.96	VB	-----*	16.19	205.52	0.010
12.76	3.97	BV	-----	1.29	207.65	0.000
12.87	53.81	VV	-----	8.37	207.10	0.005
13.03	30.44	VV	-----	5.37	206.30	0.003
13.27	434.12	VV	*-----	62.47	205.08	0.038
13.55	296.74	VV	-----	71.95	203.66	0.026
13.64	676.94	VV	-----*	108.83	203.19	0.059
14.26	109.44	VV	-----	16.95	200.08	0.010
14.72	172.50	BV	*-----	16.68	200.31	0.015
14.88	73.91	VV	-----	16.18	201.27	0.006
14.99	100.28	VV	-----	13.68	201.91	0.009
15.17	144.31	VV	-----	23.47	202.95	0.013
15.41	4152.98	VV	0.082	792.52	204.33	0.363
15.61	478.79	VV	-----*	55.16	205.52	0.042
15.89	128.36	VV	-----	22.61	207.16	0.011
16.00	183.20	VV	-----	27.35	207.79	0.016
16.21	209.85	VV	-----	33.15	209.01	0.018
16.28	91.79	VV	-----	21.91	209.45	0.008
16.49	92.06	VV	-----	15.29	210.65	0.008
16.91	104.93	VV	-----	14.22	213.13	0.009
17.17	2255.05	VV	0.099	356.71	214.67	0.197
17.52	279.23	VV	-----	41.54	216.71	0.024
17.72	158.36	VV	-----	21.44	217.89	0.014
17.87	54.25	VV	-----	9.81	218.77	0.005
18.04	2103.88	VV	SYM\	285.80	219.74	0.184
18.54	53.02	VV	-----	10.29	222.67	0.005
18.66	171.08	VV	-----	17.43	223.36	0.015
18.89	70.20	VV	-----	8.50	224.69	0.006
19.26	277.25	VV	-----	26.43	226.88	0.024
19.38	111.94	VV	-----	20.44	227.58	0.010
19.54	1217.35	VV	-----*	173.01	228.51	0.106
19.85	228.06	VV	-----	39.60	230.35	0.020
19.97	185.90	VV	-----	24.04	231.03	0.016
20.19	226.47	VV	-----	31.61	232.31	0.020
20.57	634.72	VV	0.114	86.80	234.57	0.055
21.02	219.38	PV	-----	35.44	239.14	0.019
21.17	397.91	VV	-----	40.26	242.47	0.035
21.33	249.54	VV	-----	27.43	246.46	0.022
21.55	63.09	VV	-----	10.86	251.47	0.006
21.82	178.29	BP	0.068	41.07	254.16	0.016
22.00	39.29	PV	-----	5.59	251.58	0.003
22.26	19113.20	VV	0.081	3708.64	250.82	1.669
22.60	159.54	VV	-----	19.20	249.81	0.014
23.01	1171.25	VV	0.144	127.12	248.59	0.102
23.50	934.38	VV	*------*	51.05	247.14	0.082
23.97	140.28	VV	-----	15.50	245.73	0.012
24.54	326.77	VV	-----*	27.75	244.06	0.029
24.80	89.16	VP	-----	12.34	243.29	0.008
25.09	68.66	PV	-----	11.33	242.61	0.006
25.19	95.49	VV	-----	11.12	242.46	0.008
25.46	181.90	VV	0.103	27.69	242.06	0.016
25.77	288.55	VV	0.112	40.22	241.59	0.025
26.29	707.09	VV	-----*	47.84	240.83	0.062
26.66	177.18	VV	-----	21.58	240.28	0.015
26.87	2180.98	VV	0.142	240.75	239.96	0.190
27.17	402.81	VV	-----	24.54	239.53	0.035
27.69	239.33	VV	-----	24.41	238.74	0.021
27.91	724.83	VV	-----	69.62	238.42	0.063
28.11	325.44	VV	-----	22.63	238.13	0.028
28.47	270.67	VV	-----	25.13	237.59	0.024
28.82	453.62	VB	-----	33.52	237.08	0.040
30.00	4340.63	VV	-----	218.15	235.25	0.379
30.90	1850.69	VV	-----	85.61	233.79	0.162
31.29	913.03	VV	-----	59.08	233.16	0.080
31.78	1890.36	VV	-----	70.09	232.38	0.165
32.17	1297.75	VV	-----	77.34	231.75	0.113
32.74	1635.21	VV	-----	87.37	230.81	0.143
32.95	1092.65	VV	-----	77.74	230.49	0.095
33.34	996.57	VV	-----	56.18	229.85	0.087
34.01	4177.82	VV	0.191	343.08	228.77	0.365
36.54	2791.65	VV	0.238	183.63	224.69	0.244
37.21	382.34	VV	-----	16.79	223.60	0.033
37.76	284.98	VV	-----	15.91	222.71	0.025
40.73	354.81	BB	-----*	12.79	222.56	0.031
41.49	34.20	BP	-----	2.68	227.08	0.003
44.14	184.13	PP	0.237	12.18	217.35	0.016
45.94	144.67	VP	0.276	8.21	213.76	0.013
47.49	213.50	VV	-----	10.89	211.66	0.019
47.91	401.67	VP	-----	7.57	211.16	0.035

TOTAL AREA = 1145130.00
MULTIPLIER = 1

SAMPLE ID: AL SS-3
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 5D

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (and) Cat. No. 2-2889 (box of 10 pads)

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (and) Cat. No.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AL SS 4

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4552

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 46.5 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 10 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 10

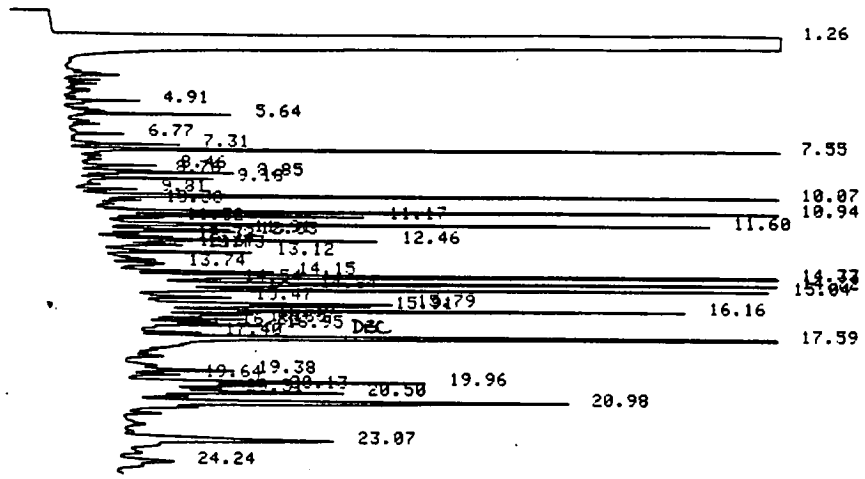
CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

CAS NO.	COMPOUND	Q
319-84-6	alpha-BHC	150	U
319-85-7	beta-BHC	150	U
319-86-8	delta-BHC	150	U
58-89-9	gamma-BHC (Lindane)	150	U
76-44-8	Heptachlor	150	U
309-00-2	Aldrin	150	U
1024-57-3	Heptachlor epoxide	150	U
959-98-8	Endosulfan I	150	U
60-57-1	Dieldrin	300	U
72-55-9	4,4'-DDE	300	U
72-20-8	Endrin	300	U
332313-65-9	Endosulfan II	300	U
72-54-8	4,4'-DDD	300	U
1031-07-8	Endosulfan sulfate	300	U
50-29-3	4,4'-DDT	300	U
72-43-5	Methoxychlor	1500	U
53494-70-5	Endrin Ketone	300	U
5103-71-9	alpha-Chlordane	1500	U
5103-74-2	gamma-Chlordane	1500	U
8001-35-2	Toxaphene	3000	U
12674-11-2	Aroclor-1016	1500	U
11104-28-2	Aroclor-1221	1500	U
11141-16-5	Aroclor-1232	1500	U
53469-21-9	Aroclor-1242	1500	U
12672-29-6	Aroclor-1248	1500	U
11097-69-1	Aroclor-1254	3000	U
11096-82-5	Aroclor-1260	3000	U

17.597	1880.87	BH	0.088

SAMPLE ID: AL55 T
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

TOTAL AREA = 1951560.00
MULTIPLIER = 1



[hp] 5880A SAMPLER INJECTION @ 06:01 OCT 10, 1989
SAMPLE # : ID CODE :
21 WG4552 10X

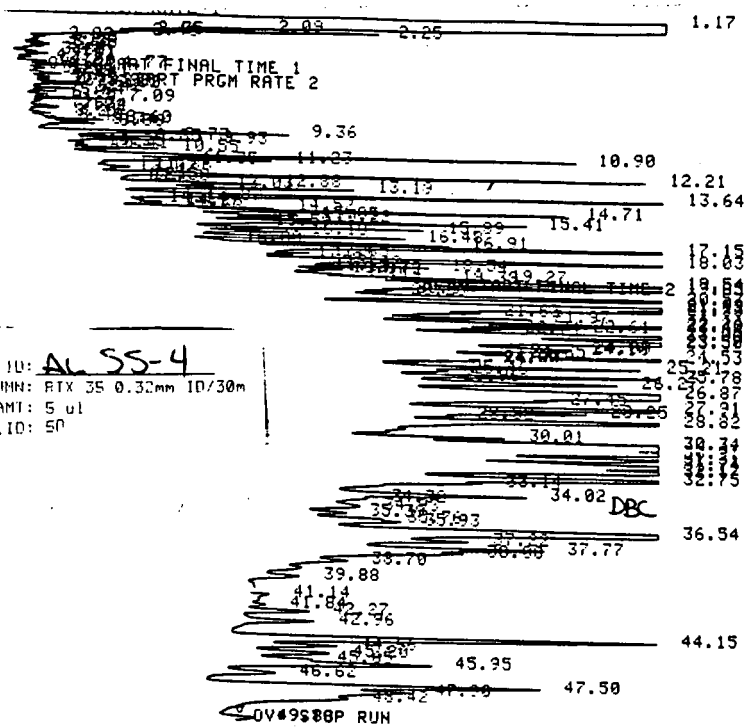
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 124.56			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.259	351408.00	BB	-----*	25300.40	134.01	74.809
4.914	349.95	PV	-----	98.71	146.42	0.074
5.642	696.64	VV	0.049	220.65	148.65	0.148
6.773	314.36	VV	0.068	72.80	152.12	0.067
7.307	542.37	VP	0.06	146.04	153.75	0.115
7.552	8373.15	PV	0.05	2507.16	154.58	1.783
8.462	468.00	VV	-----	111.23	158.45	0.100
8.764	358.62	VV	-----	103.27	159.74	0.076
8.850	867.67	VV	-----	212.96	160.10	0.185
9.177	755.83	VV	0.064	185.25	161.50	0.161
9.811	270.13	BV	-----	78.59	164.61	0.058
10.074	10917.20	VV	0.058	2941.66	167.49	2.324
10.378	392.05	VV	-----	77.88	170.81	0.083
10.936	8262.05	VV	0.056	2327.05	176.90	1.759
11.168	1896.62	VV	-----	370.34	179.45	0.404
11.317	454.55	VV	-----	96.98	181.06	0.097
11.597	3799.90	VV	0.071	833.07	184.13	0.809
11.910	614.54	VV	-----	180.65	187.54	0.131
12.026	793.25	VV	-----	188.11	188.81	0.169
12.315	427.31	PV	0.067	100.35	192.01	0.091
12.455	1371.33	VV	0.057	374.36	193.63	0.292
12.673	325.97	VV	-----	99.01	196.13	0.069
12.732	531.11	VV	-----	109.69	196.82	0.113
13.121	822.99	VP	0.065	198.31	201.30	0.175
13.737	449.04	VV	-----	72.03	209.16	0.096
14.147	842.91	VV	-----	214.62	214.54	0.179
14.335	15700.70	VV	0.063*	3886.46	216.99	3.342
14.540	725.66	VV	-----	137.00	219.67	0.154
14.715	4384.20	VV	-----	998.10	221.98	0.933
14.837	1143.16	VV	-----	234.12	223.57	0.243
15.037	4434.63	VV	0.08	871.55	226.19	0.944
15.470	960.22	VV	-----	139.58	231.85	0.204
15.787	1811.37	VV	-----	352.10	236.01	0.386
15.907	2006.43	VV	-----	321.36	237.58	0.427
16.156	4280.26	VV	0.090	742.74	240.83	0.911
16.389	1138.17	VV	-----	156.45	243.88	0.242
16.652	638.00	VV	-----	141.79	247.33	0.136
16.819	509.06	VV	-----	103.35	249.51	0.108
16.952	739.62	VV	-----	160.22	251.25	0.157
17.396	368.99	BP	0.076	76.48	253.33	0.079
17.595	14585.30	PV	0.09	2496.63	249.34	3.105
19.381	1076.29	VV	0.119	141.31	234.38	0.229
19.635	451.84	VP	0.099	71.35	232.25	0.096
19.956	2691.40	PV	-----	401.24	230.34	0.573
20.129	1434.22	VV	-----	188.65	229.98	0.305
20.314	941.37	VV	-----	129.45	229.59	0.200
20.503	2502.23	VV	-----	293.93	229.19	0.533
20.979	6347.33	VV	-----*	597.10	228.18	1.351
23.070	3705.12	VV	*-----	286.99	223.72	0.789
24.240	859.88	PH	-----	73.85	221.76	0.183

TOTAL AREA = 469741.00
MULTIPLIER = 1

086

5 110



[hp] 5880A SAMPLER INJECTION @ 14:01 NOV 6, 1989
SAMPLE # : ID CODE :
15 WG 4552 10
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 142.42			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
0.86	116.79	BP	-----*	13.26	145.61	0.027
1.17	189567.00	PB	0.07	43470.70	220.46	43.055
2.09	159.66	BP	-----	30.14	215.94	0.036
2.25	298.00	PV	0.052	90.03	197.67	0.068
2.35	53.16	VV	-----	13.21	191.70	0.012
2.46	115.77	VV	-----	17.86	185.31	0.026
2.82	37.20	PV	-----	5.26	169.27	0.008
3.22	27.48	VV	-----	6.61	167.06	0.006
3.33	26.78	VV	-----	9.25	166.44	0.006
3.38	53.37	VV	-----	9.68	166.15	0.012
3.54	48.08	VV	-----	8.90	165.26	0.011
3.89	49.77	PV	-----	7.64	164.13	0.011
4.01	87.79	VV	-----	11.07	164.33	0.020
4.31	31.01	VV	-----	5.22	164.82	0.007
4.56	87.24	VV	-----*	10.10	165.23	0.020
4.77	181.45	VV	-----	27.28	165.58	0.041
5.06	74.74	VV	-----	8.62	166.06	0.017
5.21	30.90	VV	-----	5.41	166.31	0.007
5.32	41.08	VV	-----	7.59	166.49	0.009
5.41	75.73	VV	-----	13.43	166.63	0.017
5.66	39.53	VV	-----	9.38	167.05	0.009
5.81	61.03	VV	-----	8.63	167.30	0.014
5.98	91.93	VV	-----	20.30	167.59	0.021
6.12	78.39	VV	-----	22.93	167.81	0.018

OUT OF PAPER

6.42						
	94.65	VV	-----	16.57	168.30	0.021
6.64	36.76	VV	-----	10.07	168.67	0.008
6.86	35.66	VV	-----	6.85	169.03	0.008
7.09	101.04	VV	0.060	26.24	169.42	0.023
7.63	16.62	BV	-----	5.53	170.23	0.004
7.74	30.77	VV	-----	9.39	170.26	0.007
7.82	28.78	VP	-----	8.94	170.28	0.007
8.21	20.95	VP	-----	6.05	170.76	0.005
8.48	43.48	VV	-----	7.18	171.31	0.010
8.60	125.31	VV	-----	23.35	171.56	0.028
8.74	85.80	VV	-----	17.93	171.86	0.019
8.86	114.81	VV	-----	20.26	172.10	0.026
9.36	788.48	PV	-----*	85.54	173.19	0.179
9.73	200.71	VV	-----	40.48	174.06	0.046
9.85	114.72	VV	-----	30.51	174.33	0.026
9.93	358.48	VV	-----	53.30	174.52	0.081
10.25	151.99	VV	-----	13.42	175.27	0.035
10.41	78.03	VV	-----	14.38	175.64	0.018
10.55	303.64	VV	-----	38.07	175.98	0.069
10.90	1351.08	VV	0.117	181.48	176.80	0.307
11.23	759.42	VV	*-----	75.21	177.58	0.172
11.35	319.97	VV	-----	42.73	177.85	0.073
11.86	314.67	VV	-----	25.52	179.05	0.071
12.03	174.66	VV	-----	20.07	179.45	0.040
12.21	1507.43	VV	-----*	202.49	179.85	0.342
12.58	139.55	VV	-----	22.92	180.72	0.032
12.69	94.38	VV	-----	20.84	180.97	0.022
12.88	654.97	VV	-----	67.75	181.42	0.149
13.03	391.08	VV	-----	50.92	181.76	0.089
13.19	977.69	VV	-----*	99.16	182.14	0.222
13.64	4764.96	VV	*0.078	951.11	183.20	1.082
13.87	289.89	VV	-----	38.26	183.73	0.066
14.14	158.25	VV	-----	25.03	184.37	0.036
14.26	237.99	VV	-----	30.76	184.64	0.054
14.37	173.32	VV	-----	29.53	184.90	0.039
14.52	511.02	VV	-----	68.43	185.26	0.116
14.71	1533.44	VV	-----	168.74	185.69	0.348
15.05	902.19	VV	*-----	75.76	186.49	0.205
15.22	505.82	VV	-----	79.61	186.89	0.115
15.41	1376.21	VV	*-----	153.80	187.32	0.313
15.59	651.96	VV	-----	58.22	187.76	0.148
15.89	1203.02	VV	-----*	117.95	188.45	0.273
16.18	1071.91	VV	-----	69.58	189.14	0.243
16.48	803.81	VV	-----	109.53	189.84	0.183
16.80	505.25	VV	-----	45.66	190.57	0.115
16.91	1133.66	VV	-----	124.01	190.84	0.257
17.15	4794.61	VV	-----*	458.69	191.39	1.089
17.65	701.18	VV	-----	73.44	192.58	0.159
17.85	596.45	VV	-----	67.48	193.02	0.135
18.03	13644.00	VV	0.09	2446.78	193.47	3.099
18.42	339.08	VV	-----	75.99	194.35	0.077
18.54	928.74	VV	-----	112.95	194.65	0.211
18.69	338.63	VV	-----	71.44	194.99	0.077
18.79	569.72	VV	-----	82.06	195.23	0.129
18.87	611.30	VV	-----	77.12	195.41	0.139
19.14	859.27	VV	-----	81.68	196.05	0.195
19.27	957.29	VV	-----	131.53	196.35	0.217
19.39	741.31	VV	-----	114.75	196.62	0.168
19.54	7728.88	VV	0.094	1285.57	196.99	1.755
19.85	3414.14	VV	-----*	407.53	197.72	0.775
20.14	670.59	VV	-----	96.52	198.38	0.152
20.28	797.36	VV	-----	94.55	198.71	0.181
20.57	6264.71	VV	-----*	715.07	199.40	1.423
21.02	2585.78	VV	-----	330.40	200.44	0.587
21.13	2711.11	VV	-----	325.68	200.69	0.616
21.33	3032.37	VV	-----	252.12	201.17	0.689
21.63	1468.66	VV	-----	123.93	201.88	0.334
21.97	1787.00	VV	-----	140.43	202.67	0.406
22.26	1602.65	VV	-----	213.91	203.33	0.364
22.42	1879.29	VV	-----	197.35	203.71	0.427
22.61	1230.93	VV	-----	152.90	204.15	0.280
22.74	956.63	VV	-----	128.68	204.45	0.217
23.00	7850.64	VV	-----	688.60	205.08	1.783
23.50	3008.74	VV	*-----	277.73	206.23	0.683
23.57	3241.95	VV	-----	278.79	206.39	0.736
24.00	1842.59	VV	*-----	149.88	207.41	0.418
24.10	1779.33	VV	-----	148.73	207.65	0.404
24.35	1017.92	VV	-----	126.76	208.23	0.231
24.53	3400.68	VV	-----*	232.98	208.64	0.772
24.80	1459.04	VV	-----	116.59	209.27	0.331
25.21	2747.88	VV	-----	171.93	210.22	0.624
25.46	1570.43	VV	-----*	104.05	210.83	0.357
25.78	1963.25	VV	-----	184.05	211.56	0.446
25.96	733.25	VV	-----	100.21	211.98	0.167
26.27	3770.55	VV	*-----*	161.17	212.71	0.856
26.87	25101.30	VV	*0.157*	2498.65	214.11	5.701
27.45	2327.19	VV	-----	134.17	215.45	0.529
27.91	6977.70	VV	-----	686.77	216.55	1.585
28.25	2408.57	VV	-----	146.15	217.35	0.547
28.52	1062.37	VV	-----	99.16	217.97	0.241
28.82	7324.18	VV	-----*	450.36	218.66	1.663
30.01	1743.29	VV	-----	113.80	221.45	0.396
30.34	6775.39	VV	-----*	315.60	222.22	1.539
30.91	5391.71	VV	-----	284.08	223.55	1.225

© SUPELCO, INC., Bellefonte, PA Cat No. 2-2887 (sold: Cat No. 2-2888 (box of 10 pack)

© SUPELCO, INC., Bellefonte, PA Cat

23.00	7850.64	VV	-----	688.60	205.08	1.783
23.50	3008.74	VV	*-----	277.73	206.23	0.683
23.57	3241.95	VV	-----	278.79	206.39	0.736
24.00	1842.59	VV	*-----	149.88	207.41	0.418
24.10	1779.33	VV	-----	148.73	207.65	0.404
24.35	1017.92	VV	-----	126.76	208.23	0.231
24.53	3400.68	VV	-----*	232.98	208.64	0.772
24.80	1459.04	VV	-----	116.59	209.27	0.331
25.21	2747.88	VV	-----	171.93	210.22	0.624
25.46	1570.43	VV	-----*	104.05	210.83	0.357
25.78	1963.25	VV	-----	184.05	211.56	0.446
25.96	733.25	VV	-----	100.21	211.98	0.167
26.27	3770.55	VV	*-----*	161.17	212.71	0.856
26.87	25101.30	VV	*0.157*	2498.65	214.11	5.701
27.45	2327.19	VV	-----	134.17	215.45	0.529
27.91	6977.70	VV	-----	686.77	216.55	1.585
28.25	2408.57	VV	-----	146.15	217.35	0.547
28.52	1062.37	VV	-----	99.16	217.97	0.241
28.82	7324.18	VV	-----*	450.36	218.66	1.663
30.01	1743.29	VV	-----	113.80	221.45	0.396
30.34	6775.39	VV	-----*	315.60	222.22	1.539
30.91	5391.71	VV	-----	284.08	223.55	1.225
31.31	3010.09	VV	-----	223.47	224.48	0.684
31.74	5767.90	VV	*-----*	270.57	225.49	1.310
32.17	6178.54	VV	-----	373.34	226.50	1.403
32.75	5069.81	VV	-----*	291.04	227.85	1.151
33.14	2654.95	VV	-----	98.57	228.76	0.603
34.02	2355.31	VV	-----	111.89	230.82	0.535
34.32	1183.86	VV	-----	55.81	231.53	0.269
34.93	1509.71	VV	-----	51.76	232.94	0.343
35.39	886.62	VV	-----	46.04	234.01	0.201
35.76	732.81	VV	-----	58.27	234.88	0.166
35.93	1268.19	VV	-----	63.90	235.30	0.288
36.54	18473.10	VV	0.232	1246.92	236.71	4.196
37.22	1899.65	VV	-----	84.90	238.28	0.431
37.77	2079.06	VV	-----	109.49	239.58	0.472
38.08	1844.26	VV	-----	80.75	240.30	0.419
38.70	1043.40	VV	-----	39.14	241.75	0.237
39.08	391.74	VV	-----	19.76	244.51	0.089
41.14	116.86	VV	-----	6.98	247.45	0.027
41.84	54.08	BV	-----	5.03	248.18	0.012
42.27	289.26	VP	0.211	21.48	246.64	0.066
42.96	438.36	PB	0.268	25.62	244.24	0.100
44.15	2574.74	BV	0.267	151.13	240.78	0.585
44.66	682.58	VV	-----	38.46	239.53	0.155
45.20	800.58	VV	-----	36.98	238.22	0.182
45.65	411.72	VV	-----	32.49	237.12	0.094
45.95	1406.78	VV	-----	74.44	236.39	0.320
46.62	466.12	VP	-----	22.05	234.74	0.106
47.50	2096.80	PV	-----	114.62	234.30	0.476
47.90	1317.79	VV	-----	69.07	235.94	0.413
48.42	1263.96	VV	-----	46.27	235.99	0.287
49.88	141.35	A BH	-----	11.41	238.11	0.032

TOTAL AREA = 440292.00
MULTIPLIER = 1

SAMPLE ID: AL SS-4
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 50

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002

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NSL SS 1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4553

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 22.8 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 10 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

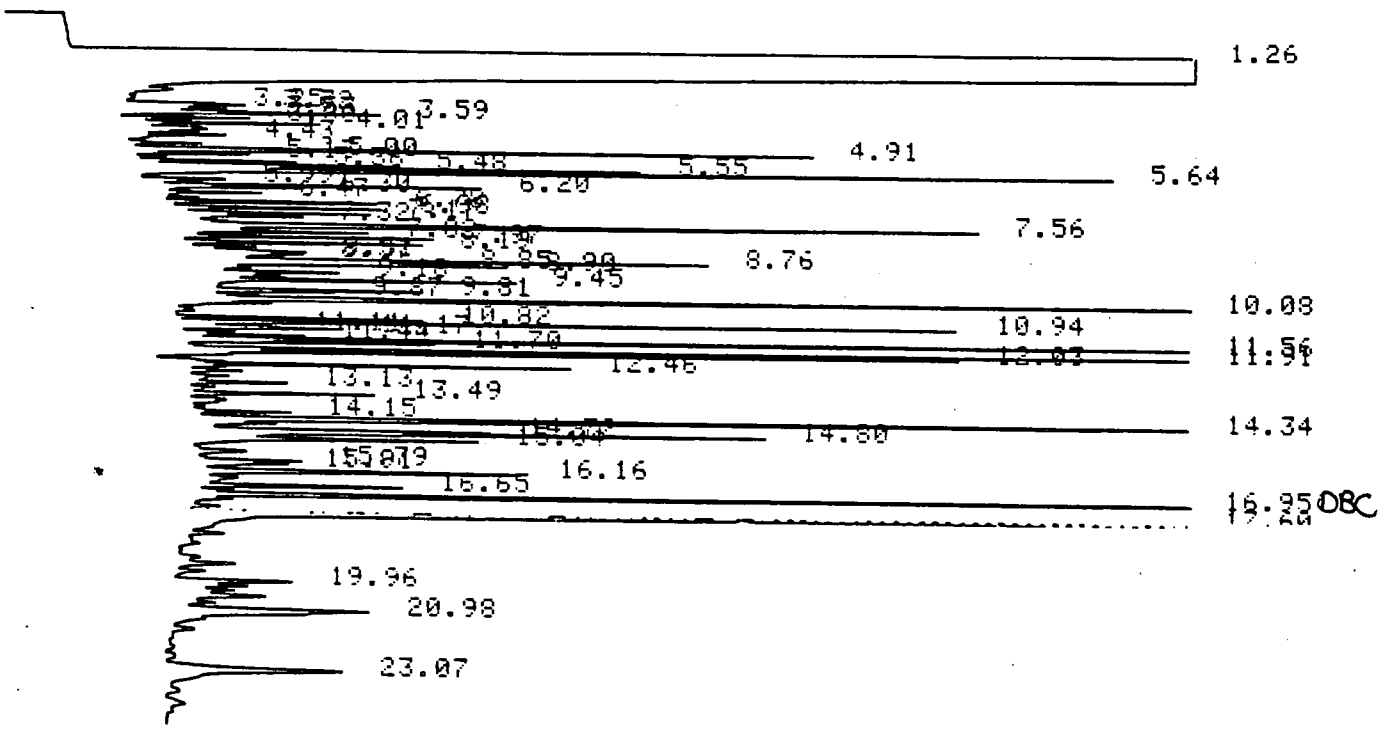
CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	10	U
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	21	U
72-55-9	4,4'-DDE	21	U
72-20-8	Endrin	21	U
332313-65-9	Endosulfan II	21	U
72-54-8	4,4'-DDD	21	U
1031-07-8	Endosulfan sulfate	21	U
50-29-3	4,4'-DDT	21	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin Ketone	21	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	210	U
11096-82-5	Aroclor-1260	210	U

23.070	3705.12	VV	*-----
24.240	859.88	PH	-----

SAMPLE ID: NSL SS 1
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

TOTAL AREA = 469741.00
MULTIPLIER = 1

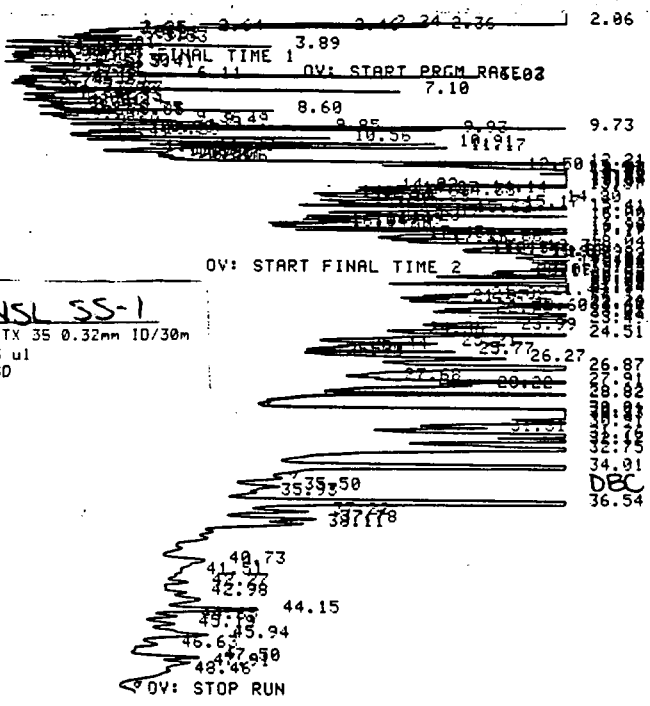


[hp] 5880A SAMPLER INJECTION @ 06:47 OCT 10, 1989
SAMPLE # : ID CODE :
22 WG4553
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 125.23			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.265	2619920.00	BB	-----*	183922.00	135.47	97.114
3.254	226.22	PV	-----	76.71	177.19	0.008
3.319	569.39	VV	-----	104.24	176.46	0.021
3.527	292.94	VV	-----	108.36	174.08	0.011
3.590	1057.89	VP	-----	225.32	173.37	0.039
3.802	569.31	PV	0.079	112.56	171.93	0.021
4.007	745.30	VV	-----	172.09	173.69	0.028
4.430	390.84	VV	-----	86.78	177.33	0.014
4.910	1940.63	VV	0.051	595.38	181.46	0.072
5.001	560.24	VV	-----	155.29	182.25	0.021
5.127	303.07	VV	0.047	100.07	183.33	0.011
5.363	536.63	VV	0.060	141.06	185.36	0.020
5.479	682.21	VV	-----	229.88	186.35	0.025
5.552	1385.12	VV	-----	438.60	186.98	0.051
5.640	2926.84	VV	0.054	853.89	187.74	0.108
5.994	319.46	BV	-----	69.81	193.25	0.012
6.203	869.89	VV	0.048	283.82	203.39	0.032
6.297	364.46	VV	-----	123.60	207.92	0.014
6.472	275.88	BV	0.052	82.28	213.37	0.010
6.780	734.51	PV	0.062	184.58	211.64	0.027
6.980	724.65	VV	0.060	189.26	212.18	0.027

4.430	390.84	VV	-----	86.78	177.33	0.014
4.910	1940.63	VV	0.051	595.38	181.46	0.072
5.001	560.24	VV	-----	155.29	182.25	0.021
5.127	303.07	VV	0.047	100.07	183.33	0.011
5.363	536.63	VV	0.060	141.06	185.36	0.020
5.479	682.21	VV	-----	229.88	186.35	0.025
5.552	1385.12	VV	-----	438.60	186.98	0.051
5.640	2926.84	VV	0.054	853.89	187.74	0.108
5.994	319.46	BV	-----	69.81	193.25	0.012
6.203	869.89	VV	0.048	283.82	203.39	0.032
6.297	364.46	VV	-----	123.60	207.92	0.014
6.472	275.88	BV	0.052	82.28	213.37	0.010
6.780	734.51	PV	0.062	184.58	211.64	0.027
6.980	724.65	VV	0.060	189.26	212.18	0.027
7.175	795.69	VV	-----	177.91	212.71	0.029
7.321	457.44	VV	-----	119.16	213.11	0.017
7.557	3466.88	VV	-----*	709.73	213.75	0.129
7.817	607.31	VV	-----	174.96	214.46	0.023
7.972	754.21	VV	0.051	232.04	214.89	0.028
8.188	996.26	VV	0.071	220.99	215.48	0.037
8.510	551.04	VV	-----	118.29	216.36	0.020
8.572	677.11	VV	-----	115.88	216.53	0.025
8.759	1928.99	VV	-----	467.80	217.03	0.072
8.852	641.45	VV	-----	237.59	217.29	0.024
8.902	956.70	VV	-----	292.43	217.43	0.035
9.182	667.74	VV	-----	146.23	218.19	0.025
9.453	1504.01	VV	-----	298.83	218.93	0.056
9.808	854.01	VV	-----	217.27	219.90	0.032
9.869	457.08	VV	-----	140.34	220.07	0.017
10.079	5117.66	VV	0.07	1204,04	220.63	0.190
10.815	684.23	BV	0.050	215.76	222.70	0.025
10.939	2504.92	VV	0.057	683.95	223.12	0.093
11.112	248.14	VV	-----	86.34	223.70	0.009
11.172	581.66	VV	-----	143.90	223.91	0.022
11.437	481.20	VV	-----	109.66	224.80	0.018
11.562	3883.57	VV	0.057	1060.78	225.22	0.144
11.702	724.25	VV	-----	222.02	225.70	0.027
11.911	2661.93	VV	0.044	943.79	226.40	0.099
12.027	2094.66	VV	0.048	681.02	226.80	0.078
12.456	1001.66	VV	0.046	337.36	228.25	0.037
13.125	389.60	VV	0.069	88.31	230.52	0.014
13.485	634.93	VP	0.060	165.33	231.74	0.024
14.149	286.51	VV	0.054	82.56	239.91	0.011
14.338	3970.41	PV	0.062	996.20	244.14	0.147
14.721	730.65	BV	-----	230.24	266.77	0.027
14.798	2003.25	VB	-----*	457.85	279.07	0.074
15.044	843.99	BP	-----	206.81	279.79	0.031
15.792	484.73	VV	-----	90.95	241.64	0.018
15.910	447.34	VV	-----	77.68	242.84	0.017
16.161	1456.98	VV	0.082	278.23	245.39	0.054
16.649	732.21	BP	0.066	174.47	246.80	0.027
16.955	5660.89	VV	0.061	1461.29	240.39	0.210
17.600	5467.14	PV	0.10	898.52	233.44	0.203
19.964	687.67	BV	-----	103.89	221.77	0.025
20.978	1300.95	VV	-----	174.13	219.75	0.048
23.074	2000.39	PH	0.202	154.92	216.15	0.074

TOTAL AREA = 2697790.00
MULTIPLIER = 1



[hp] 5880A SAMPLER INJECTION @ 15:02 NOV 6, 1989
SAMPLE # : ID CODE :
16 WG 4553
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 145.11			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
0.84	90.57	BP	-----	9.79	147.36	0.006
1.18	1252180.00	PV	*0.11 *	184510.00	151.72	85.845
2.06	2410.30	VV	-----	301.88	167.59	0.165
2.24	723.65	VV	-----	152.99	170.75	0.050
2.36	1158.63	VV	-----	169.72	172.88	0.079
2.46	941.54	VV	-----	135.03	174.75	0.065
2.64	520.76	VV	-----	85.20	177.94	0.036
2.95	328.15	VV	-----	52.93	183.54	0.022
3.04	221.56	VV	-----	50.43	185.20	0.015
3.22	355.71	VV	-----	53.17	188.30	0.024
3.33	363.20	VV	-----*	46.95	190.34	0.025
3.53	247.85	VV	-----	50.22	193.95	0.017
3.89	490.71	BV	*-----	91.14	198.34	0.034
4.01	156.65	VP	-----	28.05	198.18	0.011
4.30	68.22	PV	-----	14.96	197.91	0.005
4.38	49.59	VV	-----	15.32	197.93	0.003
4.44	66.50	VV	-----	21.46	197.94	0.005
4.55	46.15	VV	-----	10.90	197.96	0.003
4.63	45.19	VV	-----	9.00	197.97	0.003
4.76	154.06	VV	0.100	24.01	197.99	0.011
4.99	54.74	VV	-----	9.73	198.04	0.004
5.30	173.58	PV	-----	32.89	198.15	0.012
5.41	296.41	VV	-----	41.69	198.29	0.020
5.67	52.86	VV	-----	14.03	198.63	0.004
5.74	78.32	VV	-----	22.75	198.73	0.005
5.82	81.64	VV	-----	23.48	198.83	0.006
5.90	64.53	VV	-----	20.21	198.93	0.004
6.03	692.45	VV	-----	160.93	199.11	0.047
6.11	178.24	VV	-----	57.05	199.23	0.012
6.42	117.40	VV	-----	20.19	199.62	0.008
6.65	73.57	VV	-----	23.67	199.93	0.005
6.74	28.04	VP	-----	8.10	200.05	0.002
6.95	79.12	PV	-----	10.53	200.69	0.005
7.10	459.75	VV	-----	132.52	201.23	0.032
7.27	114.85	VV	-----	26.98	201.86	0.008
7.33	95.95	VV	-----	25.09	202.09	0.007
7.39	121.46	VV	-----	20.48	202.30	0.008
7.64	50.01	VV	-----	12.03	203.22	0.003
7.74	37.91	VV	-----	11.80	203.58	0.003
7.83	109.36	VP	-----	24.63	203.90	0.007
8.04	53.12	PV	-----	13.01	204.81	0.004
8.14	102.20	VV	-----	24.08	205.42	0.007
8.21	64.03	VV	-----	16.01	205.82	0.004
8.34	62.79	VV	-----	11.58	206.67	0.004
8.49	66.34	VV	-----	12.86	207.52	0.005
8.60	380.07	VV	0.072	82.39	208.20	0.026
8.75	114.28	VV	-----	26.82	209.10	0.008
8.85	101.56	VP	-----	26.74	209.74	0.007
9.06	33.86	PV	-----	11.02	212.40	0.002
9.23	14.36	BV	-----	4.25	215.32	0.001
9.36	254.22	VV	-----	40.27	215.91	0.017
9.49	241.12	VV	-----	49.17	216.48	0.017

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8.85	101.56	VP	-----	26.74	209.74	0.007
9.06	33.86	PV	-----	11.02	212.40	0.002
9.23	14.36	BV	-----	4.25	215.32	0.001
9.36	254.22	VV	-----	40.27	215.91	0.017
9.49	241.12	VV	-----	49.17	216.48	0.017
9.60	47.48	VV	-----	11.30	217.00	0.003
9.73	844.81	VV	0.061	218.14	217.58	0.058
9.85	299.90	VV	-----	85.44	218.10	0.021
9.93	560.47	VV	-----	128.85	218.47	0.038
10.08	107.86	VV	-----	23.28	219.15	0.007
10.23	134.30	VV	-----	24.80	219.84	0.009
10.41	19.37	VP	-----	6.74	220.63	0.001
10.56	473.07	PV	0.084*	88.06	221.82	0.032
10.91	963.81	VV	*-----	120.23	225.47	0.066
11.17	781.03	VV	-----	121.49	228.24	0.054
11.33	205.36	VV	-----	33.61	229.84	0.014
11.46	47.95	VP	-----	14.07	231.14	0.003
11.65	42.21	PV	-----	14.69	239.86	0.003
11.76	40.41	VV	-----	5.73	247.22	0.003
11.85	10.73	VB	-----	2.52	253.43	0.001
12.06	30.39	BV	-----	9.82	251.08	0.002
12.11	20.93	VV	-----	8.03	251.08	0.001
12.21	2810.12	VV	-----*	451.12	251.08	0.193
12.50	716.35	VV	-----	118.68	251.11	0.049
12.66	1136.66	VV	*-----	138.94	251.12	0.078
12.77	1135.81	VV	-----	173.75	251.13	0.078
12.86	1380.67	VV	-----	187.37	251.13	0.095
13.03	1568.89	VV	-----*	167.27	251.15	0.108
13.22	1978.61	VV	-----	252.17	251.16	0.136
13.32	2165.05	VV	-----*	242.80	251.16	0.148
13.54	1368.61	VV	-----	228.41	251.17	0.094
13.64	3219.61	VV	-----	449.76	251.18	0.221
13.87	981.11	VV	-----	139.63	251.20	0.067
14.02	368.55	VV	-----	74.55	251.21	0.025
14.14	713.70	VV	-----	105.73	251.22	0.049
14.27	494.06	VV	-----	81.57	251.23	0.034
14.38	716.47	VV	-----	94.51	251.24	0.049
14.52	444.57	VV	-----	60.78	251.24	0.030
14.80	1289.48	VV	*-----	131.57	251.26	0.088
14.88	332.02	VV	-----	78.62	251.27	0.023
14.99	265.21	VV	-----	64.99	251.28	0.018
15.05	348.49	VV	-----	67.38	251.28	0.024
15.17	935.13	VV	-----*	117.03	251.29	0.064
15.41	3816.68	VV	0.099	604.60	251.31	0.262
15.62	1152.63	VV	-----*	100.13	251.32	0.079
15.89	443.21	VV	-----	81.33	251.34	0.030
16.00	938.99	VV	-----	156.91	251.34	0.064
16.23	882.09	VV	-----	75.01	251.36	0.060
16.40	366.19	VV	-----	65.13	251.37	0.025
16.49	493.70	VV	-----	69.03	251.38	0.034
16.64	371.89	VV	-----	57.09	251.39	0.025
16.90	867.73	VV	-----	156.19	251.40	0.059
17.00	306.93	VV	-----	65.45	251.41	0.021
17.17	3705.87	VV	-----	425.11	251.42	0.254
17.45	820.62	VV	-----	83.42	251.45	0.056
17.66	1053.32	VV	-----	103.83	251.46	0.072
17.85	712.00	VV	-----	91.69	251.48	0.049
18.04	7547.35	VV	-----*	1146.32	251.48	0.517
18.33	828.76	VV	-----	124.51	251.50	0.057
18.41	407.23	VV	-----	105.60	251.51	0.028
18.54	807.07	VV	-----	109.93	251.52	0.055
18.67	825.70	VV	-----	125.97	251.53	0.057
18.79	940.51	VV	-----	131.76	251.54	0.064
18.89	1331.84	VV	-----	141.86	251.55	0.091
19.05	680.15	VV	-----	126.81	251.56	0.047
19.24	2688.22	VV	*-----	256.52	251.56	0.184
19.40	685.08	VV	-----	135.88	251.58	0.047
19.54	5026.70	VV	-----*	582.36	251.59	0.345
19.85	2104.41	VV	-----	238.82	251.61	0.144
20.06	801.85	VV	-----	120.97	251.63	0.055
20.17	659.11	VV	-----	120.77	251.63	0.045
20.27	1404.33	VV	-----	186.18	251.64	0.096
20.52	5734.01	VV	-----	813.07	251.65	0.393
20.70	1918.27	VV	-----	211.41	251.67	0.132
21.03	1146.57	VV	-----	189.96	251.69	0.079
21.14	4646.04	VV	-----	746.92	251.70	0.319
21.34	3441.15	VV	-----	525.44	251.71	0.236
21.49	1959.02	VV	-----	126.37	251.72	0.134
21.82	812.14	VV	-----	105.20	251.74	0.056
21.97	1400.29	VV	-----	98.66	251.75	0.096
22.26	1704.46	VV	-----	222.23	251.78	0.117
22.42	1659.50	VV	-----	145.82	251.79	0.114
22.60	917.10	VV	-----	119.20	251.80	0.063
22.78	1168.05	VV	-----	106.88	251.81	0.080
23.01	5456.15	VV	-----	474.29	251.82	0.374
23.49	4663.00	VV	-----*	210.95	251.86	0.320
23.99	2546.38	VV	-----	115.30	251.89	0.175
24.36	466.99	VV	-----	83.25	251.92	0.032
24.51	3688.93	VV	-----	199.67	251.93	0.253
25.21	1651.08	VV	-----	94.61	251.97	0.113
25.44	323.54	VV	-----	63.60	251.99	0.063
25.77	1082.25	VV	-----	100.65	252.02	0.074
25.98	350.69	VV	-----	55.25	252.03	0.024
26.27	2902.53	VV	*-----*	118.58	252.04	0.199
26.87	9367.15	VV	*-----*	736.09	252.09	0.642
27.68	719.48	VV	-----	74.98	252.14	[illegible]

2887 bend: Cat. No. 2-2889 Box of 10 pads!

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				[illegible]	251.99	0.083
25.77	1082.25	VV	-----	100.65	252.02	0.074
25.98	350.69	VV	-----	55.25	252.03	0.024
26.27	2902.53	VV	*-----*	118.58	252.04	0.199
26.87	9367.15	VV	*-----*	736.09	252.09	0.642
27.68	719.48	VV	-----	74.98	252.14	0.049
27.91	2743.13	VV	-----	232.43	252.16	0.188
28.22	2879.24	VV	*-----	107.01	252.18	0.197
28.82	3026.57	VV	-----	151.83	252.22	0.207
30.01	5259.48	VV	-----	273.72	252.30	0.361
30.33	5212.33	VV	-----*	211.89	252.33	0.357
30.91	3114.38	VV	-----	149.67	252.36	0.214
31.31	1713.21	VV	-----	111.46	252.39	0.117
31.76	4264.87	VV	-----	189.22	252.43	0.292
32.17	3326.91	VV	-----	205.61	252.45	0.228
32.75	7174.75	VV	*-----*	249.54	252.49	0.492
34.01	6956.61	VV	0.253	430.73	252.58	0.477
35.50	1198.28	VV	-----	40.16	252.68	0.082
35.93	684.81	VV	-----	32.14	252.71	0.047
36.54	7209.26	VV	0.232	486.49	252.75	0.494
37.22	1086.64	VV	-----	49.92	252.80	0.074
37.78	940.11	VV	-----	52.45	252.84	0.064
38.11	1200.42	VV	-----	48.33	252.85	0.082
40.73	179.11	PB	-----	9.28	258.04	0.012
41.51	20.79	BV	-----	1.58	258.15	0.001
42.27	95.09	PP	0.197	7.56	254.13	0.007
42.98	97.58	PV	-----	7.33	253.85	0.007
44.15	478.41	BP	0.229	32.67	253.03	0.033
44.65	118.74	PP	-----	8.95	248.99	0.008
45.19	190.79	PV	-----	10.50	246.50	0.013
45.94	641.53	VV	*-----	23.77	244.83	0.044
46.63	144.40	VV	-----	7.81	243.29	0.010
47.50	405.50	BV	-----	24.01	241.47	0.028
47.91	606.24	VV	-----*	21.55	240.75	0.042
48.46	616.45	VP	-----	15.93	239.78	0.042

TOTAL AREA = 1458650.00
MULTIPLIER = 1

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887

SAMPLE ID: NSL SS-1
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 5D

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NSL SS 2

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4554

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 26.7 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 16 OCT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	11	U
1024-57-3	Heptachlor epoxide	11	U
959-98-8	Endosulfan I	11	U
60-57-1	Dieldrin	18	J
72-55-9	4,4'-DDE	22	U
72-20-8	Endrin	22	U
332313-65-9	Endosulfan II	22	U
72-54-8	4,4'-DDD	22	U
1031-07-8	Endosulfan sulfate	22	U
50-29-3	4,4'-DDT	22	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin Ketone	22	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	220	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	220	U
11096-82-5	Aroclor-1260	220	U

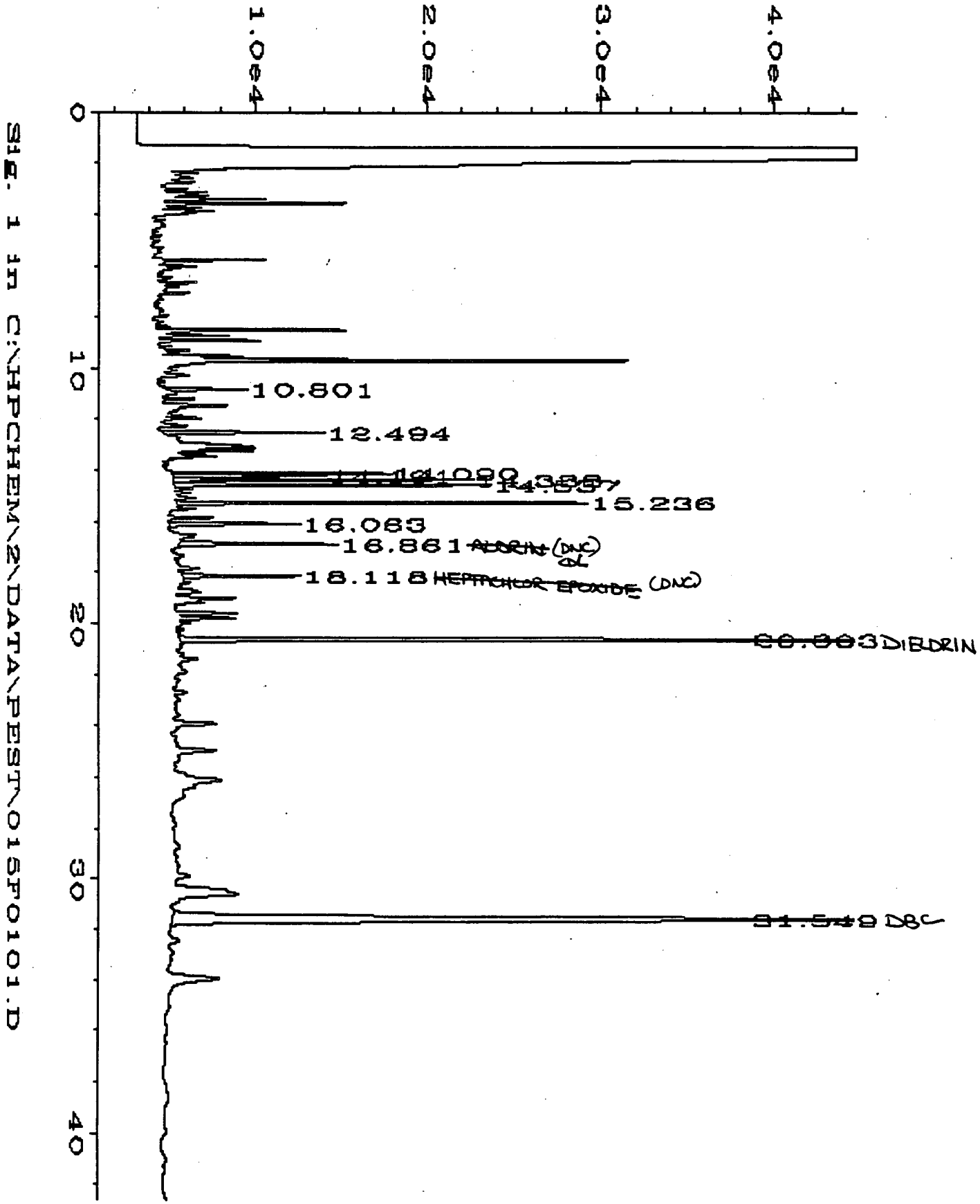


FIG. 1 in C:\HPCHEM\2\DATA\PEST\015F0101.D

Area Percent Report

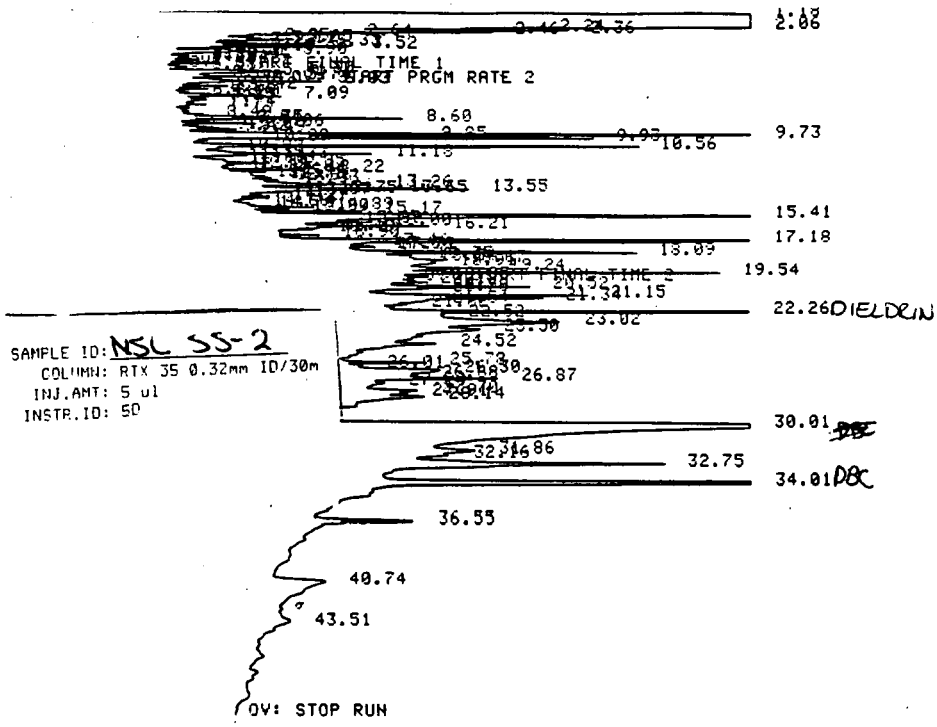
Data File Name : C:\HPCHEM\2\DATA\PEST\015F0101.D
Operator : Jim O'Keefe
Acquired on : 16 Oct 89 05:05 PM
Sample Name : WG4554 NSL SS 2
Run Time Bar Code:
Instrument Method: PEST.MTH
Analysis Method : PEST.MTH

Instrument : Pesticide
Vial Number : 15
Injection Number: 1
Sequence Line : 1

Sig. 1 in C:\HPCHEM\2\DATA\PEST\015F0101.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	10.801	19105	4606	BB	0.062	1.4258
2	12.494	39130	9354	BV	0.064	2.9201
3	14.090	48530	12690	BV	0.059	3.6216
4	14.191	38945	8867	VV	0.067	2.9064
5	14.338	70880	17378	VV	0.063	5.2895
6	14.537	83201	18348	VV	0.071	6.2090
7	15.236	96514	23761	BB	0.064	7.2025
8	16.063	36045	7500	BB	0.075	2.6899
9	16.861	53055	9156	BB	0.084	3.9593
10	18.118	34339	6797	BB	0.077	2.5626
11	20.603	311907	56799	BB	0.087	23.2764
12	31.549	508361	39789	BB	0.199	37.9370

Total area = 1340013



[hp] 5880A SAMPLER INJECTION @ 16:04 NOV 6, 1989
SAMPLE # : ID CODE :
17 WG 4554
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 145.85			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
1.18	1117550.00	PV	*0.09 *	184293.00	148.23	94.380
2.06	2546.61	VV	-----	310.20	152.68	0.215
2.24	788.65	VV	-----	164.06	153.56	0.067
2.36	1161.39	VV	-----	173.79	154.15	0.098
2.46	1064.62	VV	-----	146.95	154.68	0.090
2.64	601.72	VV	-----	95.64	155.58	0.051
2.95	399.40	VV	-----	65.53	157.15	0.034
3.05	369.55	VV	-----	73.09	157.63	0.031
3.11	327.51	VV	-----	67.02	157.94	0.028
3.22	318.77	VV	-----	59.70	158.48	0.027
3.33	688.02	VV	-----	81.36	159.06	0.058
3.52	634.43	VV	-----	92.97	160.01	0.054
3.66	433.95	VV	-----	56.93	160.70	0.037
3.90	687.47	VV	*-----	67.13	161.91	0.058
4.00	304.91	VV	-----	44.74	162.45	0.026
4.30	260.45	VV	-----	34.66	163.91	0.022
4.37	138.67	VV	-----	33.70	164.28	0.012
4.44	149.64	VV	-----	33.77	164.64	0.013
4.54	237.94	VV	-----	36.98	165.14	0.020
4.77	406.35	VV	-----	43.01	166.27	0.034
5.08	366.25	VV	-----	30.15	167.85	0.031
5.30	400.80	VV	-----	62.69	168.95	0.034
5.41	612.52	VV	-----	52.63	169.51	0.052
5.66	133.18	VV	-----	34.74	170.79	0.011
5.74	392.31	VV	-----	59.49	171.16	0.033
5.90	143.42	VV	-----	34.92	171.99	0.012
6.03	512.28	VV	*-----	71.25	172.64	0.043
6.42	275.26	VV	-----	37.41	174.57	0.023
6.65	254.35	VV	-----	29.23	175.76	0.021
6.88	187.03	VV	-----	21.75	176.94	0.016
7.00	152.22	VV	-----	28.40	177.54	0.013
7.09	287.12	VV	-----	51.96	177.98	0.024
7.25	188.25	VV	-----	25.59	178.76	0.016
7.42	306.97	VV	-----	25.22	179.61	0.026
7.74	116.49	VV	-----	23.25	181.26	0.010
8.49	132.45	VV	-----	18.53	185.00	0.011
8.60	402.84	VV	-----	85.88	185.55	0.034
8.75	136.09	VV	-----	27.60	186.32	0.011
8.84	146.24	VV	-----	26.64	186.80	0.012
9.06	249.46	VV	-----	33.51	187.88	0.021
9.32	95.71	VV	-----	17.55	189.20	0.008
9.42	80.89	VV	-----	19.50	189.70	0.007
9.49	164.95	VV	-----	24.71	190.06	0.014
9.73	907.30	VV	-----	220.04	191.26	0.077
9.85	307.74	VV	-----	84.41	191.85	0.026
9.93	667.76	VV	-----	144.51	192.28	0.056
10.09	129.77	VV	-----	25.70	193.04	0.011
10.56	917.12	VV	-----*	157.18	195.40	0.077
10.82	132.28	VV	-----	13.23	196.76	0.011
11.18	427.15	VV	-----	62.34	198.52	0.036
11.33	129.46	VP	-----	19.12	199.32	0.011

No. 2-2888 (box of 10 pads)
006
© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (pad); Cat. No. 2-2888 (box of 10 pads)
007

[illegible]	[illegible]	VV	-----	220.04	191.26	0.077
9.85	307.74	VV	-----	84.41	191.85	0.026
9.93	667.76	VV	-----	144.51	192.28	0.056
10.09	129.77	VV	-----	25.70	193.04	0.011
10.56	917.12	VV	-----*	157.18	195.40	0.077
10.82	132.28	VV	-----	13.23	196.76	0.011
11.18	427.15	VV	-----	62.34	198.52	0.036
11.33	129.46	VP	-----	19.12	199.32	0.011
11.68	63.00	PV	-----	7.85	202.99	0.005
11.85	147.92	VV	*-----	19.09	205.31	0.012
12.02	31.29	VV	-----	6.24	207.74	0.003
12.12	6.32	VV	-----	2.40	209.13	0.001
12.22	110.41	VV	-----	27.23	210.53	0.009
12.44	55.24	PV	-----	10.12	214.70	0.005
12.59	6.39	VB	-----	1.51	218.70	0.001
12.72	29.88	BV	-----	4.90	219.56	0.003
12.86	44.19	VV	-----	7.74	219.15	0.004
13.03	74.40	VV	-----	10.70	218.66	0.006
13.26	375.68	VV	-----	42.89	217.97	0.032
13.55	370.81	VV	-----	76.79	217.11	0.031
13.65	246.34	VV	-----	49.31	216.83	0.021
13.75	134.11	VV	-----	25.99	216.53	0.011
13.87	98.09	VV	-----	17.49	216.16	0.008
14.14	45.91	VV	-----	10.97	215.37	0.004
14.27	59.15	VV	-----	11.19	214.98	0.005
14.66	24.02	PV	-----	4.45	215.06	0.002
14.79	33.20	VV	-----	5.41	215.89	0.003
14.89	101.04	VV	-----	24.87	216.48	0.009
15.00	86.59	VV	-----	15.74	217.16	0.007
15.17	207.34	VV	-----	39.65	218.24	0.018
15.41	5922.87	VV	0.09 *	1003.26	219.68	0.500
15.89	123.88	VV	-----	27.84	222.61	0.010
16.00	271.14	VV	-----	36.94	223.28	0.023
16.21	425.00	VV	-----*	55.54	224.60	0.036
16.37	77.34	VV	-----	17.33	225.58	0.007
16.49	88.90	VV	-----	14.98	226.27	0.008
16.90	62.69	VP	0.069	14.30	228.79	0.005
17.18	2179.20	PV	0.086	398.13	234.88	0.184
17.46	119.36	VV	-----	16.59	242.97	0.010
17.66	50.63	VV	-----	11.77	248.77	0.004
17.72	50.46	VV	-----	11.52	250.38	0.004
18.09	667.45	VP	*-----*	91.16	261.18	0.056
18.35	13.37	PB	-----	3.55	270.90	0.001
18.54	3.69	BP	-----	1.20	274.64	0.000
18.67	48.13	PB	-----	8.28	277.62	0.004
18.91	20.33	BP	-----*	3.43	279.10	0.002
19.24	226.49	PV	-----*	26.59	273.26	0.019
19.54	675.72	VV	0.096	110.70	270.89	0.057
19.85	67.88	VV	-----	11.71	268.53	0.006
20.18	66.77	VV	-----	10.06	266.03	0.006
20.28	83.24	VV	-----	14.82	265.24	0.007
20.52	389.13	VV	-----*	51.52	263.39	0.033
20.70	118.52	VP	-----	17.95	262.05	0.010
21.15	482.43	PV	-----	73.86	261.20	0.041
21.34	447.11	VV	-----	57.35	262.21	0.038
21.54	216.79	VV	-----*	16.85	263.26	0.018
21.82	42.53	VP	-----	8.04	264.75	0.004
22.26	2194.22	BV	0.079*	436.95	272.70	0.185
22.52	16.19	VB	-----	2.87	282.40	0.001
23.02	949.99	BV	*-----*	45.85	280.30	0.080
23.50	473.92	VV	-----*	23.31	274.31	0.040
24.52	298.39	VP	-----	20.89	261.61	0.025
25.78	196.07	BV	0.109	28.25	250.60	0.017
26.01	73.03	VV	-----	7.74	250.04	0.006
26.30	772.33	VV	-----*	34.55	249.32	0.065
26.68	265.32	VV	-----	27.95	248.40	0.022
26.87	638.95	VV	-----	55.88	247.91	0.054
27.20	417.56	VV	-----	18.18	247.12	0.035
27.70	401.59	VV	-----	30.45	245.87	0.034
27.91	290.15	VV	-----	27.62	245.38	0.025
28.14	806.26	VV	-----	33.69	244.81	0.068
30.01	10883.10	PV	-----*	246.24	241.11	0.919
31.86	1351.96	VV	-----	54.85	241.03	0.114
32.16	798.19	VV	-----	45.94	241.02	0.067
32.75	3077.01	VV	*-----*	120.97	240.99	0.260
34.01	4610.35	VV	0.222	325.17	240.95	0.389
36.55	567.97	BV	0.26	34.78	240.00	0.048
40.74	1102.43	BV	-----*	17.82	227.09	0.093
43.51	196.13	VB	-----	5.50	227.45	0.017

TOTAL AREA = 1184100.00
MULTIPLIER = 1

SAMPLE ID: NSL SS-2
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 5D

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (bed); Cat. No. 2-2888 (box of 10 peds)

PESTICIDE ORGANICS ANALYSIS DATA SHEET

NSL SS 3

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4555

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 41.2 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 11 OCT 89

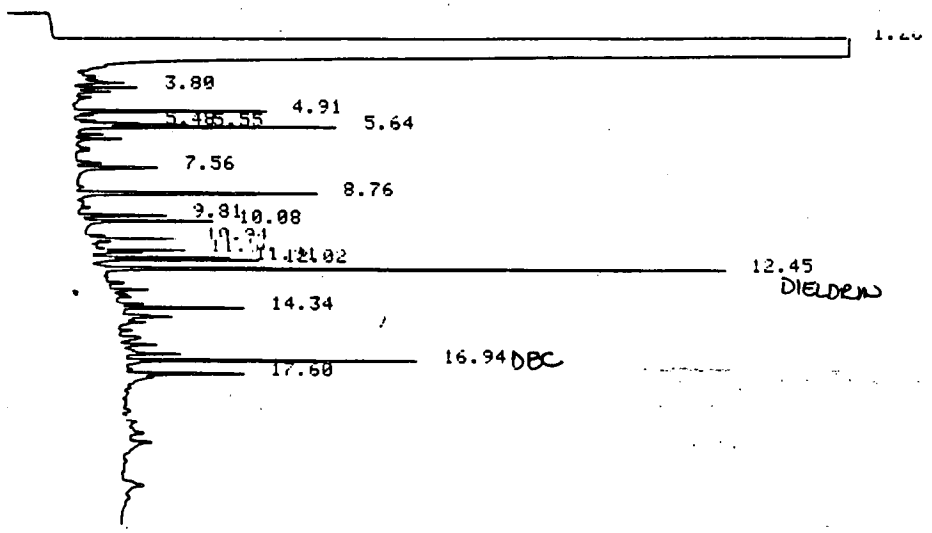
GPC Cleanup: (Y/N) N pH: Dilution Factor: 3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	42	U
319-85-7	beta-BHC	42	U
319-86-8	delta-BHC	42	U
58-89-9	gamma-BHC (Lindane)	42	U
76-44-8	Heptachlor	42	U
309-00-2	Aldrin	42	U
1024-57-3	Heptachlor epoxide	42	U
959-98-8	Endosulfan I	42	U
60-57-1	Dieldrin	45	J
72-55-9	4,4'-DDE	82	U
72-20-8	Endrin	82	U
332313-65-9	Endosulfan II	82	U
72-54-8	4,4'-DDD	82	U
1031-07-8	Endosulfan sulfate	82	U
50-29-3	4,4'-DDT	82	U
72-43-5	Methoxychlor	410	U
53494-70-5	Endrin Ketone	82	U
5103-71-9	alpha-Chlordane	410	U
5103-74-2	gamma-Chlordane	410	U
8001-35-2	Toxaphene	820	U
12674-11-2	Aroclor-1016	410	U
11104-28-2	Aroclor-1221	410	U
11141-16-5	Aroclor-1232	410	U
53469-21-9	Aroclor-1242	410	U
12672-29-6	Aroclor-1248	410	U
11097-69-1	Aroclor-1254	820	U
11096-82-5	Aroclor-1260	820	U

17.594	2535.59	BV	0.095
20.971	796.52	BV	0.178
23.073	1017.18	PH	0.262

TOTAL AREA = 1513790.00
MULTIPLIER = 1

SAMPLE ID: NSL SS 3 1:3 dil
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

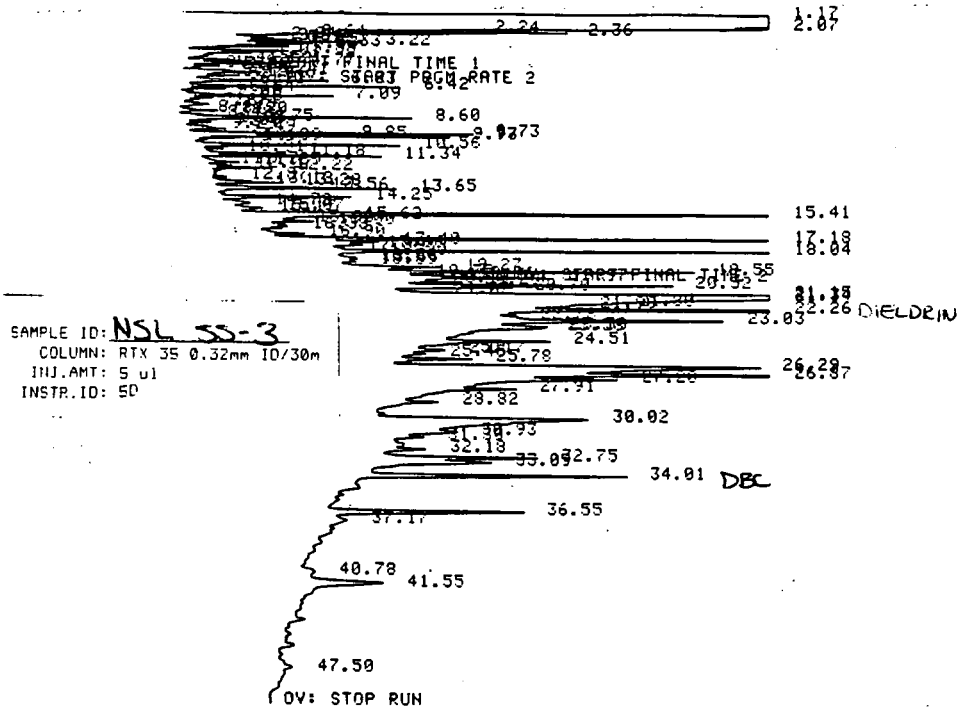


[hp] 5880A SAMPLER INJECTION @ 05:40 OCT 11, 1989
SAMPLE # : ID CODE :
17 WG4555 3X
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 133.53			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.260	1532110.00	BB	-----*	116796.00	141.85	99.100
3.798	351.52	PV	0.070	78.97	161.11	0.023
4.909	885.10	BV	0.059	235.65	162.27	0.057
5.480	218.71	VV	-----	73.68	167.57	0.014
5.550	448.94	VV	-----	131.79	168.23	0.029
5.638	1057.50	VB	0.05	317.37	169.04	0.068
7.560	563.91	BV	0.09	100.12	165.09	0.036
8.757	1284.59	BV	0.068	297.96	164.22	0.083
9.805	483.69	BV	0.071	107.07	168.50	0.031
10.083	769.07	VV	0.074	161.90	170.22	0.050
10.941	423.69	VV	-----	115.88	175.54	0.027
11.560	534.69	VV	-----	117.83	179.37	0.035
11.907	587.16	VV	0.054	170.71	181.53	0.038
12.023	799.56	VP	0.06	206.96	182.25	0.052
12.450	2333.83	VB	0.047	773.16	193.55	0.151
14.340	757.74	VV	0.074	160.29	211.14	0.049
16.945	1543.69	BB	0.067	359.33	225.32	0.100
17.597	876.81	BH	0.095	145.27	226.61	0.057

TOTAL AREA = 1546030.00
MULTIPLIER = 1

Cat. No. 2-2880 (box of 10 pads)
© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2867 (pad)



[hp] 5880A SAMPLER INJECTION @ 17:02 NOV 6, 1989
SAMPLE # : ID CODE :
18 WG 4555 3
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 144.76			
0.00			THRESHOLD @ START RUN = 3			
0.00			PEAK WIDTH @ START RUN = 0.08			
0.88	301.84	BV	*------*	25.49	146.74	0.035
1.17	809003.00	VV	*0.07 *	184512.00	148.10	93.224
2.07	2314.27	VV	-----	270.85	152.28	0.267
2.24	630.98	VV	-----	134.13	153.02	0.073
2.36	2104.97	VV	------*	166.36	153.60	0.243
2.64	440.29	VV	-----	72.45	154.87	0.051
2.84	614.28	VV	-----	61.31	155.81	0.071
2.94	386.39	VV	-----	63.05	156.29	0.045
3.05	338.50	VV	-----	70.47	156.77	0.039
3.11	315.34	VV	-----	65.87	157.06	0.036
3.22	500.40	VV	-----	91.88	157.57	0.058
3.33	665.15	VV	-----	74.56	158.08	0.077
3.53	435.15	VV	-----	65.70	159.00	0.050
3.88	567.18	VV	-----	63.66	160.62	0.065
4.01	359.82	VV	-----	50.79	161.20	0.041
4.55	201.83	VV	-----	41.86	163.71	0.023
4.62	296.78	VV	-----	44.96	164.05	0.034
4.77	549.48	VV	-----	59.20	164.70	0.063
5.02	438.37	VV	-----	35.68	165.91	0.051
5.32	229.32	VV	-----	37.71	167.26	0.026
5.41	336.85	VV	-----	47.09	167.69	0.039
5.55	204.30	VV	-----	32.70	168.32	0.024
5.66	195.05	VV	-----	39.05	168.84	0.022
5.75	255.38	VV	-----	33.78	169.27	0.029
6.03	420.58	VV	-----	67.47	170.55	0.048
6.11	129.76	VV	-----	36.05	170.94	0.015
6.42	583.14	VV	-----	90.50	172.33	0.067
6.64	261.97	VV	-----	30.05	173.39	0.030
7.00	124.64	VV	-----	23.78	175.04	0.014
7.09	309.30	VV	-----	64.29	175.45	0.036
7.28	228.59	VV	-----	22.91	176.34	0.026
7.67	92.08	VV	-----	16.43	178.15	0.011
7.74	93.80	VV	-----	19.48	178.46	0.011
8.14	46.33	VV	-----	12.53	180.28	0.005
8.20	164.93	VV	-----	20.39	180.60	0.019
8.48	93.67	VV	-----	14.22	181.86	0.011
8.60	512.44	VV	-----	84.60	182.45	0.059
8.75	130.43	VV	-----	26.53	183.10	0.015
8.85	100.44	VV	-----	16.72	183.58	0.012
9.06	146.17	VV	-----	14.11	184.54	0.017
9.29	56.41	VV	-----	11.92	185.59	0.006
9.49	196.95	VV	-----	17.24	186.55	0.023
9.73	427.36	VV	-----	100.17	187.65	0.049
9.85	195.04	VV	-----	53.71	188.18	0.022
9.93	401.90	VV	-----	91.50	188.57	0.046
10.09	111.42	VV	-----	19.28	189.29	0.013
10.56	439.89	VV	------*	71.78	191.47	0.051
10.91	63.65	VV	-----	10.15	193.12	0.007
11.18	148.39	VV	-----	29.65	194.33	0.017
11.34	363.81	VP	0.093	61.55	195.08	0.042
11.77	19.79	BV	-----	3.63	197.32	0.002

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (pad); Cat. No. 2-2888 (box of 10 pads)
© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (pad); Cat. No. 2-2888 (box of 10 pads)

8.60	512.44	VV	-----	84.60	182.45	0.059
8.75	130.43	VV	-----	26.53	183.10	0.015
8.85	100.44	VV	-----	16.72	183.58	0.012
9.06	146.17	VV	-----	14.11	184.54	0.017
9.29	56.41	VV	-----	11.92	185.59	0.006
9.49	196.95	VV	-----	17.24	186.55	0.023
9.73	427.36	VV	-----	100.17	187.65	0.049
9.85	195.04	VV	-----	53.71	188.18	0.022
9.93	401.90	VV	-----	91.50	188.57	0.046
10.09	111.42	VV	-----	19.28	189.29	0.013
10.56	439.89	VV	-----*	71.78	191.47	0.051
10.91	63.65	VV	-----	10.15	193.12	0.007
11.18	148.39	VV	-----	29.65	194.33	0.017
11.34	363.81	VP	0.093	61.55	195.08	0.042
11.77	19.79	BV	-----	3.63	197.32	0.002
11.85	60.41	VV	-----	11.20	197.48	0.007
12.07	47.34	VV	-----	8.10	197.89	0.005
12.22	136.89	VV	-----*	21.67	198.15	0.016
12.87	27.86	VP	0.087	5.04	199.38	0.003
13.18	79.82	VV	-----	12.93	200.04	0.009
13.29	114.49	VP	-----	22.41	200.26	0.013
13.56	125.09	PV	-----	31.11	200.89	0.014
13.65	331.70	VV	-----	61.01	201.12	0.038
14.25	315.67	VP	0.111*	44.38	202.61	0.036
14.72	109.91	PV	*-----*	8.06	204.57	0.013
15.07	72.66	VV	-----	10.06	206.71	0.008
15.17	51.15	VV	-----	6.95	207.29	0.006
15.41	2073.63	VV	0.084	388.19	208.77	0.239
15.62	291.52	VV	-----*	32.67	210.02	0.034
15.90	79.99	VV	-----	14.90	211.74	0.009
16.00	140.90	VV	-----	21.34	212.36	0.016
16.38	50.70	VV	-----	10.23	214.68	0.006
16.90	73.60	PV	-----	12.00	218.44	0.008
17.18	1198.96	VV	0.099	190.34	220.70	0.138
17.40	438.87	VV	-----	33.41	222.54	0.051
17.66	260.21	VV	-----*	25.90	224.64	0.030
17.89	131.56	VV	-----	17.34	226.47	0.015
18.04	1174.54	VV	0.092	200.78	227.73	0.135
18.20	128.47	VV	-----	22.14	229.02	0.015
18.56	165.35	VV	-----	15.99	231.93	0.019
18.66	147.06	VV	-----	15.68	232.80	0.017
18.89	144.71	VV	-----	13.24	234.59	0.017
19.27	559.42	VV	*-----*	39.38	237.68	0.064
19.55	990.25	VV	-----	124.74	240.02	0.114
19.75	110.42	VV	-----	25.68	241.63	0.013
19.86	220.01	VV	-----	39.14	242.49	0.025
19.97	622.98	VV	-----	70.79	243.42	0.072
20.18	147.28	VV	-----	27.92	245.09	0.017
20.28	265.64	VV	-----	37.90	245.90	0.031
20.52	918.54	VV	-----*	109.33	247.87	0.106
20.70	320.64	VV	-----	52.08	249.34	0.037
21.02	103.53	VV	-----	21.43	251.95	0.012
21.15	2097.12	VV	-----*	286.48	253.02	0.242
21.34	4730.78	VV	-----*	319.57	254.51	0.545
21.80	593.29	VV	-----	78.84	258.31	0.068
21.98	775.25	VV	-----	64.28	259.70	0.089
22.26	2355.30	VV	-----	379.71	262.01	0.271
22.78	268.58	VV	-----	37.06	266.24	0.031
23.03	1701.41	VV	-----	106.68	268.29	0.196
23.50	455.51	VV	*-----	41.71	272.07	0.052
23.58	506.78	VV	-----	40.12	272.73	0.058
24.51	390.26	BP	-----	38.84	276.12	0.045
25.17	96.84	PV	-----	10.58	267.67	0.011
25.45	50.18	VP	-----	6.44	265.28	0.006
25.78	172.79	PV	0.109	24.74	262.86	0.020
26.29	2919.92	PV	-----*	122.48	264.62	0.336
26.87	1531.67	VV	-----	145.22	275.24	0.176
27.20	836.86	VB	-----*	57.13	281.18	0.096
27.91	143.54	BP	-----	20.61	282.35	0.017
28.82	96.72	BB	0.127	11.90	264.21	0.011
30.02	2320.25	BV	-----*	72.96	255.29	0.267
30.93	564.83	VV	-----	28.84	253.81	0.065
31.30	251.45	VV	-----	17.83	253.21	0.029
32.18	299.81	VV	-----	19.89	251.80	0.035
32.75	769.67	VV	-----	59.79	250.85	0.089
33.05	931.09	VV	-----	44.03	250.37	0.107
34.01	1056.64	VB	0.179	92.45	248.81	0.122
36.55	893.94	PV	0.206	67.87	237.87	0.103
37.17	254.82	VV	-----	8.35	236.58	0.029
40.78	111.94	BV	-----	4.27	230.00	0.013
41.55	735.28	VB	0.423	27.19	230.37	0.085
47.50	112.38	PH	-----	4.33	222.36	0.013

TOTAL AREA = 867804.00
MULTIPLIER = 1

SAMPLE ID: NSL SS-3
COLUMN: RTX 35 0.32mm ID/30m
INJ.AMT: 5 ul
INSTR.ID: 5D

Cat No. 2-2888 (box of 10 pads)
010
© BUFFALO, INC., Bellefonte, PA Cat No. 2-2887 (pad); Cat No. 2-2888 (box of 10 pads)
011

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NSL SS 4

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4556

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 25.9 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 11 OCT 89

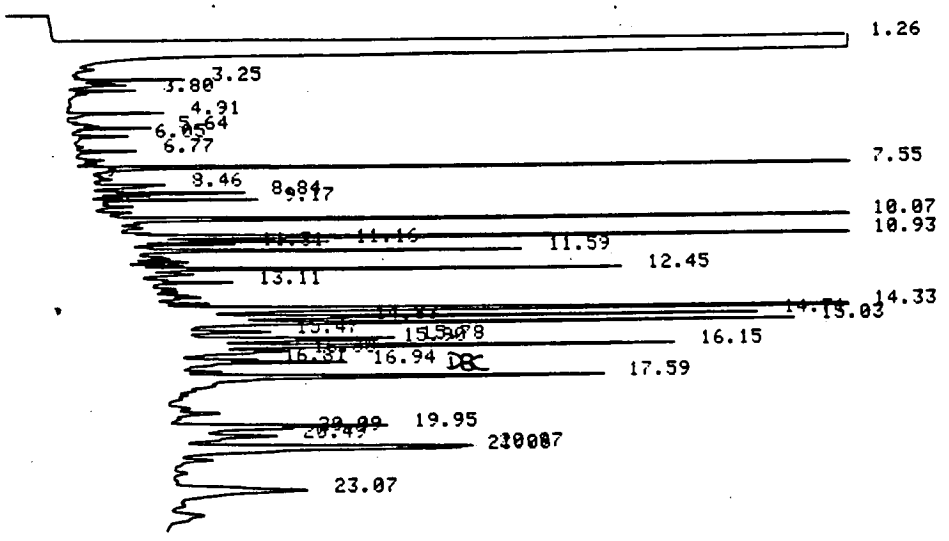
GPC Cleanup: (Y/N) N pH: Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	110	U
319-85-7	beta-BHC	110	U
319-86-8	delta-BHC	110	U
58-89-9	gamma-BHC (Lindane)	110	U
76-44-8	Heptachlor	110	U
309-00-2	Aldrin	110	U
1024-57-3	Heptachlor epoxide	110	U
959-98-8	Endosulfan I	110	U
60-57-1	Dieldrin	220	U
72-55-9	4,4'-DDE	220	U
72-20-8	Endrin	220	U
332313-65-9	Endosulfan II	220	U
72-54-8	4,4'-DDD	220	U
1031-07-8	Endosulfan sulfate	220	U
50-29-3	4,4'-DDT	220	U
72-43-5	Methoxychlor	1100	U
53494-70-5	Endrin Ketone	220	U
5103-71-9	alpha-Chlordane	1100	U
5103-74-2	gamma-Chlordane	1100	U
8001-35-2	Toxaphene	2200	U
12674-11-2	Aroclor-1016	1100	U
11104-28-2	Aroclor-1221	1100	U
11141-16-5	Aroclor-1232	1100	U
53469-21-9	Aroclor-1242	1100	U
12672-29-6	Aroclor-1248	1100	U
11097-69-1	Aroclor-1254	2200	U
11096-82-5	Aroclor-1260	2200	U

14.340	757.74	VV	0.074
16.945	1543.69	BB	0.067
17.597	876.81	BH	0.095

SAMPLE ID NSL SS 4 1:10 dil
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

TOTAL AREA = 1546030.00
MULTIPLIER = 1



113

[hp] 5880A SAMPLER INJECTION @ 06:25 OCT 11, 1989
SAMPLE # : ID CODE :
18 WG4556 10X
AREA %

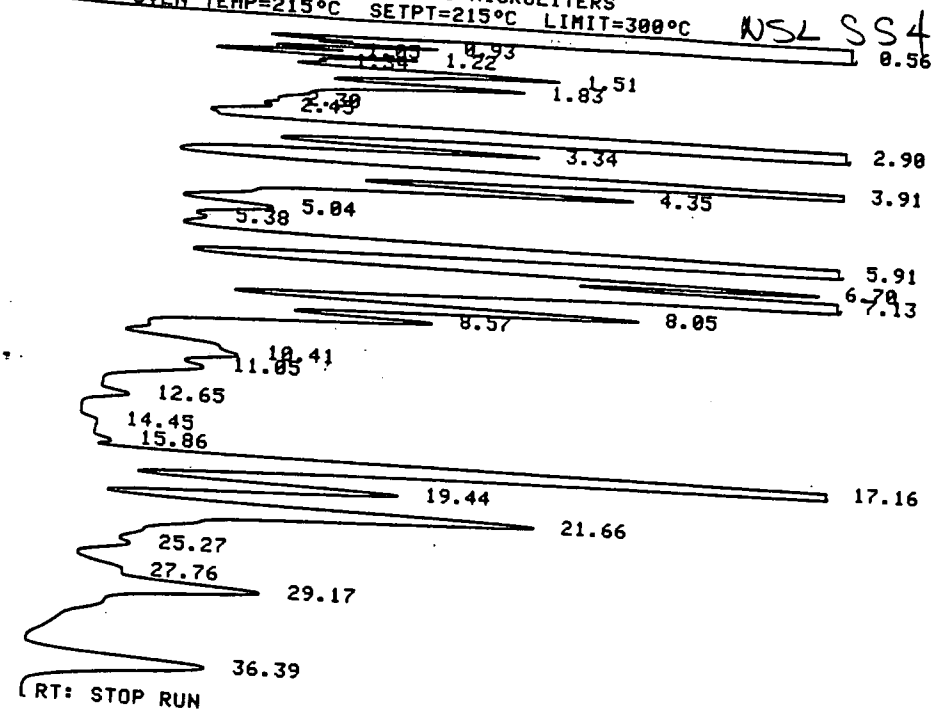
RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 134.53			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.260	176601.00	BB	-----*	12074.50	143.73	67.905
3.248	710.23	PV	0.081	137.29	162.06	0.273
3.799	387.02	PV	0.073	83.42	156.23	0.149
4.912	443.05	BV	0.060	116.17	156.64	0.170
5.641	325.87	VV	0.053	96.46	161.00	0.125
6.047	389.24	BV	0.092	66.16	163.30	0.150
6.768	318.94	BP	0.068	73.64	166.03	0.123
7.550	8798.30	PV	0.06	2295.28	166.15	3.383
8.458	383.72	VV	-----	98.04	176.01	0.148
8.845	772.10	VV	0.063	191.12	180.22	0.297
9.172	790.02	PV	0.061	203.64	184.41	0.304
10.071	8154.74	VV	0.066	1930.09	203.32	3.136
10.932	5867.55	VV	0.062	1478.29	221.44	2.256
11.159	1387.18	VV	*-----	247.88	226.23	0.533
11.308	519.57	VV	0.063	129.27	229.37	0.200
11.594	2088.87	VB	0.069	475.25	235.40	0.803
12.447	1921.86	PV	0.051	590.93	244.74	0.739
13.112	446.44	VP	0.068	102.07	252.76	0.172
14.328	13195.30	PV	0.076	2722.13	275.08	5.074
14.708	3412.57	VV	-----	720.76	286.41	1.312
14.826	1017.42	VV	-----	206.72	289.92	0.391
15.029	4071.35	VB	0.08	756.96	295.96	1.565
15.469	641.64	BV	0.100	100.95	299.08	0.247
15.780	1350.36	VV	-----	257.02	296.70	0.519
15.897	1641.49	VV	-----	235.50	295.81	0.631
16.147	3746.40	VV	0.097	607.11	293.90	1.441
16.383	1576.83	VP	-----	128.16	292.10	0.606
16.808	496.83	PV	-----	95.09	289.13	0.191
16.938	1379.56	VV	-----	205.53	288.47	0.530
17.589	4100.51	VV	0.122	525.03	285.21	1.577
19.948	1860.80	PV	-----	258.60	285.25	0.716
20.095	995.41	VV	-----	129.06	297.80	0.383
20.492	1041.80	BP	-----	94.07	312.94	0.401
20.973	2214.04	PV	-----	354.22	294.32	0.851
21.057	3817.67	VP	-----	339.88	293.44	1.468
23.065	3204.87	BH	0.303	165.50	279.36	1.232

TOTAL AREA = 260070.00
MULTIPLIER = 1

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (pad); Cat. No. 2-2888 (box of 10 pads)

**********EA LABORATORIES********
------PESTICIDES/PCB ANALYSIS-------
GC #3 / SIGNAL B
COLUMN TYPE -1.5%SP2250/1.95%SP2401
COLUMN DIMENSIONS - 2.0 METERS X 4MM
INJECTION VOLUME -5 MICROLITERS
RT: OVEN TEMP=215°C SETPT=215°C LIMIT=300°C

NSL SS4 1:10 dil



[hp] 5880A SAMPLER INJECTION @ 17:08 OCT 23, 1989
SAMPLE # : 9 ID CODE : 4556 10X
AREA %

BASELINE @ START RUN = 1311.09
THRESHOLD @ START RUN = 4
PEAK WIDTH @ START RUN = 0.16
RP: REJECT → 3000

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00						
0.00						
0.00						
0.10						
0.56	255982.00	BV	0.083	48105.80	1303.07	20.125
0.93	8738.87	VV	*-----	881.05	1306.52	0.687
1.05	4207.25	VV	-----	654.32	1307.66	0.331
1.22	6112.97	VV	-----	833.79	1309.21	0.481
1.34	3423.96	VV	-----	626.21	1310.31	0.269
1.51	16700.50	VV	-----*	1173.73	1311.94	1.313
1.83	22626.70	VV	-----*	1087.66	1314.91	1.779
2.30	4038.10	VV	-----	512.45	1319.25	0.317
2.45	5531.37	VV	-----	497.98	1320.61	0.435
2.90	142661.00	VV	*0.143	15604.80	1324.75	11.216
3.34	16171.60	VV	-----	1117.81	1328.90	1.271
3.91	42616.50	VV	-----*	2531.69	1334.18	3.350
4.35	25764.10	VV	-----*	1338.92	1338.25	2.026
5.04	10079.60	VV	-----	491.29	1344.67	0.792
5.38	5085.06	VV	-----	339.07	1347.80	0.400
5.91	66504.10	VV	0.292	3560.77	1352.76	5.229
6.70	34753.20	VV	-----	1770.08	1360.04	2.732
7.13	89161.60	VV	-----*	3469.10	1364.03	7.010
8.05	30632.10	VV	-----	1334.43	1372.58	2.408
8.57	22403.90	VV	-----	838.89	1377.40	1.761
10.41	22303.70	VV	*-----	383.20	1394.42	1.754
11.05	12318.40	VV	-----	299.38	1400.38	0.968
12.65	4407.69	VB	-----	117.30	1415.26	0.347
17.16	143720.00	VV	0.804	2798.82	1441.07	11.299
19.44	43909.40	VV	-----	735.35	1425.59	3.452
21.66	106586.00	VV	-----*	1078.63	1410.51	8.380
25.27	11898.20	VV	-----	170.39	1386.01	0.935
27.76	12878.90	VV	-----	173.36	1369.03	1.013
29.17	60584.40	VP	-----*	498.86	1359.50	4.763
36.39	40144.20	PP	1.492	421.39	1321.91	3.156

TOTAL AREA = 1271940.00
MULTIPLIER = 1

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pad); Cat. No. 2-2888 (box of 10 pads)

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

UG SS 1

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4557

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 25.7 not dec. Date Extracted: 26 SEPT 89

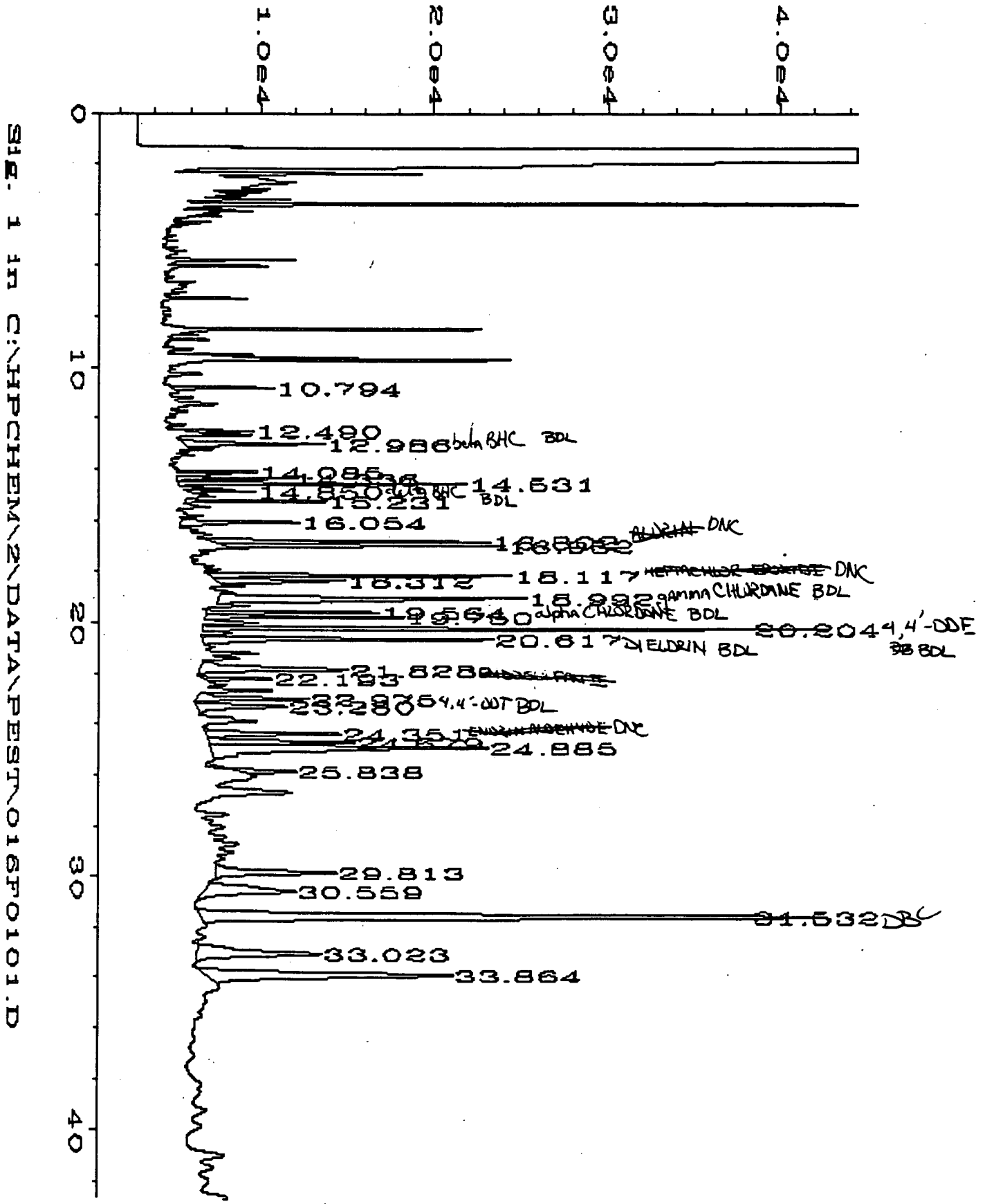
Extraction: SOXHLET Date Analyzed: 16 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	11	U
1024-57-3	Heptachlor epoxide	11	U
959-98-8	Endosulfan I	11	U
60-57-1	Dieldrin	22	U
72-55-9	4,4'-DDE	22	U
72-20-8	Endrin	22	U
332313-65-9	Endosulfan II	22	U
72-54-8	4,4'-DDD	22	U
1031-07-8	Endosulfan sulfate	22	U
50-29-3	4,4'-DDT	22	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin Ketone	22	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	220	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	220	U
11096-82-5	Aroclor-1260	220	U

FORM I PEST 1/87 Rev.



Sig. 1 in C:\HPCHEM\2\DATA\PEST\016F0101.D

Area Percent Report

Data File Name : C:\HPCHEM\2\DATA\PEST\016F0101.D
Operator : Jim O'Keefe
Acquired on : 16 Oct 89 05:58 PM
Sample Name : WG4557 OG SS 1
Run Time Bar Code:
Instrument Method: PEST.MTH
Analysis Method : PEST.MTH

Instrument : Pesticide
Vial Number : 16
Injection Number: 1
Sequence Line : 1

Sig. 1 in C:\HPCHEM\2\DATA\PEST\016F0101.D

Pk#	Ret Time	Area	Height	Type	Width	Area %
1	10.794	22745	5839	BB	0.060	0.8422
2	12.490	9367	3407	BV	0.046	0.3468
3	12.986 bam	50333	8031	BV	0.088	1.8636
4	14.085 ebtk	16718	4518	BV	0.058	0.6190
5	14.336	28825	6589	VV	0.067	1.0673
6	14.531	72666	16658	PV	0.068	2.6905
7	14.850	12784	3734	PV	0.055	0.4733
8	15.231	33004	8082	BV	0.063	1.2220
9	16.054	44450	6760	BB	0.094	1.6458
10	16.802	91241	16074	BV	0.084	3.3782
11	16.952	68438	16287	VV	0.066	2.5340
12	18.117	97529	17495	BV	0.090	3.6111
13	18.312	54203	7478	VV	0.102	2.0069
14	18.992	164063	17726	BV	0.126	6.0745
15	19.564	53103	10016	BV	0.082	1.9662
16	19.750	61719	11502	VV	0.083	2.2852
17	20.204	180786	36087	VV	0.079	6.6937
18	20.617	120717	16788	PV	0.112	4.4696
19	21.828	95088	8534	BB	0.157	3.5207
20	22.193	21847	3924	BB	0.089	0.8089
21	22.975	48814	6475	VV	0.116	1.8074
22	23.280	51704	5197	PB	0.154	1.9144
23	24.351	60635	7839	BV	0.119	2.2450
24	24.679	68304	8444	VV	0.125	2.5290
25	24.885	191703	16060	VB	0.170	7.0979
26	25.838	21269	3316	BV	0.112	0.7875
27	29.813	80593	6946	BB	0.177	2.9840
28	30.559	92372	5261	BB	0.249	3.4201
29	31.532	453789	36202	BB	0.198	16.8018
30	33.023	116800	7216	BB	0.241	4.3246
31	33.864	215227	14312	BB	0.235	7.9689

Total area = 2700836

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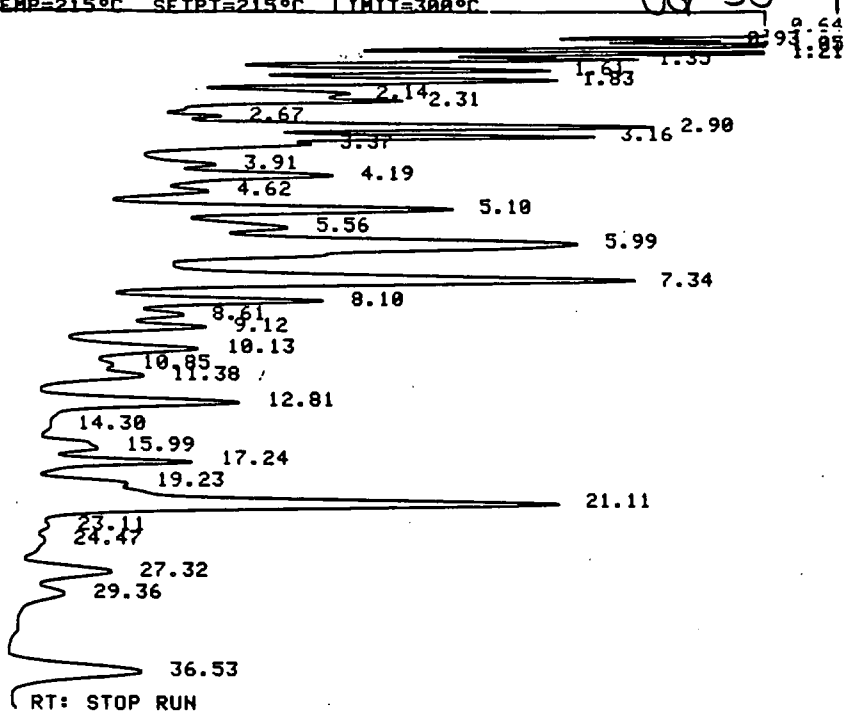
------PESTICIDES/PCB ANALYSIS------

GC #3 / SIGNAL B
COLUMN TYPE -1.5%SP2250/1.95%SP2401
COLUMN DIMENSIONS - 2.0 METERS X 4MM
INJECTION VOLUME -5 MICROLITERS

RT: OVEN TEMP=215°C SETPT=215°C LIMIT=300°C

UG SS - 1



[hp] 5880A SAMPLER INJECTION @ 09:22 OCT 24, 1989
SAMPLE # : ID CODE :
10 4557
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 561.03			
0.00			THRESHOLD @ START RUN = 4			
0.00			PEAK WIDTH @ START RUN = 0.16			
0.10			RP: REJECT → 3000			
0.64	1905390.00	PH	0.163	183556.00	545.83	68.848
0.93	11366.90	HH	-----	1771.25	545.83	0.411
1.05	17497.00	HH	-----	3084.30	545.83	0.632
1.21	15178.40	HH	-----	2553.84	545.83	0.548
1.35	12273.10	HH	-----	1562.76	545.83	0.443
1.61	14168.00	HH	-----	1360.98	545.83	0.512
1.83	16488.90	HH	-----	1381.01	545.83	0.596
2.14	11233.40	HH	-----	889.46	545.83	0.406
2.31	13921.00	HH	-----	1013.11	545.83	0.503
2.67	5665.02	HH	-----	595.27	545.83	0.205
2.90	19073.80	HH	-----	1614.08	545.83	0.689
3.16	18015.30	HH	-----	1472.21	545.83	0.651
3.37	11447.30	HH	-----	802.05	545.83	0.414
3.91	11623.90	HH	-----	581.21	545.83	0.420
4.19	17868.80	HH	-----	852.41	545.83	0.646
4.62	9990.28	HH	-----	566.12	545.83	0.361
5.10	21311.40	HH	-----	1136.59	545.83	0.770
5.56	15987.30	HH	-----	746.82	545.83	0.578
5.99	55527.90	HH	-----*	1434.30	545.83	2.006
7.34	54819.40	HH	-----	1567.30	545.83	1.981
8.10	21357.00	HH	-----	829.13	545.83	0.772
8.61	12052.70	HH	-----	507.65	545.83	0.436
9.12	17886.20	HH	-----	539.22	545.83	0.646
10.13	23824.20	HH	-----	543.12	545.83	0.861
10.85	9387.42	HH	-----	349.54	545.83	0.339
11.38	17160.90	HH	-----	416.73	545.83	0.620
12.81	38824.00	HH	-----*	635.78	545.83	1.403
14.30	9604.15	HH	-----	202.17	545.83	0.347
15.99	27914.20	HH	*-----	313.60	545.83	1.009
17.24	35505.80	HH	-----	528.54	545.83	1.283
19.23	20129.90	HH	-----	381.03	545.83	0.727
21.11	114469.00	HH	*-----	1389.57	545.83	4.136
23.11	13246.80	HH	-----	200.68	545.83	0.479
24.47	23863.50	HH	-----	191.86	545.83	0.862
27.32	34343.40	HH	-----	344.61	545.83	1.241
29.36	33184.40	HH	-----	237.26	545.83	1.199
36.53	55945.50	HH	-----	413.64	545.83	2.021

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pad): Cat. No. 2-2888 (box of 10 pads)

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP #4

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4558

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 22.6 not dec. Date Extracted: 26 SEPT 89

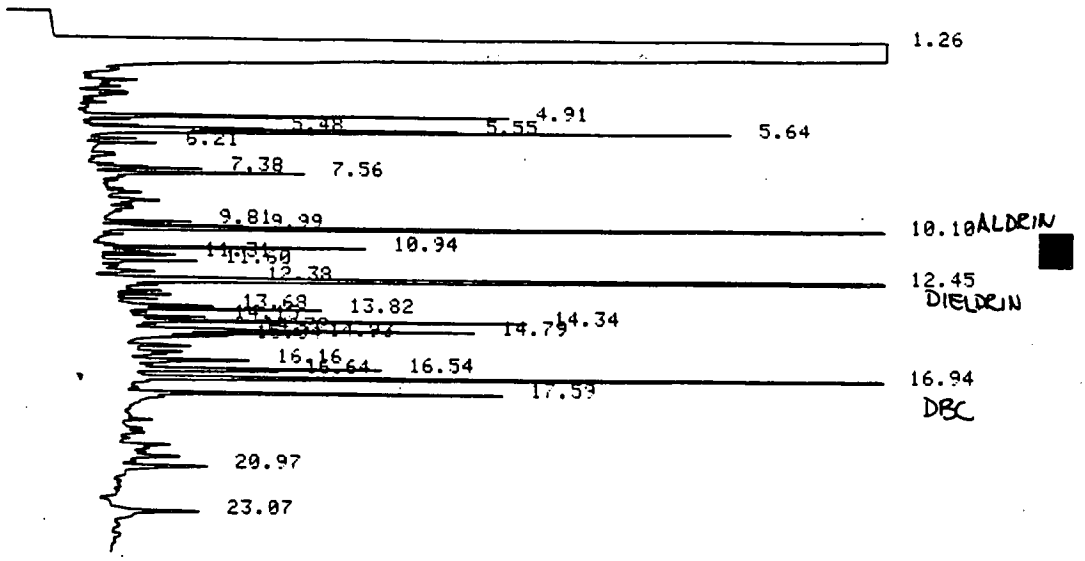
Extraction: SOXHLET Date Analyzed: 11 OCT 89

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	40	
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	220	
72-55-9	4,4'-DDE	21	U
72-20-8	Endrin	21	U
332313-65-9	Endosulfan II	21	U
72-54-8	4,4'-DDD	21	U
1031-07-8	Endosulfan sulfate	21	U
50-29-3	4,4'-DDT	21	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin Ketone	21	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

SAMPLE ID: [illegible]
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

TOTAL AREA = 41240.50
MULTIPLIER = 1



[hp] 5880A SAMPLER INJECTION @ 03:23 OCT 11, 1989
SAMPLE # : ID CODE :
14 WC4558
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 129.69			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.257	1823630.00	BB	-----*	134159.00	137.71	94.312
4.910	1788.66	PV	0.056	497.19	170.13	0.093
5.480	563.34	PV	-----	197.29	178.33	0.029
5.552	1368.69	VV	-----	424.57	183.30	0.071
5.638	2305.22	VB	0.05	741.89	189.30	0.119
6.207	315.87	PV	0.060	81.91	171.19	0.016
7.383	441.38	VV	-----	132.10	173.55	0.023
7.560	1289.65	VV	0.080	251.11	173.91	0.067
9.807	578.19	VV	0.079	114.85	178.41	0.030
9.995	497.70	VV	-----	174.52	178.78	0.026
10.103	13761.10	VV	0.048	4496.25	179.00	0.712
10.939	1291.99	VV	0.063	318.62	180.67	0.067
11.314	270.87	VV	-----	94.16	181.42	0.014
11.602	545.29	VV	-----	117.42	182.00	0.028
12.379	371.81	PV	-----	164.94	184.22	0.019
12.450	61060.90	VV	0.049	19324.90	184.73	3.158
13.679	793.58	VV	-----	126.06	193.47	0.041
13.823	1075.83	VV	-----	251.63	194.50	0.056
14.147	484.00	VV	-----	112.73	196.81	0.025
14.337	2316.57	VV	0.074	493.05	198.16	0.120
14.720	481.31	VV	-----	144.24	200.88	0.025
14.791	1912.62	VV	-----	428.59	201.39	0.099
14.930	951.03	VV	-----	220.10	202.38	0.049
15.044	1039.44	VV	-----	133.48	203.19	0.054
16.156	892.53	VV	-----	150.04	211.10	0.046
16.545	1303.79	VV	-----	305.60	213.87	0.067
16.637	871.77	VV	-----	181.25	214.53	0.045
16.945	6511.71	VV	0.063	1618.11	216.72	0.337
17.593	2567.36	BV	0.091	443.37	220.27	0.133
20.966	909.75	BV	0.142	99.99	213.71	0.047
23.069	1422.99	PH	0.216	103.17	201.19	0.074

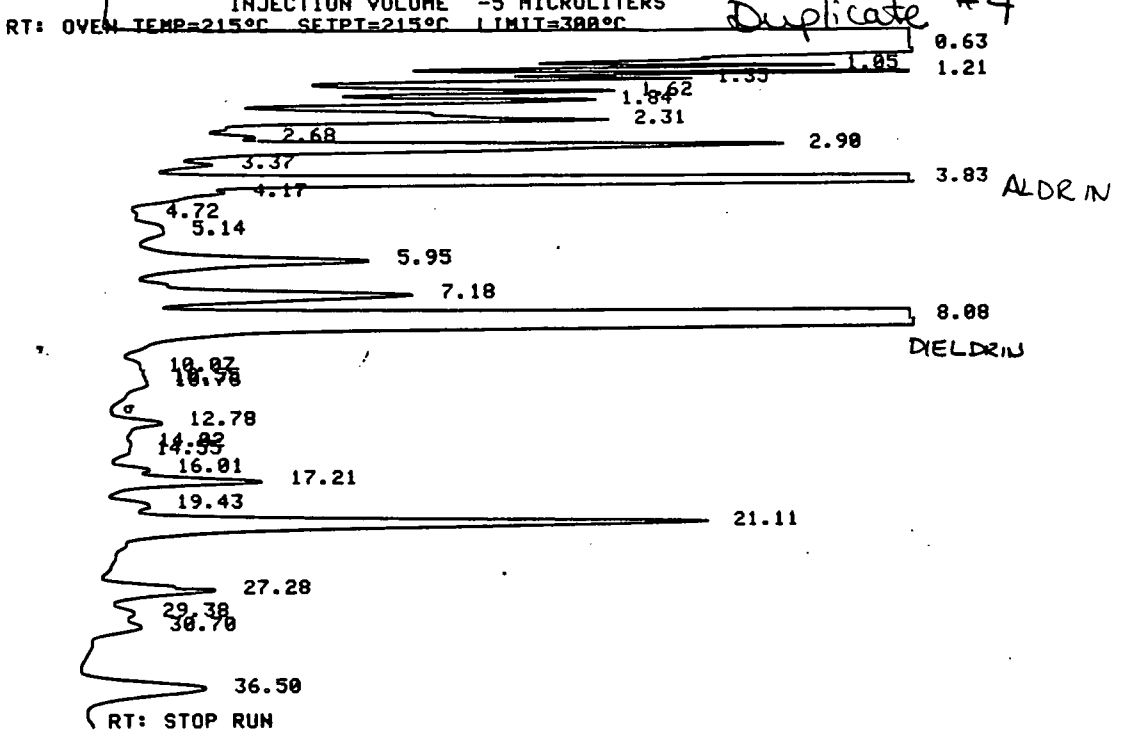
TOTAL AREA = 1933620.00
MULTIPLIER = 1

© SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (pad): Cat. No. 2-2888 (box of 10 pads)

**********EA LABORATORIES********
------PESTICIDES/PCB ANALYSIS-------

GC #3 / SIGNAL B
COLUMN TYPE -1.5%SP2250/1.95%SP2401
COLUMN DIMENSIONS - 2.0 METERS X 4MM
INJECTION VOLUME -5 MICROLITERS
RT: OVEN TEMP=215°C SETPT=215°C LIMIT=300°C

Duplicate #4



[hp] 5880A SAMPLER INJECTION @ 10:12 OCT 24, 1989
SAMPLE # : ID CODE :
11 WG4558

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 778.75			
0.00			THRESHOLD @ START RUN = 4			
0.00			PEAK WIDTH @ START RUN = 0.16			
0.10			RP: REJECT → 3000			
0.63	1744870.00	PV	0.149*	183373.00	752.16	67.976
1.05	10314.90	VV	-----	1674.59	752.23	0.402
1.21	12463.60	VV	-----	2082.45	752.25	0.486
1.35	10110.30	VV	-----	1364.14	752.28	0.394
1.62	11836.60	VV	-----	1180.18	752.31	0.461
1.84	12446.20	VV	-----	1133.23	752.35	0.485
2.31	21125.10	VV	*-----	1164.91	752.42	0.823
2.90	23731.00	VV	-----*	1584.26	752.51	0.925
3.37	3672.66	VV	-----	250.37	752.58	0.143
3.83	69002.90	VV	0.162	6683.26	752.64	2.688
4.17	5025.45	VV	-----	278.34	752.69	0.196
5.14	4341.96	VV	-----	136.38	752.84	0.169
5.95	15709.40	VV	0.402	611.18	752.96	0.612
7.18	20191.50	VV	*-----	709.98	753.15	0.787
8.08	408652.00	VV	0.322	19868.40	753.28	15.920
10.07	3249.48	VV	-----	82.77	753.58	0.127
10.76	3542.67	VV	-----	92.19	753.68	0.138
12.78	5586.63	BV	-----*	126.60	753.01	0.218
16.01	3939.40	VV	-----	100.23	749.01	0.153
17.21	19193.80	VV	0.825	364.16	747.52	0.748
19.43	5840.91	VV	-----	102.42	744.76	0.228
21.11	89181.90	VV	0.991	1408.48	742.68	3.474
27.28	19166.70	BV	1.094	274.38	729.44	0.747
29.38	6903.60	VV	-----	98.74	717.16	0.269
30.70	9036.68	VV	-----	120.64	709.42	0.352
36.50	27740.90	PH	1.476	294.35	686.72	1.081

TOTAL AREA = 2566870.00
MULTIPLIER = 1

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pad); Cat. No. 2-2888 (box of 10 pads)
© SUPELCO, Bellefonte, PA Cat. No

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP #4 MS

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4558MS

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 22.6 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 11 OCT 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

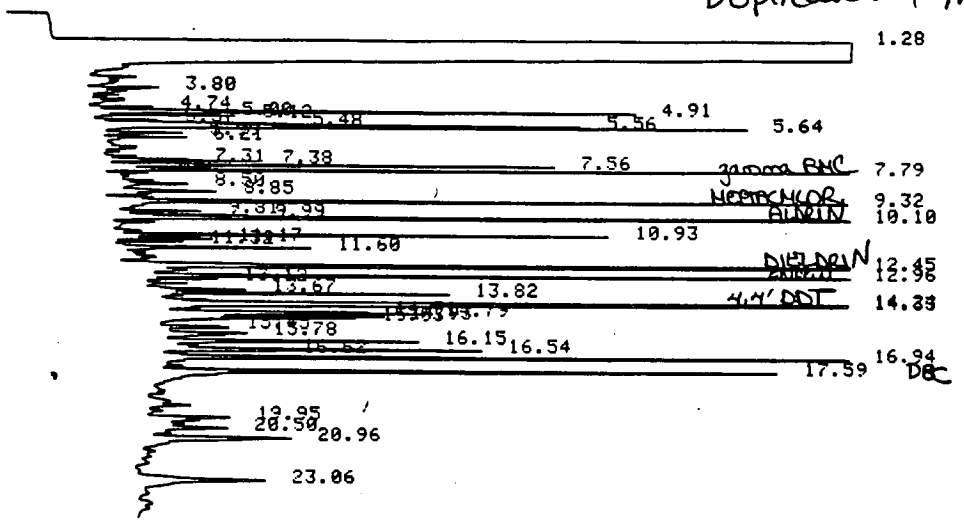
CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	40	
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	220	
72-55-9	4,4'-DDE	21	U
72-20-8	Endrin	21	U
332313-65-9	Endosulfan II	21	U
72-54-8	4,4'-DDD	21	U
1031-07-8	Endosulfan sulfate	21	U
50-29-3	4,4'-DDT	21	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin Ketone	21	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

TOTAL AREA = 1933620.00
MULTIPLIER = 1

COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 40

Duplicate #4 Matrix Spike



[hp] 5880A SAMPLER INJECTION @ 04:09 OCT 11, 1989
SAMPLE # : ID CODE :
15 WG4558MS
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 131.87			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.277	3019510.00	BB	-----*	184054.00	140.94	94.788
3.802	259.71	PV	-----	85.55	178.22	0.008
4.743	274.57	PV	0.057	76.03	181.26	0.009
4.911	2270.93	VV	0.053	671.52	182.81	0.071
5.000	476.49	VV	-----	149.00	183.62	0.015
5.125	568.39	VV	0.052	172.55	184.77	0.018
5.368	236.69	PV	0.051	72.47	190.93	0.007
5.480	662.66	VV	-----	221.87	197.32	0.021
5.561	1962.54	VV	-----	584.61	201.92	0.062
5.640	2657.59	VB	-----	785.19	206.38	0.083
5.993	494.10	BP	0.082	94.15	199.78	0.016
6.206	387.08	PV	0.061	100.07	199.00	0.012
7.314	327.72	VV	-----	100.57	199.82	0.010
7.384	633.13	VV	-----	184.01	199.88	0.020
7.556	2275.96	VV	0.064	554.92	200.00	0.071
7.786	4034.70	VP	0.045	1437.25	200.19	0.129
8.504	506.00	VP	-----	84.56	216.74	0.016
8.854	561.94	PV	0.082	107.47	228.20	0.018
9.325	3259.40	VB	0.043	1191.92	246.44	0.102
9.808	452.10	PV	0.070	101.11	216.51	0.014
9.991	467.88	VV	-----	161.25	213.89	0.015
10.101	17135.80	VP	0.051	5270.77	212.30	0.538
10.935	2338.58	VV	0.060	610.02	211.69	0.073
11.167	724.90	VV	-----	118.33	212.55	0.023
11.315	387.36	VP	0.073	83.55	213.10	0.012
11.596	1024.40	VV	0.068	237.02	214.86	0.032
12.447	76847.90	PV	*0.050	24155.40	222.94	2.412
12.959	6542.25	VV	0.048	2139.34	230.73	0.205
13.122	550.11	VV	-----	103.57	233.21	0.017
13.675	760.55	VV	-----	130.53	241.63	0.024
13.821	1435.66	VV	0.059	380.01	243.84	0.045
14.241	4419.40	VV	-----	1498.90	250.23	0.139
14.330	4263.32	VV	-----	945.87	251.58	0.134
14.712	958.36	VV	-----	264.86	257.40	0.030
14.786	1568.90	VV	-----	328.99	258.52	0.049
14.927	1113.30	VV	-----	281.79	260.67	0.035
15.034	1353.63	VP	-----	244.22	262.30	0.042
15.448	238.02	PV	-----	69.83	270.27	0.007
15.780	461.93	BV	-----	94.96	278.64	0.015
16.149	1779.42	PV	0.089	311.65	273.63	0.056
16.540	1709.74	VV	-----	393.46	271.34	0.054
16.623	513.69	VV	-----	139.07	270.86	0.016
16.940	6278.22	VV	0.063	1560.80	268.99	0.197
17.586	4657.20	VV	0.095	765.27	265.21	0.146
19.952	721.74	BV	-----	102.35	251.62	0.023
20.497	932.37	VV	-----	101.46	249.60	0.029
20.965	2138.71	VV	0.185	180.59	247.87	0.067
23.063	2341.31	PH	0.235	156.01	241.21	0.073

SUPELCO, INC., Bellefonte, PA Cat. No. 2-2887 (box): Cat. No. 2-2888 (box of 10 pads)

SUPELCO, INC., Bellefonte, I

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP #4 MSD

Lab Name: EA LABORATORIES Contract: 10388.05

Lab Code: EALABS Case #: WILLOW SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 4558MSD

Sample wt/vol: 30 g Lab File ID: WILLOW GROVE

Level: (low/med) LOW Date Received: 25 SEPT 89

% Moisture: dec. 22.6 not dec. Date Extracted: 26 SEPT 89

Extraction: SOXHLET Date Analyzed: 11 OCT 89

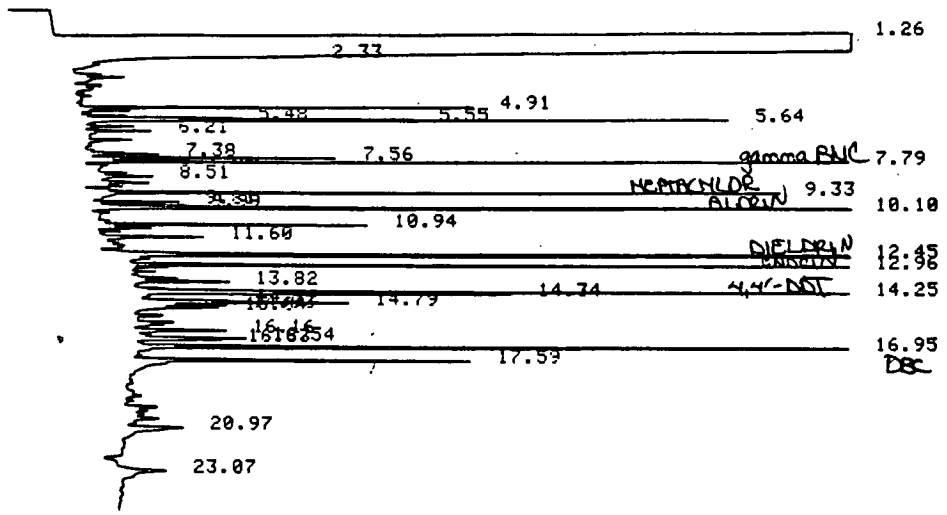
GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	10	U
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	40	
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	220	
72-55-9	4,4'-DDE	21	U
72-20-8	Endrin	21	U
332313-65-9	Endosulfan II	21	U
72-54-8	4,4'-DDD	21	U
1031-07-8	Endosulfan sulfate	21	U
50-29-3	4,4'-DDT	21	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin Ketone	21	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

23.063	2341.31	PH	0.235

SAMPLE ID: Duplicate #4 MSD
COLUMN: SPB-5 0.32mm ID/30m
INJ.AMT: 5ul
GC ID: 4D

TOTAL AREA = 3185540.00
MULTIPLIER = 1



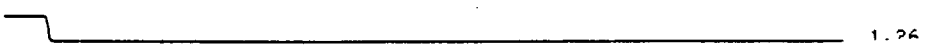
111

[hp] 5880A SAMPLER INJECTION @ 04:54 OCT 11, 1989
SAMPLE # : ID CODE :
16 WG4558MSD

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 133.67			
0.00			THRESHOLD @ START RUN = 7			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.00			RP: EXTEND RT → ON			
1.260	1413780.00	BV	-----*	96891.70	140.61	93.393
2.328	2775.02	VV	-----	295.73	149.16	0.183
4.911	1755.57	PV	0.057	482.37	170.01	0.116
5.479	526.09	PV	-----	177.70	176.19	0.035
5.555	1331.08	VV	-----	399.78	177.18	0.088
5.639	2642.04	VB	0.05	791.37	178.27	0.175
6.206	309.09	PV	0.059	82.00	172.52	0.020
7.385	316.61	VV	-----	91.23	173.14	0.021
7.558	1467.41	VV	0.074	309.79	173.23	0.097
7.786	2809.92	VB	0.045	982.79	173.36	0.186
8.508	611.80	VV	-----	80.45	175.30	0.040
9.327	2497.11	VV	0.046	852.96	177.85	0.165
9.810	478.52	VV	0.069	108.40	179.37	0.032
9.994	341.17	VV	-----	115.17	179.93	0.023
10.103	8953.53	VP	0.050	2783.94	180.28	0.591
10.940	1379.31	VV	0.064	336.84	184.26	0.091
11.601	709.71	VV	0.085	130.59	187.77	0.047
12.451	48465.50	PV	0.050	15273.40	195.36	3.202
12.962	4407.53	VV	0.048	1446.35	205.70	0.291
13.825	511.90	VV	-----	126.00	223.14	0.034
14.245	2667.01	VV	0.045	926.44	231.64	0.176
14.336	2010.62	VV	-----	462.82	233.48	0.133
14.719	344.06	BV	-----	111.68	239.91	0.023
14.792	1132.26	VV	-----	258.91	238.10	0.075
14.932	446.00	VV	-----	109.01	236.54	0.029
15.043	591.30	VB	-----	100.37	235.30	0.039
16.156	680.70	PV	0.093	114.61	231.34	0.045
16.545	584.21	VV	-----	139.70	231.18	0.039
16.633	488.57	VV	-----	108.53	231.14	0.032
16.946	4428.73	VV	0.063	1097.73	231.01	0.293
17.594	2535.59	BV	0.095	416.50	230.57	0.167
20.971	796.52	BV	0.178	70.25	222.93	0.053
23.073	1017.18	PH	0.262	60.82	211.77	0.067

TOTAL AREA = 1513790.00
MULTIPLIER = 1



2E

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: EA LABORATORIES Contract:10388.05

Lab Code: EALABS Case No.: WILLOW SAS No.: N/A SDG No.: N/

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	PBLK029	51.4%	
02	NSL SS 2	80.5%	
03	UG SS 1	71.8%	
04			
05			
06			
07			
08			
09			
10			
11			
12			
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27			
28			
29			
30			

ADVISORY QC LIMITS (24-154)

S1 (DBC) = Dibutylchlorendate

Column used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

C Coelution

E. Quality Assurance Summary

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove

Analysis: TCL pesticide/PCBs

EA Laboratories Report No. _____

Method: U.S. EPA-CLP

Reviewed by: J. O'Neil

Date: 10/17/89

1. Samples were extracted within 5 days of sample receipt for waters or 10 days for soils and analyzed within 40 days of extraction.

   ✓ Yes ____ No

2. Initial calibration criteria were met for each analytical sequence: DDT/endrin breakdown <20%; linearity as RSD of the response factors for aldrin, endrin, 4,4'-DDT, and DBC <10%; retention time windows established.

   ✓ Yes ____ No

3. The 72-hour calibration period was met for all samples.

   ✓ Yes ____ No

4. Continuing calibration criteria were met for all samples: the response factor percent difference from the initial calibration response factor for all compounds of interest was ≤15%.

   ✓ Yes ____ No

5. Surrogate recoveries were within advisory limits for all samples.

   ____ Yes ✓ No

6. Percent recovery and RPD for MS and MSD were within advisory limits for all samples.

   ____ Yes ✓ No

7. Method blank criteria were met for all samples: the method blank must contain ≤CRQL of any single pesticide/PCB target compound.

   ✓ Yes ____ No

(Revised 2 June 1989)

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove

Analysis: TCL pesticide/PCBs

EA Laboratories Report No. _____

Method: U.S. EPA-CLP

Reviewed by: J. O'Keefe

Date: 10/17/89

8. Laboratory control sample criteria were met for all samples.

✓ Yes _____ No

9. All tentatively identified compounds were confirmed on a second column.

✓ Yes _____ No

10. Field and equipment blanks: no target compounds were detected in the samples at concentrations <5X the concentration found in the highest associated blank.

N/A

_____ Yes _____ No

Comments: _____

(Revised 2 June 1989)

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove

Analysis: TCL pesticide/PCBs

EA Laboratories Report No. _____

Method: U.S. EPA-CLP

Reviewed by: J.E. Heffleger

Date: Nov. 09, 1989

1. Samples were extracted within 5 days of sample receipt for waters or 10 days for soils and analyzed within 40 days of extraction.

   ✓ Yes ____ No

2. Initial calibration criteria were met for each analytical sequence: DDT/endrin breakdown <20%; linearity as RSD of the response factors for aldrin, endrin, 4,4'-DDT, and DBC <10%; retention time windows established.

   ✓ Yes ____ No

3. The 72-hour calibration period was met for all samples.

   ✓ Yes ____ No

4. Continuing calibration criteria were met for all samples: the response factor percent difference from the initial calibration response factor for all compounds of interest was ≤15%.

   ____ Yes ✓ No

   See Note 4.

5. Surrogate recoveries were within advisory limits for all samples.

   ____ Yes ✓ No

   See Note 5.

6. Percent recovery and RPD for MS and MSD were within advisory limits for all samples.

   ____ Yes ✓ No

   See Note 6.

7. Method blank criteria were met for all samples: the method blank must contain ≤CRQL of any single pesticide/PCB target compound.

   ✓ Yes ____ No

(Revised 2 June 1989)

6. INORGANIC DATA

A. Sample Data

ENVIROFORMS/CLP 788

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

SOW No.: 7/88

Sample No.	Lab Sample ID.
ET4521	
ET4521D	
ET4521S	
ET4535	
ET4536	
ET4537	
ET4538	
ET4539	
ET4540	
ET4541	
ET4542	
ET4543	
ET4544	
ET4545	
ET4545D	
ET4545S	
ET4546	

Were ICP interelement corrections applied? Yes/No NO

Were ICP background corrections applied? Yes/No YES
If yes, were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms, and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contain d in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Stephen E. Shelley Name: STEPHEN E. SHELLEY

Dat : 19 Oct 89 Title: METALS SUPERVISOR

ENVIROFORMS/CLP 788

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

SOW No.: 7/88

Sample No.	Lab Sample ID.
ED4522	
ED4522D	
ED4522S	
ED4523	
ED4523D	
ED4523S	
ED4524	
ED4525	

Wer ICP interelement corrections applied? Yes/No NO

W r ICP background corrections applied? Yes/No YES
If yes, were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms, and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitt d on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Stephen E. Shelley Name: STEPHEN E. SHELLEY

Date: 17 OCTOBER 89 Title: METALS SUPERVISOR

ENVIROFORMS/CLP 788

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

SOW No.: 7/88

Sample No.	Lab Sample ID.
ET4547	
ET4547D	
ET4547S	
ET4548	
ET4549	
ET4550	
ET4551	
ET4552	
ET4553	
ET4554	
ET4555	
ET4556	
ET4557	
ET4558	
ET4558D	
ET4558S	

W re ICP interelement corrections applied? Yes/No NO

Were ICP background corrections applied? Yes/No YES
If yes, were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms, and conditions of the contract, both technically and for completeness, for oth r than the conditions detailed above. Release of the data contain d in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Stephen E. Shelley Name: STEPHEN E. SHELLEY

Date: 17 OCTOBER 89 Title: METALS SUPERVISOR

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4521

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9990			P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	247			P
7440-41-7	Beryllium	1.3	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	9950			P
7440-47-3	Chromium	19.5			P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	26800			P
7439-92-1	Lead	21.9		S	F
7439-95-4	Magnesium	4980	B		P
7439-96-5	Manganese	564			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	35.9	B		P
7440-09-7	Potassium	2410	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	5.4	B	N	P
7440-23-5	Sodium	7270			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	52.5			P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comm nts:
ALW - 2

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ED4522

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	144	U		P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.5	B		F
7440-39-3	Barium	502			P
7440-41-7	Beryllium	2.8	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	23000			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	18.0	U		P
7439-92-1	Lead	1.0	U	N	F
7439-95-4	Magnesium	8550			P
7439-96-5	Manganese	2.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	18.0	U		P
7440-09-7	Potassium	353	U		P
7782-49-2	Selenium	1.7	B		F
7440-22-4	Silver	4.0	U	N	P
7440-23-5	Sodium	14200		E	P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	11.0	B		P
7440-66-6	Zinc	15.2	B		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
WRW - 1

6006

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ED4523

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Matrix (soil/water): WATER Lab Sample ID:

L v l (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	144	U		P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	1120			P
7440-41-7	Beryllium	5.3			P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	31700			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	18.0	U		P
7439-92-1	Lead	2.3	B	N	F
7439-95-4	Magnesium	13500			P
7439-96-5	Manganese	12.4	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	18.0	U		P
7440-09-7	Potassium	417	B		P
7782-49-2	Selenium	1.1	B		F
7440-22-4	Silver	4.2	B	N	P
7440-23-5	Sodium	6870		E	P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	6.0	U		P
7440-66-6	Zinc	18.5	B		P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
WRW - 2

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ED4524

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	144	U		P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	200			P
7440-41-7	Beryllium	3.1	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	25900			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	18.0	U		P
7439-92-1	Lead	1.0	B	N	F
7439-95-4	Magnesium	11000			P
7439-96-5	Manganese	19.1			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	18.0	U		P
7440-09-7	Potassium	1450	B		P
7782-49-2	Selenium	1.3	B		F
7440-22-4	Silver	4.0	U	N	P
7440-23-5	Sodium	9570		E	P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	7.3	B		P
7440-66-6	Zinc	14.6	B		P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
WRW - 3

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ED4525

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Matrix (soil/water): WATER Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	144	U		P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	90.0	B		P
7440-41-7	Beryllium	4.2	B		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	9500			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	36.0	B		P
7439-92-1	Lead	2.1	B	N	F
7439-95-4	Magnesium	3600	B		P
7439-96-5	Manganese	110			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	18.0	U		P
7440-09-7	Potassium	553	B		P
7782-49-2	Selenium	1.3	B		F
7440-22-4	Silver	4.0	U	N	P
7440-23-5	Sodium	6820		E	P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	15.0	B		P
7440-66-6	Zinc	17.6	B		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comm nts:
ALW - 2

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4535

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4150			P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.7	B		F
7440-39-3	Barium	86.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	23800			P
7440-47-3	Chromium	15.3			P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	17.0	B		P
7439-89-6	Iron	7370			P
7439-92-1	Lead	26.1		S	F
7439-95-4	Magnesium	9710			P
7439-96-5	Manganese	275			P
7439-97-6	Mercury	0.27		*	CV
7440-02-0	Nickel	45.3			P
7440-09-7	Potassium	3520	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	6.7	B	N	P
7440-23-5	Sodium	6110			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	16.9	B		P
7440-66-6	Zinc	133			P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
NEL SWS 2

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4536

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	144	U		P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	46.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	22900			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	141			P
7439-92-1	Lead	4.7	B		F
7439-95-4	Magnesium	8740			P
7439-96-5	Manganese	62.0			P
7439-97-6	Mercury	0.24		*	CV
7440-02-0	Nickel	15.3	B		P
7440-09-7	Potassium	3330	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	5.1	B	N	P
7440-23-5	Sodium	7090			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	46.9			P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comm nts:
NEL SWS 3

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4537

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

L v l (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	144	U		P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	61.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	25600			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	135			P
7439-92-1	Lead	5.1		S	F
7439-95-4	Magnesium	9310			P
7439-96-5	Manganese	596			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	34.9	B		P
7440-09-7	Potassium	2960	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	4.5	B	N	P
7440-23-5	Sodium	7100			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	7.1	B		P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
AL SWS 1

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4538

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	144	U		P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	82.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	26200			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	252			P
7439-92-1	Lead	1.5	B		F
7439-95-4	Magnesium	9450			P
7439-96-5	Manganese	898			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	30.0	B		P
7440-09-7	Potassium	3560	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	4.0	U	N	P
7440-23-5	Sodium	6270			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	11.6	B		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
AL SWS 2

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4539

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	255			P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	57.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	27800			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	1240			P
7439-92-1	Lead	2.5	B		F
7439-95-4	Magnesium	6100			P
7439-96-5	Manganese	251			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	13.0	U		P
7440-09-7	Potassium	4180	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	4.0	U	N	P
7440-23-5	Sodium	1610	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	10.9	B		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
AL SWS 3

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4540

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

Lev l (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	144	U		P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	107	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	27200			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	489			P
7439-92-1	Lead	1.7	B		F
7439-95-4	Magnesium	9600			P
7439-96-5	Manganese	1550			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	18.9	B		P
7440-09-7	Potassium	3800	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	5.8	B	N	P
7440-23-5	Sodium	4250	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	11.6	B		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
AL SWS 4

ENVIROFORMS/CLP 788

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4541

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

L v l (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	185	B		P
7440-36-0	Antimony	44.8	B		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	39.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11900			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	534			P
7439-92-1	Lead	6.6		S	F
7439-95-4	Magnesium	3360	B		P
7439-96-5	Manganese	99.3			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	35.2	B		P
7440-09-7	Potassium	2720	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	4.0	U	N	P
7440-23-5	Sodium	3130	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	18.9	B		P
7440-66-6	Zinc	14.1	B		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
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RSB 11/6/89

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4542

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	334			P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	45.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11500			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	699			P
7439-92-1	Lead	5.9			F
7439-95-4	Magnesium	3070	B		P
7439-96-5	Manganese	68.2			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	27.3	B		P
7440-09-7	Potassium	2850	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	4.5	B	N	P
7440-23-5	Sodium	2670	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	13.4	B		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comm nts:
9/MSL SWS 2
RSB

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4543

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	225			P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	B		F
7440-39-3	Barium	47.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11600			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	849			P
7439-92-1	Lead	6.0		S	F
7439-95-4	Magnesium	3240	B		P
7439-96-5	Manganese	121			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	13.0	U		P
7440-09-7	Potassium	2440	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	5.9	B	N	P
7440-23-5	Sodium	2770	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	6.5	B		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
9 NSL SWS 3

RSB

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4544

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	171	B		P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	53.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	11800			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	347			P
7439-92-1	Lead	4.2	B		F
7439-95-4	Magnesium	3390	B		P
7439-96-5	Manganese	75.0			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	13.0	U		P
7440-09-7	Potassium	2780	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	5.1	B	N	P
7440-23-5	Sodium	3250	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	5.0	U		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comm nts:
9 MSL SWS 4
RSB

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4545

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

L v l (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	252			P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	56.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	27200			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	296			P
7439-92-1	Lead	1.9	B		F
7439-95-4	Magnesium	5940			P
7439-96-5	Manganese	89.3			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	43.5			P
7440-09-7	Potassium	3870	B		P
7782-49-2	Selenium	1.2	B		F
7440-22-4	Silver	4.0	U	N	P
7440-23-5	Sodium	1570	B		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	6.5	B		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
DUPLICATE #2

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4546

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Lab Sample ID:

L v l (low/med): LOW Date Received: 09/25/89

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1000			P
7440-36-0	Antimony	39.0	U		P
7440-38-2	Arsenic	2.7	B		F
7440-39-3	Barium	71.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	18200			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	27.0	U		P
7440-50-8	Copper	16.0	U		P
7439-89-6	Iron	1580			P
7439-92-1	Lead	2.8	B		F
7439-95-4	Magnesium	7120			P
7439-96-5	Manganese	56.6			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	23.8	B		P
7440-09-7	Potassium	3420	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	5.3	B	N	P
7440-23-5	Sodium	11900			P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	11.0	U		P
7440-66-6	Zinc	7.8	B		P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
UG SWS 1

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4547

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 09/25/89

% Solids: 47.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22300			P
7440-36-0	Antimony	9.4	B	N	P
7440-38-2	Arsenic	16.9		N	F
7440-39-3	Barium	120			P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	4.1			P
7440-70-2	Calcium	2070			P
7440-47-3	Chromium	26.3			P
7440-48-4	Cobalt	8.3	B		P
7440-50-8	Copper	30.5			P
7439-89-6	Iron	35200		E	P
7439-92-1	Lead	82.8		S	F
7439-95-4	Magnesium	2800			P
7439-96-5	Manganese	325		N	P
7439-97-6	Mercury	0.18	U		CV
7440-02-0	Nickel	15.2			P
7440-09-7	Potassium	1380			P
7782-49-2	Selenium	1.8	U	N	F
7440-22-4	Silver	0.79	U	N	P
7440-23-5	Sodium	82.0	B		P
7440-28-0	Thallium	0.20	B		F
7440-62-2	Vanadium	34.3			P
7440-66-6	Zinc	202			P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comm nts:
NEL SS 1

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4548

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 46.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	34400			P
7440-36-0	Antimony	7.0	B	N	P
7440-38-2	Arsenic	23.0		N	F
7440-39-3	Barium	166			P
7440-41-7	Beryllium	1.7			P
7440-43-9	Cadmium	5.0			P
7440-70-2	Calcium	2570			P
7440-47-3	Chromium	30.2			P
7440-48-4	Cobalt	9.4			P
7440-50-8	Copper	34.7			P
7439-89-6	Iron	42700		E	P
7439-92-1	Lead	102			F
7439-95-4	Magnesium	3170			P
7439-96-5	Manganese	717		N	P
7439-97-6	Mercury	0.18			CV
7440-02-0	Nickel	20.4			P
7440-09-7	Potassium	1850			P
7782-49-2	Selenium	1.4	U	N	F
7440-22-4	Silver	0.59	U	N	P
7440-23-5	Sodium	518	B		P
7440-28-0	Thallium	0.30	B		F
7440-62-2	Vanadium	49.0			P
7440-66-6	Zinc	179			P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
NEL SS 2

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4549

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 64.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12000			P
7440-36-0	Antimony	5.9	U	N	P
7440-38-2	Arsenic	10.0		N	F
7440-39-3	Barium	300			P
7440-41-7	Beryllium	0.65	B		P
7440-43-9	Cadmium	5.0			P
7440-70-2	Calcium	3090			P
7440-47-3	Chromium	23.0			P
7440-48-4	Cobalt	15.5			P
7440-50-8	Copper	22.5			P
7439-89-6	Iron	24600		E	P
7439-92-1	Lead	80.4			F
7439-95-4	Magnesium	1650			P
7439-96-5	Manganese	6090		N	P
7439-97-6	Mercury	0.16			CV
7440-02-0	Nickel	10.0			P
7440-09-7	Potassium	625	B		P
7782-49-2	Selenium	0.11	U	N	F
7440-22-4	Silver	0.75	B	N	P
7440-23-5	Sodium	50.7	B		P
7440-28-0	Thallium	0.11	U		F
7440-62-2	Vanadium	20.7			P
7440-66-6	Zinc	132			P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
AL SS 1

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4550

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 58.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13100			P
7440-36-0	Antimony	8.8		N	P
7440-38-2	Arsenic	8.3		NS	F
7440-39-3	Barium	322			P
7440-41-7	Beryllium	1.0			P
7440-43-9	Cadmium	6.0			P
7440-70-2	Calcium	6570			P
7440-47-3	Chromium	56.0			P
7440-48-4	Cobalt	19.5			P
7440-50-8	Copper	48.9			P
7439-89-6	Iron	21300		E	P
7439-92-1	Lead	290			P
7439-95-4	Magnesium	4380			P
7439-96-5	Manganese	5930		N	P
7439-97-6	Mercury	0.21			CV
7440-02-0	Nickel	22.5			P
7440-09-7	Potassium	767			P
7782-49-2	Selenium	0.12	U	N	F
7440-22-4	Silver	1.1		N	P
7440-23-5	Sodium	495	B		P
7440-28-0	Thallium	0.12	B		F
7440-62-2	Vanadium	22.9			P
7440-66-6	Zinc	275			P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comm nts:
AL SS 2

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4551

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 09/25/89

% Solids: 76.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11300			P
7440-36-0	Antimony	3.7	U	N	P
7440-38-2	Arsenic	12.1		N	F
7440-39-3	Barium	87.5			P
7440-41-7	Beryllium	0.72			P
7440-43-9	Cadmium	1.1			P
7440-70-2	Calcium	1470			P
7440-47-3	Chromium	8.9			P
7440-48-4	Cobalt	6.4			P
7440-50-8	Copper	8.0			P
7439-89-6	Iron	18700		E	P
7439-92-1	Lead	26.0		S	F
7439-95-4	Magnesium	1240			P
7439-96-5	Manganese	323		N	P
7439-97-6	Mercury	0.09			CV
7440-02-0	Nickel	1.2	U		P
7440-09-7	Potassium	474	B		P
7782-49-2	Selenium	0.09	U	N	F
7440-22-4	Silver	0.38	U	N	P
7440-23-5	Sodium	49.7	B		P
7440-28-0	Thallium	0.10	B		F
7440-62-2	Vanadium	15.2			P
7440-66-6	Zinc	30.1			P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
AL SS 3

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4552

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 53.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28100			P
7440-36-0	Antimony	12.1		N	P
7440-38-2	Arsenic	12.0		N	F
7440-39-3	Barium	541			P
7440-41-7	Beryllium	18.5			P
7440-43-9	Cadmium	9.7			P
7440-70-2	Calcium	136000			P
7440-47-3	Chromium	153			P
7440-48-4	Cobalt	111			P
7440-50-8	Copper	1610			P
7439-89-6	Iron	114000		E	P
7439-92-1	Lead	715			P
7439-95-4	Magnesium	56500			P
7439-96-5	Manganese	2490		N	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	546			P
7440-09-7	Potassium	1170			P
7782-49-2	Selenium	1.1		NS	F
7440-22-4	Silver	1.0	B	N	P
7440-23-5	Sodium	1420			P
7440-28-0	Thallium	0.12	U		F
7440-62-2	Vanadium	5.2	B		P
7440-66-6	Zinc	7640			P
	Cyanide				NR

Color Before: Clarity Before: Textur :

Color After: Clarity After: Artifacts:

Comments:
AL SS 4

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4553

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 77.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15000			P
7440-36-0	Antimony	3.6	U	N	P
7440-38-2	Arsenic	13.8		N	F
7440-39-3	Barium	124			P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	1.0			P
7440-70-2	Calcium	1130			P
7440-47-3	Chromium	14.0			P
7440-48-4	Cobalt	7.2			P
7440-50-8	Copper	11.2			P
7439-89-6	Iron	17400		E	P
7439-92-1	Lead	33.3		S	F
7439-95-4	Magnesium	1490			P
7439-96-5	Manganese	112		N	P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	11.6			P
7440-09-7	Potassium	447	B		P
7782-49-2	Selenium	0.11	U	N	F
7440-22-4	Silver	0.43	B	N	P
7440-23-5	Sodium	65.0	B		P
7440-28-0	Thallium	0.17	B		F
7440-62-2	Vanadium	20.8			P
7440-66-6	Zinc	45.4			P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comm nts:
9/NSL SS 1

RSB
11/6/89

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4554

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 09/25/89

% Solids: 73.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18200			P
7440-36-0	Antimony	4.2	U	N	P
7440-38-2	Arsenic	15.9		N	F
7440-39-3	Barium	103			P
7440-41-7	Beryllium	0.80			P
7440-43-9	Cadmium	1.2			P
7440-70-2	Calcium	885			P
7440-47-3	Chromium	14.6			P
7440-48-4	Cobalt	5.8			P
7440-50-8	Copper	9.4			P
7439-89-6	Iron	21900		E	P
7439-92-1	Lead	20.3		S	F
7439-95-4	Magnesium	1620			P
7439-96-5	Manganese	90.0		N	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	10.3			P
7440-09-7	Potassium	464	B		P
7782-49-2	Selenium	0.13	U	N	F
7440-22-4	Silver	0.47	B	N	P
7440-23-5	Sodium	80.8	B		P
7440-28-0	Thallium	0.13	U		F
7440-62-2	Vanadium	23.2			P
7440-66-6	Zinc	34.1			P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
9 ~~N~~SL SS 2
ASD

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4555

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

L v l (low/med): LOW Date Received: 09/25/89

% Solids: 58.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10600			P
7440-36-0	Antimony	6.3	B	N	P
7440-38-2	Arsenic	11.0		N	F
7440-39-3	Barium	78.6			P
7440-41-7	Beryllium	0.67			P
7440-43-9	Cadmium	1.9			P
7440-70-2	Calcium	2480			P
7440-47-3	Chromium	13.9			P
7440-48-4	Cobalt	6.2			P
7440-50-8	Copper	16.8			P
7439-89-6	Iron	30100		E	P
7439-92-1	Lead	52.6		S	F
7439-95-4	Magnesium	2000			P
7439-96-5	Manganese	495		N	P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	7.8			P
7440-09-7	Potassium	1110			P
7782-49-2	Selenium	0.14	U	N	F
7440-22-4	Silver	0.52	B	N	P
7440-23-5	Sodium	89.1	B		P
7440-28-0	Thallium	0.14	U		F
7440-62-2	Vanadium	15.3			P
7440-66-6	Zinc	97.5			P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
a/MSL SS 3

RSB

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4556

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 74.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7740			P
7440-36-0	Antimony	5.7	B	N	P
7440-38-2	Arsenic	6.9		N	F
7440-39-3	Barium	41.9			P
7440-41-7	Beryllium	0.49	B		P
7440-43-9	Cadmium	0.92			P
7440-70-2	Calcium	1840			P
7440-47-3	Chromium	8.5			P
7440-48-4	Cobalt	3.2	U		P
7440-50-8	Copper	7.6			P
7439-89-6	Iron	13800		E	P
7439-92-1	Lead	17.8		S	F
7439-95-4	Magnesium	1300			P
7439-96-5	Manganese	112		N	P
7439-97-6	Mercury	0.11			CV
7440-02-0	Nickel	4.3	B		P
7440-09-7	Potassium	442	B		P
7782-49-2	Selenium	0.12	U	N	F
7440-22-4	Silver	0.48	U	N	P
7440-23-5	Sodium	60.9	B		P
7440-28-0	Thallium	0.12	U		F
7440-62-2	Vanadium	11.9			P
7440-66-6	Zinc	57.0			P
	Cyanide				NR

Color B fore: Clarity Before: Textur :

Color After: Clarity After: Artifacts:

Comments:
9 ~~N~~SL SS 4

RSB

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4557

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 74.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15500			P
7440-36-0	Antimony	5.4	B	N	P
7440-38-2	Arsenic	11.7		N	F
7440-39-3	Barium	126			P
7440-41-7	Beryllium	0.86			P
7440-43-9	Cadmium	1.2			P
7440-70-2	Calcium	1890			P
7440-47-3	Chromium	20.8			P
7440-48-4	Cobalt	6.4			P
7440-50-8	Copper	17.0			P
7439-89-6	Iron	27800		E	P
7439-92-1	Lead	45.9		S	F
7439-95-4	Magnesium	2320			P
7439-96-5	Manganese	371		N	P
7439-97-6	Mercury	0.19			CV
7440-02-0	Nickel	10.3			P
7440-09-7	Potassium	870			P
7782-49-2	Selenium	0.89	U	N	F
7440-22-4	Silver	0.49	B	N	P
7440-23-5	Sodium	97.4	B		P
7440-28-0	Thallium	0.16	B		F
7440-62-2	Vanadium	21.8			P
7440-66-6	Zinc	65.8			P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
UG SS 1

ENVIROFORMS/CLP 788

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ET4558

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Lab Sample ID:

L vel (low/med): LOW Date Received: 09/25/89

% Solids: 77.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8350			P
7440-36-0	Antimony	4.6	U	N	P
7440-38-2	Arsenic	12.6		N	F
7440-39-3	Barium	71.6			P
7440-41-7	Beryllium	0.57	B		P
7440-43-9	Cadmium	1.3			P
7440-70-2	Calcium	1950			P
7440-47-3	Chromium	7.6			P
7440-48-4	Cobalt	3.7	B		P
7440-50-8	Copper	9.4			P
7439-89-6	Iron	15300		E	P
7439-92-1	Lead	32.8		S	F
7439-95-4	Magnesium	1190			P
7439-96-5	Manganese	150		N	P
7439-97-6	Mercury	0.16			CV
7440-02-0	Nickel	5.4			P
7440-09-7	Potassium	607			P
7782-49-2	Selenium	0.98	U	N	F
7440-22-4	Silver	0.47	U	N	P
7440-23-5	Sodium	68.4	B		P
7440-28-0	Thallium	0.10	B		F
7440-62-2	Vanadium	12.0			P
7440-66-6	Zinc	32.6			P
	Cyanide				NR

Color B fore: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
DUPLICATE #4

B. Quality Control Data

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0	9410.00	94.1	10000.0	9509.00	95.1	9929.00	99.3	P
Antimony	3000.0	2972.60	99.1	3000.0	3163.10	105.4	3098.20	103.3	P
Arsenic	40.0	39.37	98.4	40.0	40.05	100.1	40.40	101.0	F
Barium	10000.0	9953.00	99.5	10000.0	9707.00	97.1	9098.00	91.0	P
Beryllium	250.0	247.35	98.9	250.0	259.52	103.8	252.20	100.9	P
Cadmium	2500.0	2536.30	101.5	2500.0	2611.00	104.4	2573.60	102.9	P
Calcium	25000.0	23545.00	94.2	25000.0	23628.00	94.5	23373.00	93.5	P
Chromium	1000.0	990.10	99.0	1000.0	1005.00	100.5	979.90	98.0	P
Cobalt	2500.0	2376.80	95.1	2500.0	2497.30	99.9	2545.60	101.8	P
Copper	1250.0	1275.90	102.1	1250.0	1310.20	104.8	1278.10	102.2	P
Iron	5000.0	5049.00	101.0	5000.0	4888.00	97.8	4894.00	97.9	P
Lead	50.0	50.50	101.0	50.0	46.70	93.4	51.00	102.0	F
Magnesium	25000.0	24206.00	96.8	25000.0	23736.00	94.9	25578.00	102.3	P
Manganese	2500.0	2489.20	99.6	2500.0	2598.70	103.9	2513.10	100.5	P
Mercury	3.0	2.97	99.0	3.0	3.12	104.0	3.18	106.0	CV
Nickel	2500.0	2558.50	102.3	2500.0	2494.40	99.8	2572.80	102.9	P
Potassium	25000.0	25659.00	102.6	25000.0	24322.00	97.3	24157.00	96.6	P
Selenium	40.0	40.77	101.9	40.0	40.90	102.2	40.94	102.4	F
Silver	250.0	246.12	98.4	250.0	255.01	102.0	249.03	99.6	P
Sodium	25000.0	23904.00	95.6	25000.0	23847.00	95.4	24191.00	96.8	P
Thallium	50.0	49.78	99.6	50.0	46.14	92.3	52.85	105.7	F
Vanadium	2500.0	2624.20	105.0	2500.0	2599.50	104.0	2714.60	108.6	P
Zinc	2500.0	2522.90	100.9	2500.0	2410.10	96.4	2683.00	107.3	P
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0	9700.00	97.0			P
Antimony	3000.0			3000.0	3098.20	103.3	3254.10	108.5	P
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0	240.69	96.3	236.74	94.7	P
Cadmium	2500.0			2500.0	2611.00	104.4	2638.60	105.5	P
Calcium	25000.0			25000.0	26437.00	105.7			P
Chromium	1000.0			1000.0	1030.50	103.0	1031.40	103.1	P
Cobalt	2500.0			2500.0	2524.80	101.0	2525.90	101.0	P
Copper	1250.0			1250.0	1322.50	105.8	1358.70	108.7	P
Iron	5000.0			5000.0					
Lead	50.0			50.0	51.20	102.4	49.90	99.8	F
Magnesium	25000.0			25000.0	24572.00	98.3			P
Manganese	2500.0			2500.0	2509.80	100.4	2501.60	100.1	P
Mercury	3.0			3.0					
Nickel	2500.0			2500.0	2521.80	100.9			P
Potassium	25000.0			25000.0	23942.00	95.8			P
Selenium	40.0			40.0	41.09	102.7	41.25	103.1	F
Silver	250.0			250.0	247.90	99.2	242.72	97.1	P
Sodium	25000.0			25000.0	23554.00	94.2			P
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0	2637.60	105.5			P
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	2500.0			2500.0					
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0	40.81	102.0			F
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0	40.95	102.4	40.0	40.10	100.2	40.67	101.7	F
Barium	10000.0	10811.00	108.1	10000.0	10666.00	106.7	10006.00	100.1	P
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0	4996.00	99.9	5000.0	4955.00	99.1	4978.00	99.6	P
Lead	50.0	54.80	109.6	50.0	54.30	108.6	54.00	108.0	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0	3.01	100.3	3.0	2.99	99.7	3.08	102.7	CV
Nickel	2500.0	2523.80	101.0	2500.0	2518.00	100.7	2507.10	100.3	P
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	50.0	50.23	100.5	50.0	50.41	100.8	52.02	104.0	F
Vanadium	2500.0	2657.50	106.3	2500.0	2485.50	99.4	2506.50	100.3	P
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0			40.0	41.60	104.0	41.12	102.8	F
Barium	10000.0			10000.0	10112.00	101.1			P
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	2500.0			2500.0					
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN 7/88

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0	50.00	100.0	50.0	52.90	105.8	49.90	99.8	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2500.0	2566.60	102.7	2500.0	2634.30	105.4	2612.80	104.5	P
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	50.0	49.04	98.1	50.0	48.71	97.4	46.50	93.0	F
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN 7/88

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	2500.0			2500.0					
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2500.0			2500.0	2511.30	100.5			P
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	50.0			50.0	46.13	92.3			F
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

FORM II (PART 1) - IN 7/88

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0	9471.00	94.7	10000.0	9115.00	91.2	9437.00	94.4	P
Antimony	3000.0	2924.80	97.5	3000.0	2913.80	97.1	2880.80	96.0	P
Arsenic	40.0	43.34	108.4	40.0	42.81	107.0	42.40	106.0	F
Barium	10000.0	10291.00	102.9	10000.0	10013.00	100.1	10086.00	100.9	P
Beryllium	250.0	270.21	108.1	250.0	248.92	99.6	253.97	101.6	P
Cadmium	2500.0	2473.90	99.0	2500.0	2493.50	99.7	2429.90	97.2	P
Calcium	25000.0	24477.00	97.9	25000.0	24619.00	98.5	24707.00	98.8	P
Chromium	1000.0	1010.10	101.0	1000.0	1024.80	102.5	996.40	99.6	P
Cobalt	2500.0	2543.60	101.7	2500.0	2548.70	101.9	2464.80	98.6	P
Copper	1250.0	1283.70	102.7	1250.0	1248.60	99.9	1199.00	95.9	P
Iron	5000.0	4617.00	92.3	5000.0	4625.00	92.5	4584.00	91.7	P
Lead	50.0	50.50	101.0	50.0	50.00	100.0	49.90	99.8	F
Magnesium	25000.0	25988.00	104.0	25000.0	26020.00	104.1	26707.00	106.8	P
Manganese	2500.0	2504.90	100.2	2500.0	2563.00	102.5	2478.90	99.2	P
Mercury	3.0	3.05	101.7	3.0	3.13	104.3	3.40	113.3	CV
Nickel	2500.0	2488.30	99.5	2500.0	2407.40	96.3	2393.90	95.8	P
Potassium	25000.0	23441.00	93.8	25000.0	23735.00	94.9	25904.00	103.6	P
Selenium	40.0	41.83	104.6	40.0	36.89	92.2	37.41	93.5	F
Silver	250.0	255.99	102.4	250.0	259.67	103.9	262.12	104.8	P
Sodium	25000.0	23684.00	94.7	25000.0	24015.00	96.1	24613.00	98.5	P
Thallium	50.0	49.04	98.1	50.0	46.50	93.0	46.13	92.3	F
Vanadium	2500.0	2517.00	100.7	2500.0	2536.40	101.5	2437.10	97.5	P
Zinc	2500.0	2508.20	100.3	2500.0	2508.20	100.3	2451.90	98.1	P
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN 7/88

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0			40.0	40.10	100.2			F
Barium	10000.0			10000.0	10555.00	105.6			P
Beryllium	250.0			250.0	244.59	97.8			P
Cadmium	2500.0			2500.0	2444.50	97.8			P
Calcium	25000.0			25000.0	24562.00	98.2			P
Chromium	1000.0			1000.0	1010.30	101.0			P
Cobalt	2500.0			2500.0	2456.40	98.3			P
Copper	1250.0			1250.0	1196.70	95.7			P
Iron	5000.0			5000.0					
Lead	50.0			50.0	49.50	99.0			F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0	2534.90	101.4			P
Mercury	3.0			3.0					
Nickel	2500.0			2500.0	2308.90	92.4			P
Potassium	25000.0			25000.0					
Selenium	40.0			40.0	36.72	91.8			F
Silver	250.0			250.0	267.02	106.8			P
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0	2454.30	98.2			P
Zinc	2500.0			2500.0	2423.90	97.0			P
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN 7/88

ENVIROFORMS/CLP 788

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	2500.0			2500.0					
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	50.0	46.46	92.9	50.0	49.13	98.3	46.79	93.6	F
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0	9495.00	95.0	10000.0	10253.00	102.5	9511.00	95.1	P
Antimony	3000.0	2989.90	99.7	3000.0	3050.50	101.7	2925.00	97.5	P
Arsenic	40.0	39.36	98.4	40.0	39.29	98.2	38.65	96.6	F
Barium	10000.0	10045.00	100.4	10000.0	10598.00	106.0	10979.00	109.8	P
Beryllium	250.0	239.84	95.9	250.0	245.60	98.2	264.44	105.8	P
Cadmium	2500.0	2388.90	95.6	2500.0	2455.20	98.2	2340.80	93.6	P
Calcium	25000.0	25064.00	100.3	25000.0	25775.00	103.1	26360.00	105.4	P
Chromium	1000.0	963.50	96.4	1000.0	990.60	99.1	932.50	93.2	P
Cobalt	2500.0	2528.20	101.1	2500.0	2557.80	102.3	2697.00	107.9	P
Copper	1250.0	1258.60	100.7	1250.0	1265.70	101.3	1194.70	95.6	P
Iron	5000.0	5088.00	101.8	5000.0	5303.00	106.1	5208.00	104.2	P
Lead	2500.0	2598.10	103.9	2500.0	2727.70	109.1	2712.80	108.5	P
Magnesium	25000.0	23505.00	94.0	25000.0	24674.00	98.7	25670.00	102.7	P
Manganese	2500.0	2523.70	100.9	2500.0	2402.90	96.1	2429.70	97.2	P
Mercury	3.0	2.91	97.0	3.0	2.92	97.3	2.92	97.3	CV
Nickel	2500.0	2425.20	97.0	2500.0	2656.30	106.3	2399.80	96.0	P
Potassium	25000.0	25378.00	101.5	25000.0	26092.00	104.4	26737.00	106.9	P
Selenium	40.0	40.74	101.8	40.0	39.81	99.5	38.40	96.0	F
Silver	250.0	242.25	96.9	250.0	249.19	99.7	241.93	96.8	P
Sodium	25000.0	25644.00	102.6	25000.0	24884.00	99.5	25114.00	100.5	P
Thallium	50.0	49.78	99.6	50.0	49.52	99.0	45.97	91.9	F
Vanadium	2500.0	2450.30	98.0	2500.0	2544.80	101.8	2556.90	102.3	P
Zinc	2500.0	2451.90	98.1	2500.0	2495.30	99.8	2381.20	95.2	P
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0	9674.00	96.7	10031.00	100.3	P
Antimony	3000.0			3000.0	2955.30	98.5	2855.80	95.2	P
Arsenic	40.0			40.0	40.94	102.4			F
Barium	10000.0			10000.0	10280.00	102.8	9069.00	90.7	P
Beryllium	250.0			250.0	264.07	105.6			P
Cadmium	2500.0			2500.0	2324.20	93.0	2355.70	94.2	P
Calcium	25000.0			25000.0	24933.00	99.7	24638.00	98.6	P
Chromium	1000.0			1000.0	931.10	93.1	915.40	91.5	P
Cobalt	2500.0			2500.0	2643.50	105.7			P
Copper	1250.0			1250.0	1200.80	96.1	1164.70	93.2	P
Iron	5000.0			5000.0	5325.00	106.5	5156.00	103.1	P
Lead	2500.0			2500.0	2672.90	106.9			P
Magnesium	25000.0			25000.0	25167.00	100.7			P
Manganese	2500.0			2500.0	2379.40	95.2	2495.70	99.8	P
Mercury	3.0			3.0	2.99	99.7			CV
Nickel	2500.0			2500.0	2464.90	98.6	2386.80	95.5	P
Potassium	25000.0			25000.0	26825.00	107.3			P
Selenium	40.0			40.0	38.00	95.0			F
Silver	250.0			250.0	240.64	96.3	232.89	93.2	P
Sodium	25000.0			25000.0	24414.00	97.7			P
Thallium	50.0			50.0	46.14	92.3	52.85	105.7	F
Vanadium	2500.0			2500.0	2537.20	101.5	2496.20	99.8	P
Zinc	2500.0			2500.0	2434.30	97.4	2342.80	93.7	P
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0	10081.00	100.8			P
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0	5064.00	101.3			P
Lead	2500.0			2500.0					
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0	40.39	101.0	40.0	39.99	100.0	38.56	96.4	F
Barium	10000.0			10000.0					
Beryllium	250.0	255.97	102.4	250.0	253.34	101.3	250.51	100.2	P
Cadmium	2500.0			2500.0					
Calcium	25000.0	25543.00	102.2	25000.0	23812.00	95.2	24597.00	98.4	P
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0	47.20	94.4	50.0	48.60	97.2	49.00	98.0	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	40.0	41.83	104.6	40.0	40.11	100.3	36.30	90.8	F
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0			40.0	40.05	100.1	39.78	99.4	F
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0			50.0	49.30	98.6	48.60	97.2	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0	38.54	96.4	36.89	92.2	F
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0			40.0	37.29	93.2	39.43	98.6	F
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	2500.0			2500.0					
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0			40.0	40.53	101.3			F
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	2500.0			2500.0					
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0	41.83	104.6	40.0	40.29	100.7	42.46	106.2	F
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0	52.30	104.6	50.0	51.50	103.0	51.20	102.4	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0			50.0	51.00	102.0			F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0	50.50	101.0	50.0	49.70	99.4	50.00	100.0	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN 7/88

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0			50.0	46.70	93.4			F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0	54.80	109.6	50.0	53.10	106.2	54.30	108.6	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0			50.0	54.00	108.0			F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0			10000.0					
Antimony	3000.0			3000.0					
Arsenic	10000.0			10000.0					
Barium	10000.0			10000.0					
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0					
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0	50.00	100.0	50.0	52.90	105.8	49.90	99.8	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	2000.0			2000.0					
Potassium	25000.0			25000.0					
Selenium	10000.0			10000.0					
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0					
Zinc	2500.0			2500.0					
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110;
Cyanide 85-115

ENVIROFORMS/CLP 788

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

AA CRDL Standard Source:

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Found Found	%R
Aluminum								
Antimony				120.0	122.70	102.2	118.40	98.7
Arsenic	10.0							
Barium								
Beryllium				10.0	9.46	94.6	8.82	88.2
Cadmium				10.0	11.40	114.0	9.70	97.0
Calcium								
Chromium				20.0	37.60	188.0	38.50	192.5
Cobalt				100.0	86.30	86.3	101.20	101.2
Copper				50.0	58.00	116.0	58.30	116.6
Iron								
Lead								
Magnesium								
Manganese				30.0	20.30	67.7	24.60	82.0
Mercury								
Nickel				80.0	89.00	111.2	83.30	104.1
Potassium								
Selenium	5.0							
Silver	10.0			20.0	21.46	107.3	22.75	113.8
Sodium								
Thallium	10.0							
Vanadium				100.0	102.10	102.1	98.10	98.1
Zinc				40.0	41.80	104.5	39.90	99.8

ENVIROFORMS/CLP 788

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

AA CRDL Standard Source:

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Found Found	%R
Aluminum								
Antimony				120.0				
Arsenic	10.0							
Barium								
Beryllium				10.0				
Cadmium				10.0				
Calcium								
Chromium				20.0				
Cobalt				100.0				
Copper				50.0				
Iron								
Lead								
Magnesium								
Manganese				30.0				
Mercury								
Nickel				80.0	100.50	125.6	88.20	110.2
Potassium								
Selenium	5.0							
Silver	10.0			20.0				
Sodium								
Thallium	10.0							
Vanadium				100.0				
Zinc				40.0				

ENVIROFORMS/CLP 788

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

AA CRDL Standard Source:

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Found Found	%R
Aluminum								
Antimony				120.0				
Arsenic	10.0							
Barium								
Beryllium				10.0	0.60	6.0	8.90	89.0
Cadmium				10.0	7.30	73.0	7.30	73.0
Calcium								
Chromium				20.0	24.80	124.0	22.30	111.5
Cobalt				100.0	104.10	104.1	109.10	109.1
Copper				50.0	3.30	6.6	48.80	97.6
Iron								
Lead								
Magnesium								
Manganese				30.0	29.80	99.3	28.90	96.3
Mercury								
Nickel				80.0	10.30	12.9	77.80	97.2
Potassium								
Selenium	5.0							
Silver	10.0			20.0	21.11	105.6	20.29	101.4
Sodium								
Thallium	10.0							
Vanadium				100.0	106.90	106.9	105.30	105.3
Zinc				40.0	39.30	98.2	38.10	95.2

ENVIROFORMS/CLP 788

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

AA CRDL Standard Source:

ICP CRDL Standard Source:

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Found	%R
Aluminum								
Antimony				120.0				
Arsenic	10.0							
Barium								
Beryllium				10.0	10.58	105.8	10.36	103.6
Cadmium				10.0	11.10	111.0	11.10	111.0
Calcium								
Chromium				20.0	37.10	185.5	35.70	178.5
Cobalt				100.0	85.10	85.1	96.70	96.7
Copper				50.0	54.40	108.8	49.30	98.6
Iron								
Lead								
Magnesium								
Manganese				30.0	25.80	86.0	16.90	56.3
Mercury								
Nickel				80.0	75.00	93.8	127.70	159.6
Potassium								
Selenium	5.0							
Silver	10.0			20.0	19.64	98.2	18.67	93.4
Sodium								
Thallium	10.0							
Vanadium				100.0	97.40	97.4	100.10	100.1
Zinc				40.0	43.00	107.5	38.80	97.0

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Pr paration Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	144.0	U	144.0	U	144.0	U	144.0	U	144.0	U	P
Antimony	39.0	U	39.0	U	40.4	B	39.0	U	40.4	B	P
Arsenic	2.0	U	2.0	U	2.0	U			2.0	U	F
Barium	23.0	U	23.0	U	23.0	U			23.0	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	P
Cadmium	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	P
Calcium	40.0	U	40.0	U	-41.0	B	40.0	U	40.0	U	P
Chromium	9.0	U	9.0	U	9.0	U	9.0	U	9.0	U	P
Cobalt	27.0	U	27.0	U	27.0	U	27.0	U	27.0	U	P
Copper	16.0	U	16.0	U	16.0	U	16.0	U	16.0	U	P
Iron	18.0	U	18.0	U	-67.0	B			75.0	B	P
Lead	1.0	U	1.0	B	1.0	U	1.0	U	1.0	U	F
Magnesium	41.0	U	43.0	B	192.0	B	41.0	U	41.0	U	P
Manganese	-6.8	B	-8.6	B	6.0	U	6.0	U	-7.7	B	P
Mercury	0.2	U	0.2	U	0.2	U			0.2	U	CV
Nickel	13.0	U	13.0	U	29.2	B	-13.6	B	17.1	B	P
Potassium	353.0	U	353.0	U	576.0	B	353.0	U	355.0	B	P
Selenium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	F
Silver	5.6	B	5.1	B	4.0	U	4.0	U	5.0	B	P
Sodium	57.0	U	57.0	U	57.0	U	62.0	B	57.0	U	P
Thallium	2.0	U	2.0	U	2.0	U			2.0	U	F
Vanadium	11.0	U	11.0	U	11.0	U			-14.1	B	P
Zinc	7.8	B	9.0	B	5.0	U	5.3	B	7.1	B	P
Cyanide											

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony			39.0	U							P
Arsenic											
Barium											
Beryllium			1.0	U							P
Cadmium			4.0	U							P
Calcium											
Chromium			9.0	U							P
Cobalt			27.0	U							P
Copper			16.0	U							P
Iron											
Lead			1.1	B							F
Magnesium											
Manganese			-11.4	B							P
Mercury											
Nickel											
Potassium											
Selenium			1.0	U	1.0	U					F
Silver			5.3	B							P
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U			F
Barium	23.0	U	23.0	U	23.0	U	23.0	U			P
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron	18.0	U	18.0	U	32.0	B					P
L ad	3.7	B	1.0	U	1.1	B					F
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U	0.2						CV
Nickel	13.0	U	-37.6	B	13.0	U					P
Potassium											
Selenium											
Silver											
Sodium											
Thallium	2.0	U	2.0	U	2.0	U					F
Vanadium	11.0	U	11.0	U	-15.6	B					P
Zinc											
Cyanide											

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Preparation Blank Matrix (soil/water): WATER

Pr paration Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic			2.0	U							F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Pr paration Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	3.6	B	1.4	B	1.0	U					F
Magnesium											
Manganese											
Mercury											
Nickel	35.9	B	13.0	U	23.6	B	13.0	U			P
Potassium											
Selenium											
Silver											
Sodium											
Thallium	2.0	U	2.0	U	2.0	U	2.0	U			F
Vanadium											
Zinc											
Cyanide											

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	144.0	U	144.0	U	-188.0	B			144.0	U	P
Antimony	39.0	U	39.0	U	39.0	U			39.0	U	P
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Barium	23.0	U	23.0	U	23.0	U	23.0	U	23.0	U	P
Beryllium	3.1	B	3.5	B	4.2	B	4.9	B	3.1	B	P
Cadmium	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	P
Calcium	40.0	U	40.0	U	40.0	U	40.0	U	40.0	B	P
Chromium	9.0	U	9.0	U	9.0	U	9.0	U	9.0	U	P
Cobalt	27.0	U	27.0	U	27.0	U	27.0	U	27.0	U	P
Copper	16.0	U	16.0	U	16.0	U	16.0	U	16.0	U	P
Iron	18.0	U	18.0	U	18.0	U			18.0	U	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	F
Magnesium	41.0	U	41.0	U	41.0	U			41.0	U	P
Manganese	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	P
Mercury	0.2	U	0.2	U	0.2	U			0.2	U	CV
Nickel	18.0	U	18.0	U	18.0	U	18.0	U	18.0	U	P
Potassium	-511.0	B	-649.0	B	353.0	U			353.0	U	P
Selenium	1.6	B	1.0	B	1.3	B	1.0	U	1.0	U	F
Silver	5.2	B	4.6	B	4.0	U	4.0	U	4.0	U	P
Sodium	-99.0	B	57.0	U	-124.0	B			892.0	B	P
Thallium	1.0	U	1.0	U	1.0	U			1.0	U	F
Vanadium	8.9	B	7.9	B	11.0	B	7.9	B	6.3	B	P
Zinc	5.0	U	5.4	B	5.0	U	5.0	U	5.7	B	P
Cyanide											

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Pr paration Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium	1.0	U	1.0	U	1.0	U					F
Vanadium											
Zinc											
Cyanide											

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	144.0	U	144.0	U	144.0	U	144.0	U	14.4	U	P
Antimony	39.0	U	39.0	U	39.0	U	39.0	U	3.9	U	P
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U	0.2	U	F
Barium	23.0	U	23.0	U	23.0	U	23.0	U	2.3	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.1	B	P
Cadmium	4.0	U	4.0	U	4.0	U	4.0	U	0.4	B	P
Calcium	40.0	U	40.0	U	40.0	U	-46.0	B	4.1	B	P
Chromium	9.0	U	9.0	U	9.0	U	9.0	U	0.9	U	P
Cobalt	27.0	U	27.0	U	27.0	U	27.0	U	-4.4	B	P
Copper	16.0	U	16.0	U	16.0	U	16.0	U	1.6	U	P
Iron	18.0	U	18.0	U	18.0	U	18.0	U	13.0		P
Lead	75.0	U	114.7		84.8		75.0	U	16.0		P
Magnesium	41.0	U	41.0	U	41.0	U	123.0	B	4.1	U	P
Manganese	6.0	U	6.0	U	6.0	U	6.0	U	0.6	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.1	U	CV
Nickel	13.0	U	13.0	U	26.3	B			4.0	B	P
Potassium	-469.0	B	-687.0	B	-632.0	B	353.0	U	-49.3	B	P
Selenium	1.1	B	1.4	B	1.2	B	1.0	B	0.1	B	F
Silver	4.0	U	4.0	U	4.0	U	4.0	U	0.4	U	P
Sodium	-127.0	B	57.0	U	234.0	B	57.0	U	9.1	B	P
Thallium	1.0	U	1.0	U	1.0	U	1.0	U	0.1	U	F
Vanadium	6.0	U	6.0	U	6.0	U	6.0	U	0.6	U	P
Zinc	5.7	B	5.0	U	5.0	U	5.0	U	1.0	B	P
Cyanide											

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			144.0	U	144.0	U					P
Antimony			39.0	U							P
Arsenic											
Barium			23.0	U							P
Beryllium											
Cadmium			4.0	U							P
Calcium			-60.0	B							P
Chromium			9.0	U							P
Cobalt											
Copper			16.0	U							P
Iron			18.0	U	24.0	B					P
Lead									0.4	B	F
Magnesium											
Manganese			6.0	U							P
Mercury											
Nickel			-15.7	B							P
Potassium											
Selenium											
Silver			4.0	U							P
Sodium											
Thallium			1.0	U							F
Vanadium			6.0	U							P
Zinc			5.0	U							P
Cyanide											

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3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Pr paration Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U			F
Barium											
Beryllium	1.0	U	1.0	U	1.0	U					P
Cadmium											
Calcium	40.0	U	40.0	U	40.0	U					P
Chromium											
Cobalt											
Copper											
Iron											
L ad	1.0	U	1.0	U	1.0	U	1.0	U			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium	1.6	B	1.6	B	1.0	U	1.4	B			F
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Preparation Blank Matrix (soil/water): WATER

Pr paration Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			1.0	U							F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			1.0	B							F
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Preparation Blank Matrix (soil/water): WATER

Pr paration Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic			2.0	U							F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Pr paration Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic	2.0	U	2.0	U	2.0	U					F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.1	B	1.0	U	1.0	U			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Preparation Blank Matrix (soil/water): WATER

Pr paration Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	1.0	U	1.0	B			F
Magnesium											
Manganese											
M rcury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
L ad	3.7	B	1.0	U	1.0	U	1.1	B			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
S lenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

ENVIROFORMS/CLP 788

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	3.6	B	1.4	B	1.0	U					E
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

ENVIROFORMS/CLP 788

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

ICP ID Number: 1P ICS Source:

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium	0	500	1	522.0	104.4	24	557.0	111.4
Beryllium	0	500	0	467.0	93.4	-1	463.1	92.6
Cadmium	0	1000						
Calcium								
Chromium	0	500						
Cobalt	0	500						
Copper	0	500	4	483.8	96.8	0	506.5	101.3
Iron								
Lead	0	1000						
Magnesium								
Manganese	0	500						
Mercury								
Nickel	0	1000						
Potassium								
Selenium								
Silver	0	500						
Sodium								
Thallium								
Vanadium	0	500						
Zinc	0	1000						

ENVIROFORMS/CLP 788

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

ICP ID Number: 3P ICS Source:

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium	0	500						
Beryllium	0	500						
Cadmium	0	1000	18	920.7	92.1	36	936.9	93.7
Calcium								
Chromium	0	500	17	464.6	92.9	23	489.7	97.9
Cobalt	0	500	-1	526.3	105.3	-10	448.7	89.7
Copper	0	500						
Iron								
Lead	0	1000						
Magnesium								
Manganese	0	500	72	537.0	107.4	82	554.8	111.0
Mercury								
Nickel	0	1000	75	1025.8	102.6	47	1007.6	100.8
Potassium								
Selenium								
Silver	0	1000	4	930.6	93.1	4	864.8	86.5
Sodium								
Thallium								
Vanadium	0	500	3	529.4	105.9	54	514.1	102.8
Zinc	0	1000	61	1100.8	110.1	50	1007.5	100.8

ENVIROFORMS/CLP 788

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

ICP ID Number: 1P ICS Source:

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium	0	500						
Beryllium	0	500						
Cadmium	0	1000						
Calcium								
Chromium	0	500						
Cobalt	0	500						
Copper	0	500						
Iron								
Lead	0	1000						
Magnesium								
Manganese	0	500						
Mercury								
Nickel	0	1000	39	933.8	93.4	24	958.4	95.8
Potassium								
Selenium								
Silver	0	500						
Sodium								
Thallium								
Vanadium	0	500						
Zinc	0	1000						

ENVIROFORMS/CLP 788

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

ICP ID Number: 1P ICS Source:

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium	0	500						
Beryllium	0	500	3	474.5	94.9	5	465.5	93.1
Cadmium	0	1000						
Calcium								
Chromium	0	500	21	471.8	94.4	20	476.9	95.4
Cobalt	0	500						
Copper	0	500	6	452.2	90.4	4	435.3	87.1
Iron								
Lead	0	1000						
Magnesium								
Manganese	0	500	63	513.4	102.7	62	503.0	100.6
Mercury								
Nickel	0	1000	24	810.3	81.0	-7	823.7	82.4
Potassium								
Selenium								
Silver	0	1000	3	932.9	93.3	5	935.1	93.5
Sodium								
Thallium								
Vanadium	0	500						
Zinc	0	1000	56	929.3	92.9	52	924.9	92.5

ENVIROFORMS/CLP 788

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

ICP ID Number: 3P ICS Source:

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium	0	500	17	502.0	100.4	3	492.0	98.4
Beryllium	0	500						
Cadmium	0	1000	20	854.0	85.4	20	834.4	83.4
Calcium								
Chromium	0	500						
Cobalt	0	500	15	471.6	94.3	15	462.4	92.5
Copper	0	500						
Iron								
Lead	0	1000						
Magnesium								
Manganese	0	500						
Mercury								
Nickel	0	1000						
Potassium								
Selenium								
Silver	0	500						
Sodium								
Thallium								
Vanadium	0	500	14	443.5	88.7	0	428.7	85.7
Zinc	0	1000						

ENVIROFORMS/CLP 788

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

ICP ID Number: 1P ICS Source:

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium	0	500						
Beryllium	0	500	0	467.5	93.5	0	495.7	99.1
Cadmium	0	1000						
Calcium								
Chromium	0	500	18	452.0	90.4	17	414.8	83.0
Cobalt	0	500						
Copper	0	500	6	469.6	93.9	3	416.9	83.4
Iron								
Lead	0	1000	324	1057.2	105.7	184	832.8	83.3
Magnesium								
Manganese	0	500	43	525.6	105.1	32	523.8	104.8
Mercury								
Nickel	0	1000	32	970.2	97.0	37	1038.7	103.9
Potassium								
Selenium								
Silver	0	1000	1	901.2	90.1	-1	832.8	83.3
Sodium								
Thallium								
Vanadium	0	500						
Zinc	0	1000	44	922.4	92.2	46	846.5	84.6

ENVIROFORMS/CLP 788

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

ICP ID Number: 3P ICS Source:

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium	0	500	7	496.0	99.2	8	432.0	86.4
Beryllium	0	500						
Cadmium	0	1000	28	860.0	86.0	26	810.3	81.0
Calcium								
Chromium	0	500						
Cobalt	0	500	-11	452.9	90.6	-18	463.4	92.7
Copper	0	500						
Iron								
Lead	0	1000						
Magnesium								
Manganese	0	500						
Mercury								
Nickel	0	1000						
Potassium								
Selenium								
Silver	0	500						
Sodium								
Thallium								
Vanadium	0	500	2	418.1	83.6	-52	402.1	80.4
Zinc	0	1000						

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5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

ET4521S

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Level (low/med): LOW
% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	1.2080		0.2000	U	1.00	120.8		CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

ENVIROFORMS/CLP 788

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

ET4545S

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Level (low/med): LOW
% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2105.0000		252.0000		2000.00	92.6		P
Antimony	75-125	477.9000		39.0000	U	500.00	95.6		P
Arsenic	75-125	38.9700		2.0000	U	40.00	97.4		F
Barium	75-125	1954.0000		56.0000	B	2000.00	94.9		P
Beryllium	75-125	48.1600		1.0000	U	50.00	96.3		P
Cadmium	75-125	48.7000		4.0000	U	50.00	97.4		P
Calcium									NR
Chromium	75-125	201.5000		9.0000	U	200.00	100.8		P
Cobalt	75-125	486.6000		27.0000	U	500.00	97.3		P
Copper	75-125	265.8000		16.0000	U	250.00	106.3		P
Iron	75-125	1544.0000		296.0000		1000.00	124.8		P
Lead	75-125	24.2000		1.9000	B	20.00	111.5		F
Magnesium									NR
Manganese	75-125	588.2000		89.3000		500.00	99.8		P
Mercury									NR
Nickel	75-125	482.0000		43.5000		500.00	87.7		P
Potassium									NR
Selenium	75-125	11.4800		1.2500	B	10.00	102.3		F
Silver	75-125	5.4500	B	4.0000	U	50.00	10.9	N	P
Sodium									NR
Thallium	75-125	48.7200		2.0000	U	50.00	97.4		F
Vanadium	75-125	475.5000		11.0000	U	500.00	95.1		P
Zinc	75-125	522.8000		6.5000	B	500.00	103.3		P
Cyanide									NR

Comments:

ENVIROFORMS/CLP 788

5B
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

ET4545A

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)		Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver		20.65		4.00	U	20.0	103.2		P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

ENVIROFORMS/CLP 788

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

ED4522S

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Matrix (soil/water): WATER Level (low/med): LOW
% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	1831.0000		144.0000	U	2000.00	91.6		P
Antimony	75-125	498.8000		39.0000	U	500.00	99.8		P
Arsenic	75-125	43.0600		2.5000	B	40.00	101.4		F
Barium	75-125	2505.0000		502.0000		2000.00	100.2		P
Beryllium	75-125	48.9700		2.7700	B	50.00	92.4		P
Cadmium	75-125	48.9000		4.0000	U	50.00	97.8		P
Calcium									NR
Chromium	75-125	205.8000		9.0000	U	200.00	102.9		P
Cobalt	75-125	490.9000		27.0000	U	500.00	98.2		P
Copper	75-125	238.7000		16.0000	U	250.00	95.5		P
Iron	75-125	917.0000		18.0000	U	1000.00	91.7		P
Lead	75-125	117.0000		1.0000	U	20.00	585.0	N	F
Magnesium									NR
Manganese	75-125	499.6000		2.0000	U	500.00	99.9		P
Mercury									NR
Nickel	75-125	477.1000		18.0000	U	500.00	95.4		P
Potassium									NR
Selenium	75-125	11.1800		1.6700	B	10.00	95.1		F
Silver	75-125	4.5600	B	4.0000	U	50.00	9.1	N	P
Sodium									NR
Thallium	75-125	46.6100		1.0000	U	50.00	93.2		F
Vanadium	75-125	502.3000		11.0000	B	500.00	98.3		P
Zinc	75-125	483.9000		15.2000	B	500.00	93.7		P
Cyanide									NR

Comments:

ENVIROFORMS/CLP 788

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

ED4523S

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Matrix (soil/water): WATER Level (low/med): LOW
% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	1.1280		0.2000	U	1.00	112.8		CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

ENVIROFORMS/CLP 788

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

ET4547S

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET454

Matrix (soil/water): SOIL Level (low/med): LOW
% Solids for Sample: 47.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NF
Antimony									NF
Arsenic									NF
Barium									NF
Beryllium									NF
Cadmium									NF
Calcium									NF
Chromium									NF
Cobalt									NF
Copper									NF
Iron									NF
Lead									NF
Magnesium									NF
Manganese									NF
Mercury	75-125	0.9474		0.1767	U	0.95	99.7		CV
Nickel									NF
Potassium									NF
Selenium									NF
Silver									NF
Sodium									NF
Thallium									NF
Vanadium									NF
Zinc									NF
Cyanide									NF

Comments:

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5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

ET4558S

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET454

Matrix (soil/water): SOIL Level (low/med): LOW
% Solids for Sample: 77.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125							N	NF
Antimony	75-125	10.2173	B	3.5608		47.22	14.1	N	P
Arsenic	75-125	10.1532		12.6410		3.97	-62.7	N	F
Barium	75-125	261.7596		71.5683		188.86	100.7		P
Beryllium	75-125	5.4675		0.5735	B	4.72	103.7		P
Cadmium	75-125	4.9576		1.3044		4.72	77.4		P
Calcium									NF
Chromium	75-125	26.7142		7.6151		18.89	101.1		P
Cobalt	75-125	51.0677		3.7371	B	47.22	100.2		P
Copper	75-125	33.9098		9.3779		23.61	103.9		P
Iron		15392.0710		15312.5570		94.43	84.2		P
Lead		38.0844		32.7647		1.99	267.3		F
Magnesium									NF
Manganese	75-125	159.9831		149.8468		47.22	21.5	N	P
Mercury									NF
Nickel	75-125	48.5086		5.4411		47.22	91.2		P
Potassium									NF
Selenium	75-125	0.4697	B	0.9751	U	0.99	47.4	N	F
Silver	75-125	0.4674	B	0.4701	U	4.72	9.9	N	P
Sodium									NF
Thallium	75-125	4.3328		0.1024	B	4.96	85.3		F
Vanadium	75-125	59.4531		12.0456		47.22	100.4		P
Zinc	75-125	83.8726		32.6347		47.22	108.5		P
Cyanide									NF

Comm nts:

ENVIROFORMS/CLP 788

5B
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

ED4522A

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED452

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)		Spike Added (SA)	%R	Q	M
Aluminum									NF
Antimony									NF
Arsenic									NF
Barium									NF
Beryllium									NF
Cadmium									NF
Calcium									NF
Chromium									NF
Cobalt									NF
Copper									NF
Iron									NF
Lead									NF
Magnesium									NF
Manganese									NF
Mercury									NF
Nickel									NF
Potassium									NF
Selenium									NF
Silver		22.13		4.00	U	20.0	110.6		P
Sodium									NF
Thallium									NF
Vanadium									NF
Zinc									NF
Cyanide									NF

Comments:

ENVIROFORMS/CLP 788

5B
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

ET4558A

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)		Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		51.90	B	39.00	U	50.0	103.8		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese		4498.50		1554.60		3000.0	98.1		P
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver		19.96		4.00	U	20.0	99.8		P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

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6
DUPLICATES

SAMPLE NO.

ET4521D

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET452

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								P
Antimony								P
Arsenic								F
Barium								P
Beryllium								P
Cadmium								P
Calcium								P
Chromium								P
Cobalt								P
Copper								P
Iron								P
Lead								F
Magnesium								P
Manganese								P
Mercury	0.2	0.2000	U	0.2050		200.0	*	CV
Nickel								P
Potassium								P
Selenium								F
Silver								P
Sodium								P
Thallium								F
Vanadium								P
Zinc								P
Cyanide								

ENVIROFORMS/CLP 788

6
DUPLICATES

SAMPLE NO.

ET4545D

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET452

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicat :

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum	200.0	252.0000		281.0000		10.9		P
Antimony		39.0000	U	39.0000	U			P
Arsenic		2.0000	U	2.0000	U			F
Barium		56.0000	B	64.0000	B	13.3		P
Beryllium		1.0000	U	1.0000	U			P
Cadmium		4.0000	U	4.0000	U			P
Calcium		27182.0000		27182.0000		0.0		P
Chromium		9.0000	U	9.0000	U			P
Cobalt		27.0000	U	27.0000	U			P
Copper		16.0000	U	16.0000	U			P
Iron	100.0	296.0000		398.0000		29.4	*	P
Lead		1.9000	B	4.0000	B	71.2		F
Magnesium	5000.0	5938.0000		6097.0000		2.6		P
Manganese		89.3000		88.1000		1.4		P
Mercury								CV
Nickel	40.0	43.5000		13.0000	U	200.0	*	P
Potassium		3870.0000	B	4569.0000	B	16.6		P
Selenium		1.2500	B	1.3200	B	5.4		F
Silver		4.0000	U	5.1200	B	200.0		P
Sodium		1570.0000	B	1586.0000	B	1.0		P
Thallium		2.0000	U	2.0000	U			F
Vanadium		11.0000	U	11.0000	U			P
Zinc		6.5000	B	9.7000	B	39.5		P
Cyanide								

ENVIROFORMS/CLP 788

6
DUPLICATES

SAMPLE NO.

ED4522D

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED452

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		144.0000	U	144.0000	U			P
Antimony		39.0000	U	39.0000	U			P
Arsenic		2.5000	B	2.2900	B	8.8		F
Barium	200.0	502.0000		505.0000		0.6		P
Beryllium		2.7700	B	2.4100	B	13.9		P
Cadmium		4.0000	U	4.0000	U			P
Calcium	5000.0	23024.0000		22701.0000		1.4		P
Chromium		9.0000	U	9.0000	U			P
Cobalt		27.0000	U	27.0000	U			P
Copper		16.0000	U	16.0000	U			P
Iron		18.0000	U	18.0000	U			P
Lead		1.0000	U	2.3000	B	200.0		F
Magnesium	5000.0	8548.0000		8466.0000		1.0		P
Manganese		2.0000	U	2.0000	B	200.0		P
Mercury								CV
Nickel		18.0000	U	18.0000	U			P
Potassium		353.0000	U	801.0000	B	200.0		P
Selenium		1.6700	B	1.9900	B	17.5		F
Silver		4.0000	U	4.0000	U			P
Sodium	5000.0	14163.0000		14163.0000		0.0		P
Thallium		1.0000	U	1.0000	U			F
Vanadium		11.0000	B	13.2000	B	18.2		P
Zinc		15.2000	B	15.2000	B	0.0		P
Cyanide								

ENVIROFORMS/CLP 788

6
DUPLICATES

SAMPLE NO.

ED4523D

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED452

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate:

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								P
Antimony								P
Arsenic								F
Barium								P
Beryllium								P
Cadmium								P
Calcium								P
Chromium								P
Cobalt								P
Copper								P
Iron								P
Lead								P
Magnesium								F
Manganese								P
Mercury		0.2000	U	0.2000	U			CV
Nickel								P
Potassium								P
Selenium								F
Silver								P
Sodium								P
Thallium								F
Vanadium								P
Zinc								P
Cyanide								

ENVIROFORMS/CLP 788

6
DUPLICATES

SAMPLE NO.

ET4547D

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 47.3 % Solids for Duplicat : 47.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								P
Antimony								P
Arsenic								F
Barium								P
Beryllium								P
Cadmium								P
Calcium								P
Chromium								P
Cobalt								P
Copper								P
Iron								P
Lead								F
Magnesium								P
Manganese								P
Mercury	0.2	0.1767	U	0.1898	U			CV
Nickel								P
Potassium								P
Selenium								F
Silver								P
Sodium								P
Thallium								F
Vanadium								P
Zinc								P
Cyanide								

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6
DUPLICATES

SAMPLE NO.

ET4558D

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Matrix (soil/water): SOIL Level (low/m d): LOW

% Solids for Sample: 77.4 % Solids for Duplicat : 77.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		8348.4579		8292.1696		0.7		P
Antimony		4.5832	U	4.5141	B	200.0		P
Arsenic	2.0	12.6410		7.2426		54.3	*	F
Barium	23.5	71.5683		68.9103		3.8		P
Beryllium	0.6	0.5735	B	0.5348		7.0		P
Cadmium	0.6	1.3044		0.6359		68.9	*	P
Calcium	587.6	1954.3195		1678.7630		15.2		P
Chromium		7.6151		8.1942		7.3		P
Cobalt		3.7371	B	2.8148	U	200.0		P
Copper	2.9	9.3779		10.2896		9.3		P
Iron		15312.5570		13615.2540		11.7		P
Lead		32.7647		27.0147		19.2		F
Magnesium	587.6	1194.2149		952.7551		22.5		P
Manganese		149.8468		168.5122		11.7		P
Mercury								CV
Nickel	4.7	5.4411		8.6216		45.2		P
Potassium	587.6	607.0965		420.7593	B	36.3		P
Selenium		0.9751	U	0.0828	U			F
Silver		0.4701	U	0.4170	U			P
Sodium		68.3953	B	106.6494	B	43.7		P
Thallium		0.1024	B	0.0828	U	200.0		F
Vanadium	5.9	12.0456		11.4364		5.2		P
Zinc		32.6347		38.3646		16.1		P
Cyanide								

ENVIROFORMS/CLP 788

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STANDARD ADDITION RESULTS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

Concentration Units: ug/L

EPA Sample No.	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q
ET4521	PB	0.099	10	0.154	20	0.195	30	0.241	21.9	0.9982	
ET4535	PB	0.114	10	0.158	20	0.203	30	0.245	26.1	0.9999	
ET4537	PB	0.026	10	0.078	20	0.130	30	0.180	5.1	1.0000	
ET4541	PB	0.034	10	0.083	20	0.136	30	0.186	6.6	0.9999	
ET4543	PB	0.032	10	0.080	20	0.136	30	0.185	6.0	0.9996	

ENVIROFORMS/CLP 788

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STANDARD ADDITION RESULTS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

Concentration Units: ug/L

EPA Sample No.	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q

ENVIROFORMS/CLP 788

8
STANDARD ADDITION RESULTS

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

Concentration Units: ug/L

EPA Sample No.	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q
ET4550	AS	0.036	10	0.062	20	0.090	30	0.114	69.1	0.9996	
ET4547	PB	0.175	10	0.215	20	0.259	30	0.291	449.5	0.9981	
ET4551	PB	0.123	10	0.168	20	0.207	30	0.252	290.1	0.9996	
ET4553	PB	0.126	10	0.179	20	0.224	30	0.258	296.1	0.9954	
ET4554	PB	0.126	10	0.169	20	0.202	30	0.246	161.3	0.9986	
ET4555	PB	0.145	10	0.195	20	0.227	30	0.266	377.2	0.9961	
ET4556	PB	0.131	10	0.178	20	0.221	30	0.265	148.3	0.9998	
ET4557	PB	0.198	10	0.240	20	0.277	30	0.315	513.7	0.9996	
ET4558	PB	0.148	10	0.195	20	0.246	30	0.280	336.0	0.9968	
ET4558D	PB	0.145	10	0.199	20	0.240	30	0.283	326.4	0.9980	
ET4552	SE	0.012	10	0.028	20	0.044	30	0.056	9.0	0.9981	

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

ICP ID Number: 3P Date: 08/10/89

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	31.0	P
Antimony	206.83		60.0	39.0	P
Arsenic	197.20		10.0	73.0	P
Barium	455.40		200.0	23.0	P
Beryllium	313.04		5.0	1.0	P
Cadmium	214.44		5.0	4.0	P
Calcium	317.93		5000.0	26.0	P
Chromium	267.72		10.0	9.0	P
Cobalt	228.62		50.0	27.0	P
Copper	324.75		25.0	16.0	P
Iron	259.94		100.0	10.0	P
Lead	220.35		3.0	75.0	P
Magnesium	279.55		5000.0	10.0	P
Manganese	257.61		15.0	2.0	P
Mercury	253.70	BD	0.2	0.2	P
Nickel	231.60		40.0		P
Potassium	766.49		5000.0	170.0	P
Selenium	196.00		5.0	85.0	P
Silver	328.07		10.0	4.0	P
Sodium	589.00		5000.0	43.0	P
Thallium	190.86		10.0	126.0	P
Vanadium	292.40		50.0	6.0	P
Zinc	213.86		20.0	5.0	P
Cyanide			10.0	10.0	AS

Comm nts:

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET452

ICP ID Number: 1P Date: 09/19/89

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	144.0	P
Antimony	206.83		60.0		
Arsenic			10.0		
Barium	455.40		200.0	23.0	P
Beryllium	313.04		5.0	1.0	P
Cadmium	214.44		5.0	4.0	P
Calcium	317.93		5000.0	40.0	P
Chromium	267.72		10.0	9.0	P
Cobalt	228.62		50.0	27.0	P
Copper	324.75		25.0	16.0	P
Iron	259.94		100.0	18.0	P
Lead			5.0		
Magnesium	279.55		5000.0	41.0	P
Manganese	257.61		15.0	6.0	P
Mercury	253.00		0.2	0.2	P
Nickel	231.60		40.0	13.0	P
Potassium	766.49		5000.0	353.0	P
Selenium			5.0		
Silver			10.0		
Sodium	589.00		5000.0	57.0	P
Thallium			10.0		
Vanadium	292.40		50.0	11.0	P
Zinc	213.86		20.0		P
Cyanide			10.0		

Comments:

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET452

ICP ID Number: Date: 09/19/89

Flame AA ID Number:

Furnace AA ID Number: 1F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver	328.10	BD	10.0	1.0	F
Sodium			5000.0		
Thallium	276.80	BD	10.0	2.0	F
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comm nts:

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET45

ICP ID Number: Date: 09/19/89

Flame AA ID Number:

Furnace AA ID Number: 2F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony	217.60	BZ	60.0	3.0	F
Arsenic	193.70	BZ	10.0		F
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.30	BZ	5.0	1.0	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BZ	5.0	1.0	F
Silver	328.10	BZ	10.0	1.0	F
Sodium			5000.0		
Thallium	276.80	BZ	10.0	1.0	F
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comm nts:

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET452

ICP ID Number: Date: 09/19/89

Flame AA ID Number:

Furnace AA ID Number: 3F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic	193.70	BD	10.0	2.0	F
Barium			200.0		
Beryllium			5.0		
Cadmium	228.80	BD	5.0	1.0	F
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper	324.80	BD	25.0	2.0	F
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BD	5.0	1.0	F
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comm nts:

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4521

ICP ID Number: Date: 09/19/89

Flame AA ID Number:

Furnace AA ID Number: 4F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.30	BZ	5.0	1.0	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium	276.80	BZ	10.0	1.0	F
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comments:

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET452

ICP ID Number: Date: 10/16/89

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.2	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comments:

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

ICP ID Number: 3P Date: 08/10/89

Flam AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	31.0	P
Antimony	206.83		60.0	39.0	P
Arsenic	197.20		10.0	73.0	P
Barium	455.40		200.0	23.0	P
Beryllium	313.04		5.0	1.0	P
Cadmium	214.44		5.0	4.0	P
Calcium	317.93		5000.0	26.0	P
Chromium	267.72		10.0	9.0	P
Cobalt	228.62		50.0	27.0	P
Copper	324.75		25.0	16.0	P
Iron	259.94		100.0	10.0	P
Lead	220.35		3.0	75.0	P
Magnesium	279.55		5000.0	10.0	P
Manganese	257.61		15.0	2.0	P
Mercury	253.70	BD	0.2	0.2	P
Nickel	231.60		40.0	18.0	P
Potassium	766.49		5000.0	170.0	P
Selenium	196.00		5.0	85.0	P
Silver	328.07		10.0	4.0	P
Sodium	589.00		5000.0	43.0	P
Thallium	190.86		10.0	126.0	P
Vanadium	292.40		50.0	6.0	P
Zinc	213.86		20.0	5.0	P
Cyanide			10.0	10.0	AS

Comm nts:

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

ICP ID Number: 1P Date: 09/19/89

Flam AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	144.0	P
Antimony	206.83		60.0		
Arsenic			10.0		
Barium	455.40		200.0	23.0	P
Beryllium	313.04		5.0	1.0	P
Cadmium	214.44		5.0	4.0	P
Calcium	317.93		5000.0	40.0	P
Chromium	267.72		10.0	9.0	P
Cobalt	228.62		50.0	27.0	P
Copper	324.75		25.0	16.0	P
Iron	259.94		100.0	18.0	P
Lead			5.0		
Magnesium	279.55		5000.0	41.0	P
Manganese	257.61		15.0		P
Mercury	253.00		0.2	0.2	P
Nickel	231.60		40.0	13.0	P
Potassium	766.49		5000.0	353.0	P
Selenium			5.0		
Silver			10.0		
Sodium	589.00		5000.0	57.0	P
Thallium			10.0		
Vanadium	292.40		50.0		P
Zinc	213.86		20.0		P
Cyanide			10.0		

Comments:

ENVIROFORMS/CLP 788

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

ICP ID Number: Date: 09/19/89

Flame AA ID Number:

Furnace AA ID Number: 1F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver	328.10	BD	10.0	1.0	F
Sodium			5000.0		
Thallium	276.80	BD	10.0		F
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comm nts:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

ICP ID Number: Date: 09/19/89

Flam AA ID Number:

Furnace AA ID Number: 2F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony	217.60	BZ	60.0	3.0	F
Arsenic	193.70	BZ	10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.30	BZ	5.0	1.0	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BZ	5.0	1.0	F
Silver	328.10	BZ	10.0	1.0	F
Sodium			5000.0		
Thallium	276.80	BZ	10.0	1.0	F
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comments:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

ICP ID Number: Date: 09/19/89

Flam AA ID Number:

Furnace AA ID Number: 3F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic	193.70	BD	10.0	2.0	F
Barium			200.0		
Beryllium			5.0		
Cadmium	228.80	BD	5.0	1.0	F
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper	324.80	BD	25.0	2.0	F
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BD	5.0	1.0	F
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comm nts:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

ICP ID Number: Date: 09/19/89

Flam AA ID Number:

Furnace AA ID Number: 4F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.30	BZ	5.0	1.0	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium	276.80	BZ	10.0	1.0	F
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comm nts:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ED4522

ICP ID Number: Date: 10/16/89

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.2	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comments:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

ICP ID Number: 3P Date: 08/10/89

Flam AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	31.0	P
Antimony	206.83		60.0	39.0	P
Arsenic	197.20		10.0	73.0	P
Barium	455.40		200.0	23.0	P
Beryllium	313.04		5.0	1.0	P
Cadmium	214.44		5.0	4.0	P
Calcium	317.93		5000.0	26.0	P
Chromium	267.72		10.0	9.0	P
Cobalt	228.62		50.0	27.0	P
Copper	324.75		25.0	16.0	P
Iron	259.94		100.0	10.0	P
Lead	220.35		3.0	75.0	P
Magnesium	279.55		5000.0	10.0	P
Manganese	257.61		15.0	2.0	P
Mercury	253.70	BD	0.2	0.2	P
Nickel	231.60		40.0		P
Potassium	766.49		5000.0	170.0	P
Selenium	196.00		5.0	85.0	P
Silver	328.07		10.0	4.0	P
Sodium	589.00		5000.0	43.0	P
Thallium	190.86		10.0	126.0	P
Vanadium	292.40		50.0	6.0	P
Zinc	213.86		20.0	5.0	P
Cyanide			10.0	10.0	AS

Comments:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

ICP ID Number: 1P Date: 09/19/89

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	144.0	P
Antimony	206.83		60.0		
Arsenic			10.0		
Barium	455.40		200.0	23.0	P
Beryllium	313.04		5.0	1.0	P
Cadmium	214.44		5.0	4.0	P
Calcium	317.93		5000.0	40.0	P
Chromium	267.72		10.0	9.0	P
Cobalt	228.62		50.0	27.0	P
Copper	324.75		25.0	16.0	P
Iron	259.94		100.0	18.0	P
Lead			5.0		
Magnesium	279.55		5000.0	41.0	P
Manganese	257.61		15.0	6.0	P
Mercury	253.00		0.2	0.2	P
Nickel	231.60		40.0	13.0	P
Potassium	766.49		5000.0	353.0	P
Selenium			5.0		
Silver			10.0		
Sodium	589.00		5000.0	57.0	P
Thallium			10.0		
Vanadium	292.40		50.0		P
Zinc	213.86		20.0		P
Cyanide			10.0		

Comments:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

ICP ID Number: Date: 09/19/89

Flame AA ID Number:

Furnace AA ID Number: 1F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver	328.10	BD	10.0	1.0	F
Sodium			5000.0		
Thallium	276.80	BD	10.0		F
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comments:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

ICP ID Number: Date: 09/19/89

Flam AA ID Number:

Furnace AA ID Number: 2F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony	217.60	BZ	60.0	3.0	F
Arsenic	193.70	BZ	10.0		F
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.30	BZ	5.0	1.0	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BZ	5.0	1.0	F
Silver	328.10	BZ	10.0	1.0	F
Sodium			5000.0		
Thallium	276.80	BZ	10.0	1.0	F
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comm nts:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

ICP ID Number: Date: 09/19/89

Flame AA ID Number:

Furnace AA ID Number: 3F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic	193.70	BD	10.0	2.0	F
Barium			200.0		
Beryllium			5.0		
Cadmium	228.80	BD	5.0	1.0	F
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper	324.80	BD	25.0	2.0	F
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BD	5.0	1.0	F
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comments:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

ICP ID Number: Date: 09/19/89

Flam AA ID Number:

Furnace AA ID Number: 4F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	283.30	BZ	5.0	1.0	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0	1.0	
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comm nts:

ENVIROFORMS/CLP 788

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET4547

ICP ID Number: Date: 10/16/89

Flam AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			5.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.2	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comm nts:

C. Quality Assurance Summary

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: ET4547 Willow Grove Analysis: TCL metals

EA Laboratories Report No. _____ Method: U.S. EPA-CLP

Reviewed by: Stephen E. Shelley Date: 26 Oct 89

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1. Samples were analyzed within six months of sample receipt. Mercury was analyzed within 26 days.
   ✓ Yes _____ No

2. ICP initial calibration: A calibration blank and at least one standard were analyzed daily, and the initial calibration verification standard was within 90% to 110% recovery.
   ✓ Yes _____ No

3. AA calibration: A calibration blank and at least three standards were used to establish the curve.
   ✓ Yes _____ No

4. Calibration verification (CV): A CV standard prepared from a source other than that of the initial calibration was used, and the result was within 90 to 110% of the true value for both ICP and AA work. A CV was run at a frequency of 10%, or every two hours, and at the end of the run.
   ✓ Yes _____ No

5. A preparation blank was run with each batch, and all analytes were below the detection limits.
   ✓ Yes _____ No

6. Matrix spike and duplicate criteria were met for all samples.
   ✓ Yes _____ No

7. Laboratory control sample criteria were met for all samples.
   ✓ Yes _____ No

(Revised 2 June 1989)

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: _____ Analysis: TCL metals

EA Laboratories Report No. _____ Method: U.S. EPA-CLP

Reviewed by: Stephen E. Shelley Date: 26 Oct 89

8. Field and equipment blanks: no target analytes were detected in the samples at concentrations <5X the concentration found in the highest associated blank.

NA _____ Yes _____ No

Comments: _____

(Revised 2 June 1989)

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: ET4521 Willow Grove Analysis: TCL metals

EA Laboratories Report No. _____ Method: U.S. EPA-CLP

Reviewed by: Stephen E Shelby Date: 26 Oct 89

---

1. Samples were analyzed within six months of sample receipt. Mercury was analyzed within 26 days.

   ✓ Yes _____ No

2. ICP initial calibration: A calibration blank and at least one standard were analyzed daily, and the initial calibration verification standard was within 90% to 110% recovery.

   ✓ Yes _____ N

3. AA calibration: A calibration blank and at least three standards were used to establish the curve.

   ✓ Yes _____ No

4. Calibration verification (CV): A CV standard prepared from a source other than that of the initial calibration was used, and the result was within 90 to 110% of the true value for both ICP and AA work. A CV was run at a frequency of 10%, or every two hours, and at the end of the run.

   ✓ Yes _____ N

5. A preparation blank was run with each batch, and all analytes were below the detection limits.

   ✓ Yes _____ No

6. Matrix spike and duplicate criteria were met for all samples.

   ✓ Yes _____ No

7. Laboratory control sample criteria were met for all samples.

   ✓ Yes _____ No

(Revised 2 June 1989)

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: _____ Analysis: TCL metals

EA Laboratories Report No. _____ Method: U.S. EPA-CLP

Reviewed by: Stephen E Shelley Date: 26 Oct 87

8. Field and equipment blanks: no target analytes were detected in the samples at concentrations <5X the concentration found in the highest associated blank.

NA _____ Yes _____ No

Comments: _____

(Revised 2 June 1989)

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: ED4522 Willow Grove Analysis: TCL metals

EA Laboratories Report No. _____ Method: U.S. EPA-CLP

Reviewed by: Stephen E Shelley Date: 26 Oct 89

1. Samples were analyzed within six months of sample receipt. Mercury was analyzed within 26 days.
   ✓ Yes ____ No

2. ICP initial calibration: A calibration blank and at least one standard were analyzed daily, and the initial calibration verification standard was within 90% to 110% recovery.
   ✓ Yes ____ No

3. AA calibration: A calibration blank and at least three standards were used to establish the curve.
   ✓ Yes ____ No

4. Calibration verification (CV): A CV standard prepared from a source other than that of the initial calibration was used, and the result was within 90 to 110% of the true value for both ICP and AA work. A CV was run at a frequency of 10%, or every two hours, and at the end of the run.
   ✓ Yes ____ No

5. A preparation blank was run with each batch, and all analytes were below the detection limits.
   ✓ Yes ____ No

6. Matrix spike and duplicate criteria were met for all samples.
   ✓ Yes ____ No

7. Laboratory control sample criteria were met for all samples.
   ✓ Yes ____ No

(Revised 2 June 1989)

7. MISCELLANEOUS WET CHEMISTRY DATA

A. Analytical Results

RESULTS OF ANALYSIS OF 25 WATER SAMPLES COLLECTED AT WILLOW GROVE
ON 21 AND 22 SEPTEMBER 1989

Sample	Cyanide total (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Organic Carbon (mg/L)	EA Number
WRW-1	---	<1.0	<0.3	4518
WRW-2	---	2.3	2.0	4519
WRW-3	---	1.1	1.5	4520
ALW-2	<0.01	<1.0	0.9	4521
FTAW-1	---	<1.0	2.3	4526
FTAW-2	---	<1.0	0.8	4527
FTAW-3	---	<1.0	0.5	4528
FTAW-4	---	<1.0	0.5	4529
NFFW-1	---	5.8	5.9	4530
NFFW-5	---	<1.0	<0.3	4531
NFFW-2	---	4.5	20.3	4532
NFFW-7	---	4.2	4.1	4533
Duplicate #3	---	3.5	6.8	4534
NEL SWS-2	<0.01	<1.0	6.0	4535
NEL SWS-3	<0.01	<1.0	<0.3	4536
AL SWS-1	<0.01	<1.0	3.1	4537
AL SWS-2	<0.01	<1.0	2.8	4538
AL SWS-3	<0.01	<1.0	6.7	4539
AL SWS-4	<0.01	1.0	2.6	4540
NSL SWS-1	<0.01	<1.0	4.5	4541
NSL SWS-2	<0.01	<1.0	5.1	4542
NSL SWS-3	<0.01	<1.0	4.7	4543
NSL SWS-4	<0.01	<1.0	4.0	4544
Duplicate #2	<0.01	<1.0	6.6	4545
UG SWS-1	<0.01	<1.0	5.1	4546

Dash (-) indicates analysis not requested.

RESULTS OF ANALYSIS OF 12 SOIL SAMPLES COLLECTED AT WILLOW GROVE
ON 22 SEPTEMBER 1989

Sample	Cyanide total (mg/kg, dry)	Total Petroleum Hydrocarbons (mg/kg, dry)	Total Organic Carbon (mg/kg, dry)	EA Number
NEL SS 1	0.21	634	24,900	4547
NEL SS 2	0.65	586	69,400	4548
AL SS 1	0.93	757	49,500	4549
AL SS 2	0.69	1,650	49,800	4550
AL SS 3	<0.13	104	26,100	4551
AL SS 4	0.19	2,240	12,300	4552
NSL SS 1	<0.13	194	18,500	4553
NSL SS 2	<0.14	55	5,320	4554
NSL SS 3	0.17	561	13,900	4555
NSL SS 4	<0.13	2,110	3,780	4556
UG SS 1	0.27	350	8,480	4557
Duplicate #4	<0.13	258	16,500	4558

B. QC Summary

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation WRW-1

EA Number 4518

Matrix: Liquid X (mg/L)

Soil _____ (mg/kg)

Parameter	Sample results (mg/L)	Method detection limit (mg/L)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/L)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons		1.0				
Total organic carbon	<0.3	0.3	<0.3	106%	<0.3	96.0%/101%
Inorganic nonmetals						
Cyanide, total		0.01				

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation WRW-3

EA Number 4520

Matrix: Liquid X (mg/L)

Soil _____ (mg/kg)

Parameter	Sample results (mg/L)	Method detection limit (mg/L)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/L)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons	1.1	1.0	<1.0	99.8%	---	106%
Total organic carbon		0.3				
Inorganic nonmetals						
Cyanide, total		0.01				

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation FTAW-1

EA Number 4526

Matrix: Liquid X (mg/L)

Soil _____ (mg/kg)

Parameter	Sample results (mg/L)	Method detection limit (mg/L)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/L)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons		1.0				
Total organic carbon	2.3	0.3	<0.3	90.2%	2.7	128%/126%
Inorganic nonmetals						
Cyanide, total		0.01				

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation DUP. #3

EA Number 4534

Matrix: Liquid X (mg/L)

Soil _____ (mg/kg)

Parameter	Sample results (mg/L)	Method detection limit (mg/L)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/L)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons	3.5	1.0	<1.0	99.8%	---	113%
Total organic carbon	6.8	0.3	<0.3	90.2%	5.6	227%
Inorganic nonmetals						
Cyanide, total		0.01				

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation NEL SWS-2

EA Number 4532

Matrix: Liquid X (mg/L)

Soil _____ (mg/kg)

Parameter	Sample results (mg/L)	Method detection limit (mg/L)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/L)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons		1.0				
Total organic carbon		0.3				
Inorganic nonmetals						
Cyanide, total	0.43	0.01	<0.01	100%	<0.01	102%/100%

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation AL SWS-1

EA Number 4537

Matrix: Liquid X (mg/L)

Soil _____ (mg/kg)

Parameter	Sample results (mg/L)	Method detection limit (mg/L)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/L)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons	0.7	1.0	<1.0	99.8%	---	98.4%
Total organic carbon		0.3				
Inorganic nonmetals						
Cyanide, total		0.01				

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation AL SWS-3

EA Number 4539

Matrix: Liquid X (mg/L)

Soil _____ (mg/kg)

Parameter	Sample results (mg/L)	Method detection limit (mg/L)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/L)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons		1.0				
Total organic carbon	6.7	0.3	<0.3	902%	6.7	76.3%
Inorganic nonmetals						
Cyanide, total		0.01				

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation DUP #2

EA Number 4545

Matrix: Liquid X (mg/L)

Soil _____ (mg/kg)

Parameter	Sample results (mg/L)	Method detection limit (mg/L)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/L)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons		1.0				
Total organic carbon		0.3				
Inorganic nonmetals						
Cyanide, total	<0.01	0.01	<0.01	100%	<0.01	70.3%/76.8%

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation NSL SS-1

EA Number 4553

Matrix: Liquid _____ (mg/L)

Soil _____ X _____ (mg/kg)

Parameter	Sample results (mg/kg)	Method detection limit (mg/kg)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/kg)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons	150	1.0	<1.0	99.8%	---	105%
Total organic carbon		0.3				
Inorganic nonmetals						
Cyanide, total		0.01				

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation NSL SS-2

EA Number 4554

Matrix: Liquid _____ (mg/L)

Soil X (mg/kg)

Parameter	Sample results (mg/kg)	Method detection limit (mg/kg)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/kg)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons		1.0				
Total organic carbon	3900	10	<10	93%	5100	78%
Inorganic nonmetals						
Cyanide, total		0.01				

eab81g

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation DUP #4

EA Number 4558

Matrix: Liquid _____ (mg/L)

Soil _____ X _____ (mg/kg)

Parameter	Sample results (mg/kg)	Method detection limit (mg/kg)	Method blank (mg/L)	QC check std. recovery (%)	Duplicate (mg/kg)	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons	200	1.0	<0.1	99.8%	320	---
Total organic carbon	4.3	0.3	<0.3	106	4.1	88.2%/90.2%
Inorganic nonmetals						
Cyanide, total	<0.1	0.01	<0.01	---	<0.1	48.3%

WILLOW GROVE HOLDING TIME RESULTS (CYANIDE)

EA SAMPLE NO.	DATE RECIEVED	DATE ANALYZED	HOLDING TIME
8904521	09/25/89	10/03/89	8 DAYS
8904535	09/25/89	10/03/89	8 DAYS
8904536	09/25/89	10/03/89	8 DAYS
8904537	09/25/89	10/03/89	8 DAYS
8904538	09/25/89	10/03/89	8 DAYS
8904539	09/25/89	10/03/89	8 DAYS
8904540	09/25/89	10/03/89	8 DAYS
8904541	09/25/89	10/03/89	8 DAYS
8904542	09/25/89	10/03/89	8 DAYS
8904543	09/25/89	10/03/89	8 DAYS
8904544	09/25/89	10/03/89	8 DAYS
8904545	09/25/89	10/03/89	8 DAYS
8904546	09/25/89	10/03/89	8 DAYS
8904547	09/25/89	10/09/89	14 DAYS
8904548	09/25/89	10/09/89	14 DAYS
8904549	09/25/89	10/09/89	14 DAYS
8904550	09/25/89	10/09/89	14 DAYS
8904551	09/25/89	10/09/89	14 DAYS
8904552	09/25/89	10/09/89	14 DAYS
8904553	09/25/89	10/09/89	14 DAYS
8904554	09/25/89	10/09/89	14 DAYS
8904555	09/25/89	10/09/89	14 DAYS
8904556	09/25/89	10/09/89	14 DAYS
8904557	09/25/89	10/09/89	14 DAYS
8904558	09/25/89	10/09/89	14 DAYS

C. Quality Assurance Summary

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove

Analysis: Petroleum hydrocarbons

EA Laboratories Report No. _____

Method: EPA 418.1 X

SW846 9071 _____

Reviewed by: R. [illegible]

Date: 2 Nov 89

1. Holding times from sample receipt were 28 days for water samples.

   X Yes _____ No

2. All samples were properly preserved and refrigerated.

   X Yes _____ No

3. A three- to five-point calibration curve bracketing the sample concentration range was established daily.

   X Yes _____ No

4. Method blanks were run with each batch and were less than the detection limit.

   X Yes _____ No

Comments: _____