N00158.AR.000026
NAS WILLOW GROVE
5090.3a

RESULTS OF ANALYSIS OF EIGHT SOIL SAMPLES, FOUR SOURCE WATER SAMPLES AND ONE RINSATE BLANK COLLECTED AT WILLOW GROVE BETWEEN 21 AND 29 MARCH 1989

Prepared for:

Northern Division
Naval Facilities Enginering Command

Prepared by:

EA Laboratories

August 1989
Rept. #890178

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1. ANALYTICAL SUMMARY

ANALYTICAL SUMMARY

Between 21 and 29 March 1989 EA Engineering, Science, and Technology, Inc. personnel collected eight soil samples, four source water samples and one rinsate blank at Willow Grove. The samples and one trip blank 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 analysis.

Results are summarized in the appended 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 not met. Sample Source Water RR2W-1 (EA #8901157) was analyzed for volatile organic compounds one day outside of holding time. The analysis was within the 50% control limit.

All soil samples were analyzed for volatile organic compounds as low level except for NL, S-1A (EA #8901182), which was run as a medium level.

In accepting analytical work, EA Laboratories, a division of EA Engineering, Science, and Technology, Inc., warrants the test results to be of precision normal for the sample type and methodology employed for each sample as submitted. The methods indicated were employed as stated to the extent permitted by sample and/or matrix limitation, if any. EA disclaims any other warranties, express or implied, including warranty of fitness for a particular purpose and warranty of merchantability. Also, EA accepts no legal responsibility for the purpose for which the client uses test results. EA cannot accept any terms and conditions or purchase orders, work orders, or requests, and any analytical work performed by EA must be governed by the terms and conditions set forth herein.

2. CHAIN OF CUSTODY

21

Chain of Custody Record

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

Company Name	Project Manager or Contact
EA	Chuck Houlik

Project No.	Project Name
10388.03	Willow Grove

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

Date	Time	Grab	Comp	Sample Identification (I.D. and Matrix)	No. of Containers	Parameters for Analysis: Volatile 624	EA Labs Accession Number	Remarks
3/21/89	1415	X		Source Water RAW-1	1	X	1157	

Sampled by: (Signature)	Title:	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gregg T. Campbell	Geologist II	1643 / 3/21/89	Gregg T. Campbell	3/24/89 / 0910	

Relinquished by: (Signature)	Date/Time	Recieved by: (Signature)	Relinquished by: (Signature)	Date/Time	Rec'd. by Lab: (Signature)
				3/24/89 / 9:25	Mary E Caspe

Sample Custody Notes: 890172
d. 14 March 89

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

Air Bill Number:

100 C

224

Chain of Custody Record

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

2L1A

Company Name: EA

Project Manager or Contact: Chuck Houlik

Project No.: 10388.03

Project Name: Willow Grove

Special QA Protocols (Circle)

EPA-CLP | TIER I (NJ) | OTHER (SPECIFY)

USATHAMA | TIER II (NJ) | Navy Level C

Date	Time	Grab	Comp	Sample Identification (I.D. and Matrix)	No. of Containers	Volatile Organics	Semi-Volatiles	Pesticide/PCB	Cyanide	TPH	TOC	Total Metals				EA Labs Accession Number	Remarks
3/28/89	1649	X		9SL, S-1A, Soil	2	X	X	X	X	X	X	X				1176	Soil & Rinsate Blanks are
3/28/89	1651	X		9SL, S-1B, Soil	2											1177	Parameter List A
3/28/89	1714	X		9SL, S-2A, Soil	2											1178	
3/28/89	1718	X		9SL, S-2B, Soil	2											1179	Only do VOA TCL on
3/28/89	1822	X		9SL, S-3A, Soil	2											1180	Source Water & Trip Blanks
3/28/89	1824	X		9SL, S-3B, Soil	2											1181	
3/28/89	1831	X		NL, S-1A, Soil	2											1182	
3/28/89	1836	X		NL, S-1B, Soil	2											1183	
3/28/89	1740	X		Rinsate Blank	8	X	X	X	X	X	X	X				1184	
3/27/89	1343	X		Source Water RR2W-2	1	X										1185	
3/29/89	1002	X		Source Water RR2W-3	1	X										1186	
3/29/89	1654	X		Source Water RR2W-4	1	X										1187	
3/29/89	—	X		Trip Blank	1	X										1188	

Sampled by: (Signature)	Title:	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gregg T. Campbell	Geologist II	3/29/89 1847	Gregg T. Campbell	3/30/89 0914	

Relinquished by: (Signature)	Date/Time	Recieved by: (Signature)	Relinquished by: (Signature)	Date/Time	Rec'd. by Lab: (Signature)
				3/30/89 0910	Mary E Aspu

Sample Custody Notes: 890178
d. 20 April 89

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

Air Bill Number:

3. VOLATILES DATA

A. QC Summary

2A

WATER VOLATILE SURROGATE RECOVERY

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1157 1	RR2W1 source water	100	94	98		0
1183 2	RINSE BL	100	104	103		0
3	RINSEMS	100	104	102		0
4	RINSEMSD	110	102	114		0
1185 5	RR2W2 source water	99	107	102		0
1186 6	RR2W3 source water	100	106	103		0
1187 7	RR2W4 source water	99	109	103		0
1188 8	TRIP BL	101	108	105		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = 1,2-Dichloroethane-d4	(76-114)
S3 (DCE) = Bromofluorobenzene	(86-115)

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: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	VBLK1	99	95	97		0
1176 2	9SLS1A	103	98	98		0
1177 3	9SLS1B	107	97	96		0
1178 4	9SLS2A	101	99	97		0
1179 5	9SLS2B	106	98	97		0
1180 6	9SLS3A	103	98	98		0
7	VBLK2	101	101	101		0
1181 8	9SLS3B	103	100	97		0
1182 9	NLS1B	100	104	100		0
1183MS 10	NLS1BMS	101	100	101		0
1183MSD 11	NLS1BMSD	101	104	102		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = 1,2-Dichloroethane-d4	(70-121)
S3 (DCE) = Bromofluorobenzene	(74-121)

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: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Level:(low/med) MED

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	VBLK3	94	92	98		0
1182 2	NLS1A	82	92	97		0
1182MS 3	NLS1AMS	95	90	106		0
1182MSD 4	NLS1AMSD	92	88	100		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = 1,2-Dichloroethane-d4	(70-121)
S3 (DCE) = Bromofluorobenzene	(74-121)

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: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix Spike - EPA Sample No.: RINSE BL

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.	0.	35.	69.	61-145
Trichloroethene	50.	0.	46.	93.	71-120
Benzene	50.	0.	41.	82.	76-127
Toluene	50.	0.	44.	89.	76-125
Chlorobenzene	50.	0.	53.	105.	75-130

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.	36.	73.	5.	14	61-145
Trichloroethene	50.	49.	97.	5.	14	71-120
Benzene	50.	43.	86.	4.	11	76-127
Toluene	50.	57.	115.	26. *	13	76-125
Chlorobenzene	50.	59.	118.	12.	13	75-130

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

* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix Spike - EPA Sample No.: NLS1B 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	58.	0.	43.	75.	59-172
Trichloroethene	58.	0.	60.	102.	62-137
Benzene	58.	0.	54.	94.	66-142
Toluene	58.	0.	58.	99.	59-139
Chlorobenzene	58.	0.	69.	119.	60-133

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	58.	42.	73.	3.	22	59-172
Trichloroethene	58.	55.	95.	7.	24	62-137
Benzene	58.	52.	89.	5.	21	66-142
Toluene	58.	55.	95.	5.	21	59-139
Chlorobenzene	58.	66.	113.	5.	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:

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix Spike - EPA Sample No.: NLS1A Level:(low/med) MED

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	7159.	0.	5441.	76.	59-172
Trichloroethene	7159.	0.	7339.	103.	62-137
Benzene	7159.	0.	7128.	100.	66-142
Toluene	7159.	503.	7274.	95.	59-139
Chlorobenzene	7159.	0.	8674.	121.	60-133

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	7159.	5515.	77.	1.	22	59-172
Trichloroethene	7159.	7243.	101.	1.	24	62-137
Benzene	7159.	7210.	101.	1.	21	66-142
Toluene	7159.	6982.	91.	4.	21	59-139
Chlorobenzene	7159.	8436.	118.	3.	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:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Lab File ID: EF230 Lab Sample ID:

Date Analyzed: 4/ 3/89 Time Analyzed: 9:01

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	RR2W1	EA# 1157	EF231	9:42
2	9SLS1A	EA# 1176	EF232	10:22
3	9SLS1B	EA# 1177	EF233	11:02
4	9SLS2A	EA# 1178	EF234	11:43
5	9SLS2B	EA# 1179	EF235	12:23
6	9SLS3A	EA# 1180	EF236	13:03
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COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Lab File ID: EF239 Lab Sample ID:

Date Analyzed: 4/ 4/89 Time Analyzed: 9:43

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	9SLS3B	EA# 1181	EF240	10:23
2	NLS1B	EA# 1183	EF242	11:46
3	NLS1BMS	EA# 1183 MS	EF243	12:26
4	NLS1BMSD	EA# 1183 MSD	EF244	13:06
5	RINSE BL	EA# 1184	EF245	13:47
6	RINSEMS	EA# 1184	EF246	14:27
7	RINSEMSD	EA# 1184	EF247	15:07
8	RR2W2	EA# 1185	EF248	15:47
9	RR2W3	EA# 1186	EF249	16:27
10	RR2W4	EA# 1187	EF250	17:08
11	TRIP BL	EA# 1188	EF251	17:48
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COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: SSLS1A

Lab File ID: EF254 Lab Sample ID:

Date Analyzed: 4/ 5/89 Time Analyzed: 9:49

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

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	NLS1A	EA # 1182	EF255	10:40
2	NLS1AMS	EA # 1182	EF256	11:46
3	NLS1AMSD	EA # 1182	EF257	12:51
4				
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COMMENTS:

5A

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

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Lab File ID: EF130 BFB Injection Date: 3/20/89

Instrument ID.: 7002E5 BFB Injection Time: 9:59

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	22.2
75	30.0 - 60.0% of mass 95	46.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	79.6
175	5.0 - 9.0% of mass 174	6.3 (7.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.4 (99.8)1
177	5.0 - 9.0% of mass 176	5.6 (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	VSTD200	200 PPB	EF132	3/20/89	11:44
2	VSTD150	150 PPB	EF133	3/20/89	12:30
3	VSTD100	100 PPB	EF134	3/20/89	13:15
4	VSTD50	50 PPB	EF135	3/20/89	14:00
5	VSTD20	20PPB	EF136	3/20/89	14:46
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22					

5A

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

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Lab File ID: EF228 BFB Injection Date: 4/ 3/89

Instrument ID.: 7002ES Time: 7:22

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	23.7
75	30.0 - 60.0% of mass 95	52.3
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	76.5
175	5.0 - 9.0% of mass 174	6.1 (7.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	76.8 (100.3)1
177	5.0 - 9.0% of mass 176	4.4 (5.8)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	EF229	4/ 3/89	7:53
2	VBLK1	METHOD BLANK	EF230	4/ 3/89	9:01
3	RR2W1	EA# 1157	EF231	4/ 3/89	9:42
4	9SLS1A	EA# 1176	EF232	4/ 3/89	10:22
5	9SLS1B	EA# 1177	EF233	4/ 3/89	11:02
6	9SLS2A	EA# 1178	EF234	4/ 3/89	11:43
7	9SLS2B	EA# 1179	EF235	4/ 3/89	12:23
8	9SLS3A	EA# 1180	EF236	4/ 3/89	13:03
9					
10					
11					
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21					
22					

5A

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

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Lab File ID: EF237 BFB Injection Date: 4/ 4/89

Instrument ID.: 7002E5 BFB Injection Time: 8:14

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	23.3
75	30.0 - 60.0% of mass 95	53.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	83.1
175	5.0 - 9.0% of mass 174	7.1 (8.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.2 (98.9)1
177	5.0 - 9.0% of mass 176	4.5 (5.5)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	EF238	4/ 4/89	8:46
2	VBLK2	METHOD BLANK	EF239	4/ 4/89	9:43
3	9SLS3B	EA# 1181	EF240	4/ 4/89	10:23
4	NLS1B	EA# 1183	EF242	4/ 4/89	11:46
5	NLS1BMS	EA# 1183MS	EF243	4/ 4/89	12:26
6	NLS1BMSD	EA# 1183MSD	EF244	4/ 4/89	13:06
7	RINSE BL	EA# 1184	EF245	4/ 4/89	13:47
8	RINSEMS	EA# 1184MS	EF246	4/ 4/89	14:27
9	RINSEMSD	EA# 1184MSD	EF247	4/ 4/89	15:07
10	RR2W2	EA# 1185	EF248	4/ 4/89	15:47
11	RR2W3	EA# 1186	EF249	4/ 4/89	16:27
12	RR2W4	EA# 1187	EF250	4/ 4/89	17:08
13	TRIP BL	EA# 1188	EF251	4/ 4/89	17:48
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

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

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Lab File ID: EF252 BFB Injection Date: 4/ 5/89

Instrument ID.: 7002E5 BFB Injection Time: 8:18

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.6
75	30.0 - 60.0% of mass 95	52.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	.0 (.0)1
174	Greater than 50.0% of mass 95	82.4
175	5.0 - 9.0% of mass 174	5.9 (7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.1 (99.6)1
177	5.0 - 9.0% of mass 176	6.1 (7.5)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	EF253	4/ 5/89	8:50
2	VBLK3	METHOD BLANK	EF254	4/ 5/89	9:49
3	NLS1A	EA# 1182	EF255	4/ 5/89	10:40
4	NLS1AMS	EA# 1182 MS	EF256	4/ 5/89	11:46
5	NLS1AMSD	EA# 1182 MSD	EF257	4/ 5/89	12:51
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B. Sample Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SLS1A

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA # 1176

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF232

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 16. Date Analyzed: 4/ 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	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	12.	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	12.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	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	12.	U
591-78-6	2-Hexanone	12.	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.
9SLS1A

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1176

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF232

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 16. Date Analyzed: 4/ 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.		No Volatiles Detected			
2.					
3.					
4.					
5.					
6.					
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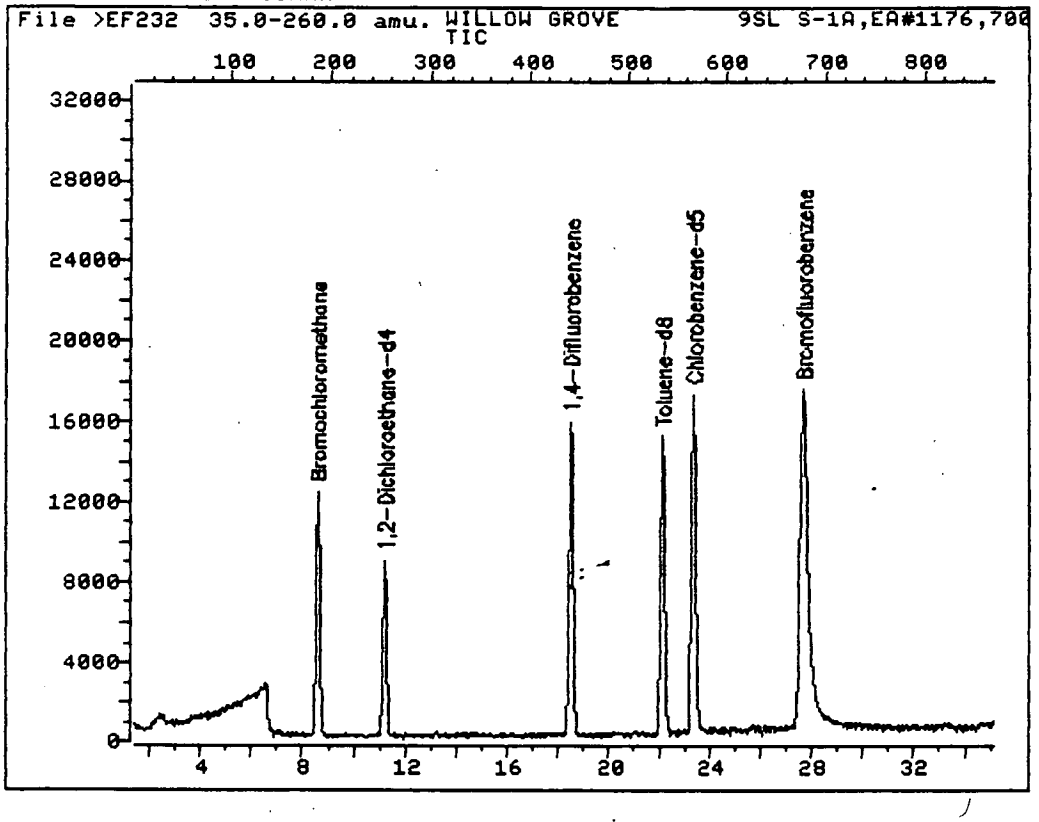
29.					
30.					

TOTAL ION CHROMATOGRAM



Data File: >EF232::D2 Quant Output File: ^EF232::QT
Nam : WILLOW GROVE
Misc: 9SL S-1A,EA#1176,7002E5,SOIL,5.0GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

Operator ID: CARL
Quant Time: 890403 10:58
Injected at: 890403 10:22

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890403 10:58
Output File: ^EF232::QT Injected at: 890403 10:22
Data Fil : >EF232::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: 9SL S-1A,EA#1176,7002E5,SOIL,5.0GM

ID File: EVOAS::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.60	128.0	16564	50.00	UG/KG	87
13)	1,2-Dichloroethane-d4	11.20	65.0	35722	49.12	UG/KG	85
15)	*1,4-Difluorobenzene	18.50	114.0	63952	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.39	117.0	56150	50.00	UG/KG	94
35)	Toluene-d8	22.15	98.0	60436	51.51	UG/KG	99
40)	Bromofluorobenzene	27.69	95.0	56855	49.16	UG/KG	88

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SLS1B

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1177

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF233

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 15. Date Analyzed: 4/ 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	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	12.	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	12.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	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	12.	U
591-78-6	2-Hexanone	12.	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.
9SLS1B

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1177

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF233

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 15. Date Analyzed: 4/ 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.		No Volatiles Detected			
2.					
3.					
4.					
5.					
6.					
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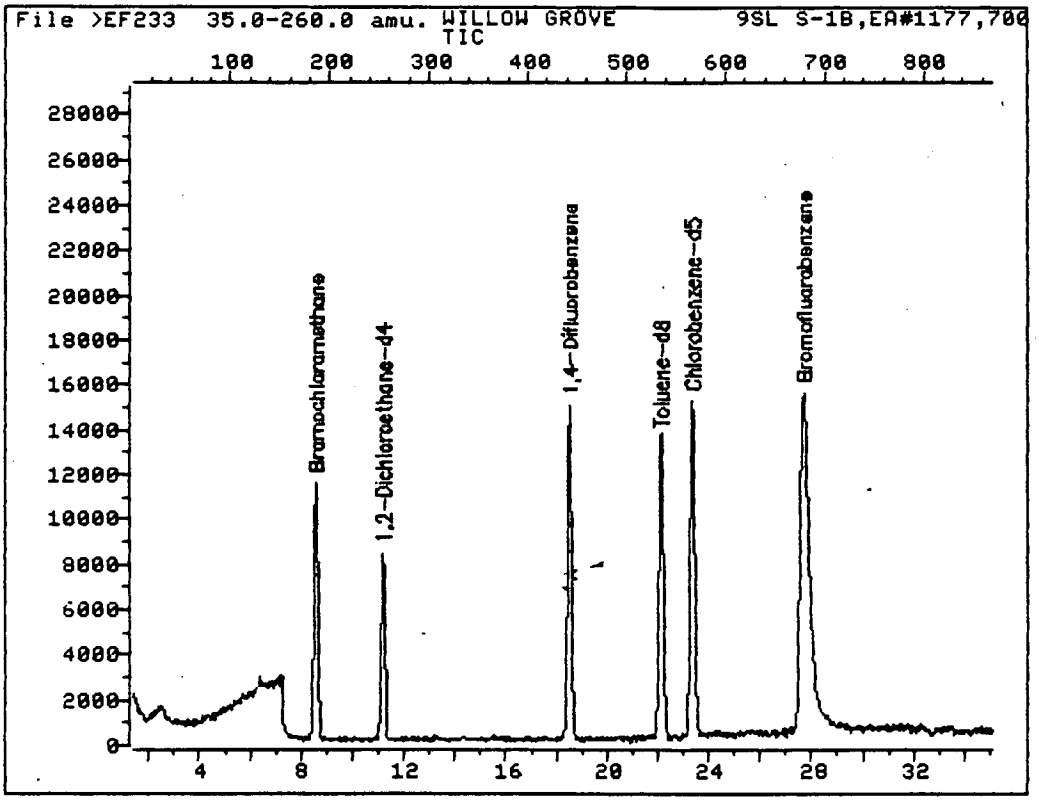
29.					
30.					

TOTAL ION CHROMATOGRAM



Data File: >EF233::D2 Quant Output File: ^EF233::QT
Name: WILLOW GROVE
Misc: 9SL S-1B,EA#1177,7002E5,SOIL,5.0GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

Operator ID: CARL
Quant Time: 890403 11:38
Injected at: 890403 11:02

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890403 11:38
Output File: ^EF233::QT Injected at: 890403 11:02
Data File: >EF233::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: 9SL S-1B,EA#1177,7002E5,SOIL,5.0GM

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.57	128.0	15905	50.00	UG/KG	82
13)	1,2-Dichloroethane-d4	11.17	65.0	34019	48.71	UG/KG	84
15)	*1,4-Difluorobenzene	18.51	114.0	60386	50.00	UG/KG	91
29)	*Chlorobenzene-d5	23.36	117.0	50560	50.00	UG/KG	97
35)	Toluene-d8	22.12	98.0	56567	53.54	UG/KG	99
40)	Bromofluorobenzene	27.70	95.0	50130	48.14	UG/KG	83

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SLS2A

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1178

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF234

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 19. Date Analyzed: 4/ 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	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	12.	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	29.	
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	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	12.	U
591-78-6	2-Hexanone	12.	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.: 9SLS2A

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1178

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF234

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 19. Date Analyzed: 4/ 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.		No Volatiles Detected			
2.					
3.					
4.					
5.					
6.					
7.					
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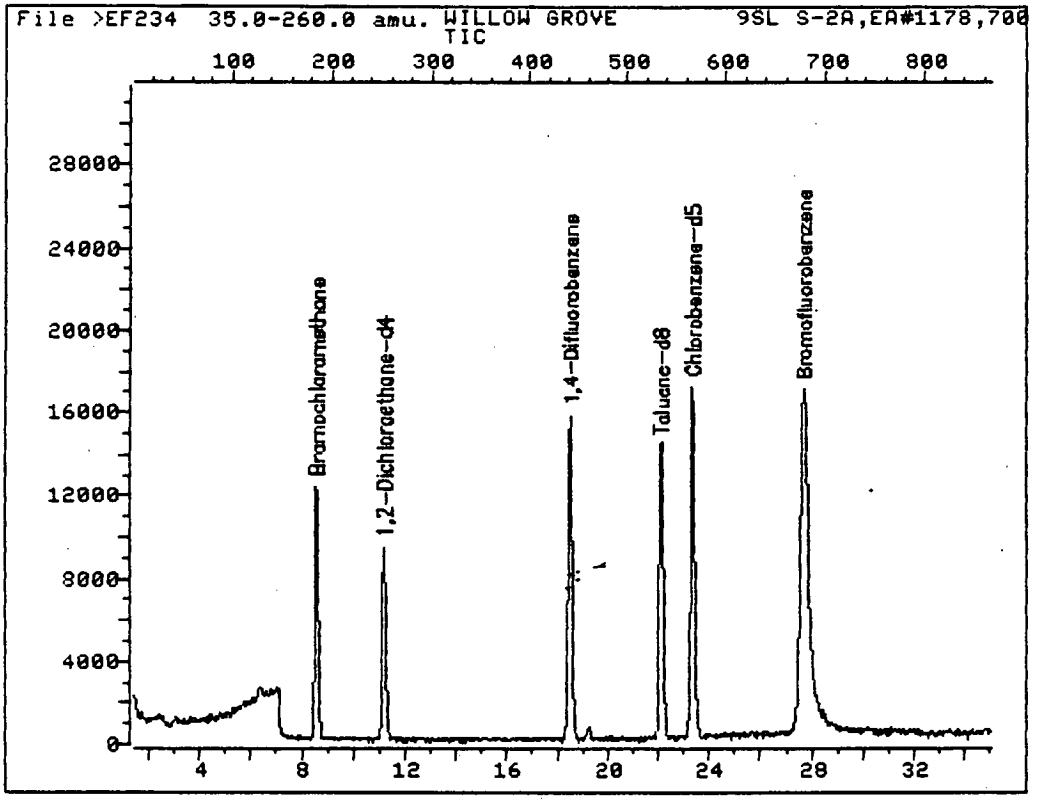
29.					
30.					

TOTAL ION CHROMATOGRAM



Data File: >EF234::D2 Quant Output File: ^EF234::QT
Name: WILLOW GROVE
Misc: 9SL S-2A,EA#1178,7002E5,SOIL,5.0GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

Operator ID: CARL
Quant Time: 890403 12:19
Injected at: 890403 11:43

QUANT REPORT

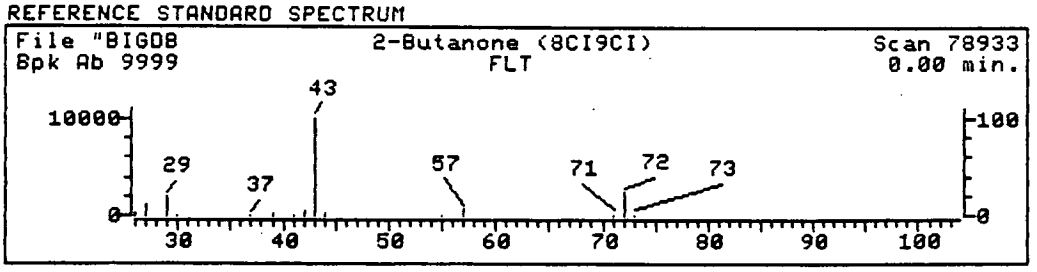
Operator ID: CARL Quant R v: 6 Quant Time: 890403 12:19
Output File: ^EF234::QT Injected at: 890403 11:43
Data File: >EF234::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: 9SL S-2A,EA#1178,7002E5,SOIL,5.0GM

ID File: EVOAS::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

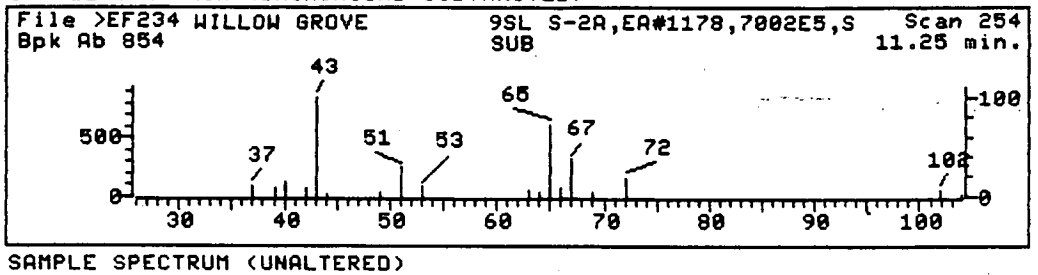
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.58	128.0	16804	50.00	UG/KG	90
13)	1,2-Dichloroethane-d4	11.18	65.0	36472	49.43	UG/KG	86
15)	*1,4-Difluorobenzene	18.51	114.0	63803	50.00	UG/KG	90
16)	2-Butanone	11.25	72.0	1425	23.62	UG/KG	98
29)	*Chlorobenzene-d5	23.36	117.0	55923	50.00	UG/KG	98
35)	Toluene-d8	22.12	98.0	58803	50.32	UG/KG	97
40)	Bromofluorobenzene	27.67	95.0	55955	48.58	UG/KG	86

* Compound is ISTD

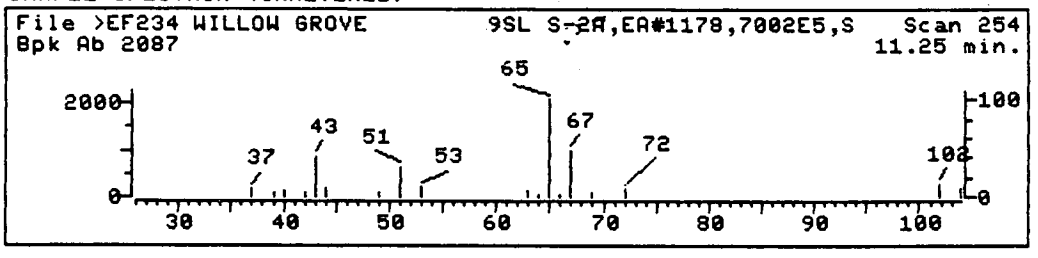
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EF234::D2 Quant Output File: ^EF234::QT
Name: WILLOW GROVE
Misc: 9SL S-2A,EA#1178,7002E5,SOIL,5.0GM
Quant Time: 890403 12:19 Quant ID File: EVOAS::BD
Injected at: 890403 11:43 Last Calibration: 890403 08:36

Compound No: 16
Compound Name: 2-Butanone
Scan Number: 254
Retention Time: 11.25 min.
Quant Ion: 72.0
Area: 1425
Concentration: 23.62 UG/KG
q-value: 98

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SLS2B

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA#1179

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF235

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 19. Date Analyzed: 4/ 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	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	12.	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	12.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	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	12.	U
591-78-6	2-Hexanone	12.	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.
9SLS2B

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1179

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF235

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 19. Date Analyzed: 4/ 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.		No Volatiles Detected			
2.					
3.					
4.					
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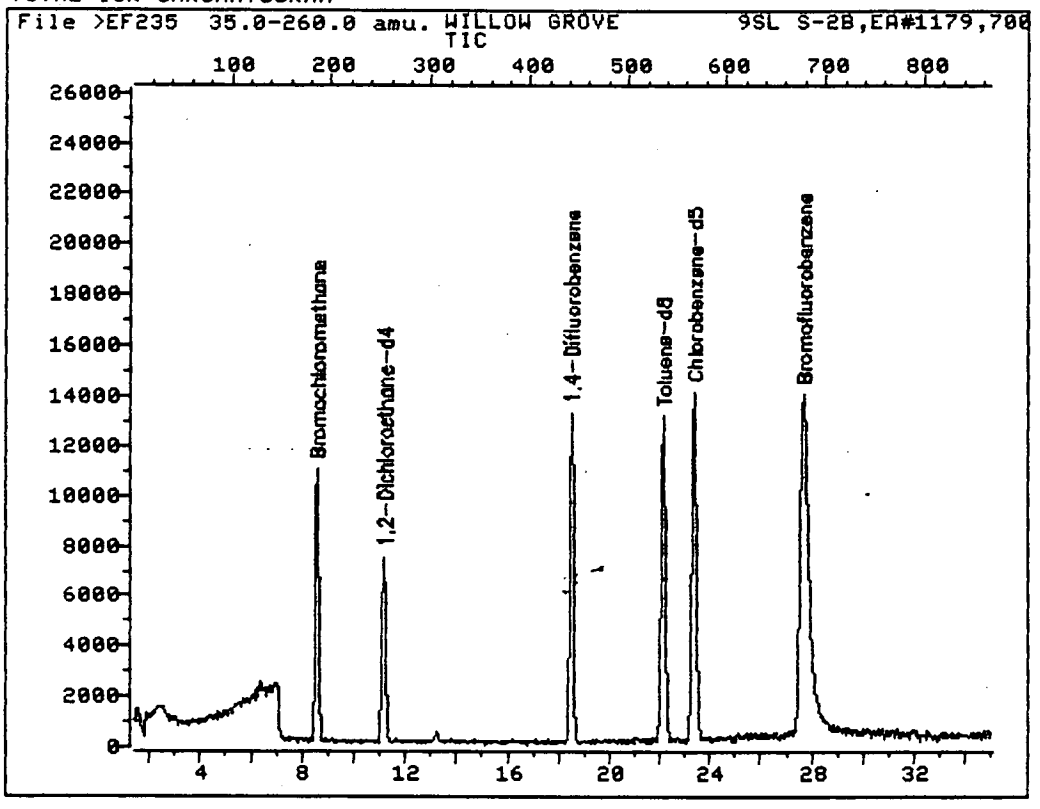
TOTAL ION CHROMATOGRAM



Data File: >EF235::D2 Quant Output File: ^EF235::QT
Name: WILLOW GROVE
Misc: 9SL S-2B,EA#1179,7002E5,SOIL,5.0GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

Operator ID: CARL
Quant Time: 890403 12:59
Injected at: 890403 12:23

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890403 12:59
Output File: ^EF235::QT Injected at: 890403 12:23
Data File: >EF235::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: 9SL S-2B,EA#1179,7002E5,SOIL,5.0GM

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.59	128.0	14584	50.00	UG/KG	82
13)	1,2-Dichloroethane-d4	11.19	65.0	31380	49.01	UG/KG	81
15)	*1,4-Difluorobenzene	18.48	114.0	54602	50.00	UG/KG	91
29)	*Chlorobenzene-d5	23.37	117.0	46090	50.00	UG/KG	95
35)	Toluene-d8	22.13	98.0	51230	53.20	UG/KG	97
40)	Bromofluorobenzene	27.68	95.0	46019	48.48	UG/KG	83

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SLS3A

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 11800

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF236

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 20. Date Analyzed: 4/ 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	6.	U
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

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

9SLS3A

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1180

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF236

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 20. Date Analyzed: 4/ 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.	75070	Acetaldehyde (DOT)(8CI9CI)	6.37	21.	
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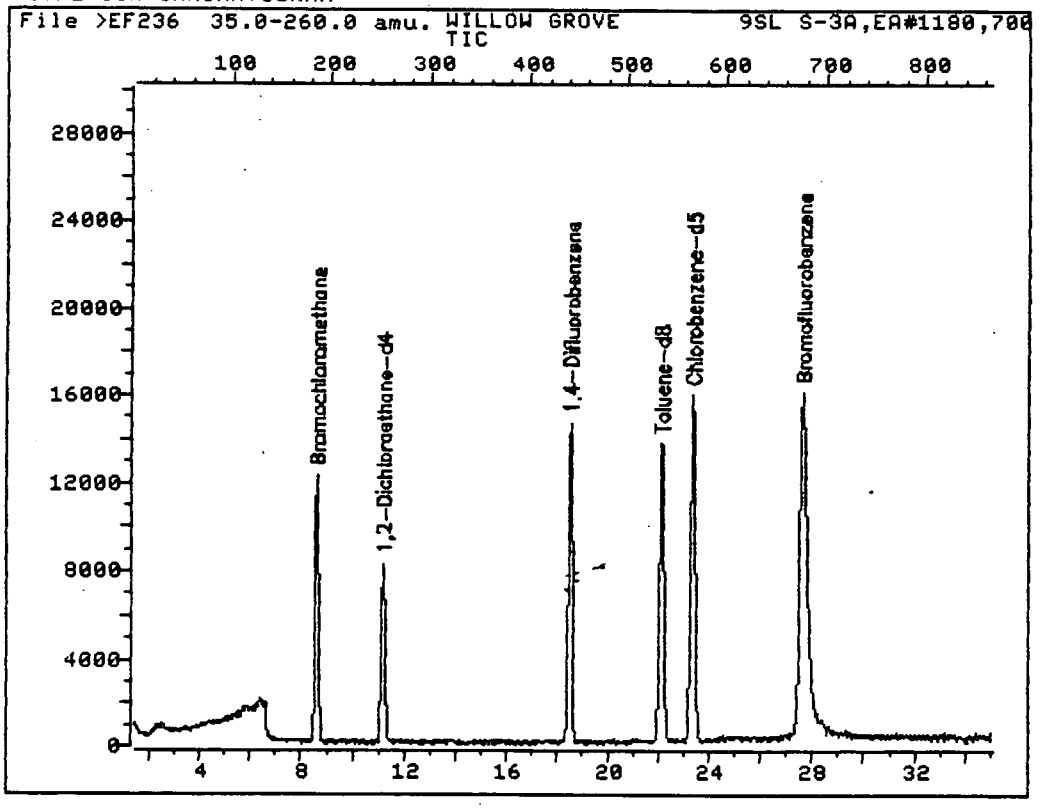
TOTAL ION CHROMATOGRAM



Data File: >EF236::D2 Quant Output File: ^EF236::QT
Name: WILLOW GROVE
Misc: 9SL S-3A,EA#1180,7002E5,SOIL,5.0GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

Operator ID: CARL
Quant Time: 890403 13:39
Injected at: 890403 13:03

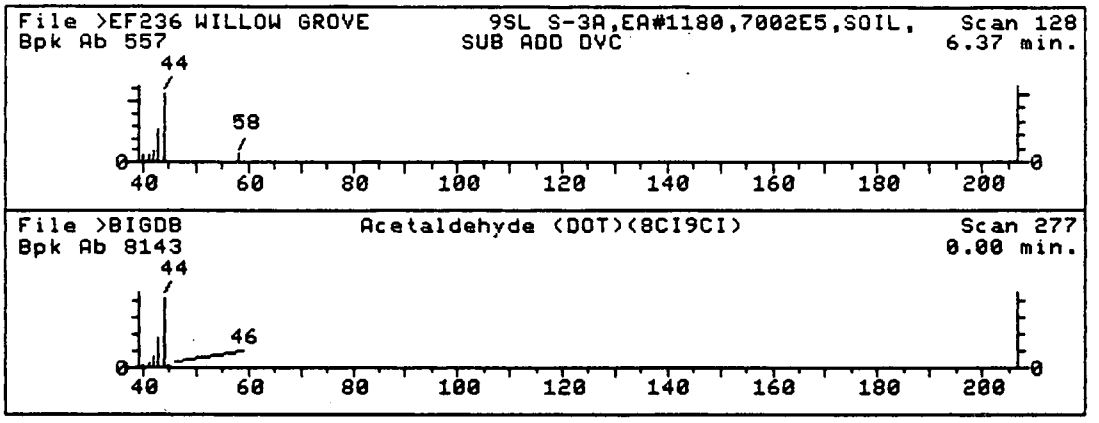
QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890403 13:39
Output File: ^EF236::QT Injected at: 890403 13:03
Data File: >EF236::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: 9SL S-3A,EA#1180,7002E5,SOIL,5.0GM

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:36

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.62	128.0	16179	50.00	UG/KG	85
13)	1,2-Dichloroethane-d4	11.18	65.0	34789	48.97	UG/KG	84
15)	*1,4-Difluorobenzene	18.51	114.0	59793	50.00	UG/KG	91
29)	*Chlorobenzene-d5	23.36	117.0	51955	50.00	UG/KG	97
35)	Toluene-d8	22.12	98.0	55976	51.56	UG/KG	98
40)	Bromofluorobenzene	27.63	95.0	52628	49.18	UG/KG	86

* Compound is ISTD



Retention time = 6.37

Area = 38097.00 Tentative Concentration is 16.00

(1) Acetaldehyde (DOT)(8CI9CI) 44 C2H4O

Sample file: >EF236 Spectrum #: 128
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*	75070	277	"BIGDB	23	41	1	0	122	16	20	14

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SLS3B

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1181

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF240

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 14. Date Analyzed: 4/ 4/89

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	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	12.	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	12.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	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	12.	U
591-78-6	2-Hexanone	12.	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.

9SLS3B

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1181

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF240

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 14. Date Analyzed: 4/ 4/89

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.		No Volatiles Detected			
2.					
3.					
4.					
5.					
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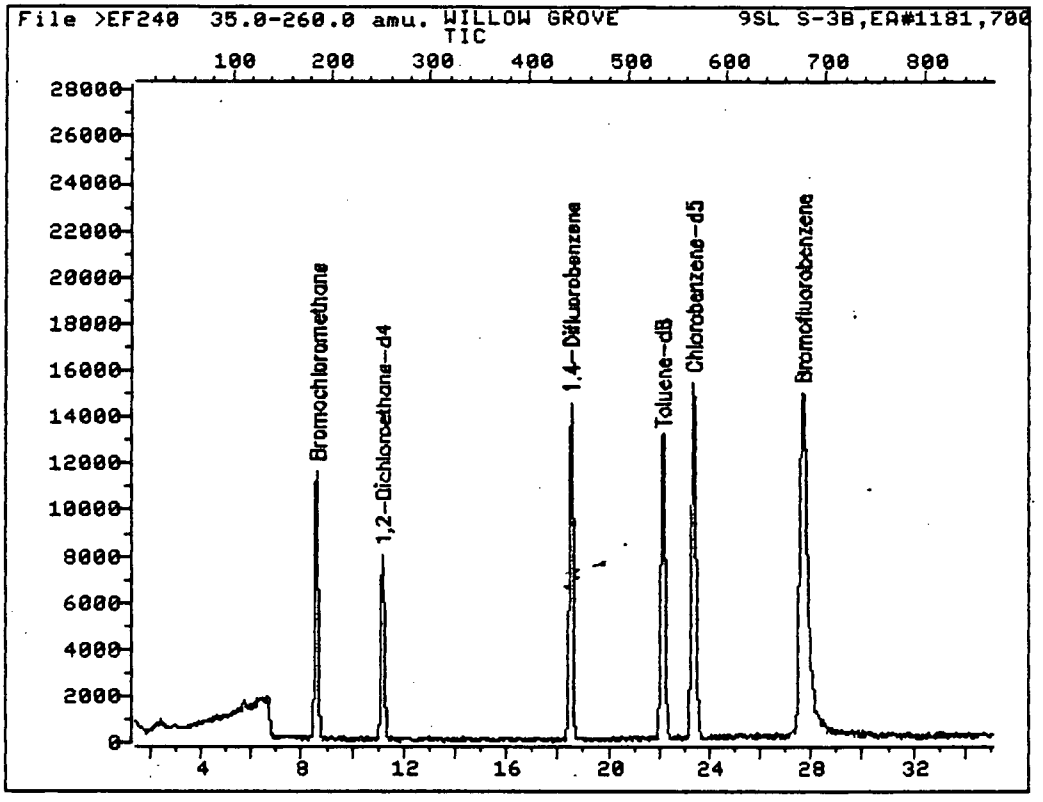
29.					
30.					

TOTAL ION CHROMATOGRAM



Data File: >EF240::D2 Quant Output File: ^EF240::QT
Name: WILLOW GROVE
Misc: 9SL S-3B,EA#1181,7002E5,SOIL,5.0GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:26

Operator ID: CARL
Quant Time: 890404 10:59
Injected at: 890404 10:23

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890404 10:59
Output File: ^EF240::QT Injected at: 890404 10:23
Data File: >EF240::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: 9SL S-3B,EA#1181,7002E5,SOIL,5.0GM

ID File: EVOAS::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:26

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.62	128.0	15737	50.00	UG/KG	81
13)	1,2-Dichloroethane-d4	11.18	65.0	34357	49.78	UG/KG	83
15)	*1,4-Difluorobenzene	18.52	114.0	58468	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.37	117.0	50976	50.00	UG/KG	95
35)	Toluene-d8	22.13	98.0	54277	51.27	UG/KG	97
40)	Bromofluorobenzene	27.67	95.0	49983	48.43	UG/KG	86

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NLS1A

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA #1182

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF255

Level: (low/med) MED Date Received: 3/30/89

% Moisture: not dec. 13. Date Analyzed: 4/ 5/89

Column: (pack/cap) PACK Dilution Factor: 125.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400.	U
74-83-9	Bromomethane	1400.	U
75-01-4	Vinyl Chloride	1400.	U
75-00-3	Chloroethane	1400.	U
75-09-2	Methylene Chloride	2100.	B
67-64-1	Acetone	1400.	U
75-15-0	Carbon Disulfide	720.	U
75-35-4	1,1-Dichloroethene	720.	U
75-34-3	1,1-Dichloroethane	720.	U
540-59-0	1,2-Dichloroethene (total)	720.	U
67-66-3	Chloroform	720.	U
107-06-2	1,2-Dichloroethane	720.	U
78-93-3	2-Butanone	1400.	U
71-55-6	1,1,1-Trichloroethane	720.	U
56-23-5	Carbon Tetrachloride	720.	U
108-05-4	Vinyl Acetate	1400.	U
75-27-4	Bromodichloromethane	720.	U
78-87-5	1,2-Dichloropropane	720.	U
10061-01-5	cis-1,3-Dichloropropene	720.	U
79-01-6	Trichloroethene	720.	U
124-48-1	Dibromochloromethane	720.	U
79-00-5	1,1,2-Trichloroethane	720.	U
71-43-2	Benzene	720.	U
10061-02-6	trans-1,3-Dichloropropene	720.	U
75-25-2	Bromoform	720.	U
108-10-1	4-Methyl-2-Pentanone	1400.	U
591-78-6	2-Hexanone	1400.	U
127-18-4	Tetrachloroethene	720.	U
79-34-5	1,1,2,2-Tetrachloroethane	720.	U
108-88-3	Toluene	500.	J
108-90-7	Chlorobenzene	720.	U
100-41-4	Ethylbenzene	560.	J
100-42-5	Styrene	720.	U
1330-20-7	Xylene (total)	4700.	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
NLS1A

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1182

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF255

Level: (low/med) MED Date Received: 3/30/89

% Moisture: not dec. 13. Date Analyzed: 4/ 5/89

Column: (pack/cap) PACK Dilution Factor: 125.00

Number TICs found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	763291	1-Pentene, 2-methyl- (8CI9CI	12.82	1200.	
2.	462066	Benzene, fluoro- (8CI9CI)	17.28	1100.	
3.		Unknown Hydrocarbon	20.47	1900.	
4.		Unknown Hydrocarbon	22.48	1200.	
5.		Unknown Hydrocarbon	23.14	1100.	
6.	3073663	Cyclohexane, 1,1,3-trimethyl	24.85	3900.	
7.	6236880	Cyclohexane, 1-ethyl-4-methy	26.37	1400.	
8.		Unknown Hydrocarbon	27.22	2200.	
9.	1795262	Cyclohexane, 1,3,5-trimethyl	30.64	960.	
10.		Unknown C10H20	31.30	2200.	
11.		Unknown C9H12	34.95	3600.	
12.	98828	Benzene, (1-methylethyl)- (9	50.51	5900.	
13.					
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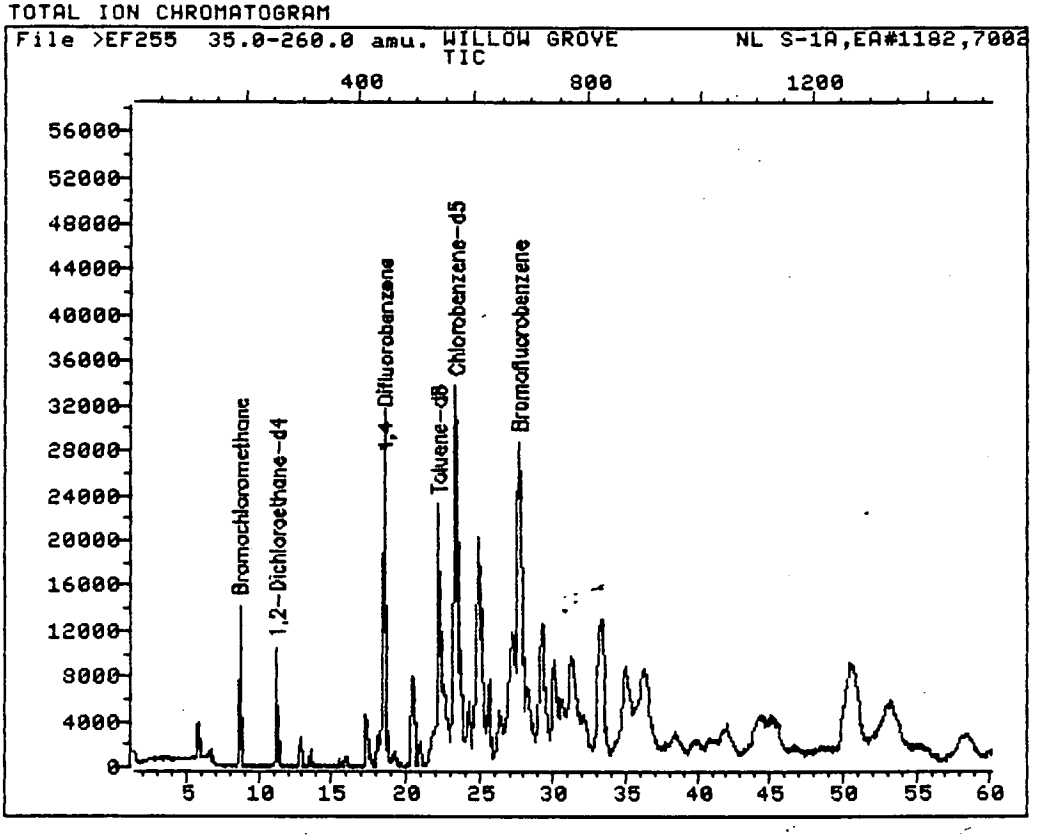
TOTAL ION CHROMATOGRAM



Data File: >EF255::D2 Quant Output File: ^EF255::QT
Name: WILLOW GROVE
Misc: NL S-1A,EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890405 09:33

Operator ID: CARL
Quant Time: 890405 11:41
Injected at: 890405 10:40

QUANT REPORT

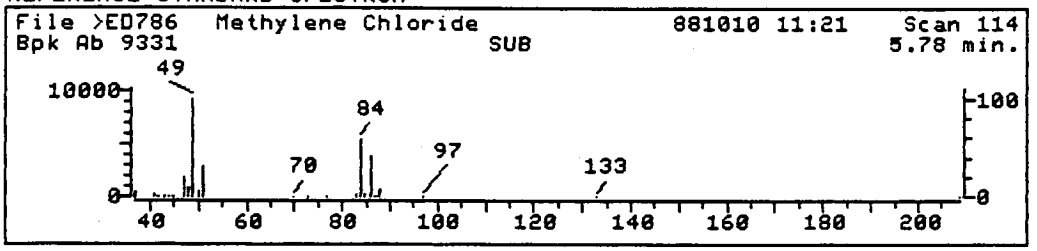
Operator ID: CARL Quant Rev: 6 Quant Time: 890405 11:41
Output File: ^EF255::QT Injected at: 890405 10:40
Data Fil : >EF255::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NL S-1A,EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)

ID File: EVOAS::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890405 09:33

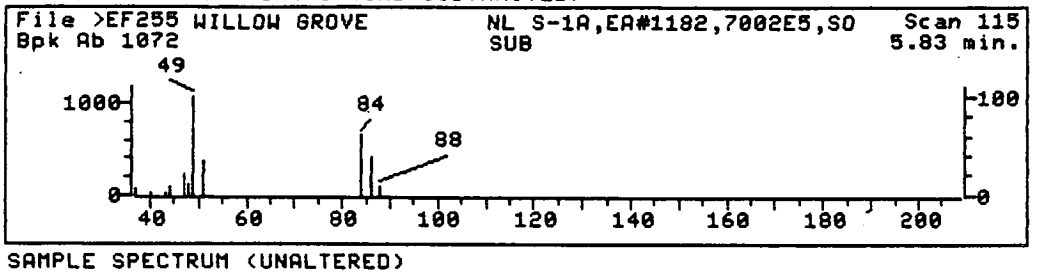
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.66	128.0	19418	50.00	UG/KG	89
6)	Methylene Chloride	5.83	84.0	5900	14.79	UG/KG	82
13)	1,2-Dichloroethane-d4	11.22	65.0	42271	45.78	UG/KG	85
15)	*1,4-Difluorobenzene	18.53	114.0	75112	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.38	117.0	82115M	50.00	UG/KG	96
34)	Toluene	22.33	92.0	3566	3.51	UG/KG	99
35)	Toluene-d8	22.17	98.0	69778	41.25	UG/KG	96
37)	Ethylbenzene	25.36	106.0	2538	3.90	UG/KG	98
39)	Xylene (total)	30.05	106.0	27349M	33.02	UG/KG	96
40)	Bromofluorobenzene	27.65	95.0	82865	48.64	UG/KG	83

* Compound is ISTD

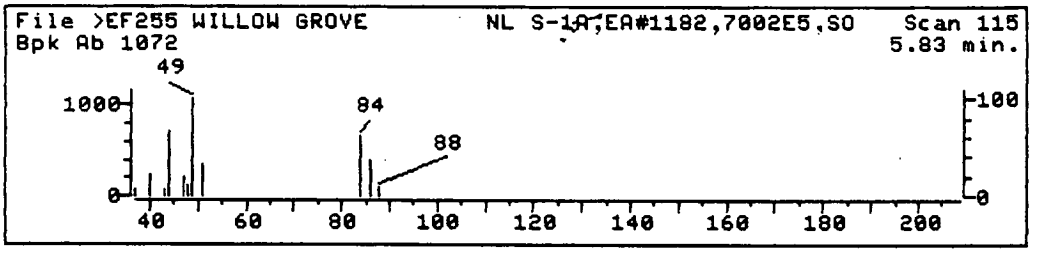
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



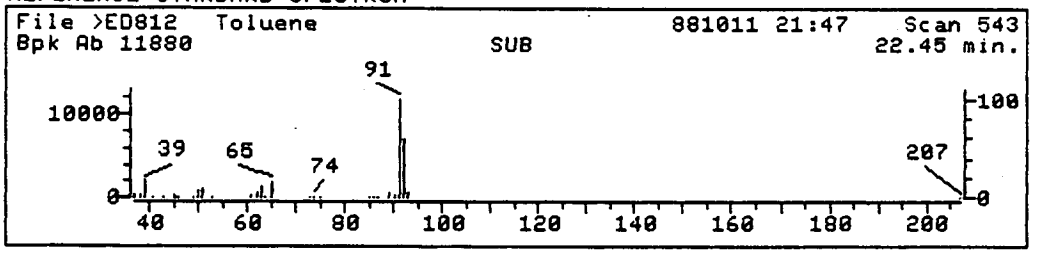
SAMPLE SPECTRUM (UNALTERED)



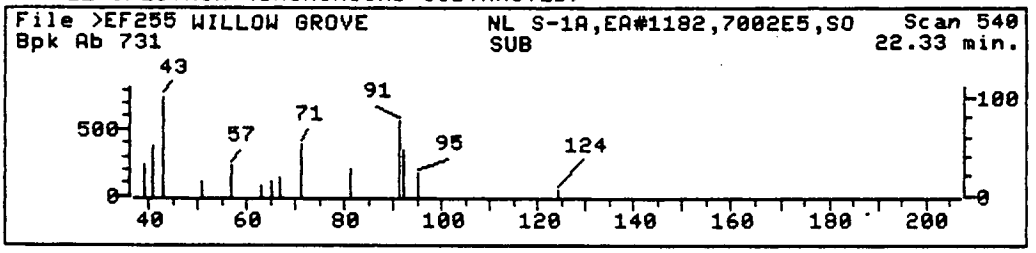
Data File: >EF255::D2 Quant Output File: ^EF255::QT
Name: WILLOW GROVE
Misc: NL S-1A,EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)
Quant Time: 890405 11:41 Quant ID File: EVOAS::BD
Injected at: 890405 10:40 Last Calibration: 890405 09:33

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 115
Retention Time: 5.83 min.
Quant Ion: 84.0
Area: 5900
Concentration: 14.79 UG/KG
q-value: 82

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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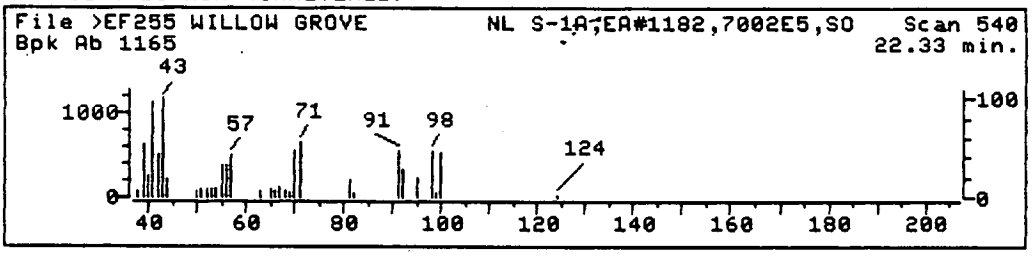
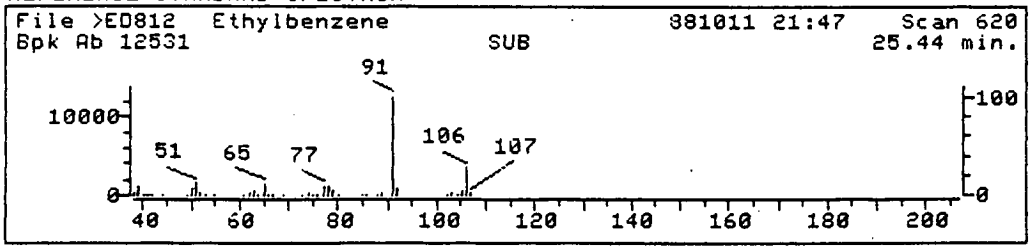


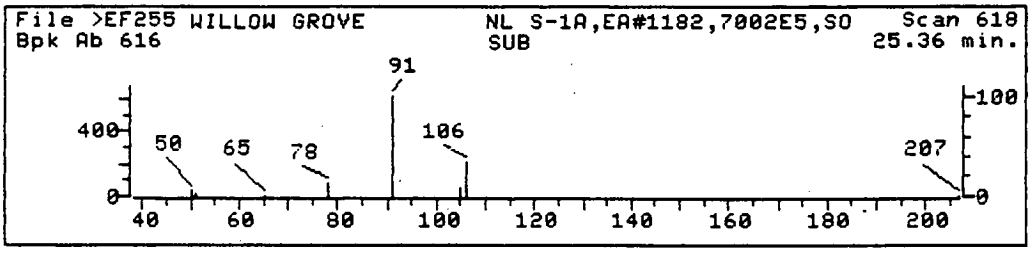
Data File: >EF255::D2 Quant Output File: ^EF255::QT
Name: WILLOW GROVE
Misc: NL S-1A,EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)
Quant Time: 890405 11:41 Quant ID File: EVOAS::BD
Injected at: 890405 10:40 Last Calibration: 890405 09:33

Compound No: 34
Compound Name: Toluene
Scan Number: 540
Retention Time: 22.33 min.
Quant Ion: 92.0
Area: 3566
Concentration: 3.51 UG/KG
q-value: 99

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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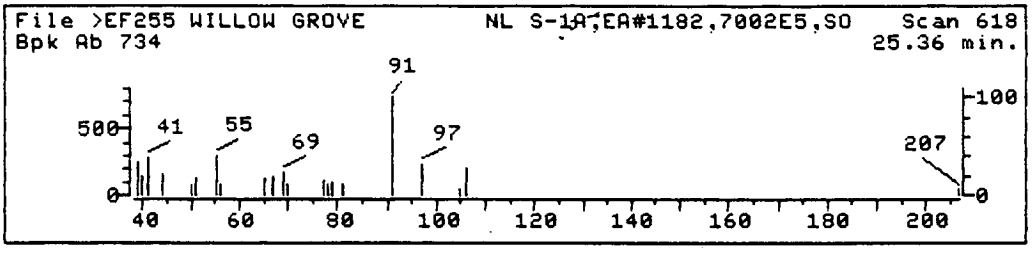
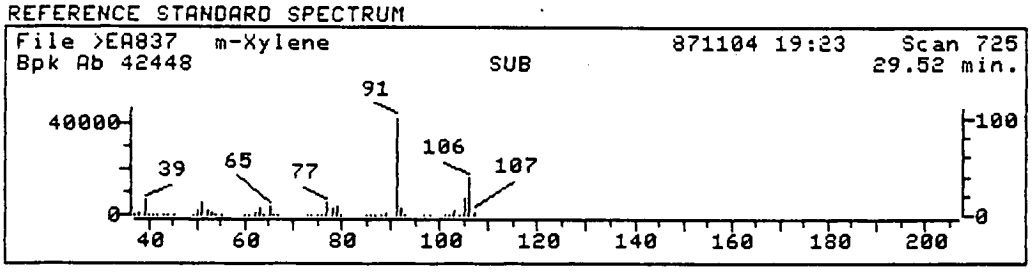


Data File: >EF255::D2 Quant Output File: ^EF255::QT
Name: WILLOW GROVE
Misc: NL S-1A,EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)
Quant Time: 890405 11:41 Quant ID File: EVOAS::BD
Injected at: 890405 10:40 Last Calibration: 890405 09:33

Compound No: 37
Compound Name: Ethylbenzene
Scan Number: 618
Retention Time: 25.36 min.
Quant Ion: 106.0
Area: 2538
Concentration: 3.90 UG/KG
q-value: 98

REFERENCE STANDARD SPECTRUM



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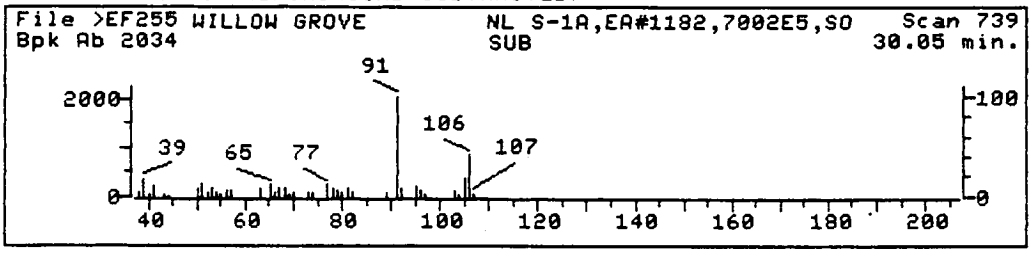
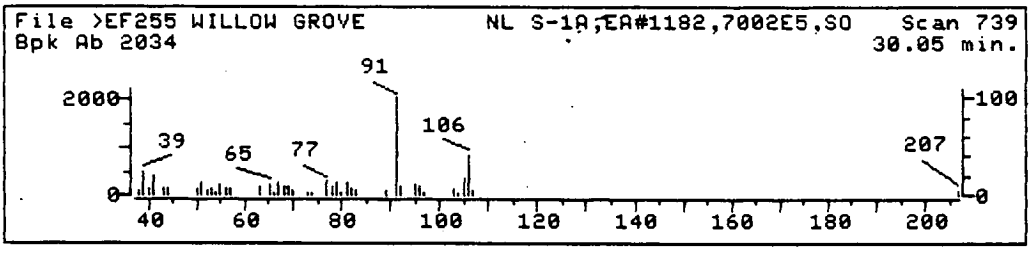
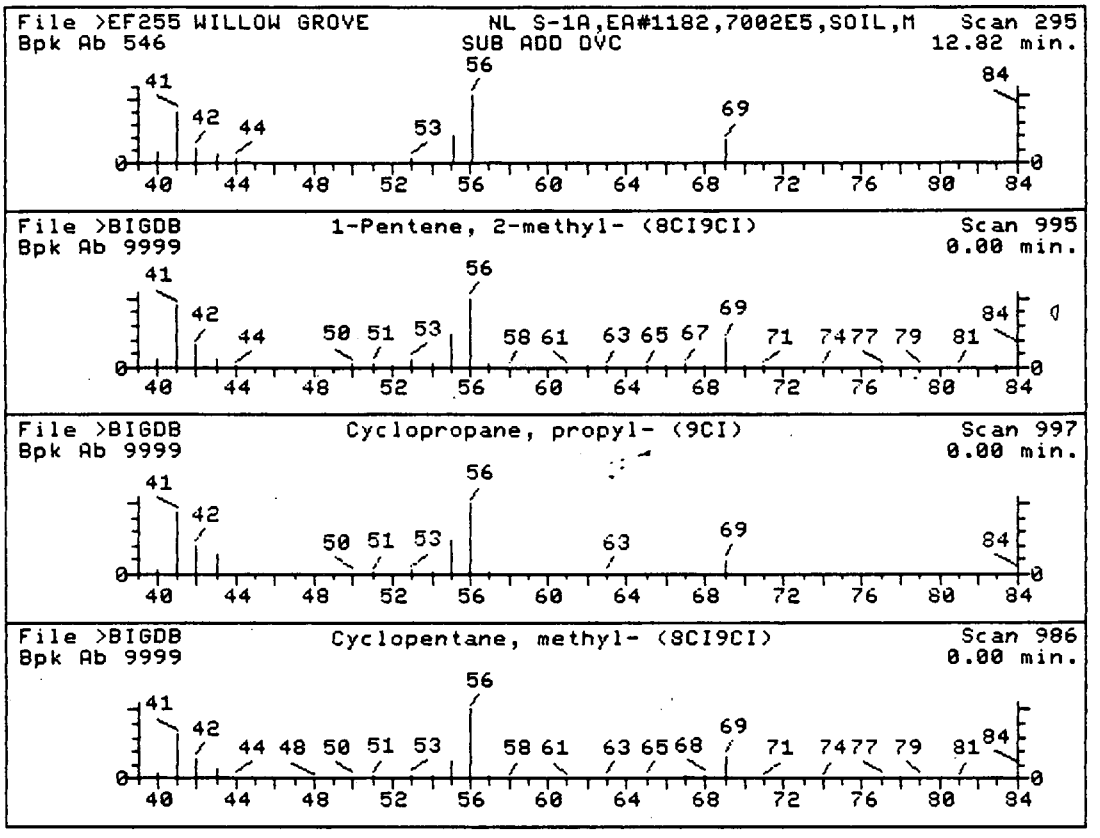


SAMPLE SPECTRUM (UNALTERED)



Data File: >EF255::D2 Quant Output File: ^EF255::QT
Name: WILLOW GROVE
Misc: NL S-1A,EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)
Quant Time: 890405 11:41 Quant ID File: EVOAS::BD
Injected at: 890405 10:40 Last Calibration: 890405 09:33

Compound No: 39
Compound Name: Xylene (total)
Scan Number: 739
Retention Time: 30.05 min.
Quant Ion: 106.0
Area: 27349M
Concentration: 33.02 UG/KG
q-value: 96



R tention time = 12.82

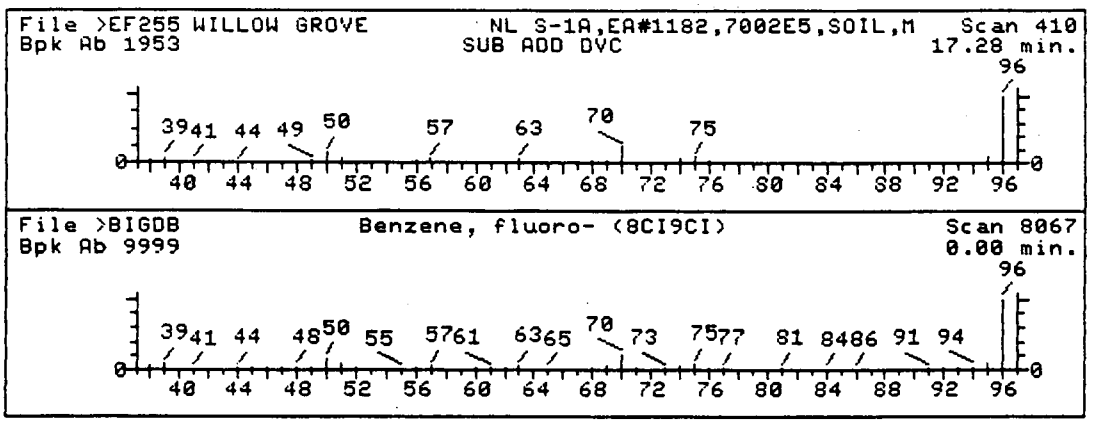
Area = 25829.00 Tentative Concentration is 9.00

1.	1-Pentene, 2-methyl- (8CI9CI)	84 C6H12
2.	Cyclopropane, propyl- (9CI)	84 C6H12
3.	Cyclopentane, methyl- (8CI9CI)	84 C6H12
4.	Pentane, 3-methylene- (9CI)	84 C6H12
5.	4-Pentenal (8CI9CI)	84 C5H8O
6.	Cyclobutane, ethyl- (8CI9CI)	84 C6H12
7.	1H-Tetrazole, 5-methyl- (8CI9CI)	84 C2H4N4

Sample file: >EF255 Spectrum #: 295
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*	763291	995	"BIGDB	44	57	2	0	74	19	20	17
2.	30*	2415727	997	"BIGDB	26	62	3	0	79	32	12	13

3.	28*	96377	986	"BIGDB	27	60	2	0	84	38	10	14
4.	25*	760214	5684	"BIGDB	26	76	3	0	52	48	7	13
5.	25*	2100176	996	"BIGDB	23	91	3	0	70	50	7	12
6.	15*	4806615	963	"BIGDB	25	58	3	0	116	58	3	13
7.	11*	4076362	998	"BIGDB	24	60	2	0	100	61	2	14



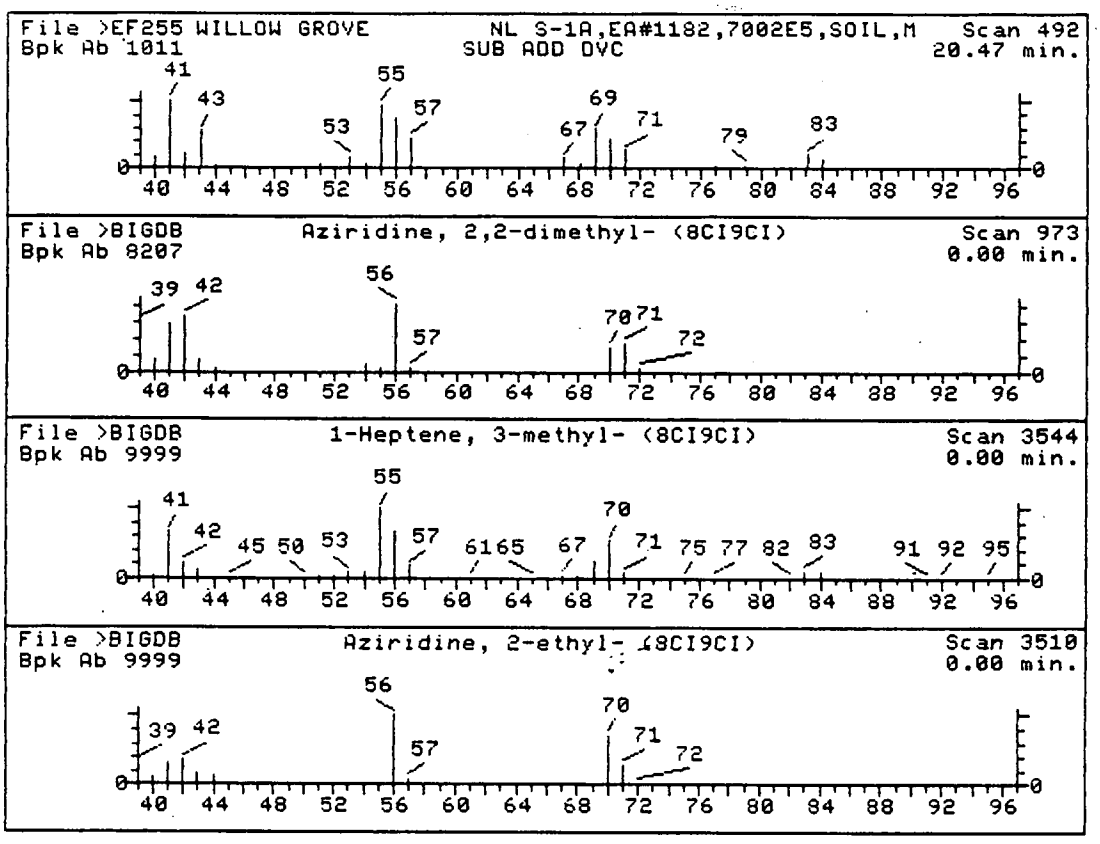
Retention time = 17.28

Area = 68476.00 Tentative Concentration is 8.00

(1) Benzene, fluoro- (8CI9CI) 96 C6H5F

Sample file: >EF255 Spectrum #: 410
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.	87*	462066	8067	"BIGDB	55	36	2	0	100	0	63	41



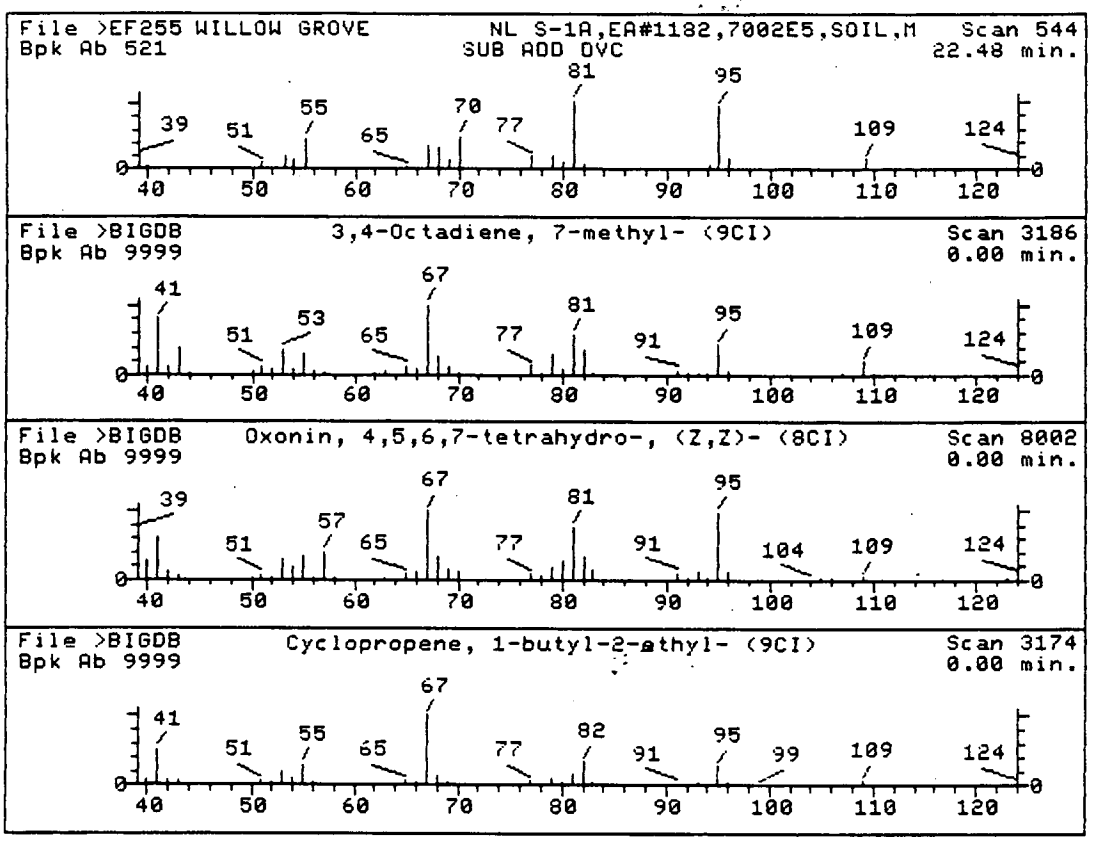
Retention time = 20.47 UNKNOWN HYDROCARBON

Area = 114925.0 Tentative Concentration is 14.00

1.	Aziridine, 2,2-dimethyl- (8CI9CI)	71 C4H9N
2.	1-Heptene, 3-methyl- (8CI9CI)	112 C8H16
3.	Aziridine, 2-ethyl- (8CI9CI)	71 C4H9N
4.	4-P ntenal (8CI9CI)	84 C5H8O
5.	1-Propene, 2-methyl- (9CI)	56 C4H8
6.	1-Butene (8CI9CI)	56 C4H8

Sample file: >EF255 Spectrum #: 492
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*	2658244	973	"BIGDB	23	86	2	0	81	49	7	13
2.	20	4810097	3544	"BIGDB	42	54	1	0	83	54	5	13
3.	20*	2549679	3510	"BIGDB	24	74	2	0	58	55	5	14
4.	12*	2100176	996	"BIGDB	52	62	2	0	83	65	2	27
5.	11*	115117	940	"BIGDB	21	52	2	0	100	65	2	13
6.	11*	106989	938	"BIGDB	22	57	3	0	138	61	2	12



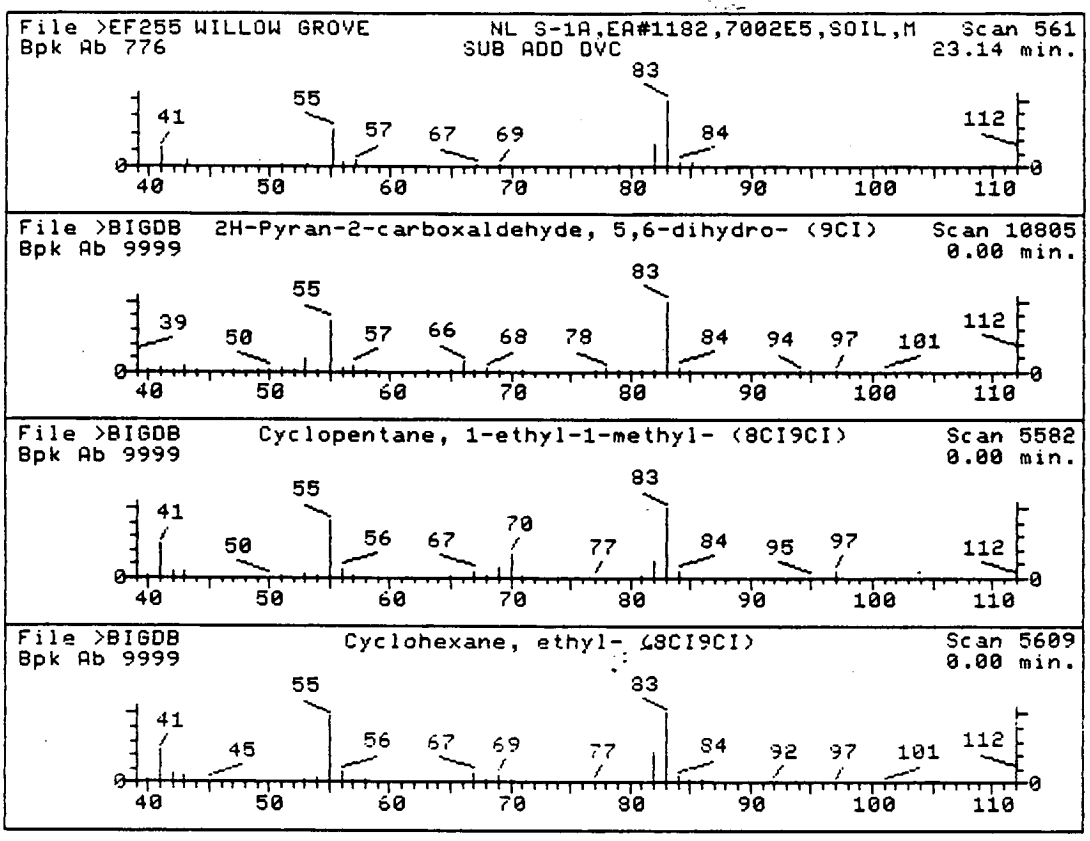
Retention time = 22.48 UNKNOWN HYDROCARBON

Area = 99492.00 Tentative Concentration is 9.00

1.	3,4-Octadiene, 7-methyl- (9CI)	124 C9H16
2.	Oxonin, 4,5,6,7-tetrahydro-, (Z,Z)- (8CI)	124 C8H12O
3.	Cyclopropene, 1-butyl-2-ethyl- (9CI)	124 C9H16
4.	2-Nonyne (8CI9CI)	124 C9H16
5.	Pentalene, octahydro-2-methyl- (8CI9CI)	124 C9H16
6.	Cyclohexene, 4-methyl- (8CI9CI)	96 C7H12
7.	Bicyclo[2.2.1]heptane, 2-ethyl- (9CI)	124 C9H16

Sample file: >EF255 Spectrum #: 544
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.	52*	37050058	3186	"BIGDB	27	84	3	0	172	20	20	13
2.	42*	17123567	8002	"BIGDB	32	89	3	0	94	21	17	13
3.	29*	50915918	3174	"BIGDB	24	74	3	0	343	33	12	12
4.	25*	19447291	7985	"BIGDB	44	62	3	0	92	50	7	13
5.	25*	3868642	8124	"BIGDB	34	77	3	0	100	46	7	13
6.	20*	591479	5201	"BIGDB	43	55	3	0	100	54	5	13
7.	20*	2146410	8001	"BIGDB	25	65	2	0	81	53	5	14



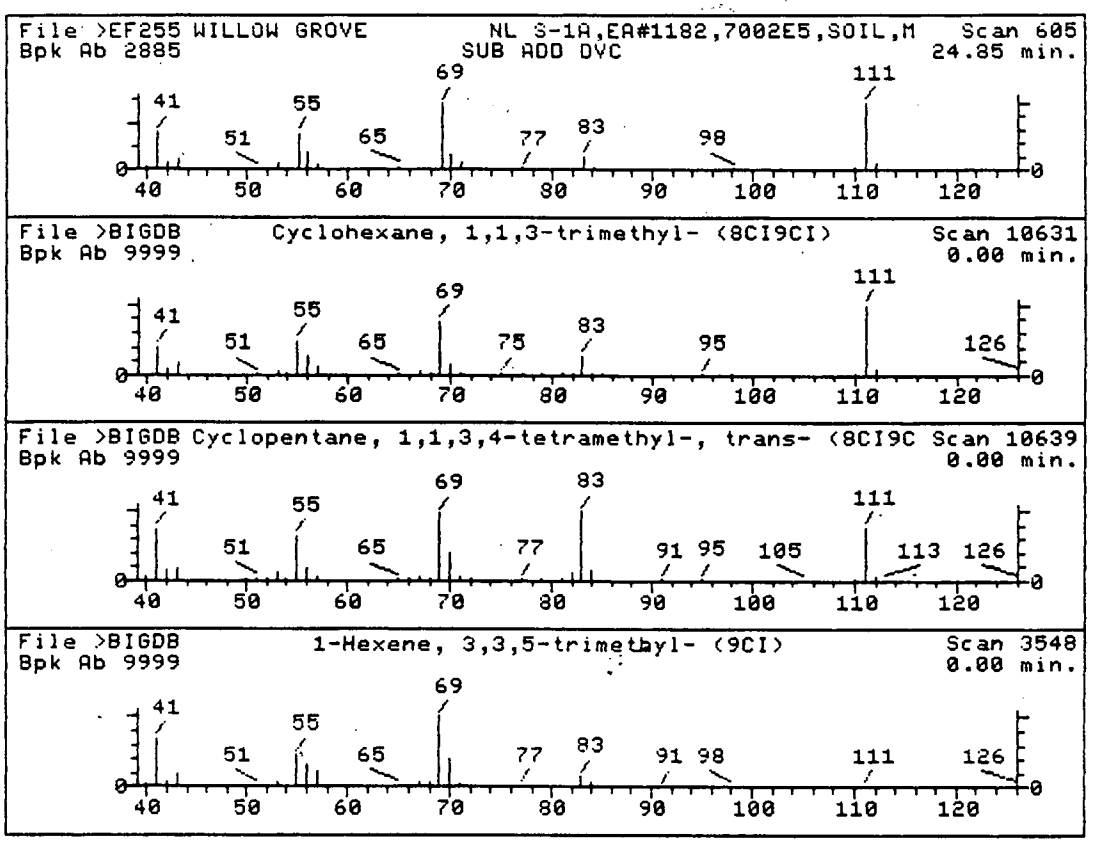
Retention time = 23.14 UNKNOWN HYDROCARBON

Area = 80859.00 Tentative Concentration is 8.00

1.	2H-Pyran-2-carboxaldehyde, 5,6-dihydro- (9CI)	112	C6H8O2
2.	Cyclopentane, 1-ethyl-1-methyl- (8CI9CI)	112	C8H16
3.	Cyclohexane, ethyl- (8CI9CI)	112	C8H16
4.	1H-1,2,4-Triazole, 1-methyl- (8CI9CI)	83	C3H5N3
5.	4H-1,2,4-Triazole, 4-methyl- (8CI9CI)	83	C3H5N3
6.	2-Hexene, 2,3-dimethyl- (8CI9CI)	112	C8H16
7.	1H-1,2,4-Triazole, 3-methyl- (9CI)	83	C3H5N3

Sample file: >EF255 Spectrum #: 561
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*	53897260	10805	"BIGDB	39	53	3	0	79	19	20	14
2.	41*	16747505	5582	"BIGDB	22	82	3	0	70	25	17	12
3.	27*	1678917	5609	"BIGDB	20	79	2	0	60	36	10	13
4.	25*	6086211	5565	"BIGDB	21	53	2	0	100	50	7	13
5.	25*	10570408	5567	"BIGDB	21	54	2	0	100	49	7	13
6.	25*	7145202	10788	"BIGDB	30	64	3	0	62	42	8	13
7.	20*	7170016	5566	"BIGDB	21	34	2	0	100	51	5	13



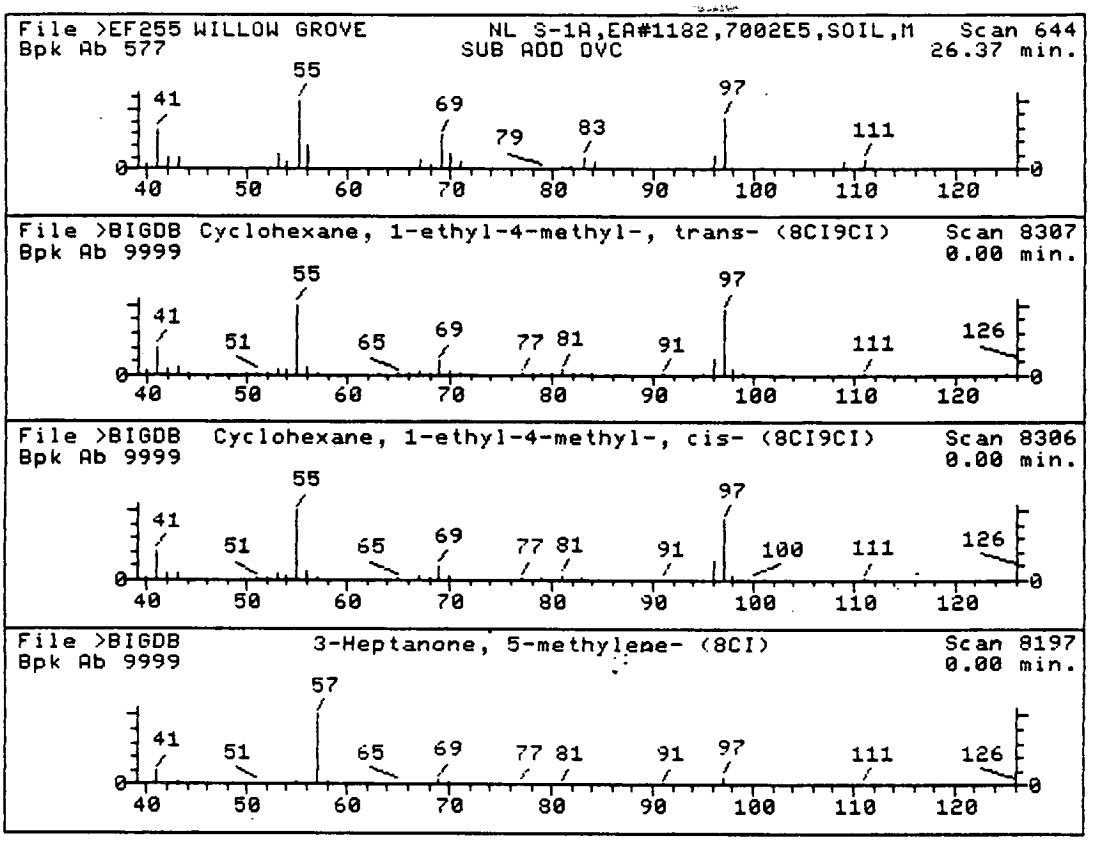
Retention time = 24.85

Area = 302148.0 Tentative Concentration is 28.00

1.	Cyclohexane, 1,1,3-trimethyl- (8CI9CI)	126	C9H18
2.	Cyclopentane, 1,1,3,4-tetramethyl-, trans- (8CI9CI)	126	C9H18
3.	1-Hexene, 3,3,5-trimethyl- (9CI)	126	C9H18
4.	Silane, 1-butynyltrimethyl- (9CI)	126	C7H14Si
5.	2(1H)-Pyridinone, 3-hydroxy- (9CI)	111	C5H5NO2
6.	2-Pyrrolidinone, 1-ethenyl- (9CI)	111	C6H9NO
7.	Benzenamine, 2-fluoro- (9CI)	111	C6H6FN

Sample file: >EF255 Spectrum #: 605
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.	68*	3073663	10631	"BIGDB	59	40	1	0	77	24	30	53
2.	30*	20309777	10639	"BIGDB	33	78	3	0	76	34	12	13
3.	25*	13427435	3548	"BIGDB	26	67	3	0	98	49	7	13
4.	20*	62108376	10682	"BIGDB	35	52	2	0	82	51	5	17
5.	20*	16867042	10638	"BIGDB	33	67	3	0	81	54	5	13
6.	20*	88120	10626	"BIGDB	28	62	3	0	200	52	5	13
7.	20*	348549	10628	"BIGDB	27	65	3	0	100	52	5	13



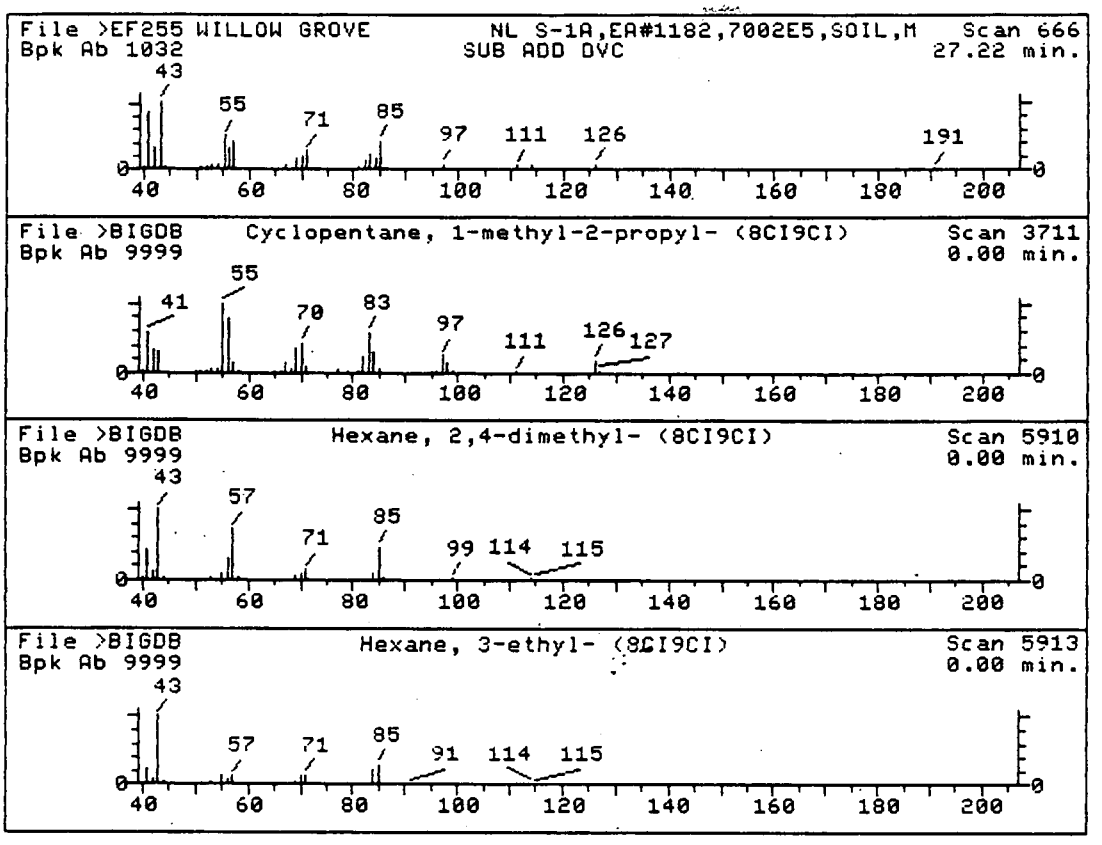
Retention time = 26.37

Area = 108020.0 Tentative Concentration is 10.00

1.	Cyclohexane, 1-ethyl-4-methyl-, trans- (8CI9CI)	126 C9H18
2.	Cyclohexane, 1-ethyl-4-methyl-, cis- (8CI9CI)	126 C9H18
3.	3-Heptanone, 5-methylene- (8CI)	126 C8H14O
4.	Cyclohexane, 1-ethyl-2-methyl-, cis- (8CI9CI)	126 C9H18
5.	Cyclohexane, 1-ethyl-1-methyl- (8CI9CI)	126 C9H18
6.	2-Pentene, 3-ethyl-4,4-dimethyl- (9CI)	126 C9H18
7.	1H-Pyrrole-2,5-dione (9CI)	97 C4H3NO2

Sample file: >EF255 Spectrum #: 644
S arch 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.	40*	6236880	8307	"BIGDB	39	57	2	0	82	30	14	17
2.	39*	4926787	8306	"BIGDB	38	58	2	0	79	30	14	16
3.	30*	20690704	8197	"BIGDB	25	49	3	0	728	31	12	13
4.	30*	4923777	8305	"BIGDB	33	59	1	0	76	43	8	18
5.	28*	4926903	8248	"BIGDB	22	69	1	0	76	39	10	14
6.	25*	53907598	8319	"BIGDB	34	75	3	0	54	50	7	13
7.	25*	541593	790	"BIGDB	23	73	3	0	76	48	7	12



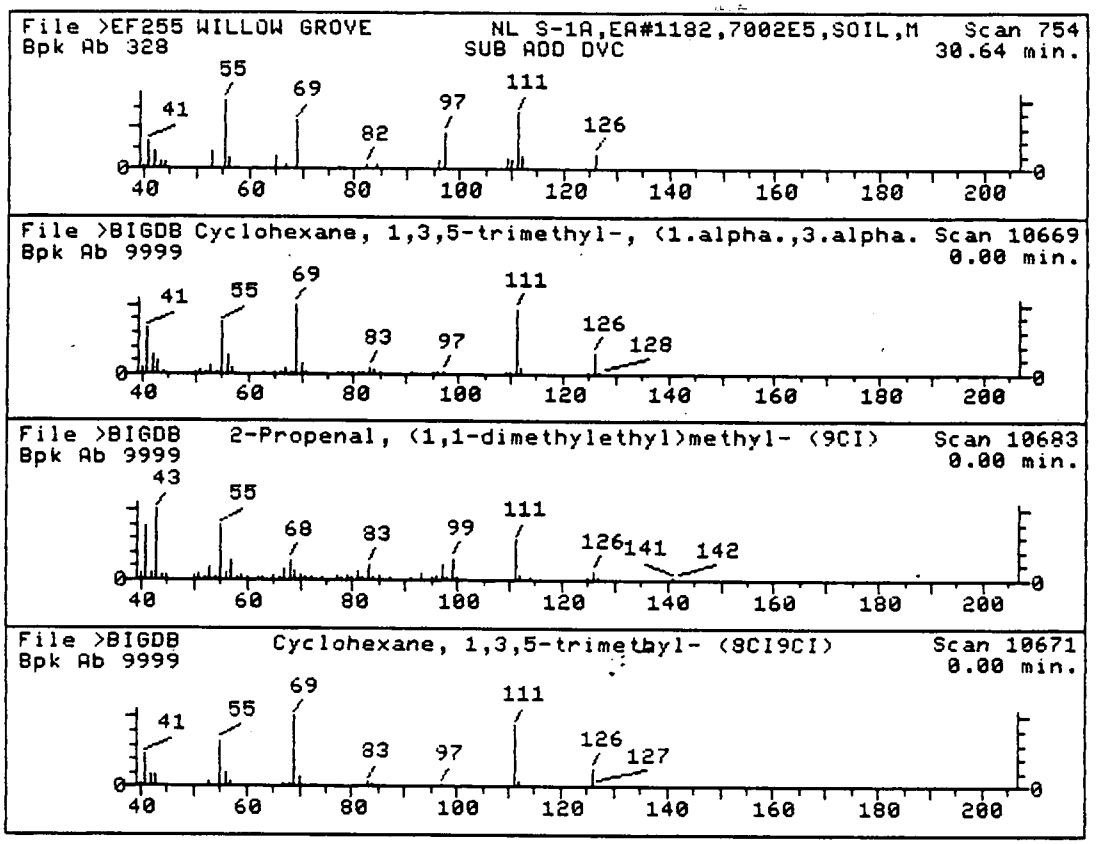
Retention time = 27.22 UNKNOWN HYDROCARBON

Area = 172125.0 Tentative Concentration is 16.00

1.	Cyclopentane, 1-methyl-2-propyl- (8CI9CI)	126 C9H18
2.	Hexane, 2,4-dimethyl- (8CI9CI)	114 C8H18
3.	Hexane, 3-ethyl- (8CI9CI)	114 C8H18
4.	Cyclopentane, (2-methylpropyl)- (9CI)	126 C9H18
5.	Heptane, 3-methyl- (8CI9CI)	114 C8H18
6.	2-Octenal, (E)- (8CI9CI)	126 C8H14O
7.	Piperidine (8CI9CI)	85 C5H11N

Sample file: >EF255 Spectrum #: 666
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.	25*	3728572	3711	"BIGDB	46	55	2	0	36	50	7	18
2.	25*	589435	5910	"BIGDB	34	64	3	0	89	50	7	13
3.	25*	619998	5913	"BIGDB	25	65	2	0	100	47	7	14
4.	20*	3788327	5415	"BIGDB	25	93	3	0	70	52	5	13
5.	15*	589811	5911	"BIGDB	31	60	1	0	59	58	3	17
6.	15*	2548870	3627	"BIGDB	28	62	2	0	22	58	3	14
7.	15*	110894	5714	"BIGDB	32	67	3	0	88	60	3	13



Retention time = 30.64

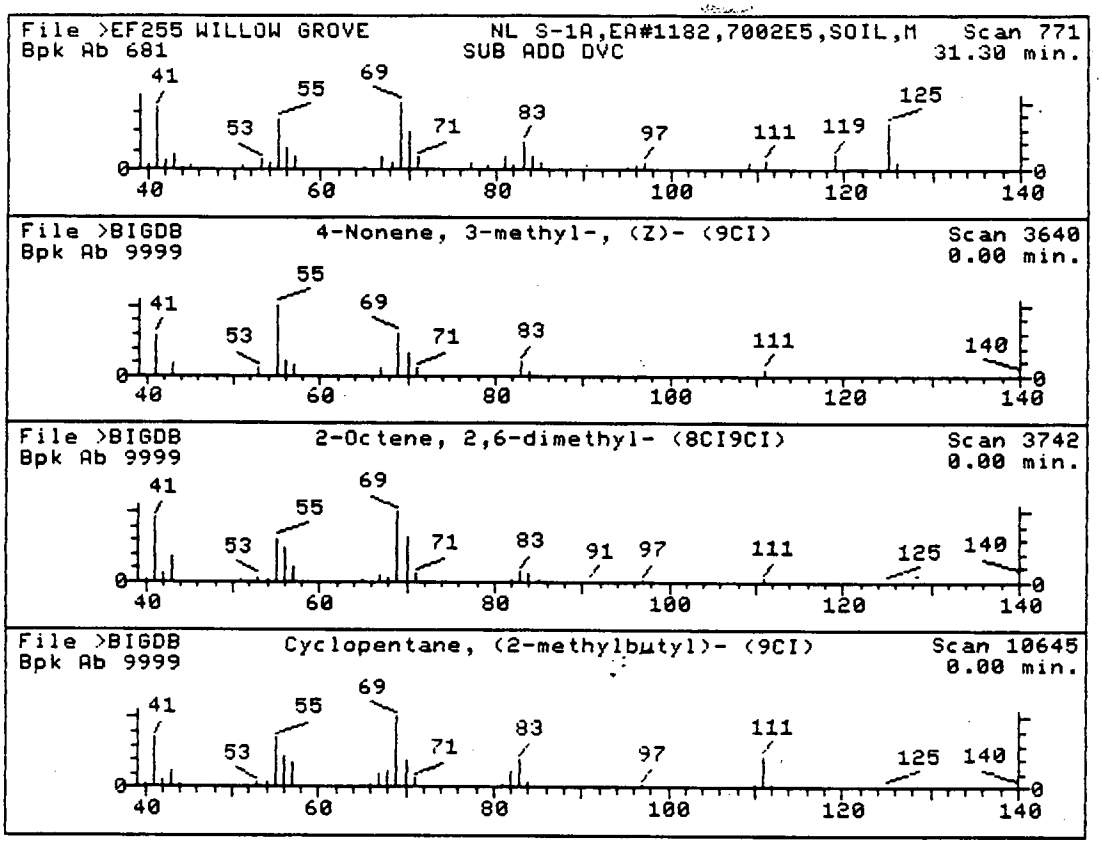
Area = 75198.00 Tentative Concentration is 7.00

1.	Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.alpha.,5.beta.)- (9CI)	126	C9H18
2.	2-Propenal, (1,1-dimethylethyl)methyl- (9CI)	126	C8H14O
3.	Cyclohexane, 1,3,5-trimethyl- (8CI9CI)	126	C9H18
4.	2-Pyrazoline, 1-isopropyl-3-methyl- (8CI)	126	C7H14N2
5.	Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.alpha.,5.alpha.)- (9CI)	126	C9H18
6.	Cyclohexane, 1,2,4-trimethyl-, (1.alpha.,2.beta.,4.beta.)- (9CI)	126	C9H18
7.	2-Pyrazoline, 1-isopropyl-5-methyl- (8CI)	126	C7H14N2

Sample file: >EF255 Spectrum #: 754
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.	41*	1795262	10669	"BIGDB	57	56	2	0	68	45	14	34
2.	26*	72101225	10683	"BIGDB	23	88	3	0	127	40	10	12
3.	25*	1839630	10671	"BIGDB	34	66	3	0	71	48	7	13
4.	25*	22581482	10677	"BIGDB	30	62	3	0	83	48	7	13
5.	25*	1795273	10670	"BIGDB	32	67	3	0	73	49	7	13

6.	25*	7667609	10674	"BIGDB	35	76	3	0	77	44	8	13
7.	24*	26964545	10678	"BIGDB	44	43	2	0	76	51	7	23



Retention time = 31.30

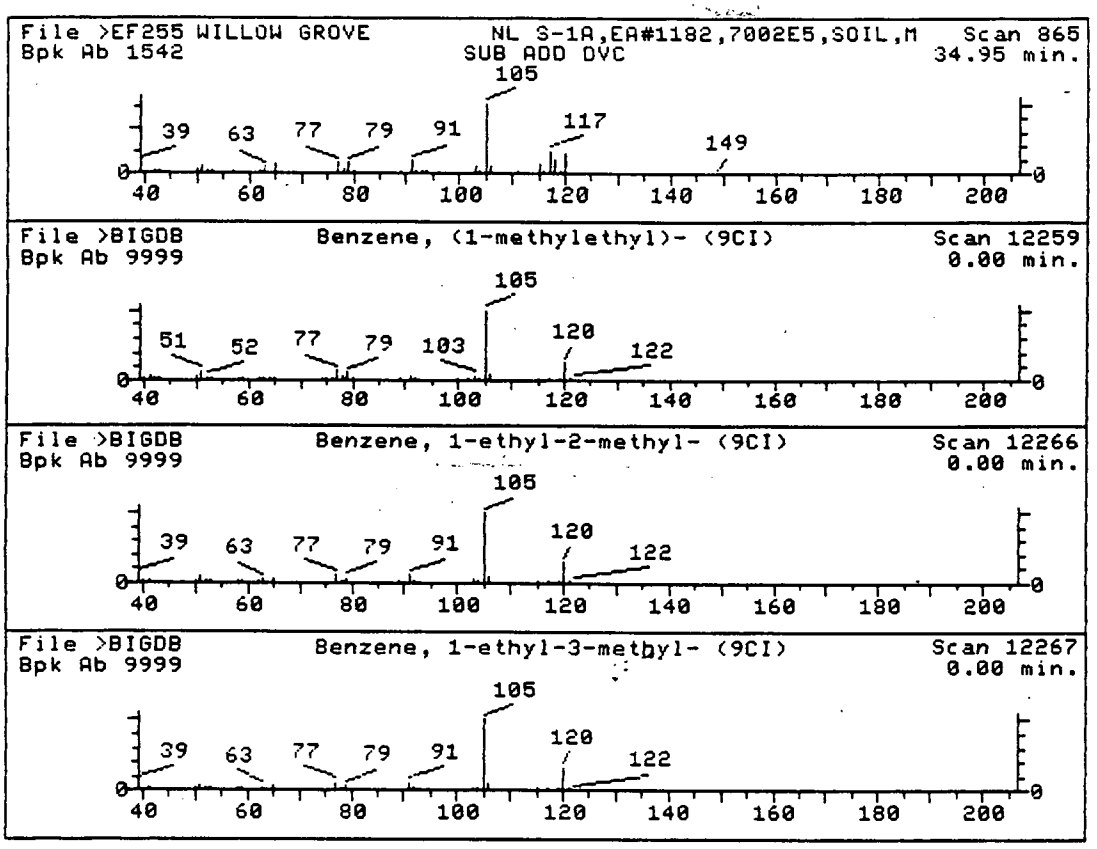
UNKNOWN C10H20

Area = 173983.0 Tentative Concentration is 16.00

1.	4-Nonene, 3-methyl-, (Z)- (9CI)	140 C10H20
2.	2-Octene, 2,6-dimethyl- (8CI9CI)	140 C10H20
3.	Cyclopentane, (2-methylbutyl)- (9CI)	140 C10H20
4.	Cyclooctane, 1,4-dimethyl-, trans- (9CI)	140 C10H20
5.	1-Hexene, 3,3,5-trimethyl- (9CI)	126 C9H18
6.	3-Nonene, 3-methyl-, (E)- (9CI)	140 C10H20
7.	2-Cyclohexen-1-ol, 3,5,5-trimethyl- (8CI9CI)	140 C9H16O

Sample file: >EF255 Spectrum #: 771
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.	72*	63830693	3640	"BIGDB	75	26	1	0	149	35	32	73
2.	30*	4057425	3742	"BIGDB	45	59	1	0	69	47	10	22
3.	27*	53366384	10645	"BIGDB	47	65	3	0	100	40	10	13
4.	26	13151989	3701	"BIGDB	51	58	3	0	75	45	8	14
5.	25*	13427435	3548	"BIGDB	35	58	1	0	96	50	7	19
6.	25*	69405421	3763	"BIGDB	33	56	1	0	150	48	7	18
7.	25*	470995	13012	"BIGDB	43	67	3	0	69	42	8	13



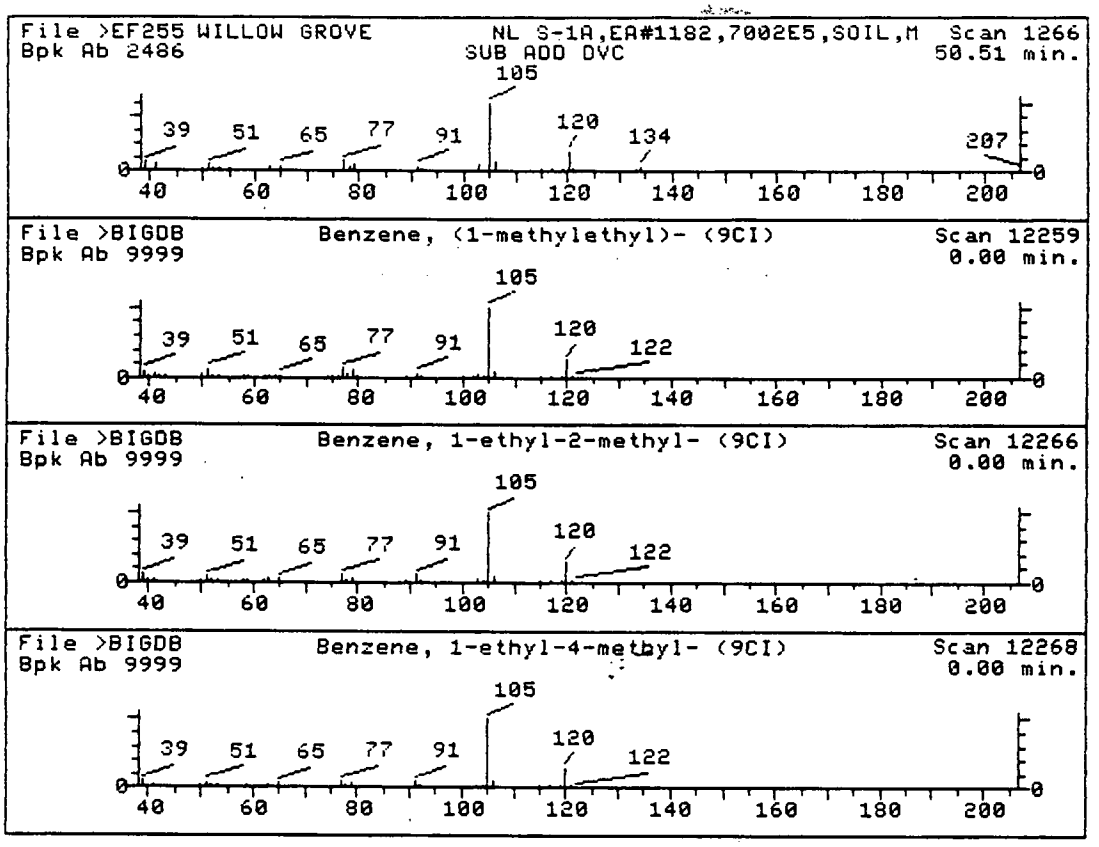
Retention time = 34.95 UNKNOWN C9H12

Area = 275279.0 Tentative Concentration is 26.00

1.	Benzene, (1-methylethyl)- (9CI)	120 C9H12
2.	Benzene, 1-ethyl-2-methyl- (9CI)	120 C9H12
3.	Benzene, 1-ethyl-3-methyl- (9CI)	120 C9H12
4.	Benzene, 1-ethyl-4-methyl- (9CI)	120 C9H12
5.	Benzene, (1-methyl-3-butenyl)- (9CI)	146 C11H14
6.	1,3,5-Cycloheptatriene, 7-ethyl- (8CI9CI)	120 C9H12
7.	B nzene, 1,2,3-trimethyl- (8CI9CI)	120 C9H12

Sample file: >EF255 Spectrum #: 865
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.	57*	98828	12259	"BIGDB	56	31	2	0	93	32	22	42
2.	46*	611143	12266	"BIGDB	53	32	2	3	100	31	20	30
3.	40*	620144	12267	"BIGDB	49	38	2	2	99	34	16	23
4.	35*	622968	12268	"BIGDB	36	49	2	0	98	35	12	18
5.	24	10340495	9870	"BIGDB	36	44	2	0	100	43	8	12
6.	20*	17634514	12269	"BIGDB	44	57	2	0	99	53	5	17
7.	20*	526738	12280	"BIGDB	38	62	2	0	60	52	5	14



Retention time = 50.51

Area = 458804.0 Tentative Concentration is 43.00

1.	Benzene, (1-methylethyl)- (9CI)	120 C9H12
2.	Benzene, 1-ethyl-2-methyl- (9CI)	120 C9H12
3.	Benzene, 1-ethyl-4-methyl- (9CI)	120 C9H12
4.	Benzene, 1-ethyl-3-methyl- (9CI)	120 C9H12
5.	Benzene, 1,3,5-trimethyl- (9CI)	120 C9H12
6.	Benzene, 1-methyl-2-propyl- (9CI)	134 C10H14
7.	Benzene, 1,2,3-trimethyl- (8CI9CI)	120 C9H12

Sample file: >EF255 Spectrum #: 1266
Search speed: 2 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	74*	98828	12259	"BIGDB	65	22	3	0	100	15	39	42
2.	63*	611143	12266	"BIGDB	58	27	2	2	100	16	30	36
3.	58*	622968	12268	"BIGDB	45	40	2	0	100	16	25	24
4.	52*	620144	12267	"BIGDB	36	51	2	0	94	16	20	18
5.	41	108678	12275	"BIGDB	49	39	3	0	100	25	17	12
6.	36	1074175	14463	"BIGDB	38	47	2	0	100	30	14	13
7.	36*	526738	12280	"BIGDB	50	50	2	0	63	40	14	33

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NLS1B

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1183

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF242

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 14. Date Analyzed: 4/ 4/89

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	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	12.	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	12.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	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	12.	U
591-78-6	2-Hexanone	12.	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.

NLS1B

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: EA# 1183

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF242

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 14. Date Analyzed: 4/ 4/89

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.		No Volatiles Detected			
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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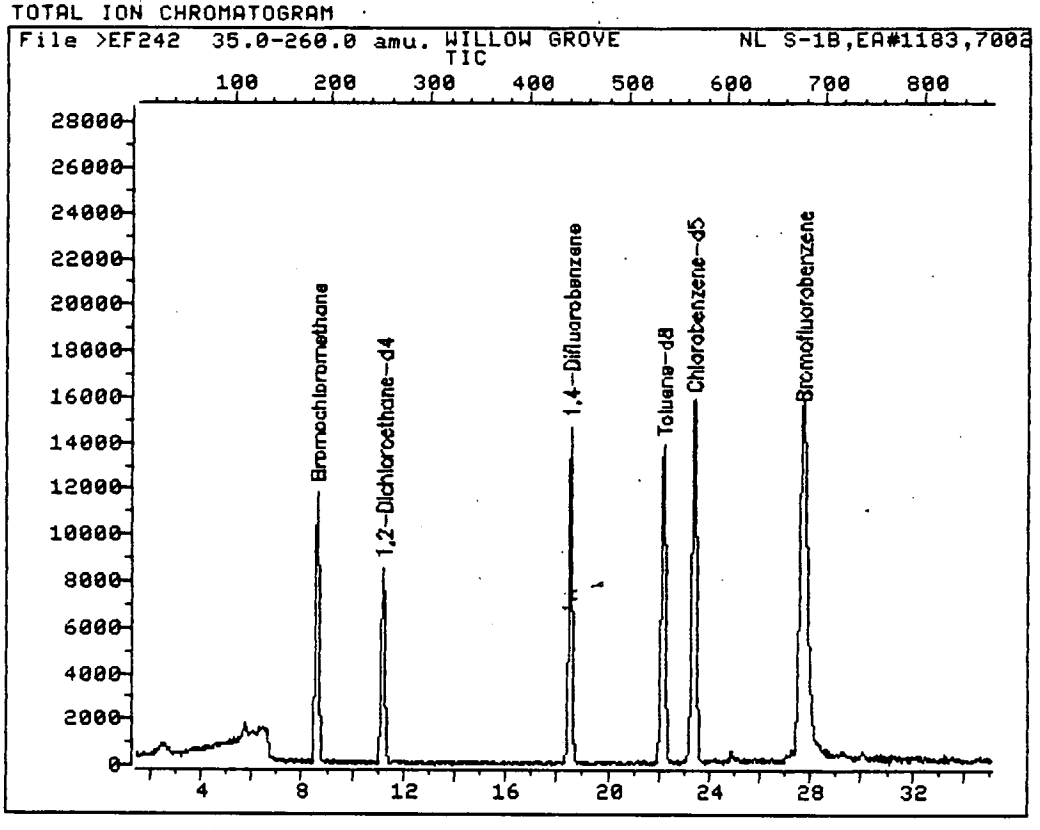
29.					
30.					

TOTAL ION CHROMATOGRAM



Data File: >EF242::D2 Quant Output File: ^EF242::QT
Name: WILLOW GROVE
Misc: NL S-1B,EA#1183,7002E5,SOIL,5.0GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:26

Operator ID: CARL
Quant Time: 890404 12:22
Injected at: 890404 11:46

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890404 12:22
Output File: ^EF242::QT Injected at: 890404 11:46
Data File: >EF242::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NL S-1B,EA#1183,7002E5,SOIL,5.0GM

ID File: EVOAS::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:26

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.62	128.0	15566	50.00	UG/KG	87
13)	1,2-Dichloroethane-d4	11.22	65.0	35651	52.22	UG/KG	83
15)	*1,4-Difluorobenzene	18.51	114.0	59070	50.00	UG/KG	90
29)	*Chlorobenzene-d5	23.36	117.0	53561	50.00	UG/KG	93
35)	Toluene-d8	22.16	98.0	55770	50.14	UG/KG	96
40)	Bromofluorobenzene	27.67	95.0	54075	49.86	UG/KG	86

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RINSE BL

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) WATER Lab Sample ID: EA # 1184

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EF245

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 100. Date Analyzed: 4/ 4/89

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.

RINSE BL

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) WATER Lab Sample ID: EA# 1184

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EF245

Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 100. Date Analyzed: 4/ 4/89

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.		No Volatiles Detected			
2.					
3.					
4.					
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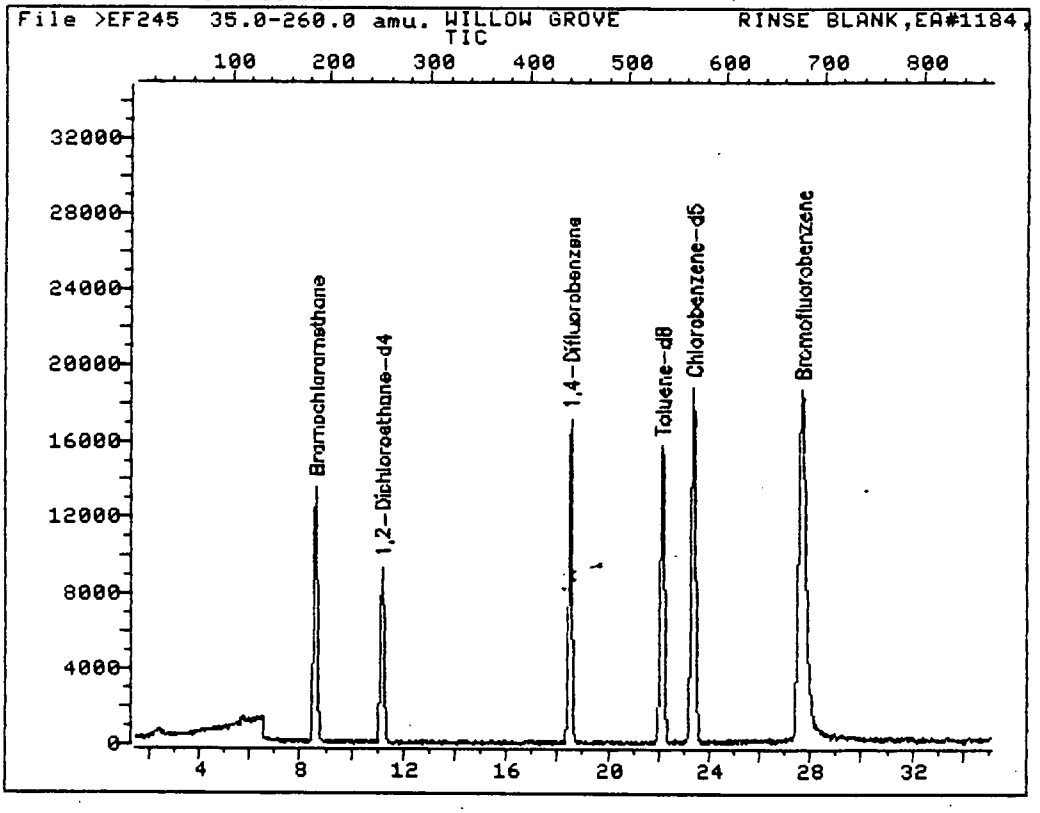
30.					

TOTAL ION CHROMATOGRAM



Data File: >EF245::D2 Quant Output File: ^EF245::QT
Name: WILLOW GROVE
Misc: RINSE BLANK,EA#1184,7002E5,WATER,5.0ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

Operator ID: CARL
Quant Time: 890404 14:23
Injected at: 890404 13:47

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890404 14:23
Output File: ^EF245::QT Injected at: 890404 13:47
Data File: >EF245::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: RINSE BLANK,EA#1184,7002E5,WATER,5.0ML

ID File: EV0A::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.62	128.0	17667	50.00	UG/L	96
13)	1,2-Dichloroethane-d4	11.18	65.0	40245	51.94	UG/L	81
15)	*1,4-Difluorobenzene	18.51	114.0	67546	50.00	UG/L	92
29)	*Chlorobenzene-d5	23.36	117.0	60967	50.00	UG/L	96
35)	Toluene-d8	22.12	98.0	63098	49.83	UG/L	97
40)	Bromofluorobenzene	27.67	95.0	63431	51.39	UG/L	84

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RR2W1

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) WATER Lab Sample ID: EA # 1157

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EF231

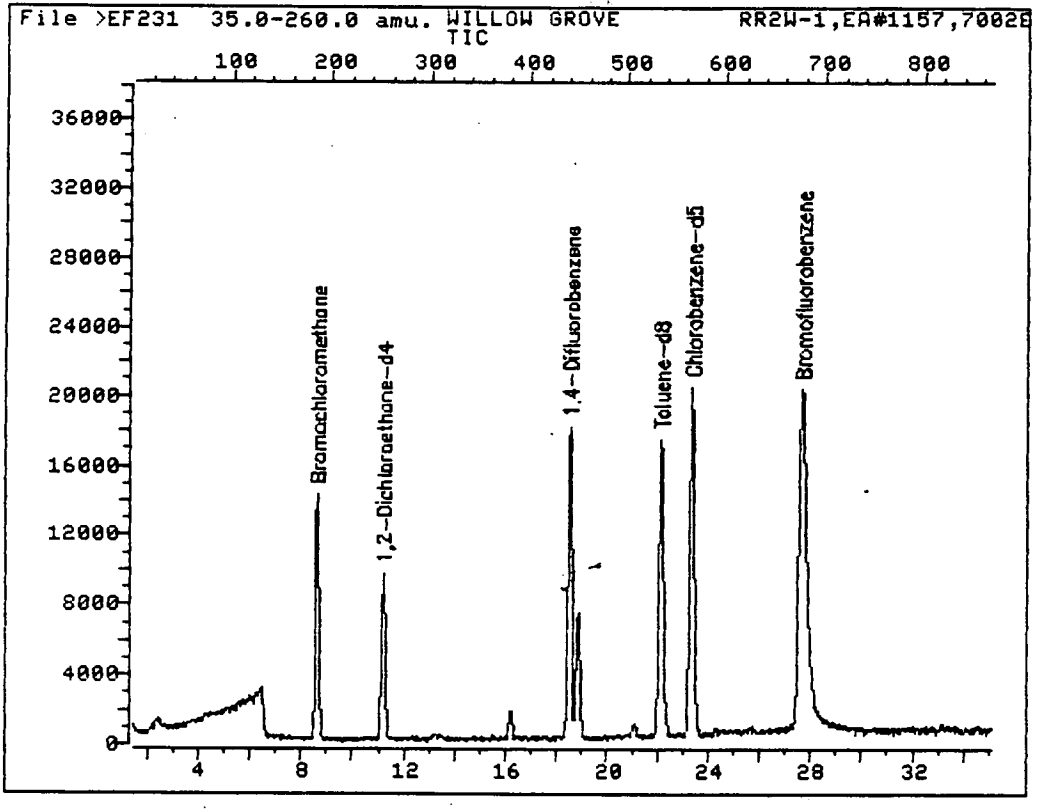
Level: (low/med) LOW Date Received: 3/24/89

% Moisture: not dec. 100. Date Analyzed: 4/ 3/89

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.	J
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	15.	
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

TOTAL ION CHROMATOGRAM



Data File: >EF231::D2 Quant Output File: ^EF231::QT
Name: WILLOW GROVE
Misc: RR2W-1,EA#1157,7002E5,WATER,5.0ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:46

Operator ID: CARL
Quant Time: 890403 10:18
Injected at: 890403 09:42

QUANT REPORT

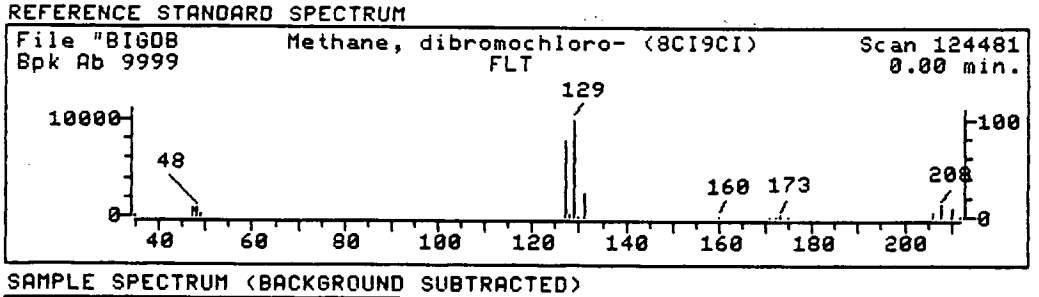
Operator ID: CARL Quant Rev: 6 Quant Time: 890403 10:18
Output File: ^EF231::QT Injected at: 890403 09:42
Data File: >EF231::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: RR2W-1,EA#1157,7002E5,WATER,5.0ML

ID File: EV0A::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:46

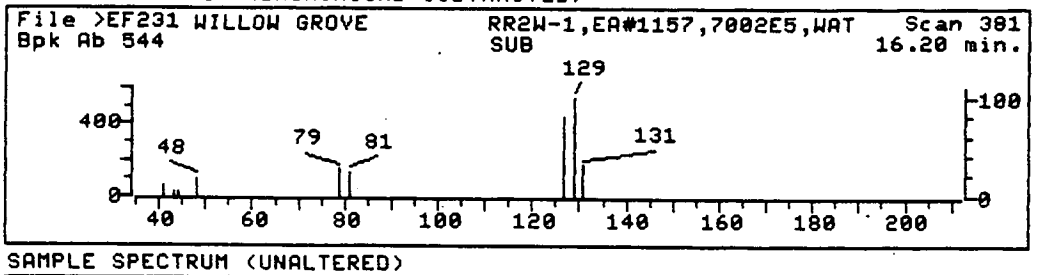
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.63	128.0	19169	50.00	UG/L	89
13)	1,2-Dichloroethane-d4	11.19	65.0	39355	46.76	UG/L	85
15)	*1,4-Difluorobenzene	18.53	114.0	73726	50.00	UG/L	89
24)	Dibromochloromethane	16.20	129.0	5913	4.82	UG/L	94
28)	Bromoform	18.87	173.0	21385	15.45	UG/L	97
29)	*Chlorobenzene-d5	23.38	117.0	66698	50.00	UG/L	97
35)	Toluene-d8	22.13	98.0	69361	49.77	UG/L	99
40)	Bromofluorobenzene	27.68	95.0	67143	48.88	UG/L	82

* Compound is ISTD

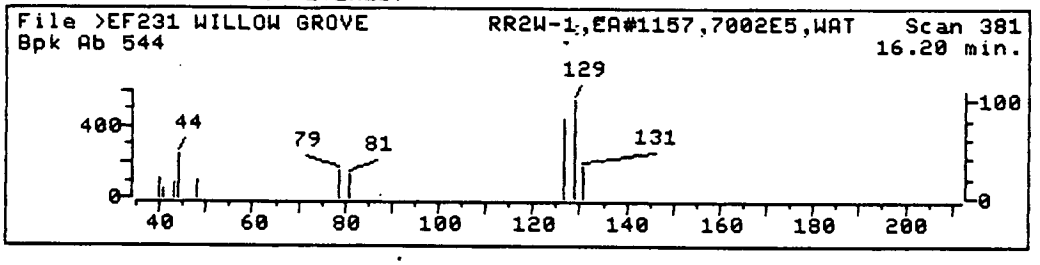
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



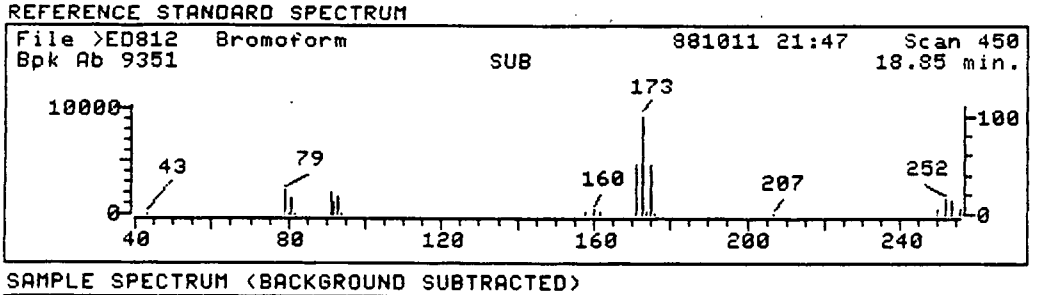
SAMPLE SPECTRUM (UNALTERED)



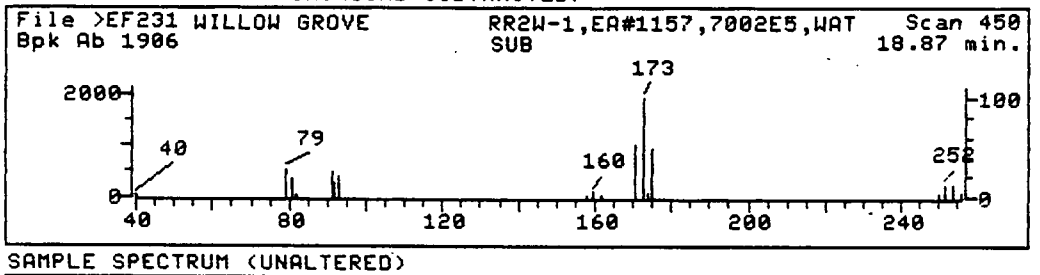
Data File: >EF231::D2 Quant Output File: ^EF231::QT
Name: WILLOW GROVE
Misc: RR2W-1,EA#1157,7002E5,WATER,5.0ML
Quant Time: 890403 10:18 Quant ID File: EVOA::BD
Injected at: 890403 09:42 Last Calibration: 890403 08:46

Compound No: 24
Compound Name: Dibromochloromethane
Scan Number: 381
Retention Time: 16.20 min.
Quant Ion: 129.0
Area: 5913
Concentration: 4.82 UG/L
q-value: 94

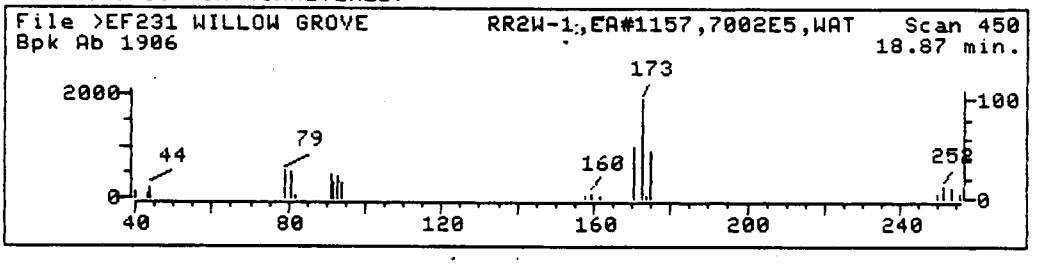
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EF231::D2 Quant Output File: ^EF231::QT
Name: WILLOW GROVE
Misc: RR2W-1,EA#1157,7002E5,WATER,5.0ML
Quant Time: 890403 10:18 Quant ID File: EVOA::BD
Injected at: 890403 09:42 Last Calibration: 890403 08:46

Compound No: 28
Compound Name: Bromoform
Scan Number: 450
Retention Time: 18.87 min.
Quant Ion: 173.0
Area: 21385
Concentration: 15.45 UG/L
q-value: 97

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RR2W2

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) WATER Lab Sample ID: EA# 1185

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EF248

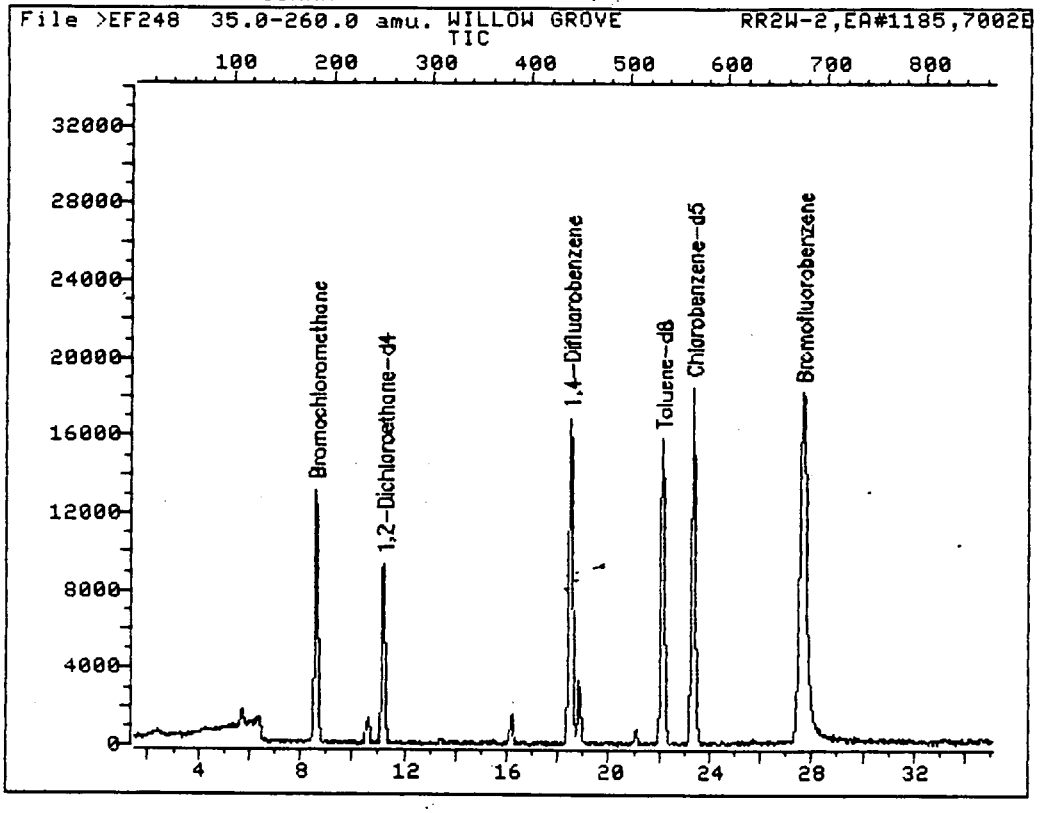
Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 100. Date Analyzed: 4/ 4/89

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.	
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.	
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	8.	
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

TOTAL ION CHROMATOGRAM



Data File: >EF248::D2 Quant Output File: ^EF248::QT
Name: WILLOW GROVE
Misc: RR2W-2,EA#1185,7002E5,WATER,5.0ML

Id File: EVOA::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

Operator ID: CARL
Quant Time: 890404 16:23
Injected at: 890404 15:47

QUANT REPORT

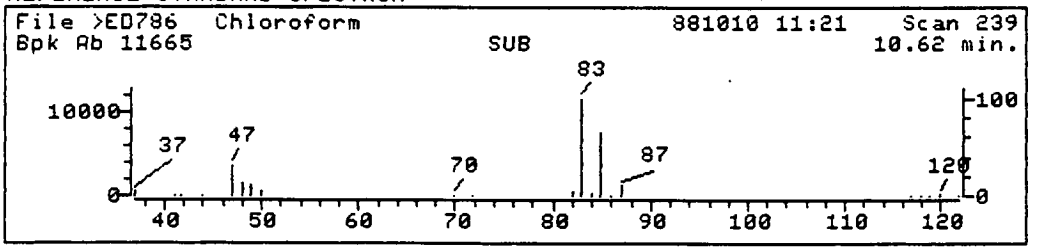
Operator ID: CARL Quant Rev: 6 Quant Time: 890404 16:23
Output File: ^EF248::QT Injected at: 890404 15:47
Data File: >EF248::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: RR2W-2,EA#1185,7002E5,WATER,5.0ML

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

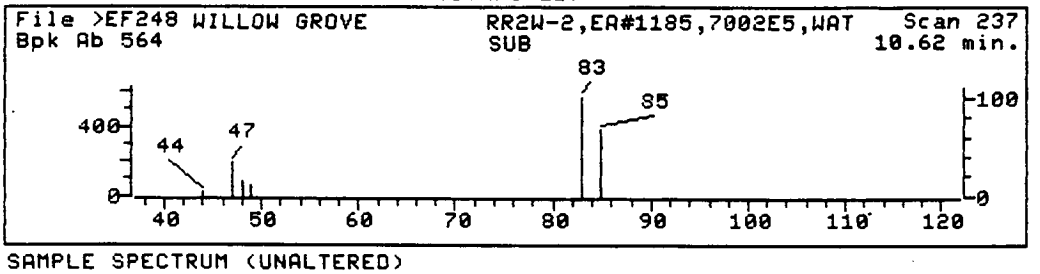
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.60	128.0	17424	50.00	UG/L	99
12)	Chloroform	10.62	83.0	5046	5.01	UG/L	96
13)	1,2-Dichloroethane-d4	11.20	65.8	40822	53.42	UG/L	81
15)	*1,4-Difluorobenzene	18.50	114.0	67480	50.00	UG/L	90
24)	Dibromochloromethane	16.17	129.0	5649	5.08	UG/L	93
28)	Bromoform	18.85	173.0	9665	7.59	UG/L	99
29)	*Chlorobenzene-d5	23.35	117.0	60400	50.00	UG/L	94
35)	Toluene-d8	22.15	98.0	62211	49.60	UG/L	99
40)	Bromofluorobenzene	27.66	95.0	62652	51.23	UG/L	81

* Compound is ISTD

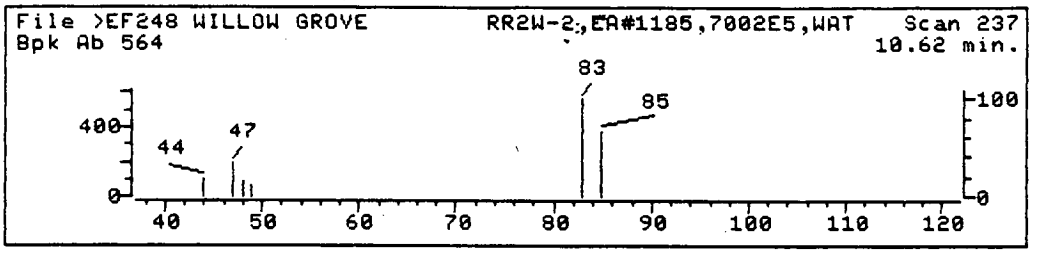
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



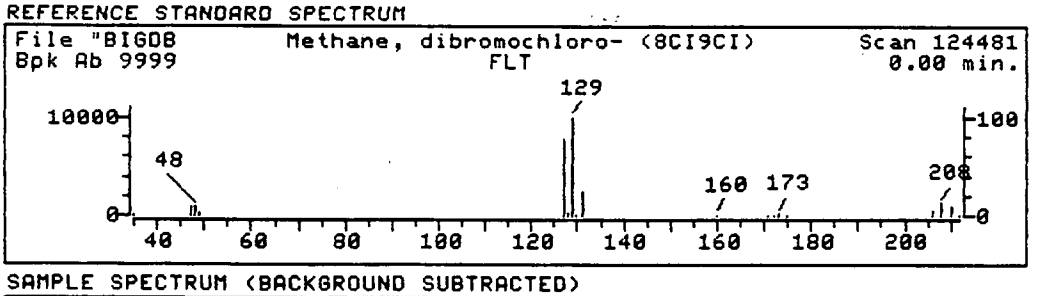
SAMPLE SPECTRUM (UNALTERED)



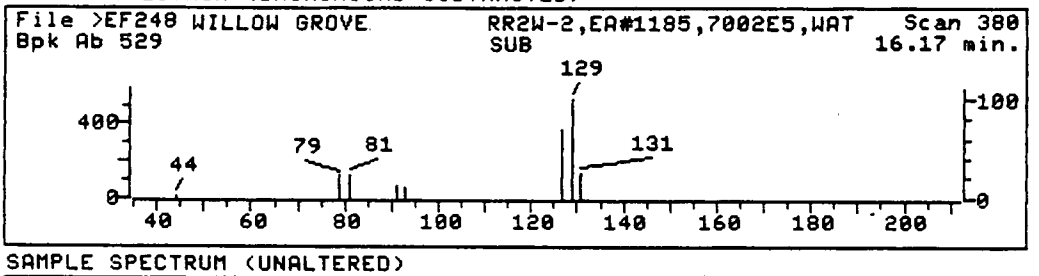
Data File: >EF248::D2 Quant Output File: ^EF248::QT
Name: WILLOW GROVE
Misc: RR2W-2,EA#1185,7002E5,WATER,5.0ML
Quant Time: 890404 16:23 Quant ID File: EVOA::BD
Injected at: 890404 15:47 Last Calibration: 890404 09:27

Compound No: 12
Compound Name: Chloroform
Scan Number: 237
Retention Time: 10.62 min.
Quant Ion: 83.0
Area: 5046
Concentration: 5.01 UG/L
q-value: 96

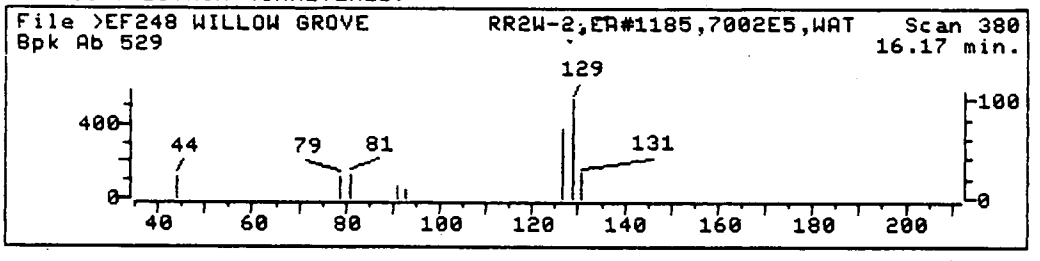
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



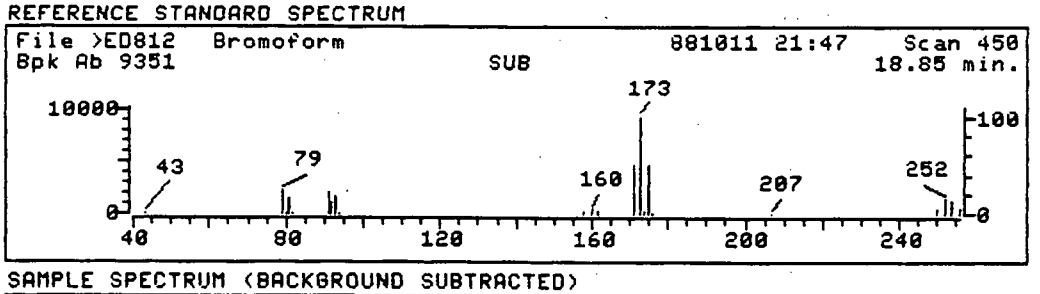
SAMPLE SPECTRUM (UNALTERED)



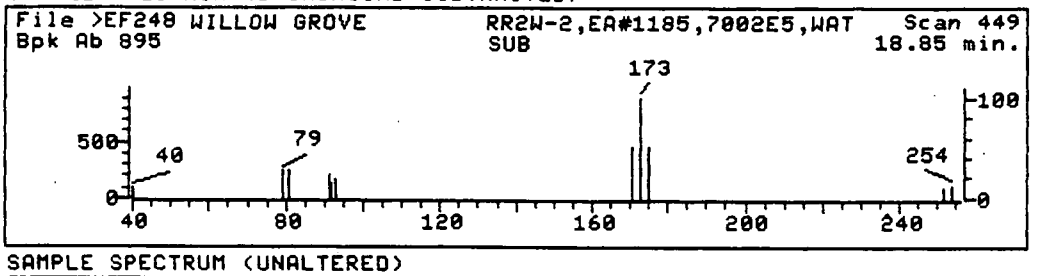
Data File: >EF248::D2 Quant Output File: ^EF248::QT
Name: WILLOW GROVE
Misc: RR2W-2,EA#1185,7002E5,WATER,5.0ML
Quant Time: 890404 16:23 Quant ID File: EVOA::BD
Injected at: 890404 15:47 Last Calibration: 890404 09:27

Compound No: 24
Compound Name: Dibromochloromethane
Scan Number: 380
Retention Time: 16.17 min.
Quant Ion: 129.0
Area: 5649
Concentration: 5.08 UG/L
q-value: 93

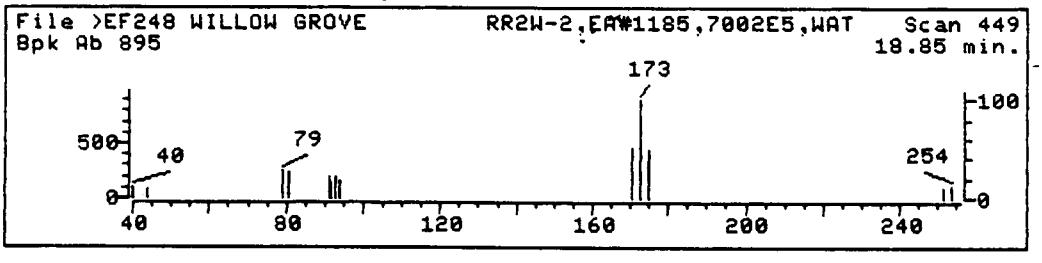
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EF248::D2 Quant Output File: ^EF248::QT
Name: WILLOW GROVE
Misc: RR2W-2,EA#1185,7002E5,WATER,5.0ML
Quant Time: 890404 16:23 Quant ID File: EVOA::BD
Injected at: 890404 15:47 Last Calibration: 890404 09:27

Compound No: 28
Compound Name: Bromoform
Scan Number: 449
Retention Time: 18.85 min.
Quant Ion: 173.0
Area: 9665
Concentration: 7.59 UG/L
q-value: 99

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RR2W3

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) WATER Lab Sample ID: EA# 1186

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EF249

Level: (low/med) LOW Date Received: 3/30/89

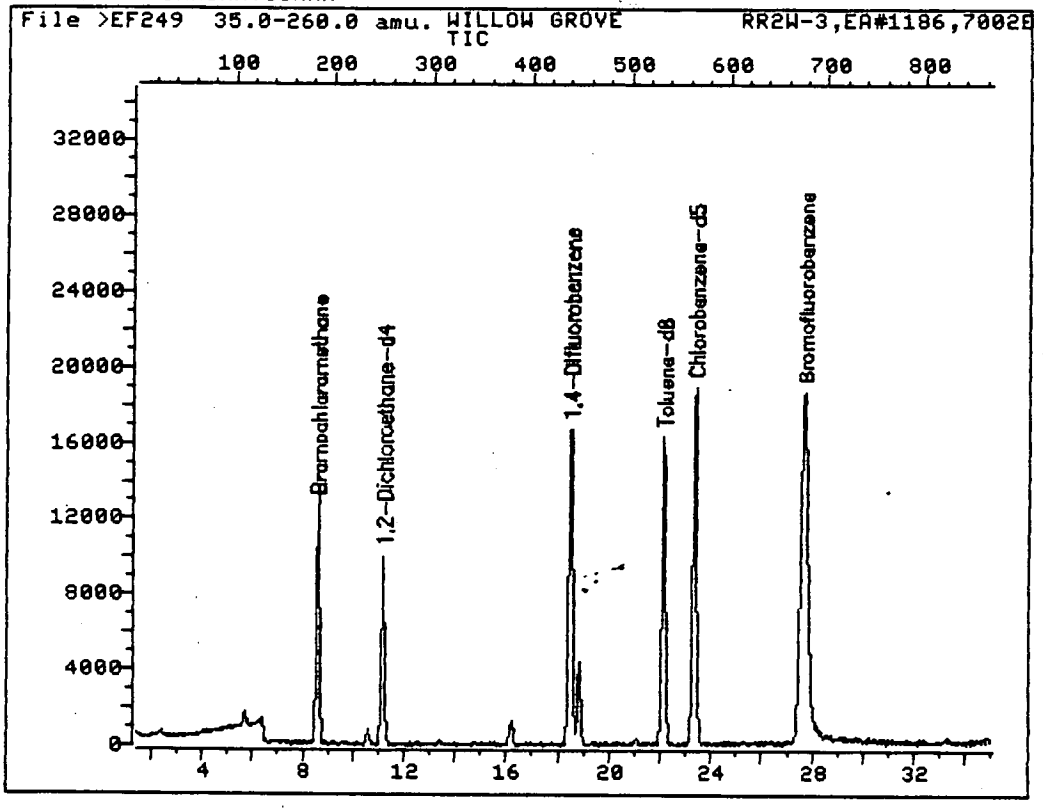
% Moisture: not dec. 100. Date Analyzed: 4/ 4/89

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

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

CAS NO.	COMPOUND	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	3. J
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	4. J
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	10.
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

TOTAL ION CHROMATOGRAM



Data File: >EF249::D2 Quant Output File: ^EF249::QT
Name: WILLOW GROVE
Misc: RR2W-3,EA#1186,7002E5,WATER,5.0ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

Operator ID: CARL
Quant Time: 890404 17:03
Injected at: 890404 16:27

QUANT REPORT

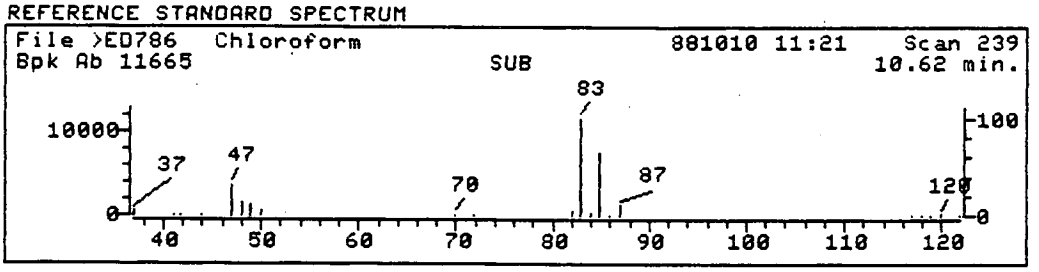
Operator ID: CARL Quant Rev: 6 Quant Time: 890404 17:03
Output File: ^EF249::QT Injected at: 890404 16:27
Data File: >EF249::D2 Dilution Factor: 1.00000
Nam : WILLOW GROVE
Misc: RR2W-3,EA#1186,7002E5,WATER,5.0ML

ID File: EV0A::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

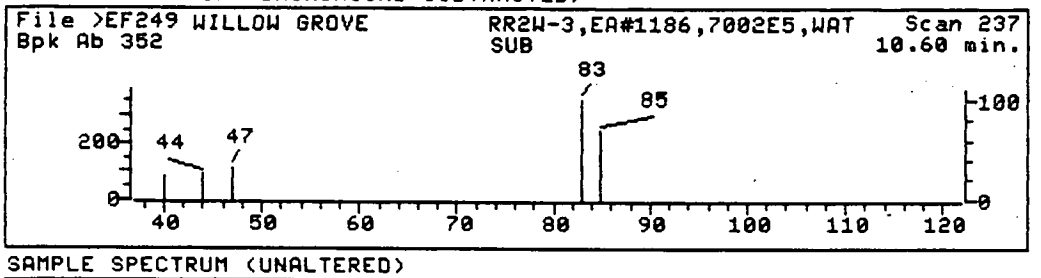
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.58	128.0	18079	50.00	UG/L	93
12)	Chloroform	10.60	83.0	3282	3.14	UG/L	99
13)	1,2-Dichloroethane-d4	11.18	65.0	41914	52.86	UG/L	82
15)	*1,4-Difluorobenzene	18.47	114.0	68877	50.00	UG/L	91
24)	Dibromochloromethane	16.19	129.0	4590	4.04	UG/L	95
28)	Bromoform	18.82	173.0	13006	10.01	UG/L	97
29)	*Chlorobenzene-d5	23.36	117.0	61420	50.00	UG/L	95
35)	Toluene-d8	22.12	98.0	63818	50.03	UG/L	98
40)	Bromofluorobenzene	27.67	95.0	64038	51.49	UG/L	82

* Compound is ISTD

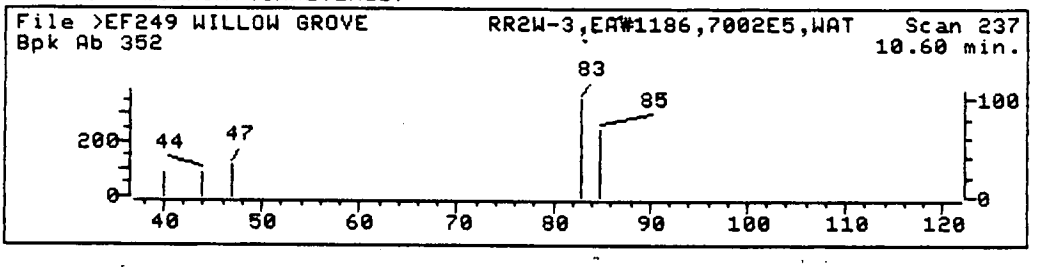
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



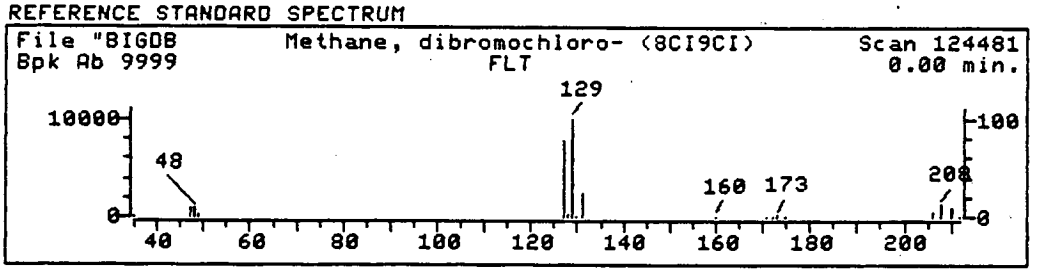
SAMPLE SPECTRUM (UNALTERED)



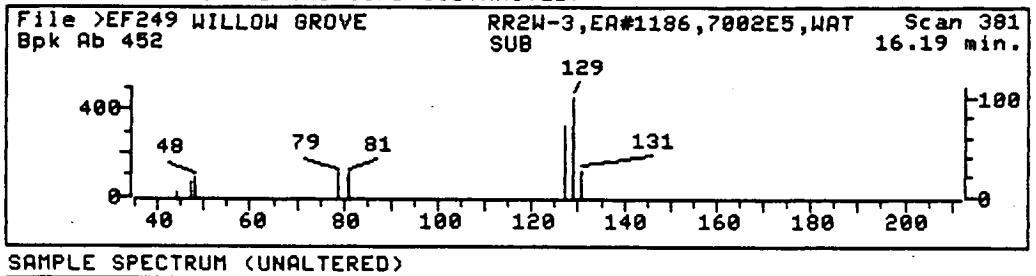
Data File: >EF249::D2 Quant Output File: ^EF249::QT
Name: WILLOW GROVE
Misc: RR2W-3,EA#1186,7002E5,WATER,5.0ML
Quant Time: 890404 17:03 Quant ID File: EVOA::BD
Injected at: 890404 16:27 Last Calibration: 890404 09:27

Compound No: 12
Compound Name: Chloroform
Scan Number: 237
R tention Time: 10.60 min.
Quant Ion: 83.0
Area: 3282
Concentration: 3.14 UG/L
q-value: 99

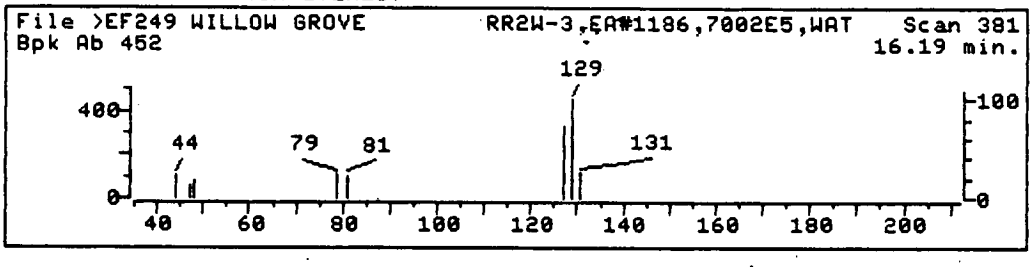
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



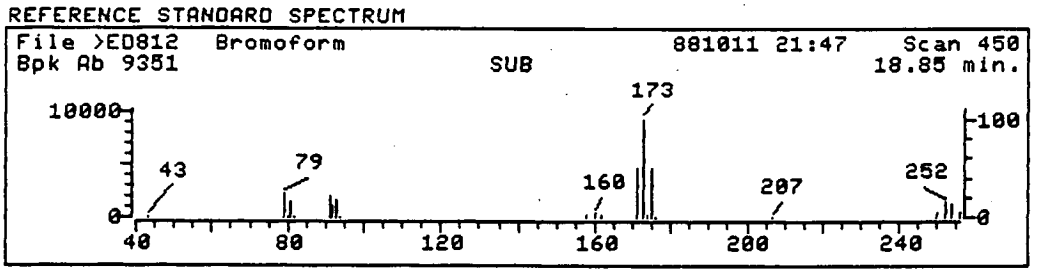
SAMPLE SPECTRUM (UNALTERED)



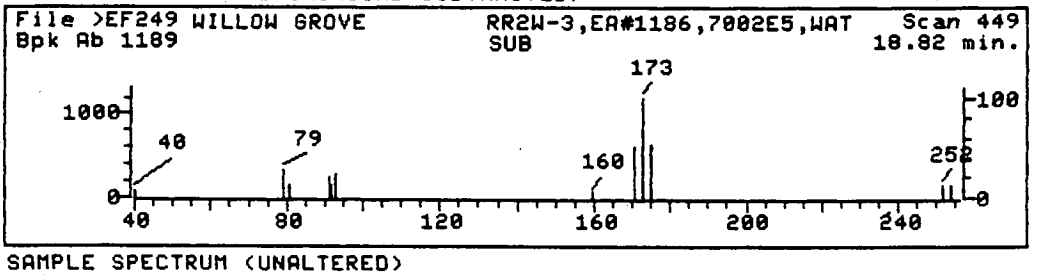
Data File: >EF249::D2 Quant Output File: ^EF249::QT
Name: WILLOW GROVE
Misc: RR2W-3,EA#1186,7002E5,WATER,5.0ML
Quant Time: 890404 17:03 Quant ID File: EVOA::BD
Injected at: 890404 16:27 Last Calibration: 890404 09:27

Compound No: 24
Compound Name: Dibromochloromethane
Scan Number: 381
Retention Time: 16.19 min.
Quant Ion: 129.0
Area: 4590
Concentration: 4.04 UG/L
q-value: 95

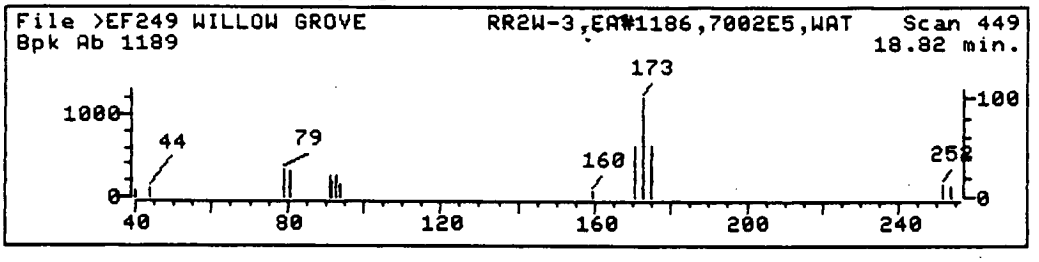
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EF249::D2 Quant Output File: ^EF249::QT
Name: WILLOW GROVE
Misc: RR2W-3,EA#1186,7002E5,WATER,5.0ML
Quant Time: 890404 17:03 Quant ID File: EVOA::BD
Injected at: 890404 16:27 Last Calibration: 890404 09:27

Compound No: 28
Compound Name: Bromoform
Scan Number: 449
Retention Time: 18.82 min.
Quant Ion: 173.0
Area: 13006
Concentration: 10.01 UG/L
q-value: 97

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RR2W4

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) WATER Lab Sample ID: EA# 1187

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EF250

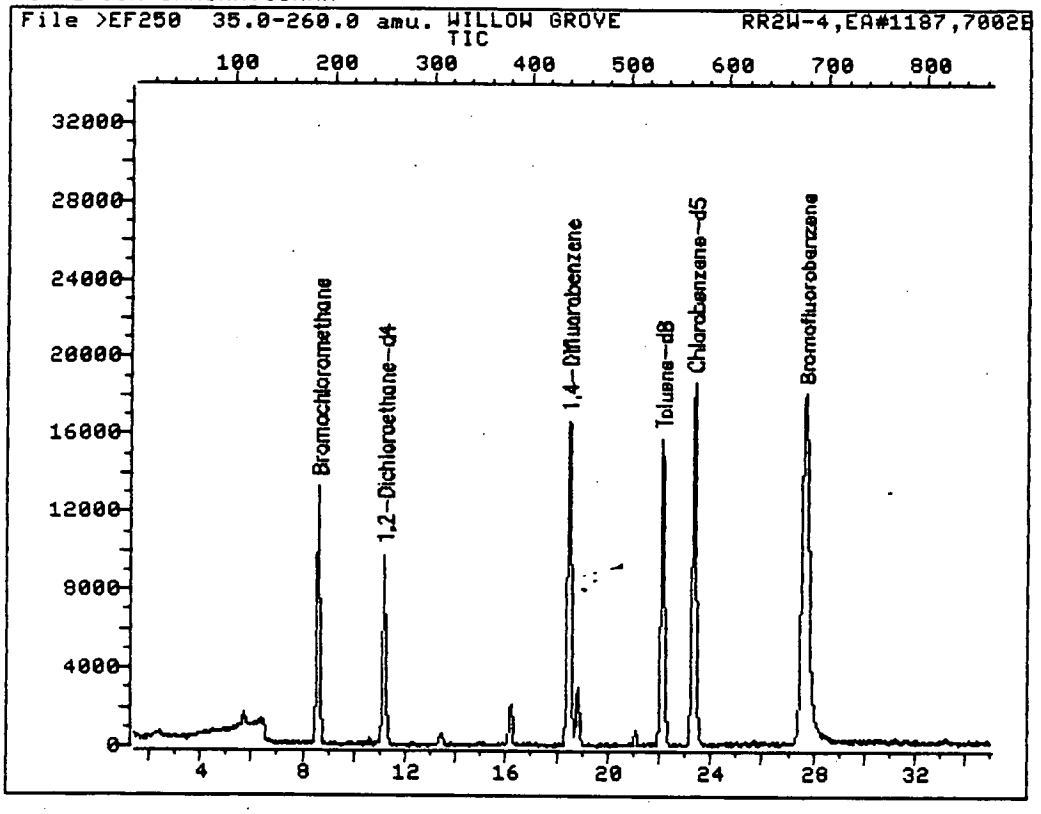
Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 100. Date Analyzed: 4/ 4/89

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	2.	J
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	6.	
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	7.	
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

TOTAL ION CHROMATOGRAM



Data File: >EF250::D2 Quant Output File: ^EF250::QT
Name: WILLOW GROVE
Misc: RR2W-4,EA#1187,7002E5,WATER,5.0ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

Operator ID: CARL
Quant Time: 890404 17:44
Injected at: 890404 17:08

QUANT REPORT

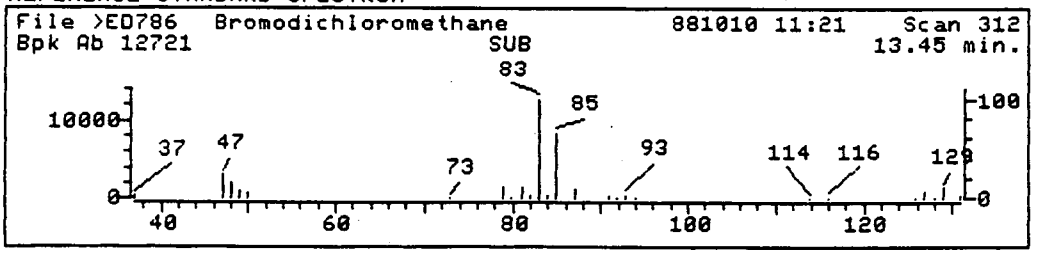
Operator ID: CARL Quant Rev: 6 Quant Time: 890404 17:44
Output File: ^EF250::QT Injected at: 890404 17:08
Data File: >EF250::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: RR2W-4,EA#1187,7002E5,WATER,5.0ML

ID File: EV0A::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

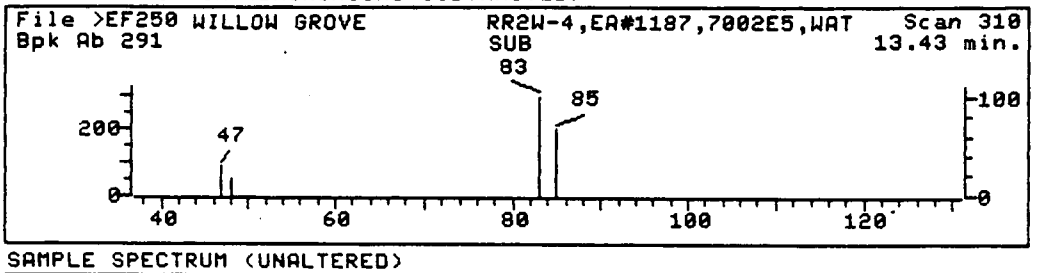
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.62	128.0	17273	50.00	UG/L	96
13)	1,2-Dichloroethane-d4	11.18	65.0	41139	54.31	UG/L	81
15)	*1,4-Difluorobenzene	18.47	114.0	67594	50.00	UG/L	90
20)	Bromodichloromethane	13.43	83.0	2814	2.22	UG/L	96
24)	Dibromochloromethane	16.18	129.0	7000	6.28	UG/L	95
28)	Bromoform	18.82	173.0	9349	7.33	UG/L	97
29)	*Chlorobenzene-d5	23.36	117.0	60574	50.00	UG/L	96
35)	Toluene-d8	22.12	98.0	62405	49.61	UG/L	97
40)	Bromofluorobenzene	27.67	95.0	63369	51.67	UG/L	83

* Compound is ISTD

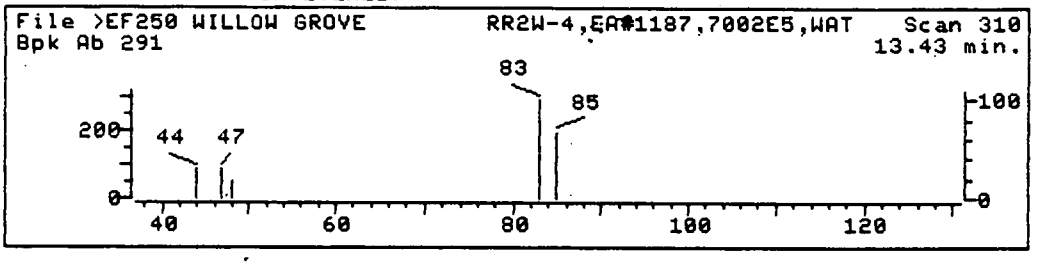
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



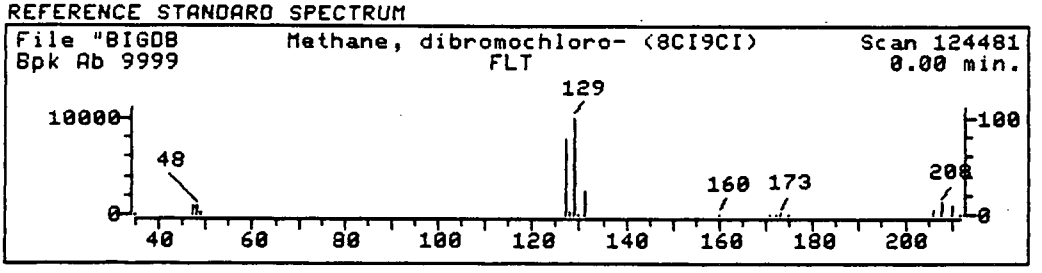
SAMPLE SPECTRUM (UNALTERED)



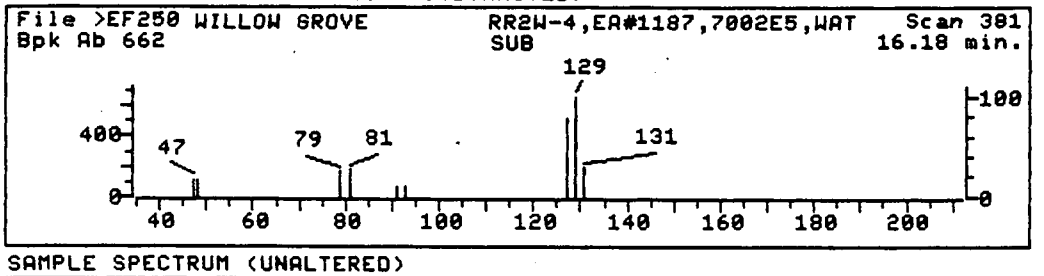
Data File: >EF250::D2 Quant Output File: ^EF250::QT
Name: WILLOW GROVE
Misc: RR2W-4,EA#1187,7002E5,WATER,5.0ML
Quant Time: 890404 17:44 Quant ID File: EVOA::BD
Injected at: 890404 17:08 Last Calibration: 890404 09:27

Compound No: 20
Compound Name: Bromodichloromethane
Scan Number: 310
Retention Time: 13.43 min.
Quant Ion: 83.0
Area: 2814
Concentration: 2.22 UG/L
q-value: 96

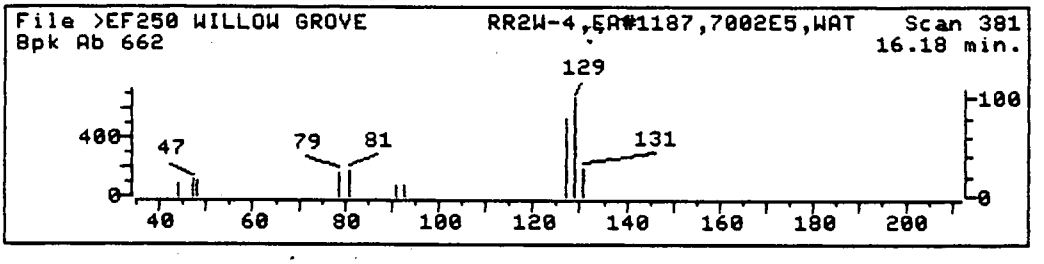
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



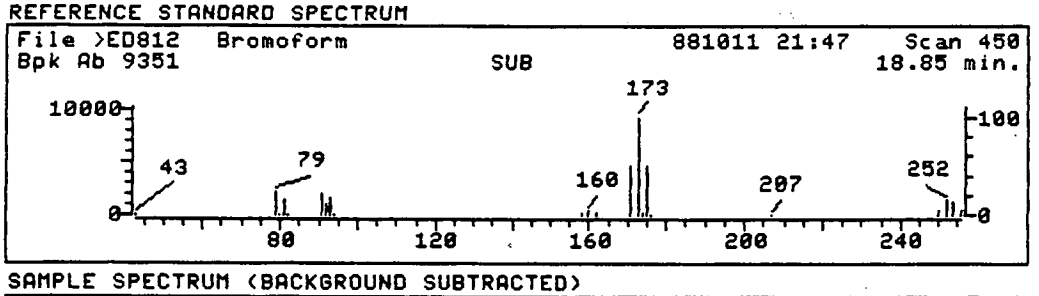
SAMPLE SPECTRUM (UNALTERED)



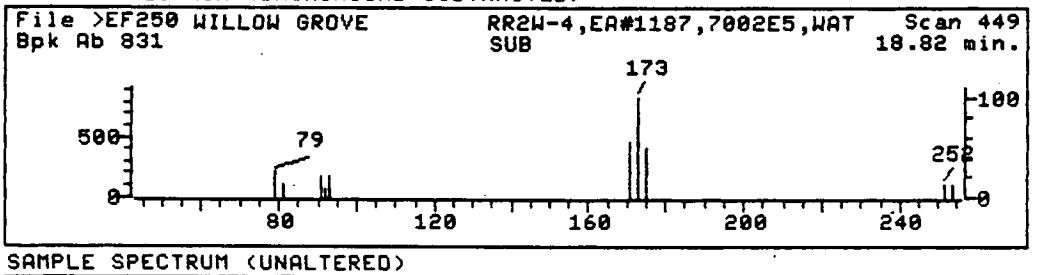
Data File: >EF250::D2 Quant Output File: ^EF250::QT
Name: WILLOW GROVE
Misc: RR2W-4,EA#1187,7002E5,WATER,5.0ML
Quant Time: 890404 17:44 Quant ID File: EVOA::BD
Injected at: 890404 17:08 Last Calibration: 890404 09:27

Compound No: 24
Compound Name: Dibromochloromethane
Scan Number: 381
Retention Time: 16.18 min.
Quant Ion: 129.0
Area: 7000
Concentration: 6.28 UG/L
q-value: 95

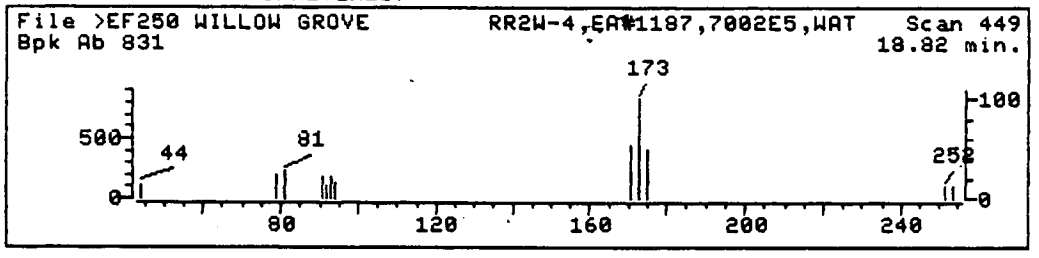
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EF250::D2 Quant Output File: ^EF250::QT
Name: WILLOW GROVE
Misc: RR2W-4,EA#1187,7002E5,WATER,5.0ML
Quant Time: 890404 17:44 Quant ID File: EVOA::BD
Injected at: 890404 17:08 Last Calibration: 890404 09:27

Compound No: 28
Compound Name: Bromoform
Scan Number: 449
Retention Time: 18.82 min.
Quant Ion: 173.0
Area: 9349
Concentration: 7.33 UG/L
q-value: 97

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIP BL

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) WATER Lab Sample ID: EA# 1188

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EF251

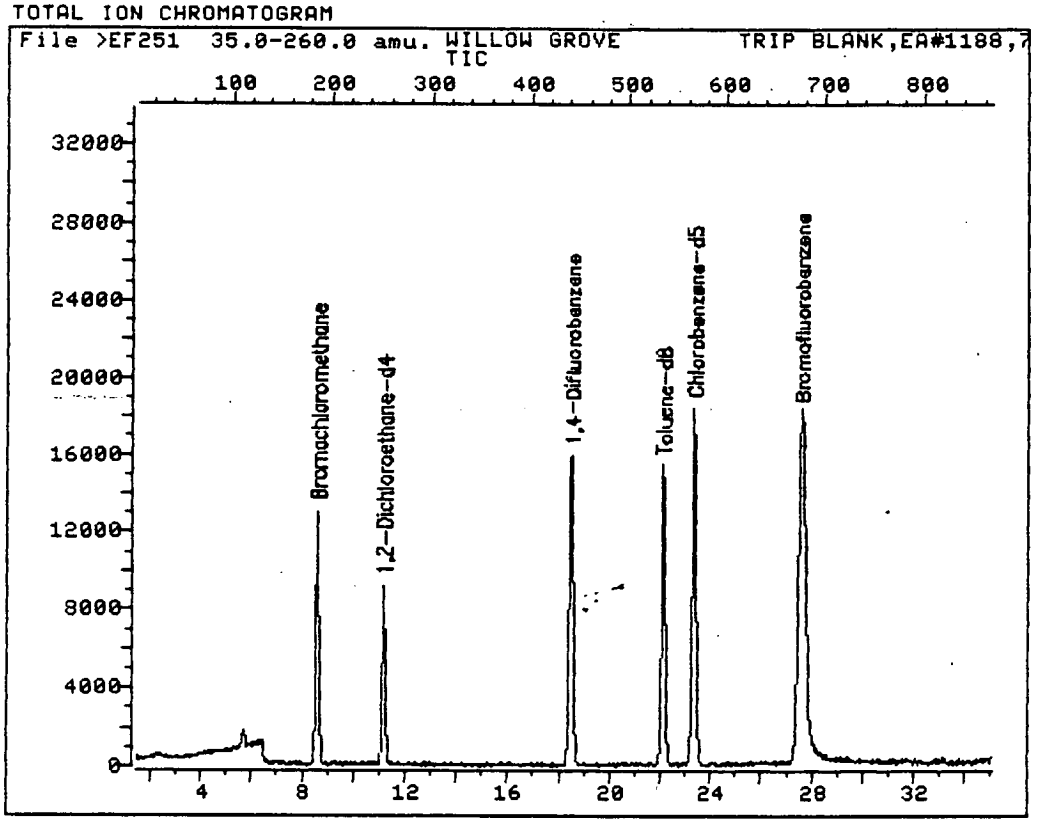
Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 100. Date Analyzed: 4/ 4/89

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

TOTAL ION CHROMATOGRAM



Data File: >EF251::D2 Quant Output File: ^EF251::QT
Name: WILLOW GROVE
Misc: TRIP BLANK,EA#1188,7002E5,WATER,5.0ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

Operator ID: CARL
Quant Time: 890404 18:24
Injected at: 890404 17:48

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890404 18:24
Output File: ^EF251::QT Injected at: 890404 17:48
Data File: >EF251::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: TRIP BLANK,EA#1188,7002E5,WATER,5.0ML

ID File: EVOA::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.62	128.0	17010	50.00	UG/L	92
13)	1,2-Dichloroethane-d4	11.18	65.0	40376	54.12	UG/L	82
15)	*1,4-Difluorobenzene	18.51	114.0	66105	50.00	UG/L	90
29)	*Chlorobenzene-d5	23.36	117.0	59236	50.00	UG/L	96
35)	Toluene-d8	22.12	98.0	61976	50.38	UG/L	95
40)	Bromofluorobenzene	27.59	95.0	62711	52.29	UG/L	78

* Compound is ISTD

C. Standards Data

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9LS1A

Instrument ID: 7002ES Calibration Date(s): 3/20/89 3/20/89

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 = EF136 RRF50 = EF135
RRF100= EF134 RRF150= EF133 RRF200= EF132

COMPOUND	RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane #	.463	.625	.698	.655	.573	.603	15.0#
Bromomethane	.947	.731	.714	.611	.534	.707	22.1
Vinyl Chloride *	.967	.913	1.001	.941	.686	.902	13.9*
Chloroethane	.552	.515	.600	.574	.502	.548	7.5
Methylene Chloride	.995	.862	.952	.883	.880	.915	6.2
Acetone	.514	.279	.259	.252	.272	.315	35.5
Carbon Disulfide	2.807	2.659	3.066	2.979	2.773	2.857	5.7
1,1-Dichloroethene *	1.028	.953	1.081	1.037	.967	1.013	5.2*
1,1-Dichloroethane #	2.028	1.860	2.132	2.030	1.908	1.991	5.4#
1,2-Dichloroethene (total)	1.188	1.137	1.282	1.219	1.152	1.196	4.8
Chloroform *	2.771	2.601	2.879	2.750	2.617	2.724	4.2*
1,2-Dichloroethane	2.233	2.047	2.280	2.205	2.188	2.190	4.0
2-Butanone	.021	.022	.025	.028	.033	.026	19.1
1,1,1-Trichloroethane	.761	.698	.758	.735	.720	.734	3.6
Carbon Tetrachloride	.730	.680	.744	.716	.696	.713	3.6
Vinyl Acetate	.492	.501	.551	.583	.630	.551	10.4
Bromodichloromethane	.840	.789	.882	.855	.871	.847	4.3
1,2-Dichloropropane *	.328	.303	.349	.341	.335	.331	5.3*
cis-1,3-Dichloropropene	.695	.669	.763	.754	.770	.730	6.2
Trichloroethene	.493	.444	.506	.487	.487	.483	4.8
Dibromochloromethane	.774	.738	.832	.800	.829	.794	5.0
1,1,2-Trichloroethane	.346	.323	.358	.349	.358	.347	4.2
Benzene	.819	.753	.839	.814	.795	.804	4.1
trans-1,3-Dichloropropene	.342	.333	.381	.376	.388	.364	6.8
Bromoform #	.806	.790	.883	.879	.953	.862	7.6#
4-Methyl-2-Pentanone	.328	.304	.332	.348	.400	.342	10.4
2-Hexanone	.217	.210	.233	.246	.287	.239	12.8
Tetrachloroethene	.576	.531	.583	.557	.541	.558	4.0
1,1,2,2-Tetrachloroethane #	.708	.666	.703	.705	.742	.705	3.8#
Toluene	.686	.627	.696	.667	.649	.665	4.2
Chlorobenzene	.911	.852	.931	.908	.877	.896	3.5
Ethylbenzene *	.437	.408	.441	.426	.415	.425	3.3*
Styrene	.928	.878	.964	.925	.910	.921	3.4
Xylene (total)	.541	.500	.542	.519	.504	.521	3.8
Toluene-d8	1.070	1.063	1.051	1.035	1.024	1.049	1.8
1,2-Dichloroethane-d4	1.743	1.777	1.865	1.913	1.993	1.858	5.4
Bromofluorobenzene	.918	.922	.898	.898	.902	.908	1.3

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Instrument ID: 7002E5 Calibration Date: 4/ 3/89 Time: 7:53

Lab File ID: EF229 Init. Calib. Date(s): 3/20/89 3/20/89

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		RRF	RRF50	%D	
Chloromethane	#	.603	.536	11.0	#
Bromomethane		.707	.867	22.6	
Vinyl Chloride	*	.902	.846	6.2	*
Chloroethane		.548	.561	2.4	
Methylene Chloride		.915	1.001	9.5	
Acetone		.315	1.347	327.2	
Carbon Disulfide		2.857	2.811	1.6	
1,1-Dichloroethene	*	1.013	.970	4.3	*
1,1-Dichloroethane	#	1.991	2.069	3.9	#
1,2-Dichloroethene (total)		1.196	1.170	2.2	
Chloroform	*	2.724	2.890	6.1	*
1,2-Dichloroethane		2.190	2.636	20.3	
2-Butanone		.026	.047	82.1	
1,1,1-Trichloroethane		.734	.822	12.0	
Carbon Tetrachloride		.713	.813	14.0	
Vinyl Acetate		.551	.639	15.8	
Bromodichloromethane		.847	.919	8.5	
1,2-Dichloropropane	*	.331	.325	1.8	*
cis-1,3-Dichloropropene		.730	.772	5.7	
Trichloroethene		.483	.474	1.9	
Dibromochloromethane		.794	.831	4.7	
1,1,2-Trichloroethane		.347	.362	4.3	
Benzene		.804	.782	2.7	
trans-1,3-Dichloropropene		.364	.408	12.1	
Bromoform	#	.862	.939	8.9	#
4-Methyl-2-Pentanone		.342	.492	43.7	
2-Hexanone		.239	.341	42.9	
Tetrachloroethene		.558	.533	4.4	
1,1,2,2-Tetrachloroethane	#	.705	.716	1.6	#
Toluene		.665	.626	5.9	
Chlorobenzene		.896	.826	7.8	
Ethylbenzene	*	.425	.393	7.5	*
Styrene		.921	.883	4.1	
Xylene (total)		.521	.494	5.2	
Toluene-d8		1.049	1.045	.4	
1,2-Dichloroethane-d4		1.858	2.195	18.1	
Bromofluorobenzene		.908	1.030	13.4	

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Instrument ID: 7002ES Calibration Date: 4/ 4/89 Time: 8:46

Lab File ID: EF238 Init. Calib. Date(s): 3/20/89 3/20/89

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	RRF	RRF50	%D	
Chloromethane	.603	.584	3.0	#
Bromomethane	.707	.867	22.5	
Vinyl Chloride	.902	.873	7.9	*
Chloroethane	.548	.596	8.7	
Methylene Chloride	.915	.985	7.7	
Acetone	.315	.405	28.3	
Carbon Disulfide	2.857	2.716	4.9	
1,1-Dichloroethene	1.013	.988	2.4	*
1,1-Dichloroethane	1.991	2.019	1.4	#
1,2-Dichloroethene (total)	1.196	1.188	.6	
Chloroform	2.724	2.893	6.2	*
1,2-Dichloroethane	2.190	2.646	20.8	
2-Butanone	.026	.029	12.7	
1,1,1-Trichloroethane	.734	.854	16.2	
Carbon Tetrachloride	.713	.852	19.5	
Vinyl Acetate	.551	.620	12.4	
Bromodichloromethane	.847	.939	10.8	
1,2-Dichloropropane	.331	.324	2.0	*
cis-1,3-Dichloropropene	.730	.748	2.5	
Trichloroethene	.483	.471	2.5	
Dibromochloromethane	.794	.825	3.8	
1,1,2-Trichloroethane	.347	.362	4.4	
Benzene	.804	.775	3.6	
trans-1,3-Dichloropropene	.364	.396	8.7	
Bromoform	.862	.943	9.4	#
4-Methyl-2-Pentanone	.342	.451	31.8	
2-Hexanone	.239	.335	40.5	
Tetrachloroethene	.558	.534	4.3	
1,1,2,2-Tetrachloroethane	.705	.708	.4	#
Toluene	.665	.641	3.5	
Chlorobenzene	.896	.832	7.2	
Ethylbenzene	.425	.400	5.9	*
Styrene	.921	.884	4.1	
Xylene (total)	.521	.505	3.0	
Toluene-d8	1.049	1.038	1.0	
1,2-Dichloroethane-d4	1.858	2.193	18.0	
Bromofluorobenzene	.908	1.012	11.5	

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Instrument ID: 7002E5 Calibration Date: 4/ 5/89 Time: 8:50

Lab File ID: EF253 Init. Calib. Date(s): 3/20/89 3/20/89

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

Min RRF50 for SPCC(#) = .300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND	RRF	RRF50	%D	
Chloromethane	# .603	.604	.2	#
Bromomethane	.707	.959	35.6	
Vinyl Chloride	* .902	.962	6.7	*
Chloroethane	.548	.611	11.4	
Methylene Chloride	.915	1.027	12.3	
Acetone	.315	.542	72.0	
Carbon Disulfide	2.857	2.545	10.9	
1,1-Dichloroethene	* 1.013	.947	6.5	*
1,1-Dichloroethane	# 1.991	2.019	1.4	#
1,2-Dichloroethene (total)	1.196	1.157	3.3	
Chloroform	* 2.724	2.962	8.8	*
1,2-Dichloroethane	2.190	2.821	28.8	
2-Butanone	.026	.035	33.6	
1,1,1-Trichloroethane	.734	.883	20.3	
Carbon Tetrachloride	.713	.899	26.0	
Vinyl Acetate	.551	.607	10.1	
Bromodichloromethane	.847	.974	14.9	
1,2-Dichloropropane	* .331	.303	8.4	*
cis-1,3-Dichloropropene	.730	.735	.7	
Trichloroethene	.483	.464	3.9	
Dibromochloromethane	.794	.881	10.9	
1,1,2-Trichloroethane	.347	.364	5.0	
Benzene	.804	.741	7.9	
trans-1,3-Dichloropropene	.364	.400	10.0	
Bromoform	# .862	1.015	17.8	#
4-Methyl-2-Pentanone	.342	.467	36.4	
2-Hexanone	.239	.342	43.5	
Tetrachloroethene	.558	.520	6.8	
1,1,2,2-Tetrachloroethane	# .705	.743	5.4	#
Toluene	.665	.618	7.0	
Chlorobenzene	.896	.827	7.7	
Ethylbenzene	* .425	.396	6.9	*
Styrene	.921	.881	4.4	
Xylene (total)	.521	.504	3.2	
Toluene-d8	1.049	1.030	1.8	
1,2-Dichloroethane-d4	1.858	2.378	28.0	
Bromofluorobenzene	.908	1.037	14.3	

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Lab File ID (Standard): EF229 Date Analyzed: 4/ 3/89

Instrument ID: 7002E5 Time Analyzed: 7:53

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

		IS1(BCM) AREA #	IS1(BCM) RT	IS2(DFB) AREA #	IS2(DFB) RT	IS3(CBZ) AREA #	IS3(CBZ) RT
	12 HOUR STD	20250.	8.63	75054.	18.53	68327.	23.38
	UPPER LIMIT	40500.	9.13	150108.	19.03	136654.	23.88
	LOWER LIMIT	10125.	8.13	37527.	18.03	34164.	22.88
	EPA SAMPLE NO.						
1	VBLK1	19933.	8.64	73168.	18.53	66671.	23.38
1157 2	RR2W1 sourcewater	19169.	8.63	73726.	18.53	66698.	23.38
1176 HS 3	9SLS1A soil	16564.	8.60	63952.	18.50	56150.	23.39
1177 4	9SLS1B	15905.	8.57	60386.	18.51	50560.	23.36
1178 5	9SLS2A	16804.	8.58	63803.	18.51	55923.	23.36
1179 6	9SLS2B	14584.	8.59	54602.	18.48	46090.	23.37
1180 7	9SLS3A	16179.	8.62	59793.	18.51	51955.	23.36
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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

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Lab File ID (Standard): EF238 Date Analyzed: 4/ 4/89

Instrument ID: 7002E5 Time Analyzed: 8:46

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	20045.		8.62	72620.		18.51	65111.		23.36
	UPPER LIMIT	40090.		9.12	145240.		19.01	130222.		23.86
	LOWER LIMIT	10023.		8.12	36310.		18.01	32556.		22.86
	EPA SAMPLE NO.									
1	VBLK2	18849.		8.62	69568.		18.51	62286.		23.36
1181 2	9SLS3B	15737.		8.62	58468.		18.52	50976.		23.37
1183 3	NLS1B	15566.		8.62	59070.		18.51	53561.		23.36
4	NLS1BMS	15645.		8.62	58381.		18.51	51106.		23.36
5	NLS1BMSD	15431.		8.62	57881.		18.51	51180.		23.36
1184 6	RINSE BL	17667.		8.62	67546.		18.51	60967.		23.36
7	RINSEMS	18275.		8.60	68689.		18.50	61030.		23.35
8	RINSEMSD	18136.		8.59	69166.		18.48	44171.		23.33
1185 9	RR2W2	17424.		8.60	67480.		18.50	60400.		23.35
1186 10	RR2W3	18079.		8.58	68877.		18.47	61420.		23.36
1187 11	RR2W4	17273.		8.62	67594.		18.47	60574.		23.36
1188 12	TRIP BL	17010.		8.62	66105.		18.51	59236.		23.36
13										
14										
15										
16										
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18										
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

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Lab File ID (Standard): EF253 Date Analyzed: 4/ 5/89

Instrument ID: 7002E5 Time Analyzed: 8:50

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

	IS1(BCM) AREA	#	RT	IS2(DFB) AREA	#	RT	IS3(CBZ) AREA	#	RT
12 HOUR STD	19362.		8.64	70135.		18.49	62934.		23.35
UPPER LIMIT	38724.		9.14	140270.		18.99	125868.		23.85
LOWER LIMIT	9681.		8.14	35068.		17.99	31467.		22.85
EPA SAMPLE NO.									
1 VBLK3	19411.		8.66	71517.		18.51	67281.		23.36
1182 2 NLS1A	19418.		8.66	75112.		18.53	82115.		23.38
3 NLS1AMS	19187.		8.66	72492.		18.51	71293.		23.36
4 NLS1AMSD	19628.		8.65	74338.		18.51	76147.		23.36
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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

D. Raw QC Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF230

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/ 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.

VBLK1

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF230

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/ 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.		No Volatiles Detected			
2.					
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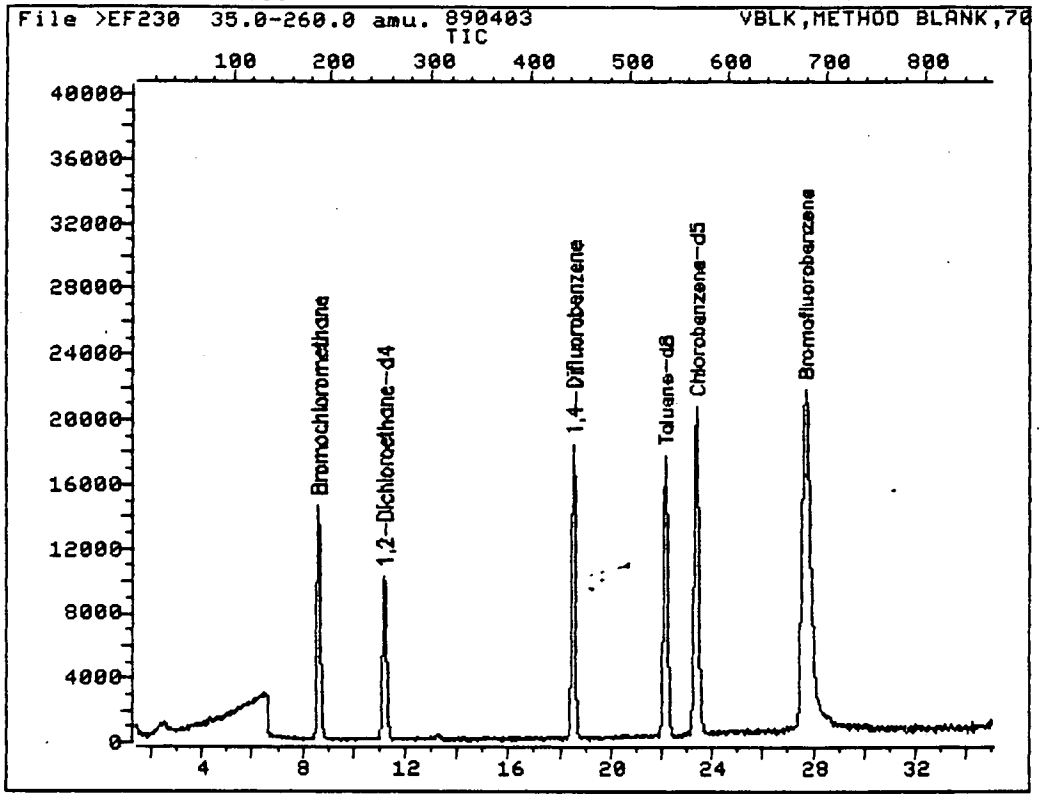
TOTAL ION CHROMATOGRAM



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Name: 890403
Misc: VBLK,METHOD BLANK,7002E5

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:46

Operator ID: CARL
Quant Time: 890403 09:37
Injected at: 890403 09:01

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890403 09:37
Output File: ^EF230::QT Injected at: 890403 09:01
Data File: >EF230::D2 Dilution Factor: 1.00000
Name: 890403
Misc: VBLK,METHOD BLANK,7002E5

ID File: EV0A::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890403 08:46

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.64	128.0	19933	50.00	UG/L	93
13)	1,2-Dichloroethane-d4	11.20	65.0	41423	47.33	UG/L	87
15)	*1,4-Difluorobenzene	18.53	114.0	73168	50.00	UG/L	91
29)	*Chlorobenzene-d5	23.38	117.0	66671	50.00	UG/L	96
35)	Toluene-d8	22.14	98.0	69172	49.65	UG/L	99
40)	Bromofluorobenzene	27.69	95.0	66413	48.36	UG/L	80

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK2

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF239

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/ 4/89

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: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF239

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/ 4/89

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.		No Volatiles Detected			
2.					
3.					
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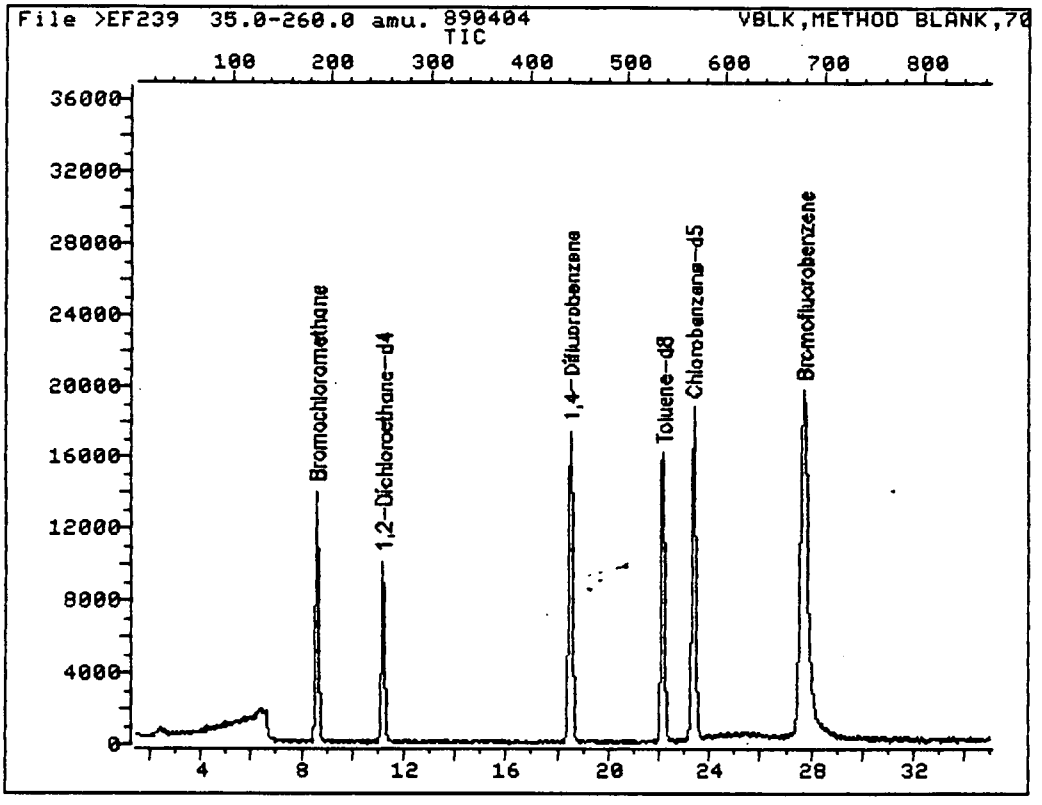
TOTAL ION CHROMATOGRAM



Data File: >EF239::D2 Quant Output File: ^EF239::QT
Name: 890404
Misc: VBLK,METHOD BLANK,7002E5

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

Operator ID: CARL
Quant Time: 890404 10:19
Injected at: 890404 09:43

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890404 10:19
Output File: ^EF239::QT Injected at: 890404 09:43
Data File: >EF239::D2 Dilution Factor: 1.00000
Name: 890404
Misc: VBLK,METHOD BLANK,7002E5

ID File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.62	128.0	18849	50.00	UG/L	95
13)	1,2-Dichloroethane-d4	11.22	65.0	41758	50.51	UG/L	85
15)	*1,4-Difluorobenzene	18.51	114.0	69568	50.00	UG/L	90
29)	*Chlorobenzene-d5	23.36	117.0	62286	50.00	UG/L	94
35)	Toluene-d8	22.16	98.0	65302	50.48	UG/L	97
40)	Bromofluorobenzene	27.71	95.0	63605	50.44	UG/L	84

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK3

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF254

Level: (low/med) MED Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/ 5/89

Column: (pack/cap) PACK Dilution Factor: 125.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1200.	U
74-83-9	Bromomethane	1200.	U
75-01-4	Vinyl Chloride	1200.	U
75-00-3	Chloroethane	1200.	U
75-09-2	Methylene Chloride	1600.	
67-64-1	Acetone	1200.	U
75-15-0	Carbon Disulfide	620.	U
75-35-4	1,1-Dichloroethene	620.	U
75-34-3	1,1-Dichloroethane	620.	U
540-59-0	1,2-Dichloroethene (total)	620.	U
67-66-3	Chloroform	620.	U
107-06-2	1,2-Dichloroethane	620.	U
78-93-3	2-Butanone	1200.	U
71-55-6	1,1,1-Trichloroethane	620.	U
56-23-5	Carbon Tetrachloride	620.	U
108-05-4	Vinyl Acetate	1200.	U
75-27-4	Bromodichloromethane	620.	U
78-87-5	1,2-Dichloropropane	620.	U
10061-01-5	cis-1,3-Dichloropropene	620.	U
79-01-6	Trichloroethene	620.	U
124-48-1	Dibromochloromethane	620.	U
79-00-5	1,1,2-Trichloroethane	620.	U
71-43-2	Benzene	620.	U
10061-02-6	trans-1,3-Dichloropropene	620.	U
75-25-2	Bromoform	620.	U
108-10-1	4-Methyl-2-Pentanone	1200.	U
591-78-6	2-Hexanone	1200.	U
127-18-4	Tetrachloroethene	620.	U
79-34-5	1,1,2,2-Tetrachloroethane	620.	U
108-88-3	Toluene	620.	U
108-90-7	Chlorobenzene	620.	U
100-41-4	Ethylbenzene	620.	U
100-42-5	Styrene	620.	U
1330-20-7	Xylene (total)	620.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLK3

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 3SLS1A

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF254

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/ 5/89

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.		No Volatiles Detected			
2.					
3.					
4.					
5.					
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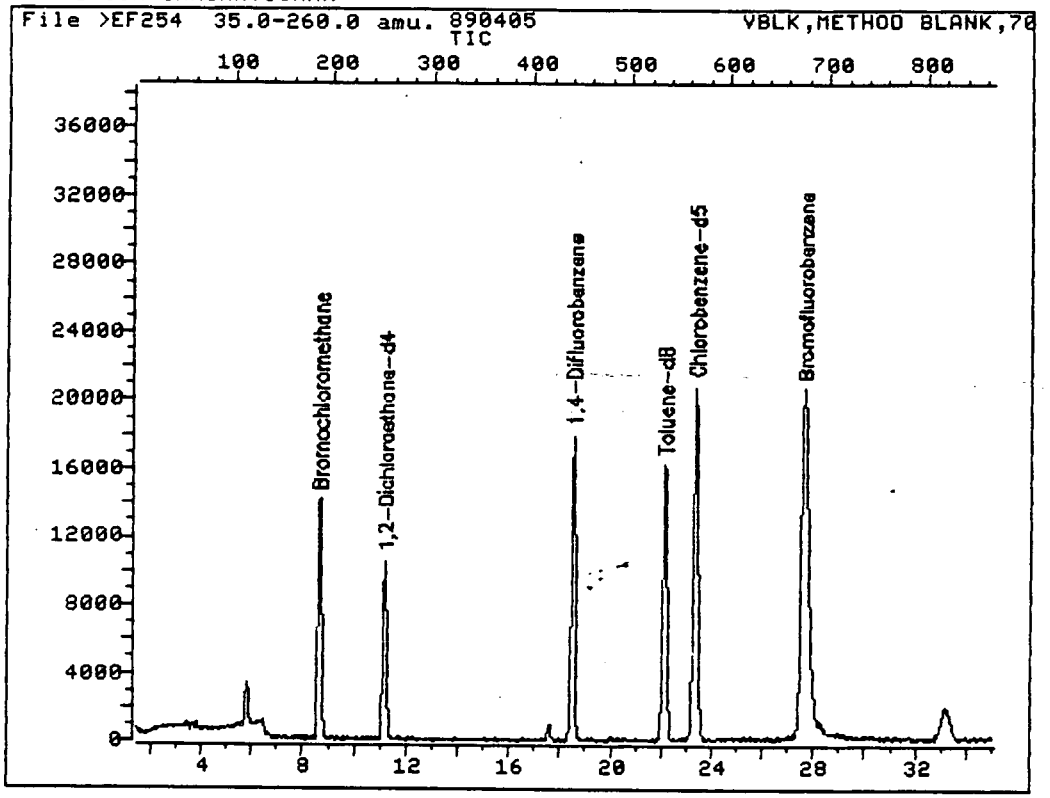
TOTAL ION CHROMATOGRAM



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Nam : 890405
Misc: VBLK,METHOD BLANK,7002E5

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890405 09:33

Operator ID: CARL
Quant Time: 890405 10:25
Injected at: 890405 09:49

QUANT REPORT

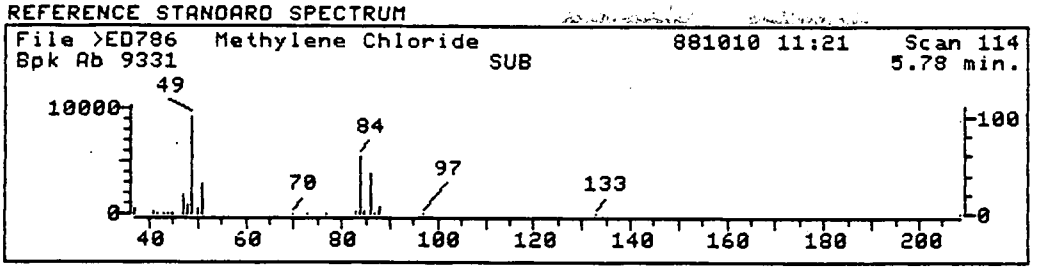
Operator ID: CARL Quant Rev: 6 Quant Time: 890405 10:25
Output File: ^EF254::QT Injected at: 890405 09:49
Data File: >EF254::D2 Dilution Factor: 1.00000
Name: 890405
Misc: VBLK,METHOD BLANK,7002E5

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890405 09:33

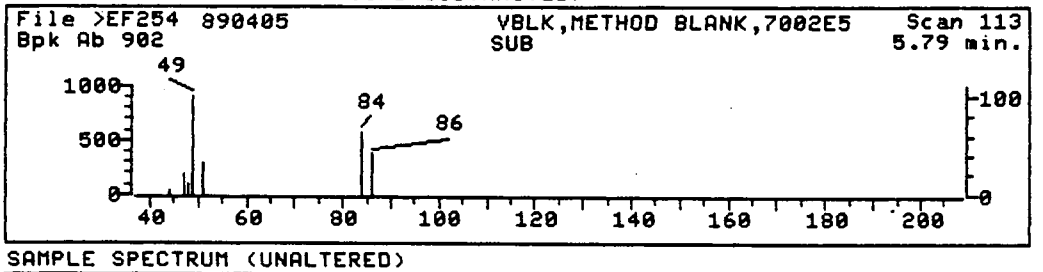
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.66	128.0	19411	50.00	UG/KG	91
6)	Methylene Chloride	5.79	84.0	5035	12.63	UG/KG	88
13)	1,2-Dichloroethane-d4	11.18	65.0	42451	45.99	UG/KG	86
15)	*1,4-Difluorobenzene	18.51	114.0	71517	50.00	UG/KG	91
29)	*Chlorobenzene-d5	23.36	117.0	67281	50.00	UG/KG	96
35)	Toluene-d8	22.12	98.0	65311	47.12	UG/KG	98
40)	Bromofluorobenzene	27.63	95.0	68432	49.02	UG/KG	90

* Compound is ISTD

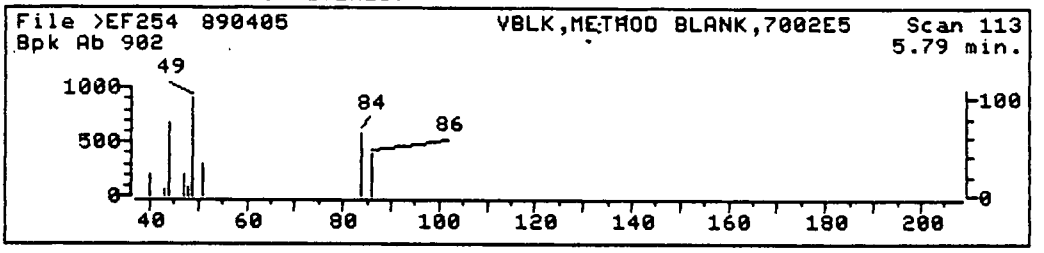
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >EF254::D2 Quant Output File: ^EF254::QT
Name: 890405
Misc: VBLK,METHOD BLANK,7002E5
Quant Time: 890405 10:25 Quant ID File: EVOAS::BD
Injected at: 890405 09:49 Last Calibration: 890405 09:33

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 113
Retention Time: 5.79 min.
Quant Ion: 84.0
Area: 5035
Concentration: 12.63 UG/KG
q-value: 88

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RINSEMS

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EF246

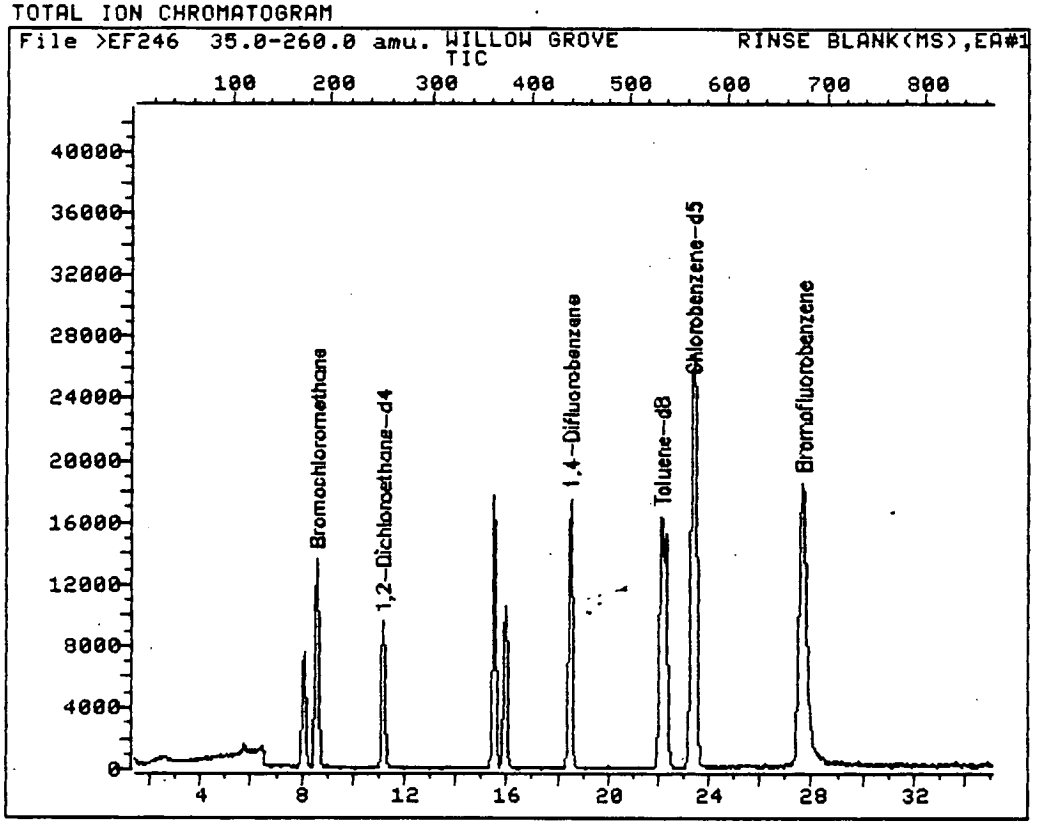
Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 100. Date Analyzed: 4/ 4/89

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	35.	
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	46.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	41.	
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	44.	
108-90-7	Chlorobenzene	53.	
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

TOTAL ION CHROMATOGRAM



Data File: >EF246::D2 Quant Output File: ^EF246::QT
Name: WILLOW GROVE
Misc: RINSE BLANK(MS),EA#1184,7002E5,WATER,5.0ML

Id File: EV0A::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

Operator ID: CARL
Quant Time: 890404 15:03
Injected at: 890404 14:27

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890404 15:03
Output File: ^EF246::QT Injected at: 890404 14:27
Data File: >EF246::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: RINSE BLANK(MS),EA#1184,7002E5,WATER,5.0ML

ID File: EVOA::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.60	128.0	18275	50.00	UG/L	99
9)	1,1-Dichloroethene	8.09	96.0	12514	34.64	UG/L	91
13)	1,2-Dichloroethane-d4	11.17	65.0	41591M	51.89	UG/L	83
15)	*1,4-Difluorobenzene	18.50	114.0	68689	50.00	UG/L	90
23)	Trichloroethene	15.51	130.0	30083	46.45	UG/L	93
26)	Benzene	15.94	78.0	43893	41.23	UG/L	92
29)	*Chlorobenzene-d5	23.35	117.0	61030	50.00	UG/L	95
34)	Toluene	22.30	92.0	34714	44.35	UG/L	94
35)	Toluene-d8	22.11	98.0	63608	50.19	UG/L	97
36)	Chlorobenzene	23.47	112.0	53384	52.59	UG/L	89
40)	Bromofluorobenzene	27.66	95.0	63192	51.14	UG/L	83

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NLS1BMS

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF243

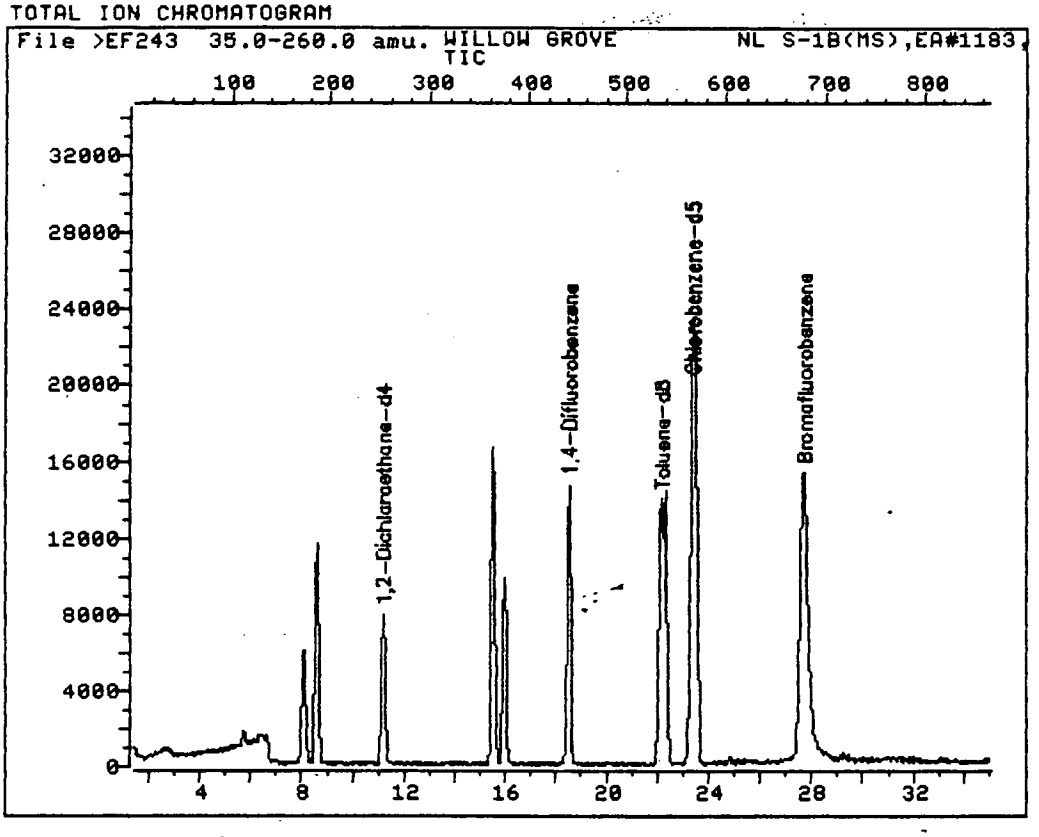
Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 14. Date Analyzed: 4/ 4/89

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	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	12.	U
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	43.	
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	12.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	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	60.	
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	54.	
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	12.	U
591-78-6	2-Hexanone	12.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	58.	
108-90-7	Chlorobenzene	69.	
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

TOTAL ION CHROMATOGRAM



Data File: >EF243::D2 Quant Output File: ^EF243::QT
Name: WILLOW GROVE
Misc: NL S-1B(MS),EA#1183,7002E5,SOIL,5.0GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:26

Operator ID: CARL
Quant Time: 890404 13:02
Inj cted at: 890404 12:26

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890404 13:02
Output File: ^EF243::QT Injected at: 890404 12:26
Data File: >EF243::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NL S-1B(MS),EA#1183,7002E5,SOIL,5.0GM

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:26

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.62	128.0	15645M	50.00	UG/KG	
9)	1,1-Dichloroethene	8.08	96.0	11528	37.27	UG/KG	94
13)	1,2-Dichloroethane-d4	11.18	65.0	34359	50.08	UG/KG	84
15)	*1,4-Difluorobenzene	18.51	114.0	58381	50.00	UG/KG	92
23)	Trichloroethene	15.53	130.0	28209	51.25	UG/KG	91
26)	Benzene	15.95	78.0	42405	46.86	UG/KG	92
29)	*Chlorobenzene-d5	23.36	117.0	51106	50.00	UG/KG	97
34)	Toluene	22.32	92.0	32486	49.56	UG/KG	96
35)	Toluene-d8	22.16	98.0	53693	50.59	UG/KG	99
36)	Chlorobenzene	23.48	112.0	50442	59.34	UG/KG	93
40)	Bromofluorobenzene	27.71	95.0	52280	50.52	UG/KG	82

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NLS1AMS

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF256

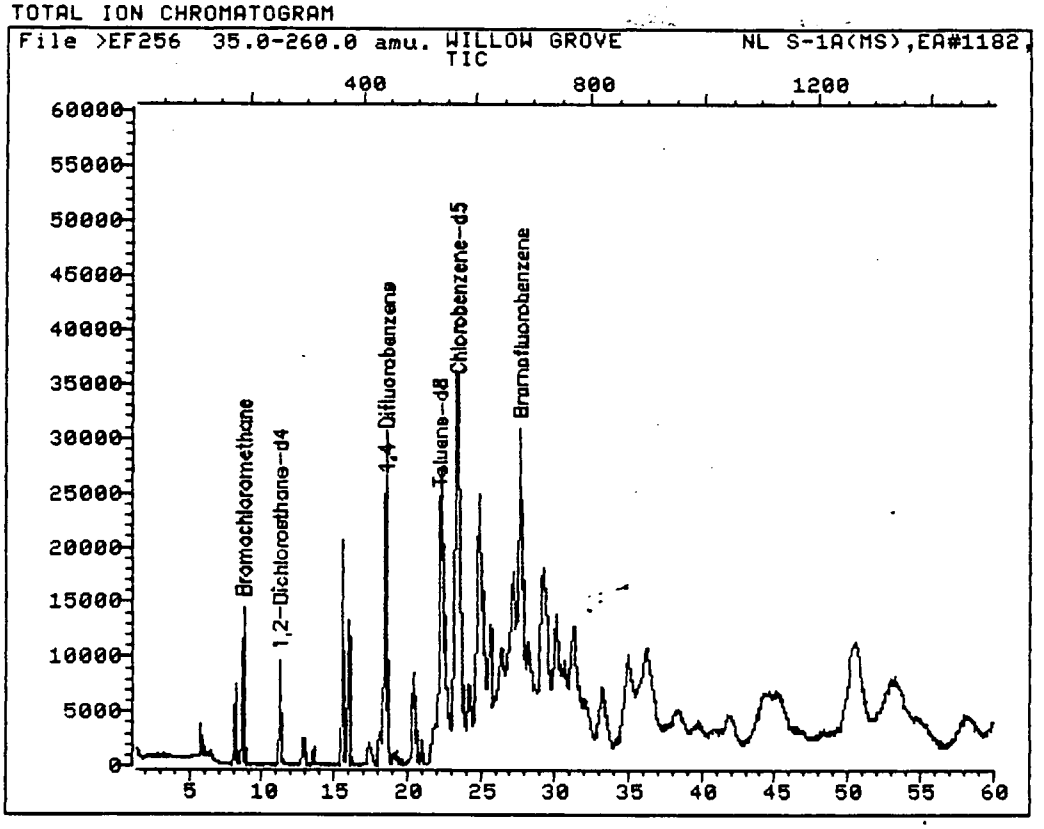
Level: (low/med) MED Date Received: 3/30/89

% Moisture: not dec. 13. Date Analyzed: 4/ 5/89

Column: (pack/cap) PACK Dilution Factor: 125.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400.	U
74-83-9	Bromomethane	1400.	U
75-01-4	Vinyl Chloride	1400.	U
75-00-3	Chloroethane	1400.	U
75-09-2	Methylene Chloride	2200.	B
67-64-1	Acetone	1400.	U
75-15-0	Carbon Disulfide	720.	U
75-35-4	1,1-Dichloroethene	5400.	
75-34-3	1,1-Dichloroethane	720.	U
540-59-0	1,2-Dichloroethene (total)	720.	U
67-66-3	Chloroform	720.	U
107-06-2	1,2-Dichloroethane	720.	U
78-93-3	2-Butanone	1400.	U
71-55-6	1,1,1-Trichloroethane	720.	U
56-23-5	Carbon Tetrachloride	720.	U
108-05-4	Vinyl Acetate	1400.	U
75-27-4	Bromodichloromethane	720.	U
78-87-5	1,2-Dichloropropane	720.	U
10061-01-5	cis-1,3-Dichloropropene	720.	U
79-01-6	Trichloroethene	7300.	
124-48-1	Dibromochloromethane	720.	U
79-00-5	1,1,2-Trichloroethane	720.	U
71-43-2	Benzene	7100.	
10061-02-6	trans-1,3-Dichloropropene	720.	U
75-25-2	Bromoform	720.	U
108-10-1	4-Methyl-2-Pentanone	1400.	U
591-78-6	2-Hexanone	1400.	U
127-18-4	Tetrachloroethene	720.	U
79-34-5	1,1,2,2-Tetrachloroethane	720.	U
108-88-3	Toluene	7300.	
108-90-7	Chlorobenzene	8700.	
100-41-4	Ethylbenzene	1100.	
100-42-5	Styrene	720.	U
1330-20-7	Xylene (total)	6000.	

TOTAL ION CHROMATOGRAM



Data File: >EF256::D2 Quant Output File: ^EF256::QT
Name: WILLOW GROVE
Misc: NL S-1A(MS),EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890405 09:33

Operator ID: CARL
Quant Time: 890405 12:47
Injected at: 890405 11:46

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890405 12:47
Output File: ^EF256::QT Injected at: 890405 11:46
Data File: >EF256::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NL S-1A(MS),EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)

ID File: EVOAS::BD
Titl : CLP protocol-5pt calibration, 7002E5
Last Calibration: 890405 09:33

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.66	128.0	19187	50.00	UG/KG	86
6)	Methylene Chloride	5.78	84.0	5931	15.05	UG/KG	84
9)	1,1-Dichloroethene	8.07	96.0	13816	38.00	UG/KG	94
13)	1,2-Dichloroethane-d4	11.18	65.0	41205	45.16	UG/KG	85
15)	*1,4-Difluorobenzene	18.51	114.0	72492	50.00	UG/KG	91
23)	Trichloroethene	15.52	130.0	34508	51.25	UG/KG	92
26)	Benzene	15.95	78.0	53472	49.78	UG/KG	94
29)	*Chlorobenzene-d5	23.36	117.0	71293	50.00	UG/KG	94
34)	Toluene	22.31	92.0	44782	50.80	UG/KG	98
35)	Toluene-d8	22.16	98.0	69808	47.53	UG/KG	99
36)	Chlorobenzene	23.48	112.0	71449	60.58	UG/KG	96
37)	Ethylbenzene	25.34	106.0	4470	7.92	UG/KG	87
39)	Xylene (total)	30.04	106.0	30107M	41.86	UG/KG	97
40)	Bromofluorobenzene	27.64	95.0	78710	53.21	UG/KG	84

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RINSEMSD

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) WATER Lab Sample ID:

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EF247

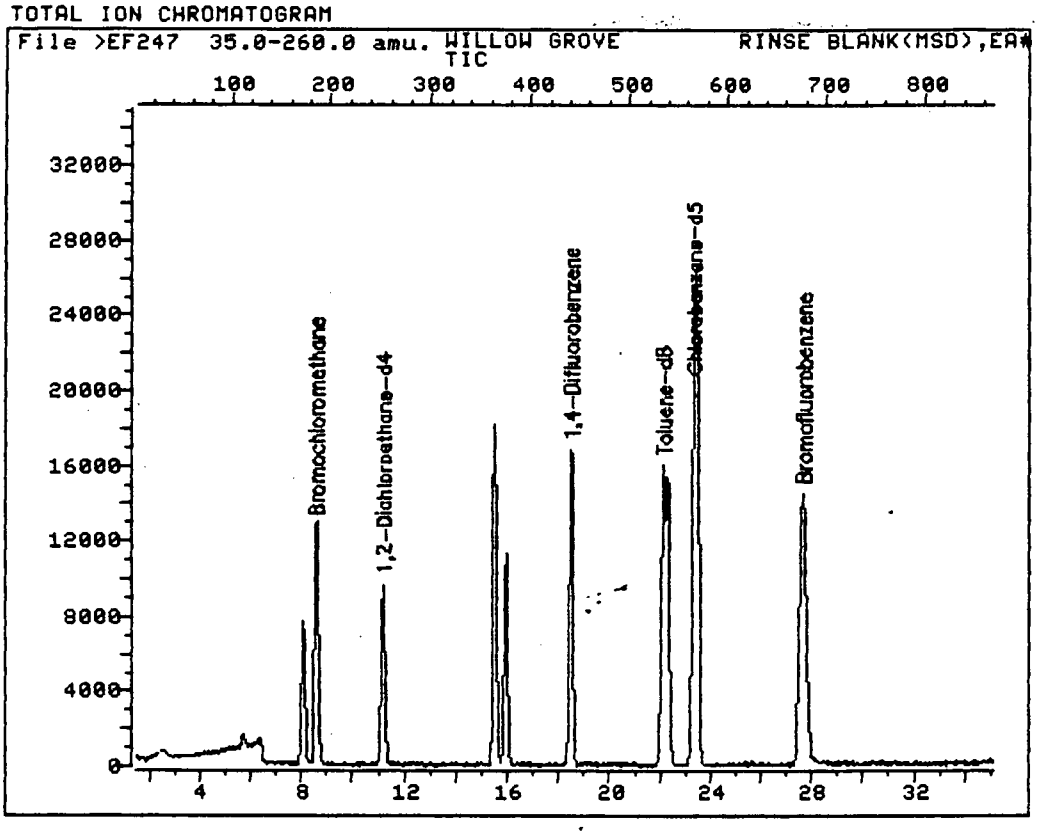
Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 100. Date Analyzed: 4/ 4/89

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	36.	
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	49.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	43.	
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	57.	
108-90-7	Chlorobenzene	59.	
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

TOTAL ION CHROMATOGRAM



Data File: >EF247::D2 Quant Output File: ^EF247::QT
Name: WILLOW GROVE
Misc: RINSE BLANK(MSD),EA#1184,7002E5,WATER,5.0ML

Id File: EVOA::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

Operator ID: CARL
Quant Time: 890404 15:43
Injected at: 890404 15:07

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890404 15:43
Output File: ^EF247::QT Injected at: 890404 15:07
Data File: >EF247::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: RINSE BLANK(MSD),EA#1184,7002E5,WATER,5.0ML

ID File: EV0A::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:27

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.59	128.0	18136	50.00	UG/L	89
9)	1,1-Dichloroethene	8.08	96.0	12997	36.25	UG/L	92
13)	1,2-Dichloroethane-d4	11.19	65.0	40383	50.77	UG/L	83
15)	*1,4-Difluorobenzene	18.48	114.0	69166	50.00	UG/L	90
23)	Trichloroethene	15.49	130.0	31737	48.67	UG/L	93
26)	Benzene	15.96	78.0	46006	42.91	UG/L	90
29)	*Chlorobenzene-d5	23.33	117.0	44171	50.00	UG/L	96
34)	Toluene	22.32	92.0	32533	57.42	UG/L	94
35)	Toluene-d8	22.13	98.0	50308M	54.84	UG/L	96
36)	Chlorobenzene	23.45	112.0	43485M	59.19	UG/L	
40)	Bromofluorobenzene	27.68	95.0	51164M	57.21	UG/L	62

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NLS1BMSD

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF244

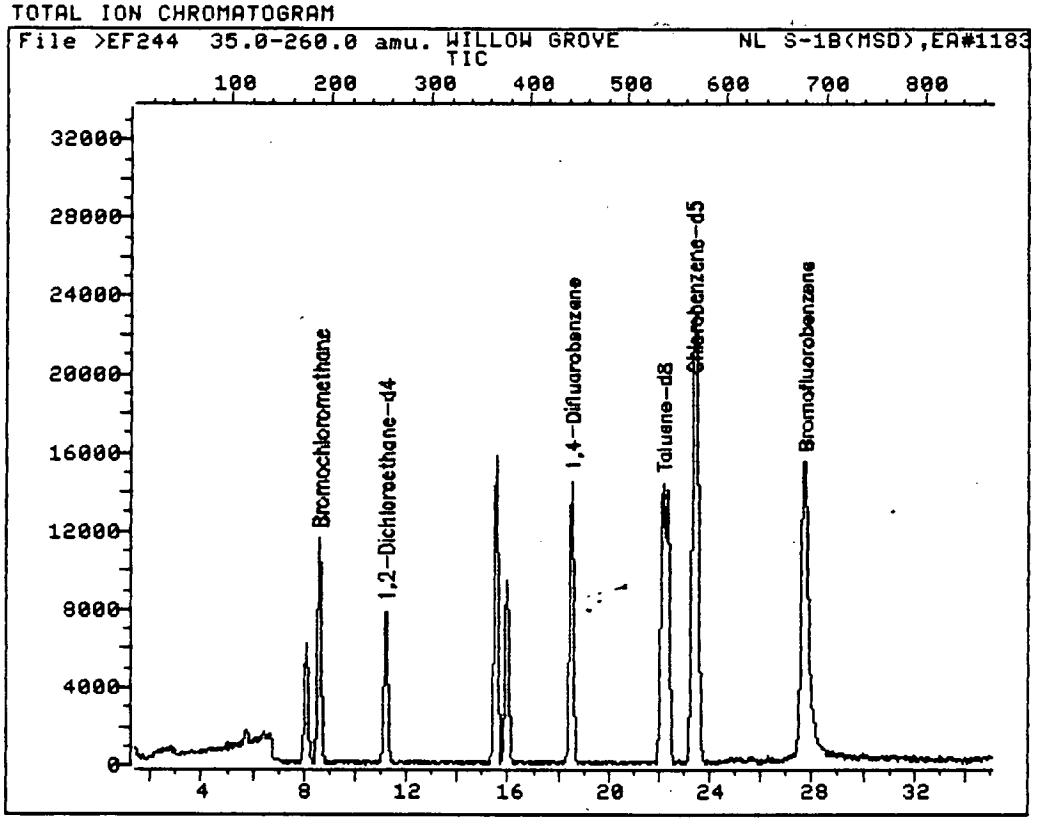
Level: (low/med) LOW Date Received: 3/30/89

% Moisture: not dec. 14. Date Analyzed: 4/ 4/89

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	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	12.	U
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	42.	
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	12.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	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	55.	
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	52.	
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	12.	U
591-78-6	2-Hexanone	12.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	55.	
108-90-7	Chlorobenzene	66.	
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

TOTAL ION CHROMATOGRAM



Data File: >EF244::D2 Quant Output File: ^EF244::QT
Name: WILLOW GROVE
Misc: NL S-1B(MSD),EA#1183,7002E5,SOIL,5.0GM

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:26

Operator ID: CARL
Quant Time: 890404 13:42
Injected at: 890404 13:06

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890404 13:42
Output File: ^EF244::QT Injected at: 890404 13:06
Data File: >EF244::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NL S-1B(MSD),EA#1183,7002E5,SOIL,5.0GM

ID File: EVOAS::8D
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890404 09:26

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.62	128.0	15431	50.00	UG/KG	86
9)	1,1-Dichloroethene	8.07	96.0	11070	36.29	UG/KG	94
13)	1,2-Dichloroethane-d4	11.18	65.0	35104	51.87	UG/KG	84
15)	*1,4-Difluorobenzene	18.51	114.0	57881	50.00	UG/KG	90
23)	Trichloroethene	15.52	130.0	26040	47.72	UG/KG	90
26)	Benzene	15.95	78.0	40073	44.67	UG/KG	91
29)	*Chlorobenzene-d5	23.36	117.0	51180	50.00	UG/KG	96
34)	Toluene	22.35	92.0	31067	47.33	UG/KG	97
35)	Toluene-d8	22.16	98.0	53575	50.41	UG/KG	94
36)	Chlorobenzene	23.48	112.0	48239	56.67	UG/KG	93
40)	Bromofluorobenzene	27.71	95.0	52675	50.83	UG/KG	82

* Compound is ISTD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NLS1AMSD

Lab Name: EAENG Contract: 68-01-7436

Lab Code: EAENG Case No.: WILLOW SAS No.: SDG No.: 9SLS1A

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EF257

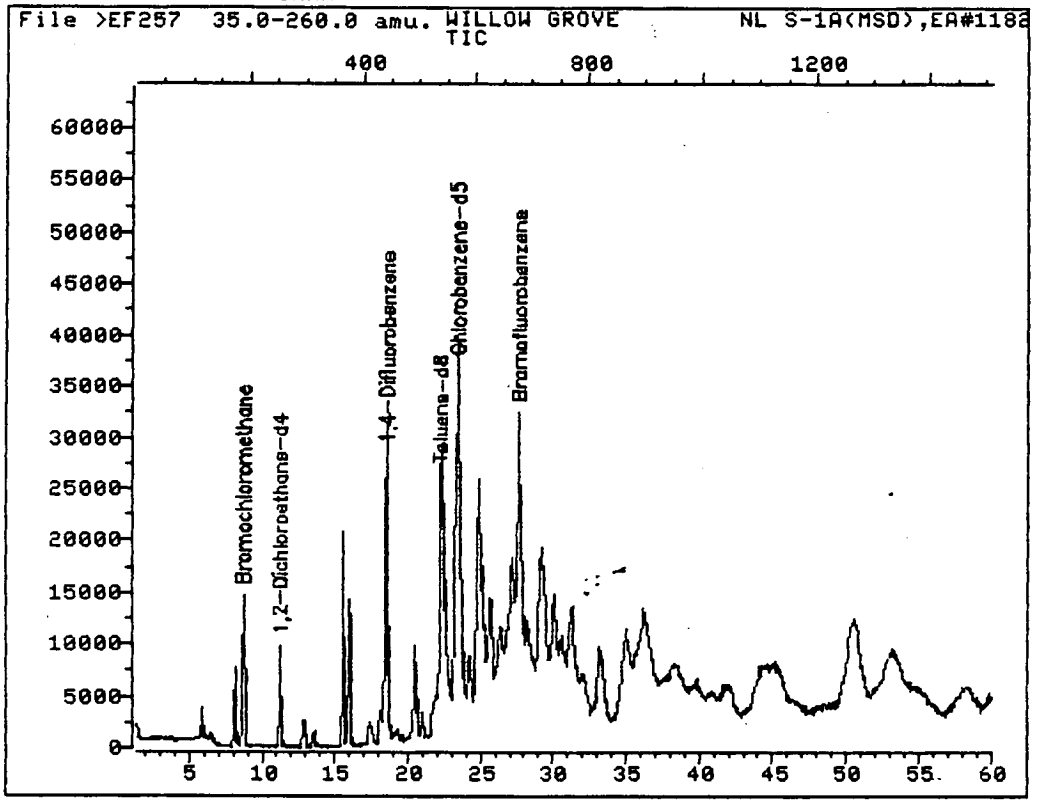
Level: (low/med) MED Date Received: 3/30/89

% Moisture: not dec. 13. Date Analyzed: 4/ 5/89

Column: (pack/cap) PACK Dilution Factor: 125.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400.	U
74-83-9	Bromomethane	1400.	U
75-01-4	Vinyl Chloride	1400.	U
75-00-3	Chloroethane	1400.	U
75-09-2	Methylene Chloride	2100.	B
67-64-1	Acetone	1400.	U
75-15-0	Carbon Disulfide	720.	U
75-35-4	1,1-Dichloroethene	5500.	
75-34-3	1,1-Dichloroethane	720.	U
540-59-0	1,2-Dichloroethene (total)	720.	U
67-66-3	Chloroform	720.	U
107-06-2	1,2-Dichloroethane	720.	U
78-93-3	2-Butanone	1400.	U
71-55-6	1,1,1-Trichloroethane	720.	U
56-23-5	Carbon Tetrachloride	720.	U
108-05-4	Vinyl Acetate	1400.	U
75-27-4	Bromodichloromethane	720.	U
78-87-5	1,2-Dichloropropane	720.	U
10061-01-5	cis-1,3-Dichloropropene	720.	U
79-01-6	Trichloroethene	7200.	
124-48-1	Dibromochloromethane	720.	U
79-00-5	1,1,2-Trichloroethane	720.	U
71-43-2	Benzene	7200.	
10061-02-6	trans-1,3-Dichloropropene	720.	U
75-25-2	Bromoform	720.	U
108-10-1	4-Methyl-2-Pentanone	1400.	U
591-78-6	2-Hexanone	1400.	U
127-18-4	Tetrachloroethene	720.	U
79-34-5	1,1,2,2-Tetrachloroethane	720.	U
108-88-3	Toluene	7000.	
108-90-7	Chlorobenzene	8400.	
100-41-4	Ethylbenzene	1100.	
100-42-5	Styrene	720.	U
1330-20-7	Xylene (total)	5800.	

TOTAL ION CHROMATOGRAM



Data File: >EF257::D2 Quant Output File: ^EF257::QT
Name: WILLOW GROVE
Misc: NL S-1A(MSD),EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)

Id File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890405 09:33

Operator ID: CARL
Quant Time: 890405 13:57
Injected at: 890405 12:51

QUANT REPORT

Operator ID: CARL Quant Rev: 6 Quant Time: 890405 13:57
Output File: ^EF257::QT Injected at: 890405 12:51
Data File: >EF257::D2 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: NL S-1A(MSD),EA#1182,7002E5,SOIL,MED LEVEL (1/125 DIL)

ID File: EVOAS::BD
Title: CLP protocol-5pt calibration, 7002E5
Last Calibration: 890405 09:33

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Bromochloromethane	8.65	128.0	19628	50.00	UG/KG	84
6)	Methylene Chloride	5.82	84.0	5957	14.77	UG/KG	84
9)	1,1-Dichloroethene	8.07	96.0	14325	38.51	UG/KG	94
13)	1,2-Dichloroethane-d4	11.17	65.0	40973	43.90	UG/KG	85
15)	*1,4-Difluorobenzene	18.51	114.0	74338	50.00	UG/KG	92
23)	Trichloroethene	15.52	130.0	34923	50.58	UG/KG	92
26)	Benzene	15.95	78.0	55464	50.36	UG/KG	94
29)	*Chlorobenzene-d5	23.36	117.0	76147	50.00	UG/KG	97
34)	Toluene	22.35	92.0	45917	48.77	UG/KG	96
35)	Toluene-d8	22.16	98.0	71996	45.89	UG/KG	96
36)	Chlorobenzene	23.48	112.0	74219	58.92	UG/KG	95
37)	Ethylbenzene	25.38	106.0	4636	7.69	UG/KG	87
39)	Xylene (total)	30.04	106.0	30981M	40.33	UG/KG	97
40)	Bromofluorobenzene	27.63	95.0	78931	49.96	UG/KG	85

* Compound is ISTD

E. Quality Assurance Summary

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

f 2

oject: Willow Grove Analysis: TCL volatiles

Lab ratories Report No. 890178 Method: U.S. EPA-CLP

viewed by: Tay Lih Date: 5-24-89

The 10-day holding time requirement from sample ~~collection~~ receipt to analysis was met for all samples.

(see Note 1 mmu) X Yes X mmu No 21 JUL 89

No

The 12-hour tuning period for BFB was met for all samples.

X Yes ____ No

t

itial calibration criteria were met for all samples: the RSD is ≤30% r all CCC compounds, and the RRF for SPCC compounds is >0.300 (0.250 or bromoform).

X Yes ____ No

No

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).

X Yes ____ No

Surrogate recovery limits were met for all samples.

X Yes ____ No

ced

S and MSD criteria were met for all samples.

X Yes X X No

ethod blank criteria were met for all samples: common laboratory ontaminants are ≤5X CRQL, all other compounds are <CRQL.

X Yes ____ No

(Revised 8 May 1989)

3 139

19)

140

4. SÉMIVOLATILE DATA

A. QC Summary

WATER SURROGATE PERCENT RECOVERY SUMMARY

Case No. Willow Grove Contract Laboratory EA Laboratories Contract No. _____

	VOLATILE			SEMI-VOLATILE								PESTICIDE
EPA SAMPLE NO.	TOLUENE-D8 (88-110)	BFB (86-115)	1,2 DICHLOROETHANE-D4 (76-114)	NITROBENZENE-D5 (35-114)	2-FLUOROBIPHENYL (43-116)	TERPHENYL-D14 (33-141)			PHENOL-D5 (10-94)	2-FLUOROPHENOL (21-100)	2,4,6 TRIBROMOPHENOL (10-123)	DIBUTYLCHLORENDATE * * (24-154)
BL #535 (>FB966)				100%	100%	129%			91%	83%	116%	
EA #184 (>FB967)				101%	101%	121%			90%	83%	117%	
MSTD 1184 (>FB991)				59%	60%	70%			58%	77%	117%	
EA #1184(MS) (>FB968)				209%*	93%	120%			83%	79%	78%	
EA #1184(MSD) (>FB969)				108%	99%	129%			85%	82%	121%	
EA #1164(MS) >DD	299			124 *	112	114			129 *	126 *	126 *	
EA #1164(MSD) >DD300				129 *	115	139			126 *	119 *	128 *	

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

* ADVISORY LIMITS ONLY

Volatiles: _____ out of _____ ; outside of QC limits

Semi-Volatiles: 8 out of 30 ; outside of QC limits

Pesticides: _____ out of _____ ; outside of QC limits

MD 5-23-H

Comments: _____

FORM II 7/85

SOIL SURROGATE PERCENT RECOVERY SUMMARY

Case No. Willow Grove Contract Laboratory EA Laboratories. Contract No. _____

Low — Medium _____

	VOLATILE			SEMI-VOLATILE								PESTICIDE
SMO TRAFFIC NO.	TOLUENE-D8 (81-117)	BFB (74-121)	1,2-DICHLOROETHANE-D4 (70-121)	NITROBENZENE-D5 (23-120)	2-FLUOROBIPHENYL (30-115)	TERPHENYL-D14 (18-137)			PHENOL-D5 (24-113)	2-FLUOROPHENOL (25-121)	2,4,6 TRIBROMOPHENOL (19-122)	DIBUTYL CHLORENDATE (20-150)*
Blank	# 539			50	50	49			81	71	65	
9SL.S-	1A EA#	1176		61	58	58			61	50	72	
9SL.S-	1B EA#	1177		65	68	62			63	58	83	
9SL.S-	2A EA#	1178		51	55	46			90	81	63	
9SL.S-	2B EA#	1179		82	80	73			78	70	77	
NL.S-	1A EA#	1182		90	101	91			90	82	94	

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

ADVISORY LIMITS ONLY

Volatiles: _____ out of _____ ; outside of QC limits

Semi-Volatiles: 0 out of 30 ; outside of QC limits

Pesticides: _____ out of _____ ; outside of QC limits

7/85

Comments: _____

FORM II

SOIL SURROGATE PERCENT RECOVERY SUMMARY

Case No. Willow Grove Contract Laboratory EA Laboratories Contract No. _____

Low ✓ Medium _____

	VOLATILE			SEMI-VOLATILE								PESTICIDE
SMO TRAFFIC NO.	TOLUENE-D8 (81-117)	BFB (74-121)	1,2 DICHLORO-ETHANE-D4 (70-121)	NITRO-BENZENE-D5 (23-120)	2-FLUORO-BIPHENYL (30-115)	TERPHENYL-D14 (18-137)			PHENOL-D5 (24-113)	2-FLUORO-PHENOL (25-121)	2,4,6 TRIBROMO-PHENOL (19-122)	DIBUTYL-CHLORENDATE (20-150) **
EA#1180 (XF0956)				59%	56%	60%			75%	55%	68%	
EA#1181 (XF0957)				63%	62%	58%			78%	59%	71%	
EA#1183 (XF0959)				49%	58%	47%			60%	45%	68%	
EA#1183 (MS) (XEA960)				67%	67%	58%			68%	61%	81%	
EA#1183 (MSD)				69%	73%	81%			57%	56%	88%	

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

** ADVISORY LIMITS ONLY

Volatiles: _____ out of _____ ; outside of QC limits

Semi-Volatiles: 0 out of 30 ; outside of QC limits

Pesticides: _____ out of _____ ; outside of QC limits

7/85

Comments: _____

FORM II

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE REC VERY

Case No. Willow Grove **C ntractor** EA Laboratories **C ntract N .** _____

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/L)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS * RPD	QC LIMITS * RECOVERY
VOA SMO SAMPLE NO. _____	1,1-Dichloroethene								14	61-145
	Trichloroethene								14	71-120
	Chlorobenzene								13	75-130
	Toluene								13	76-125
	Benzene								11	76-127
B/N SMO SAMPLE NO. Rinsate Blk EA #1184	1,2,4-Trichlorobenzene	100	0	66	66	66	66	0	28	39-98
	Acenaphthene	100	0	74	74	76	76	3	31	46-118
	2,4 Dinitrotoluene	100	0	73	73	70	70	4	38	24-96
	Pyrene	100	0	72	72	88	88	20	31	26-127
	N-Nitroso-Di-n-Propylamine	100	0	77	77	79	79	3	38	41-116
	1,4-Dichlorobenzene	100	0	65	65	65	65	0	28	36-97
ACID SMO SAMPLE NO. Rinsate Blk EA #1184	Pentachlorophenol	200	0	134	67	133	67	0	50	9-103
	Phenol	200	0	138	69	132	66	4	42	12-89
	2-Chlorophenol	200	0	150	75	147	74	1	40	27-123
	4-Chloro-3-Methylphenol	200	0	144	72	146	73	1	42	23-97
	4-Nitrophenol	200	0	136	68	109	55	21	50	10-80
PEST SMO SAMPLE NO. _____	Lindane								15	56-123
	Heptachlor								20	40-131
	Aldrin								22	40-120
	Dieldrin								18	52-126
	Endrin								21	56-121
	4,4'-DDT								27	38-127

ASTERISKED VALUES ARE OUTSIDE QC LIMITS.

RPD:
VOAs ____ out of ____; outside QC limits
B/N 0 out of 6; outside QC limits
ACID 0 out of 5; outside QC limits
PEST ____ out of ____; outside QC ljmits

RECOVERY:
VOAs ____ out of ____; outside QC limits
B/N 0 out of 12; outside QC limits
ACID 0 out of 10; outside QC limits
PEST ____ out of ____; outside QC limits

Comments: _____

SOIL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case N. Willow Grove Contractor GA Laboratories Contract No. _____

Low Level ✓ Medium Level _____

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/Kg)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS * RPD	QC LIMITS * RECOVERY
VOA SMO SAMPLE NO. _____	1,1-Dicholorethene								22	59-172
	Trichloroethene								24	62-137
	Chlorobenzene								21	60-133
	Toluene								21	59-139
	Benzene								21	66-142
B/N SMO SAMPLE NO. EA# 1183	1,2,4-Trichlorobenzene	100	—	90.03	90	99.23	99	10	23	38-107
	Acenaphthene		—	95.05	95	104.66	105	10	19	31-137
	2,4 Dinitrotoluene		—	77.01	77	103.05	103*	29	47	28-89
	Pyrene		0.67	79.08	79	131.24	131	50*	36	35-142
	N-Nitrosodi-n-Propylamine		—	109.7	110	104.30	104	5	38	41-126
	1,4-Dichlorobenzene		—	83.49	83	89.83	90	8	27	28-104
ACID SMO SAMPLE NO. EA# 1183	Pentachlorophenol	200	—	174.98	87	229.04	115*	28	47	17-109
	Phenol		—	123.29	62	143.31	72	15	35	28-90
	2-Chlorophenol		—	146.73	73	162.04	81	10	50	25-102
	4-Chloro-3-Methylphenol		—	169.45	85	172.98	86	1	33	26-103
	4-Nitrophenol		—	168.64	84	227.16	114	30	50	11-114
PEST SMO SAMPLE NO. _____	Lindane								50	46-127
	Heptachlor								31	35-130
	Aldrin								43	34-132
	Dieldrin								38	31-134
	Endrin								45	42-139
	4,4'-DDT								50	23-134

ASTERISKED VALUES ARE OUTSIDE QC LIMITS.

RPD: VOAs ____ out of ____; outside QC limits
B/N 1 out of 6; outside QC limits
ACID 0 out of 5; outside QC limits
PEST ____ out of ____; outside QC limits

RECOVERY: VOAs ____ out of ____; outside QC limits
B/N 1 out of 12+ outside QC limits
ACID 1 out of 10; outside QC limits
PEST ____ out of ____; outside QC limits

Comments: _____

4 900

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: EA Laboratories Contract: _____

Lab Code: _____ Case No.: Willow Grove SAS No.: _____ SDG No.: _____

Lab File ID: DD154 Lab Sample ID: Blank # 539

Date Extracted: 3/31/89 Extraction: (SepF/Cont/Sonc) Cont.

Date Analyzed: 4/5/89 Time Analyzed: 19:21

Matrix: (soil/water) Soil 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	9SL. S-2A	EA # 1178	DD297	4/21/89
02	9SL. S-1A	EA # 1176	DD163	4/6/89
03	9SL. S-1B	EA # 1177	DD164	4/6/89
04	9SL. S-2B	EA # 1179	DD166	4/6/89
05	NL. S-1A	EA # 1182	DD298	4/21/89
06	9SL, S3A	EA # 1180	FB956	4/6/89
07	9SL, S3B	EA # 1181	FB957	
08	NL, S-1B	EA # 1183	FB958	
09	NL, S-1B (MS)	EA # 1183 MS	~~FB959~~ FB960	
10	NL, S-1B (MSD)	EA # 1183 MSD	FB972	4/7/89
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: EA LABORATORIES Contract: WILLOW GROVE

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID: >FB 966 Lab Sample ID: BLANK #533

Date Extracted: 3-31-89 Extraction: (SepF/Cont/Sonc) Cont

Date Analyzed: 4/6/89 Time Analyzed: 23:18

Matrix: (soil/water) H2O 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	EA# 1184	RINSATE BLANK	>FB 967	4-7-89
02	EA# 1184(MS)	RINSATE BLANK(MS)	>FB 968	4-7-89
03	EA# 1184(MSD)	RINSATE BLANK(MSD)	>FB 969	4-7-89
04	EA# 1184 MS)	Rinsate Blank(MS)	>DD 299	4/21/89
05	EA# 1184(MS1)	Rinsate Blank(MS)	>DD 300	4/21/89
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
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29				
30				

COMMENTS: _____

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Case No.: Willow Grove Contractor: EA Laboratories Contract No.: _____

Instrument ID: ~~#4 (D)~~ HP6(F) Date: 04/05/89 Time: 18:23

Lab ID: >FB948-174 Data Release Authorized By :

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	53.29	53.29	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	64.22	64.22	Ok
70	Less than 2% of mass 69	.30	.46	Ok
127	40-60% of mass 198	40.39	40.39	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	6.22	6.22	Ok
275	10-30% of mass 198	19.96	19.96	Ok
365	Greater than 1% of mass 198	1.81	1.81	Ok
441	0-100% of mass 443	7.30	73.68	Ok
442	Greater than 40% of mass 198	52.67	52.67	Ok
443	17-23% of mass 442	9.91	18.82	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	>FB949	04-05-89	19:14
BNA 160 ppm STD MIX	>FB954	04-06-89	00:10
BNA 120 ppm STD MIX	>FB951	04-05-89	21:16
BNA 80 ppm STD MIX	>FB952	04-05-89	22:16
BNA 20 ppm STD MIX	>FB955	04-06-89	01:22
EA# 1180	>FB956	04-06-89	02:18
EA# 1181	>FB957		03:16
EA# 1183	>FB959		05:10
EA# 1183(MS)	>FB960		06:06

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Case No.: _____ Contractor: EA Laboratories Contract No.: _____

Instrument ID: #4 (D) Date: 04/05/89 Time: 08:57

Lab ID: >DD147-298 Data Release Authorized By : _____

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	44.01	44.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	57.87	57.87	Ok
70	Less than 2% of mass 69	.76	1.32	Ok
127	40-60% of mass 198	44.18	44.18	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	6.85	6.85	Ok
275	10-30% of mass 198	19.17	19.17	Ok
365	Greater than 1% of mass 198	1.39	1.39	Ok
441	0-100% of mass 443	8.60	73.76	Ok
442	Greater than 40% of mass 198	60.84	60.84	Ok
443	17-23% of mass 442	11.66	19.16	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 # 1293	4/5/89	9:37
BNA 160 PPm Std.	Std # 1290		12:16
BNA 120 PPm Std.	Std # 1291		13:07
BNA 80 PPm Std.	Std # 1292		13:58
BNA 20 PPm Std.	Std # 1294		14:49
Blank # 539		4/5/89	19:21

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Case No.: WILLOW GROVE Contractor: EA Laboratories Contract No.: ____

Instrument ID: ~~#4 (D)~~ #6 (F) Date: 04/06/89 Time: 20:28

Lab ID: >FB963-172 Data Release Authorized By :

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	53.03	53.03	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	65.20	65.20	Ok
70	Less than 2% of mass 69	.17	.26	Ok
127	40-60% of mass 198	42.09	42.09	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	6.45	6.45	Ok
275	10-30% of mass 198	21.66	21.66	Ok
365	Greater than 1% of mass 198	2.27	2.27	Ok
441	0-100% of mass 443	9.61	73.10	Ok
442	Greater than 40% of mass 198	70.34	70.34	Ok
443	17-23% of mass 442	13.14	18.68	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 SSD MIX	>FB964	04-06-89	21:24
BLANK #535	>FB966		23:18
EA# 1184	>FB967	04-07-89	00:21
MSD for 1184	>FB971		04:21
EA# 1183 (MSD)	>FB972		05:16

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Case No.: _____ Contractor: EA Laboratories Contract No.: _____

Instrument ID: #4 (D) Date: 04/06/89 Time: 09:58

Lab ID: >DD159-298 Data Release Authorized By : _____

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Abundance Appropriate Peak	Status
51	30-60% of mass 198	46.96	46.96	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	62.27	62.27	Ok
70	Less than 2% of mass 69	.32	.51	Ok
127	40-60% of mass 198	47.59	47.59	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	6.45	6.45	Ok
275	10-30% of mass 198	18.12	18.12	Ok
365	Greater than 1% of mass 198	1.41	1.41	Ok
441	0-100% of mass 443	7.21	74.66	Ok
442	Greater than 40% of mass 198	52.77	52.77	Ok
443	17-23% of mass 442	9.65	18.30	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 # 1303	4/6/89	12:33
95L. S-1A	EA#1176 >DD162	↓	14:23
95L. S-1B	EA# 1177 >DD164		16:56
95L. S-2B	EA# 1179 >DD166		19:32

FORM V

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Cas No.: _____ Contractor: EA Laboratories Contract No.: _____

Instrument ID: #4 (D) Date: 04/21/89 Time: 08:42

Lab ID: >DD295-268 Data Release Authorized By : _____

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	46.44	46.44	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	64.06	64.06	Ok
70	Less than 2% of mass 69	.34	.54	Ok
127	40-60% of mass 198	52.13	52.13	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	6.33	6.33	Ok
275	10-30% of mass 198	19.00	19.00	Ok
365	Greater than 1% of mass 198	2.00	2.00	Ok
441	0-100% of mass 443	7.20	70.82	Ok
442	Greater than 40% of mass 198	51.27	51.27	Ok
443	17-23% of mass 442	10.17	19.83	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 #1343 >DD296	4/21/89	9:14
95L.S-2A	EA #1178 >DD297		10:16
NL.S-1A	EA #1182 >DD298		11:24
Rinsate Blk (MS)	EA #1184(MS) >DD299		13:05
Rinsate Blk (MSD)	EA #1184(MSD) >DD300		13:55

FORM V

B. Sample Data

U.S. EPA CLP ORGANIC ANALYSIS DATA QUALIFIERS

U Indicates a compound on the target compound list (TCL) was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and, if a soil sample, for percent moisture. For example, 10 U is used for phenol in water if the sample final volume is the protocol-specified final volume. If a 1-to-10 dilution of the extract was necessary, the reported limit is (10 x 10 U) or 100 U. For a soil sample, the value is also adjusted for percent moisture. For example, if the sample had 24% moisture and a 1-to-10 dilution factor, the soil sample quantitation limit for phenol (330 U) would be corrected as follows:

Reported limit = (330 U) x df / D

where: df = dilution factor = 10

D = (100 - % moisture) / 100

At 24% moisture, D = (100-24) / 100 = 0.76

Reported limit = (330 U) x 10 / 0.76 = 4300 U

(rounded to two significant figures)

For soil samples subjected to gel permeation chromatography (GPC) cleanup procedures, the contract required quantiation limit (CRQL) is also multiplied by 2 to account for the fact that only half of the extract is recovered. Note: If GPC procedures are employed, the factor of 2 is not included in the dilution factor reported; a "Y" is entered for GPC (Y/N).

J Indicates an estimated value. This flag is used either when the concentration of a tentatively identified compound (TIC) is estimated assuming a 1:1 response, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3 J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1-to-10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, the concentration is reported as 300 J.

C This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides with concentration equal to or greater than 10 ng/uL in the final extract must be confirmed by GC/MS.

B This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified TCL compound.

E This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag does not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater that full scale, the sample or extract must be diluted and reanalyzed according to the specifications listed in the SOW. All such compounds with a response greater than full scale should have a concentration flagged with an "E" on Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses are reported on separate Forms I. The Form I for the diluted sample will have the "DL" suffix appended to the sample number.
NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak is considered separately; e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak separately exceeds 200 ug/L.

D This flag identifies all compounds identified in the analysis at a secondary dilution factor. If a sample or extract is reanalyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

A This flag indicates that a TIC is a suspected aldol-condensation product.

X Other specific flags may be required to properly define the results. If used, they are fully described and such description attached to the Sample Data Summary Package and the Case Narrative. The flags begin by using "X". If more that one flag is required, "Y" and "Z" are used, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1176 9SL,1A

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/06/89 14:23
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	1200.	U
111-44-4	bis(2-Chloroethyl)ether	1200.	U
95-57-8	2-Chlorophenol	1200.	U
541-73-1	1,3-Dichlorobenzene	1200.	U
106-46-7	1,4-Dichlorobenzene	1200.	U
100-51-6	Benzyl Alcohol	1200.	U
95-50-1	1,2-Dichlorobenzene	1200.	U
95-48-7	2-Methylphenol	1200.	U
39638-32-9	bis(2-Chloroisopropyl)ether	1200.	U
106-44-5	4-Methylphenol	1200.	U
621-64-7	N-Nitroso-Di-n-propylamine	1200.	U
67-72-1	Hexachloroethane	1200.	U
98-95-3	Nitrobenzene	1200.	U
78-59-1	Isophorone	1200.	U
88-75-5	2-Nitrophenol	1200.	U
105-67-9	2,4-Dimethylphenol	1200.	U
65-85-0	Benzoic Acid	170.	J
111-91-1	bis(2-Chloroethoxy)methane	1200.	U
120-83-2	2,4-Dichlorophenol	1200.	U
120-82-1	1,2,4-Trichlorobenzene	1200.	U
91-20-3	Naphthalene	1200.	U
106-47-8	4-Chloroaniline	1200.	U
87-68-3	Hexachlorobutadiene	1200.	U
59-50-7	4-Chloro-3-methylphenol	1200.	U
91-57-6	2-Methylnaphthalene	1200.	U
77-47-4	Hexachlorocyclopentadiene	1200.	U
88-06-2	2,4,6-Trichlorophenol	1200.	U
95-95-4	2,4,5-Trichlorophenol	5900.	U
91-58-7	2-Chloronaphthalene	1200.	U
88-74-4	2-Nitroaniline	5900.	U
131-11-3	Dimethylphthalate	1200.	U
208-96-8	Acenaphthylene	1200.	U
99-09-2	3-Nitroaniline	5900.	U
83-32-9	Acenaphthene	1200.	U
51-28-5	2,4-Dinitrophenol	5900.	U
100-02-7	4-Nitrophenol	5900.	U
132-64-9	Dibenzofuran	1200.	U
121-14-2	2,4-Dinitrotoluene	1200.	U
606-20-2	2,6-Dinitrotoluene	1200.	U
84-66-2	Diethylphthalate	1200.	U
7005-72-3	4-Chlorophenyl-phenylether	1200.	U
86-73-7	Fluorene	1200.	U
100-01-6	4-Nitroaniline	1200.	U
534-52-1	4,6-Dinitro-2-methylphenol	5900.	U
86-30-6	N-Nitrosodiphenylamine (1)	1200.	U
101-55-3	4-Bromophenyl-phenylether	1200.	U
118-74-1	Hexachlorobenzene	1200.	U
87-86-5	Pentachlorophenol	5900.	U
85-01-8	Phenanthrene	500.	J
120-12-7	Anthracene	1200.	U
84-74-2	Di-n-Butyl phthalate	1200.	U
206-44-0	Fluoranthene	920.	J
129-00-0	Pyrene	760.	J
85-68-7	Butylbenzylphthalate	1200.	U
91-94-1	3,3'-Dichlorobenzidine	2400.	U
56-55-3	Benzo(a)Anthracene	460.	J
117-81-7	bis(2-Ethylhexyl)phthalate	1200.	U
218-01-9	Chrysene	520.	J
117-84-0	Di-n-Octyl phthalate	1200.	U
205-99-2	Benzo(b)Fluoranthene	530.	J
207-08-9	Benzo(k)Fluoranthene	320.	J
50-32-8	Benzo(a)Pyrene	470.	J
193-39-5	Indeno(1,2,3-cd)Pyrene	320.	J
53-70-3	Dibenzo(a,h)Anthracene	1200.	U
191-24-2	Benzo(g,h,i)Perylene	330.	J

(1)-Cannot be separated from diphenylamine

Laboratory Name: EA Laboratories.
Case No: Willow Grove

Sample Number
9SL.1A
EA# 1176

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)	
1.	—	Unknown	BNA	5-10	560.00	B
2.	—	Unknown	BNA	29.78	870.00	B
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
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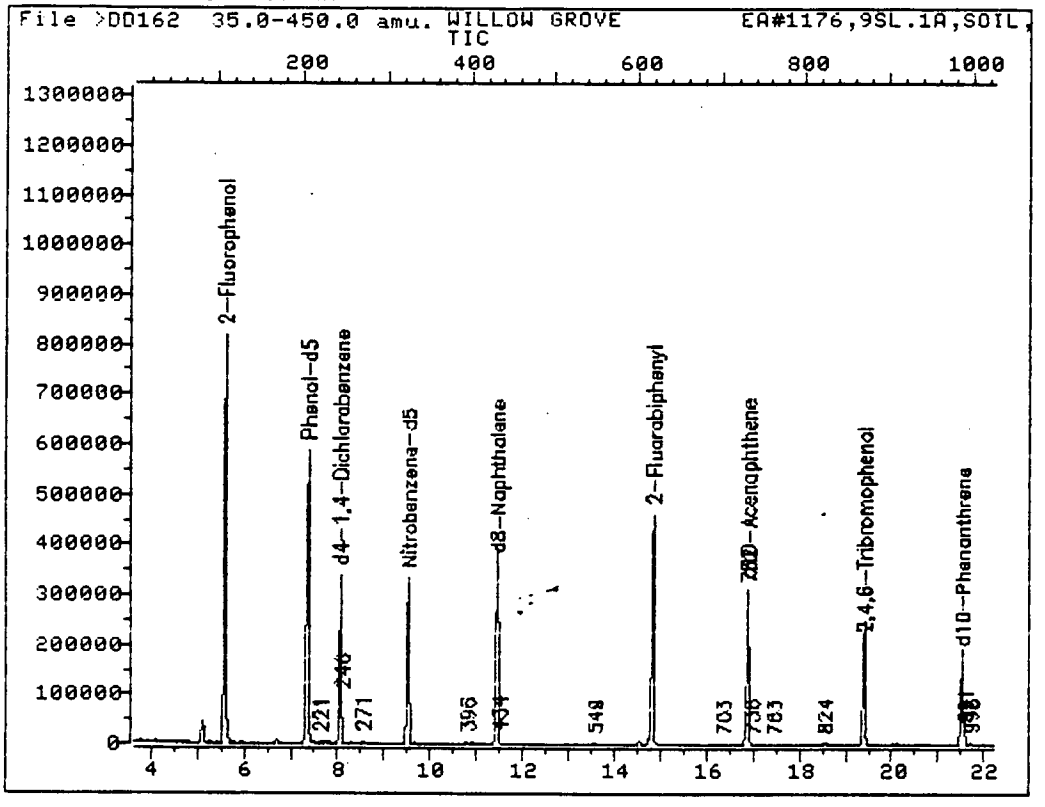
30.						

TOTAL ION CHROMATOGRAM



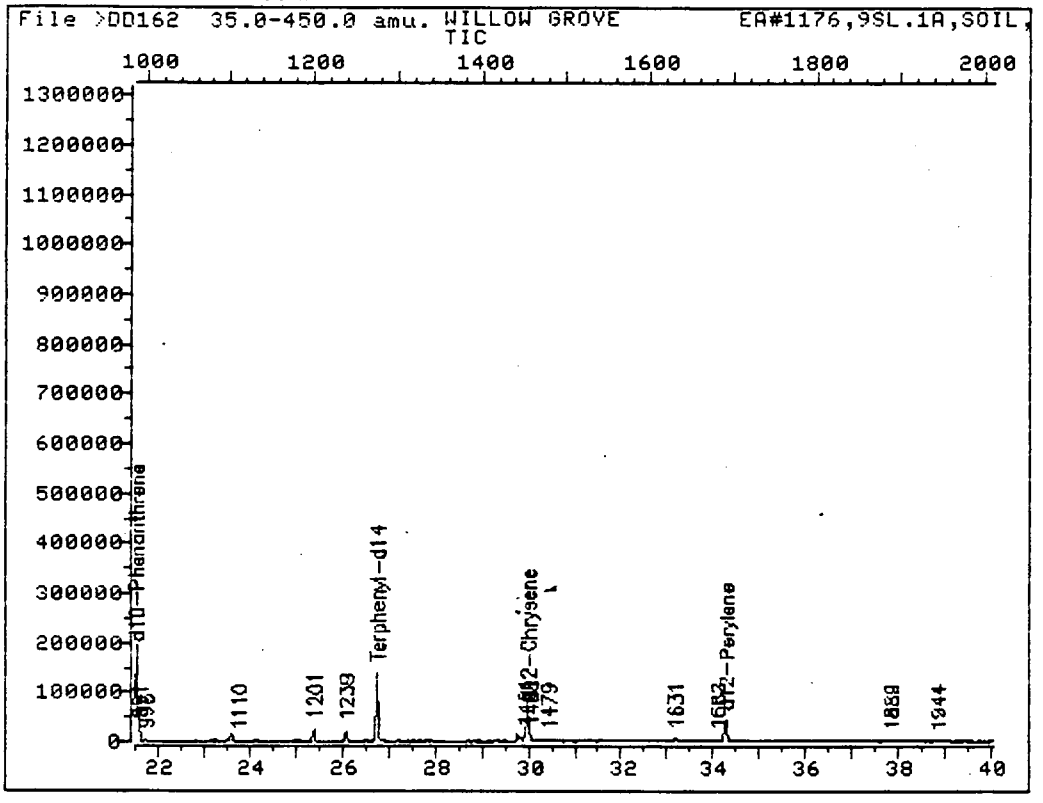
Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL$1A,SOIL,10.05G,1 WILLOW GROVE <99.50> BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890406 14:05

Operator ID: BHADRA
Quant Time: 890406 15:06
Injected at: 890406 14:23

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL-1A,SOIL,10.05G,1 WILLOW GROVE <99.50> BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890406 14:05

Operator ID: BHADRA
Quant Time: 890406 15:06
Injected at: 890406 14:23

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 890406 15:06
Output File: ^DD162::QT Injected at: 890406 14:23
Data File: >DD162::D1 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#1176,9SL#1A,SOIL,10.05G,1 WILLOW GROVE <99.50> BTL#99

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890406 14:05

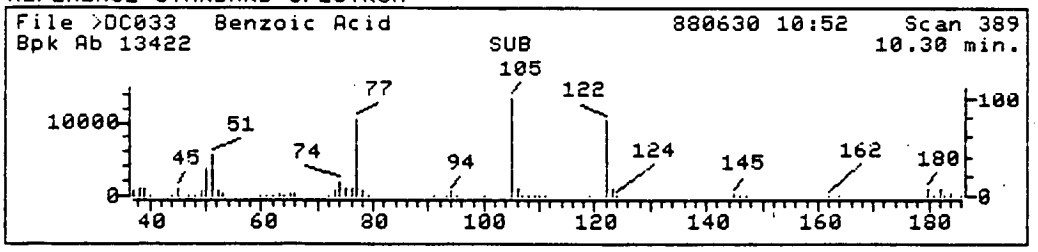
	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*d4-1,4-Dichlorobenzene	8.05	152.0	172226	40.00	NG	
2)	2-Fluorophenol	5.59	112.0	640796	99.83	NG ✓50 %	
3)	Phenol-d5	7.37	99.0	908281	121.33	NG ✓61 %	
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	7.64	128.0	1049	~~.17 NG~~		
7)	1,3-Dichlorobenzene	8.09	146.0	1086	~~.17 NG~~		
8)	1,4-Dichlorobenzene	8.09	146.0	1086	~~.18 NG~~		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	8.54	146.0	2872	~~.47 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	11.44	136.0	597522	40.00	NG	
17)	Nitrobenzene-d5	9.52	82.0	331802	61.45	NG ✓61 %	
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	10.81	122.0	3795	1.47	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	11.50	128.0	4579^	~~.34 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	13.58	142.0	2552	~~.33 NG~~		
31)	*d10-Acenaphthene	16.88	164.0	221949	40.00	NG	
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	14.85	172.0	475854	58.25	NG ✓58 %	
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	16.89	163.0	73329	~~9.33 NG~~		
39)	Acenaphthylene	16.37	152.0	1117	~~.11 NG~~		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	16.97	153.0	1097	~~<17 NG~~		
42)	2,4-Dinitroph nol	0.00	184.0	0	0.00	NG	

Output File:^DD162:: Data File:>DD162::D1

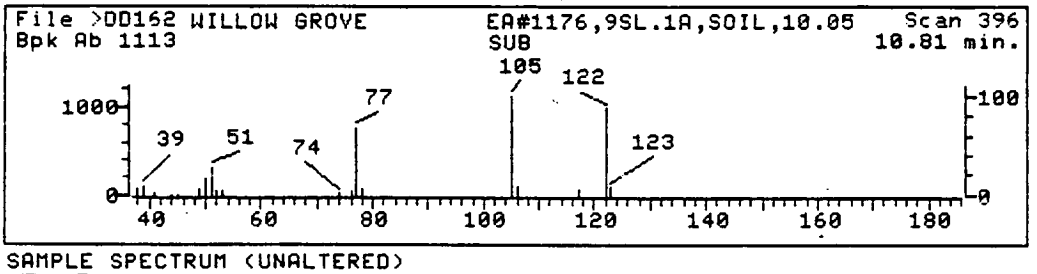
	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	17.46	168.0	1597	.19	NG	9
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	0.00	149.0	0	0.00	NG	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	18.56	166.0	1797	~~.32~~	~~NG~~	9
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	21.51	188.0	240187	40.00	NG	9
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	19.39	329.9	84596	144.25	NG ~~726~~	9
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	21.59	178.0	25341	4.22	NG	9
59)	Anthracene	21.71	178.0	4607	~~.78~~	~~NG~~	9
60)	Di-n-Butyl phthalate	23.74	149.0	1415	~~.15~~	~~NG~~	9
61)	Fluoranthene	25.39	202.0	32757	7.82	NG	9
62)	*d12-Chrysene	29.98	240.0	65629	40.00	NG	9
63)	Pyrene	26.08	202.0	25534	6.42	NG	8
64)	T rphenyl-d14	26.73	244.0	150830	57.72	NG ~~586~~	9
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	29.92	228.0	7918	3.91	NG	9
68)	bis(2-Ethylhexyl)phthalate	30.43	149.0	1567	~~.51~~	~~NG~~	9
69)	Chrysene	30.05	228.0	7936	4.41	NG	9
70)	*d12-Perylene	34.29	264.0	56472	40.00	NG	9
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG	
72)	Benzo(b)Fluoranthene	33.18	252.0	6641	4.50	NG	9
73)	Benzo(k)Fluoranthene	33.22	252.0	4462M	2.75	NG	8
74)	Benzo(a)Pyrene	34.11	252.0	5561	4.01	NG	9
75)	Indeno(1,2,3-cd)Pyrene	37.86	276.0	3262	2.67	NG	9
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	Benzo(g,h,i)Perylene	38.85	276.0	2793	2.78	NG	8

* Compound is ISTD

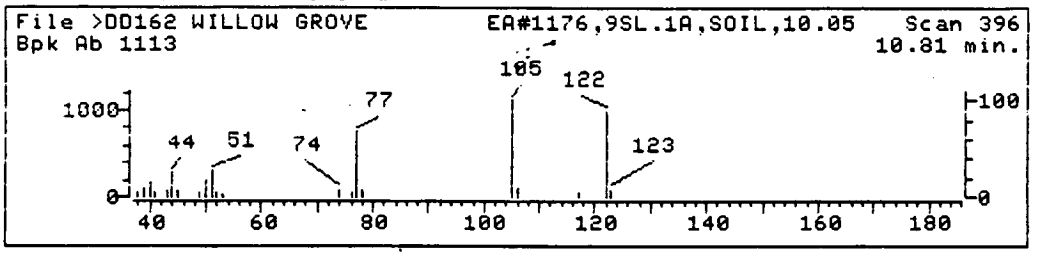
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >DD162::D1 Quant Output File: ^DD162::QT
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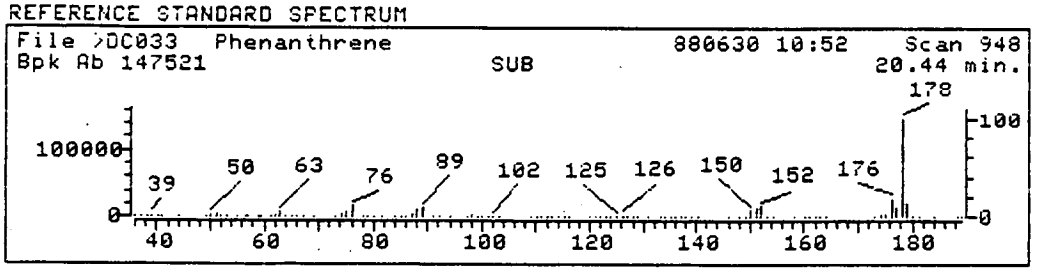
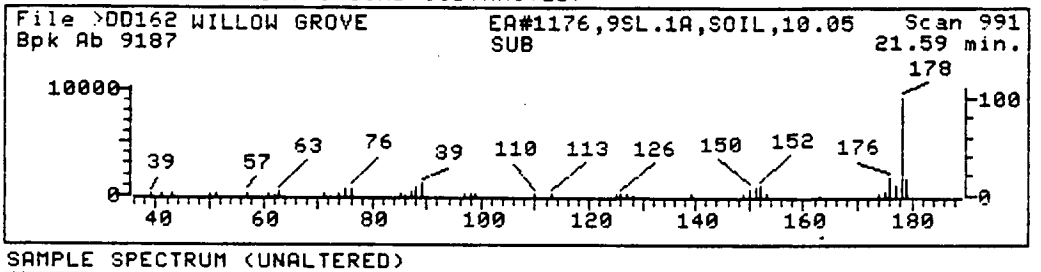
Misc: EA#1176,9SL-1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 22
Compound Name: Benzoic Acid
Scan Number: 396
Retention Time: 10.81 min.
Quant Ion: 122.0
Area: 3795
Concentration: 1.47 NG
q-value: 88

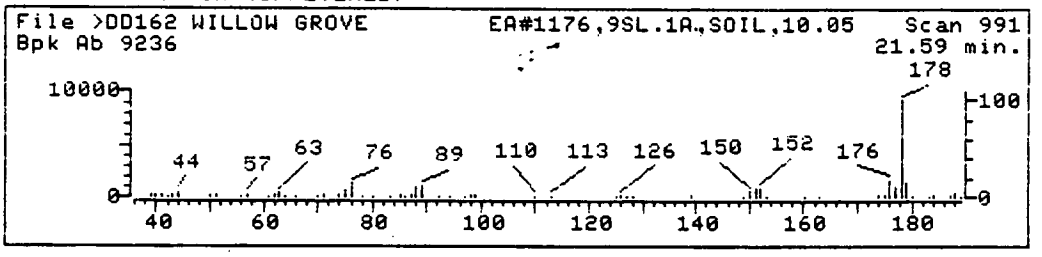
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



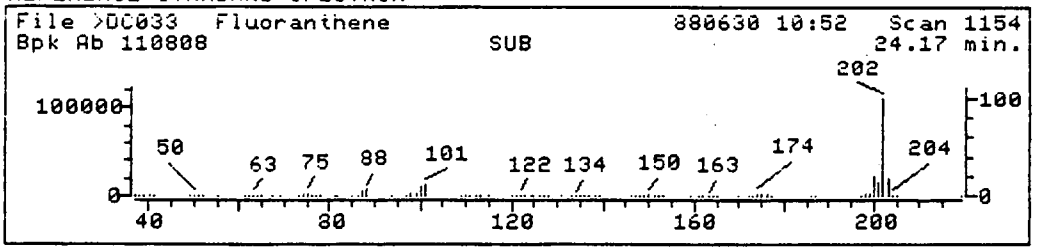
SAMPLE SPECTRUM (UNALTERED)



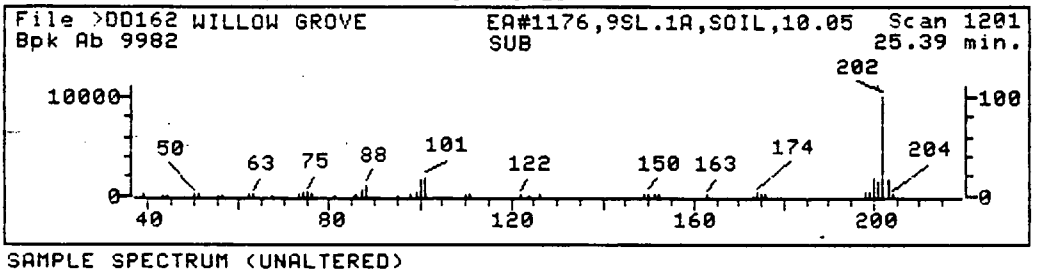
Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL$1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 991
Retention Time: 21.59 min.
Quant Ion: 178.0
Area: 25341
Concentration: 4.22 NG
q-value: 98

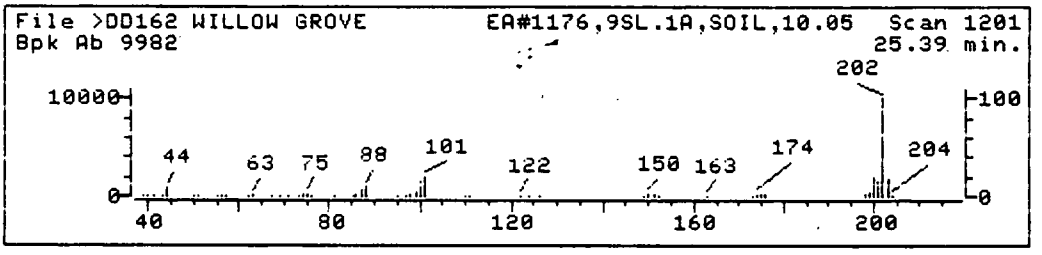
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



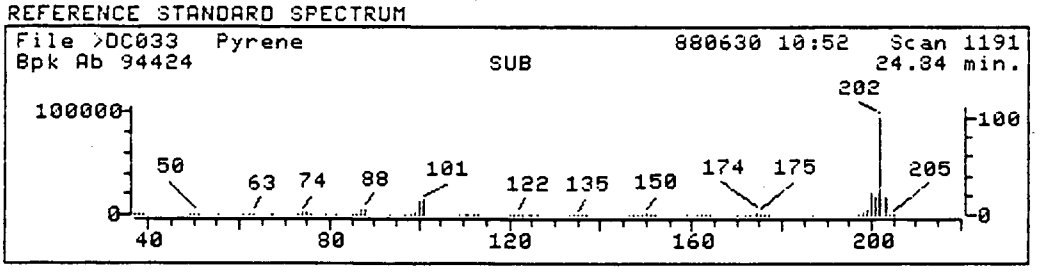
SAMPLE SPECTRUM (UNALTERED)



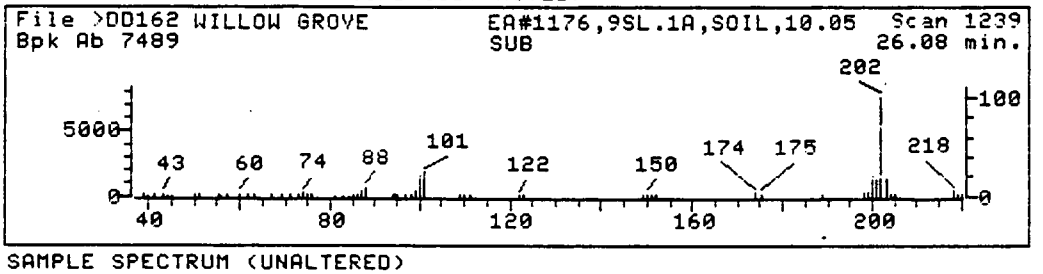
Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL#1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1201
Retention Time: 25.39 min.
Quant Ion: 202.0
Area: 32757
Concentration: 7.82 NG
q-value: 97

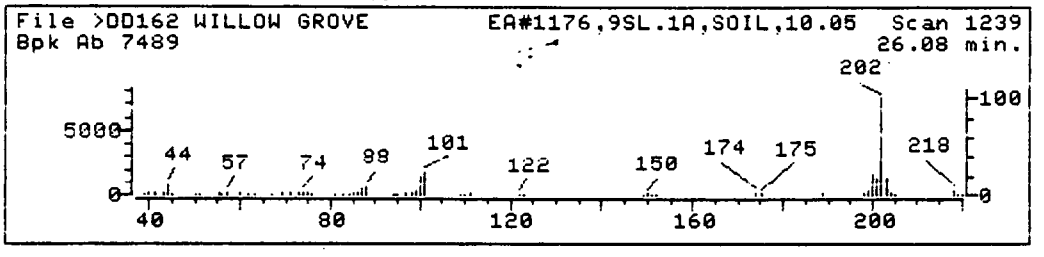
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



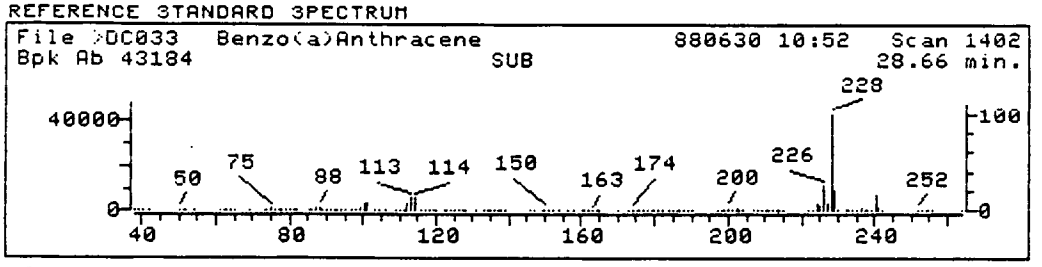
SAMPLE SPECTRUM (UNALTERED)



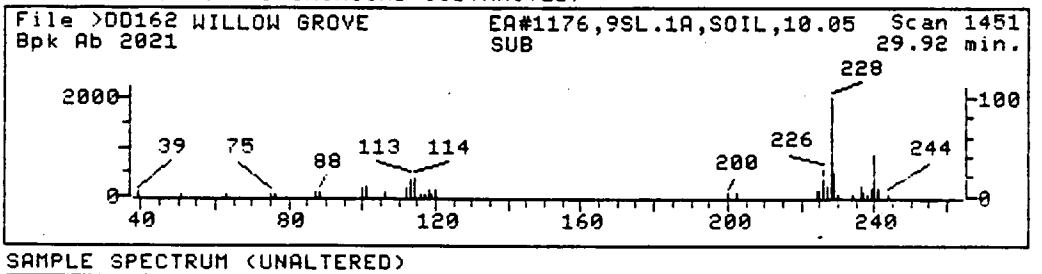
Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL#1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 63
Compound Name: Pyrene
Scan Number: 1239
Retention Time: 26.08 min.
Quant Ion: 202.0
Area: 25534
Concentration: 6.42 NG
q-value: 89

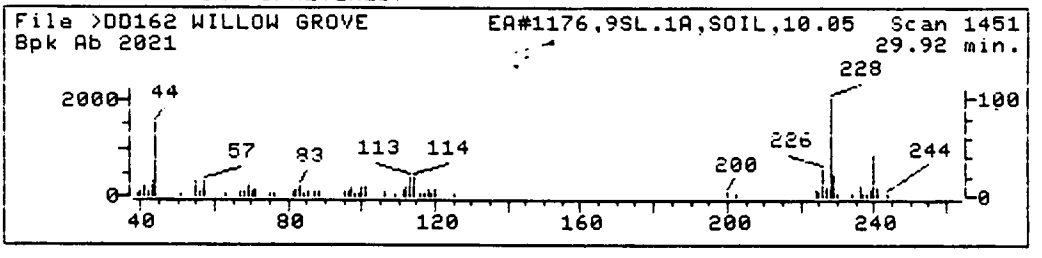
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



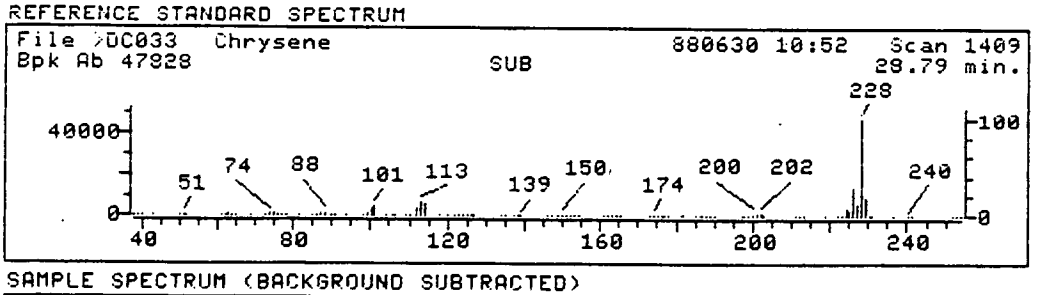
SAMPLE SPECTRUM (UNALTERED)



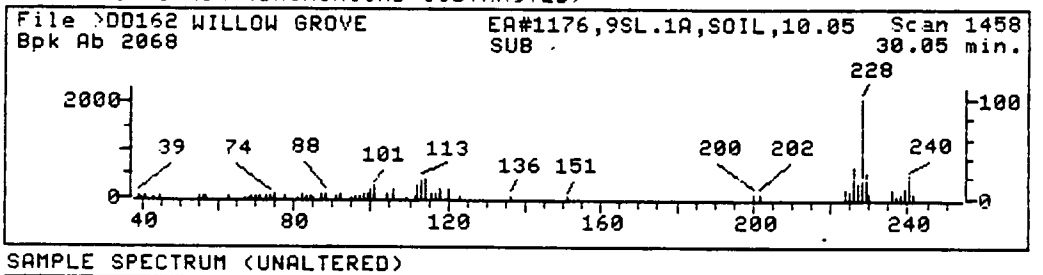
Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL>1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1451
Retention Time: 29.92 min.
Quant Ion: 228.0
Area: 7918
Concentration: 3.91 NG
q-value: 98

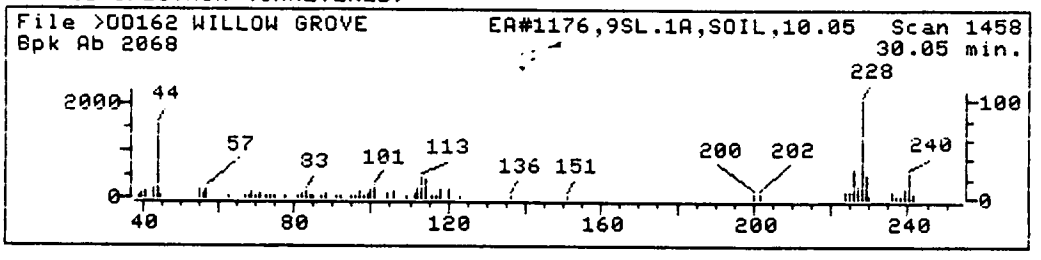
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



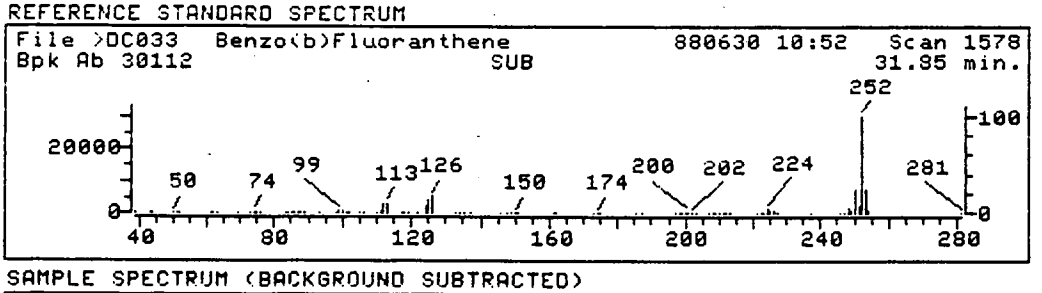
SAMPLE SPECTRUM (UNALTERED)



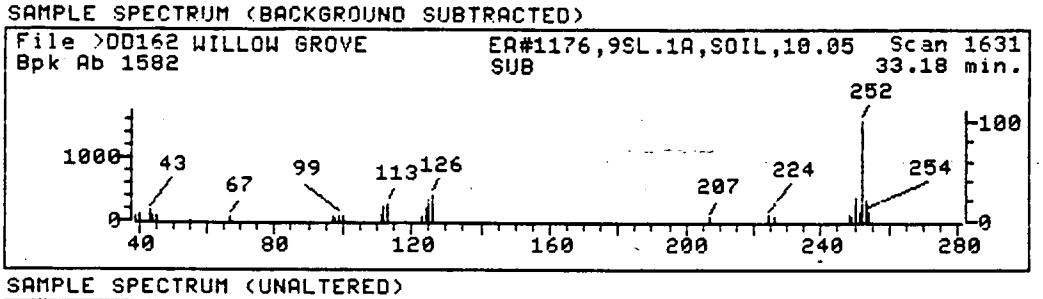
Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL-1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 69
Compound Name: Chrysene
Scan Number: 1458
Retention Time: 30.05 min.
Quant Ion: 228.0
Area: 7936
Concentration: 4.41 NG
q-value: 98

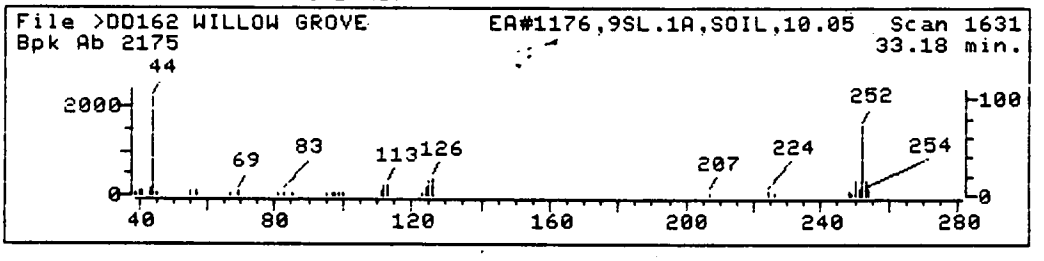
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



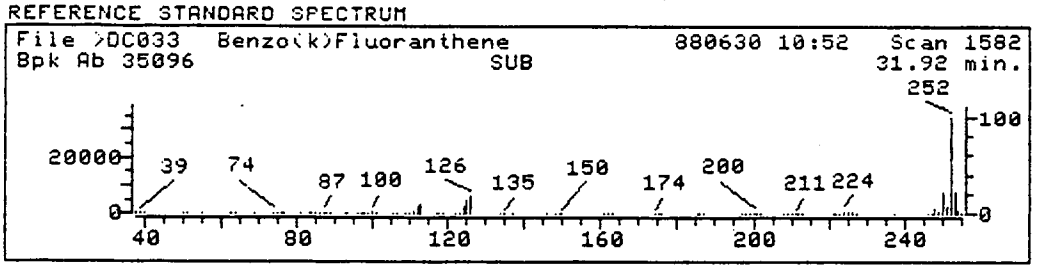
SAMPLE SPECTRUM (UNALTERED)



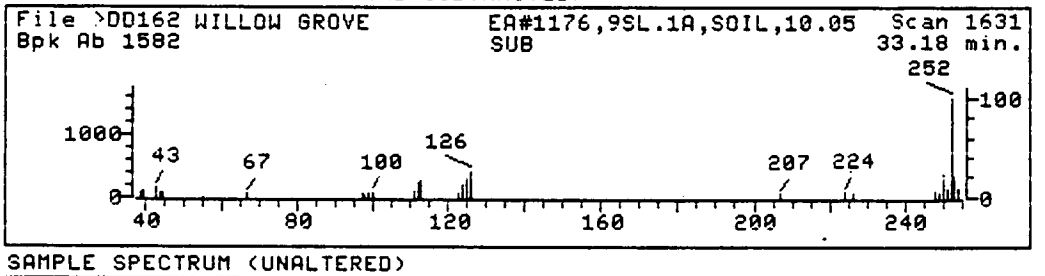
Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL$-1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1631
Retention Time: 33.18 min.
Quant Ion: 252.0
Area: 6641
Concentration: 4.50 NG
q-value: 92

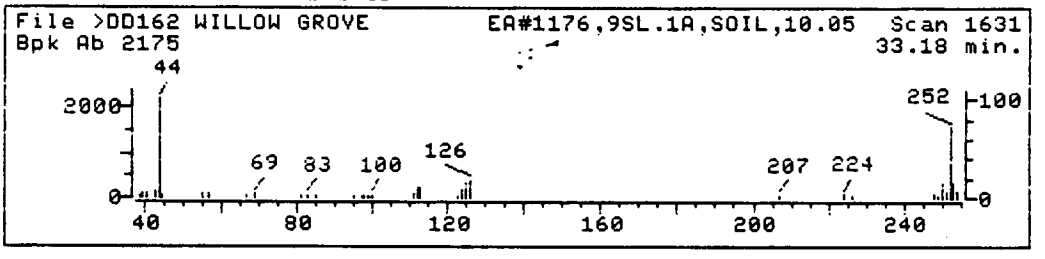
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



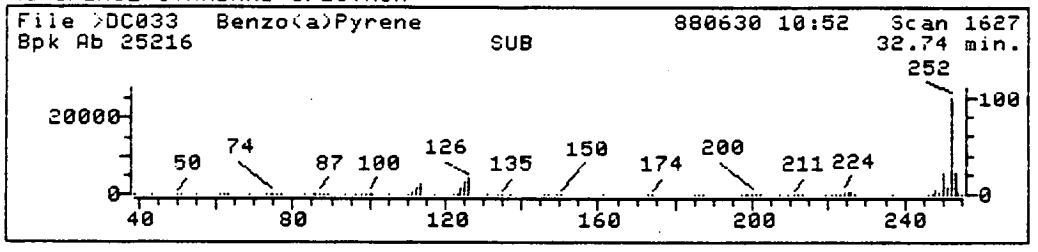
SAMPLE SPECTRUM (UNALTERED)



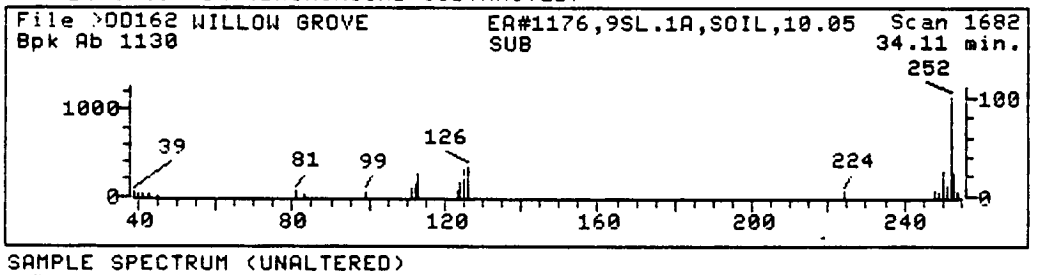
Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL~~$~~1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1631
Retention Time: 33.22 min.
Quant Ion: 252.0
Area: ~~6641~~ 4462
Concentration: 2.75 NG
q-value: 89

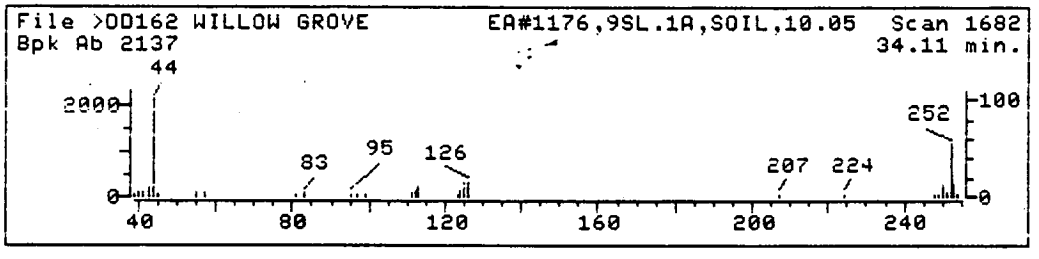
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

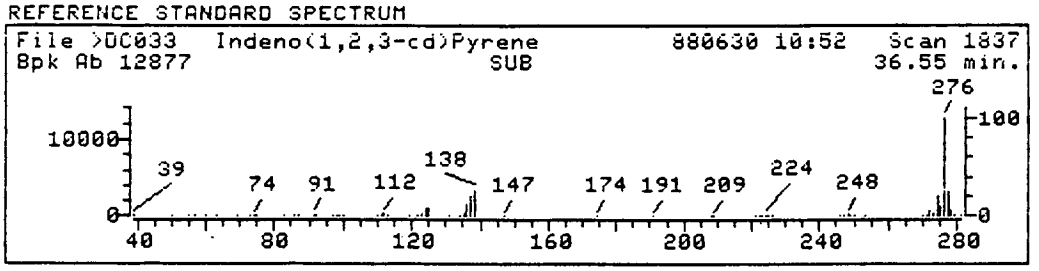


Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL$1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

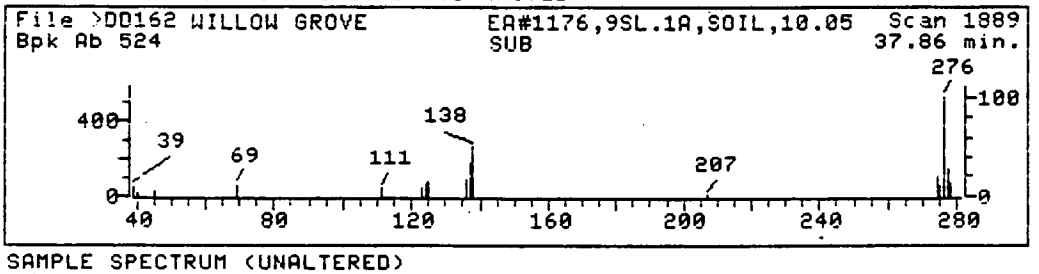
Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1682
Retention Time: 34.11 min.
Quant Ion: 252.0
Area: 5561
Concentration: 4.01 NG
q-value: 90

✓

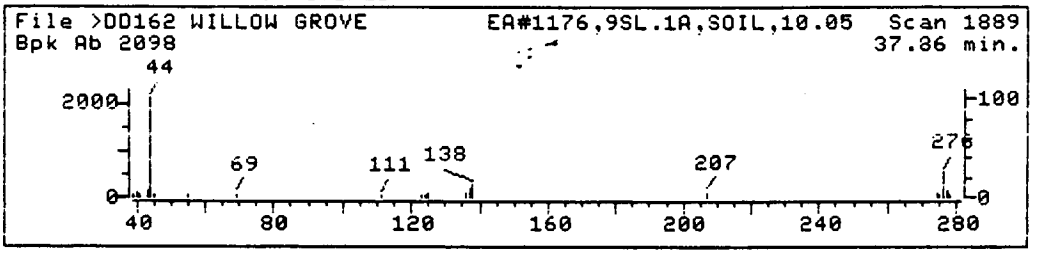
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



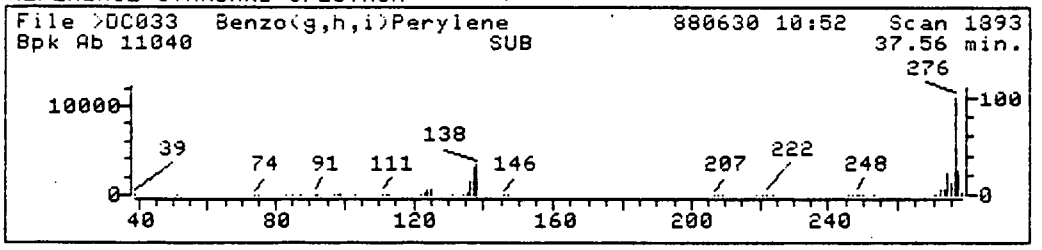
SAMPLE SPECTRUM (UNALTERED)



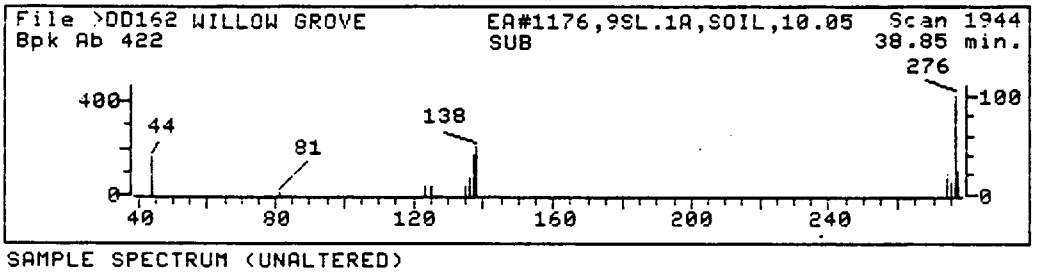
Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL$-1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1889
Retention Time: 37.86 min.
Quant Ion: 276.0
Area: 3262
Concentration: 2.67 NG
q-value: 94

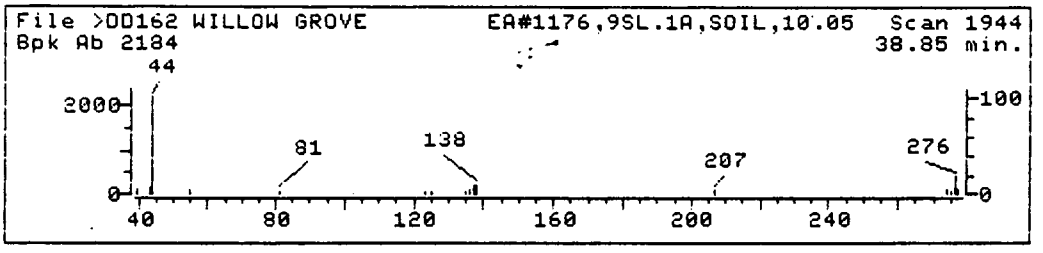
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

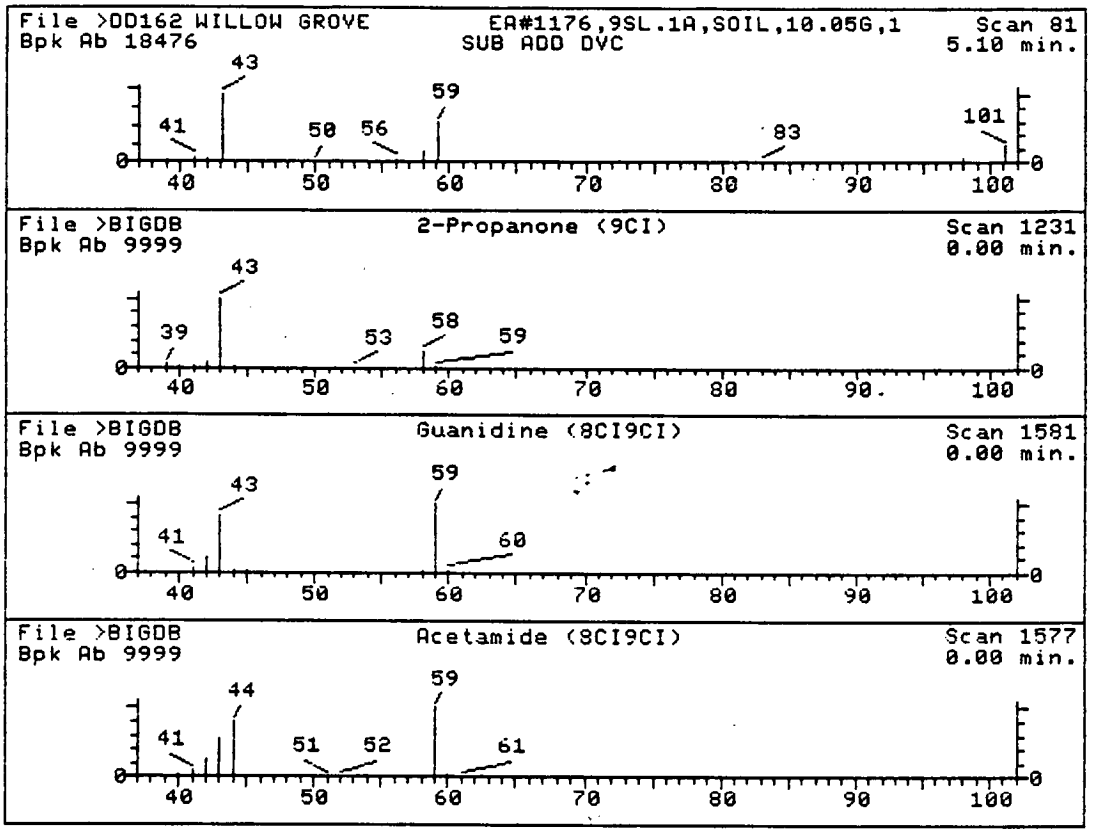


SAMPLE SPECTRUM (UNALTERED)



Data File: >DD162::D1 Quant Output File: ^DD162::QT
Name: WILLOW GROVE
Misc: EA#1176,9SL$-1A,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL#99
Quant Time: 890406 15:06 Quant ID File: IDDCLP::BD
Injected at: 890406 14:23 Last Calibration: 890406 14:05

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1944
Retention Time: 38.85 min.
Quant Ion: 276.0
Area: 2793
Concentration: 2.78 NG
q-value: 86



Unknown

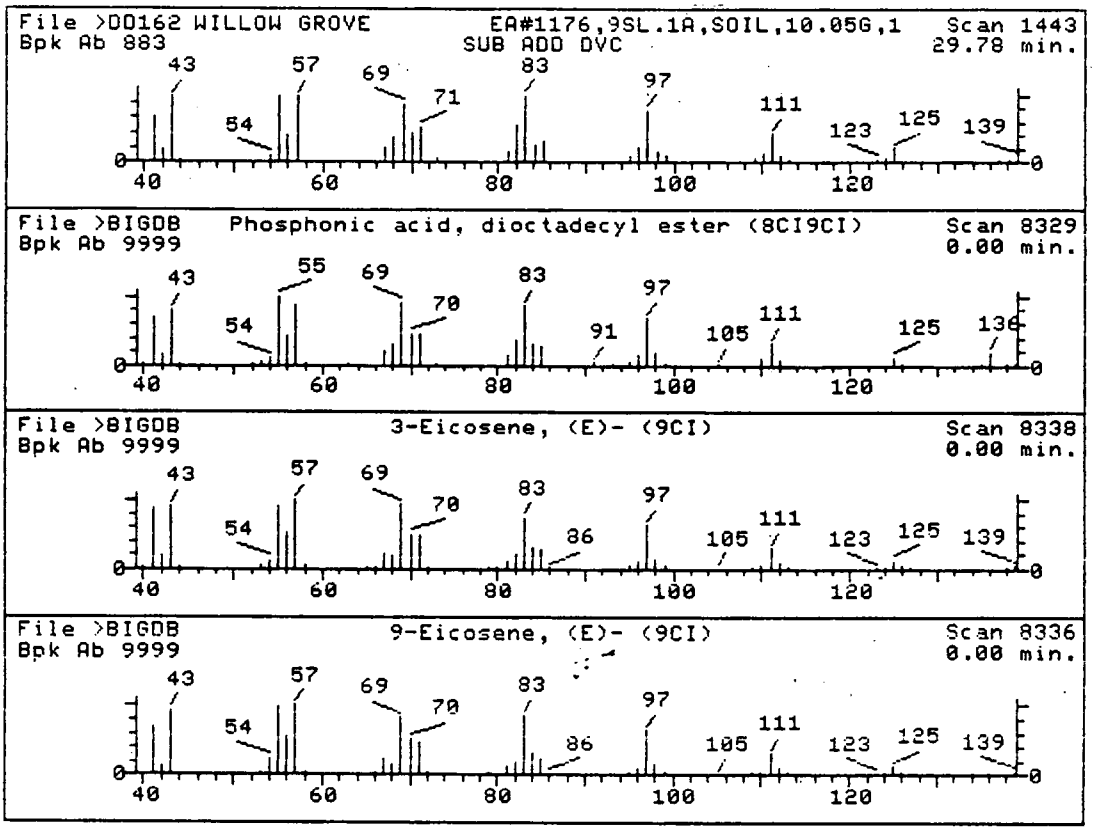
Retention time = 5.10

Area = 140863.0 Tentative Concentration is 560.00

1.	2-Propanone (9CI)	58 C3H6O
2.	Guanidine (8CI9CI)	59 CH5N3
3.	Acetamide (8CI9CI)	59 C2H5NO

Sample file: >DD162 Spectrum #: 81
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	30*	67641	1231	"BIGDB	25	46	0	0	67	44	8	1
2.	25*	113008	1581	"BIGDB	20	47	1	0	58	49	7	1
3.	11*	60355	1577	"BIGDB	20	55	2	0	58	62	2	1



Retention time = 29.78 unknown

Area = 61386.00 Tentative Concentration is 870.00

1.	Phosphonic acid, dioctadecyl ester (8CI9CI)	586 C36H7503P
2.	3-Eicosene, (E)- (9CI)	280 C20H40
3.	9-Eicosene, (E)- (9CI)	280 C20H40
4.	5-Eicosene, (E)- (9CI)	280 C20H40
5.	1-Dotriacontanol (8CI9CI)	466 C32H660
6.	17-Pentatriacontene (8CI)	490 C35H70
7.	Cyclohexane, isocyanato- (9CI)	125 C7H11NO

Sample file: >DD162 Spectrum #: 1443
Search speed: 2 Tilting option: S No. of ion ranges searched: 53

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	86	19047859	8329	"BIGDB	147	53	2	0	91	19	50	8
2.	84	74685339	8338	"BIGDB	139	27	2	-2	70	9	55	6
3.	76	74685293	8336	"BIGDB	116	54	3	-3	66	9	45	2
4.	74	74685306	8337	"BIGDB	116	39	2	-2	86	14	39	4
5.	74	6624799	8333	"BIGDB	118	63	2	-2	86	12	39	4
6.	25	6971400	8334	"BIGDB	75	96	2	0	120	47	7	1
7.	20*	3173533	8294	"BIGDB	35	79	3	0	57	55	5	1

LIBRARY SEARCH SUMMARY

MS Data File:>DD162::D1 Analyst:BHADRA MS

Name:WILLOW GROVE Date/Time: 4/06/89 14:23
Misc:EA#1176,9SL.1A,SOIL,10.05G,1 WILLOW GROVE ?99.50? BTL#99

Th following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Nearest ISTD Area
1	5.10	140863	99570
2	29.78	61386	27954

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1177 9SL,S-11B

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/06/89 16:56
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	1200.	U
111-44-4	bis(2-Chloroethyl)ether	1200.	U
95-57-8	2-Chlorophenol	1200.	U
541-73-1	1,3-Dichlorobenzene	1200.	U
106-46-7	1,4-Dichlorobenzene	1200.	U
100-51-6	Benzyl Alcohol	1200.	U
95-50-1	1,2-Dichlorobenzene	1200.	U
95-48-7	2-Methylphenol	1200.	U
39638-32-9	bis(2-Chloroisopropyl)ether	1200.	U
106-44-5	4-Methylphenol	1200.	U
621-64-7	N-Nitroso-Di-n-propylamine	1200.	U
67-72-1	Hexachloroethane	1200.	U
98-95-3	Nitrobenzene	1200.	U
78-59-1	Isophorone	1200.	U
88-75-5	2-Nitrophenol	1200.	U
105-67-9	2,4-Dimethylphenol	1200.	U
65-85-0	Benzoic Acid	5800.	U
111-91-1	bis(2-Chloroethoxy)methane	1200.	U
120-83-2	2,4-Dichlorophenol	1200.	U
120-82-1	1,2,4-Trichlorobenzene	1200.	U
91-20-3	Naphthalene	170.	J
106-47-8	4-Chloroaniline	1200.	U
87-68-3	Hexachlorobutadiene	1200.	U
59-50-7	4-Chloro-3-methylphenol	1200.	U
91-57-6	2-Methylnaphthalene	130.	J
77-47-4	Hexachlorocyclopentadiene	1200.	U
88-06-2	2,4,6-Trichlorophenol	1200.	U
95-95-4	2,4,5-Trichlorophenol	5800.	U
91-58-7	2-Chloronaphthalene	1200.	U
88-74-4	2-Nitroaniline	5800.	U
131-11-3	Dimethylphthalate	1200.	U
208-96-8	Acenaphthylene	1200.	U
99-09-2	3-Nitroaniline	5800.	U

C.A.S. Number		ug/L or (ug/Kg) (Circle One)	
83-32-9	Acenaphthene	250.	J
51-28-5	2,4-Dinitrophenol	5800.	U
100-02-7	4-Nitrophenol	5800.	U
132-64-9	Dibenzofuran	1200.	U
121-14-2	2,4-Dinitrotoluene	1200.	U
606-20-2	2,6-Dinitrotoluene	1200.	U
84-66-2	Diethylphthalate	1200.	U
7005-72-3	4-Chlorophenyl-phenylether	1200.	U
86-73-7	Fluorene	180.	J
100-01-6	4-Nitroaniline	1200.	U
534-52-1	4,6-Dinitro-2-methylphenol	5800.	U
86-30-6	N-Nitrosodiphenylamine (1)	1200.	U
101-55-3	4-Bromophenyl-phenylether	1200.	U
118-74-1	Hexachlorobenzene	1200.	U
87-86-5	Pentachlorophenol	5800.	U
85-01-8	Phenanthrene	1700.	
120-12-7	Anthracene	390.	J
84-74-2	Di-n-Butyl phthalate	1200.	U
206-44-0	Fluoranthene	2600.	
129-00-0	Pyrene	2000.	
85-68-7	Butylbenzylphthalate	1200.	U
91-94-1	3,3'-Dichlorobenzidine	2300.	U
56-55-3	Benzo(a)Anthracene	1400.	
117-81-7	bis(2-Ethylhexyl)phthalate	1200.	U
218-01-9	Chrysene	1400.	
117-84-0	Di-n-Octyl phthalate	1200.	U
205-99-2	Benzo(b)Fluoranthene	1800.	
207-08-9	Benzo(k)Fluoranthene	840.	J
50-32-8	Benzo(a)Pyrene	1300.	
193-39-5	Indeno(1,2,3-cd)Pyrene	1000.	J
53-70-3	Dibenzo(a,h)Anthracene	480.	J
191-24-2	Benzo(g,h,i)Perylene	1100.	J

(1)-Cannot be separated from diphenylamine

Laboratory Name: EA Laboratories.
Case No: Willow Grove

Sample Number
95L. S-1B
EA # 1177

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)	
1.	—	Unknown	BNA	5.08	590.00	B
2.	388	Dieldrin	BNA	26.86	430.00	
3.	19047859	Phosphonic acid, dioctadecyl esta	BNA	29.78	940.00	B
4.	—	Unknown	BNA	33.99	660.00	
5.						
6.						
7.						
8.						
9.						
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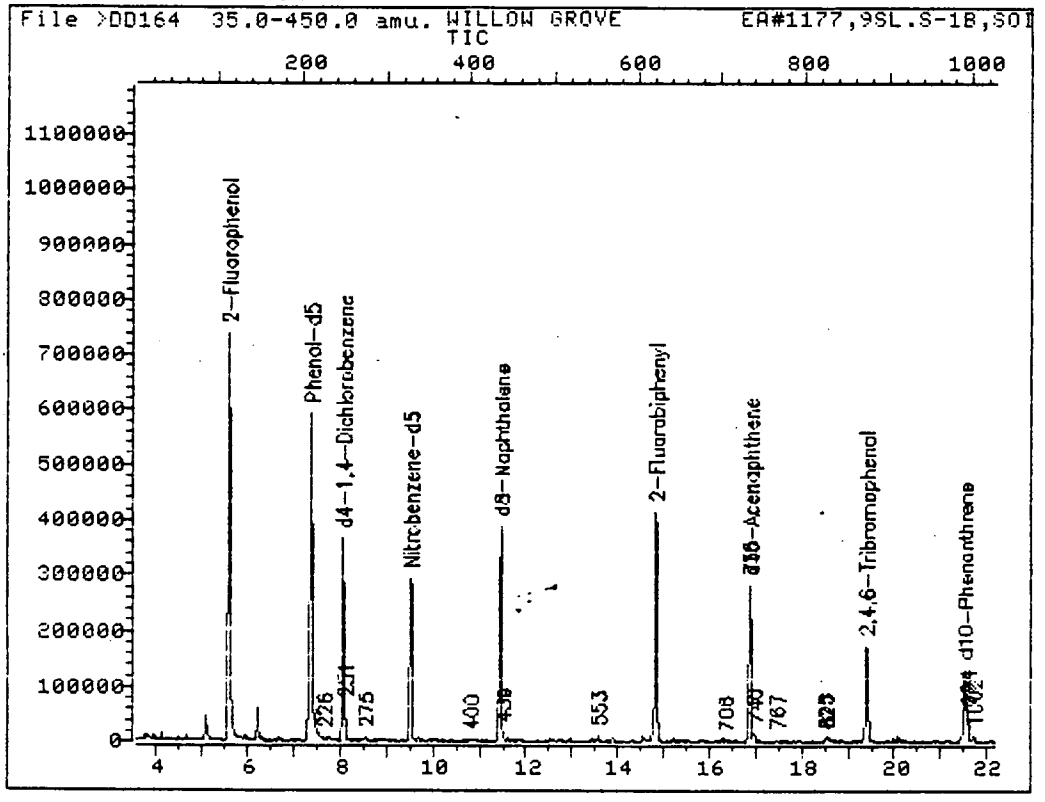
29.						
30.						

TOTAL ION CHROMATOGRAM



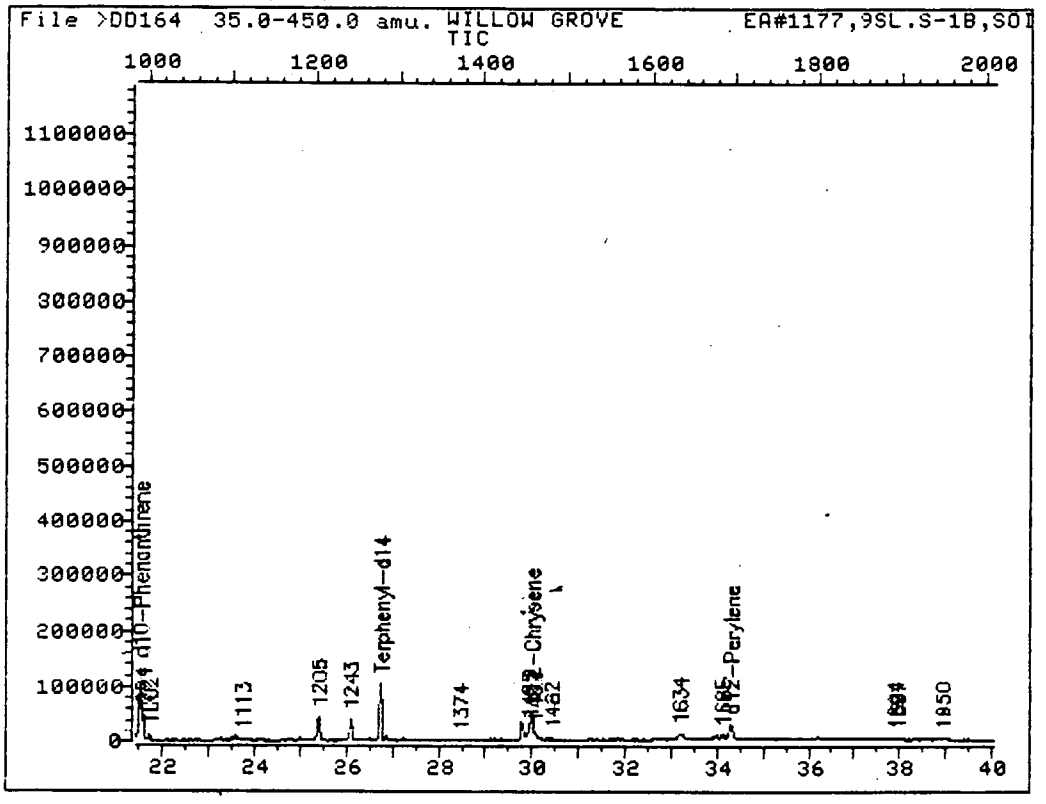
Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890406 14:05

Operator ID: BHADRA
Quant Time: 890406 17:40
Injected at: 890406 16:56

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE <99.10> BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890406 14:05

Operator ID: BHADRA
Quant Time: 890406 17:40
Injected at: 890406 16:56

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 890406 17:40
Output File: ^DD164::QT Injected at: 890406 16:56
Data File: >DD164::D1 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890406 14:05

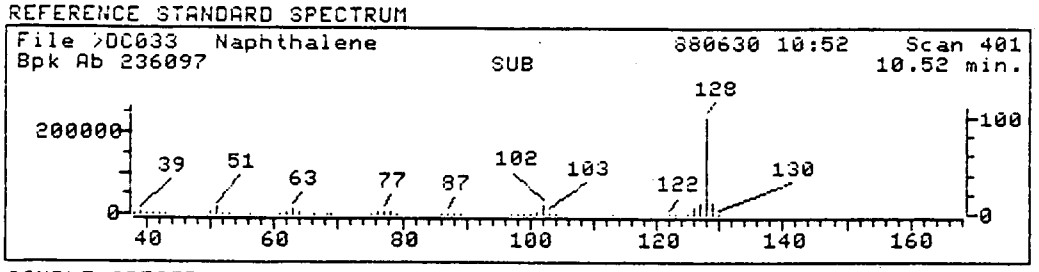
	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*d4-1,4-Dichlorobenzene	8.07	152.0	167045	40.00	NG	
2)	2-Fluorophenol	5.58	112.0	728161	116.96	NG	58%
3)	Phenol-d5	7.38	99.0	915425	126.08	NG	63%
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	7.65	128.0	1030	~~.17~~	~~NG~~	
7)	1,3-Dichlorobenzene	8.10	146.0	4605	~~.23~~	~~NG~~	
8)	1,4-Dichlorobenzene	8.10	146.0	4605	~~.28~~	~~NG~~	
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	8.54	146.0	4544	~~.27~~	~~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	11.46	136.0	551995	40.00	NG	
17)	Nitrobenzene-d5	9.52	82.0	326069	65.37	NG	65%
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	10.81	122.0	2231	~~.93~~	~~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	11.51	128.0	18093	1.44	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	13.58	142.0	8059	1.13	NG	
31)	*d10-Acenaphthene	16.88	164.0	178914	40.00	NG	
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	14.83	172.0	446755	67.84	NG	68%
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	16.88	163.0	57282	~~9.04~~	~~NG~~	
39)	Acenaphthylene	16.36	152.0	1977	~~.23~~	~~NG~~	
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	16.97	153.0	11045	2.13	NG	
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

Output File:^DD164:: Data File:>DD164::D1

	Compound	R.T.	Q ion	Area	Conc	Units
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG
44)	Dibenzofuran	17.46	168.0	6237	~~<.92~~	~~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	18.51	149.0	976	~~.18~~	~~NG~~
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG
49)	Fluorene	18.55	166.0	7073	1.57	NG ✓
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG
51)	*d10-Phenanthrene	21.52	188.0	158474	40.00	NG
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	19.40	329.9	64228	165.99	NG ✓ 83%
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	21.58	178.0	56930	14.37	NG ✓
59)	Anthracene	21.72	178.0	13206	3.37	NG ✓
60)	Di-n-Butyl phthalate	23.74	149.0	2255	~~.37~~	~~NG~~
61)	Fluoranthene	25.41	202.0	62160	22.50	NG ✓
62)	*d12-Chrysene	30.00	240.0	48383	40.00	NG
63)	Pyrene	26.10	202.0	49392	16.84	NG ✓
64)	Terphenyl-d14	26.75	244.0	119357	61.96	NG ✓ 62%
65)	Butylbenzylphthalate	28.47	149.0	638	~~.41~~	~~NG~~
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	NG
67)	Benzo(a)Anthracene	29.94	228.0	17985	12.04	NG ✓
68)	bis(2-Ethylhexyl)phthalate	30.43	149.0	1702	~~.25~~	~~NG~~
69)	Chrysene	30.07	228.0	15965	12.03	NG ✓
70)	*d12-Perylene	34.30	264.0	40746	40.00	NG
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG
72)	Benzo(b)Fluoranthene	33.19	252.0	16220M	15.22	NG ✓
73)	Benzo(k)Fluoranthene	33.25	252.0	8419M	7.19	NG ✓
74)	Benzo(a)Pyrene	34.12	252.0	11133	11.13	NG ✓
75)	Indeno(1,2,3-cd)Pyrene	37.92	276.0	7717	8.75	NG ✓
76)	Dibenzo(a,h)Anthracene	37.97	278.0	2730	4.13	NG ✓
77)	Benzo(g,h,i)Perylene	38.93	276.0	6807	9.40	NG ✓

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



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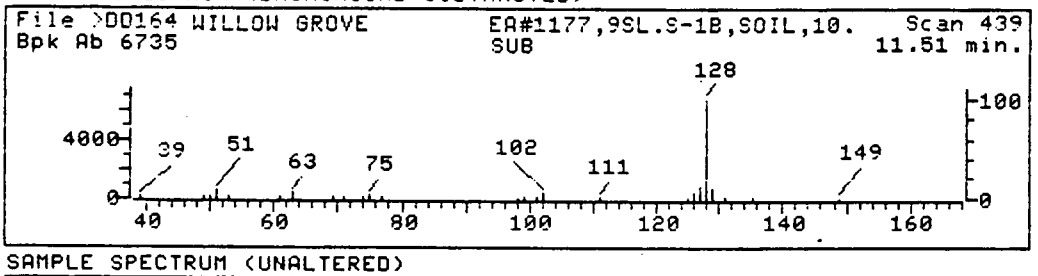

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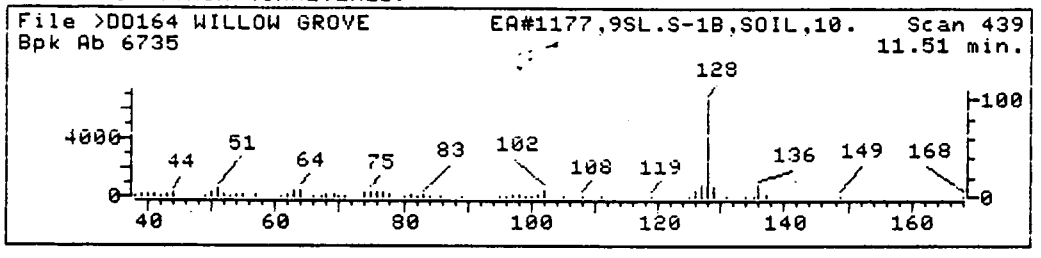
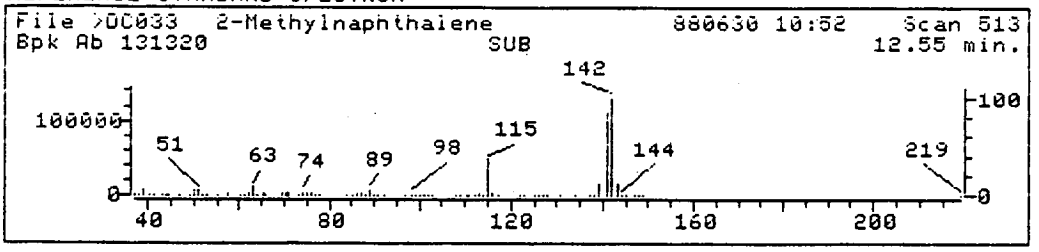


Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 26
Compound Name: Naphthalene
Scan Number: 439
Retention Time: 11.51 min.
Quant Ion: 128.0
Area: 18093
Concentration: 1.44 NG
q-value: 95

REFERENCE STANDARD SPECTRUM



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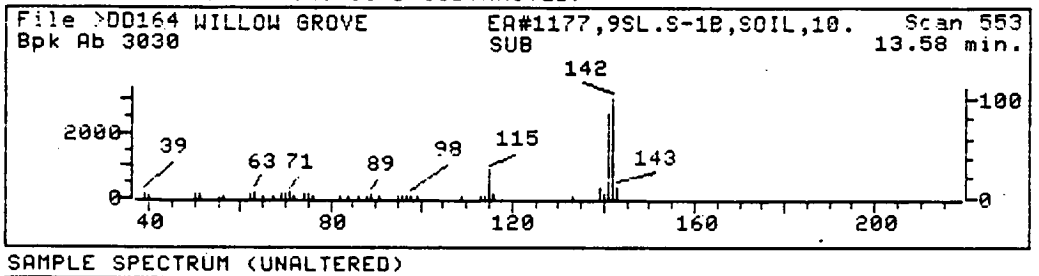

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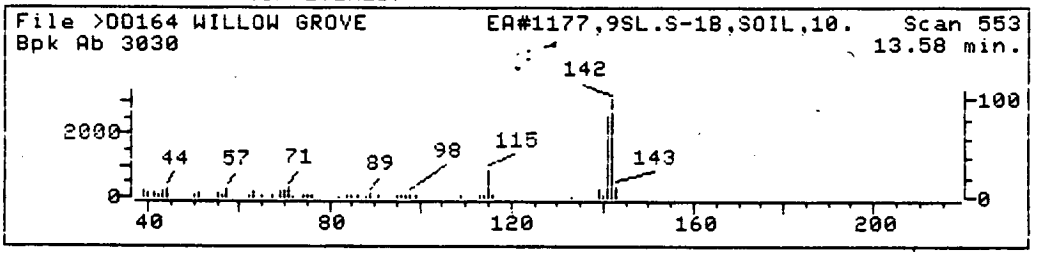

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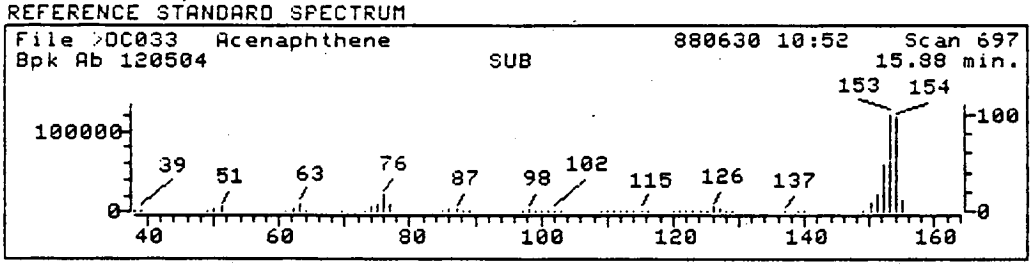
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::8D
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 30
Compound Name: 2-Methylnaphthalene
Scan Number: 553
Retention Time: 13.58 min.
Quant Ion: 142.0
Area: 8059
Concentration: 1.13 NG
q-value: 94

✓

REFERENCE STANDARD SPECTRUM



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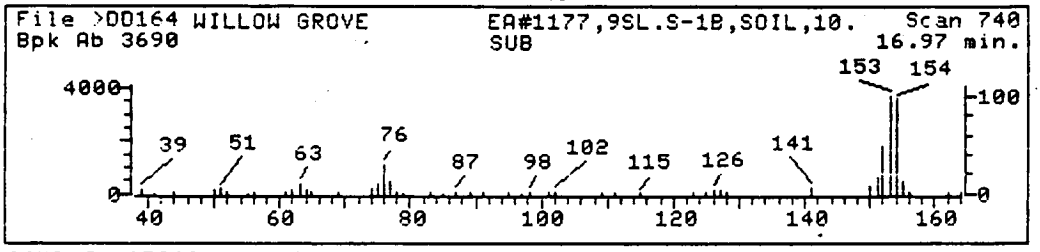

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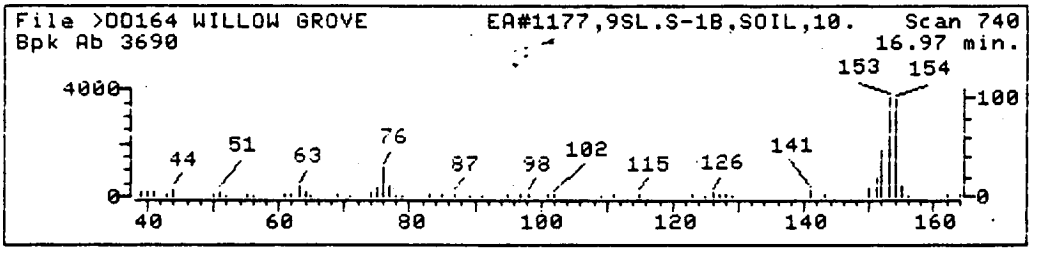

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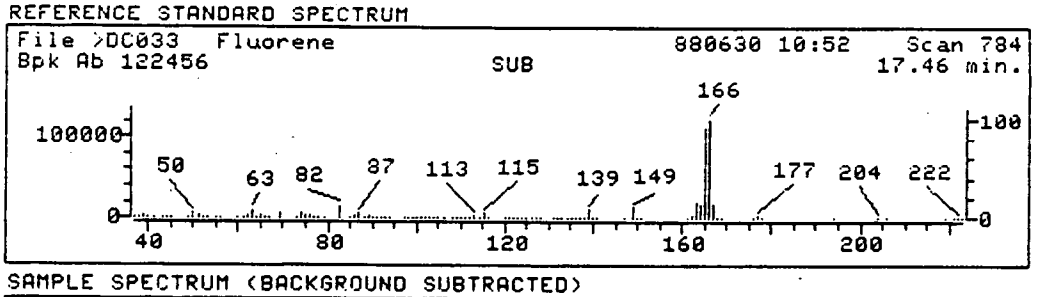
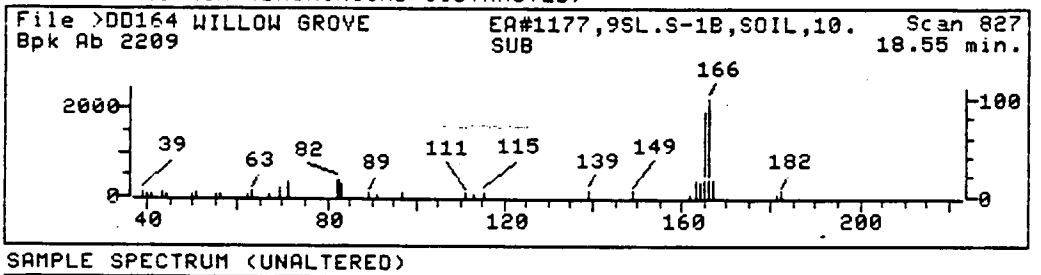
Misc: EA#1177,9SL.S-1B,SOIL,10.09G;1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 41
Compound Name: Acenaphthene
Scan Number: 740
Retention Time: 16.97 min.
Quant Ion: 153.0
Area: 11045
Concentration: 2.13 NG
q-value: 91

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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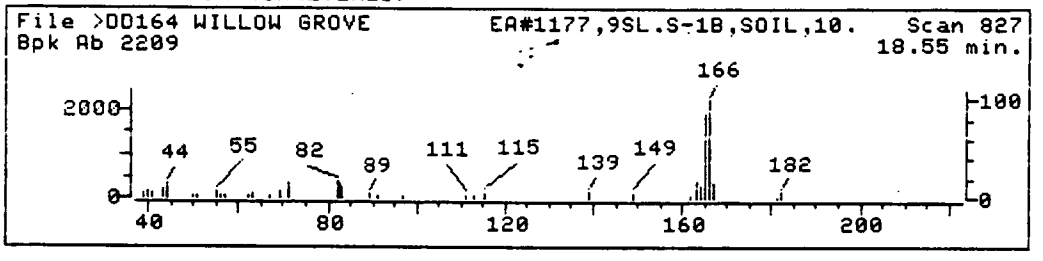

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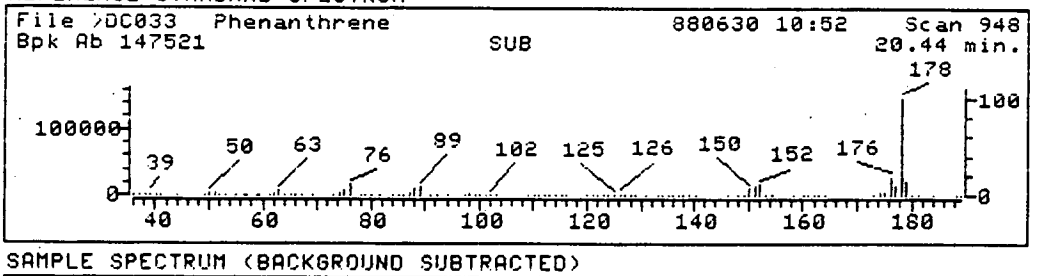
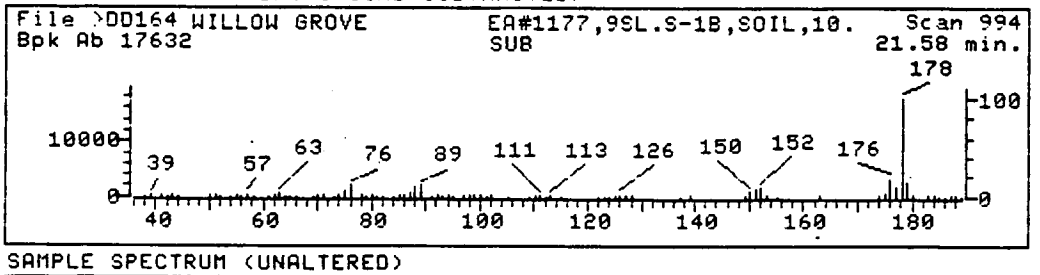
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G;1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 49
Compound Name: Fluorene
Scan Number: 827
Retention Time: 18.55 min.
Quant Ion: 166.0
Area: 7073
Concentration: 1.57 NG
q-value: 91

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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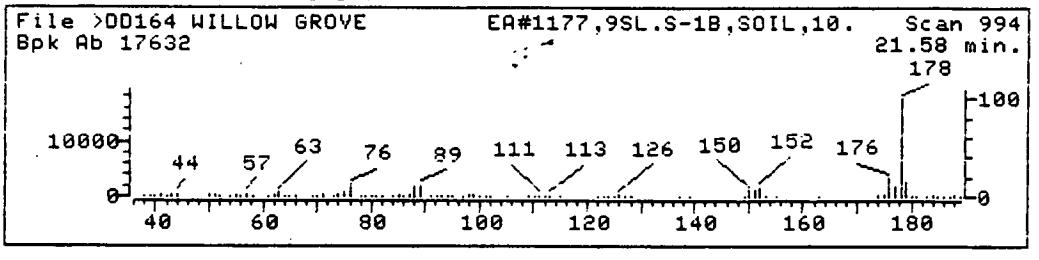
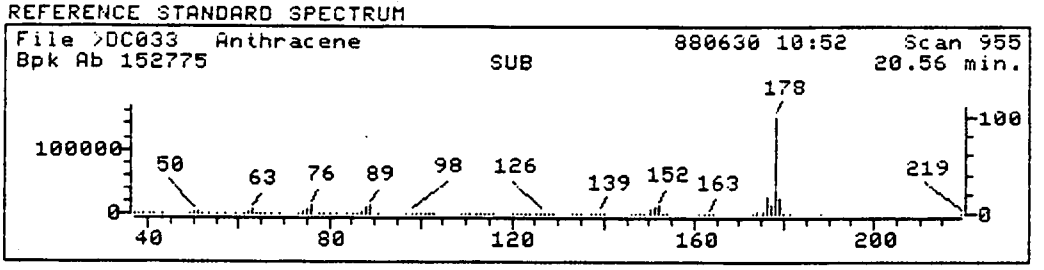


Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 994
Retention Time: 21.58 min.
Quant Ion: 178.0
Area: 56930
Concentration: 14.37 NG
q-value: 97

✓

REFERENCE STANDARD SPECTRUM



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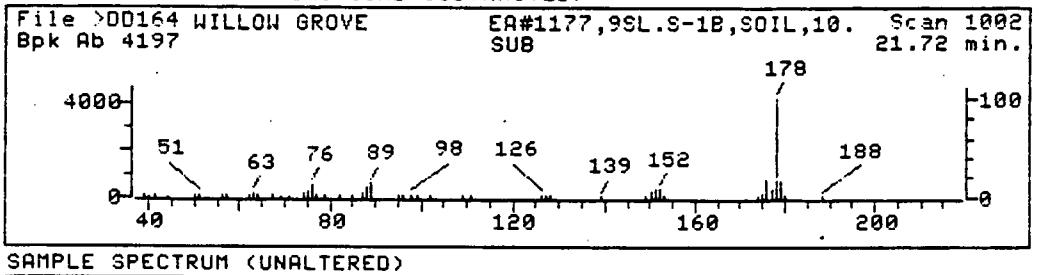

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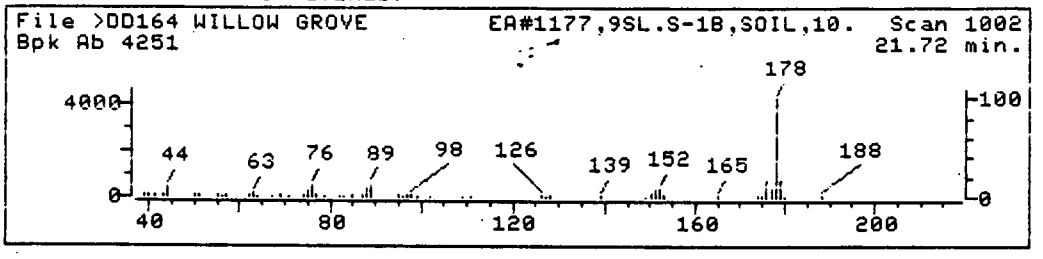
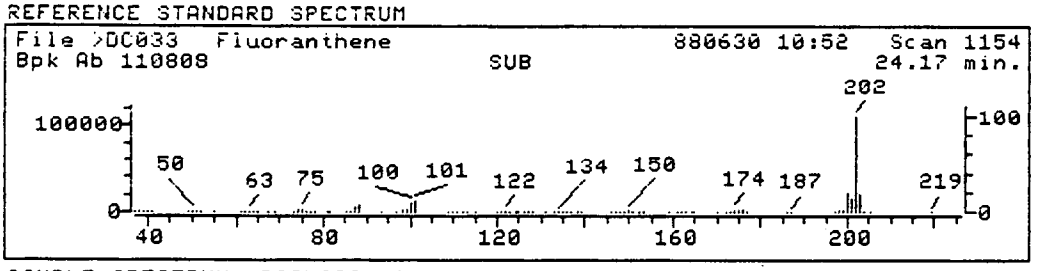


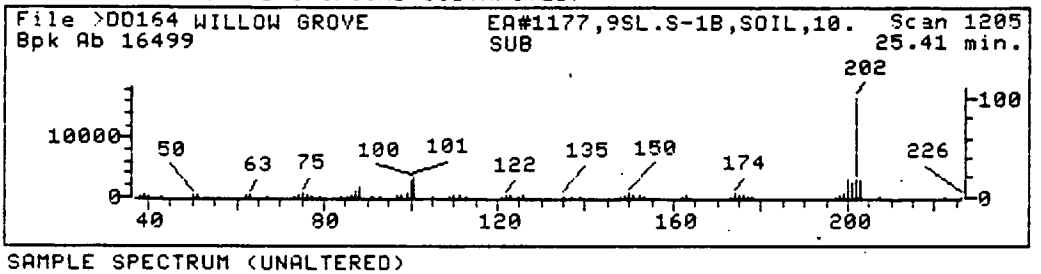
Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 59
Compound Name: Anthracene
Scan Number: 1002
Retention Time: 21.72 min.
Quant Ion: 178.0
Area: 13206
Concentration: 3.37 NG
q-value: 98

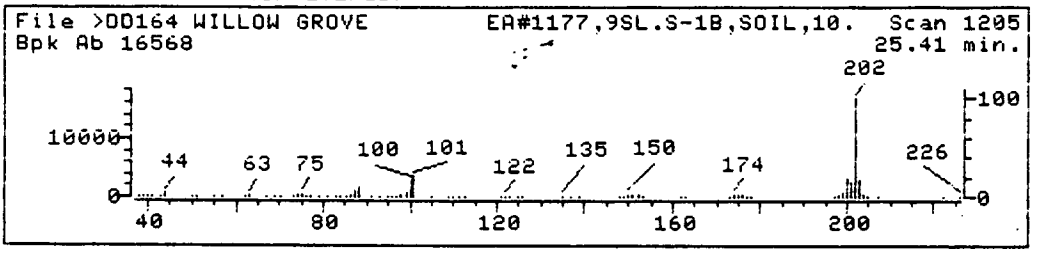
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



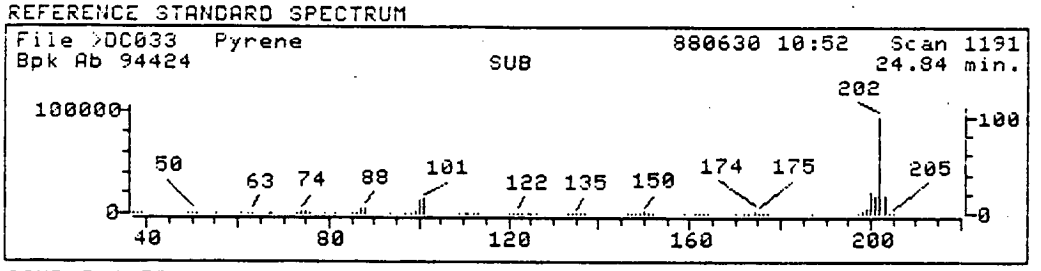
SAMPLE SPECTRUM (UNALTERED)



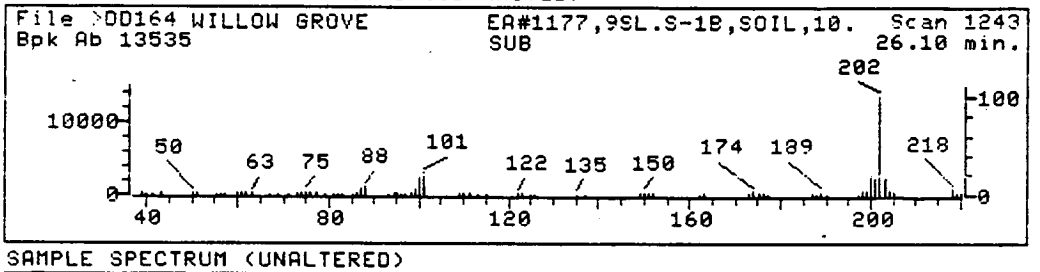
Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1205
Retention Time: 25.41 min.
Quant Ion: 202.0
Area: 62160
Concentration: 22.50 NG
q-value: 98

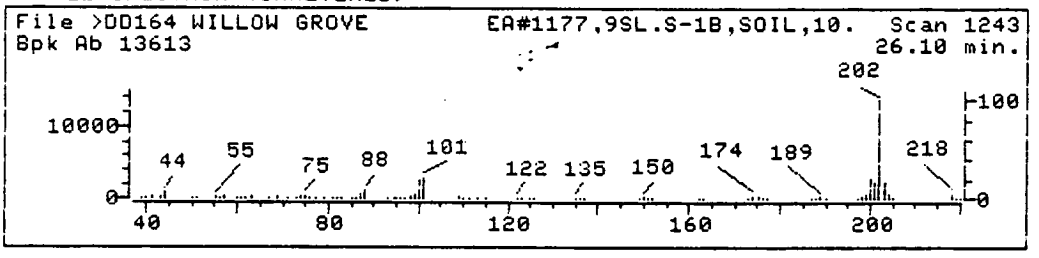
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



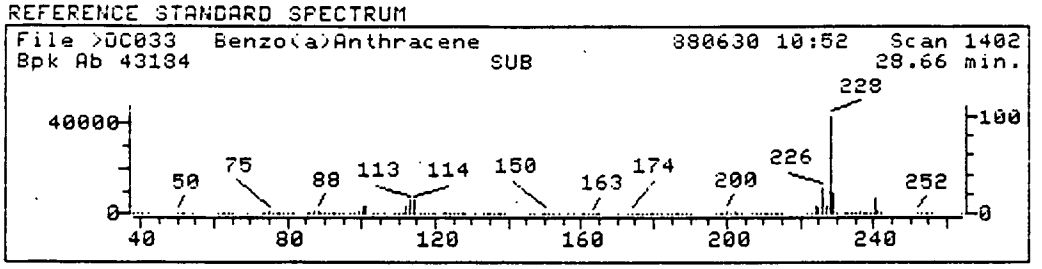
SAMPLE SPECTRUM (UNALTERED)



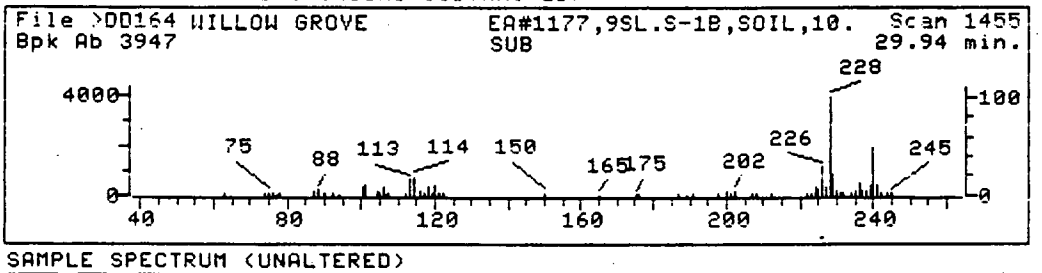
Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE <99.10> BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 63
Compound Name: Pyrene
Scan Number: 1243
Retention Time: 26.10 min.
Quant Ion: 202.0
Area: 49392
Concentration: 16.84 NG
q-value: 92

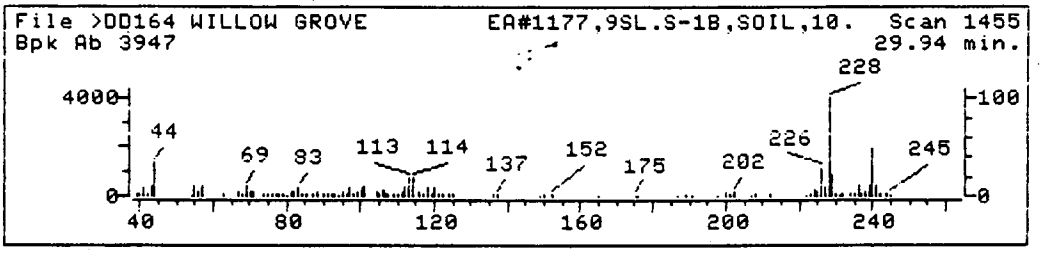
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



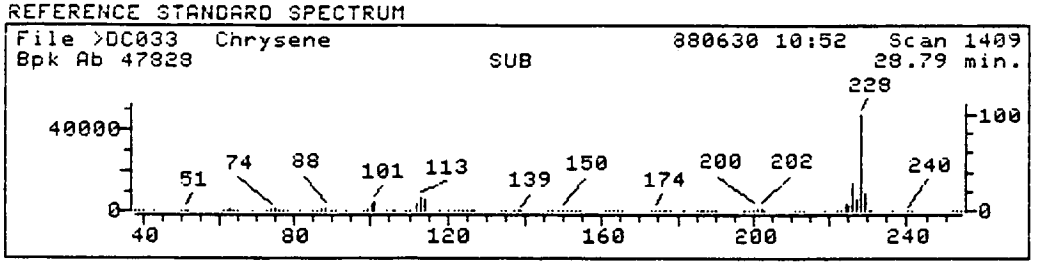
SAMPLE SPECTRUM (UNALTERED)



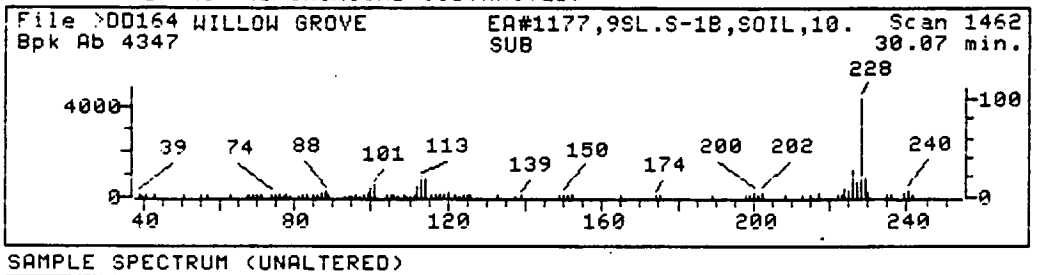
Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1455
Retention Time: 29.94 min.
Quant Ion: 228.0
Area: 17985
Concentration: 12.04 NG
q-value: 96

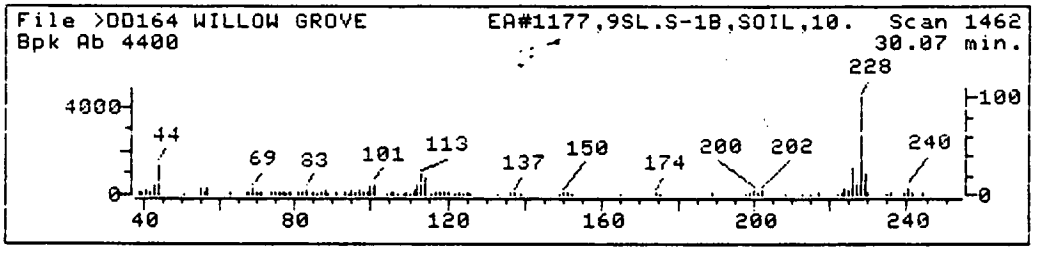
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

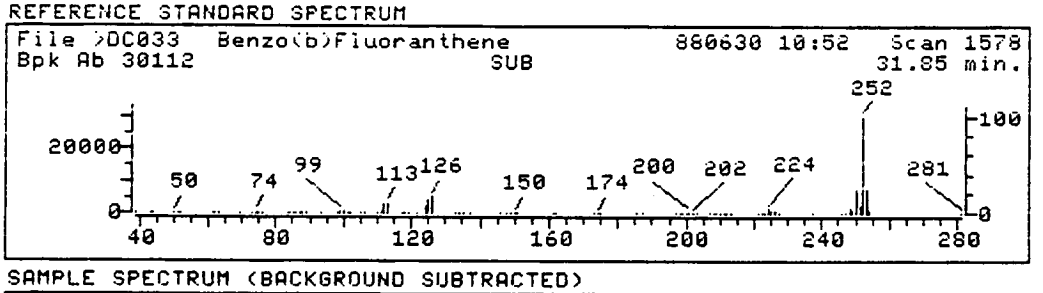


Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.096,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

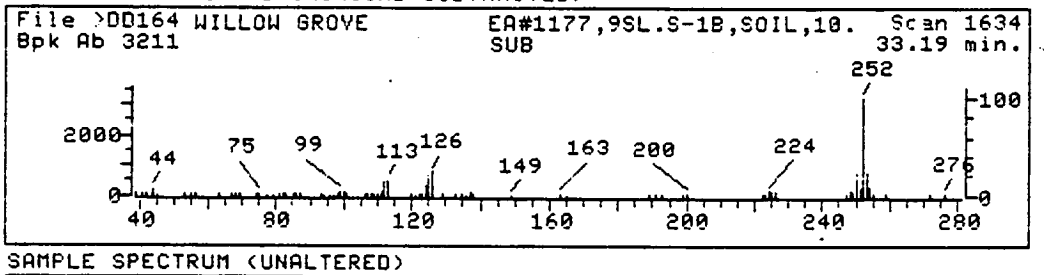
Compound No: 69
Compound Name: Chrysene
Scan Number: 1462
Retention Time: 30.07 min.
Quant Ion: 228.0
Area: 15965
Concentration: 12.03 NG
q-value: 94

✓

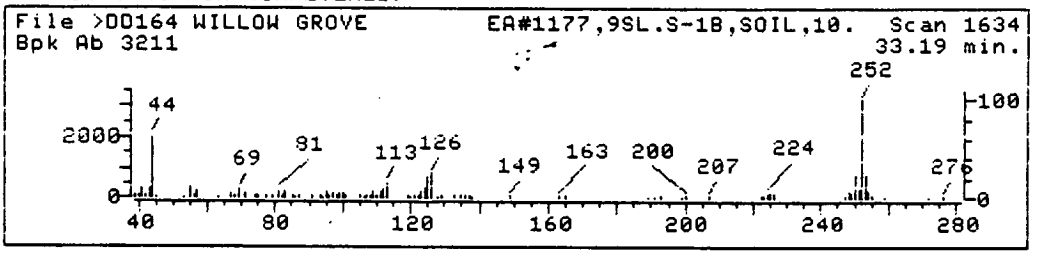
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



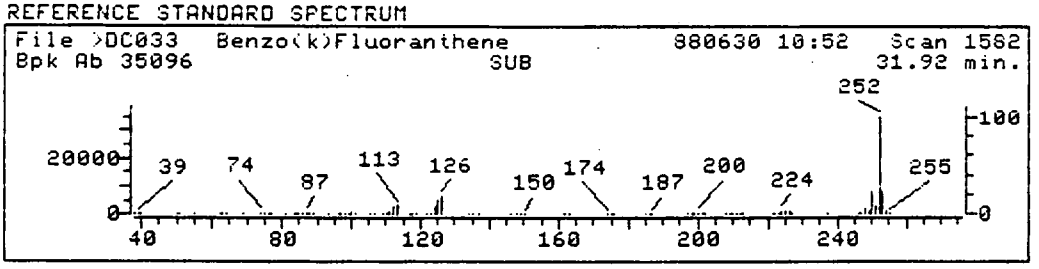
SAMPLE SPECTRUM (UNALTERED)



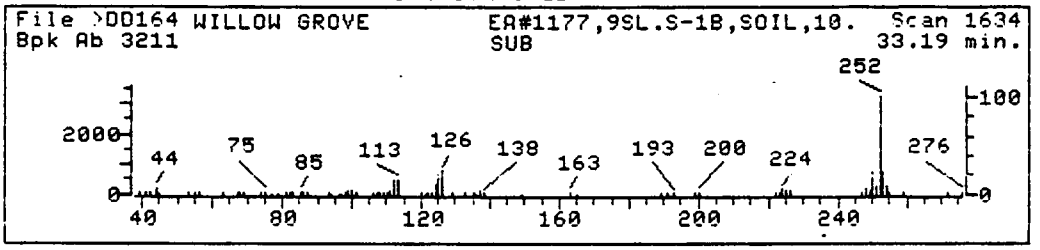
Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1634
Retention Time: 33.19 min.
Quant Ion: 252.0
Area: ~~24641~~ 16230
Concentration: ~~23.12~~ NG
q-value: 92 15.22

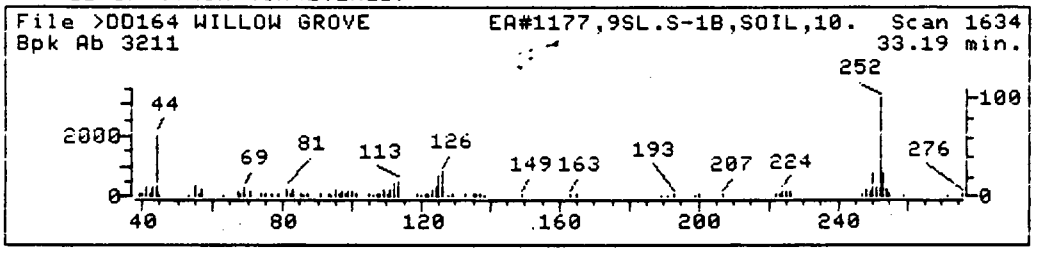
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



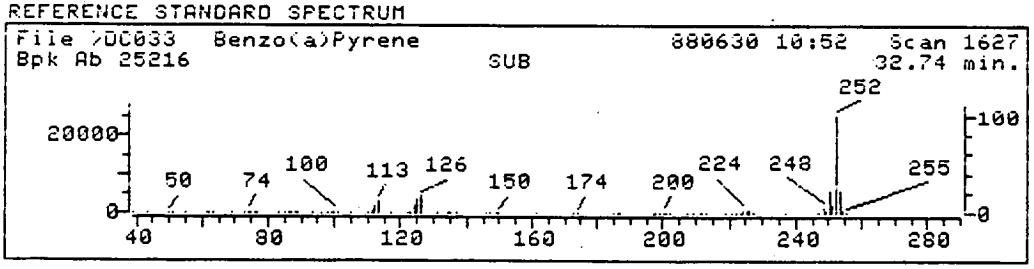
SAMPLE SPECTRUM (UNALTERED)



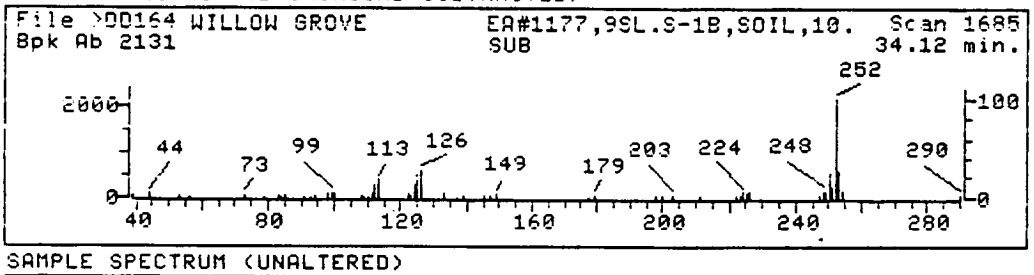
Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1634
Retention Time: 33.25 min.
Quant Ion: 252.0
Area: 8419
Concentration: 7.19 NG
q-value: 94

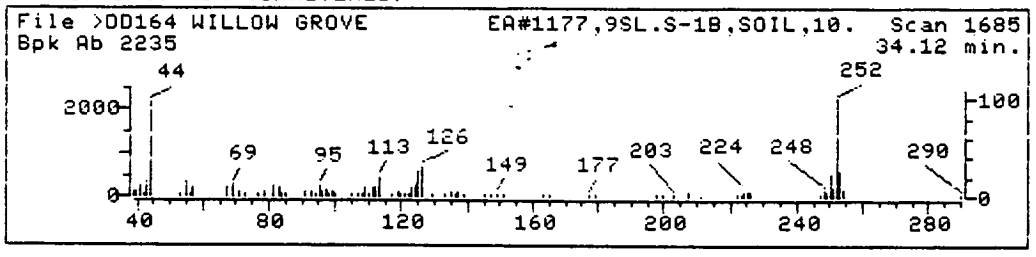
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

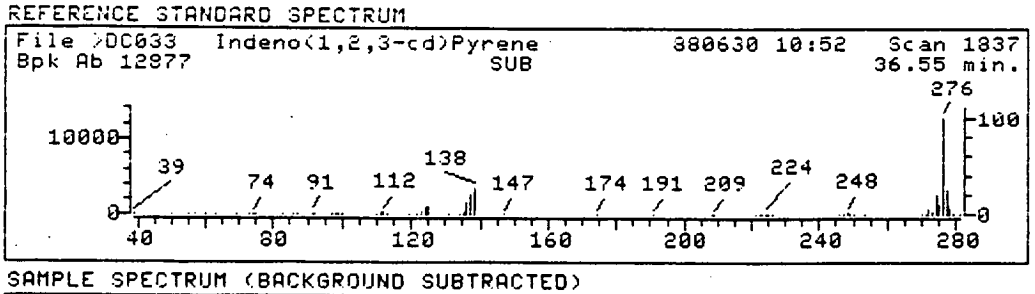


Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

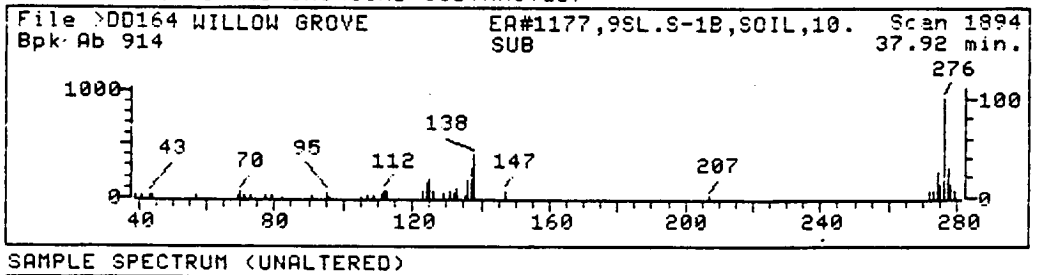
Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1685
Retention Time: 34.12 min.
Quant Ion: 252.0
Area: 11133
Concentration: 11.13 NG
q-value: 93

✓

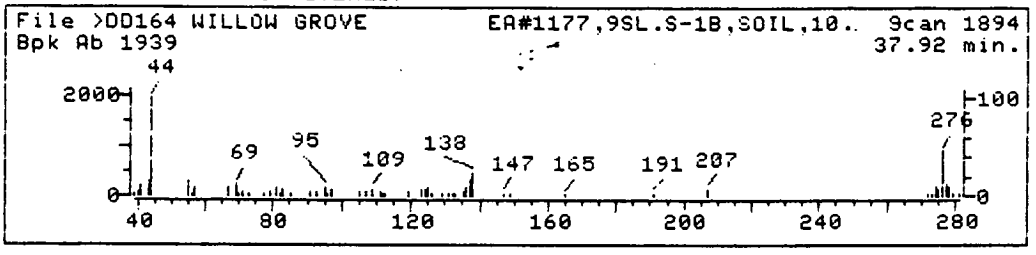
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

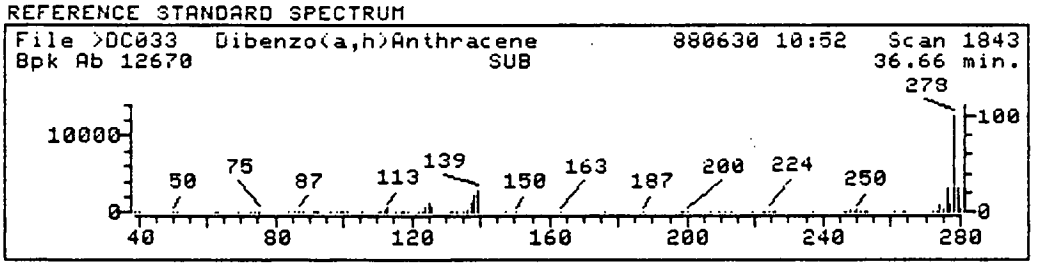


Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

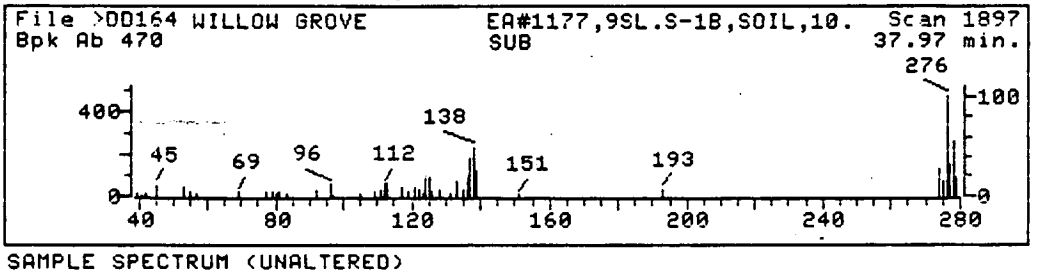
Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1894
Retention Time: 37.92 min.
Quant Ion: 276.0
Area: 7717
Concentration: 8.75 NG
q-value: 91

✓

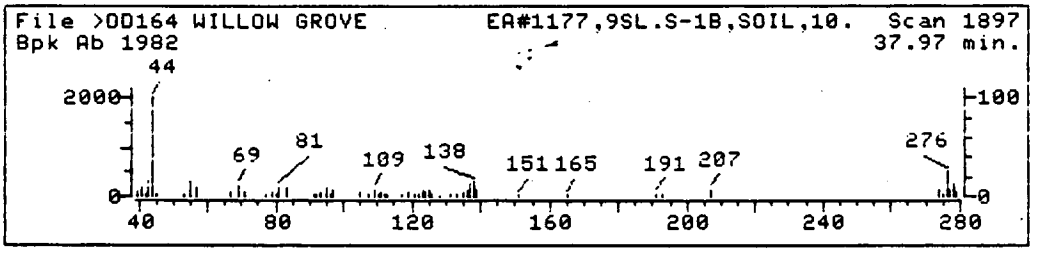
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

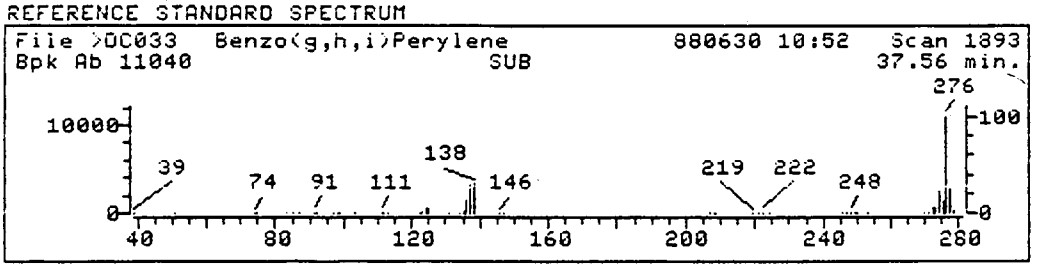


Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

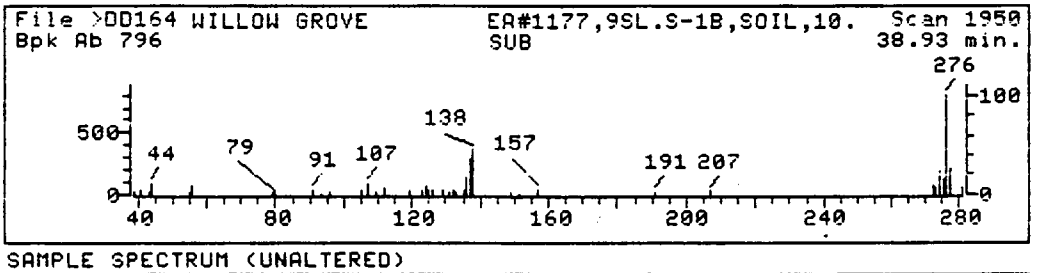
Compound No: 76
Compound Name: Dibenzo(a,h)Anthracene
Scan Number: 1897
Retention Time: 37.97 min.
Quant Ion: 278.0
Area: 2730
Concentration: 4.13 NG
q-value: 87

✓

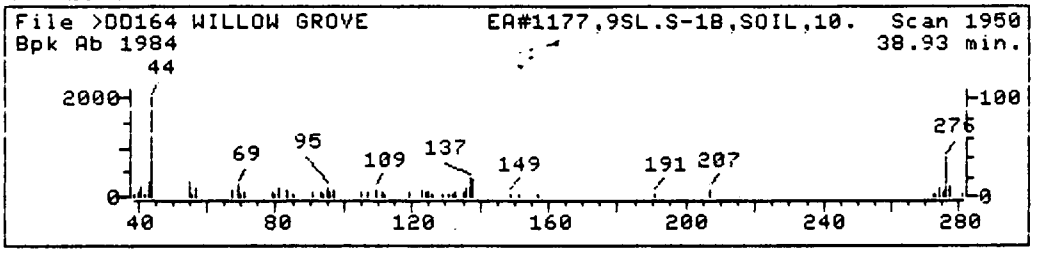
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



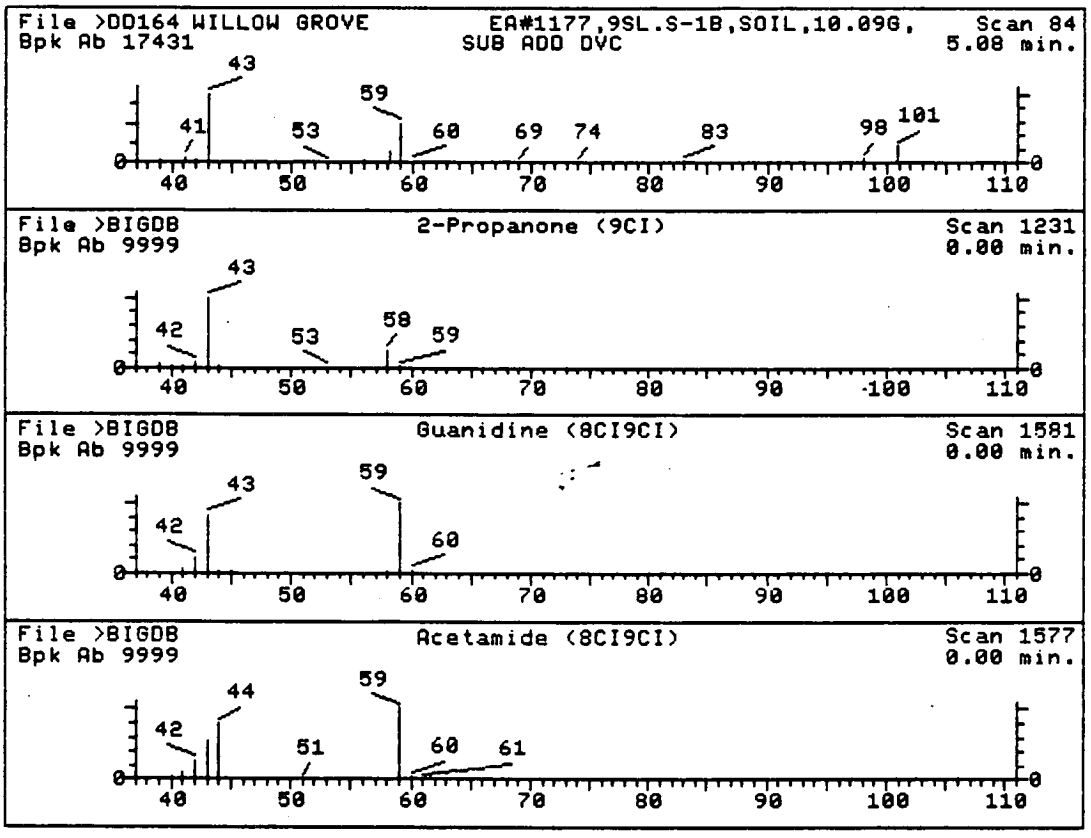
SAMPLE SPECTRUM (UNALTERED)



Data File: >DD164::D1 Quant Output File: ^DD164::QT
Name: WILLOW GROVE
Misc: EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE (99.10) BTL# 1
Quant Time: 890406 17:40 Quant ID File: IDDCLP::BD
Injected at: 890406 16:56 Last Calibration: 890406 14:05

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1950
Retention Time: 38.93 min.
Quant Ion: 276.0
Area: 6807
Concentration: 9.40 NG
q-value: 91

✓



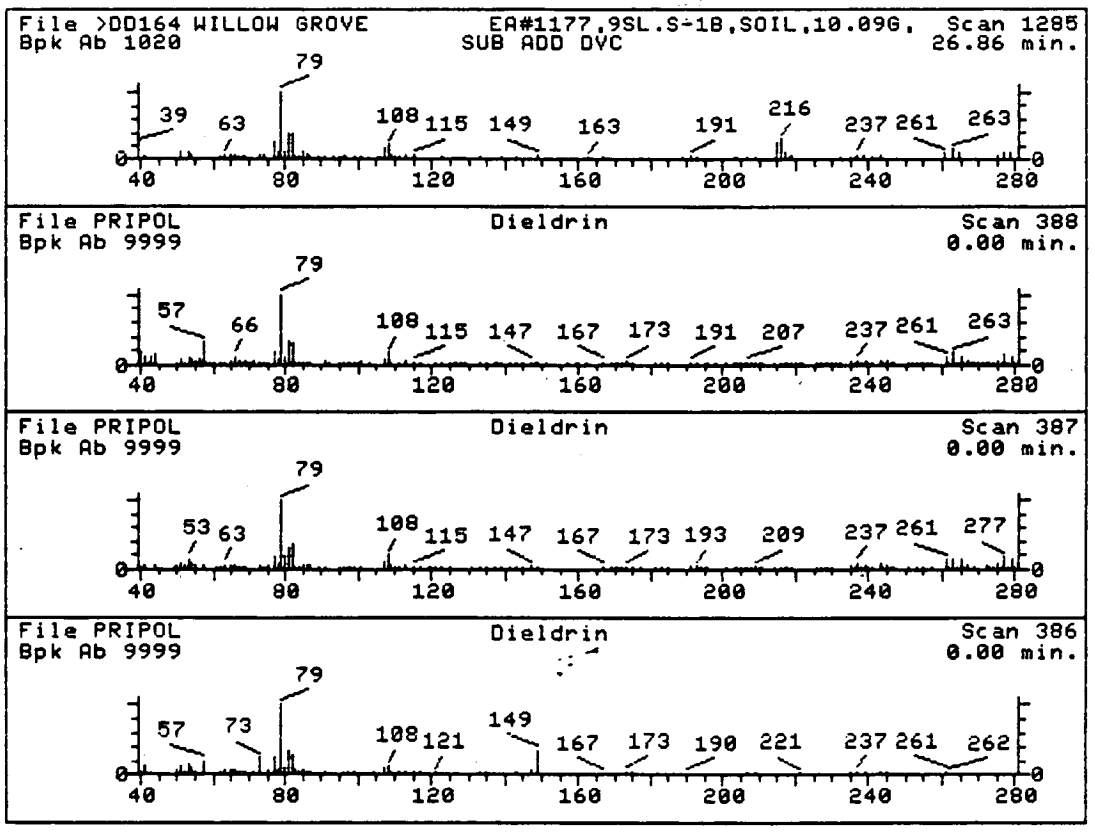
Retention time = 5.08 unknown

Area = 145791.0 Tentative Concentration is 590.00

1. 2-Propanone (9CI)	58 C3H6O
2. Guanidine (8CI9CI)	59 CH5N3
3. Acetamide (8CI9CI)	59 C2H5NO

Sample file: >DD164 Spectrum #: 84
Search speed: 2 Tilting option: S No. of ion ranges searched: 4

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	26*	67641	1231	"BIGDB	20	51	1	0	74	44	8	1
2.	25*	113008	1581	"BIGDB	20	47	1	0	57	49	7	1
3.	11*	60355	1577	"BIGDB	20	55	2	0	57	62	2	1



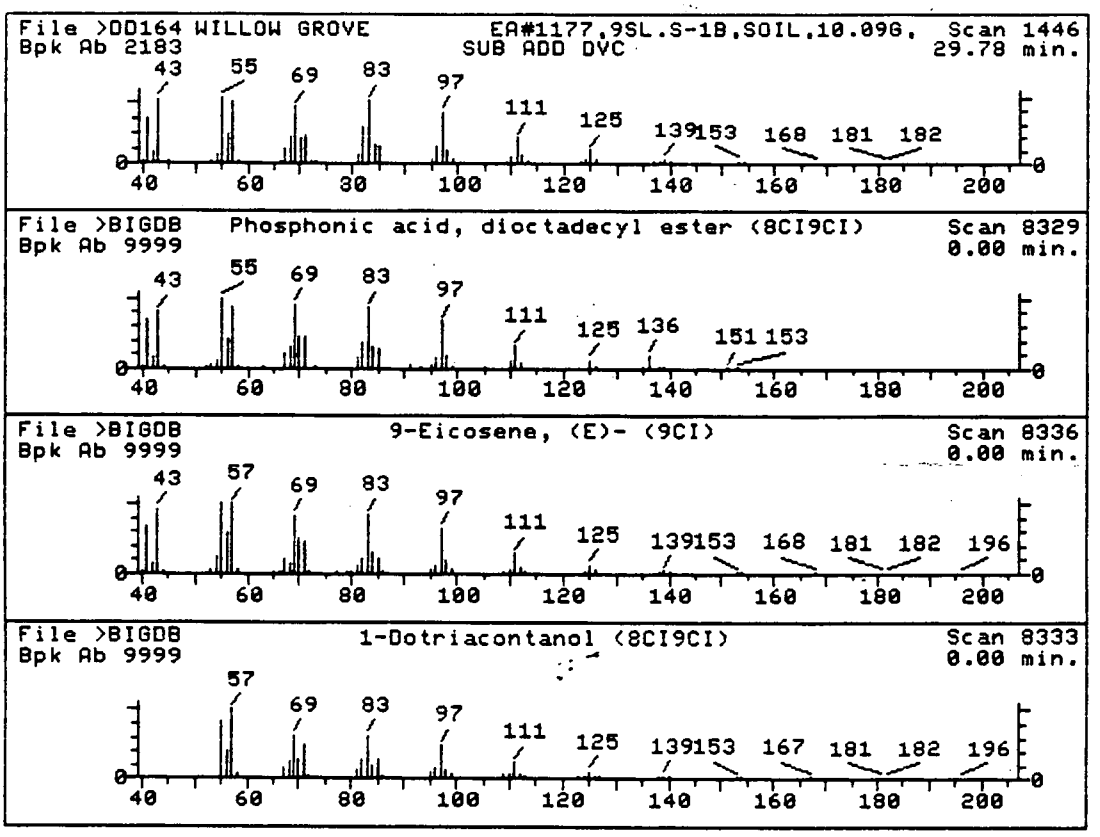
Retention time = 26.86

Area = 33921.00 Tentative Concentration is 430.00

✓1.	Dieldrin	378 C12H8Cl6O
2.	Dieldrin	378 C12H8Cl6O
3.	Dieldrin	378 C12H8Cl6O
4.	11H-Benzo[b]fluorene (8CI9CI)	216 C17H12
5.	11H-Benzo[a]fluorene (8CI9CI)	216 C17H12
6.	Dieldrin	378 C12H8Cl6O
7.	Pyrene, 1-methyl- (8CI9CI)	216 C17H12

Sample file: >DD164 Spectrum #: 1285
Search speed: 2 Tilting option: S No. of ion ranges search d: 6

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_
1.	41	388	98	PRIPOL	104	73	2	0	82	45	14	
2.	30	387	97	PRIPOL	63	115	1	0	65	45	12	
3.	25	386	96	PRIPOL	81	77	2	-1	99	47	7	
4.	20*	243174	26307	"BIGDB	30	72	1	0	30	54	5	
5.	20*	238846	26306	"BIGDB	29	72	1	0	30	54	5	
6.	11	391	101	PRIPOL	60	105	2	0	69	65	2	
7.	11*	2381217	26316	"BIGDB	25	81	1	0	30	63	2	



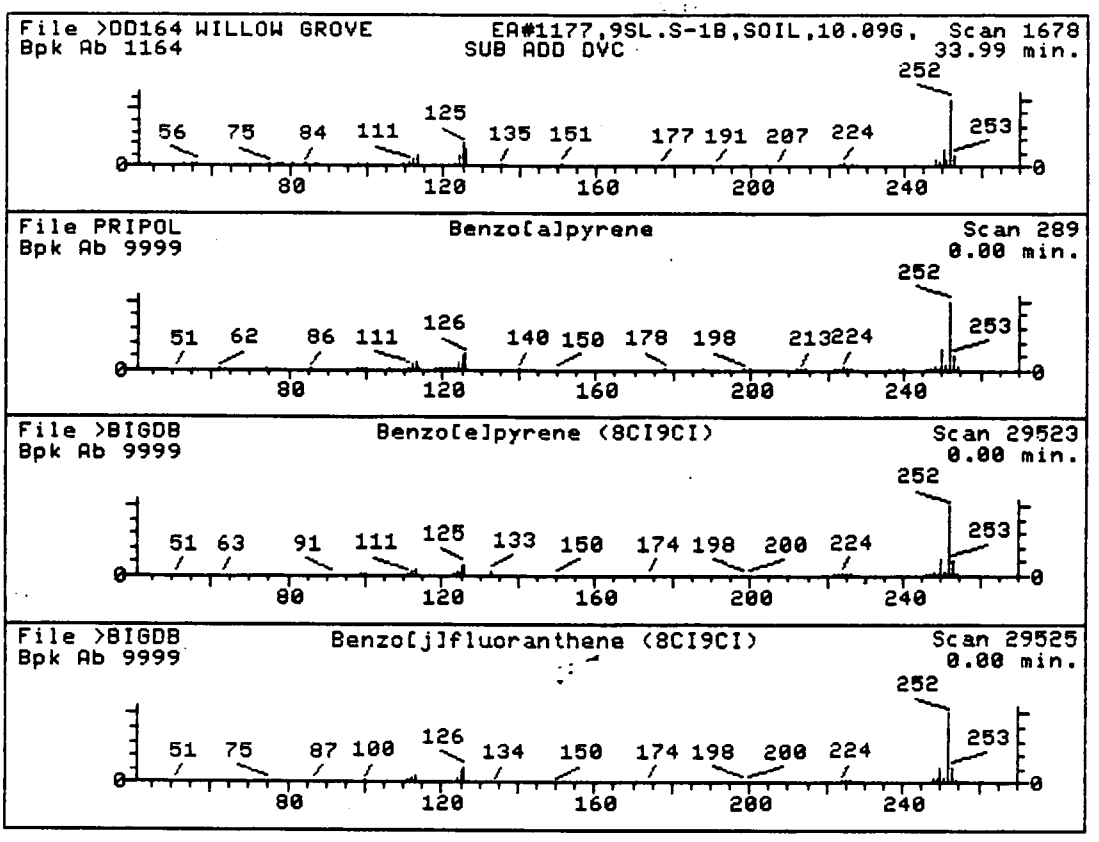
Retention time = 29.78

Area = 74853.00 Tentative Concentration is 940.00

✓1.	Phosphonic acid, dioctadecyl ester (8CI9CI)	586	C36H7503P
2.	9-Eicosene, (E)- (9CI)	280	C20H40
3.	1-Dotriacontanol (8CI9CI)	466	C32H66O
4.	1-Pentadecanol (8CI9CI)	228	C15H32O
5.	3-Eicosene, (E)- (9CI)	280	C20H40
6.	5-Eicosene, (E)- (9CI)	280	C20H40
7.	1-Undecene, 7-methyl- (9CI)	168	C12H24

Sample file: >DD164 Spectrum #: 1446
Search speed: 2 Tilting option: S No. of ion ranges searched: 5

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	89	19047859	8329	"BIGDB	139	61	1	0	84	21	47	8
2.	57	74685293	8336	"BIGDB	117	53	3	-1	78	22	22	2
3.	56	6624799	8333	"BIGDB	85	96	0	0	89	45	18	6
4.	43	629765	8410	"BIGDB	63	100	1	0	67	29	19	2
5.	43	74685339	8338	"BIGDB	88	78	0	0	76	52	11	6
6.	38	74685306	8337	"BIGDB	82	73	0	0	98	54	11	6
7.	35*	74630425	10685	"BIGDB	65	43	0	-2	78	52	10	5



Retention time = 33.99 Unknown $C_{20}H_{12}$

Area = 22215.00 Tentative Concentration is 660.00

1.	Benzo[a]pyrene	252 C20H12
2.	Benzo[e]pyrene (8CI9CI)	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.	Benz[e]acephenanthrylene	252 C20H12

Sample file: >DD164 Spectrum #: 1678
Search speed: 2 Tilting option: S No. of ion ranges searched: 5

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_
1.	83*	289	409	PRIPOL	82	54	2	1	77	9	54	5
2.	63*	192972	29523	"BIGDB	65	68	2	1	82	16	30	3
3.	63*	205823	29525	"BIGDB	63	69	3	0	100	18	30	3
4.	58*	205992	29526	"BIGDB	57	75	3	0	100	18	25	2
5.	52*	290	410	PRIPOL	55	75	3	0	100	20	20	1
6.	52*	207089	29527	"BIGDB	40	92	2	0	76	19	20	1
7.	44*	291	411	PRIPOL	57	78	3	0	100	29	19	2

LIBRARY SEARCH SUMMARY

MS Data File:>DD164::D1 Analyst:BHADRA MS

Name:WILLOW GROVE Date/Time: 4/06/89 16:56
Misc:EA#1177,9SL.S-1B,SOIL,10.09G,1 WILLOW GROVE ?99.10? BTL# 1

The following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Neare t ISTD Area
1	5.08	145791	97784
2	26.86	33921	31406
3	29.78	74853	31406
4	33.99	22215	13265

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1178 9SL.S-12A

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/21/89 10:18
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	2400.	U
111-44-4	bis(2-Chloroethyl)ether	2400.	U
95-57-8	2-Chlorophenol	2400.	U
541-73-1	1,3-Dichlorobenzene	2400.	U
106-46-7	1,4-Dichlorobenzene	2400.	U
100-51-6	Benzyl Alcohol	2400.	U
95-50-1	1,2-Dichlorobenzene	2400.	U
95-48-7	2-Methylphenol	2400.	U
39638-32-9	bis(2-Chloroisopropyl)ether	2400.	U
106-44-5	4-Methylphenol	2400.	U
621-64-7	N-Nitroso-Di-n-propylamine	2400.	U
67-72-1	Hexachloroethane	2400.	U
98-95-3	Nitrobenzene	2400.	U
78-59-1	Isophorone	2400.	U
88-75-5	2-Nitrophenol	2400.	U
105-67-9	2,4-Dimethylphenol	2400.	U
65-85-0	Benzoic Acid	200.	J
111-91-1	bis(2-Chloroethoxy)methane	2400.	U
120-83-2	2,4-Dichlorophenol	2400.	U
120-82-1	1,2,4-Trichlorobenzene	2400.	U
91-20-3	Naphthalene	2400.	U
106-47-8	4-Chloroaniline	2400.	U
87-68-3	Hexachlorobutadiene	2400.	U
59-50-7	4-Chloro-3-methylphenol	2400.	U
91-57-6	2-Methylnaphthalene	2400.	U
77-47-4	Hexachlorocyclopentadiene	2400.	U
88-06-2	2,4,6-Trichlorophenol	2400.	U
95-95-4	2,4,5-Trichlorophenol	12000.	U
91-58-7	2-Chloronaphthalene	2400.	U
88-74-4	2-Nitroaniline	12000.	U
131-11-3	Dimethylphthalate	2400.	U
208-96-8	Acenaphthylene	2400.	U
99-09-2	3-Nitroaniline	12000.	U

C.A.S. Number		ug/L or (ug/Kg) (Circle One)	
83-32-9	Acenaphthene	2400.	U
51-28-5	2,4-Dinitrophenol	12000.	U
100-02-7	4-Nitrophenol	12000.	U
132-64-9	Dibenzofuran	2400.	U
121-14-2	2,4-Dinitrotoluene	2400.	U
606-20-2	2,6-Dinitrotoluene	2400.	U
84-66-2	Diethylphthalate	2400.	U
7005-72-3	4-Chlorophenyl-phenylether	2400.	U
86-73-7	Fluorene	2400.	U
100-01-6	4-Nitroaniline	2400.	U
534-52-1	4,6-Dinitro-2-methylphenol	12000.	U
86-30-6	N-Nitrososdiphenylamine (1)	2400.	U
101-55-3	4-Bromophenyl-phenylether	2400.	U
118-74-1	Hexachlorobenzene	2400.	U
87-86-5	Pentachlorophenol	12000.	U
85-01-8	Phenanthrene	630.	J
120-12-7	Anthracene	2400.	U
84-74-2	Di-n-Butyl phthalate	2400.	U
206-44-0	Fluoranthene	760.	J
129-00-0	Pyrene	500.	J
85-68-7	Butylbenzylphthalate	2400.	U
91-94-1	3,3'-Dichlorobenzidine	4900.	U
56-55-3	Benzo(a)Anthracene	230.	J
117-81-7	bis(2-Ethylhexyl)phthalate	2400.	U
218-01-9	Chrysene	330.	J
117-84-0	Di-n-Octyl phthalate	2400.	U
205-99-2	Benzo(b)Fluoranthene	310.	J
207-08-9	Benzo(k)Fluoranthene	250.	J
50-32-8	Benzo(a)Pyrene	2400.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	250.	J
53-70-3	Dibenzo(a,h)Anthracene	2400.	U
191-24-2	Benzo(g,h,i)Perylene	260.	J

(1)-Cannot be separated from diphenylamine

Laboratory Name: EA Laboratories

Case No: Willow Grove

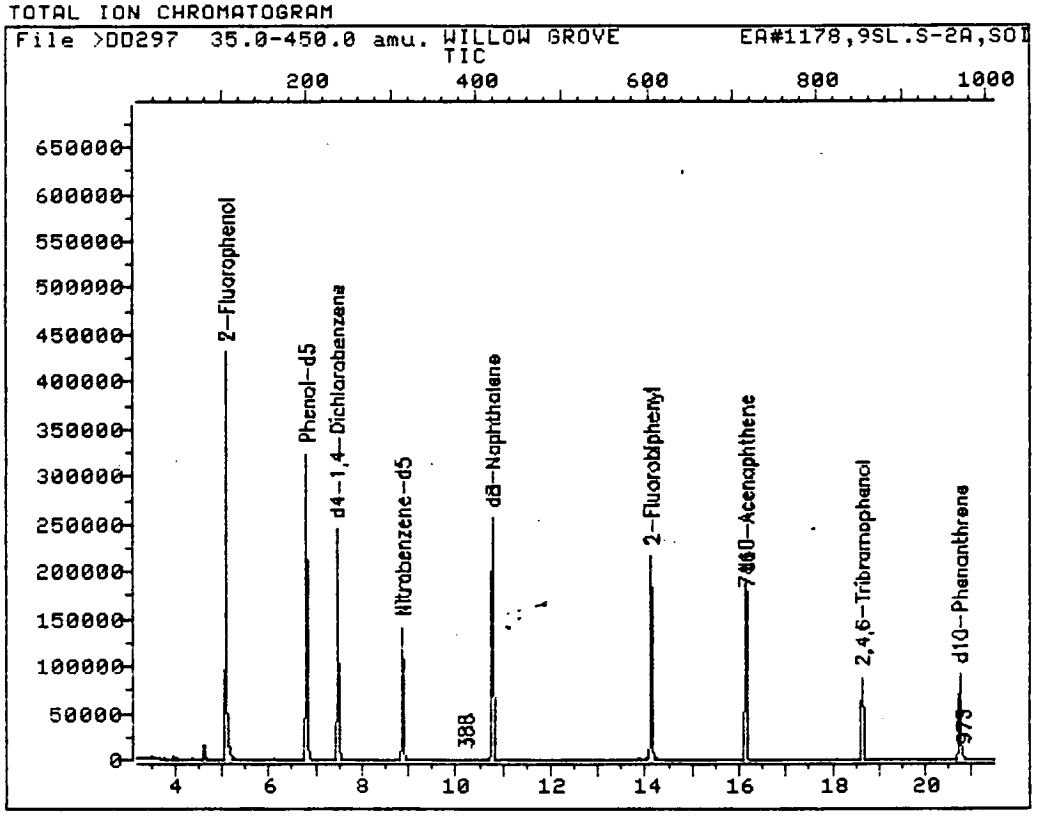
Sample Number
SL. S-2A
EA # 1178

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	—	Unknown	BNA	35.82	1100.00
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TOTAL ION CHROMATOGRAM



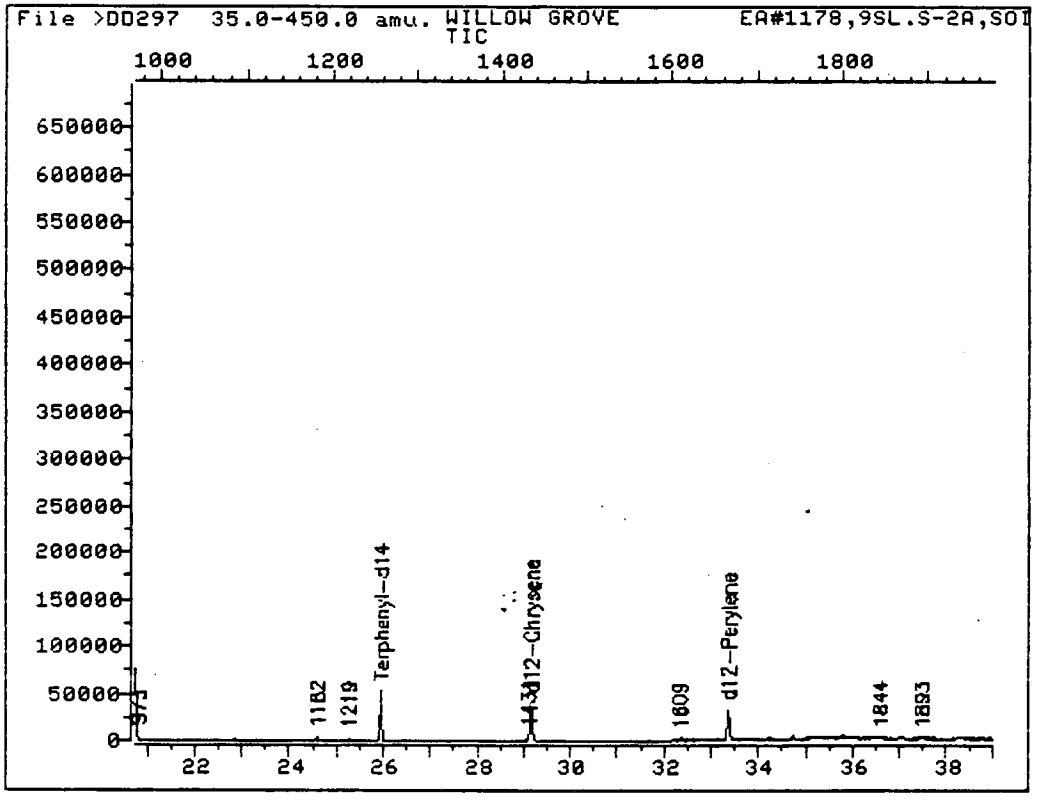
Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

Operator ID: BHADRA
Quant Time: 890421 11:01
Injected at: 890421 10:18

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL ‹199.60› BTL#99

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

Operator ID: BHADRA
Quant Time: 890421 11:01
Injected at: 890421 10:18

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 890421 11:01
Output File: ^DD297::QT Injected at: 890421 10:18
Data File: >DD297::D1 Dilution Factor: 2.00000
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

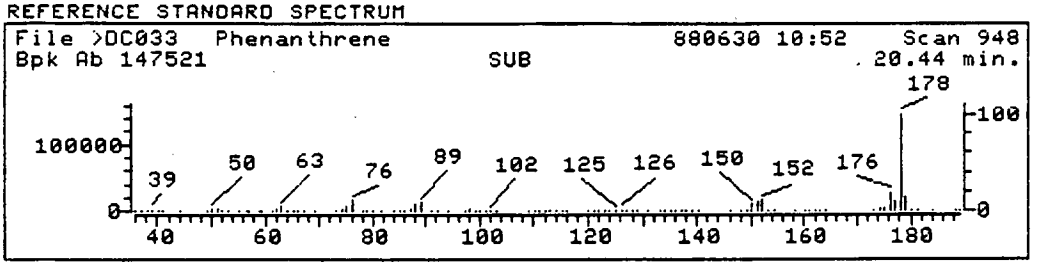
	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*d4-1,4-Dichlorobenzene	7.47	152.0	100266	40.00	NG	
2)	2-Fluorophenol	5.09	112.0	245166	140.20	NG	70%
3)	Phenol-d5	6.82	99.0	297830	156.16	NG	78%
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	0	0.00	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	10.78	136.0	317215	40.00	NG	
17)	Nitrobenzene-d5	8.88	82.0	108815	82.06	NG	82%
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	10.22	122.0	964	1.66	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	16.14	164.0	114961	40.00	NG	
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	14.13	172.0	180529	79.58	NG	80%
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	16.16	163.0	37721	~~16.35~~	~~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	

Output File:^DD297:: Data File:>DD297::D1

	Compound	R.T.	Q ion	Area	Conc	Units
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	20.74	188.0	101220	40.00	NG
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	18.64	329.9	26358	154.78	NG 77 ?
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	20.81	178.0	6673	5.17	NG
59)	Anthracene	20.81	178.0	6673	~~5.33~~	~~NG~~
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG
61)	Fluoranthene	24.59	202.0	5329	6.17	NG
62)	*d12-Chrysene	29.15	240.0	39296	40.00	NG
63)	Pyrene	25.26	202.0	3872	4.11	NG
64)	Terphenyl-d14	25.95	244.0	52639	73.01	NG 73 ?
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	29.10	228.0	1108	1.84	NG
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG
69)	Chrysene	29.23	228.0	1446M	2.68	NG
70)	*d12-Perylene	33.36	264.0	40325	40.00	NG
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG
72)	Benzo(b)Fluoranthene	32.32	252.0	1518	2.57	NG
73)	Benzo(k)Fluoranthene	32.38	252.0	966M	2.05	NG
74)	Benzo(a)Pyrene	0.00	252.0	0	0.00	NG
75)	Indeno(1,2,3-cd)Pyrene	36.58	276.0	1162	2.07	NG
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG
77)	Benzo(g,h,i)Perylene	37.47	276.0	983	2.15	NG

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



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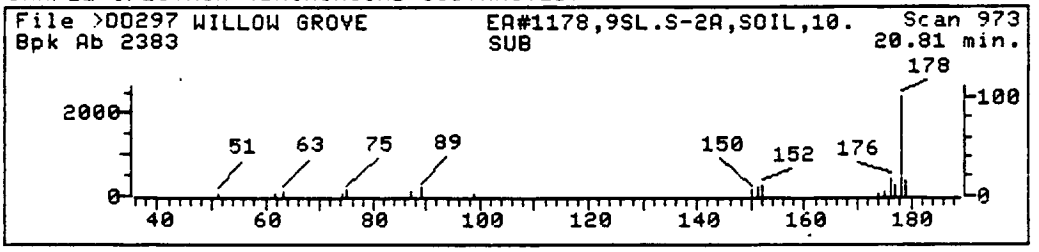

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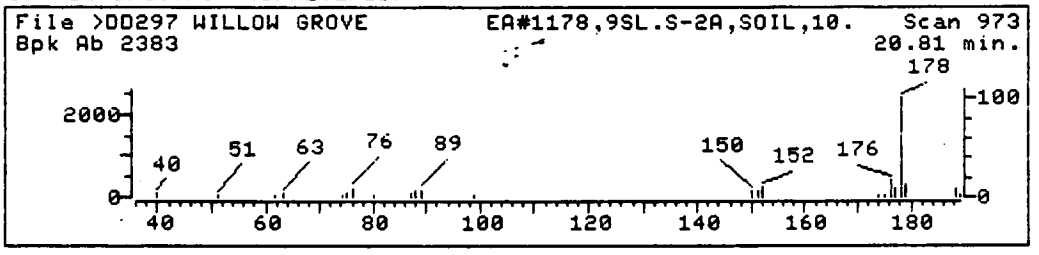

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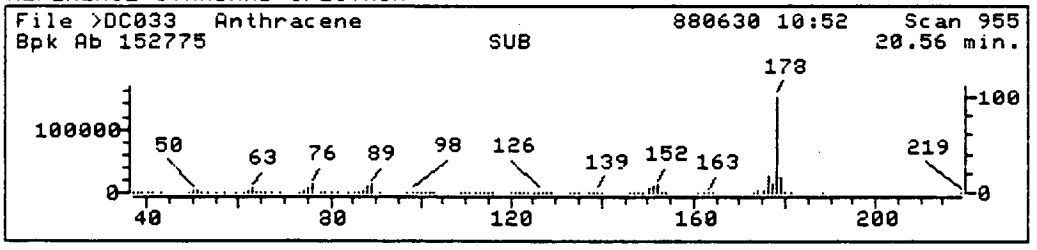
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 973
Retention Time: 20.81 min.
Quant Ion: 178.0
Area: 6673
Concentration: 5.17 NG
q-value: 98

✓

REFERENCE STANDARD SPECTRUM



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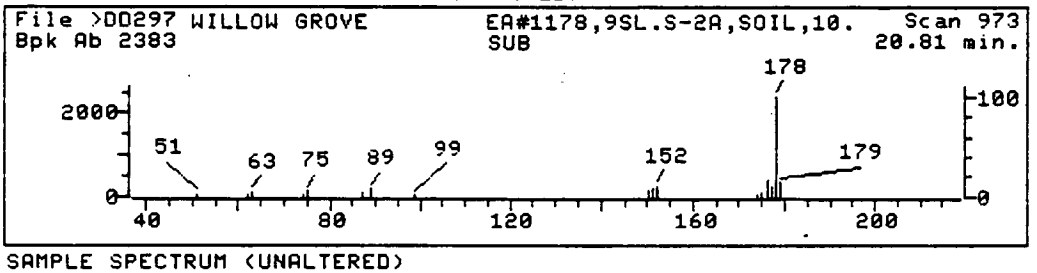

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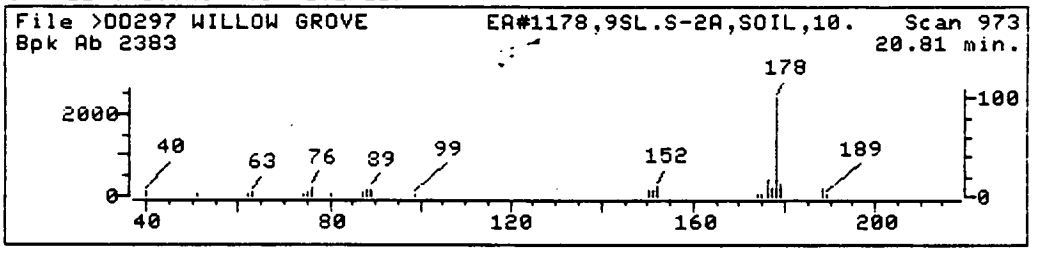

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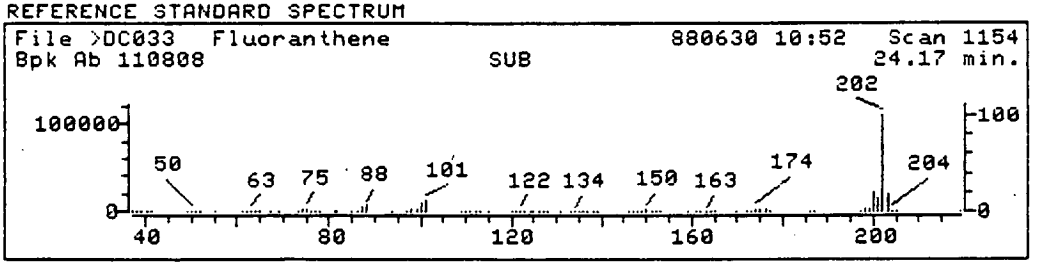
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

Compound No: 59
Compound Name: Anthracene
Scan Number: 973
Retention Time: 20.81 min.
Quant Ion: 178.0
Area: 6673
Concentration: 5.33 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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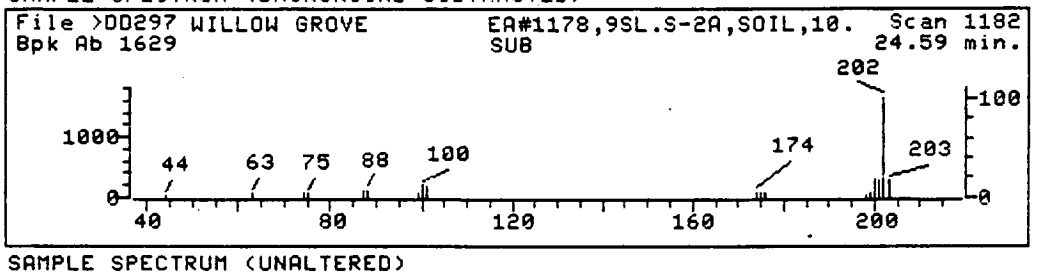

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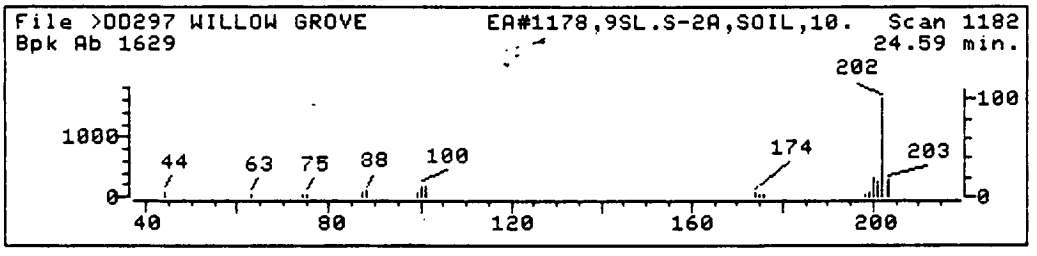

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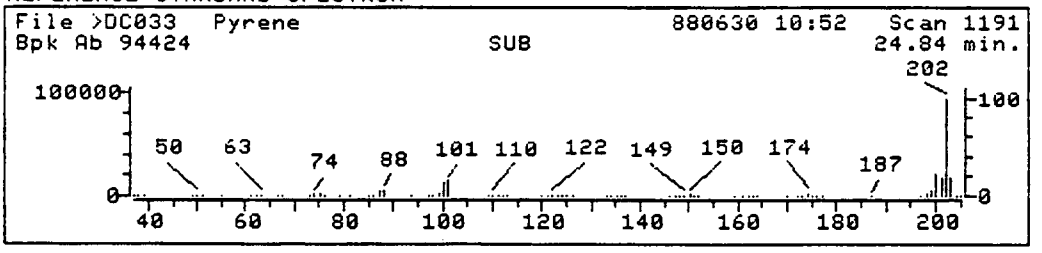
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

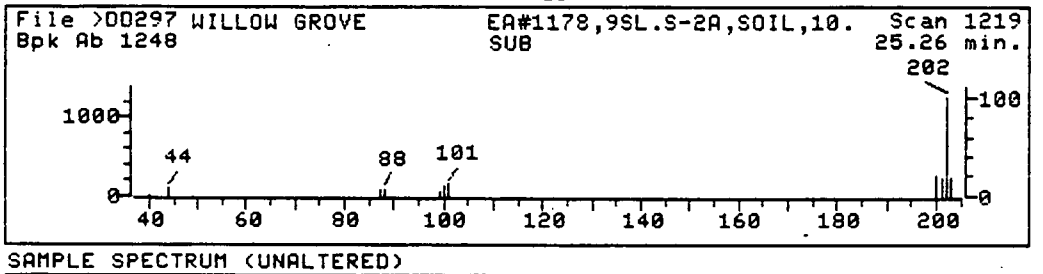
Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1182
Retention Time: 24.59 min.
Quant Ion: 202.0
Area: 5329
Concentration: 6.17 NG
q-value: 88

✓

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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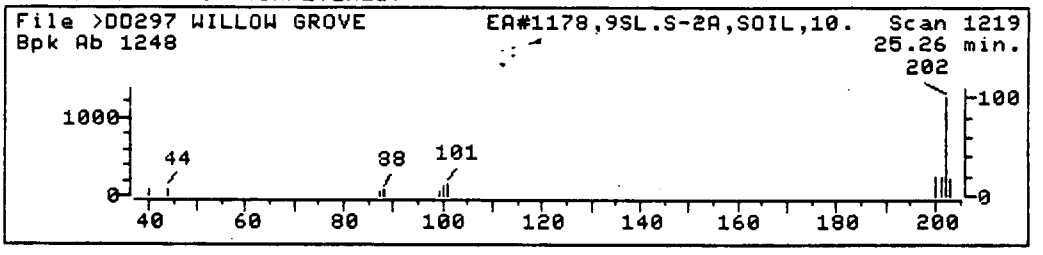
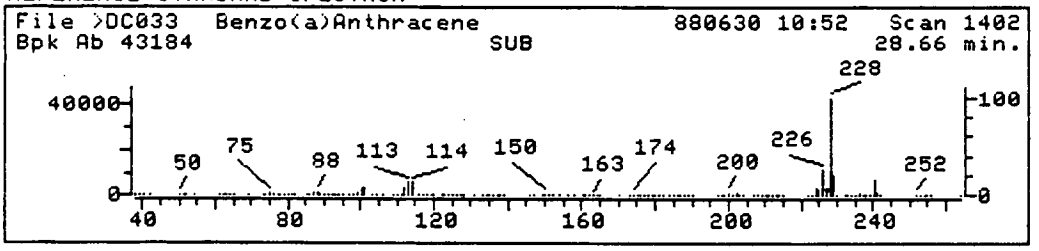


Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

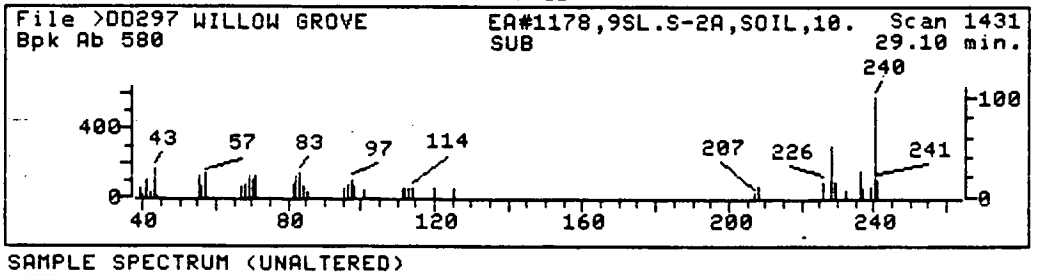
Compound No: 63
Compound Name: Pyrene
Scan Number: 1219
Retention Time: 25.26 min.
Quant Ion: 202.0
Area: 3872
Concentration: 4.11 NG
q-value: 95

✓

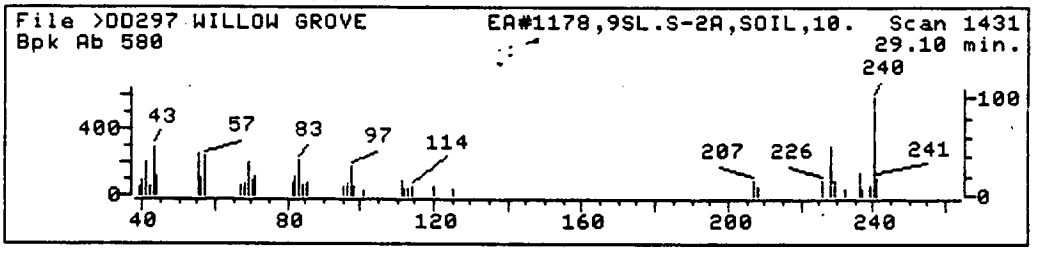
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



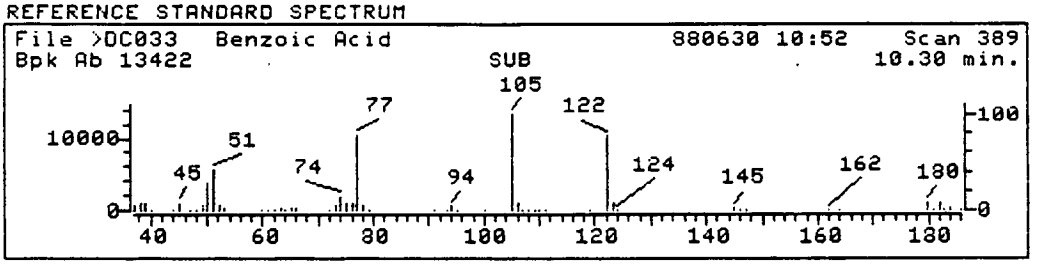
SAMPLE SPECTRUM (UNALTERED)



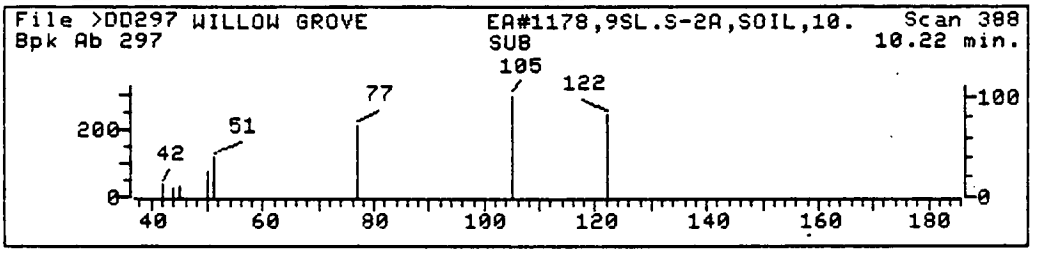
Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1431
Retention Time: 29.10 min.
Quant Ion: 228.0
Area: 1108
Concentration: 1.84 NG
q-value: 80

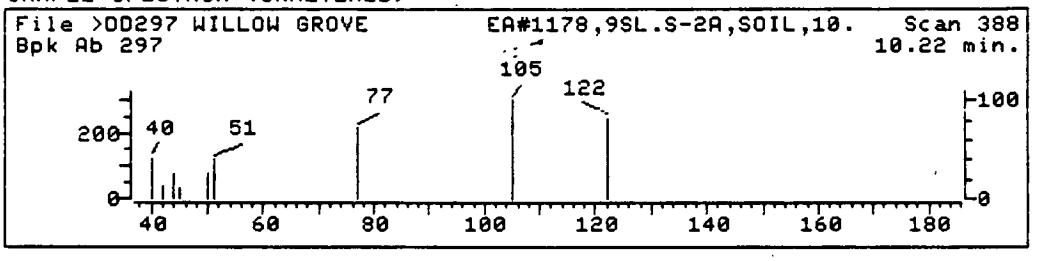
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



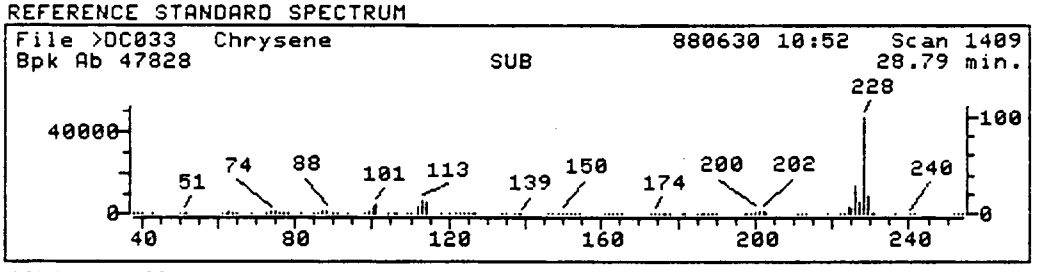
SAMPLE SPECTRUM (UNALTERED)



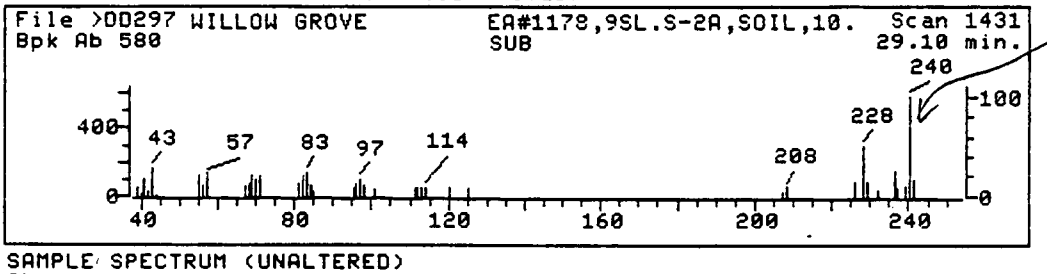
Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

Compound No: 22
Compound Name: Benzoic Acid
Scan Number: 388
Retention Time: 10.22 min.
Quant Ion: 122.0
Area: 964
Concentration: 1.66 NG
q-value: 94

REFERENCE STANDARD SPECTRUM

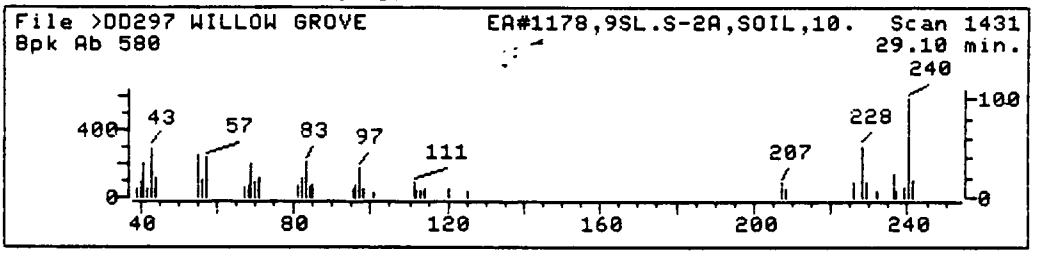


SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



From DS#5

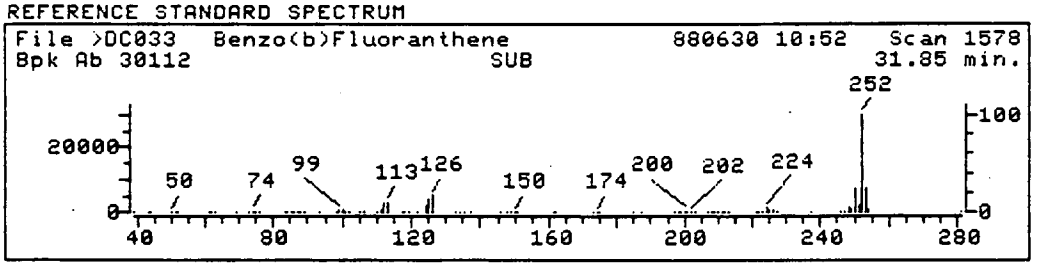
SAMPLE SPECTRUM (UNALTERED)



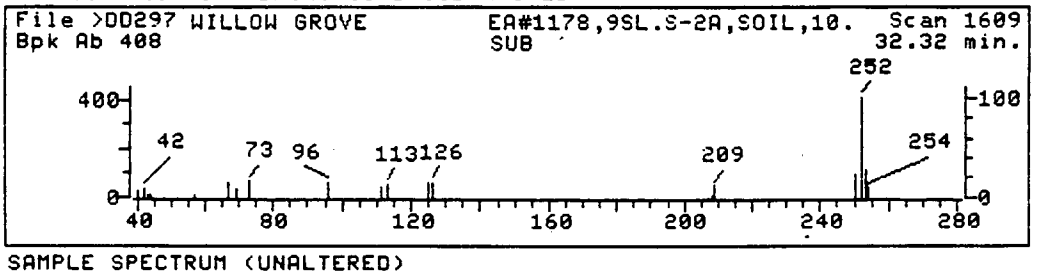
Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

Compound No: 69
Compound Name: Chrysene
Scan Number: 1431
Retention Time: 29.13 min.
Quant Ion: 228.0
Area: 1446
Concentration: 2.06 NG
q-value: 85

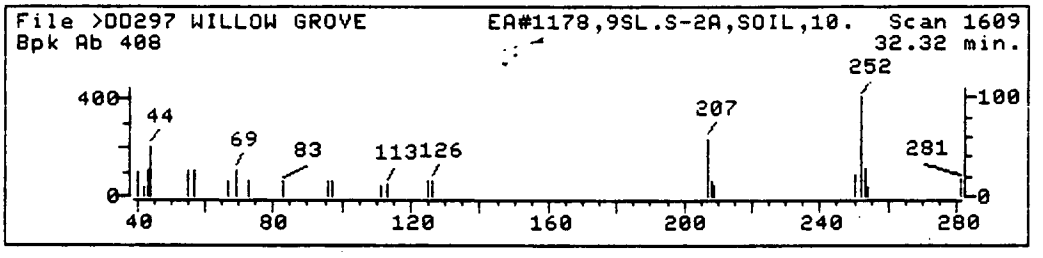
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



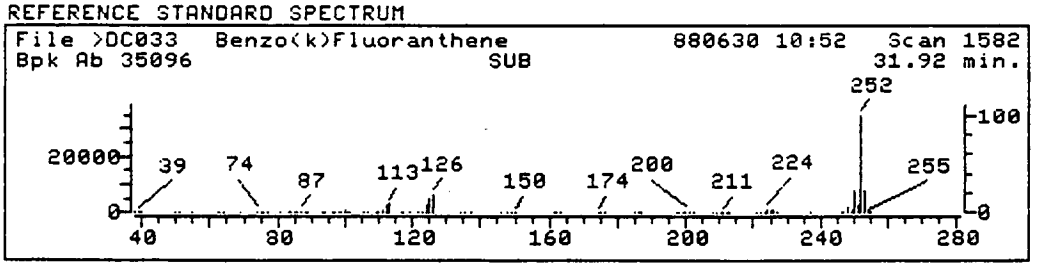
SAMPLE SPECTRUM (UNALTERED)



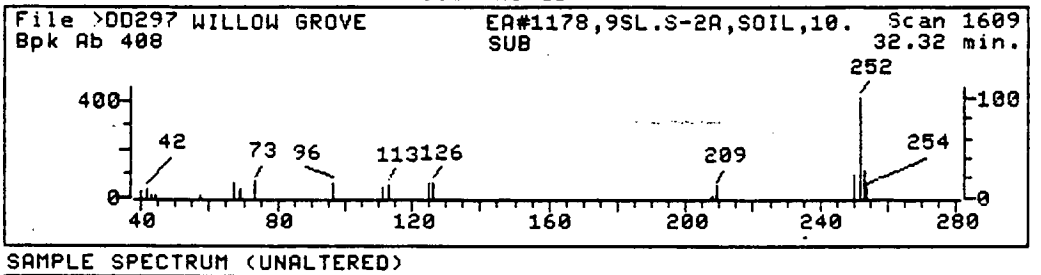
Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1609
Retention Time: 32.32 min.
Quant Ion: 252.0
Area: 1518
Concentration: 2.57 NG
q-value: 90

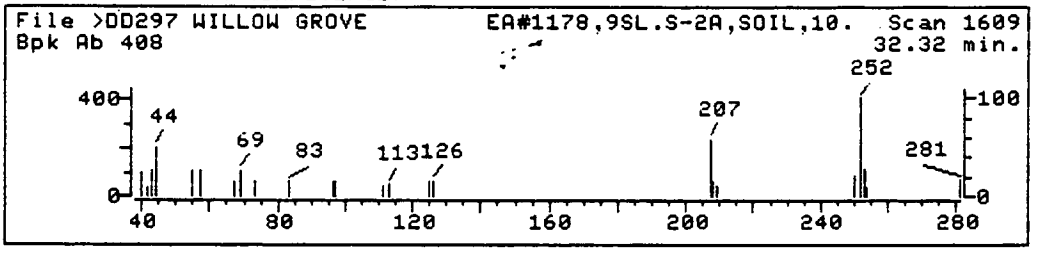
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



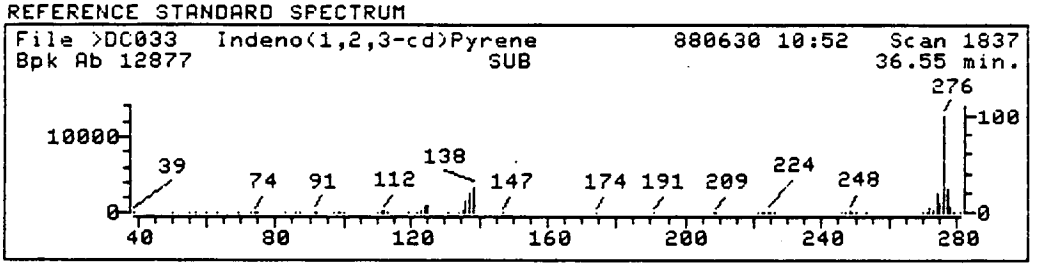
SAMPLE SPECTRUM (UNALTERED)



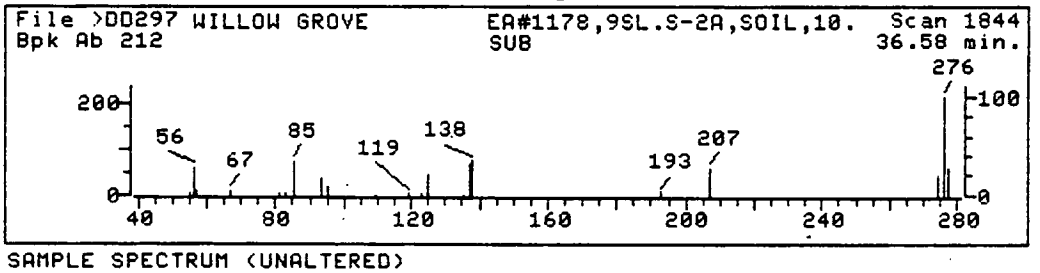
Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1609
Retention Time: 32.38 min.
Quant Ion: 252.0
Area: 966
Concentration: 2.05 NG
q-value: 86

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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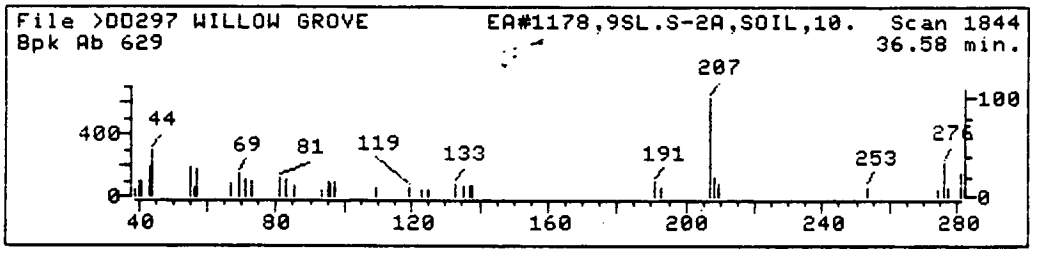
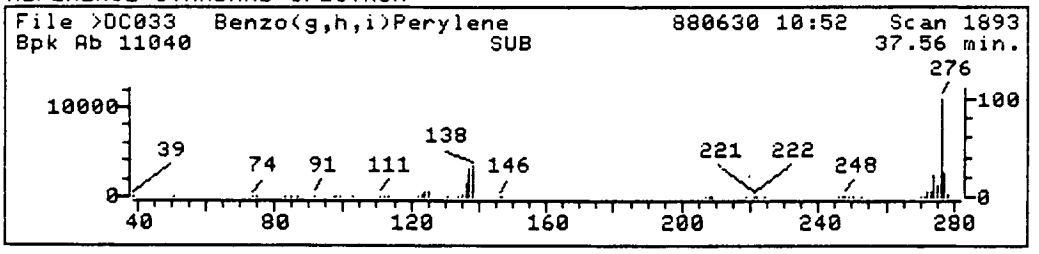


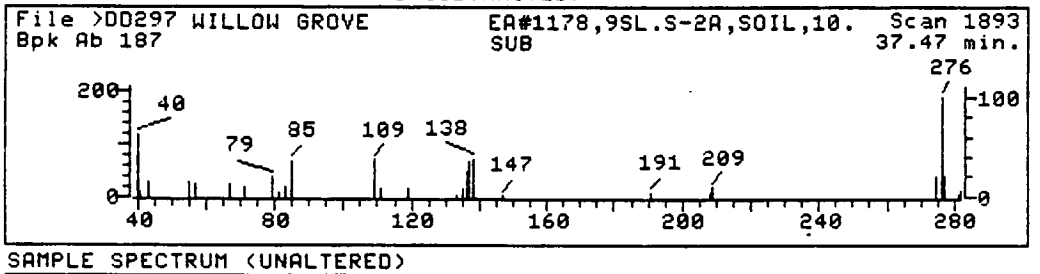
Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1844
Retention Time: 36.58 min.
Quant Ion: 276.0
Area: 1162
Concentration: 2.07 NG
q-value: 97

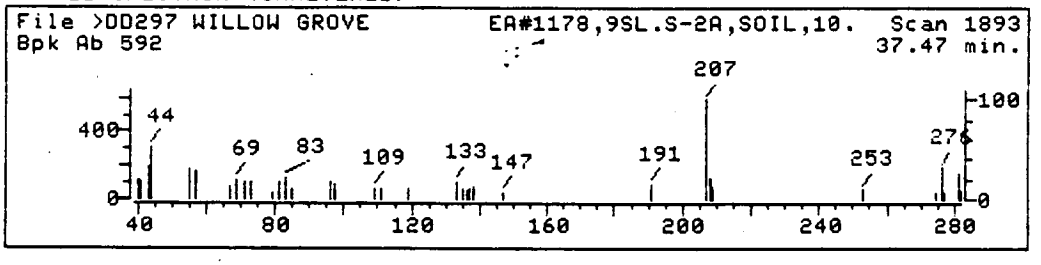
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



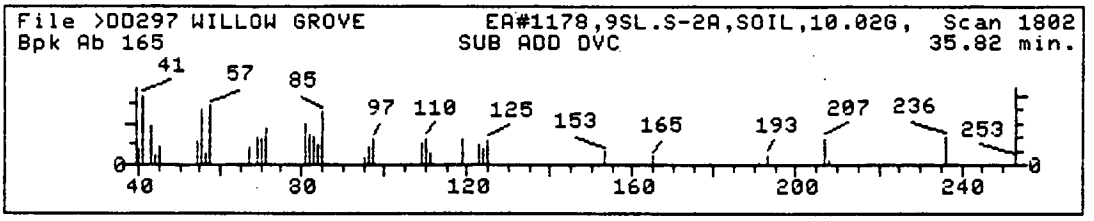
SAMPLE SPECTRUM (UNALTERED)



Data File: >DD297::D1 Quant Output File: ^DD297::QT
Name: WILLOW GROVE
Misc: EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL (199.60) BTL#99
Quant Time: 890421 11:01 Quant ID File: IDDCLP::BD
Injected at: 890421 10:18 Last Calibration: 890421 10:13

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1893
Retention Time: 37.47 min.
Quant Ion: 276.0
Area: 983
Concentration: 2.15 NG
q-value: 86

✓



unknown

Retention time = 35.82

Area = 13764.00 Tentative Concentration is 1100.00

Sample file: >DD297 Spectrum #: 1802

No data base entries were retrieved.

LIBRARY SEARCH SUMMARY

MS Data File:>DD297::D1 Analyst:BHADRA MS

Name:WILLOW GROVE Date/Time: 4/21/89 10:18
Misc:EA#1178,9SL.S-2A,SOIL,10.02G,1, 1:2 DIL ?199.60? BTL#99

The following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Nearest ISTD Area
1	35.82	13764	12161

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1179 9SL,S-12B

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/06/89 19:32
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	1200.	U	83-32-9	Acenaphthene	1200.	U
111-44-4	bis(2-Chloroethyl)ether	1200.	U	51-28-5	2,4-Dinitrophenol	6100.	U
95-57-8	2-Chlorophenol	1200.	U	100-02-7	4-Nitrophenol	6100.	U
541-73-1	1,3-Dichlorobenzene	1200.	U	132-64-9	Dibenzofuran	1200.	U
106-46-7	1,4-Dichlorobenzene	1200.	U	121-14-2	2,4-Dinitrotoluene	1200.	U
100-51-6	Benzyl Alcohol	1200.	U	606-20-2	2,6-Dinitrotoluene	1200.	U
95-50-1	1,2-Dichlorobenzene	1200.	U	84-66-2	Diethylphthalate	1200.	U
95-48-7	2-Methylphenol	1200.	U	7005-72-3	4-Chlorophenyl-phenylether	1200.	U
39638-32-9	bis(2-Chloroisopropyl)ether	1200.	U	86-73-7	Fluorene	1200.	U
106-44-5	4-Methylphenol	1200.	U	100-01-6	4-Nitroaniline	1200.	U
621-64-7	N-Nitroso-Di-n-propylamine	1200.	U	534-52-1	4,6-Dinitro-2-methylphenol	6100.	U
67-72-1	Hexachloroethane	1200.	U	86-30-6	N-Nitrososdiphenylamine (1)	1200.	U
98-95-3	Nitrobenzene	1200.	U	101-55-3	4-Bromophenyl-phenylether	1200.	U
78-59-1	Isophorone	1200.	U	118-74-1	Hexachlorobenzene	1200.	U
88-75-5	2-Nitrophenol	1200.	U	87-86-5	Pentachlorophenol	6100.	U
105-67-9	2,4-Dimethylphenol	1200.	U	85-01-8	Phenanthrene	810.	J
65-85-0	Benzoic Acid	130.	J	120-12-7	Anthracene	200.	J
111-91-1	bis(2-Chloroethoxy)methane	1200.	U	84-74-2	Di-n-Butyl phthalate	1200.	U
120-83-2	2,4-Dichlorophenol	1200.	U	206-44-0	Fluoranthene	1600.	
120-82-1	1,2,4-Trichlorobenzene	1200.	U	129-00-0	Pyrene	1300.	
91-20-3	Naphthalene	1200.	U	85-68-7	Butylbenzylphthalate	1200.	U
106-47-8	4-Chloroaniline	1200.	U	91-94-1	3,3'-Dichlorobenzidine	2500.	U
87-68-3	Hexachlorobutadiene	1200.	U	56-55-3	Benzo(a)Anthracene	820.	J
59-50-7	4-Chloro-3-methylphenol	1200.	U	117-81-7	bis(2-Ethylhexyl)phthalate	1200.	U
91-57-6	2-Methylnaphthalene	1200.	U	218-01-9	Chrysene	930.	J
77-47-4	Hexachlorocyclopentadiene	1200.	U	117-84-0	Di-n-Octyl phthalate	1200.	U
88-06-2	2,4,6-Trichlorophenol	1200.	U	205-99-2	Benzo(b)Fluoranthene } *	1300.	
95-95-4	2,4,5-Trichlorophenol	6100.	U	207-08-9	Benzo(k)Fluoranthene }		
91-58-7	2-Chloronaphthalene	1200.	U	50-32-8	Benzo(a)Pyrene	770.	J
88-74-4	2-Nitroaniline	6100.	U	193-39-5	Indeno(1,2,3-cd)Pyrene	520.	J
131-11-3	Dimethylphthalate	1200.	U	53-70-3	Dibenzo(a,h)Anthracene	1200.	U
208-96-8	Acenaphthylene	1200.	U	191-24-2	Benzo(g,h,i)Perylene	530.	J
99-09-2	3-Nitroaniline	6100.	U				

(1)-Cannot be separated from diphenylamine

* Cannot seperate the two isomers — number given reflects amount of benzo(b+k)fluoranthen

Laboratory Name: EA Laboratories.

Case No: Willow Grove

Sample Number
9SL. S-2B
EA # 1179

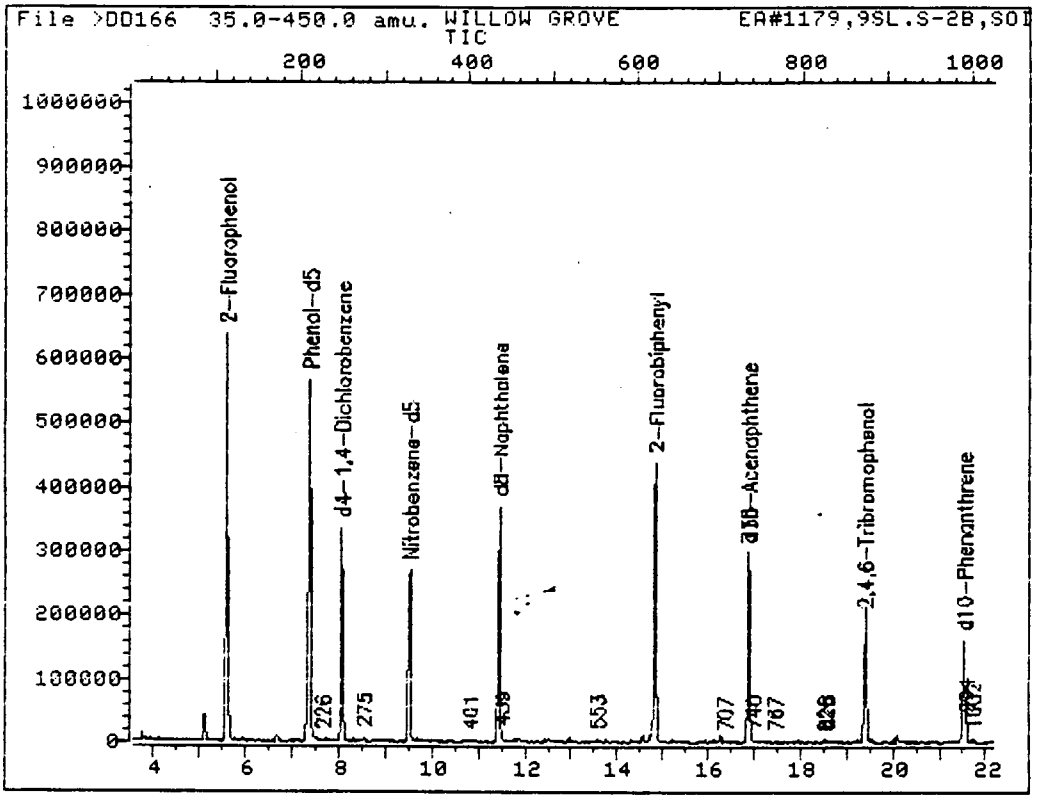
Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	—	Unknown	BN/A	5.09	560.00
2.	—	Unknown	BN/A	29.76	2900.00
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

B.

TOTAL ION CHROMATOGRAM



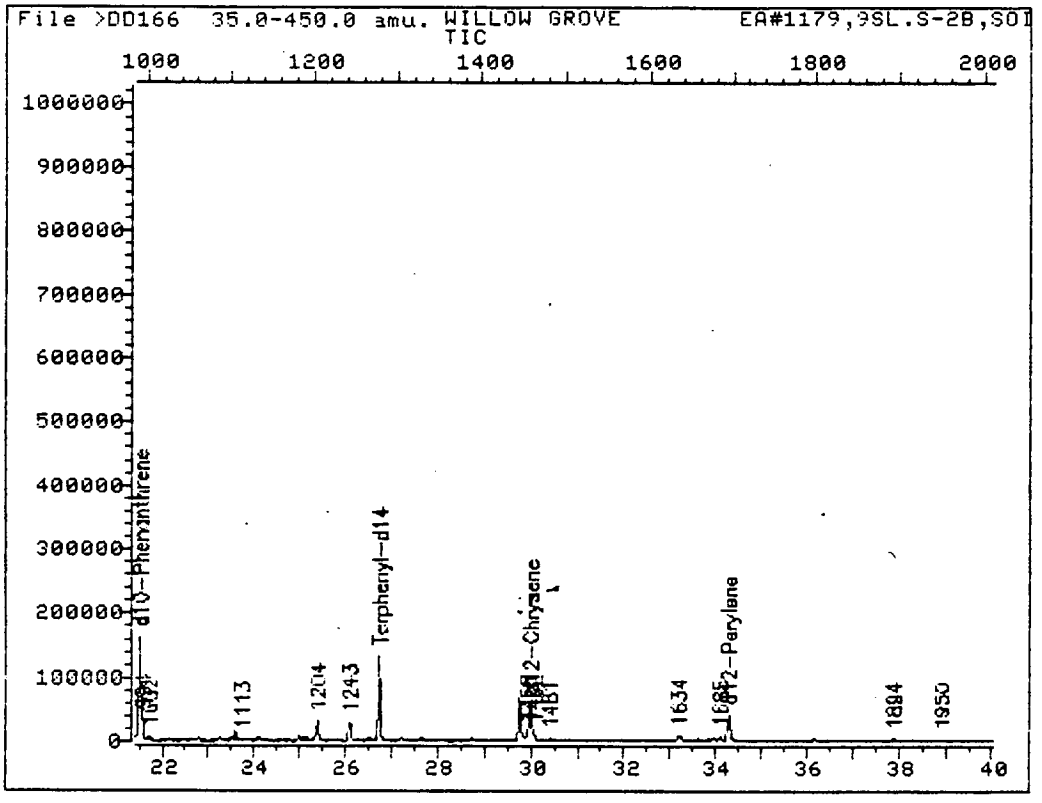
Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890406 14:05

Operator ID: BHADRA
Quant Time: 890406 20:15
Injected at: 890406 19:32

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890406 14:05

Operator ID: BHADRA
Quant Time: 890406 20:15
Injected at: 890406 19:32

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 890406 20:15
Output File: ^DD166::QT Injected at: 890406 19:32
Data File: >DD166::D1 Dilution Factor: 1.00000
Nam : WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890406 14:05

	Compound	R.T.	Q ion	Area	Conc	Units	
1)	*d4-1,4-Dichlorobenzene	8.07	152.0	148982	40.00	NG	
2)	2-Fluorophenol	5.58	112.0	556299	100.19	NG ✓50%	
3)	Phenol-d5	7.38	99.0	758450	117.12	NG ✓59%	
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	7.65	128.0	868	~~.16 NG~~		
7)	1,3-Dichlorobenzene	8.54	146.0	4510	~~.81 NG~~		
8)	1,4-Dichlorobenzene	8.54	146.0	4510	~~.85 NG~~		
9)	Benzyl Alcohol	0.00	108.0	0	0.00	NG	
10)	1,2-Dichlorobenzene	8.54	146.0	4510	~~.86 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	11.46	136.0	515639	40.00	NG	
17)	Nitrobenzene-d5	9.53	82.0	293786	63.05	NG ✓63%	
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	10.82	122.0	2293	1.03	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	11.51	128.0	5454^	~~.47 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	13.58	142.0	3024	~~.45 NG~~		
31)	*d10-Acenaphthene	16.88	164.0	194015	40.00	NG	
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	14.85	172.0	443705	62.13	NG ✓62%	
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	16.88	163.0	63778	~~9.28 NG~~		
39)	Acenaphthylene	16.37	152.0	856	~~.09 NG~~		
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	16.97	153.0	2677	~~.48 NG~~		
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

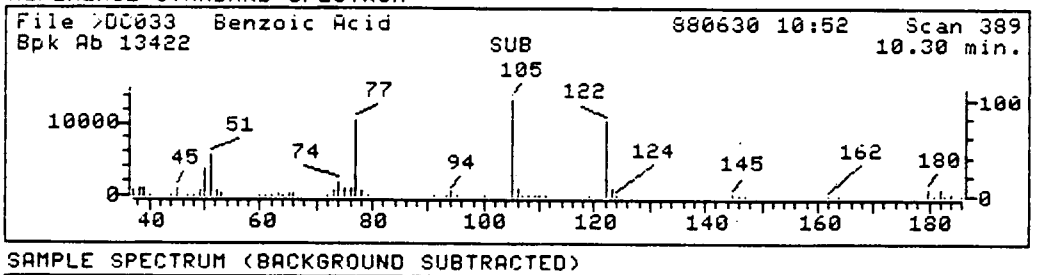
Output File:^DD166:: Data File:>DD166::D1

	Compound	R.T.	Q ion	Area	Conc	Units
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG
44)	Dibenzofuran	17.46	168.0	3868	~~.53~~	~~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	18.53	149.0	778	~~.14~~	~~NG~~
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG
49)	Fluorene	18.57	166.0	2576	~~.53~~	~~NG~~
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG
51)	*d10-Phenanthrene	21.52	188.0	184540	40.00	NG
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	19.40	329.9	72590	161.11	NG ✓816
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	21.58	178.0	30331	6.57	NG ✓
59)	Anthracene	21.72	178.0	7530	1.65	NG ✓
60)	Di-n-Butyl phthalate	23.73	149.0	1786	~~.25~~	~~NG~~
61)	Fluoranthene	25.39	202.0	41597	12.93	NG ✓
62)	*d12-Chrysene	29.99	240.0	55547	40.00	NG
63)	Pyrene	26.09	202.0	34804	10.34	NG ✓
64)	Terphenyl-d14	26.75	244.0	142087	64.24	NG ✓646
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	29.94	228.0	11494	6.70	NG ✓
68)	bis(2-Ethylhexyl)phthalate	30.41	149.0	1403	~~.54~~	~~NG~~
69)	Chrysene	30.07	228.0	11501	7.55	NG ✓
70)	*d12-Perylene	34.29	264.0	55031	40.00	NG
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG
72)	Benzo(b)Fluoranthene	33.18	252.0	15977	11.10	NG } * ✓
73)	Benzo(k)Fluoranthene	33.18	252.0	15977	10.10	NG }
74)	Benzo(a)Pyrene	34.11	252.0	8467	6.27	NG ✓
75)	Indeno(1,2,3-cd)Pyrene	37.90	276.0	5036	4.23	NG ✓
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG
77)	Benzo(g,h,i)Perylene	38.92	276.0	4217	4.31	NG ✓

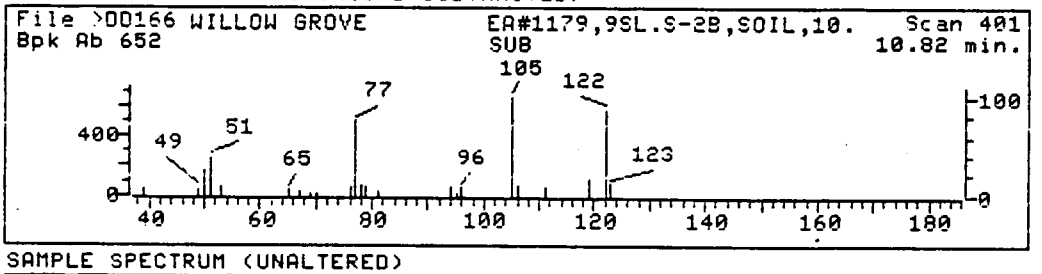
* Compound is ISTD

* Isomer can't seperate

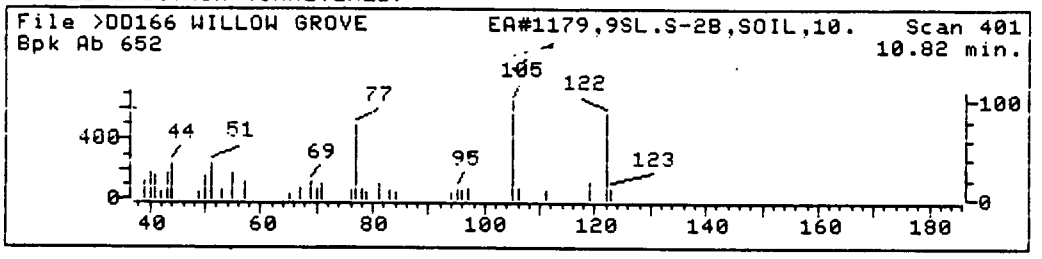
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

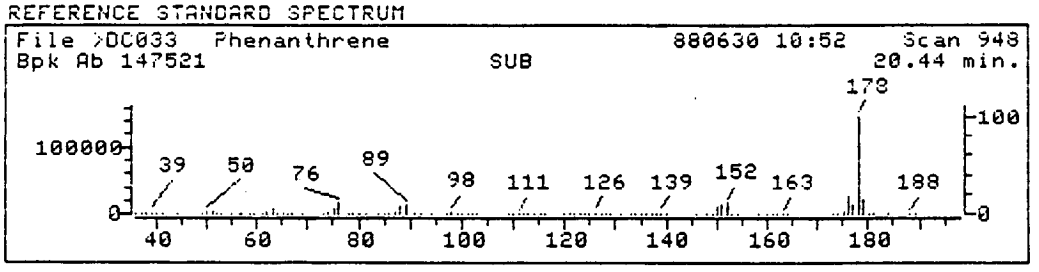


Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

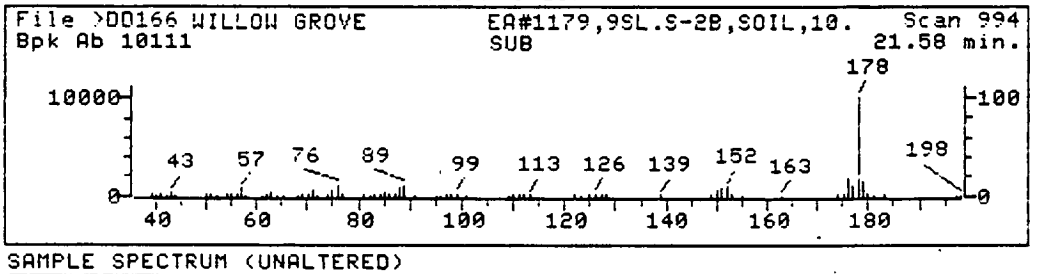
Compound No: 22
Compound Name: Benzoic Acid
Scan Number: 401
Retention Time: 10.82 min.
Quant Ion: 122.0
Area: 2293
Concentration: 1.03 NG
q-value: 93

✓

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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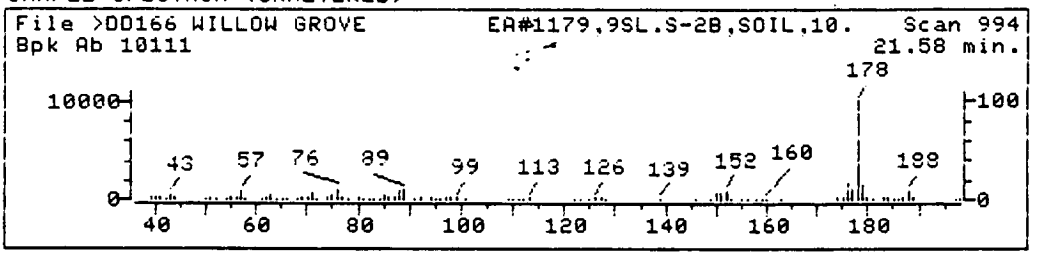
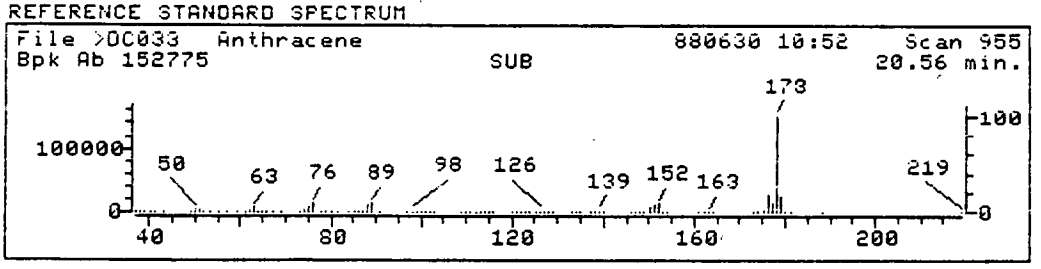


Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE <99.50> BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

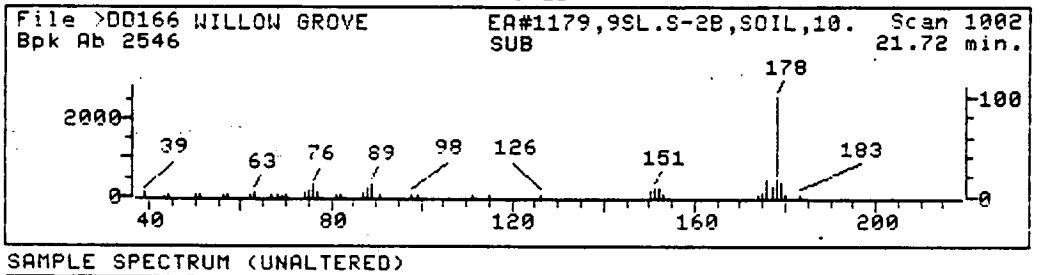
Compound No: 58
Compound Name: Phenanthrene
Scan Number: 994
Retention Time: 21.58 min.
Quant Ion: 178.0
Area: 30331
Concentration: 6.57 NG
q-value: 99

✓

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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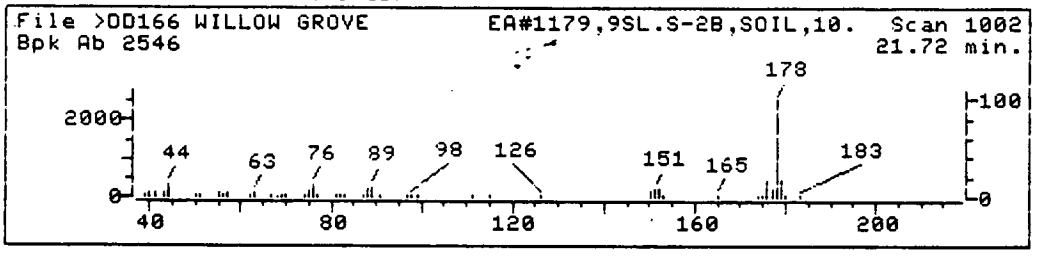
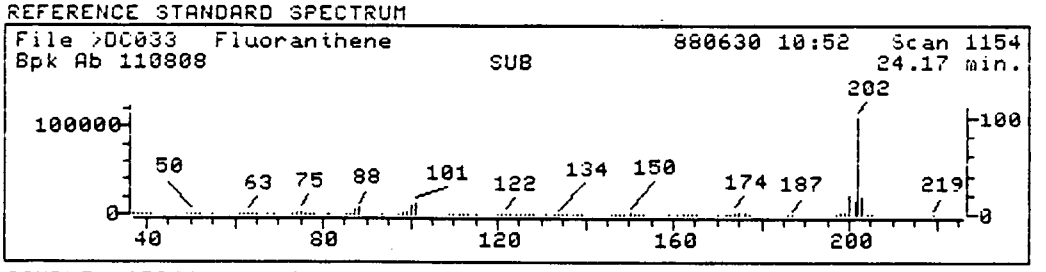


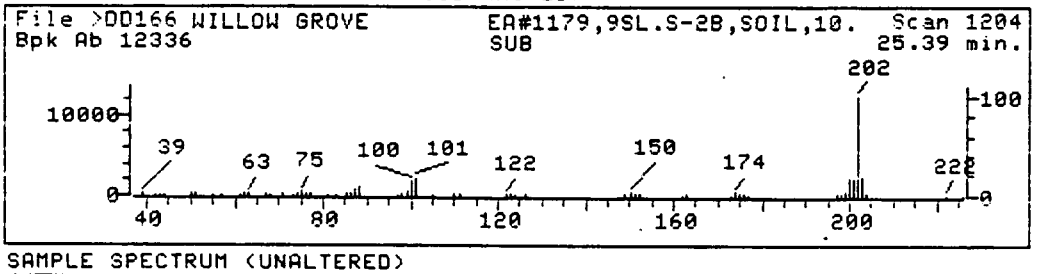
Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

Compound No: 59
Compound Name: Anthracene
Scan Number: 1002
Retention Time: 21.72 min.
Quant Ion: 178.0
Area: 7530
Concentration: 1.65 NG
q-value: 96

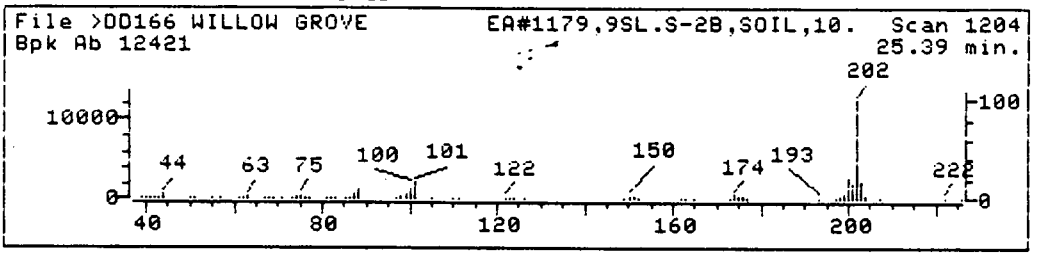
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

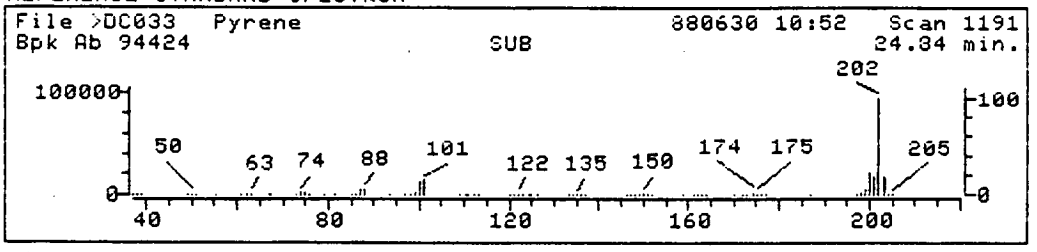


Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

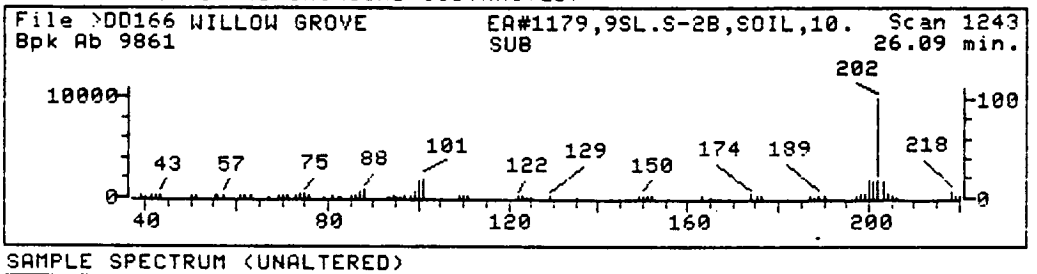
Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1204
Retention Time: 25.39 min.
Quant Ion: 202.0
Area: 41597
Concentration: 12.93 NG
q-value: 96

✓

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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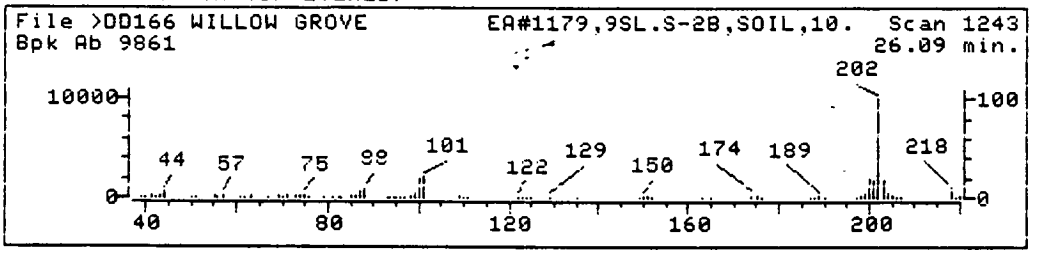
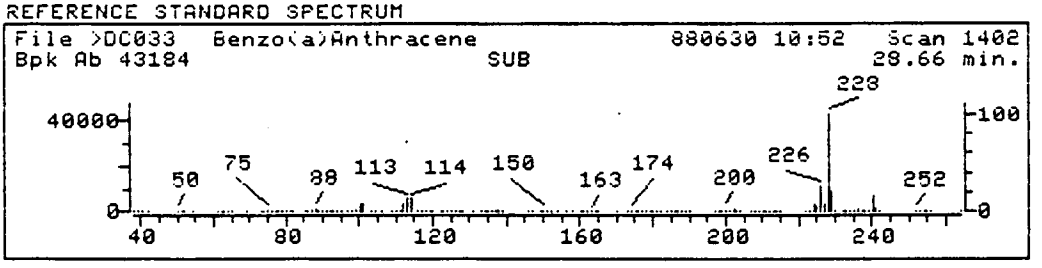


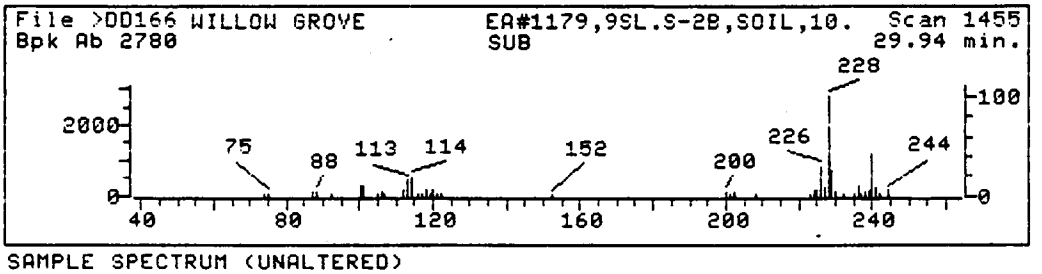
Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

Compound No: 63
Compound Name: Pyrene
Scan Number: 1243
Retention Time: 26.09 min.
Quant Ion: 202.0
Area: 34804
Concentration: 10.34 NG
q-value: 93

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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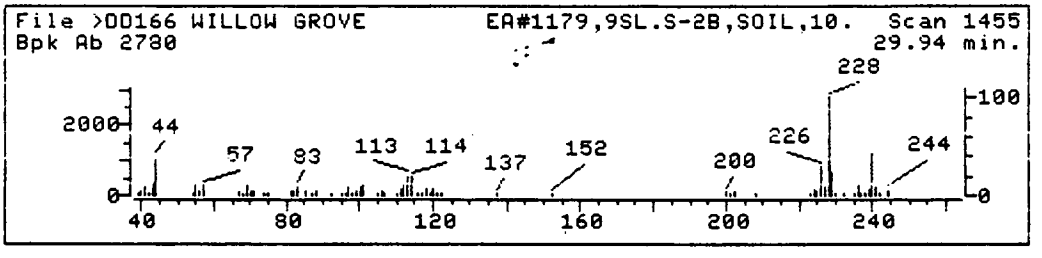
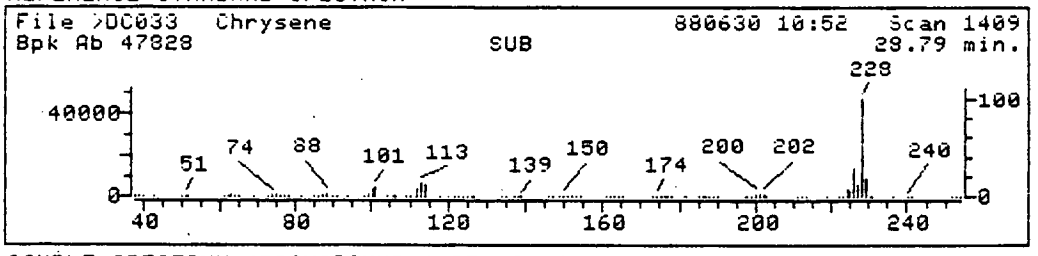


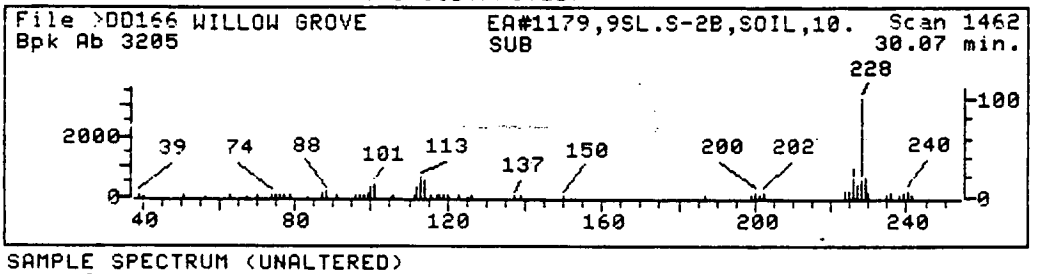
Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1455
Retention Time: 29.94 min.
Quant Ion: 228.0
Area: 11494
Concentration: 6.70 NG
q-value: 93

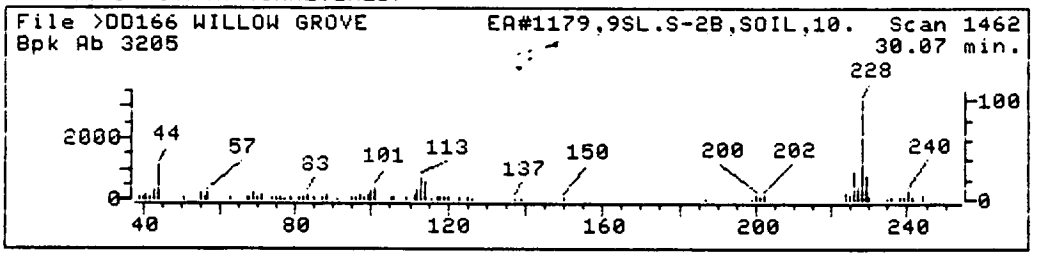
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

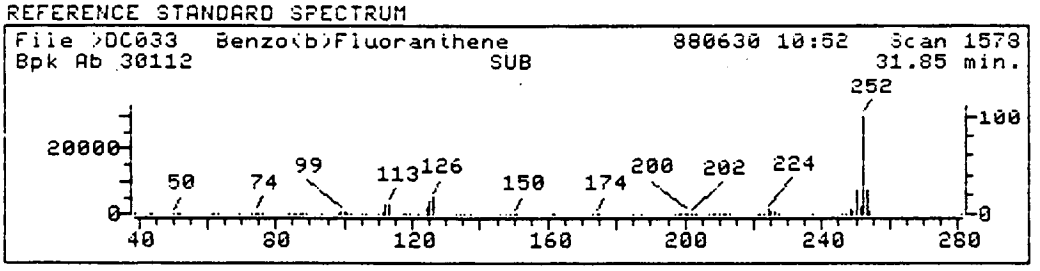


Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

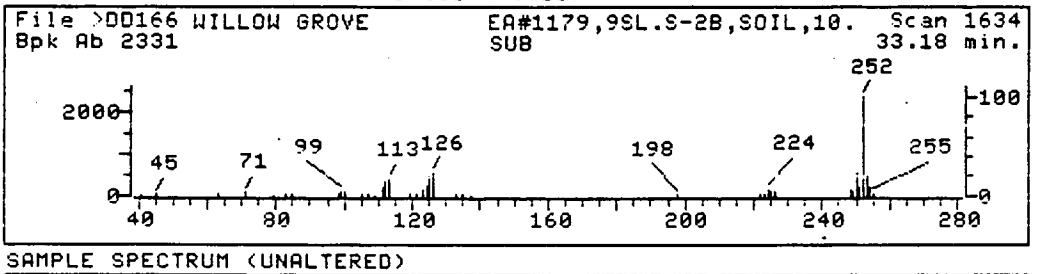
Compound No: 69
Compound Name: Chrysene
Scan Number: 1462
Retention Time: 30.07 min.
Quant Ion: 228.0
Area: 11501
Concentration: 7.55 NG
q-value: 97

✓

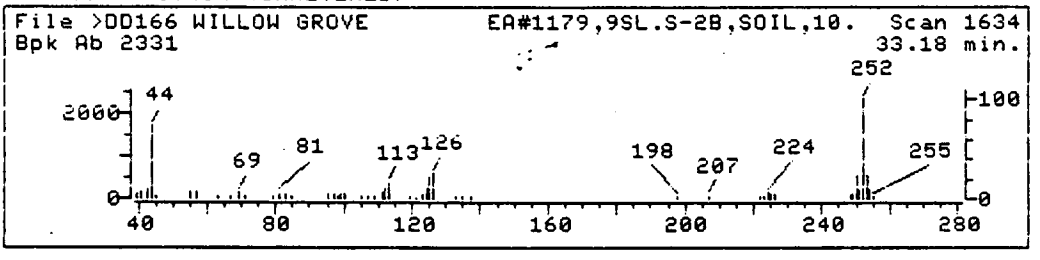
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

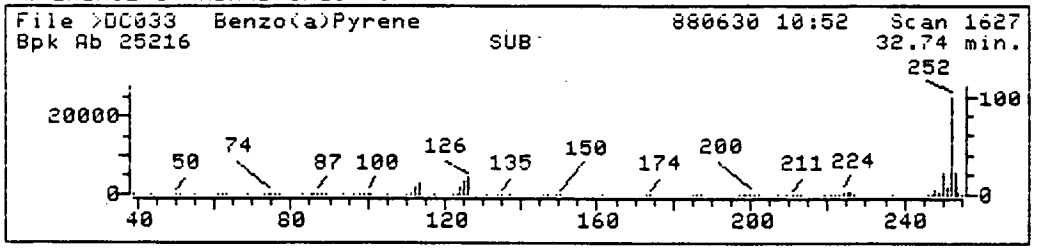


Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

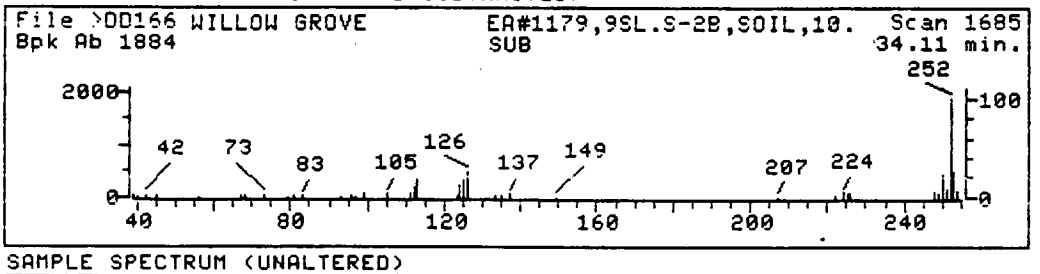
Compound No: 72
Compound Name: ~~Benzo(b)Fluoranthene~~ Benzo(b&k) Fluoranthene
Scan Number: 1634
Retention Time: 33.18 min.
Quant Ion: 252.0
Area: 15977
* Concentration: ~~11.10~~ 10.60 NG
q-value: 93

* Amount calculated is average of amount calculated for Benzo(b) Fluoranthene (11.1 ng) & Benzo(k) Fluoranthene (10.1 ng); unable to seperate these isomers.

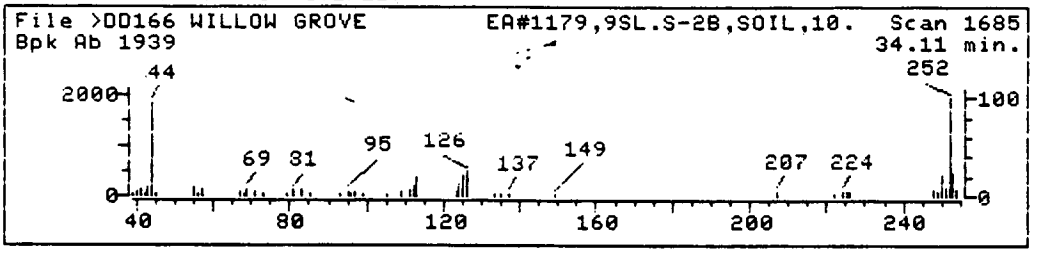
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



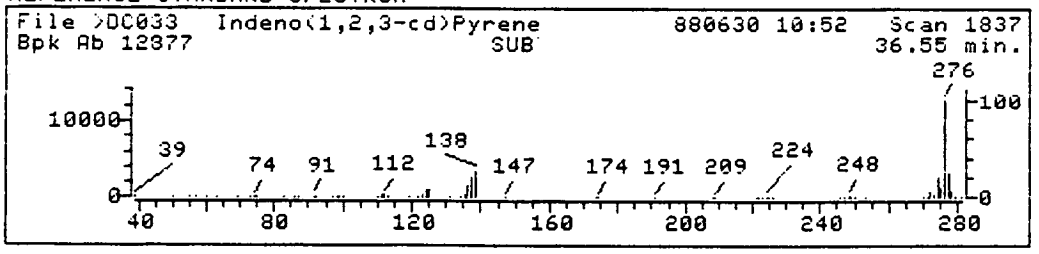
SAMPLE SPECTRUM (UNALTERED)



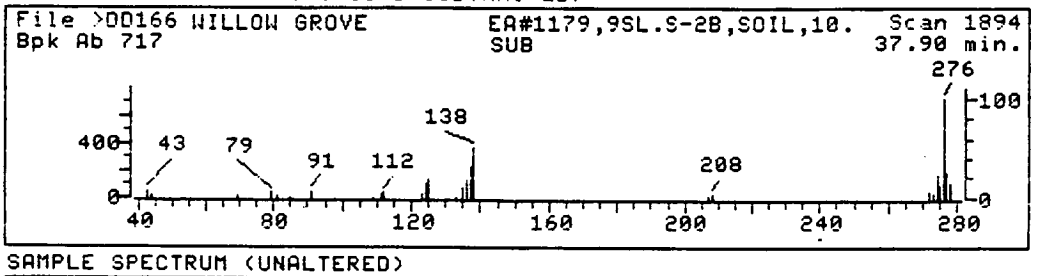
Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1685
Retention Time: 34.11 min.
Quant Ion: 252.0
Area: 8467
Concentration: 6.27 NG
q-value: 95

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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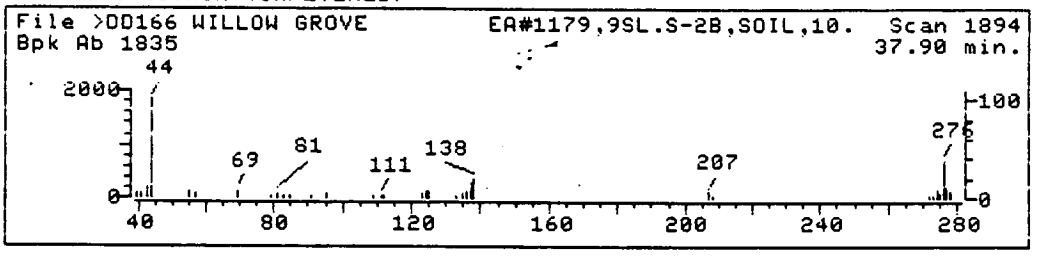
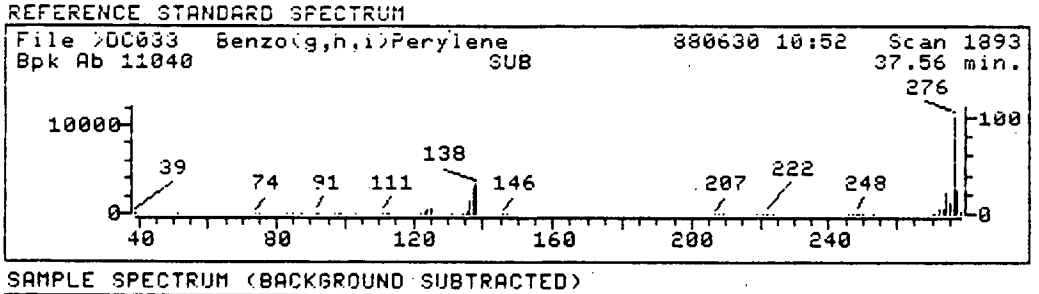


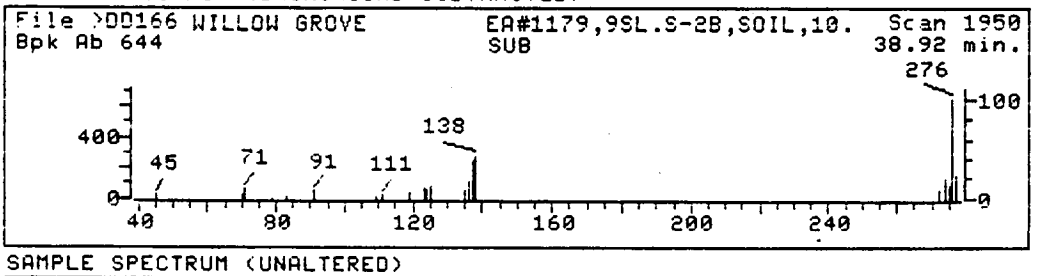
Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1894
Retention Time: 37.90 min.
Quant Ion: 276.0
Area: 5036
Concentration: 4.23 NG
q-value: 98

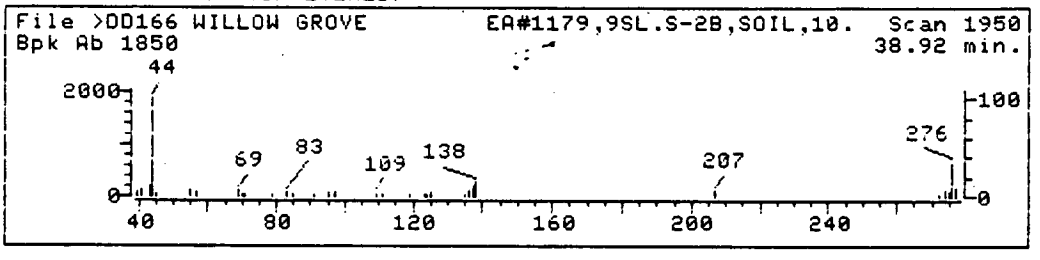
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



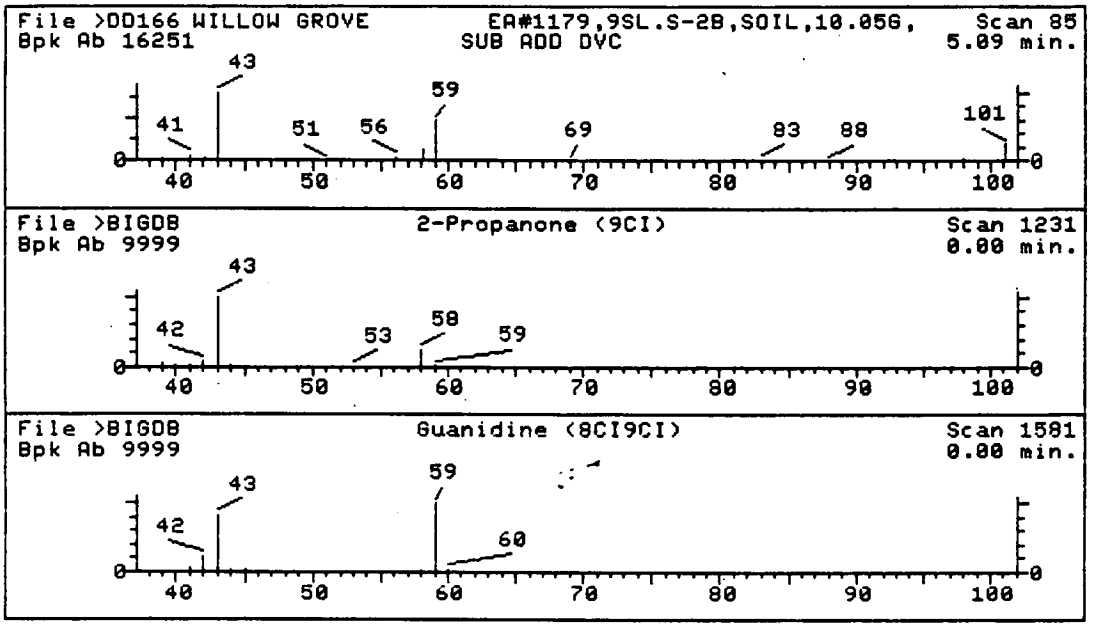
SAMPLE SPECTRUM (UNALTERED)



Data File: >DD166::D1 Quant Output File: ^DD166::QT
Name: WILLOW GROVE
Misc: EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE (99.50) BTL# 3
Quant Time: 890406 20:15 Quant ID File: IDDCLP::BD
Injected at: 890406 19:32 Last Calibration: 890406 14:05

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1950
Retention Time: 38.92 min.
Quant Ion: 276.0
Area: 4217
Concentration: 4.31 NG
q-value: 88

/



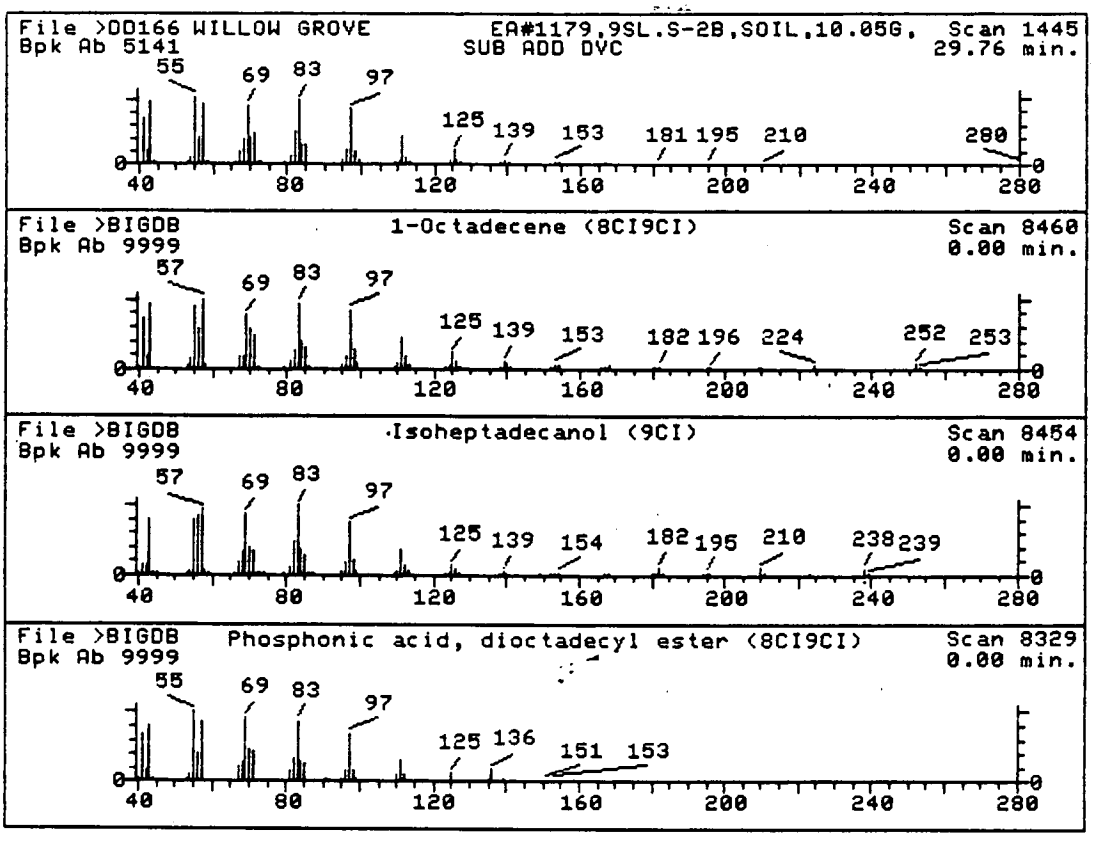
Retention time = 5.09 unknown

Area = 125877.0 Tentative Concentration is 580.00

1. 2-Propanone (9CI) 58 C3H6O
2. Guanidine (8CI9CI) 59 CH5N3

Sample file: >DD166 Spectrum #: 85
Search speed: 2 Tilting option: S No. of ion ranges searched: 4

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	30*	67641	1231	"BIGDB	25	46	0	0	68	44	8	1
2.	25*	113008	1581	"BIGDB	20	47	2	0	58	49	7	1



Ret ntion time = 29.76 unknown

Ar a = 196925.0 Tentative Concentration is 2900.00

1.	1-Octadecene (8CI9CI)	252 C18H36
2.	Isoheptadecanol (9CI)	256 C17H36O
3.	Phosphonic acid, dioctadecyl ester (8CI9CI)	586 C36H75O3P
4.	5-Eicosene, (E)- (9CI)	280 C20H40
5.	3-Eicosene, (E)- (9CI)	280 C20H40
6.	Octadecanol (8CI9CI)	270 C18H38O
7.	Hexadecanol (VAN8CI9CI)	242 C16H34O

Sample file: >DD166 Spectrum #: 1445
Search speed: 2 Tilting option: S No. of ion ranges searched: 53

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	83	112889	8460	"BIGDB	115	57	2	0	69	9	54	5
2.	83	57289073	8454	"BIGDB	104	70	3	0	95	3	57	2
3.	81	19047859	8329	"BIGDB	139	61	2	0	89	17	45	7
4.	79	74685306	8337	"BIGDB	142	13	2	-2	88	12	43	6
5.	61*	74685339	8338	"BIGDB	79	87	1	1	74	43	18	6
6.	60	26762447	8444	"BIGDB	83	91	3	0	77	14	30	1
7.	60	29354981	8429	"BIGDB	93	74	3	0	94	14	30	1

LIBRARY SEARCH SUMMARY

MS Data File:>DD166::D1 Analyst:BHADRA MS

Nam :WILLOW GROVE Date/Time: 4/06/89 19:32
Misc:EA#1179,9SL.S-2B,SOIL,10.05G,1 WILLOW GROVE ?99.50? BTL# 3

The following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Neare t ISTD Area
1	5.09	125877	86507
2	29.76	196925	26904

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1180,9SL,S-3A

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/06/89 2:18
Conc/Dil Factor: 1.00000
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	1200.	U
111-44-4	bis(2-Chloroethyl)ether	1200.	U
95-57-8	2-Chlorophenol	1200.	U
541-73-1	1,3-Dichlorobenzene	1200.	U
106-46-7	1,4-Dichlorobenzene	1200.	U
100-51-6	Benzyl Alcohol	1200.	U
95-50-1	1,2-Dichlorobenzene	1200.	U
95-48-7	2-Methylphenol	1200.	U
39638-32-9	bis(2-Chloroisopropyl)ether	1200.	U
106-44-5	4-Methylphenol	1200.	U
621-64-7	N-Nitroso-Di-n-propylamine	1200.	U
67-72-1	Hexachloroethane	1200.	U
98-95-3	Nitrobenzene	1200.	U
78-59-1	Isophorone	1200.	U
88-75-5	2-Nitrophenol	1200.	U
105-67-9	2,4-Dimethylphenol	1200.	U
65-85-0	Benzoic Acid	6100.	U
111-91-1	bis(2-Chloroethoxy)methane	1200.	U
120-83-2	2,4-Dichlorophenol	1200.	U
120-82-1	1,2,4-Trichlorobenzene	1200.	U
91-20-3	Naphthalene	1200.	U
106-47-8	4-Chloroaniline	1200.	U
87-68-3	Hexachlorobutadiene	1200.	U
59-50-7	4-Chloro-3-methylphenol	1200.	U
91-57-6	2-Methylnaphthalene	1200.	U
77-47-4	Hexachlorocyclopentadiene	1200.	U
88-06-2	2,4,6-Trichlorophenol	1200.	U
95-95-4	2,4,5-Trichlorophenol	6100.	U
91-58-7	2-Chloronaphthalene	1200.	U
88-74-4	2-Nitroaniline	6100.	U
131-11-3	Dimethylphthalate	1200.	U
208-96-8	Acenaphthylene	1200.	U
99-09-2	3-Nitroaniline	6100.	U
83-32-9	Acenaphthene	1200.	U
51-28-5	2,4-Dinitrophenol	6100.	U
100-02-7	4-Nitrophenol	6100.	U
132-64-9	Dibenzofuran	1200.	U
121-14-2	2,4-Dinitrotoluene	1200.	U
606-20-2	2,6-Dinitrotoluene	1200.	U
84-66-2	Diethylphthalate	1200.	U
7005-72-3	4-Chlorophenyl-phenylether	1200.	U
86-73-7	Fluorene	1200.	U
100-01-6	4-Nitroaniline	1200.	U
534-52-1	4,6-Dinitro-2-methylphenol	6100.	U
86-30-6	N-Nitrosodiphenylamine (1)	1200.	U
101-55-3	4-Bromophenyl-phenylether	1200.	U
118-74-1	Hexachlorobenzene	1200.	U
87-86-5	Pentachlorophenol	6100.	U
85-01-8	Phenanthrene	1200.	U
120-12-7	Anthracene	1200.	U
84-74-2	Di-n-Butyl phthalate	1200.	U
206-44-0	Fluoranthene	1200.	U
129-00-0	Pyrene	1200.	U
85-68-7	Butylbenzylphthalate	1200.	U
91-94-1	3,3'-Dichlorobenzidine	2400.	U
56-55-3	Benzo(a)Anthracene	1200.	U
117-81-7	bis(2-Ethylhexyl)phthalate	180.	J
218-01-9	Chrysene	1200.	U
117-84-0	Di-n-Octyl phthalate	1200.	U
205-99-2	Benzo(b)Fluoranthene	1200.	U
207-08-9	Benzo(k)Fluoranthene	1200.	U
50-32-8	Benzo(a)Pyrene	1200.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1200.	U
53-70-3	Dibenzo(a,h)Anthracene	1200.	U
191-24-2	Benzo(g,h,i)Perylene	1200.	U

(1)-Cannot be separated from diphenylamine

Laboratory Name: EA LABORATORIES

Case No: WILLOW GROVE

Sample Number: EA#1180

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT ~~or Scan Number~~	Estimated Concentration (~~ug/l or~~ ug/kg)
1.	—	Unknown	BNA	5.17	1000
2.	—	Unknown		32.76	1100
3.	—	Unknown		33.19	540
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
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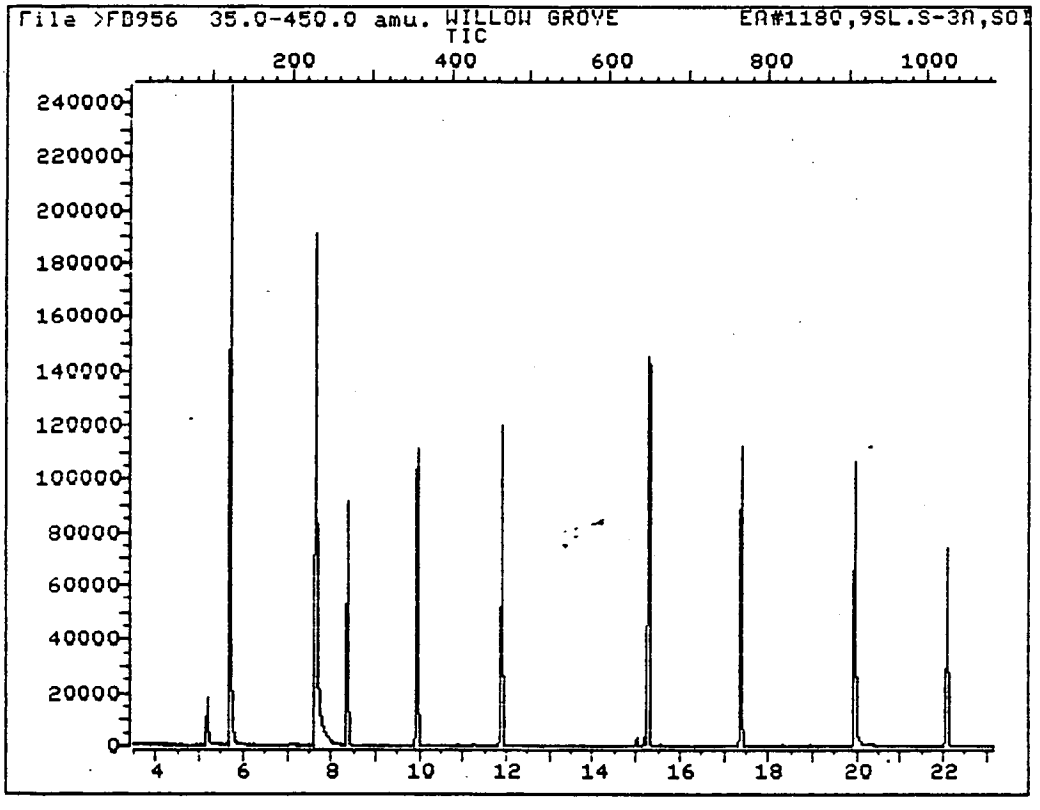
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TOTAL ION CHROMATOGRAM



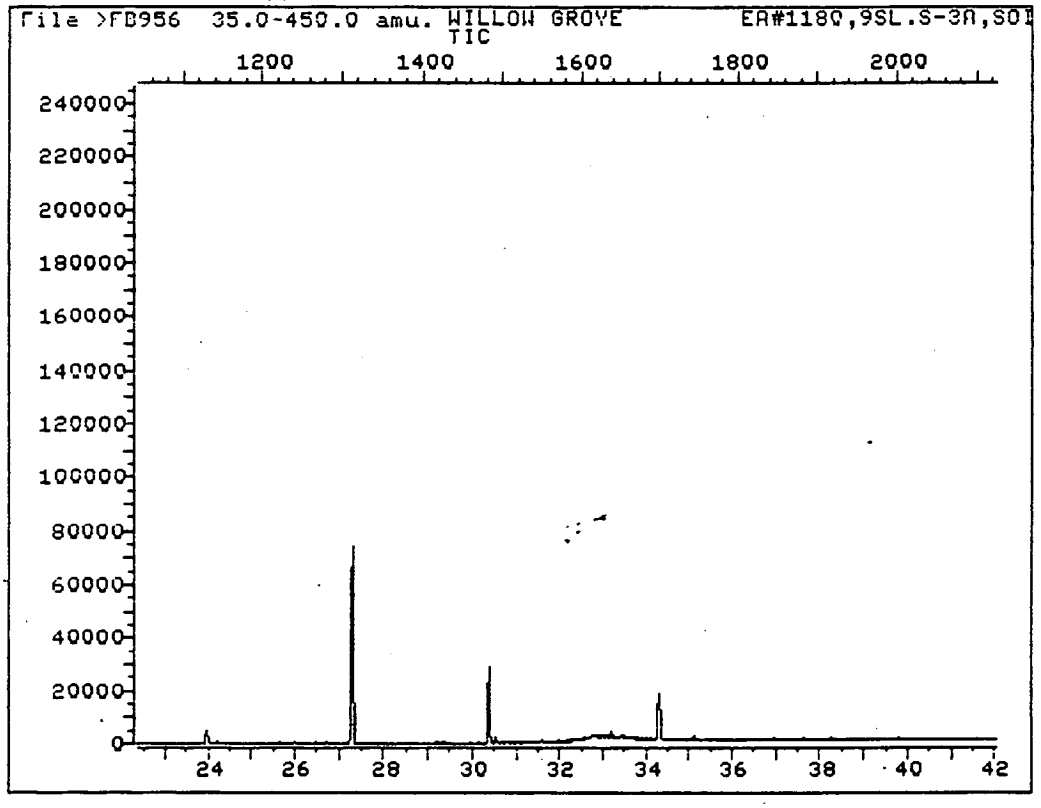
Data File: >FB956::D5 Quant Output File: ^FB956::QT
Name: WILLOW GROVE
Misc: EA#1180,9SL.S-3A,SOIL,10.28,1 BTL# 7

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

Operator ID: UNCLE
Quant Time: 890406 03:03
Injected at: 890406 02:18

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FB956::D5 Quant Output File: ^FB956::QT
Name: WILLOW GROVE
Misc: EA#1180,9SL.S-3A,SOIL,10.28,1 BTL# 7

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

Operator ID: UNCLE
Quant Time: 890406 03:03
Inj cted at: 890406 02:18

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890406 03:03
Output File: ^FB956::QT Injected at: 890406 02:18
Data File: >FB956::D5 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#1180,9SL.S-3A,SOIL,10.28,1 BTL# 7

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

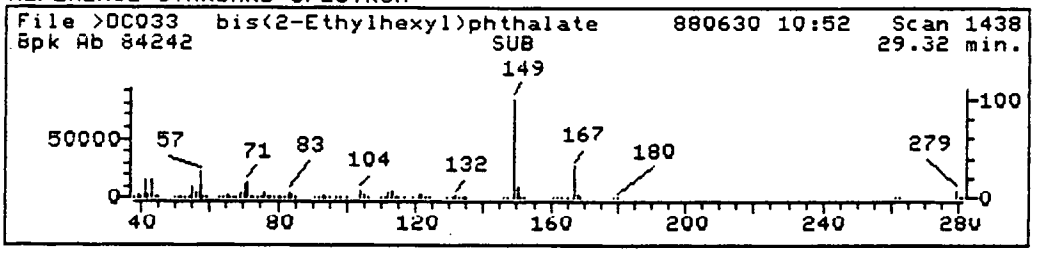
	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	8.36	152.0	36707	40.00	NG		96
2)	2-Fluorophenol	5.70	112.0	130983	109.76	NG	55%	95
3)	Phenol-d5	7.65	99.0	209806	149.34	NG	75%	89
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	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-M thylphenol	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	11.90	136.0	140506	40.00	NG		87
17)	Nitrobenzene-d5	9.96	82.0	91377	58.58	NG	59%	90
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	17.39	164.0	64157	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	15.29	172.0	144634	55.61	NG	56%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dim thylphthalate	17.39	163.0	21330	~~9.83~~	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-Dinitroph nol	0.00	184.0	0	0.00	NG		

Output File:^FB956:: Data File:>FB956::D5

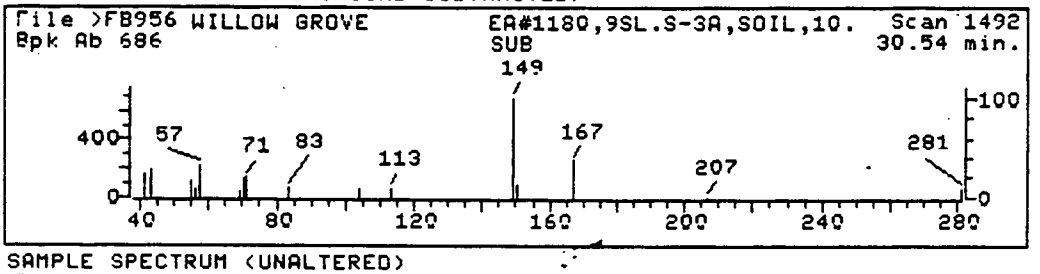
	Compound	R.T.	Q ion	Area	Conc	Units		q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG		
44)	Dibenzofuran	0.00	168.0	0	0.00	NG		
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG		
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG		
47)	Diethylphthalate	0.00	149.0	0	0.00	NG		
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	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	22.09	188.0	79699	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	19.95	329.9	49303	136.16	NG	68%	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	22.16	178.0	864	~~.48~~	NG		98
59)	Anthracene	22.16	178.0	864	~~.51~~	NG		98
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG		
61)	Fluoranthene	26.01	202.0	1084	~~.78~~	NG		92
62)	*d12-Chrysene	30.38	240.0	27142	40.00	NG		97
63)	Pyrene	0.00	202.0	0	0.00	NG		
64)	Terph nyl-d14	27.30	244.0	83090	60.04	NG	60%	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	30.54	149.0	1295	1.51	NG	✓	97
69)	Chrysene	0.00	228.0	0	0.00	NG		
70)	*d12-Perylene	34.30	264.0	24248	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

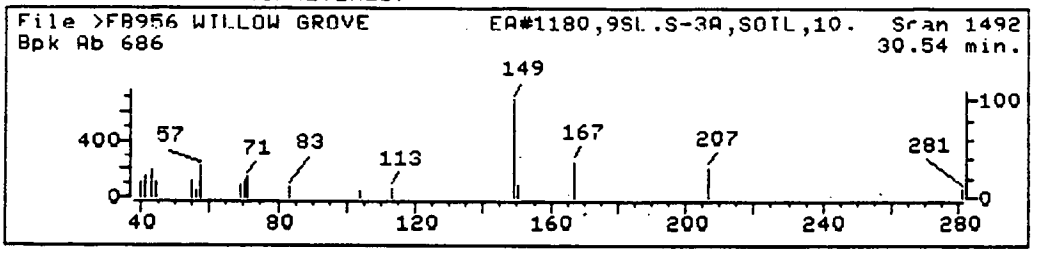
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

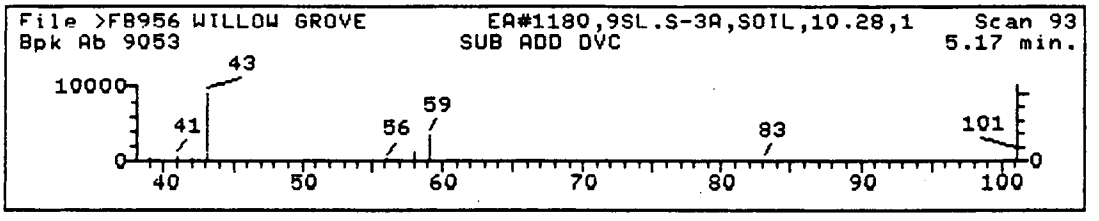


SAMPLE SPECTRUM (UNALTERED)



Data File: >FB956::D5 Quant Output File: ^FB956::QT
Nam : WILLOW GROVE
Misc: EA#1180,9SL.S-3A,SOIL,10.28,1 BTL# 7
Quant Time: 890406 03:03 Quant ID File: IDFCLP::BD
Injected at: 890406 02:18 Last Calibration: 890330 10:03

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1492
Retention Time: 30.54 min.
Quant Ion: 149.0
Area: 1295
Concentration: 1.51 NG
q-value: 97



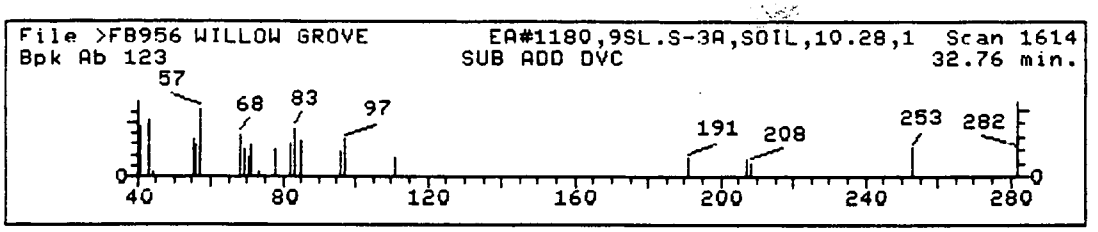
Retention time = 5.17

Area = 51060.00 Tentative Concentration is 1000.00

Unknown

Sample file: >FB956 Spectrum #: 93

No data base entries were retrieved.



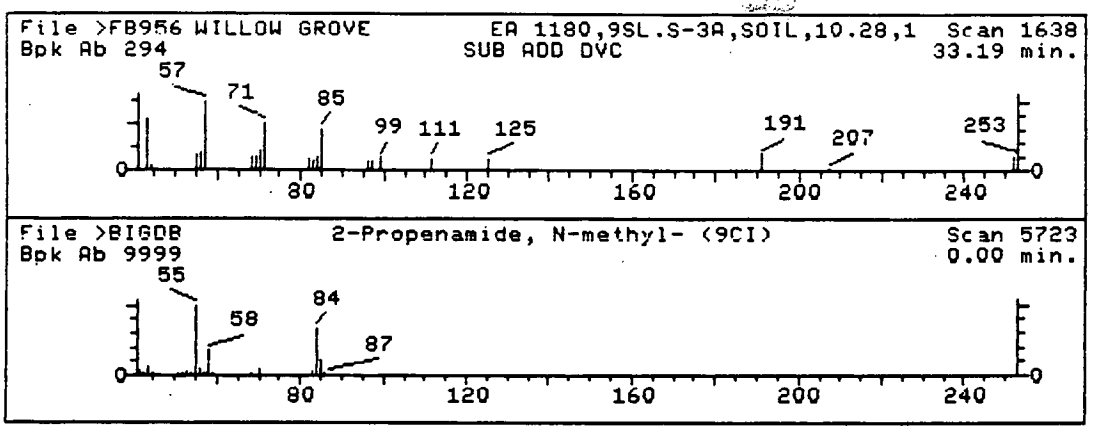
Retention time = 32.76

Ar a = 14710.00 Tentative Concentration is 1100.00

Sample file: >FB956 Spectrum #: 1614

No data base entries were retrieved.

Unknown



Retention time = 33.19

Area = 7219.00 Tentative Concentration is 540.00

Unknown

1. 2-Propenamide, N-methyl- (9CI) 85 C4H7NO

Sample file: >FB956 Spectrum #: 1638
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.	11*	1187593	5723	"BIGDB	24	76	3	0	304	63	2	12

LIBRARY SEARCH SUMMARY

MS Data File:>FB956::D5 Analyst:UNCLE MS

Name:WILLOW GROVE Date/Time: 4/06/89 2:18
Misc:EA#1180,9SL.S-3A,SOIL,10.28,1 BTL# 7

The following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Nearest ISTD Area
1	5.17	51060	24177
2	32.76	14710	6495
3	33.19	7219	6495

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1181,9SL,S-13

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/06/89 3:16
Conc/Oil Factor: 1.00000
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	1200.	U
111-44-4	bis(2-Chloroethyl)ether	1200.	U
95-57-8	2-Chlorophenol	1200.	U
541-73-1	1,3-Dichlorobenzene	1200.	U
106-46-7	1,4-Dichlorobenzene	1200.	U
100-51-6	Benzyl Alcohol	1200.	U
95-50-1	1,2-Dichlorobenzene	1200.	U
95-48-7	2-Methylphenol	1200.	U
39638-32-9	bis(2-Chloroisopropyl)ether	1200.	U
106-44-5	4-Methylphenol	1200.	U
621-64-7	N-Nitroso-Di-n-propylamine	1200.	U
67-72-1	Hexachloroethane	1200.	U
98-95-3	Nitrobenzene	1200.	U
78-59-1	Isophorone	1200.	U
88-75-5	2-Nitrophenol	1200.	U
105-67-9	2,4-Dimethylphenol	1200.	U
65-85-0	Benzoic Acid	5800.	U
111-91-1	bis(2-Chloroethoxy)methane	1200.	U
120-83-2	2,4-Dichlorophenol	1200.	U
120-82-1	1,2,4-Trichlorobenzene	1200.	U
91-20-3	Naphthalene	1200.	U
106-47-8	4-Chloroaniline	1200.	U
87-68-3	Hexachlorobutadiene	1200.	U
59-50-7	4-Chloro-3-methylphenol	1200.	U
91-57-6	2-Methylnaphthalene	1200.	U
77-47-4	Hexachlorocyclopentadiene	1200.	U
88-06-2	2,4,6-Trichlorophenol	1200.	U
95-95-4	2,4,5-Trichlorophenol	5800.	U
91-58-7	2-Chloronaphthalene	1200.	U
88-74-4	2-Nitroaniline	5800.	U
131-11-3	Dimethylphthalate	1200.	U
208-96-8	Acenaphthylene	1200.	U
99-09-2	3-Nitroaniline	5800.	U
83-32-9	Acenaphthene	1200.	U
51-28-5	2,4-Dinitrophenol	5800.	U
100-02-7	4-Nitrophenol	5800.	U
132-64-9	Dibenzofuran	1200.	U
121-14-2	2,4-Dinitrotoluene	1200.	U
606-20-2	2,6-Dinitrotoluene	1200.	U
84-66-2	Diethylphthalate	1200.	U
7005-72-3	4-Chlorophenyl-phenylether	1200.	U
86-73-7	Fluorene	1200.	U
100-01-6	4-Nitroaniline	1200.	U
534-52-1	4,6-Dinitro-2-methylphenol	5800.	U
86-30-6	N-Nitrososdiphenylamine (1)	1200.	U
101-55-3	4-Bromophenyl-phenylether	1200.	U
118-74-1	Hexachlorobenzene	1200.	U
87-86-5	Pentachlorophenol	5800.	U
85-01-8	Phenanthrene	390.	J
120-12-7	Anthracene	1200.	U
84-74-2	Di-n-Butyl phthalate	1200.	U
206-44-0	Fluoranthene	490.	J
129-00-0	Pyrene	350.	J
85-68-7	Butylbenzylphthalate	1200.	U
91-94-1	3,3'-Dichlorobenzidine	2300.	U
56-55-3	Benzo(a)Anthracene	1200.	U
117-81-7	bis(2-Ethylhexyl)phthalate	210.	J
218-01-9	Chrysene	1200.	U
117-84-0	Di-n-Octyl phthalate	1200.	U
205-99-2	Benzo(b)Fluoranthene	190.	J
207-08-9	Benzo(k)Fluoranthene	160.	J
50-32-8	Benzo(a)Pyrene	200.	J
193-39-5	Indeno(1,2,3-cd)Pyrene	1200.	U
53-70-3	Dibenzo(a,h)Anthracene	1200.	U
191-24-2	Benzo(g,h,i)Perylene	1200.	U

(1)-Cannot be separated from diphenylamine

Laboratory Name: EA LABORATORIES

Case No: WILLOW GROVE

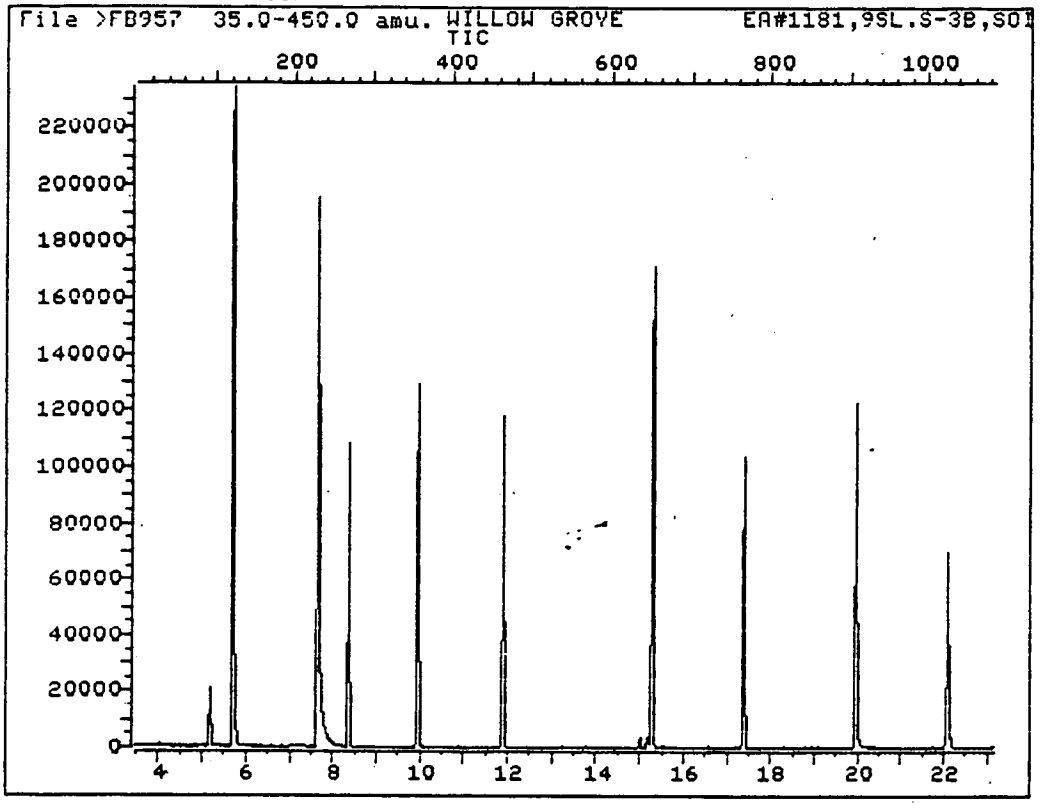
Sample Number: EA# 1181

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT ~~or Scan Number~~	Estimated Concentration (ug/l or ug/kg)
1.	—	Unknown	BNA	5.17	1100 J
2.	—	Unknown		32.25	3800 J
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TOTAL ION CHROMATOGRAM



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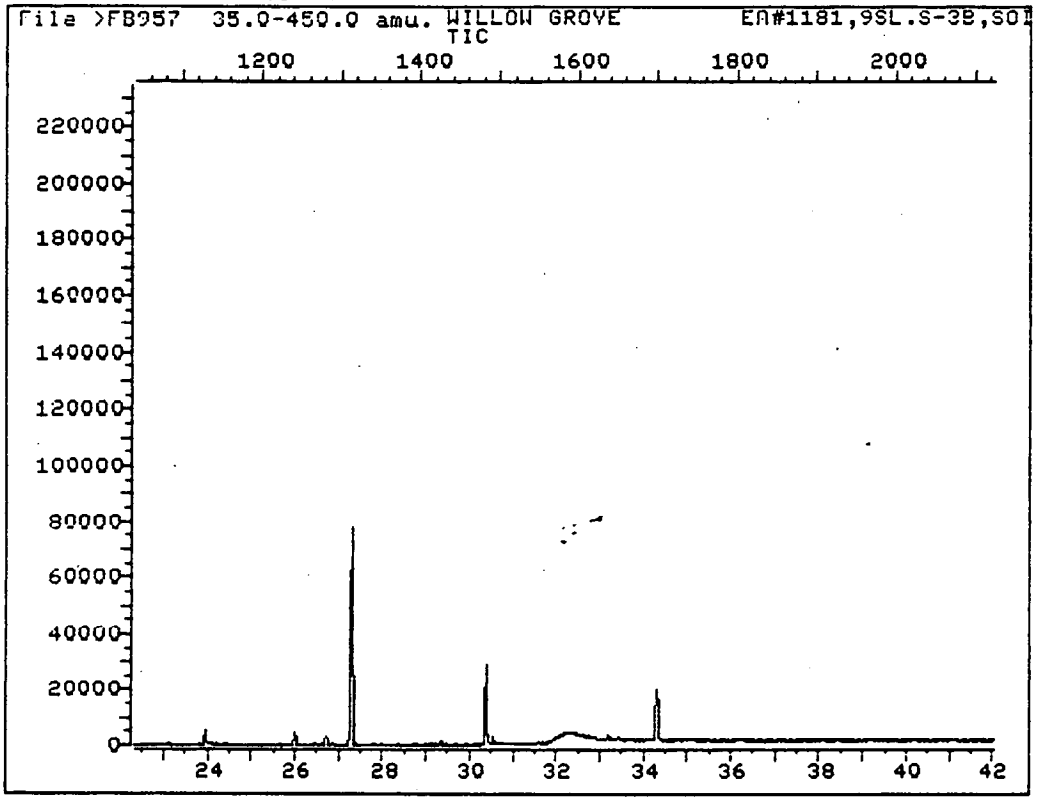
Name: WILLOW GROVE
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

Operator ID: UNCLE
Quant Time: 890406 04:01
Injected at: 890406 03:16

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



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Name: WILLOW GROVE
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

Operator ID: UNCLE
Quant Time: 890406 04:01
Injected at: 890406 03:16

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890406 04:01
Output File: ^FB957::QT Injected at: 890406 03:16
Data File: >FB957::D5 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

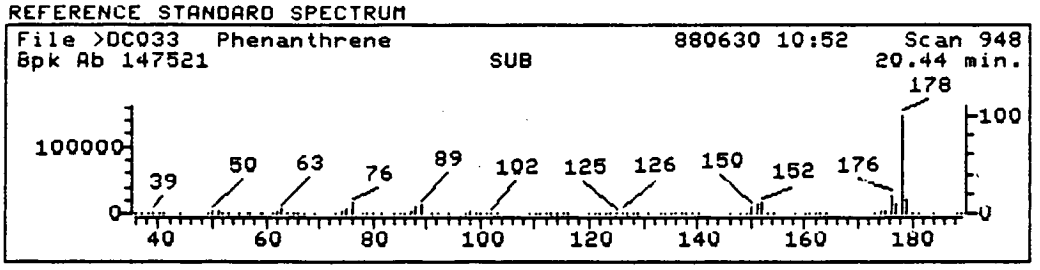
	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*d4-1,4-Dichlorobenzene	8.38	152.0	37678	40.00	NG		95
2)	2-Fluorophenol	5.69	112.0	144787	118.20	NG	59%	90
3)	Phenol-d5	7.65	99.0	223946	155.30	NG	78%	89
4)	Phenol	0.00	94.0	0	0.00	NG		
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG		
6)	2-Chlorophenol	0.00	128.0	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	11.90	136.0	142039	40.00	NG		88
17)	Nitrobenzene-d5	9.96	82.0	99282	62.96	NG	63%	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	17.39	164.0	62847	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	15.31	172.0	158306	62.13	NG	62%	94
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG		
38)	Dimethylphthalate	17.41	163.0	21349	~~18.05~~	NG		54
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		

Output File:^FB957:: Data File:>FB957::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	22.09	188.0	77985	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	19.97	329.9	50446	142.38	NG	71%	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)	Ph nanthrene	22.16	178.0	5927	3.37	NG		98
59)	Anthracene	22.13	178.0	5927	~~3.56~~	NG		98
60)	Di-n-Butyl phthalate	0.00	149.0	0	0.00	NG		
61)	Fluoranthene	26.01	202.0	5756	4.24	NG	✓	97
62)	*d12-Chrysene	30.38	240.0	28128	40.00	NG		98
63)	Pyrene	26.71	202.0	4212	2.98	NG	✓	97
64)	Terphenyl-d14	27.29	244.0	83790	58.42	NG	58%	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	30.54	149.0	1625	1.83	NG	✓	98
69)	Chrysene	0.00	228.0	0	0.00	NG		
70)	*d12-Perylene	34.32	264.0	25727	40.00	NG		93
71)	Di-n-Octyl phthalate	0.00	149.0	0	0.00	NG		
72)	Benzo(b)Fluoranthene	33.17	252.0	1037	1.62	NG	✓	72
73)	Benzo(k)Fluoranthene	33.23	252.0	764M	1.38	NG	✓	74
74)	Benzo(a)Pyrene	34.12	252.0	885	1.71	NG	✓	94
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

REFERENCE STANDARD SPECTRUM



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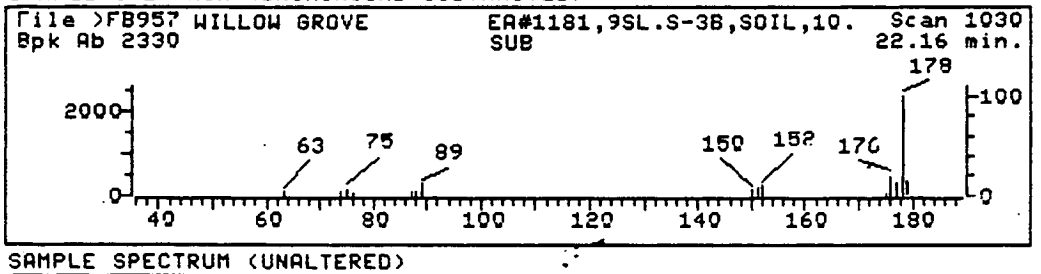

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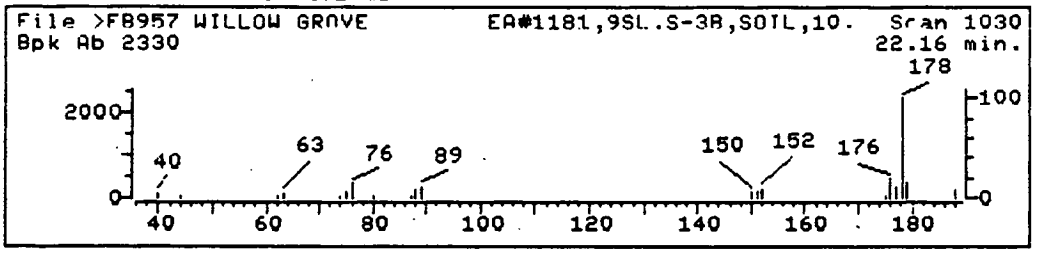

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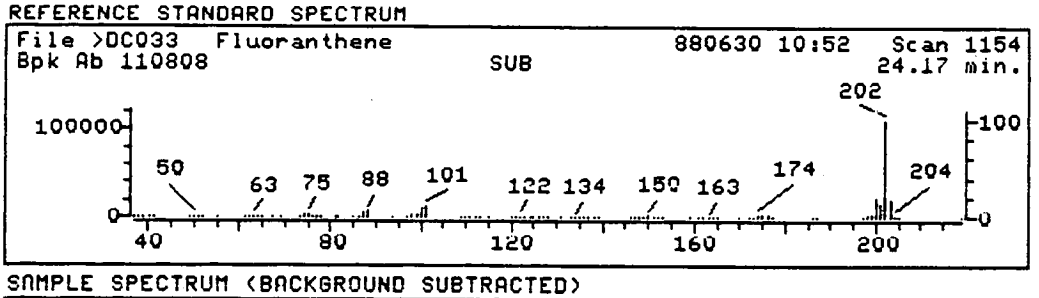
Name: WILLOW GROVE
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8
Quant Time: 890406 04:01 Quant ID File: IDFCLP::BD
Injected at: 890406 03:16 Last Calibration: 890330 10:03

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 1030
Retention Time: 22.16 min.
Quant Ion: 178.0
Area: 5927
Concentration: 3.37 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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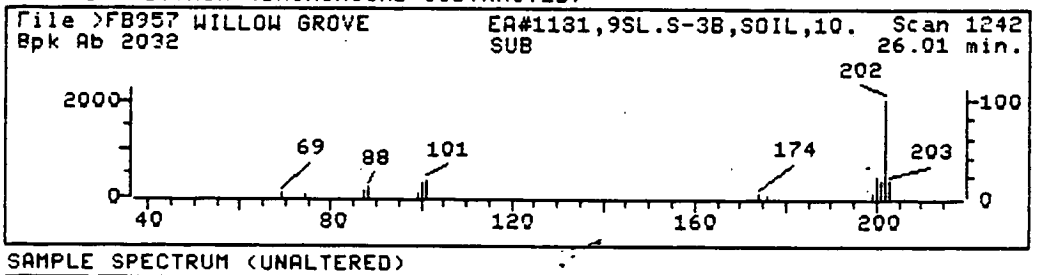

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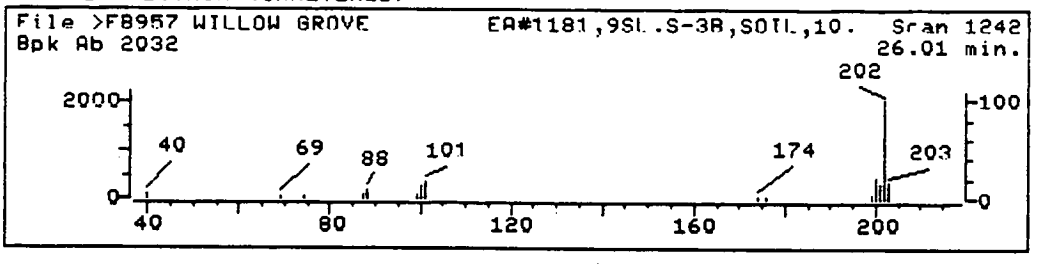

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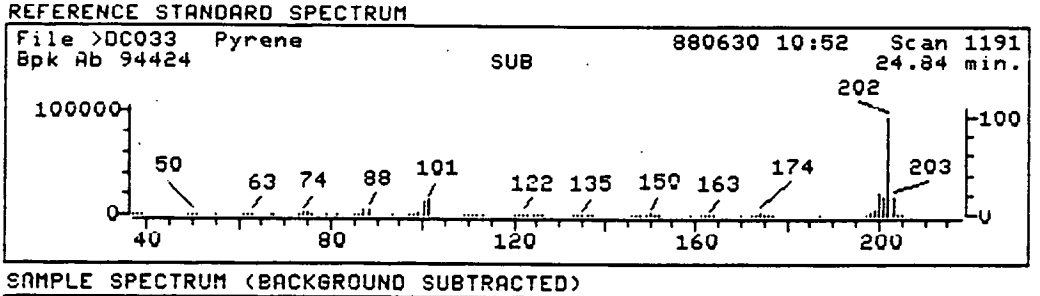
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8
Quant Time: 890406 04:01 Quant ID File: IDFCLP::BD
Injected at: 890406 03:16 Last Calibration: 890330 10:03

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1242
R tention Time: 26.01 min.
Quant Ion: 202.0
Area: 5756
Concentration: 4.24 NG
q-value: 97

REFERENCE STANDARD SPECTRUM



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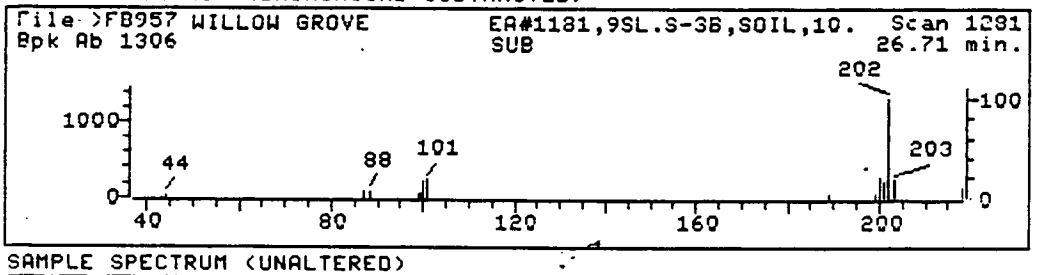

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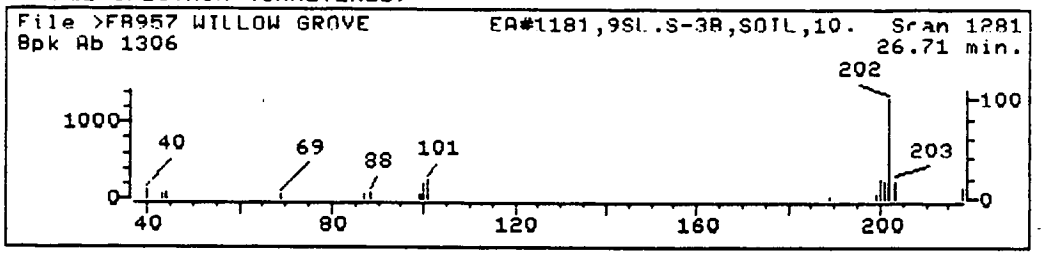

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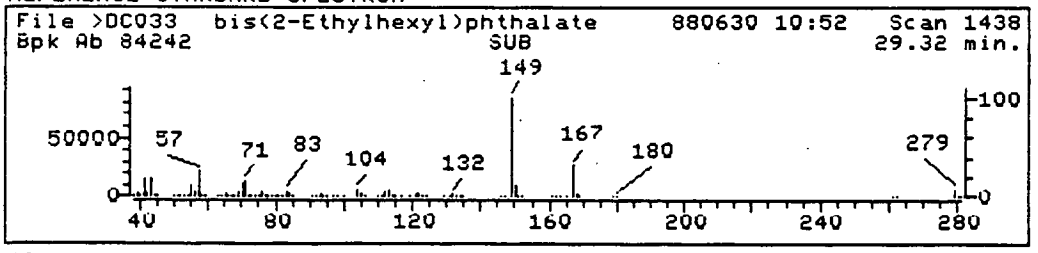
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8
Quant Time: 890406 04:01 Quant ID File: IDFCLP::BD
Injected at: 890406 03:16 Last Calibration: 890330 10:03

Compound No: 63
Compound Name: Pyrene
Scan Number: 1281
Retention Time: 26.71 min.
Quant Ion: 202.0
Area: 4212
Concentration: 2.98 NG
q-value: 97

REFERENCE STANDARD SPECTRUM



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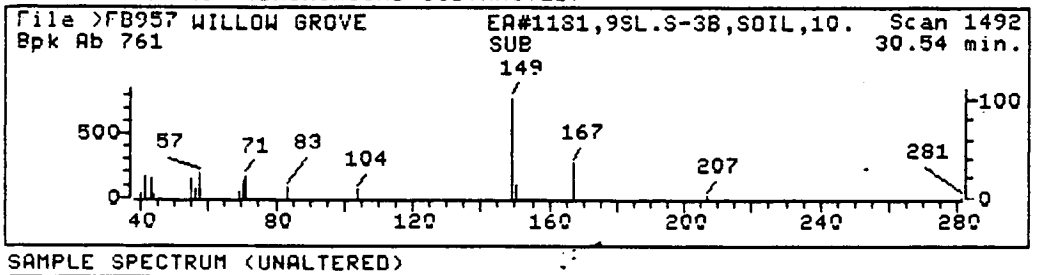

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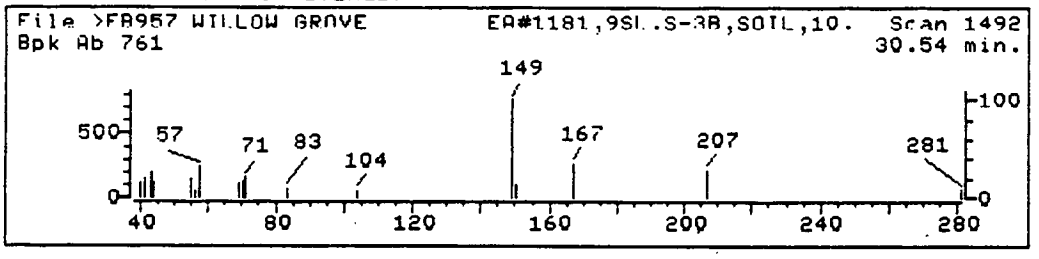

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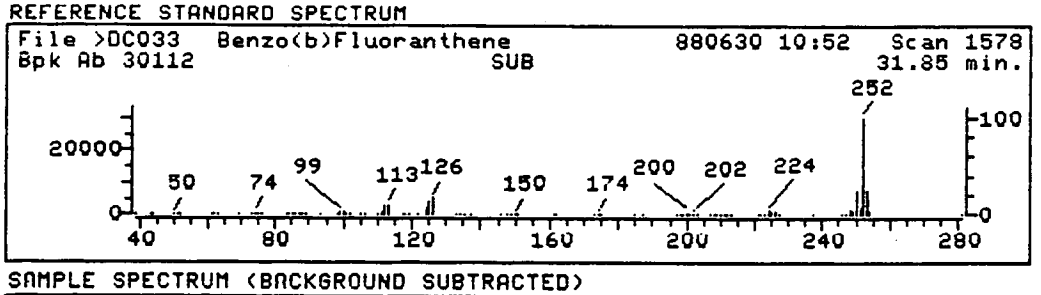
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8
Quant Time: 890406 04:01 Quant ID File: IDFCLP::BD
Injected at: 890406 03:16 Last Calibration: 890330 10:03

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1492
Retention Time: 30.54 min.
Quant Ion: 149.0
Area: 1625
Concentration: 1.83 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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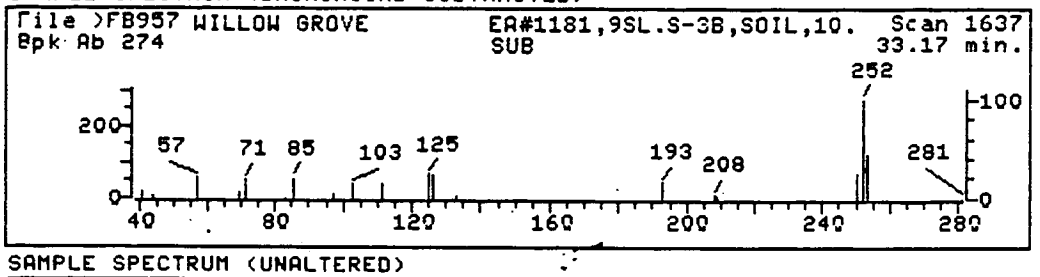

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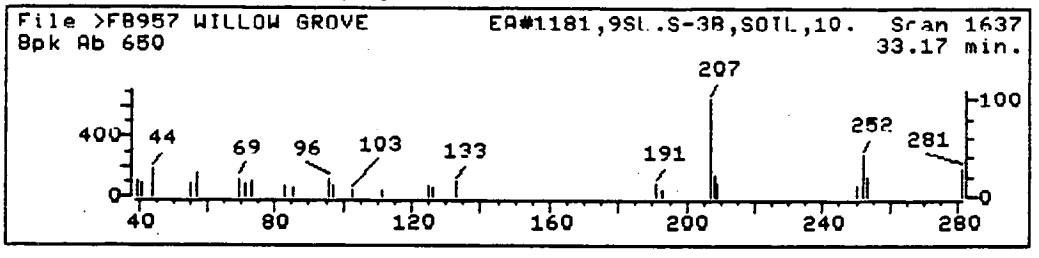

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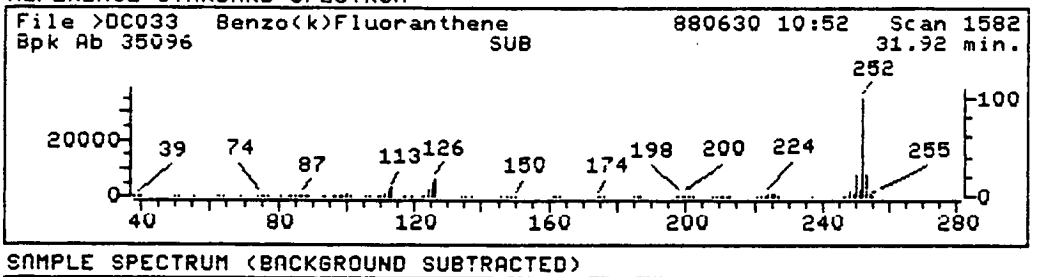
Name: WILLOW GROVE
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8
Quant Time: 890406 04:01 Quant ID File: IDFCLP::BD
Injected at: 890406 03:16 Last Calibration: 890330 10:03

Compound No: 72
Compound Name: Benzo(b)Fluoranthene
Scan Number: 1637
Retention Time: 33.17 min.
Quant Ion: 252.0
Ar a: 1037
Concentration: 1.62 NG
q-value: 72

REFERENCE STANDARD SPECTRUM



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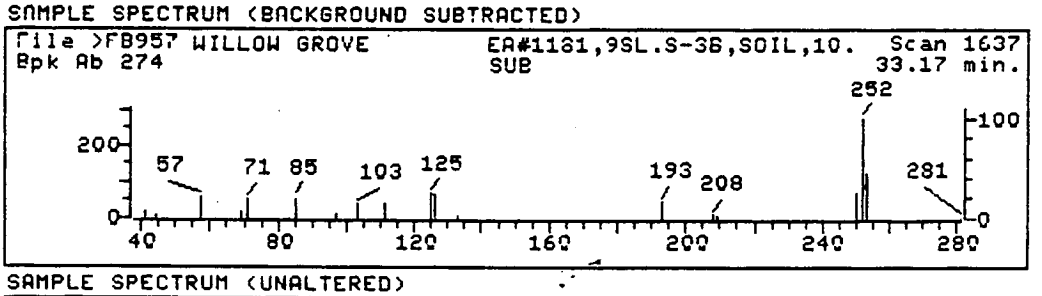

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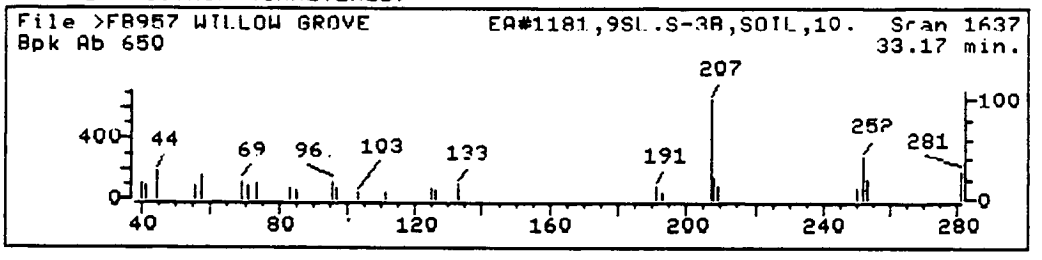

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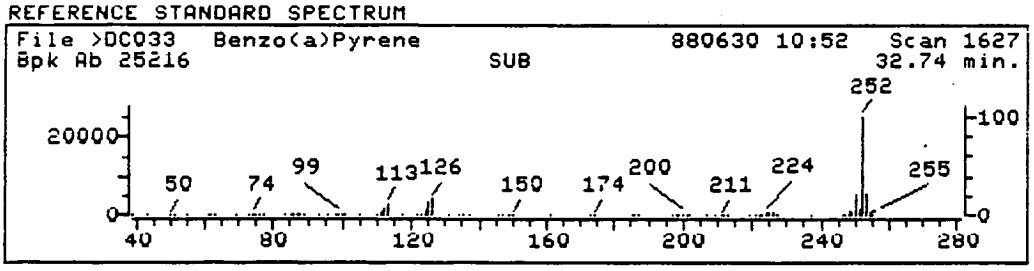
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8
Quant Time: 890406 04:01 Quant ID File: IDFCLP::BD
Injected at: 890406 03:16 Last Calibration: 890330 10:03

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1637 33.33
Retention Time: ~~33.17~~ min.
Quant Ion: 252.0
Area: 1037
Concentration: ~~1.87~~ NG
q-value: 74 1.38 NG

REFERENCE STANDARD SPECTRUM



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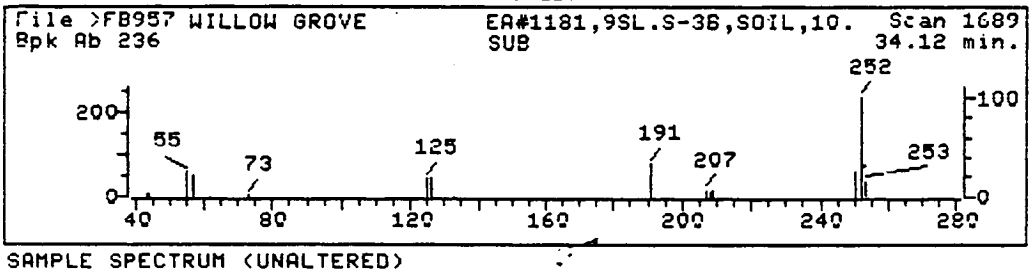
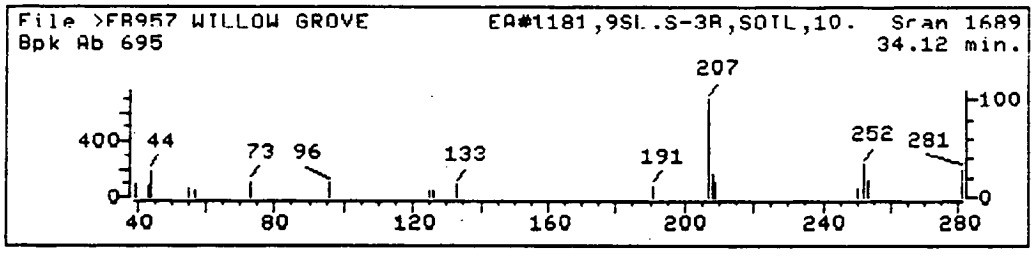
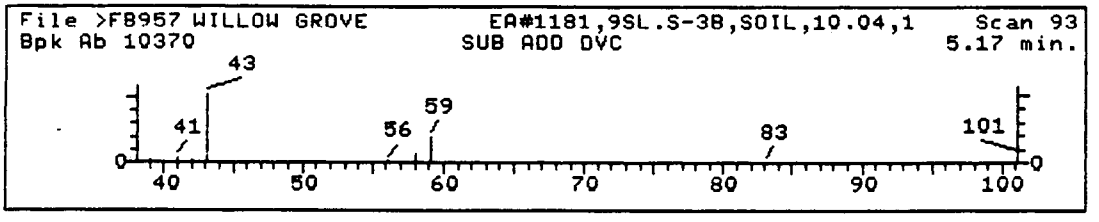


SAMPLE SPECTRUM (UNALTERED)



Data File: >FB957::D5 Quant Output File: ^FB957::QT
Name: WILLOW GROVE
Misc: EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8
Quant Time: 890406 04:01 Quant ID File: IDFCLP::BD
Injected at: 890406 03:16 Last Calibration: 890330 10:03

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1689
Retention Time: 34.12 min.
Quant Ion: 252.0
Area: 885
Concentration: 1.71 NG
q-value: 94



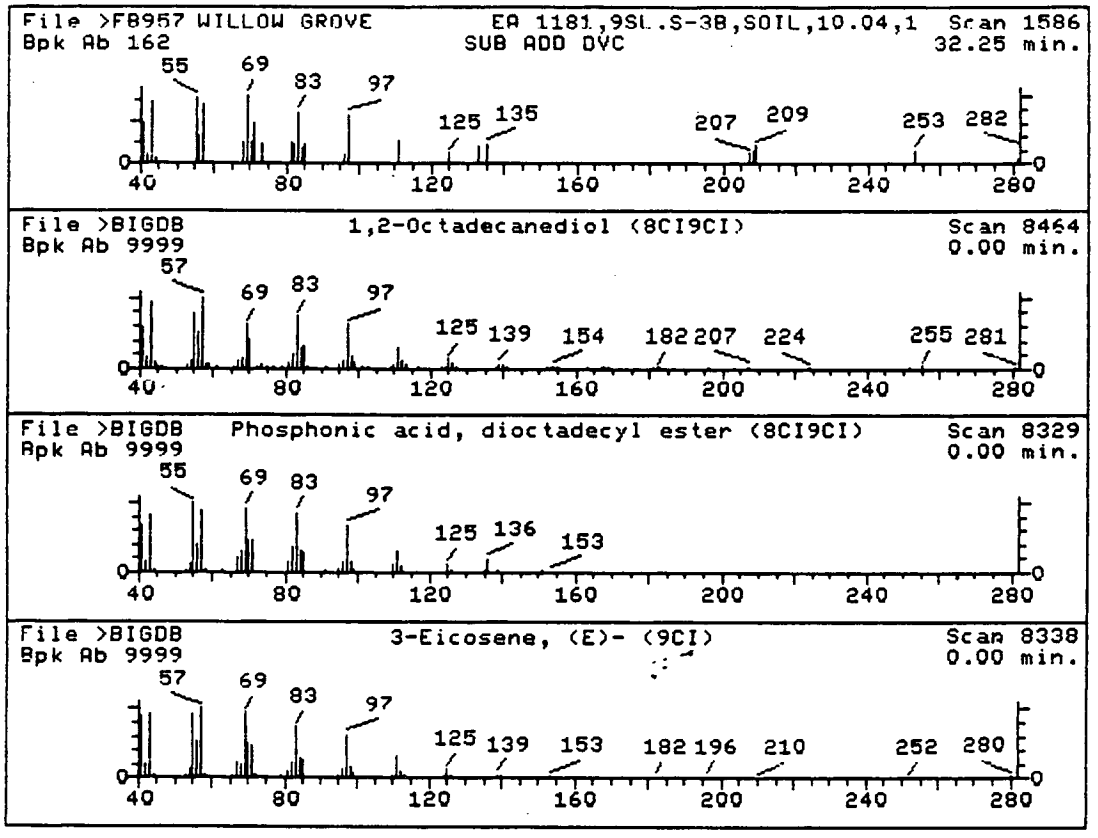
Retention time = 5.17

Area = 60913.00 Tentative Concentration is 1100.00

Unknown

Sampl file: >FB957 Spectrum #: 93

No data base entries were retrieved.



Retention time = 32.25

Ar a = 70583.00 Tentative Concentration is 3800.00

1. 1,2-Octadecanediol (8CI9CI)	286	C18H38O2
2. Phosphonic acid, dioctadecyl ester (8CI9CI)	586	C36H75O3P
3. 3-Eicosene, (E)- (9CI)	280	C20H40
4. 1-Pentadecanol (8CI9CI)	228	C15H32O
5. H xadecanol (VAN8CI9CI)	242	C16H34O
6. 1-Dotriacontanol (8CI9CI)	466	C32H66O
7. Ethanol, 2-(tetradecyloxy)- (8CI9CI)	258	C16H34O2

Unknown

Sampl file: >FB957 Spectrum #: 1586
S arch spe d: 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	20294762	8464	"BIGDB	76	84	3	0	79	55	5	14
2.	18	19047859	8329	"BIGDB	101	99	3	0	86	56	4	23
3.	15	74685339	8338	"BIGDB	76	90	3	0	75	56	3	14
4.	15	629765	8410	"BIGDB	71	92	3	0	75	56	3	12
5.	15	29354981	8429	"BIGDB	71	96	3	0	65	56	3	12
6.	15	6624799	8333	"BIGDB	99	82	3	-1	87	56	3	14
7.	15	2136701	8450	"BIGDB	80	77	3	0	86	56	3	14

LIBRARY SEARCH SUMMARY

MS Data File:>FB957::D5 Analyst:UNCLE MS

Name:WILLOW GROVE Date/Time: 4/06/89 3:16
Misc:EA#1181,9SL.S-3B,SOIL,10.04,1 BTL# 8

The following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Nearest ISTD Area
1	5.17	60913	24743
2	32.25	70583	8707

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1182 NL-SL-1A

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/21/89 11:24
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	22000.	U
111-44-4	bis(2-Chloroethyl)ether	22000.	U
95-57-8	2-Chlorophenol	22000.	U
541-73-1	1,3-Dichlorobenzene	22000.	U
106-46-7	1,4-Dichlorobenzene	22000.	U
100-51-6	Benzyl Alcohol	22000.	U
95-50-1	1,2-Dichlorobenzene	22000.	U
95-48-7	2-Methylphenol	22000.	U
39638-32-9	bis(2-Chloroisopropyl)ether	22000.	U
106-44-5	4-Methylphenol	1500.	J
621-64-7	N-Nitroso-Di-n-propylamine	22000.	U
67-72-1	Hexachloroethane	22000.	U
98-95-3	Nitrobenzene	22000.	U
78-59-1	Isophorone	22000.	U
88-75-5	2-Nitrophenol	22000.	U
105-67-9	2,4-Dimethylphenol	22000.	U
65-85-0	Benzoic Acid	110000	U
111-91-1	bis(2-Chloroethoxy)methane	22000.	U
120-83-2	2,4-Dichlorophenol	22000.	U
120-82-1	1,2,4-Trichlorobenzene	22000.	U
91-20-3	Naphthalene	1400.	J
106-47-8	4-Chloroaniline	22000.	U
87-68-3	Hexachlorobutadiene	22000.	U
59-50-7	4-Chloro-3-methylphenol	22000.	U
91-57-6	2-Methylnaphthalene	3100.	J
77-47-4	Hexachlorocyclopentadiene	22000.	U
88-06-2	2,4,6-Trichlorophenol	22000.	U
95-95-4	2,4,5-Trichlorophenol	110000	U
91-58-7	2-Chloronaphthalene	22000.	U
88-74-4	2-Nitroaniline	110000	U
131-11-3	Dimethylphthalate	22000.	U
208-96-8	Acenaphthylene	22000.	U
99-09-2	3-Nitroaniline	110000	U

C.A.S. Number		ug/L or (ug/Kg) (Circle One)	
83-32-9	Acenaphthene	22000.	U
51-28-5	2,4-Dinitrophenol	110000	U
100-02-7	4-Nitrophenol	110000	U
132-64-9	Dibenzofuran	22000.	U
121-14-2	2,4-Dinitrotoluene	22000.	U
606-20-2	2,6-Dinitrotoluene	22000.	U
84-66-2	Diethylphthalate	22000.	U
7005-72-3	4-Chlorophenyl-phenylether	22000.	U
86-73-7	Fluorene	22000.	U
100-01-6	4-Nitroaniline	22000.	U
534-52-1	4,6-Dinitro-2-methylphenol	110000	U
86-30-6	N-Nitrososdiphenylamine (1)	22000.	U
101-55-3	4-Bromophenyl-phenylether	22000.	U
118-74-1	Hexachlorobenzene	22000.	U
87-86-5	Pentachlorophenol	110000	U
85-01-8	Phenanthrene	3500.	J
120-12-7	Anthracene	22000.	U
84-74-2	Di-n-Butyl phthalate	22000.	U
206-44-0	Fluoranthene	22000.	U
129-00-0	Pyrene	16000.	J
85-68-7	Butylbenzylphthalate	22000.	U
91-94-1	3,3'-Dichlorobenzidine	45000.	U
56-55-3	Benzo(a)Anthracene	22000.	U
117-81-7	bis(2-Ethylhexyl)phthalate	22000.	U
218-01-9	Chrysene	22000.	J
117-84-0	Di-n-Octyl phthalate	22000.	U
205-99-2	Benzo(b)Fluoranthene	22000.	U
207-08-9	Benzo(k)Fluoranthene	22000.	U
50-32-8	Benzo(a)Pyrene	22000.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	22000.	U
53-70-3	Dibenzo(a,h)Anthracene	22000.	U
191-24-2	Benzo(g,h,i)Perylene	22000.	U

(1)-Cannot be separated from diphenylamine

Laboratory Name: EA Laboratories

Case No: Willow Grove

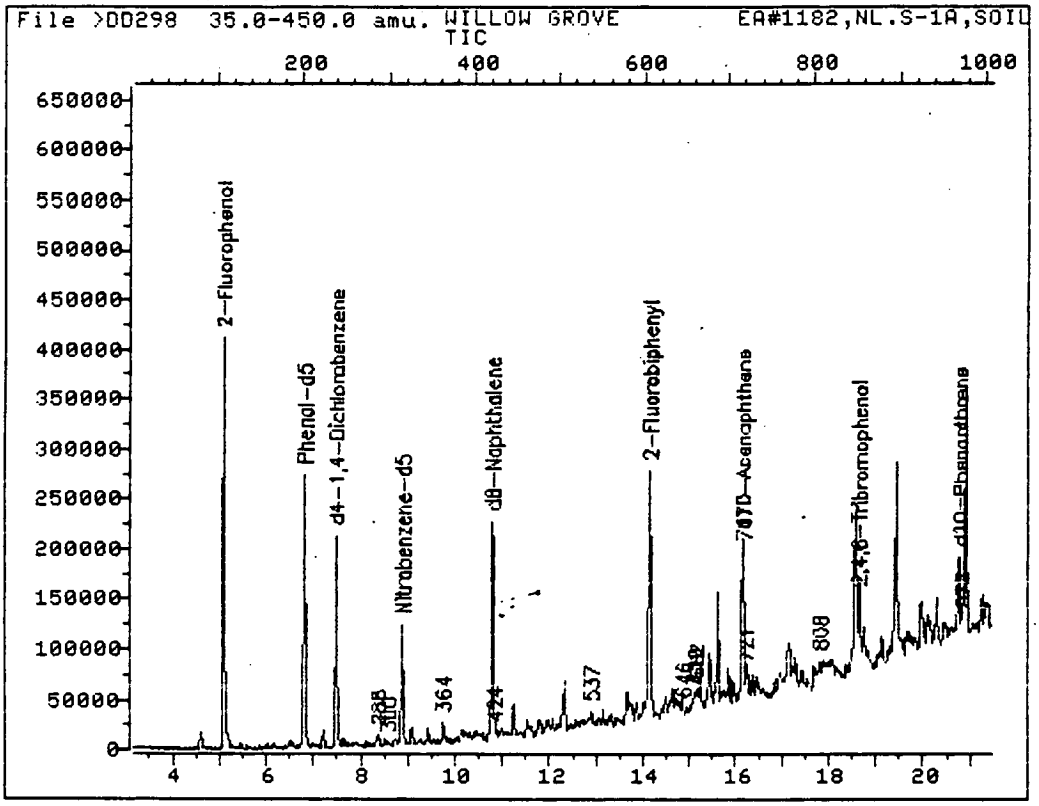
Sample Number
NL.S-1A
EA # 1182

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	—	Unknown cyclohexane	BNA	11.78	14000.00
2.	—	Unknown alkane	BNA	12.33	20000.00
3.	—	Unknown cyclohexane	BNA	13.67	21000.00
4.	54832836	1H-Indene, octahydro	BNA	15.24	15000.00
5.	1795159	Cyclohexane, octyl-	BNA	15.46	34000.00
6.	—	Unknown alkane	BNA	15.64	52000.00
7.	—	Unknown	BNA	15.86	15000.00
8.	—	Unknown cyclohexane	BNA	17.15	22000.00
9.	—	Unknown alkane	BNA	17.70	18000.00
10.	1921706	Pentadecane, 2,6,10,14-tetramethyl	BNA	19.44	330,000.00
11.	—	Unknown alkane	BNA	19.97	97000.00
12.	—	Unknown cyclohexane	BNA	20.30	59000.00
13.	—	Unknown alkane	BNA	20.92	160,000.00
14.	54105667	Cyclohexane, undecyl	BNA	21.74	49000.00
15.	—	Unknown	BNA	22.04	130,000.00
16.	629629	Pentadecane	BNA	23.21	81,000.00
17.	—	Unknown alkane	BNA	24.40	140,000.00
18.	—	Unknown alkane	BNA	25.04	70,000.00
19.	—	Unknown alkane	BNA	26.25	67,000.00
20.	—	Unknown alkane	BNA	30.70	81,000.00
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TOTAL ION CHROMATOGRAM



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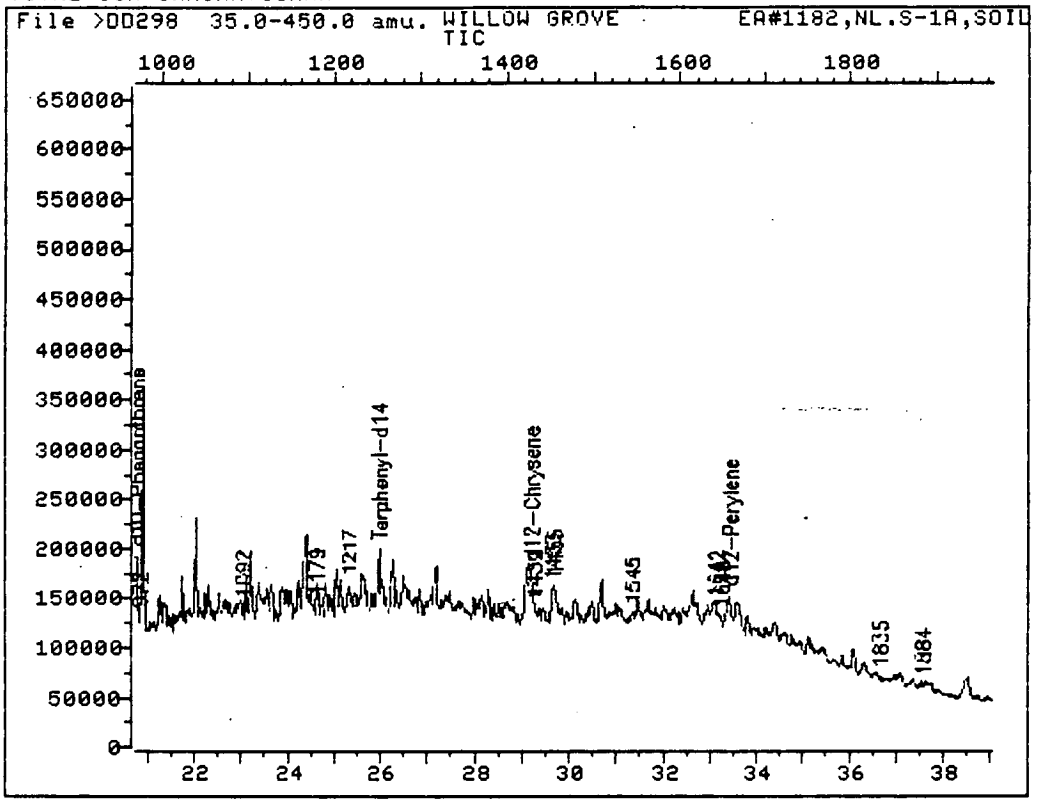
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

Operator ID: BHADRA
Quant Time: 890421 12:06
Injected at: 890421 11:24

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

Operator ID: BHADRA
Quant Time: 890421 12:06
Injected at: 890421 11:24

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 890421 12:06
Output File: ^DD298::QT Injected at: 890421 11:24
Data File: >DD298::D1 Dilution Factor: 2.00000
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

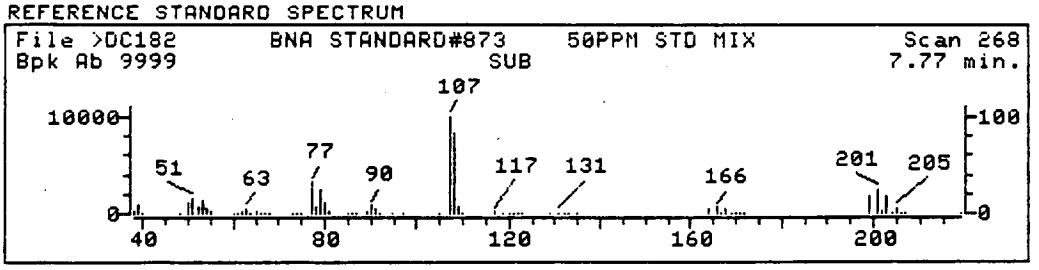
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	7.48	152.0	90771	40.00	NG	9
2)	2-Fluorophenol	5.09	112.0	260777	164.72	NG ~82 %	8
3)	Phenol-d5	6.81	99.0	309532	179.27	NG ~90 %	8
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	0.00	128.0	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	8.58	108.0	1607	1.35	NG ~	8
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	10.78	136.0	291715	40.00	NG	8
17)	Nitrobenzene-d5	8.89	82.0	110050	90.25	NG ~90 %	8
18)	Nitrobenzene	8.37	77.0	999	~~.84 NG~~		7
19)	Isophorone	9.75	82.0	3674	~~1.45 NG~~		9
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	10.84	128.0	4310	1.28	NG	8
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	12.89	142.0	5091	2.76	NG	9
31)	*d10-Acenaphthene	16.15	164.0	101189	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	14.87	162.0	807	~~.49 NG~~		6
36)	2-Fluorobiphenyl	14.15	172.0	201890	101.11	NG ~101 %	9
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	~~16.17~~	163.0	32299	~~15.91 NG~~		5
39)	Acenaphthylene	15.11	152.0	1087	~~.48 NG~~		7
40)	3-Nitroanilin	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	16.24	153.0	1648	~~1.11 NG~~		9
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

Output File:^DD298:: Data File:>DD298::D1

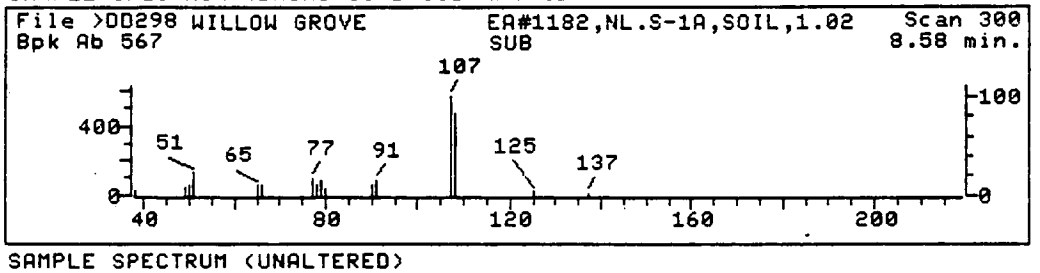
	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	0.00	109.0	0	0.00	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	0.00	165.0	0	0.00	NG	
46)	2,6-Dinitrotoluene	15.17	165.0	1062	~~2.50~~	~~NG~~	8
47)	Diethylphthalate	17.83	149.0	539	~~.28~~	~~NG~~	8
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	17.83	166.0	1139	~~.87~~	~~NG~~	7
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	20.77	188.0	82033	40.00	NG	9
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	18.65	329.9	26022	188.55	NG 946	9
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	20.83	178.0	3282	3.14	NG	9
59)	Anthracene	20.83	178.0	3282	~~3.24~~	~~NG~~	9
60)	Di-n-Butyl phthalate	23.03	149.0	722	~~.39~~	~~NG~~	8
61)	Fluoranthene	24.62	202.0	1283	~~1.83~~	~~NG~~	8
62)	*d12-Chrysene	29.19	240.0	29501	40.00	NG	9
63)	Pyrene	25.32	202.0	9985	14.13	NG	9
64)	Terphenyl-d14	25.98	244.0	48987	90.51	NG 916	9
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	NG	
66)	3,3'-Dichlorobenzidine	29.65	252.0	503	~~3.69~~	~~NG~~	8
67)	Benzo(a)Anthracene	29.27	228.0	8084	~~17.91~~	~~NG~~	8
68)	bis(2-Ethylhexyl)phthalate	29.69	149.0	1103	~~1.65~~	~~NG~~	6
69)	Chrysene	29.27	228.0	8084	19.96	NG	9
70)	*d12-Perylene	33.42	264.0	27033	40.00	NG	9
71)	Di-n-Octyl phthalate	31.34	149.0	1357	~~1.59~~	~~NG~~	9
72)	Benzo(b)Fluoranthene	0.00	252.0	0	0.00	NG	
73)	Benzo(k)Fluoranthene	33.13	252.0	2719	~~8.62~~	~~NG~~	8
74)	Benzo(a)Pyrene	33.26	252.0	773	~~2.32~~	~~NG~~	8
75)	Indeno(1,2,3-cd)Pyrene	36.67	276.0	573	~~1.53~~	~~NG~~	7
76)	Dibenzo(a,h)Anthracene	0.00	278.0	0	0.00	NG	
77)	B nzo(g,h,i)Perylene	37.57	276.0	826	~~<2.78~~	~~NG~~	8

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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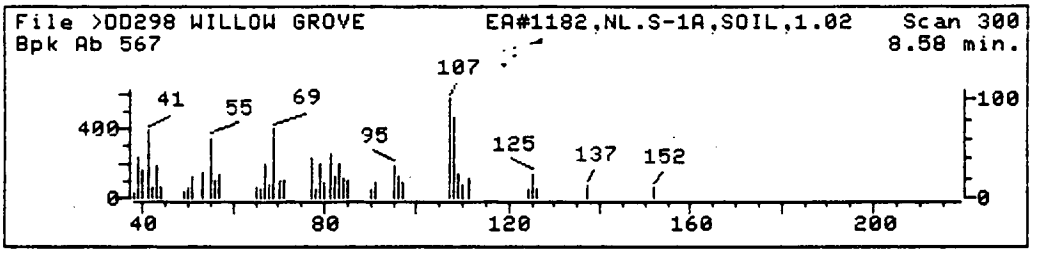

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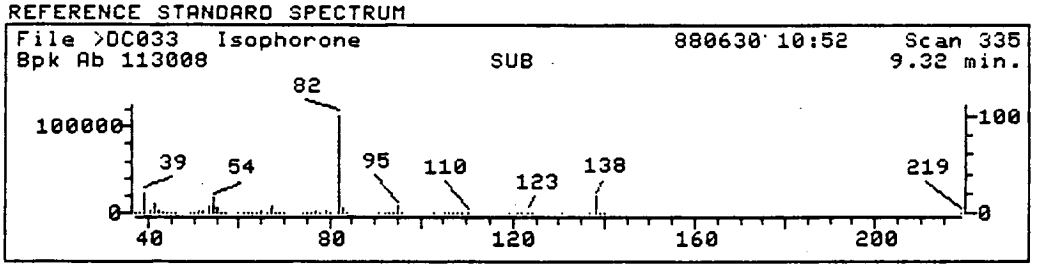
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

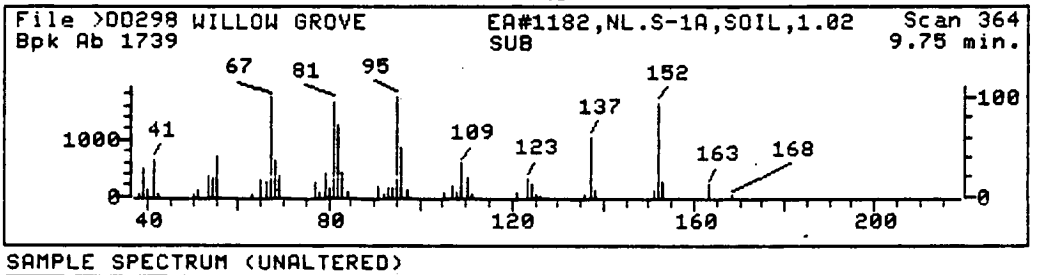
Compound No: 13
Compound Name: 4-Methylphenol
Scan Number: 300
Retention Time: 8.58 min.
Quant Ion: 108.0
Area: 1607
Concentration: 1.35 NG
q-value: 89

✓

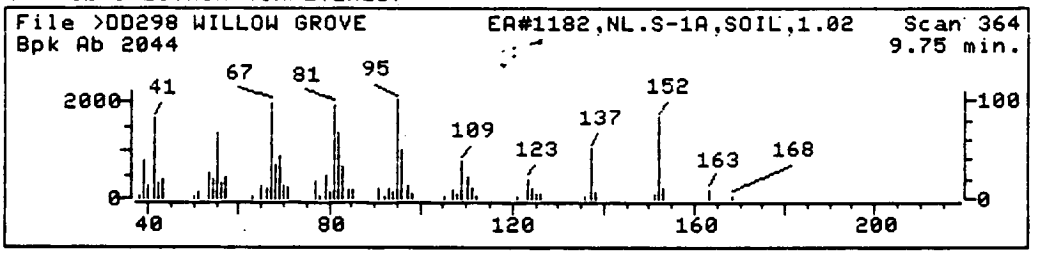
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



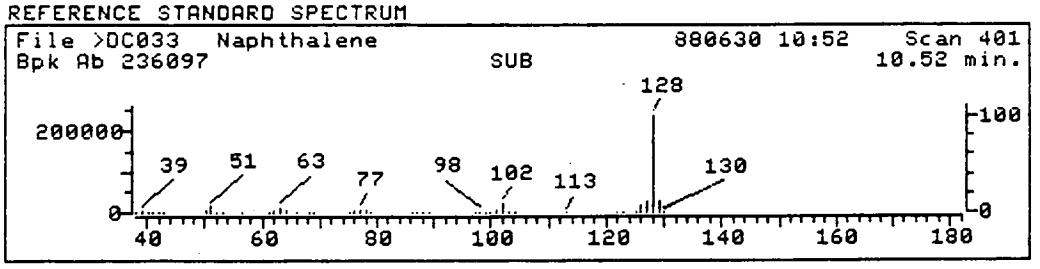
SAMPLE SPECTRUM (UNALTERED)



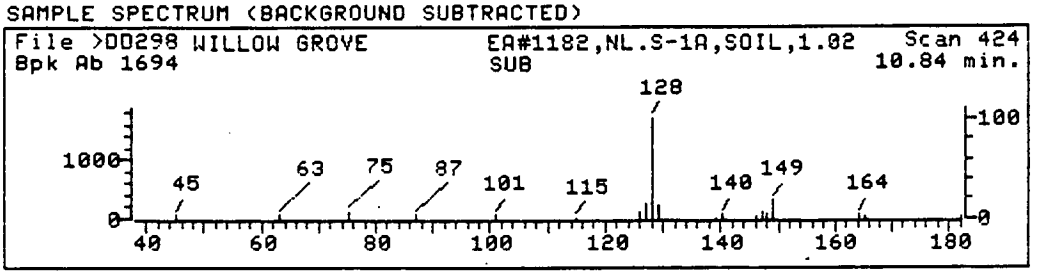
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 19
Compound Name: Isophorone
Scan Number: 364
Retention Time: 9.75 min.
Quant Ion: 82.0
Area: 3674
Concentration: 1.45 NG
q-value: 92

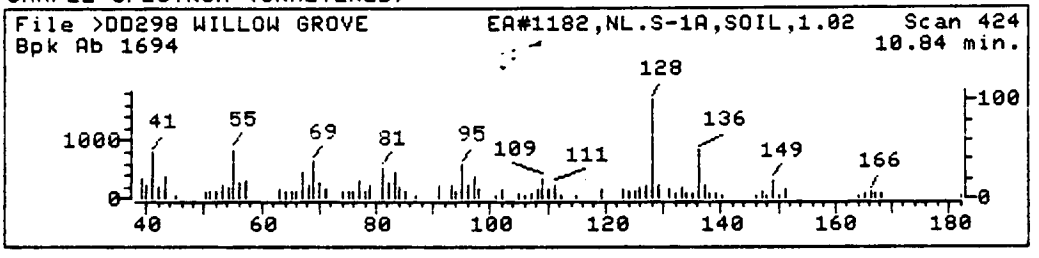
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

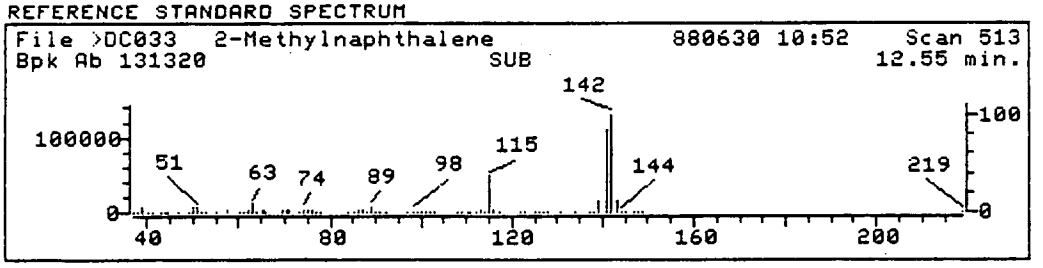


Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

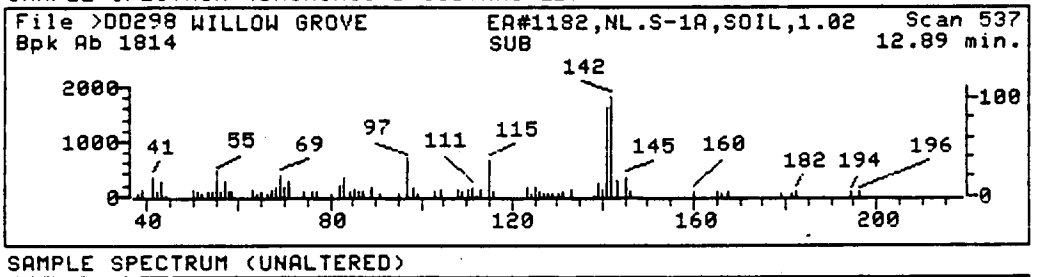
Compound No: 26
Compound Name: Naphthalene
Scan Number: 424
Retention Time: 10.84 min.
Quant Ion: 128.0
Area: 4310
Concentration: 1.28 NG
q-value: 88

✓

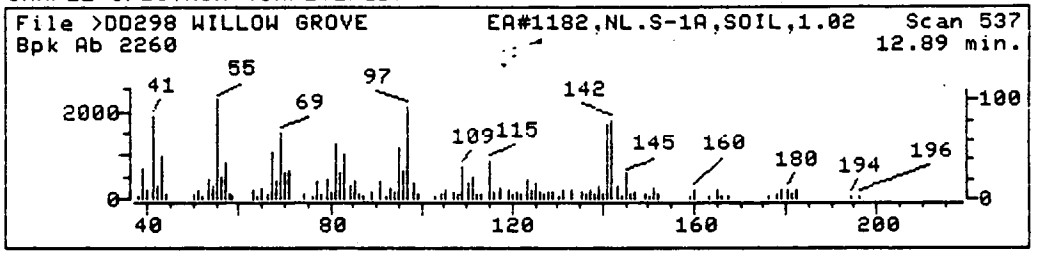
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



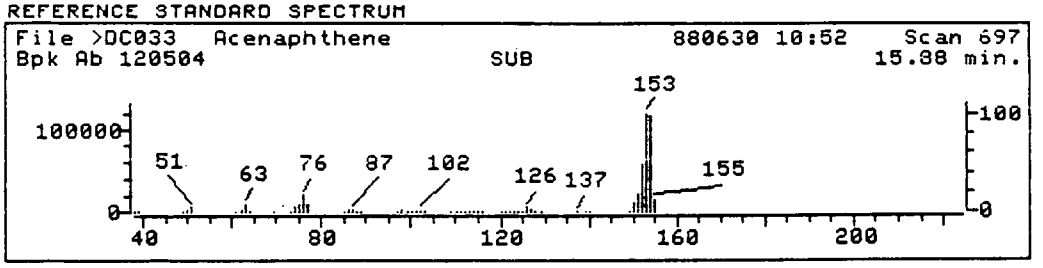
SAMPLE SPECTRUM (UNALTERED)



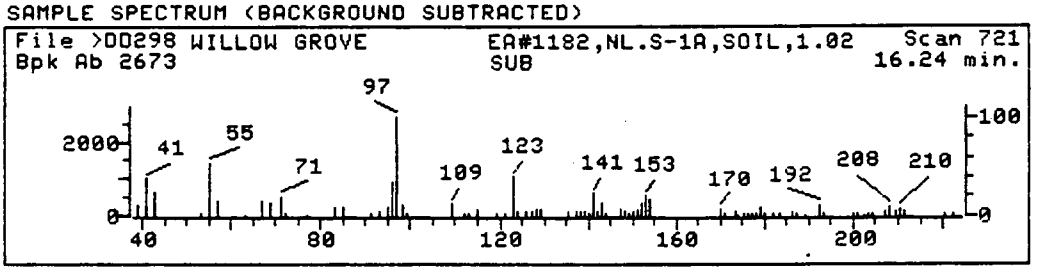
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 30
Compound Name: 2-Methylnaphthalene
Scan Number: 537
Retention Time: 12.89 min.
Quant Ion: 142.0
Area: 5091
Concentration: 2.76 NG
q-value: 96

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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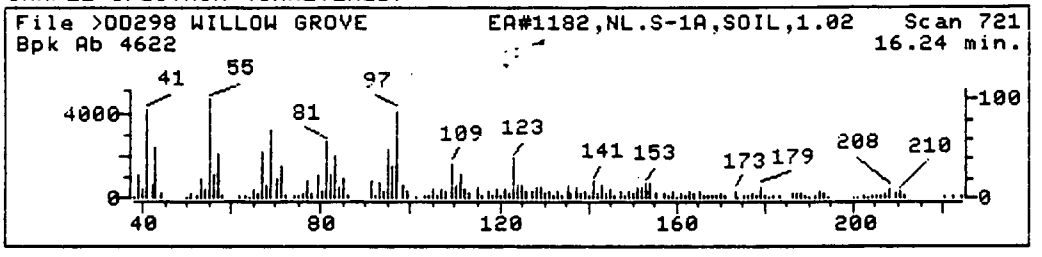
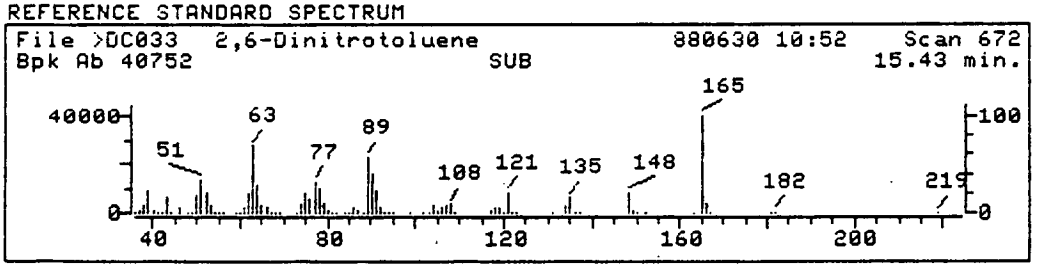


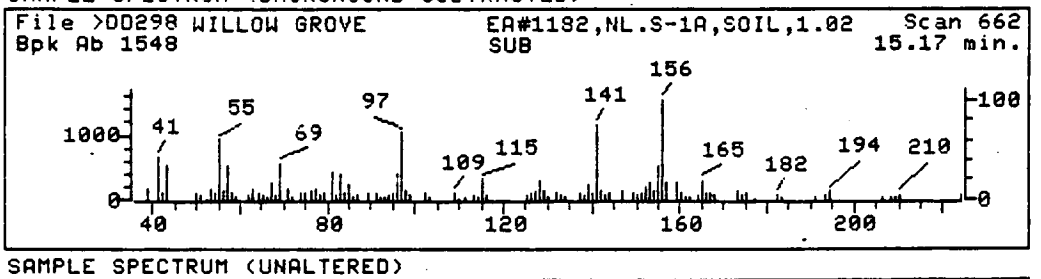
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::8D
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 41
Compound Name: Acenaphthene
Scan Number: 721
Retention Time: 16.24 min.
Quant Ion: 153.0
Area: 1648
Concentration: 1.11 NG
q-value: 91

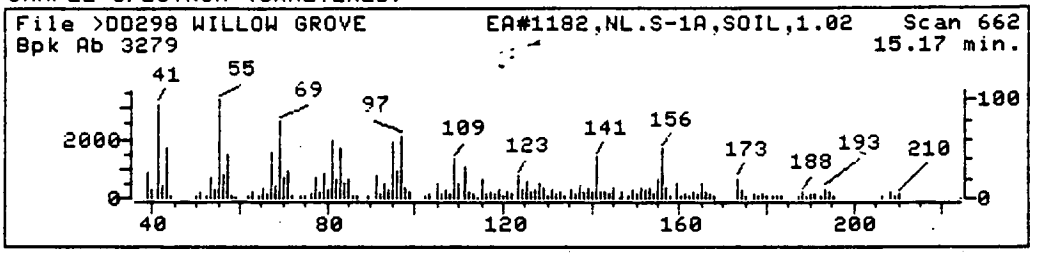
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

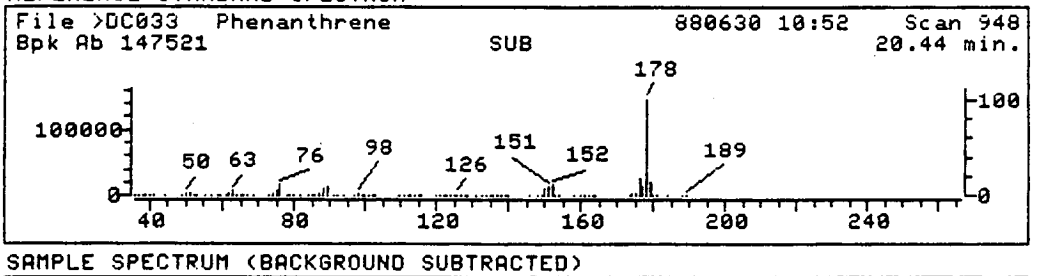


Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

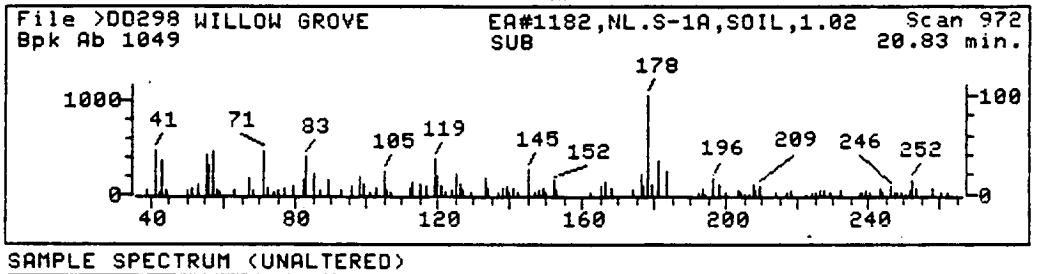
Compound No: 46
Compound Name: 2,6-Dinitrotoluene
Scan Number: 662
Retention Time: 15.17 min.
Quant Ion: 165.0
Area: 1062
Concentration: 2.50 NG
q-value: 80

α

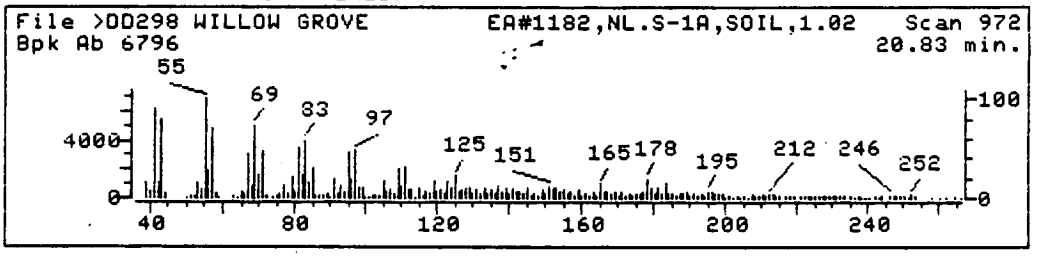
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

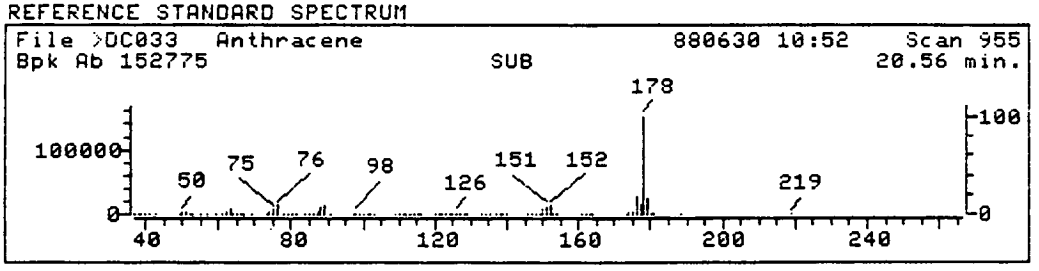


Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

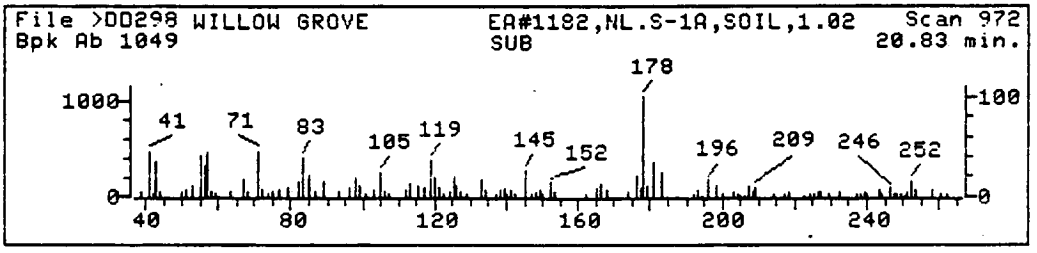
Compound No: 58
Compound Name: Phenanthrene
Scan Number: 972
Retention Time: 20.83 min.
Quant Ion: 178.0
Area: 3282
Concentration: 3.14 NG
q-value: 98

✓

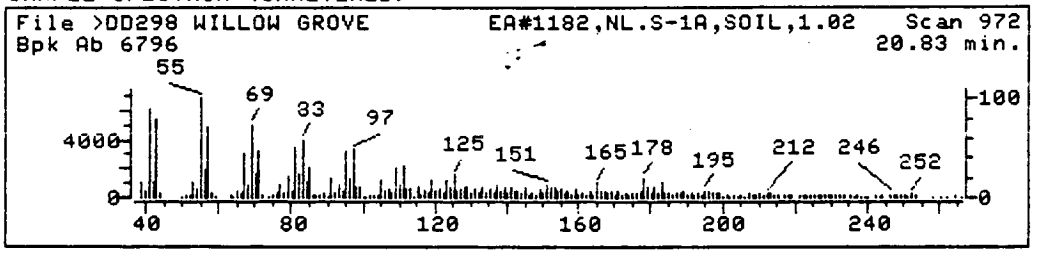
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



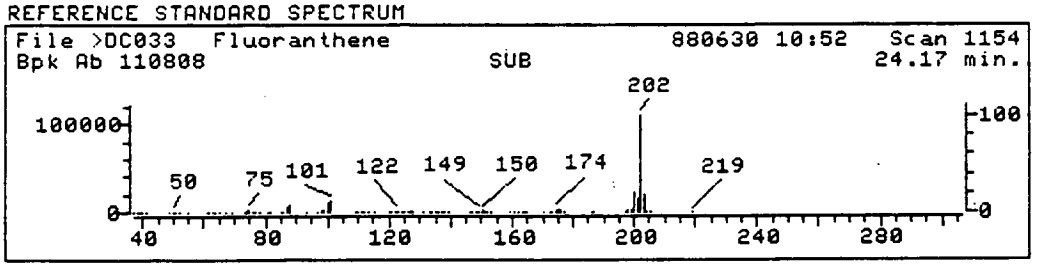
SAMPLE SPECTRUM (UNALTERED)



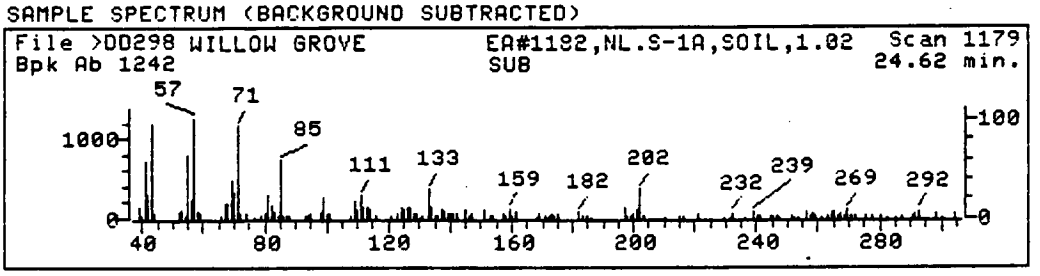
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 59
Compound Name: Anthracene
Scan Number: 972
Retention Time: 20.83 min.
Quant Ion: 178.0
Area: 3282
Concentration: 3.24 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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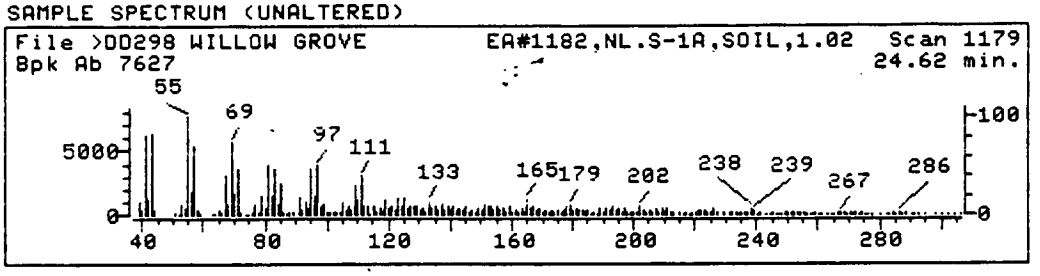
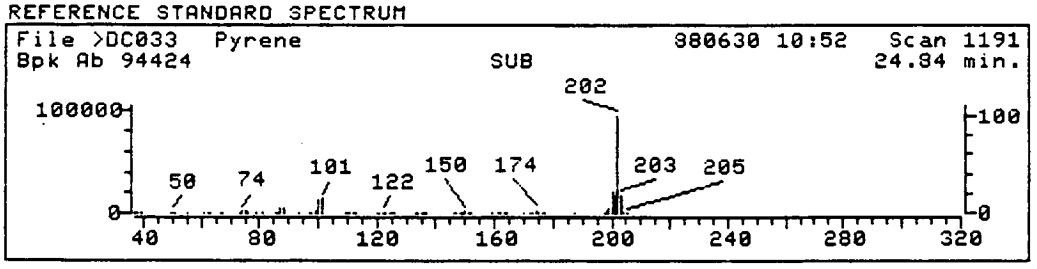


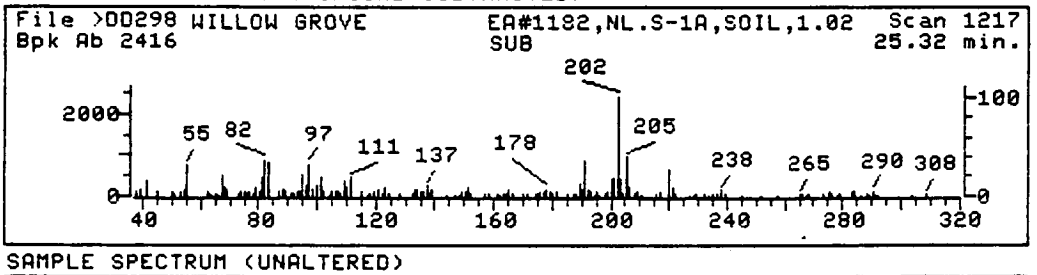
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 61
Compound Name: Fluoranthene
Scan Number: 1179
Retention Time: 24.62 min.
Quant Ion: 202.0
Area: 1283
Concentration: 1.83 NG
q-value: 84

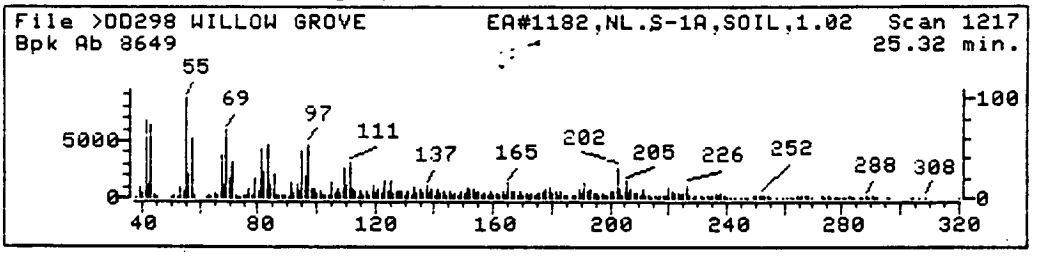
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

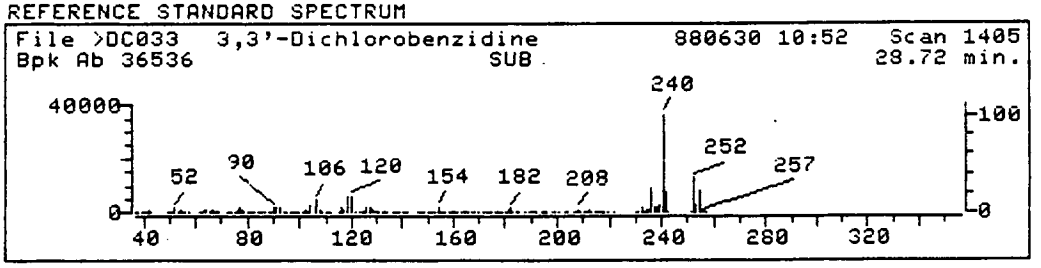


Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

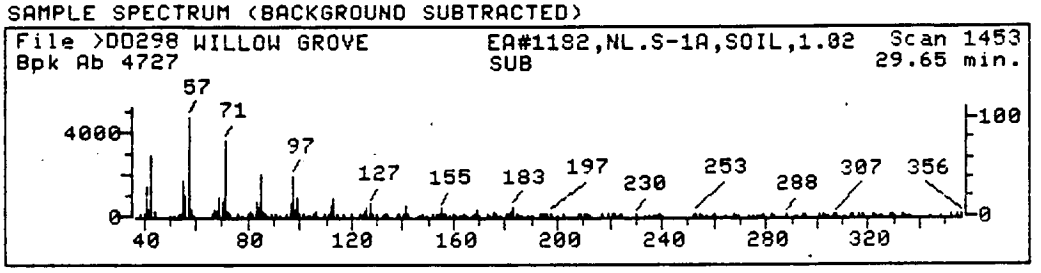
Compound No: 63
Compound Name: Pyrene
Scan Number: 1217
Retention Time: 25.32 min.
Quant Ion: 202.0
Area: 9985
Concentration: 14.13 NG
q-value: 93

✓

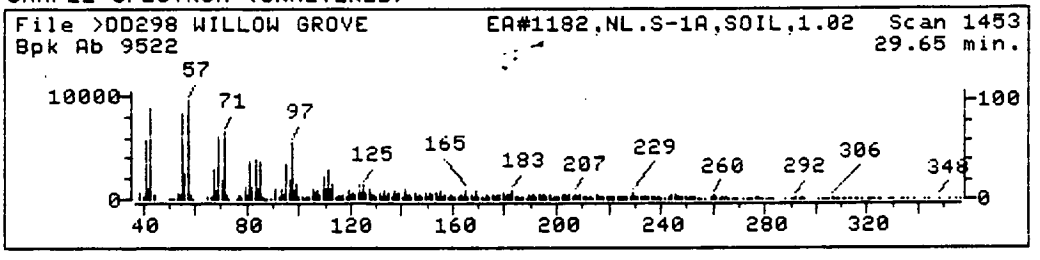
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



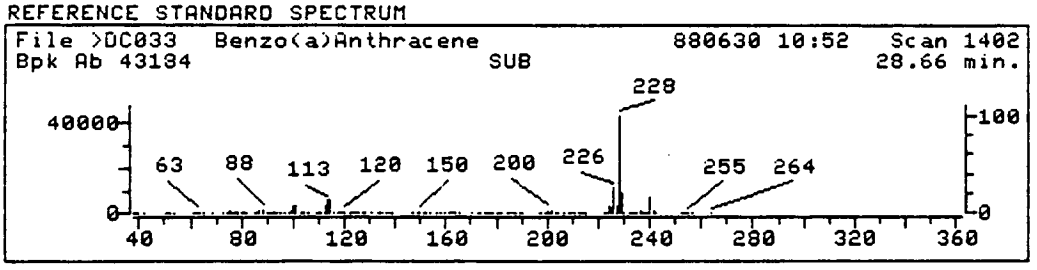
SAMPLE SPECTRUM (UNALTERED)



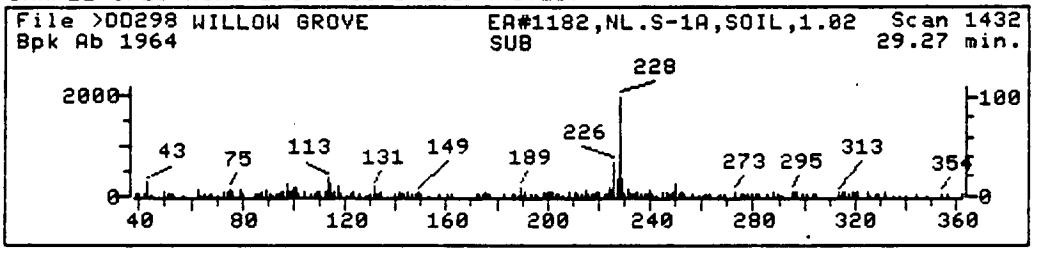
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 66
Compound Name: 3,3'-Dichlorobenzidine
Scan Number: 1453
Retention Time: 29.65 min.
Quant Ion: 252.0
Area: 503
Concentration: 3.69 NG
q-value: 89

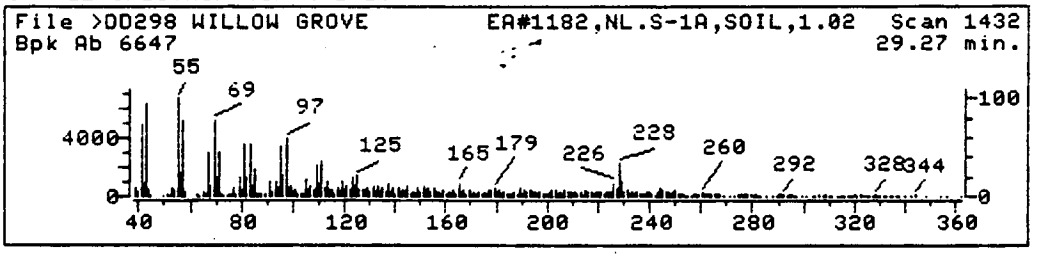
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

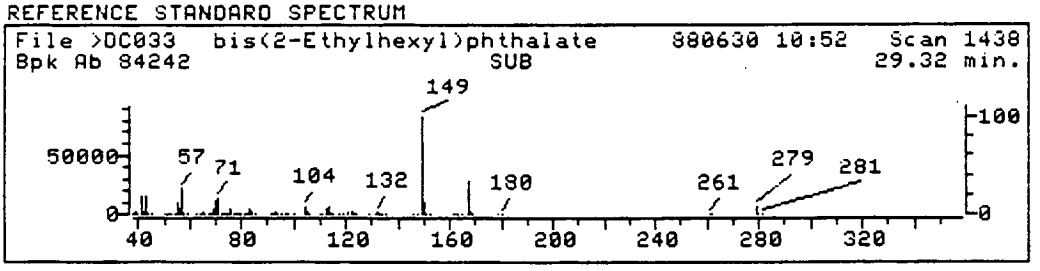


Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

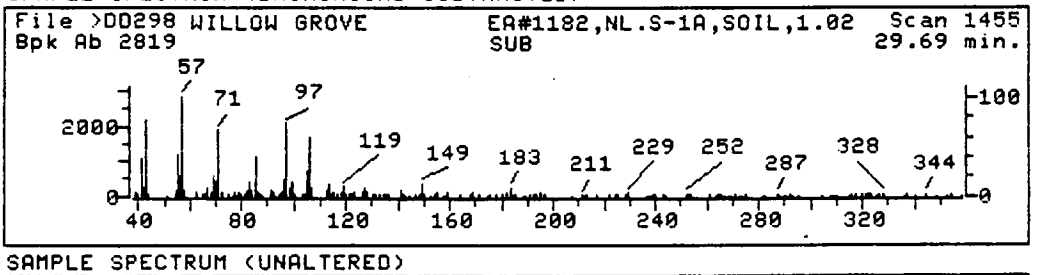
Compound No: 67
Compound Name: Benzo(a)Anthracene
Scan Number: 1432
Retention Time: 29.27 min.
Quant Ion: 228.0
Area: 8084
Concentration: 17.91 NG
q-value: 89

X

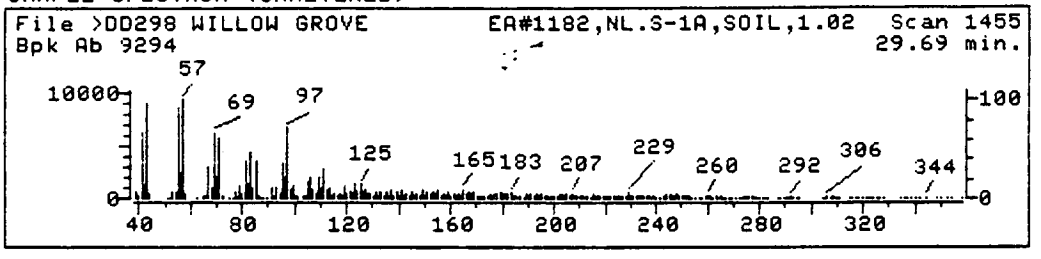
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



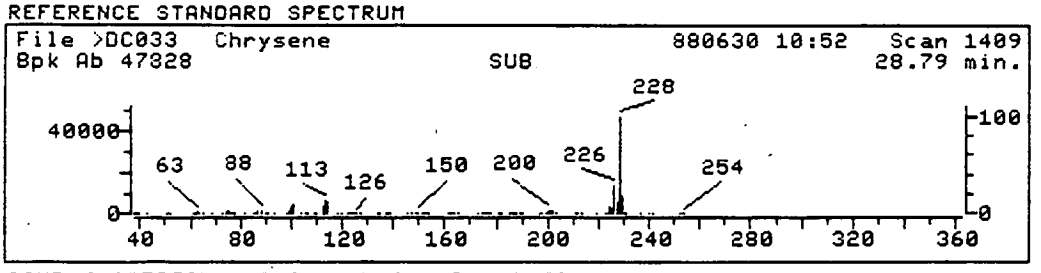
SAMPLE SPECTRUM (UNALTERED)



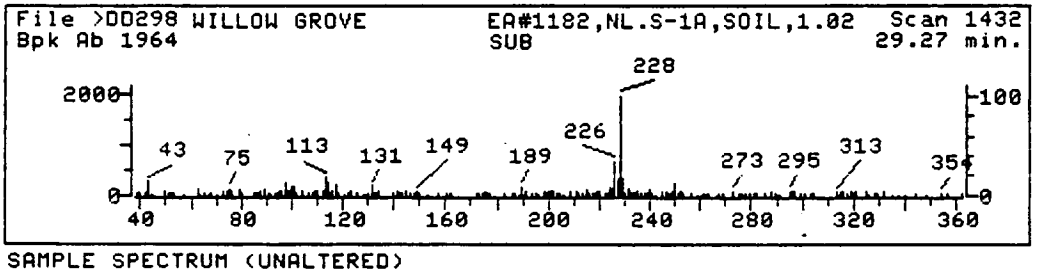
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 68
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1455
Retention Time: 29.69 min.
Quant Ion: 149.0
Area: 1103
Concentration: 1.65 NG
q-value: 69

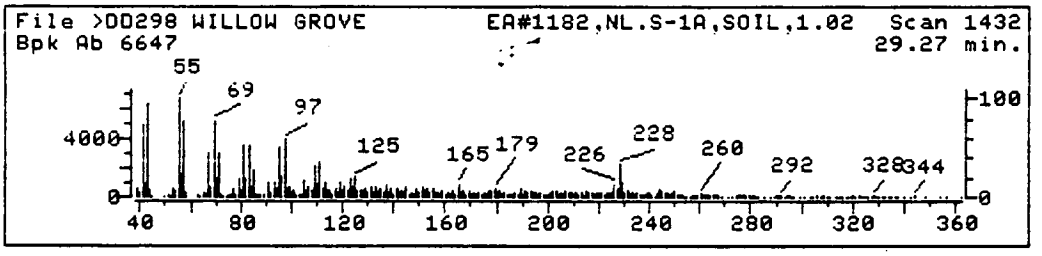
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



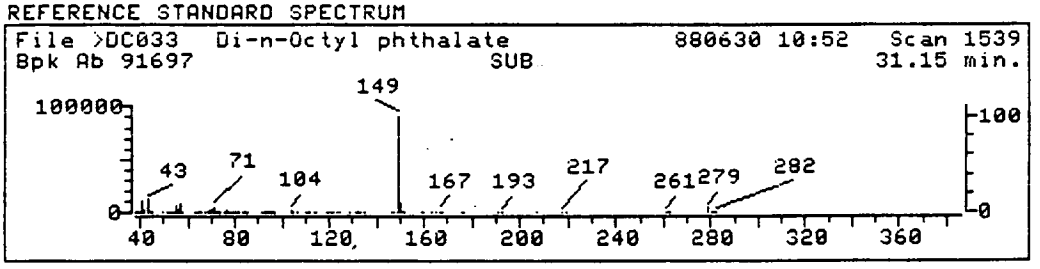
SAMPLE SPECTRUM (UNALTERED)



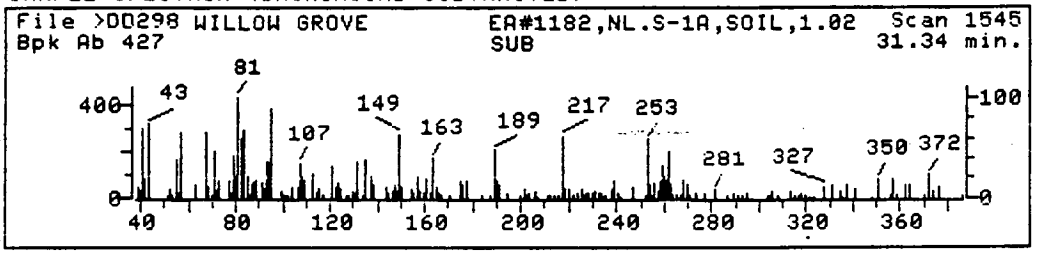
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 69
Compound Name: Chrysene
Scan Number: 1432
Retention Time: 29.27 min.
Quant Ion: 228.0
Area: 8084
Concentration: 19.96 NG
q-value: 94

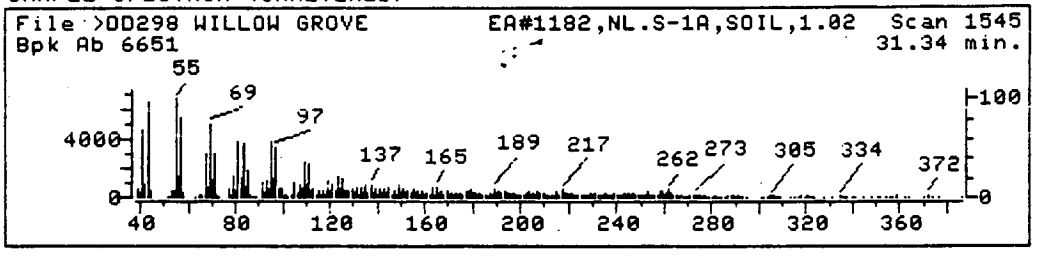
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



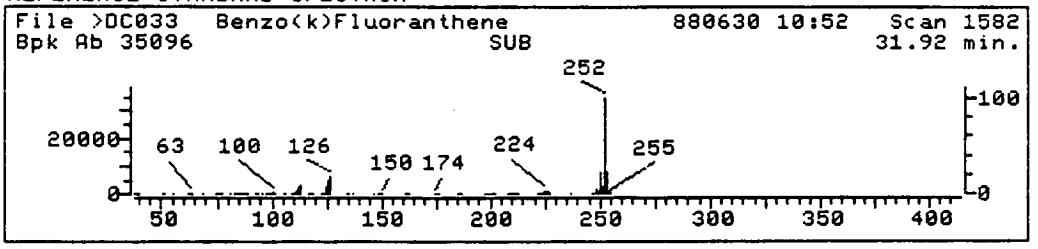
SAMPLE SPECTRUM (UNALTERED)



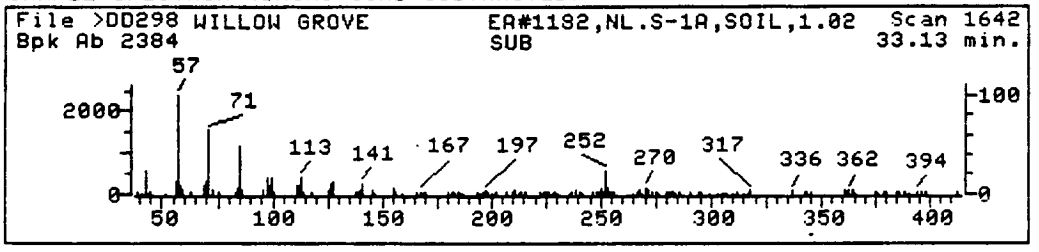
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 71
Compound Name: Di-n-Octyl phthalate
Scan Number: 1545
Retention Time: 31.34 min.
Quant Ion: 149.0
Area: 1357
Concentration: 1.59 NG
q-value: 95

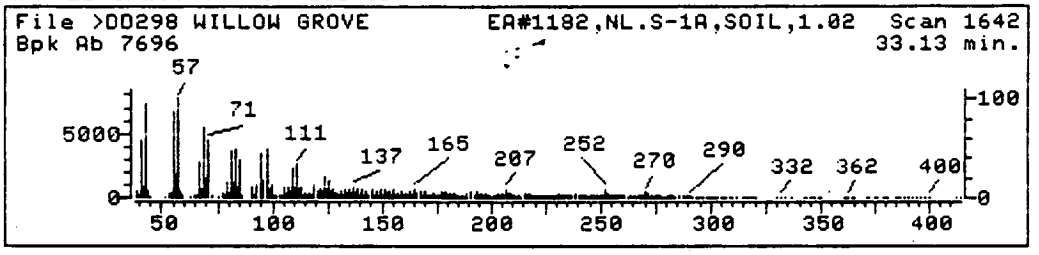
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



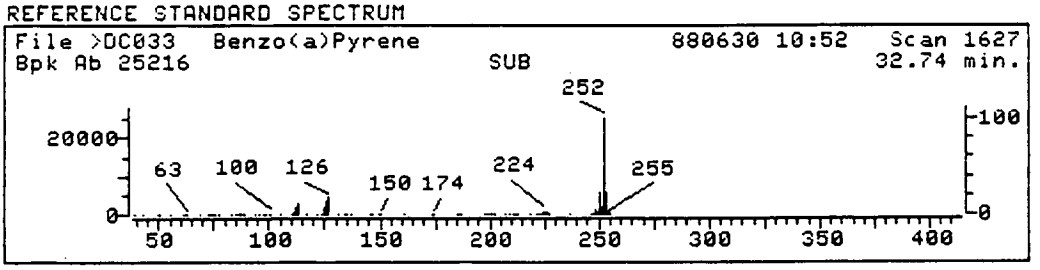
SAMPLE SPECTRUM (UNALTERED)



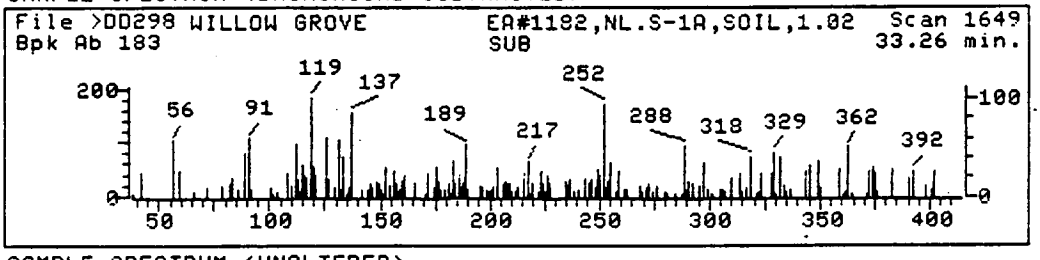
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 73
Compound Name: Benzo(k)Fluoranthene
Scan Number: 1642
Retention Time: 33.13 min.
Quant Ion: 252.0
Area: 2719
Concentration: 8.62 NG
q-value: 83

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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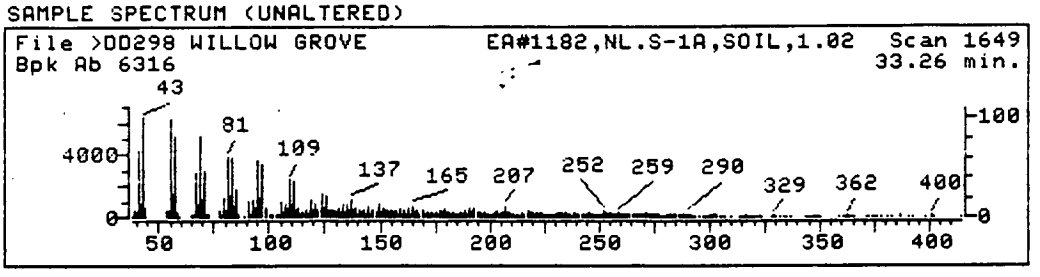
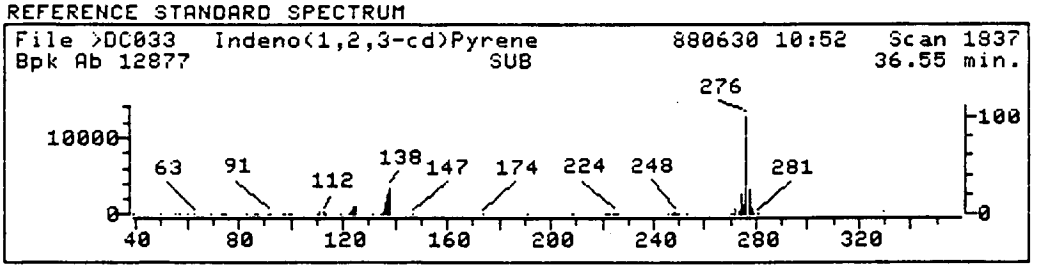


Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 74
Compound Name: Benzo(a)Pyrene
Scan Number: 1649
Retention Time: 33.26 min.
Quant Ion: 252.0
Area: 773
Concentration: 2.32 NG
q-value: 87

REFERENCE STANDARD SPECTRUM



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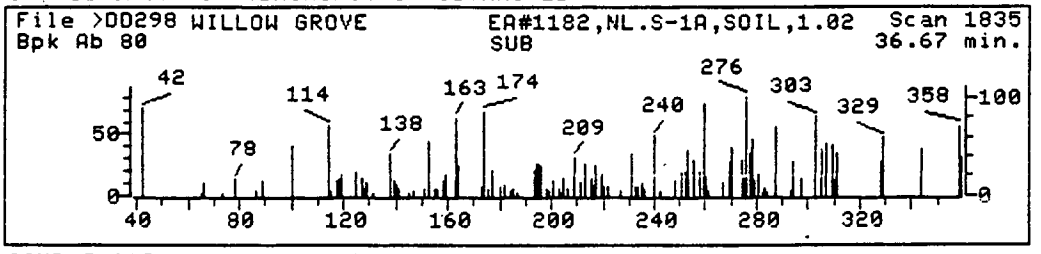

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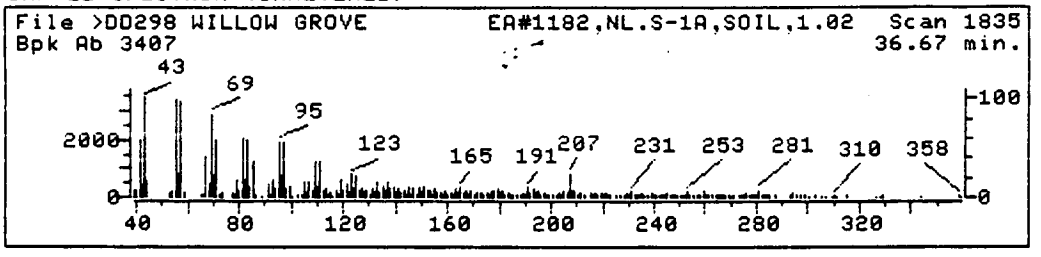
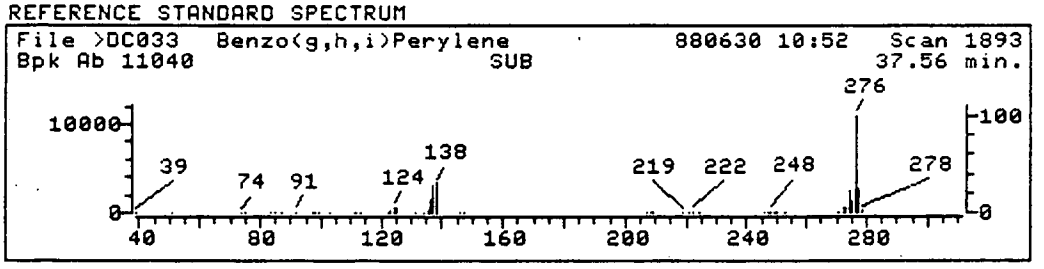


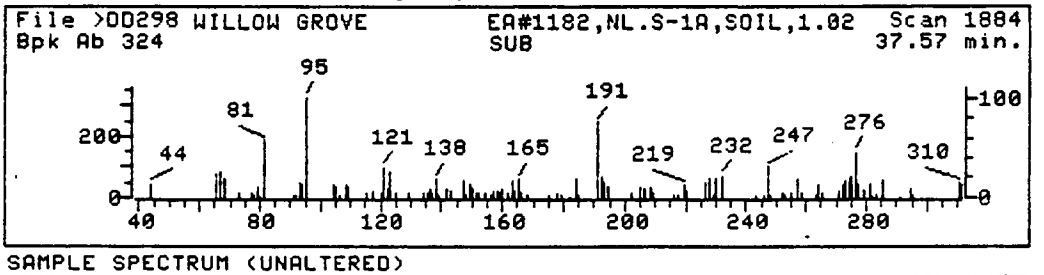
Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 75
Compound Name: Indeno(1,2,3-cd)Pyrene
Scan Number: 1835
Retention Time: 36.67 min.
Quant Ion: 276.0
Area: 573
Concentration: 1.53 NG
q-value: 73

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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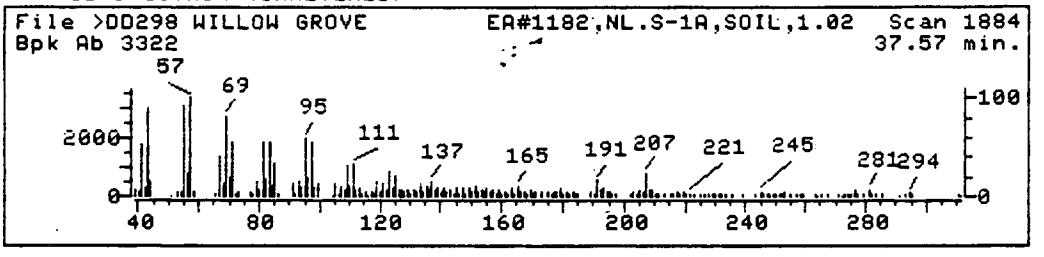
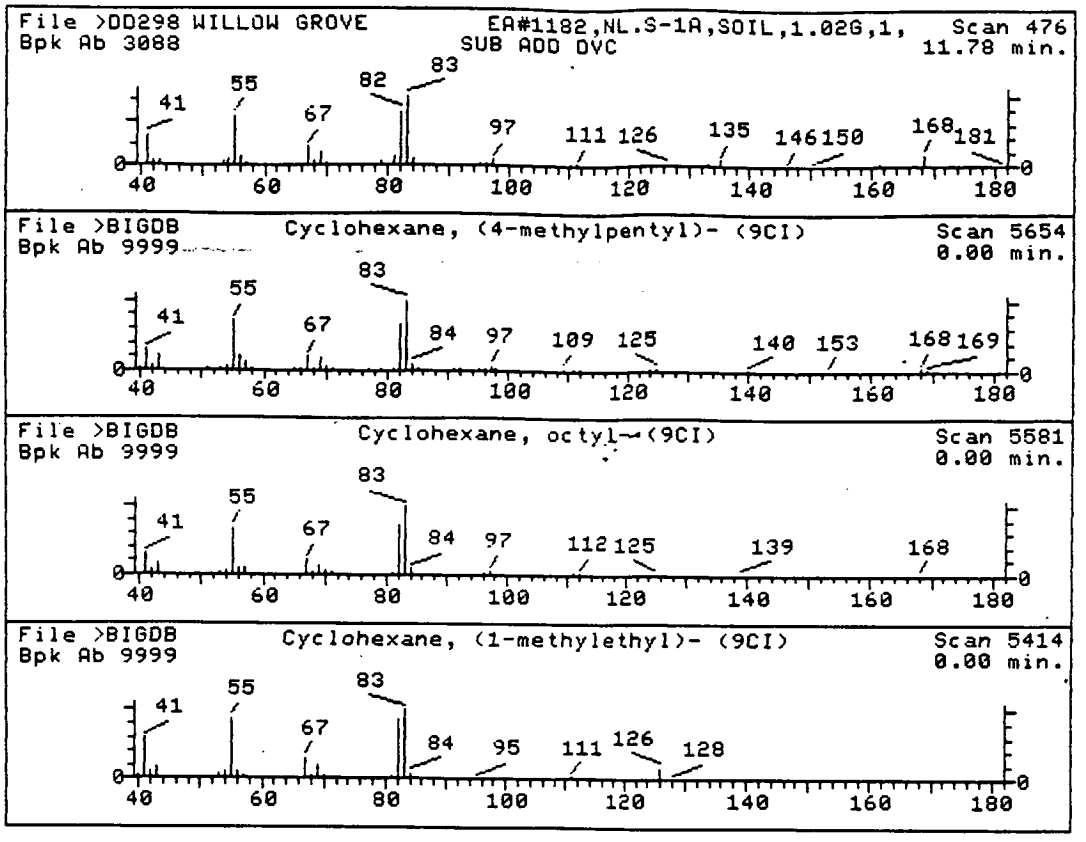


Data File: >DD298::D1 Quant Output File: ^DD298::QT
Name: WILLOW GROVE
Misc: EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1
Quant Time: 890421 12:06 Quant ID File: IDDCLP::BD
Injected at: 890421 11:24 Last Calibration: 890421 10:13

Compound No: 77
Compound Name: Benzo(g,h,i)Perylene
Scan Number: 1884
Retention Time: 37.57 min.
Quant Ion: 276.0
Area: 826
Concentration: 2.70 NG
q-value: 80



Retention time = 11.78 unknown cyclohexane

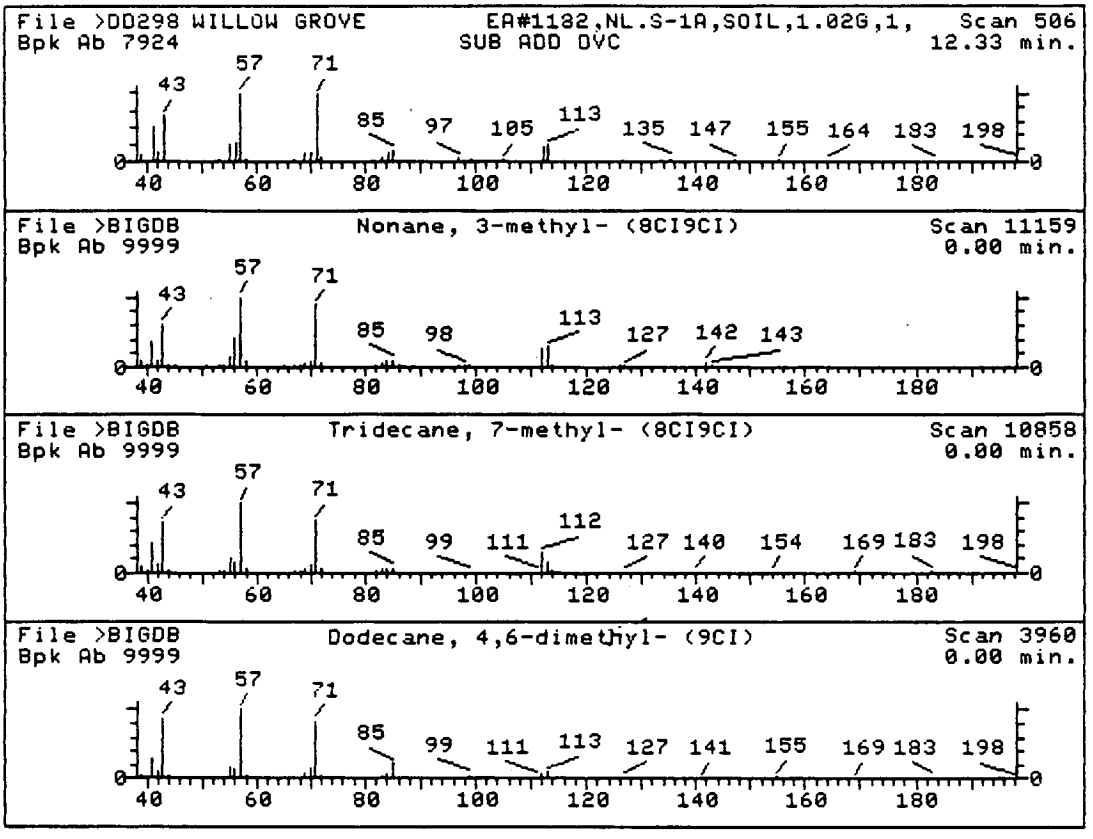
Area = 111652.0 Tentative Concentration is 14000.00

1.	Cyclohexane, (4-methylpentyl)- (9CI)	168 C12H24
2.	Cyclohexane, octyl- (9CI)	196 C14H28
3.	Cyclohexane, (1-methylethyl)- (9CI)	126 C9H18
4.	Cyclohexane, pentyl- (8CI9CI)	154 C11H22
5.	Cyclohexane, 1,1'-(1,4-butanediyl)bis- (9CI)	222 C16H30
6.	Cyclohexane, hexyl- (9CI)	168 C12H24
7.	Cyclohexane, undecyl- (9CI)	238 C17H34

Sample file: >DD298 Spectrum #: 476
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.	71*	61142209	5654	"BIGDB	56	41	2	0	99	12	38	34
2.	67	1795159	5581	"BIGDB	70	38	1	0	99	12	34	27

3.	60	696297	5414	"BIGDB	63	40	2	0	83	14	30	17
4.	60	4292926	5646	"BIGDB	58	37	2	0	97	14	30	19
5.	60	6165442	5442	"BIGDB	62	58	2	0	95	14	30	13
6.	59*	4292755	5564	"BIGDB	55	40	2	1	76	25	27	33
7.	52	54105667	5348	"BIGDB	77	39	2	0	100	17	20	19



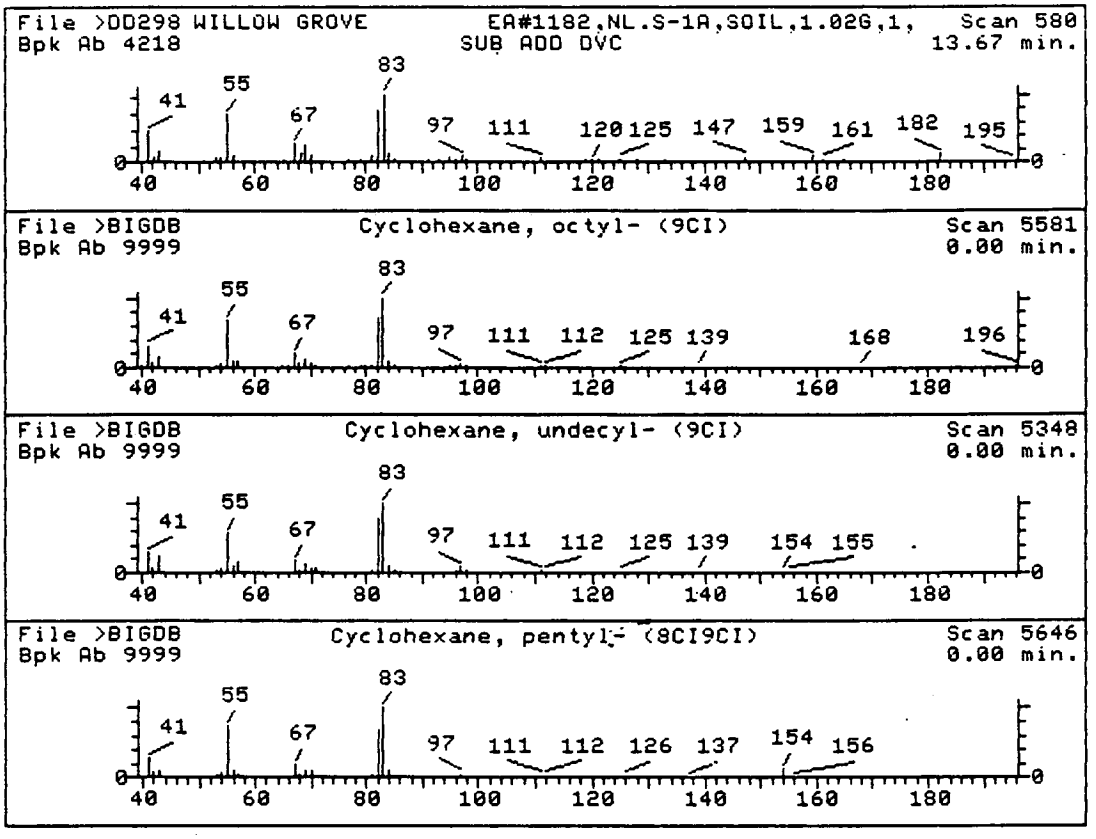
Retention time = 12.33 unknown alkane

Area = 166879.0 Tentative Concentration is 20000.00

1.	Nonane, 3-methyl- (8CI9CI)	142 C10H22
2.	Tridecane, 7-methyl- (8CI9CI)	198 C14H30
3.	Dodecane, 4,6-dimethyl- (9CI)	198 C14H30
4.	Cyclopropane, 1,2-dimethyl-1-pentyl- (9CI)	140 C10H20
5.	1-Butanamine, N-pentylidene- (9CI)	141 C9H19N
6.	Cyclopropane, 1-pentyl-2-propyl- (9CI)	154 C11H22
7.	Cyclopropane, 1-hexyl-2-methyl- (9CI)	140 C10H20

Sample file: >DD298 Spectrum #: 506
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.	76	5911046	11159	"BIGDB	66	33	2	0	87	9	45	23
2.	75*	26730143	10858	"BIGDB	63	48	0	1	94	16	35	66
3.	73*	61141728	3960	"BIGDB	70	40	1	0	78	24	32	69
4.	45*	62238044	5836	"BIGDB	55	32	2	1	36	38	17	34
5.	43*	10599776	5839	"BIGDB	36	47	0	1	13	36	17	32
6.	41*	41977337	3778	"BIGDB	60	32	2	1	25	41	14	39
7.	41*	62238099	3758	"BIGDB	56	38	2	1	26	41	14	35



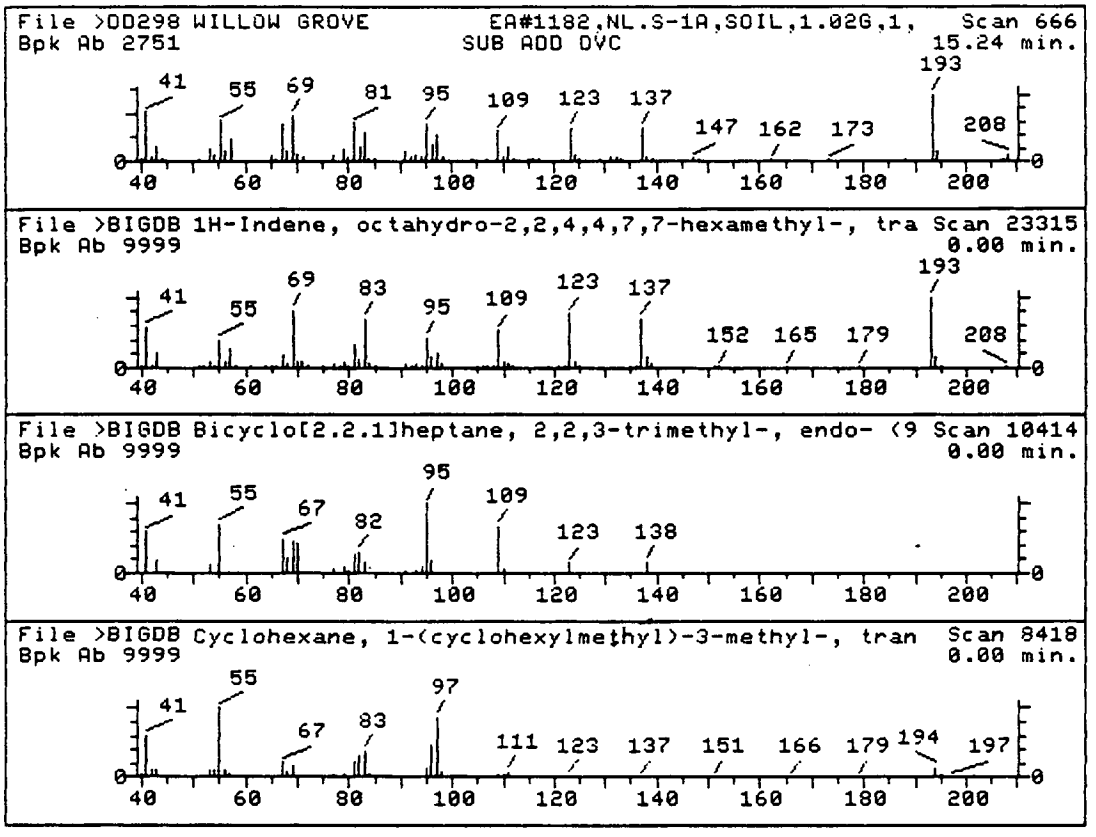
Retention time = 13.67 unknown cyclohexane

Area = 126818.0 Tentative Concentration is 21000.00

1.	Cyclohexane, octyl- (9CI)	196	C14H28
2.	Cyclohexane, undecyl- (9CI)	238	C17H34
3.	Cyclohexane, pentyl- (8CI9CI)	154	C11H22
4.	1-Azabicyclo[3.1.0]hexane (8CI9CI)	83	C5H9N
5.	Cyclohexane, hexyl- (9CI)	168	C12H24
6.	Heptanenitrile (8CI9CI)	111	C7H13N
7.	1H-Imidazole-4-ethanamine, N-methyl- (9CI)	125	C6H11N3

Sample file: >DD298 Spectrum #: 580
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	1795159	5581	"BIGDB	65	43	1	0	100	18	25	23
2.	52	54105667	5348	"BIGDB	70	46	3	0	100	16	20	12
3.	52	4292926	5646	"BIGDB	51	44	1	1	87	20	20	13
4.	43*	285767	5336	"BIGDB	30	49	3	0	153	22	17	14
5.	41	4292755	5564	"BIGDB	39	56	1	0	77	21	17	12
6.	27*	629083	5370	"BIGDB	22	80	2	0	56	40	10	13
7.	20*	673507	5341	"BIGDB	27	65	2	0	78	54	5	14



Retention time = 15.24

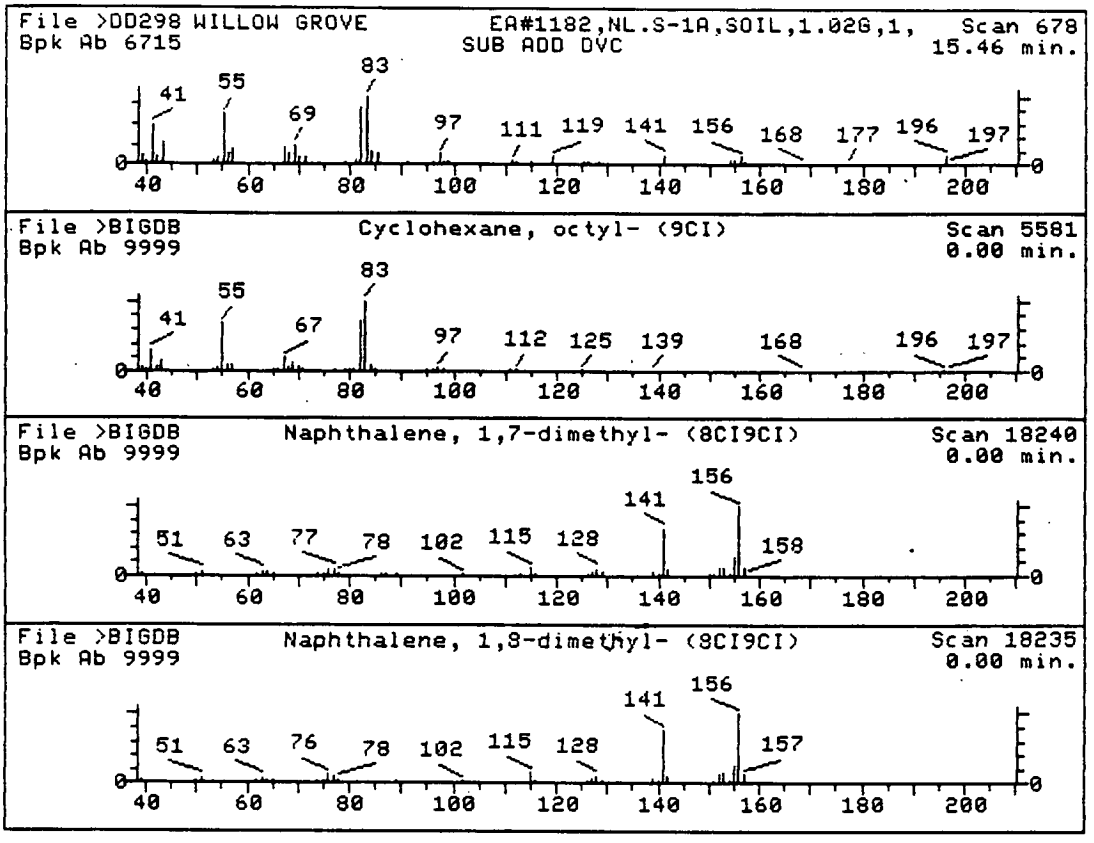
Area = 90534.00 Tentative Concentration is 15000.00

✓1.	1H-Indene, octahydro-2,2;4,4,7,7-hexamethyl-, trans- (9CI)	208	C15H28
2.	Bicyclo[2.2.1]heptane, 2,2,3-trimethyl-, endo- (9CI)	138	C10H18
3.	Cyclohexane, 1-(cyclohexylmethyl)-3-methyl-, trans- (9CI)	194	C14H26
4.	Cyclohexane, 1-(cyclohexylmethyl)-4-methyl-, trans- (9CI)	194	C14H26
5.	Cyclohexane, 1-(cyclohexylmethyl)-2-methyl-, trans- (9CI)	194	C14H26
6.	3,5-Heptadien-2-one, 6-methyl-, (E)- (8CI9CI)	124	C8H12O
7.	Cyclohexane, 1-(cyclohexylmethyl)-4-methyl-, cis- (9 CI)	194	C14H26

Sample file: >DD298 Spectrum #: 666
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*	54832836	23315	"BIGDB	73	69	2	0	64	33	24	55
2.	41*	20536407	10414	"BIGDB	56	47	1	2	28	43	14	37
3.	33*	54823959	8418	"BIGDB	44	57	1	1	34	37	10	19

4.	33*	54823982	23420	"BIGDB	44	58	1	1	36	38	10	19
5.	31*	54823948	8417	"BIGDB	42	57	1	1	30	38	10	17
6.	31*	16647044	10389	"BIGDB	46	38	2	2	26	42	8	19
7.	29*	54823971	8420	"BIGDB	40	62	1	1	37	38	10	15



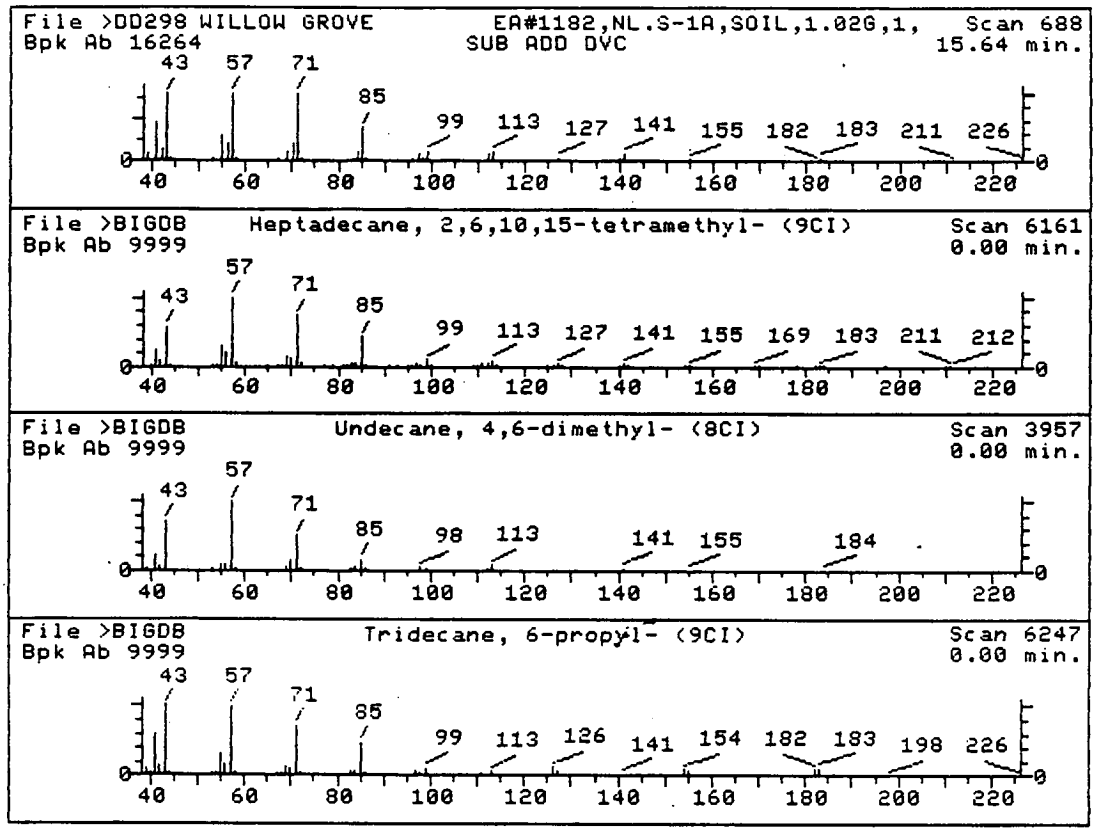
Retention time = 15.46

Area = 203224.0 Tentative Concentration is 34000.00

✓1.	Cyclohexane, octyl- (9CI)	196 C14H28
2.	Naphthalene, 1,7-dimethyl- (8CI9CI)	156 C12H12
3.	Naphthalene, 1,8-dimethyl- (8CI9CI)	156 C12H12
4.	Octane, 2-cyclohexyl- (8CI)	196 C14H28
5.	Naphthalene, 1,2-dimethyl- (8CI9CI)	156 C12H12
6.	Cyclohexane, (1-methylethyl)- (9CI)	126 C9H18
7.	Naphthalene, 1,4-dimethyl- (8CI9CI)	156 C12H12

Sampl file: >DD298 Spectrum #: 678
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.	68*	1795159	5581	"BIGDB	46	62	0	0	100	23	30	54
2.	62*	575371	18240	"BIGDB	67	26	2	3	27	28	25	49
3.	58*	569415	18235	"BIGDB	68	27	2	4	35	37	19	49
4.	52*	2883058	5521	"BIGDB	38	97	3	0	83	20	20	13
5.	49*	573988	18239	"BIGDB	62	36	2	4	35	37	17	38
6.	48	696297	5414	"BIGDB	62	41	1	0	85	25	17	19
7.	46*	571584	18237	"BIGDB	56	37	2	4	35	37	17	35



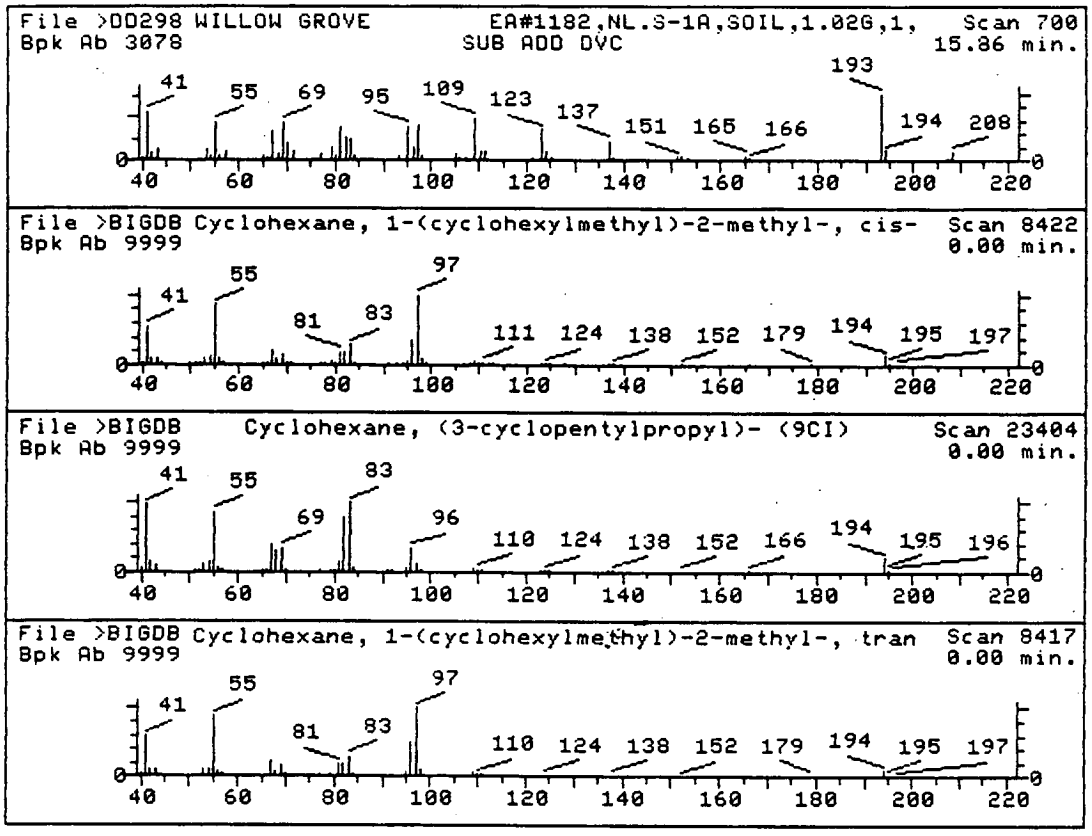
Retention time = 15.64 unknown alkane

Area = 316846.0 Tentative Concentration is 52000.00

1.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296 C21H44
2.	Undecane, 4,6-dimethyl- (8CI)	184 C13H28
3.	Tridecane, 6-propyl- (9CI)	226 C16H34
4.	Decane, 5-propyl- (8CI)	184 C13H28
5.	Decane, 2,3,8-trimethyl- (9CI)	184 C13H28
6.	Heptane, 3-ethyl-5-methyl- (9CI)	142 C10H22
7.	Dodecane, 4-methyl- (8CI9CI)	184 C13H28

Sample file: >DD298 Spectrum #: 688
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.	78	54833486	6161	"BIGDB	89	44	2	-1	92	5	55	17
2.	66*	17312822	3957	"BIGDB	64	34	2	0	174	19	31	44
3.	63*	55045108	6247	"BIGDB	58	71	2	0	98	20	30	35
4.	63*	17312628	4003	"BIGDB	56	55	2	0	100	19	30	33
5.	60	62238146	6167	"BIGDB	74	34	2	1	95	12	30	19
6.	60*	52896909	3958	"BIGDB	53	41	0	0	100	41	18	65
7.	56*	6117971	3765	"BIGDB	53	53	2	0	98	25	22	28



Unknown

Retention time = 15.86

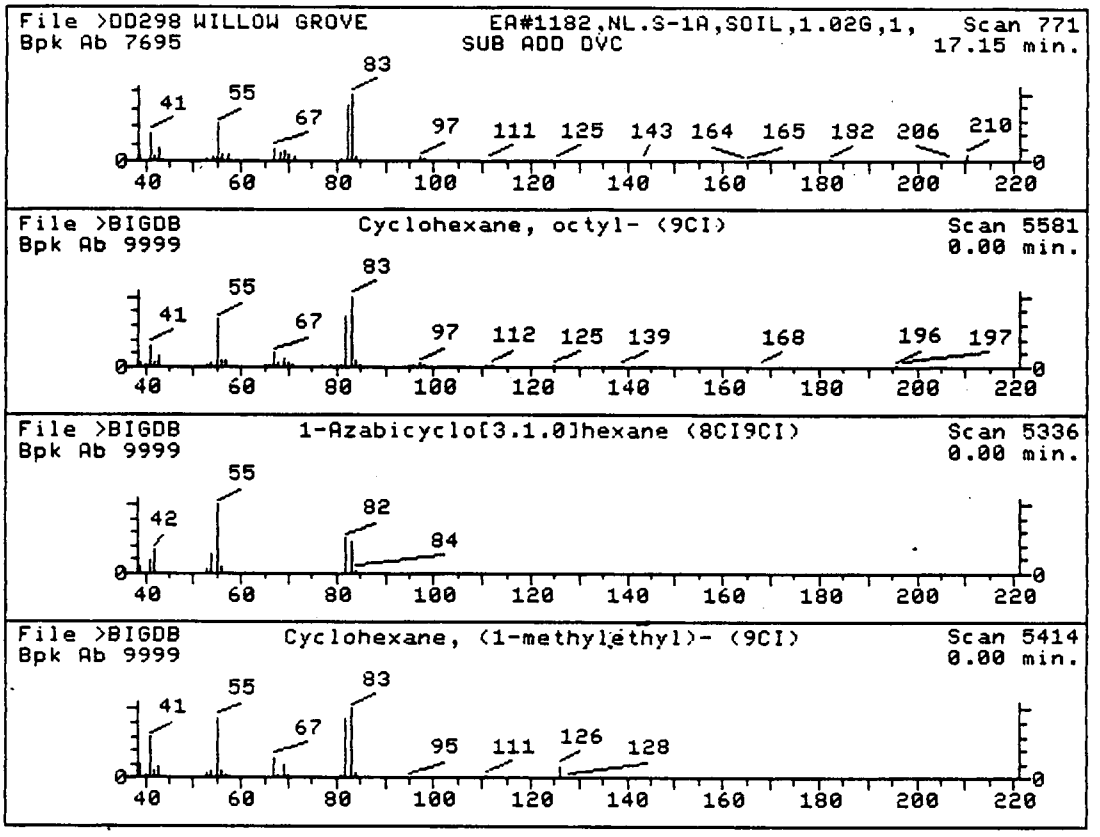
Area = 92994.00 Tentative Concentration is 15000.00

1.	Cyclohexane, 1-(cyclohexylmethyl)-2-methyl-, cis- (9CI)	194	C14H26
2.	Cyclohexane, (3-cyclopentylpropyl)- (9CI)	194	C14H26
3.	Cyclohexane, 1-(cyclohexylmethyl)-2-methyl-, trans- (9CI)	194	C14H26
4.	4H-1,3,2-Dioxaborin, 4-ethenyl-2-ethyl-4-methyl-6-(2-methylpropyl)- (9CI)	208	C12H21BO2
5.	1H-Cycloprop[c]linden-4(5H)-one, hexahydro-1a-methoxy-2,3a-dimethyl-, (1a.alpha.,2.beta.,3a.alpha.,7aR*)- (9CI)	208	C13H20O2
6.	Tridecanenitrile (8CI9CI)	195	C13H25N
7.	1H-Indene, octahydro-2,2,4,4,7,7-hexamethyl-, trans- (9CI)	208	C15H28

Sample file: >DD298 Spectrum #: 700
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.	61*	54824043	8422	"BIGDB	47	53	0	2	25	33	22	46
2.	30*	2883070	23404	"BIGDB	32	61	0	2	14	45	12	21

3.	26*	54823948	8417	"BIGDB	30	69	0	1	25	44	8	14
4.	25*	74630049	23322	"BIGDB	27	106	3	0	95	50	7	13
5.	20*	75364522	23344	"BIGDB	26	48	3	0	85	51	5	13
6.	20*	629607	12864	"BIGDB	38	76	2	1	28	54	5	12
7.	20*	54832836	23315	"BIGDB	24	100	2	0	42	52	5	14



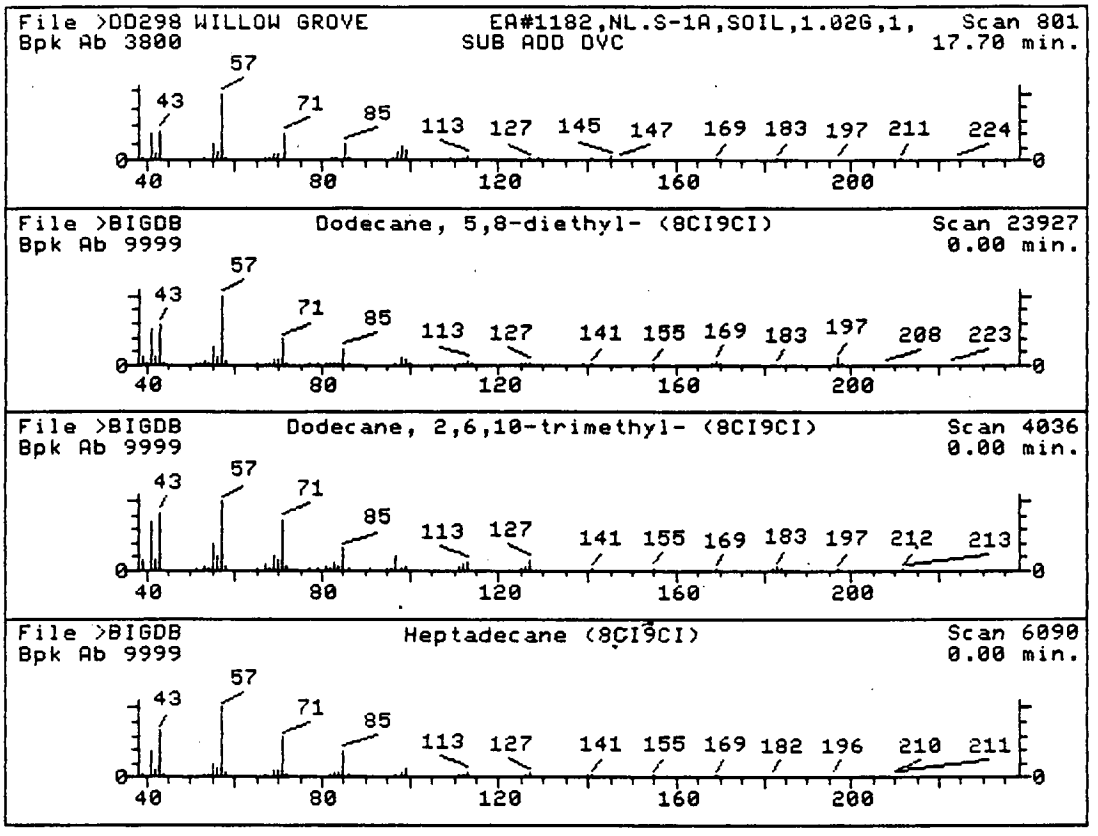
Retention time = 17.15 unknown cyclohexane

Area = 133402.0 Tentative Concentration is 22000.00

1.	Cyclohexane, octyl- (9CI)	196 C14H28
2.	1-Azabicyclo[3.1.0]hexane (8CI9CI)	83 C5H9N
3.	Cyclohexane, (1-methylethyl)- (9CI)	126 C9H18
4.	Cyclohexane, pentyl- (8CI9CI)	154 C11H22
5.	Cyclohexane, iodo- (8CI9CI)	210 C6H11I
6.	2-Hexene, 4,4,5-trimethyl- (9CI)	126 C9H18
7.	Cyclohexane, bromo- (8CI9CI)	162 C6H11Br

Sample file: >DD298 Spectrum #: 771
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.	74	1795159	5581	"BIGDB	85	23	1	0	79	12	39	45
2.	36*	285767	5336	"BIGDB	26	53	3	0	161	27	14	13
3.	33	696297	5414	"BIGDB	64	39	2	0	64	36	10	19
4.	30	4292926	5646	"BIGDB	49	46	2	0	75	35	12	13
5.	24*	626620	25664	"BIGDB	49	50	2	0	73	55	7	23
6.	18*	55702619	5569	"BIGDB	41	42	1	0	81	56	4	23
7.	15	108850	5561	"BIGDB	34	40	1	0	95	60	3	12



unknown alkane

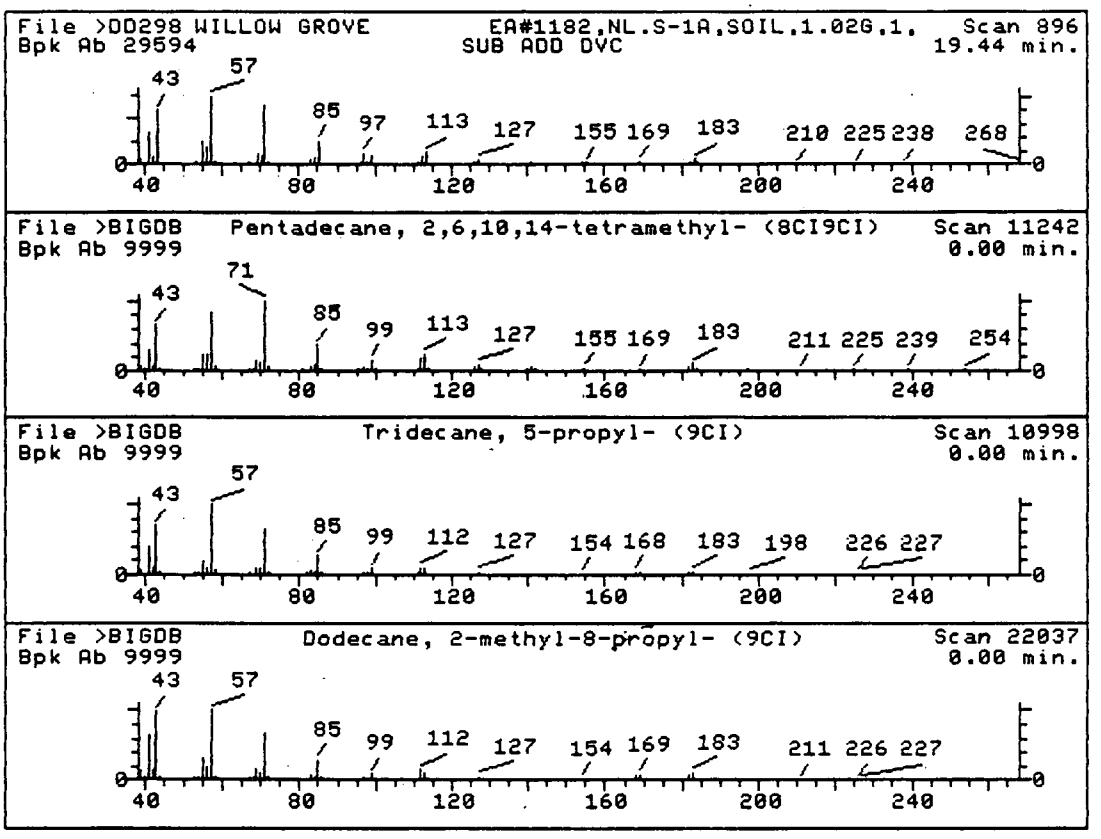
Retention time = 17.70

Area = 110924.0 Tentative Concentration is 18000.00

1.	Dodecane, 5,8-diethyl- (8CI9CI)	226	C16H34
2.	Dodecane, 2,6,10-trimethyl- (8CI9CI)	212	C15H32
3.	Heptadecane (8CI9CI)	240	C17H36
4.	2,5-Pyrrolidinedione, 3-(1-hydroxyethyl)-4-methyl- (9CI)	157	C7H11NO3
5.	Tridecane, 2,5-dimethyl- (9CI)	212	C15H32
6.	Hexatriacontane (8CI9CI)	506	C36H74
7.	Dotriacontane (8CI9CI)	450	C32H66

Sample file: >DD298 Spectrum #: 801
Search speed: 2 Tilting option: S No. of ion ranges searched: 88

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	45	24251863	23927	"BIGDB	70	49	2	0	90	23	17	16
2.	44*	3891983	4036	"BIGDB	52	72	2	0	55	33	16	27
3.	43	629787	6090	"BIGDB	67	54	2	0	67	23	17	14
4.	42*	54124140	11133	"BIGDB	28	61	3	0	56	23	17	13
5.	41*	56292661	8911	"BIGDB	61	45	2	0	93	45	14	38
6.	40	630068	6193	"BIGDB	72	90	2	0	51	30	14	17
7.	40	544854	6261	"BIGDB	71	94	2	0	58	26	14	17



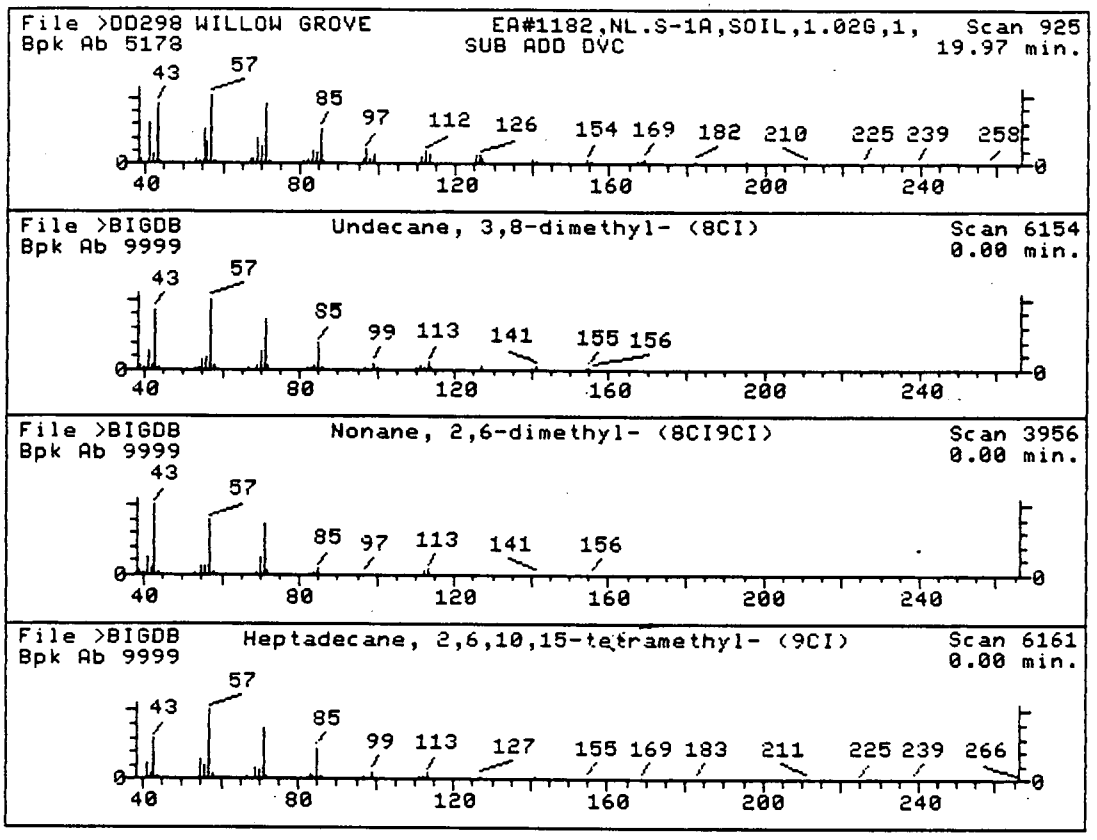
Retention time = 19.44

Area = 742316.0 Tentative Concentration is 330000.0

✓ 1.	Pentadecane, 2,6,10,14-tetramethyl- (8CI9CI)	268	C19H40
2.	Tridecane, 5-propyl- (9CI)	226	C16H34
3.	Dodecane, 2-methyl-8-propyl- (9CI)	226	C16H34
4.	Hexadecane, 2,6,10-trimethyl- (9CI)	268	C19H40
5.	Hexadecane, 2,6,10,14-tetramethyl- (8CI9CI)	282	C20H42
6.	Dodecane, 2,7,10-trimethyl- (9CI)	212	C15H32
7.	Undecane, 3,6-dimethyl- (8CI)	184	C13H28

Sample file: >DD298 Spectrum #: 896
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.	99*	1921706	11242	"BIGDB	116	19	0	0	79	3	72	99
2.	88*	55045119	10998	"BIGDB	84	29	2	-1	100	4	65	53
3.	83*	55045073	22037	"BIGDB	83	45	2	1	100	9	54	55
4.	79*	55000527	22036	"BIGDB	81	53	0	2	89	28	37	77
5.	70	638368	11255	"BIGDB	70	72	2	0	90	9	42	16
6.	63	74645980	3988	"BIGDB	75	34	0	-1	100	16	30	35
7.	60*	17301289	3955	"BIGDB	44	53	3	0	228	13	30	14



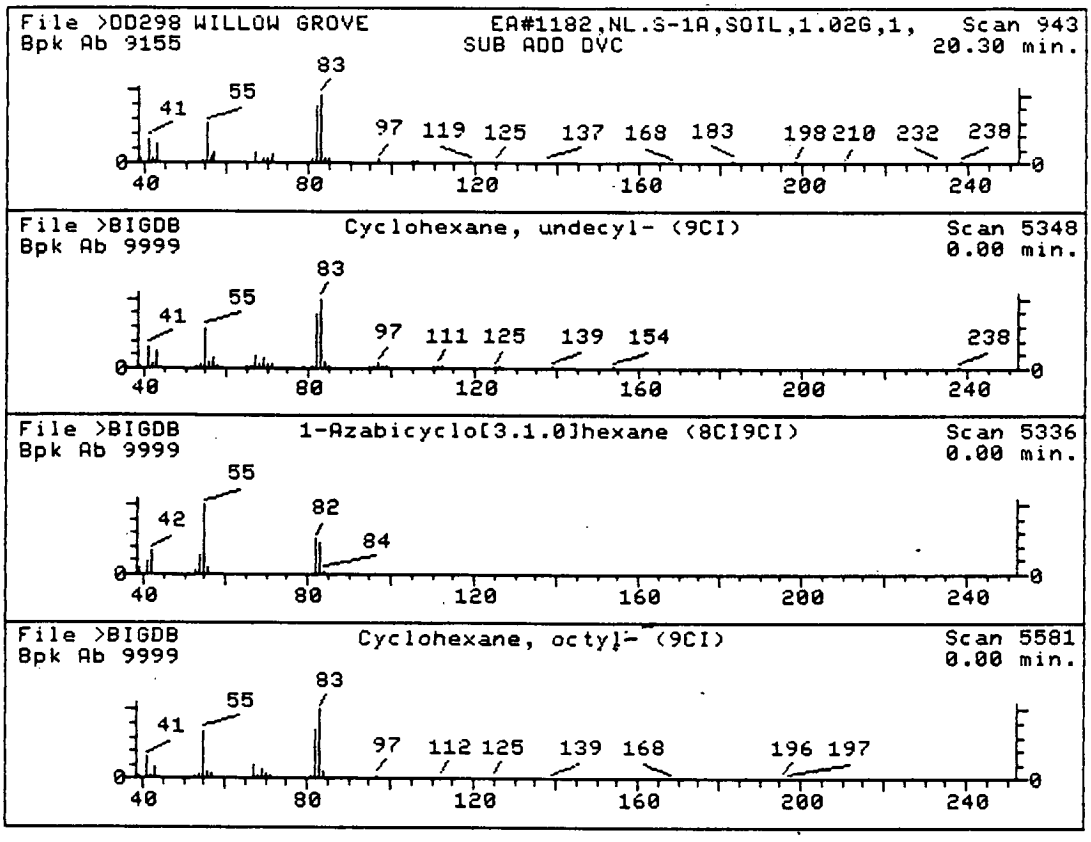
Retention time = 19.97 unknown alkane

Area = 216479.0 Tentative Concentration is 97000.00

1.	Undecane, 3,8-dimethyl- (8CI)	184 C13H28
2.	Nonane, 2,6-dimethyl- (8CI9CI)	156 C11H24
3.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296 C21H44
4.	Tetratetracontane (8CI9CI)	618 C44H90
5.	Hexatriacontane (8CI9CI)	506 C36H74
6.	Decane, 2,2,9-trimethyl- (9CI)	184 C13H28
7.	1-Undecene, 4-methyl- (9CI)	168 C12H24

Sample file: >DD298 Spectrum #: 925
Search speed: 2 Tilting option: S No. of ion ranges searched: 75

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	68	17301303	6154	"BIGDB	75	33	0	0	90	24	30	55
2.	58*	17302282	3956	"BIGDB	52	39	0	0	88	42	18	63
3.	54	54833486	6161	"BIGDB	69	64	1	0	100	22	22	26
4.	53	7098228	8906	"BIGDB	88	68	2	0	100	25	22	25
5.	53	630068	6193	"BIGDB	88	74	2	0	100	22	22	25
6.	52	62238000	1034	"BIGDB	38	48	2	0	641	20	20	12
7.	52*	74630390	13219	"BIGDB	44	55	1	0	124	22	22	24



unknown cyclohexane

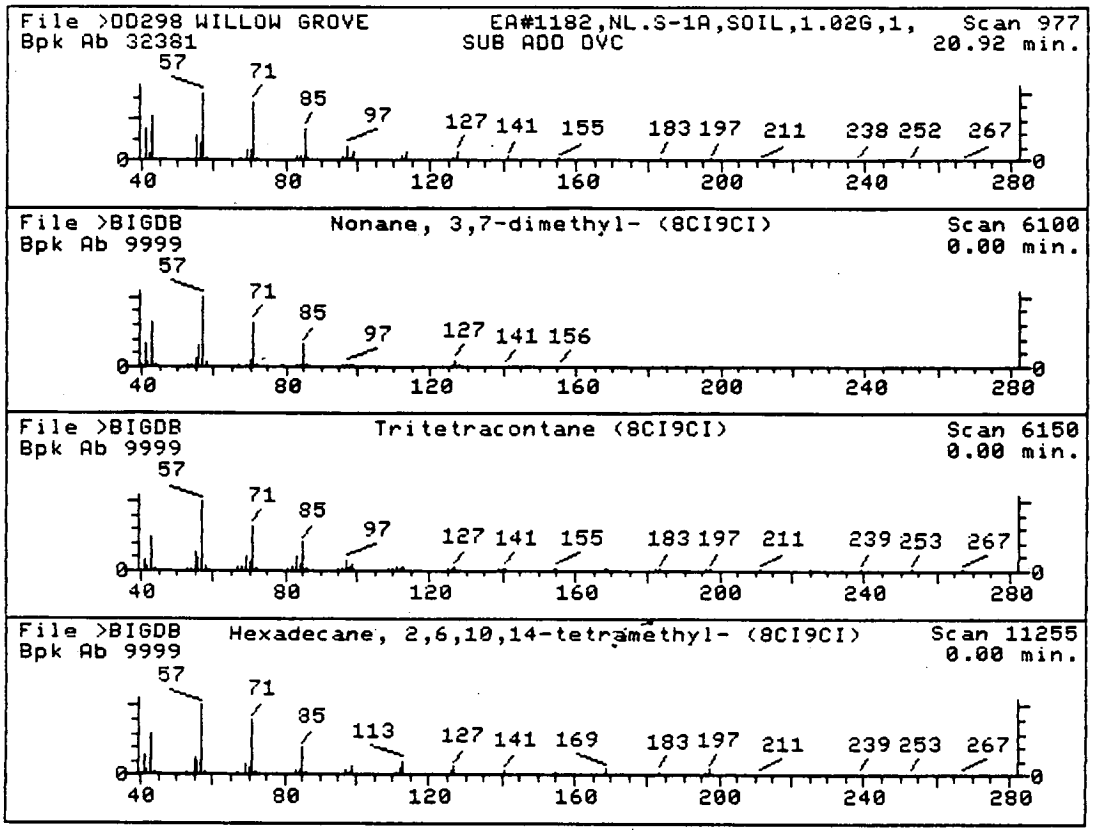
Retention time = 20.30

Area = 132165.0 Tentative Concentration is 59000.00

1.	Cyclohexane, undecyl- (9CI)	238	C17H34
2.	1-Azabicyclo[3.1.0]hexane (8CI9CI)	83	C5H9N
3.	Cyclohexane, octyl- (9CI)	196	C14H28
4.	Cyclohexane, eicosyl- (9CI)	364	C26H52
5.	Cyclohexane, pentyl- (8CI9CI)	154	C11H22
6.	Dodecane 2-cyclohexyl-, 2-cyclohexyl- (8CI)	252	C18H36
7.	Cyclohexanecarboxylic acid, ethenyl ester (9CI)	154	C9H14O2

Sample file: >DD298 Spectrum #: 943
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.	64*	54105667	5348	"BIGDB	72	44	2	2	83	21	28	45
2.	60*	285767	5336	"BIGDB	26	53	3	0	164	13	30	13
3.	60	1795159	5581	"BIGDB	69	39	2	0	85	13	30	19
4.	60	4443554	5347	"BIGDB	71	59	3	0	100	13	30	12
5.	44	4292926	5646	"BIGDB	61	34	1	0	69	35	16	27
6.	30*	13151821	5499	"BIGDB	25	110	3	0	82	33	12	13
7.	24*	4840760	5605	"BIGDB	47	36	2	1	75	55	7	21



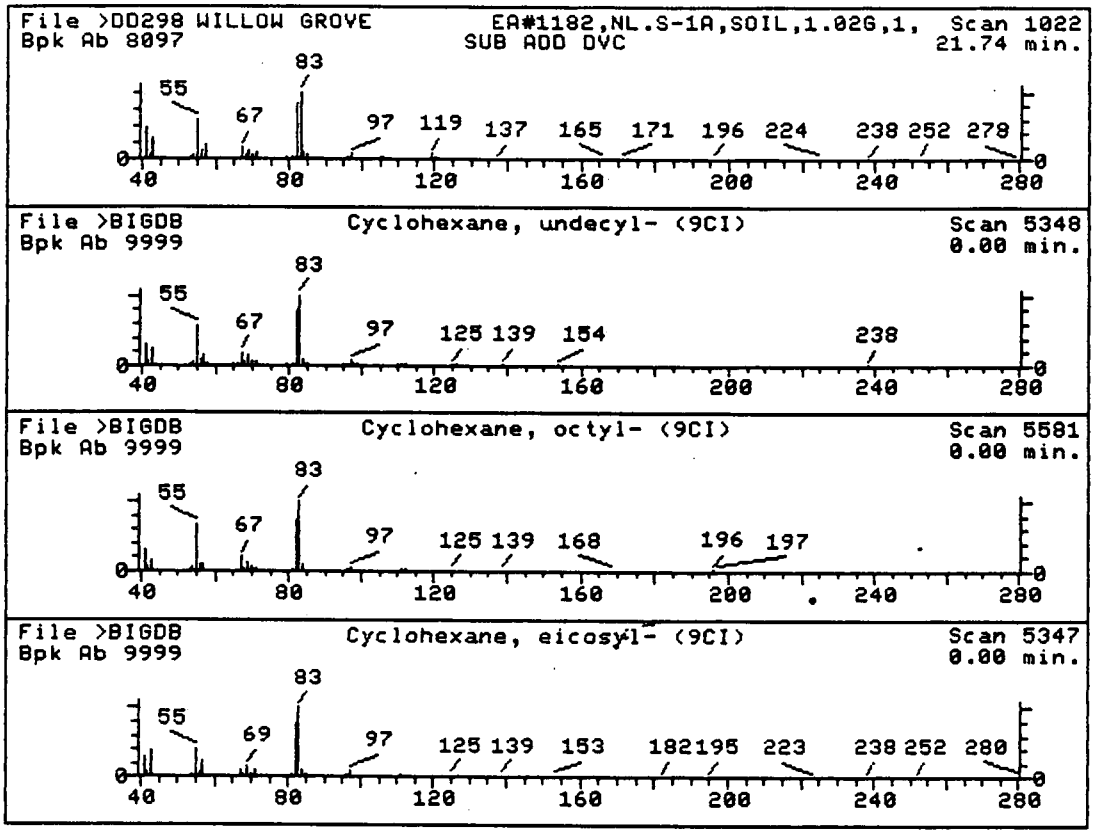
Retention time = 20.92 unknown alkane

Area = 367801.0 Tentative Concentration is 160000.0

1.	Nonane, 3,7-dimethyl- (8CI9CI)	156 C11H24
2.	Tritetracontane (8CI9CI)	604 C43H88
3.	Hexadecane, 2,6,10,14-tetramethyl- (8CI9CI)	282 C20H42
4.	Heptacosane (8CI9CI)	380 C27H56
5.	Dodecane, 4,6-dimethyl- (9CI)	198 C14H30
6.	Nonane, 5-butyl- (8CI9CI)	184 C13H28
7.	Tetratetracontane (8CI9CI)	618 C44H90

Sample file: >DD298 Spectrum #: 977
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.	81*	17302328	6100	"BIGDB	71	15	0	-2	86	16	45	71
2.	76	7098217	6150	"BIGDB	84	84	2	0	100	9	45	23
3.	69*	638368	11255	"BIGDB	79	63	1	2	81	32	26	66
4.	67	593497	6220	"BIGDB	82	71	2	0	95	12	34	22
5.	64*	61141728	3960	"BIGDB	57	53	0	0	73	45	18	69
6.	62*	17312639	13257	"BIGDB	58	55	1	0	71	27	25	49
7.	60	7098228	8906	"BIGDB	67	89	2	0	100	12	30	14



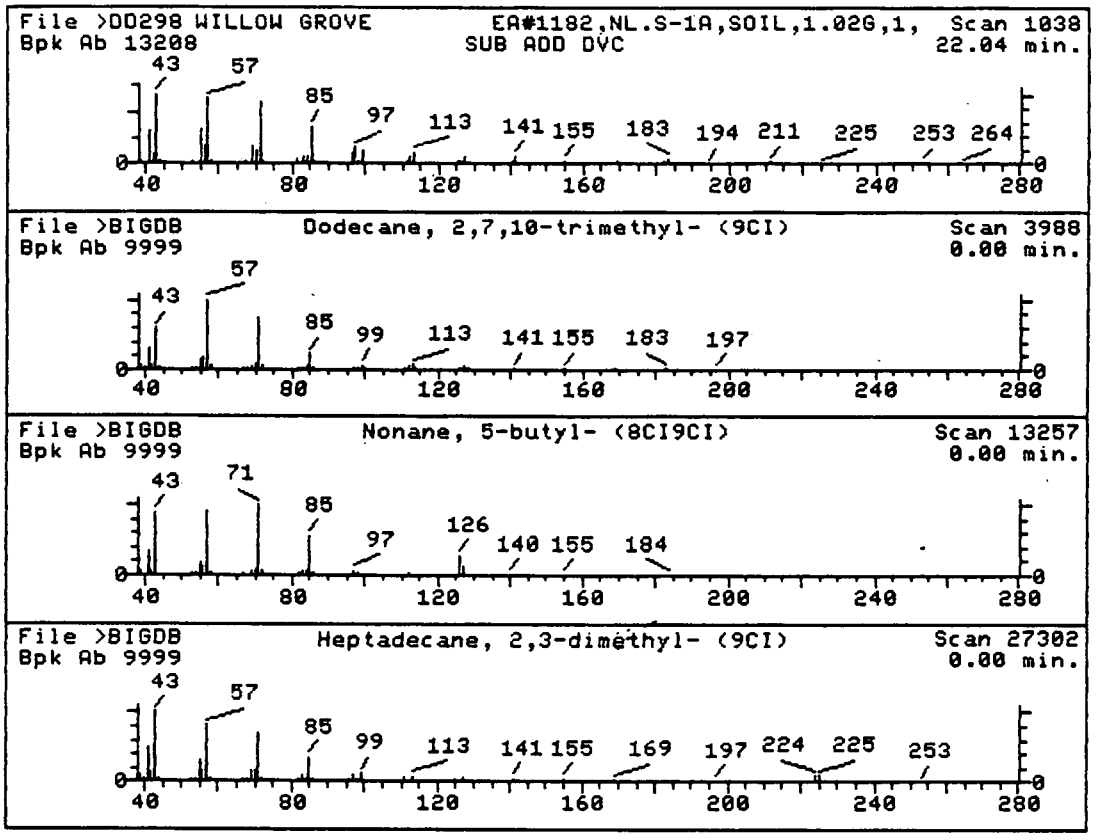
Retention time = 21.74

Area = 110385.0 Tentative Concentration is 49000.00

1.	Cyclohexane, undecyl- (9CI)	238 C17H34
2.	Cyclohexane, octyl- (9CI)	196 C14H28
3.	Cyclohexane, eicosyl- (9CI)	364 C26H52
4.	Cyclohexane, pentyl- (8CI9CI)	154 C11H22
5.	Dodecane 2-cyclohexyl-, 2-cyclohexyl- (8CI)	252 C18H36
6.	1-Azabicyclo[3.1.0]hexane (8CI9CI)	83 C5H9N
7.	Cyclohexane, (1-methylethyl)- (9CI)	126 C9H18

Sample file: >DD298 Spectrum #: 1022
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.	92*	54105667	5348	"BIGDB	92	24	1	0	95	11	64	92
2.	83*	1795159	5581	"BIGDB	76	32	1	0	87	11	51	74
3.	76	4443554	5347	"BIGDB	100	30	1	2	81	13	40	50
4.	71	4292926	5646	"BIGDB	64	31	1	0	81	11	38	30
5.	70*	13151821	5499	"BIGDB	44	91	3	0	83	9	42	13
6.	60*	285767	5336	"BIGDB	26	53	3	0	164	11	30	13
7.	60	696297	5414	"BIGDB	63	40	2	0	68	11	30	17



Unknown

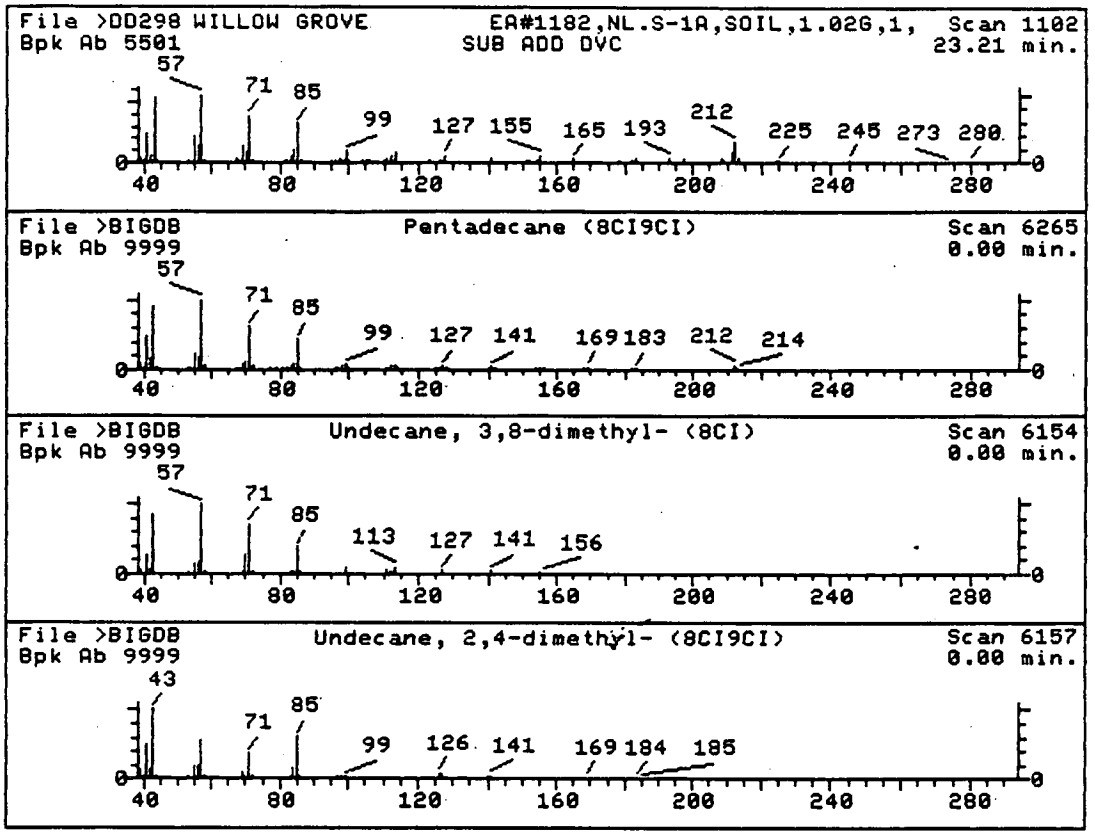
Retention time = 22.04

Area = 302111.0 Tentative Concentration is 130000.0

1.	Dodecane, 2,7,10-trimethyl- (9CI)	212 C15H32
2.	Nonane, 5-butyl- (8CI9CI)	184 C13H28
3.	Heptadecane, 2,3-dimethyl- (9CI)	268 C19H40
4.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398 C21H14FeN2O3
5.	Nonadecane, 2,3-dimethyl- (9CI)	296 C21H44
6.	Tridecane, 6-propyl- (9CI)	226 C16H34
7.	Hexadecane (8CI9CI)	226 C16H34

Sample file: >DD298 Spectrum #: 1038
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.	63	74645980	3988	"BIGDB	72	37	0	-2	87	19	30	32
2.	61*	17312639	13257	"BIGDB	57	56	1	0	84	33	22	46
3.	60	61868039	27302	"BIGDB	82	52	3	0	116	11	30	15
4.	60	74764117	6168	"BIGDB	82	55	2	-1	91	15	30	13
5.	60	75163994	29597	"BIGDB	82	64	3	0	100	11	30	15
6.	59*	55045108	6247	"BIGDB	59	70	2	0	96	23	27	36
7.	58	544763	6146	"BIGDB	80	40	1	-1	91	17	30	23



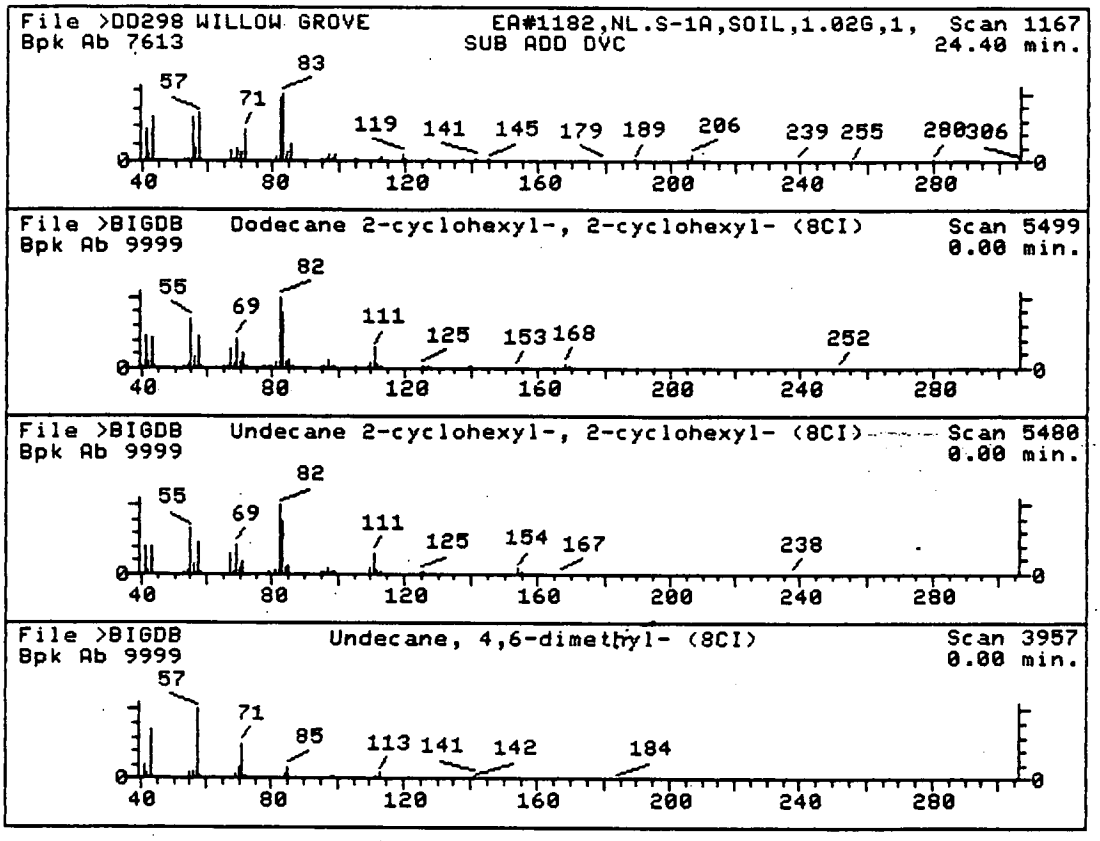
Retention time = 23.21

Area = 180950.0 Tentative Concentration is 81000.00

✓ 1. Pentadecane (8CI9CI)	212	C15H32
2. Undecane, 3,8-dimethyl- (8CI)	184	C13H28
3. Undecane, 2,4-dimethyl- (8CI9CI)	184	C13H28
4. Tetradecane, 5-methyl- (8CI9CI)	212	C15H32
5. Nonane, 3,7-dimethyl- (8CI9CI)	156	C11H24
6. Hexadecane, 1-iodo- (8CI9CI)	352	C16H33I
7. Eicosane, 7-hexyl- (9CI)	366	C26H54

Sample file: >DD298 Spectrum #: 1102
Search speed: 2 Tilting option: S No. of ion ranges search d: 54

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	71*	629629	6265	"BIGDB	75	45	2	-3	86	14	38	37
2.	44	17301303	6154	"BIGDB	77	31	1	-2	83	29	19	22
3.	40*	17312800	6157	"BIGDB	62	46	2	-2	74	31	16	23
4.	34*	25117322	6200	"BIGDB	53	74	1	-1	50	36	14	21
5.	34*	17302328	6100	"BIGDB	53	33	0	-2	71	53	10	53
6.	33	544774	27342	"BIGDB	87	63	2	-1	80	31	12	16
7.	30	55333998	6285	"BIGDB	89	56	2	0	99	46	10	26



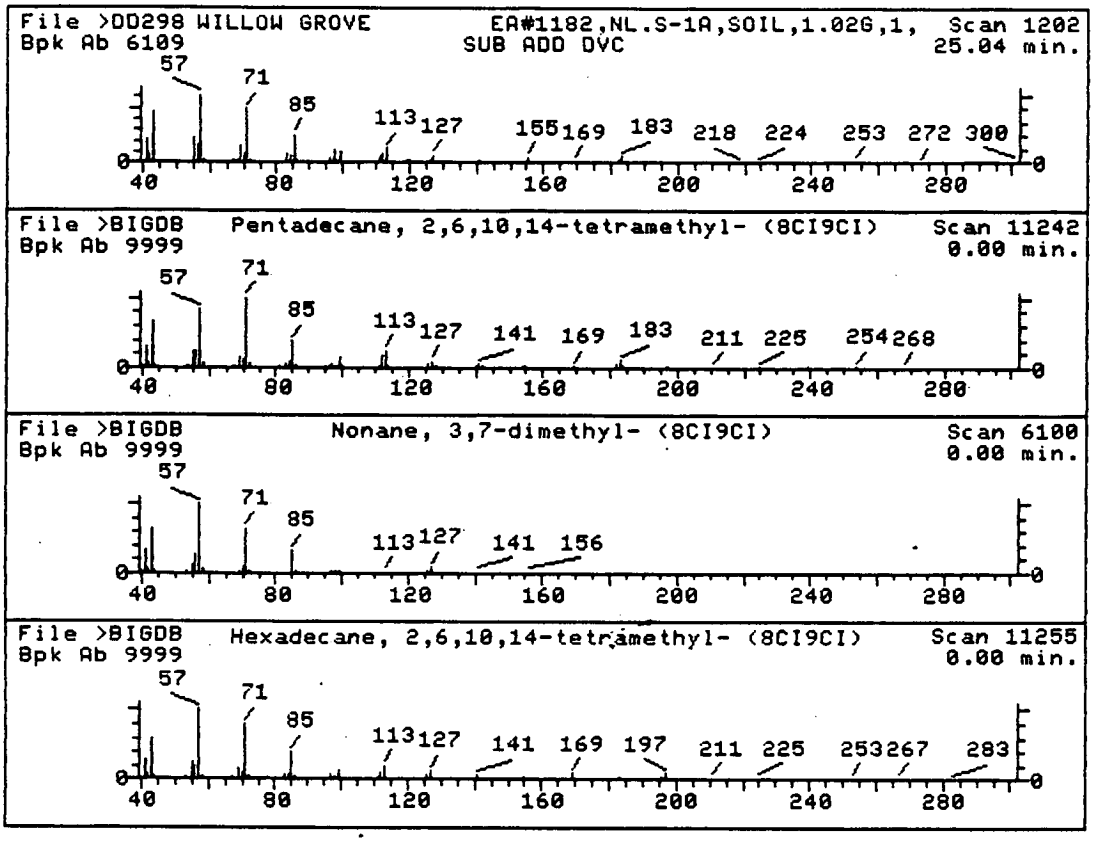
Retention time = 24.40 Unknown alkane

Area = 307537.0 Tentative Concentration is 140000.0

1.	Dodecane 2-cyclohexyl-, 2-cyclohexyl- (8CI)	252 C18H36
2.	Undecane 2-cyclohexyl-, 2-cyclohexyl- (8CI)	238 C17H34
3.	Undecane, 4,6-dimethyl- (8CI)	184 C13H28
4.	Cyclohexane, undecyl- (9CI)	238 C17H34
5.	Nonane, 3,7-dimethyl- (8CI9CI)	156 C11H24
6.	Cyclohexane, pentyl- (8CI9CI)	154 C11H22
7.	Heptadecane (8CI9CI)	240 C17H36

Sample file: >DD298 Spectrum #: 1167
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.	53*	13151821	5499	"BIGDB	65	70	3	0	92	28	24	33
2.	51*	13151774	5480	"BIGDB	62	70	3	0	92	28	19	29
3.	50*	17312822	3957	"BIGDB	57	41	0	1	64	48	14	60
4.	48*	54105667	5348	"BIGDB	55	61	2	0	100	33	20	32
5.	44*	17302328	6100	"BIGDB	48	38	0	2	50	48	13	54
6.	35	4292926	5646	"BIGDB	57	38	1	0	90	36	14	22
7.	30	629787	6090	"BIGDB	79	42	1	2	59	49	10	24



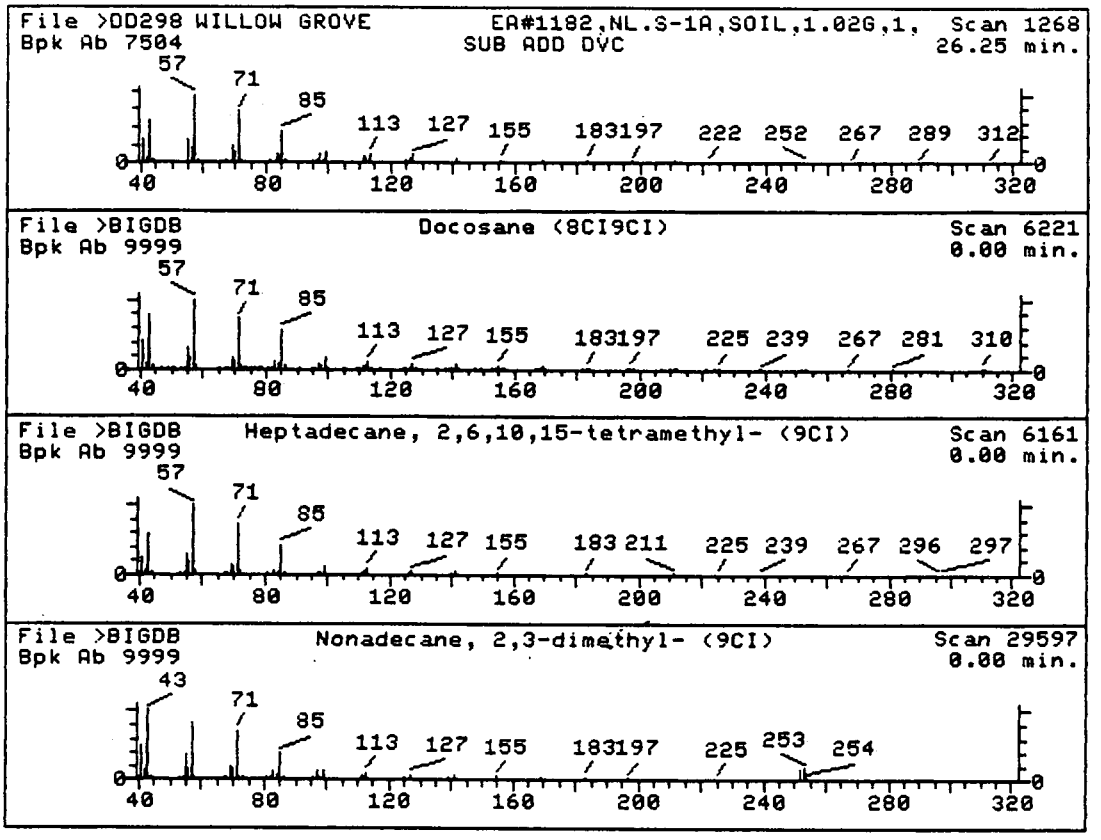
Retention time = 25.04 Unknown Alkane

Area = 144805.0 Tentative Concentration is 70000.00

1.	Pentadecane, 2,6,10,14-tetramethyl- (8CI9CI)	268 C19H40
2.	Nonane, 3,7-dimethyl- (8CI9CI)	156 C11H24
3.	Hexadecane, 2,6,10,14-tetramethyl- (8CI9CI)	282 C20H42
4.	Eicosane, 7-hexyl- (9CI)	366 C26H54
5.	Hexadecane, 7,9-dimethyl- (8CI9CI)	254 C18H38
6.	Nonane, 5-butyl- (8CI9CI)	184 C13H28
7.	Eicosane, 10-methyl- (9CI)	296 C21H44

Sample file: >DD298 Spectrum #: 1202
Search speed: 2 Tilting option: S No. of ion ranges searched: 75

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89	1921706	11242	"BIGDB	108	27	1	0	76	5	66	66
2.	82*	17302328	6100	"BIGDB	63	23	0	0	86	25	41	78
3.	76*	638368	11255	"BIGDB	83	59	2	1	100	12	40	55
4.	70	55333998	6285	"BIGDB	81	64	2	-1	85	8	42	13
5.	68*	21164954	6224	"BIGDB	78	57	2	1	94	25	30	50
6.	68*	17312639	13257	"BIGDB	60	53	1	0	72	25	30	56
7.	67*	54833237	6226	"BIGDB	76	57	2	0	92	28	27	59



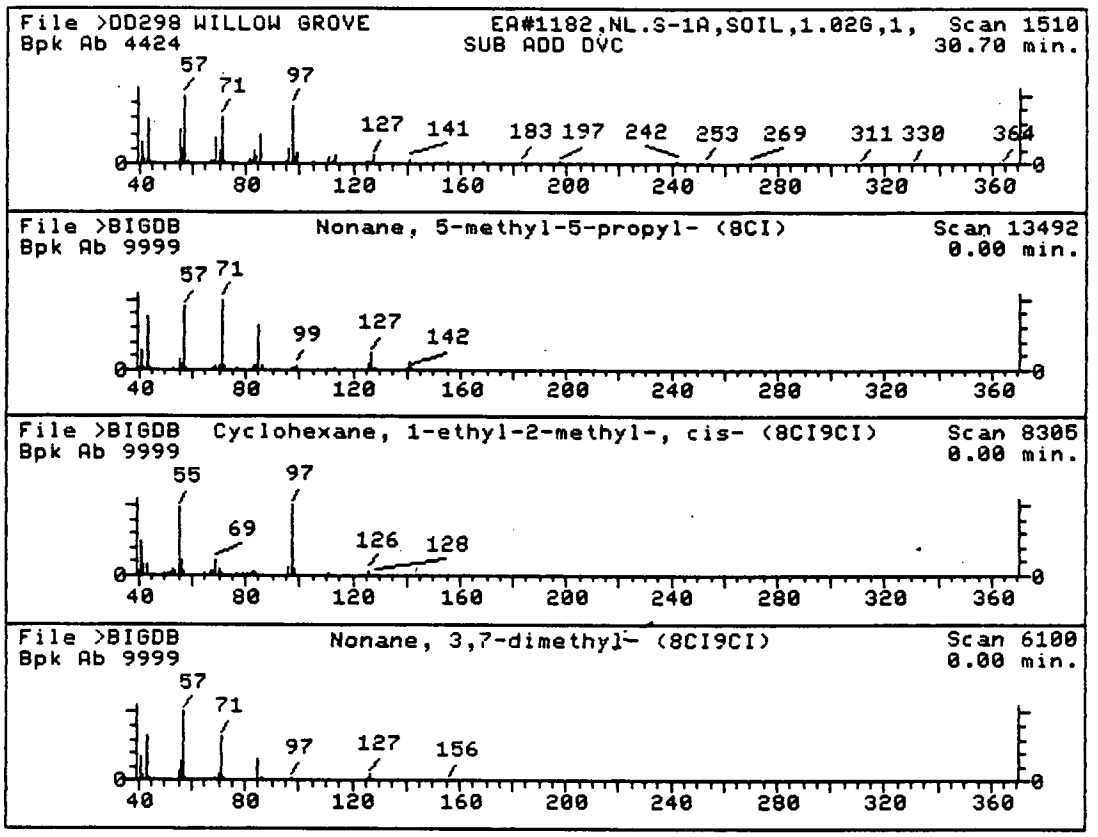
Retention time = 26.25 unknown alkane

Area = 137374.0 Tentative Concentration is 67000.00

1.	Docosane (8CI9CI)	310 C22H46
2.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296 C21H44
3.	Nonadecane, 2,3-dimethyl- (9CI)	296 C21H44
4.	Dodecane, 2,6,11-trimethyl- (8CI9CI)	212 C15H32
5.	Eicosane, 7-hexyl- (9CI)	366 C26H54
6.	Pentatriacontane (8CI9CI)	492 C35H72
7.	Tetratetracontane (8CI9CI)	618 C44H90

Sample file: >DD298 Spectrum #: 1268
Search speed: 2 Tilting option: S No. of ion ranges searched: 85

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	84	629970	6221	"BIGDB	106	41	1	0	79	9	55	66
2.	81	54833486	6161	"BIGDB	93	40	1	-1	95	10	53	42
3.	79	75163994	29597	"BIGDB	102	44	2	0	97	9	48	36
4.	79	31295564	3984	"BIGDB	73	33	0	-3	87	10	48	36
5.	78	55333998	6285	"BIGDB	88	57	3	0	100	4	55	17
6.	76	630079	6147	"BIGDB	105	46	3	0	100	10	45	25
7.	76	7098228	8906	"BIGDB	99	57	2	-1	82	9	45	24



Retention time = 30.70 unknown alkane

Area = 165692.0 Tentative Concentration is 81000.00

1.	Nonane, 5-methyl-5-propyl- (8CI)	184 C13H28
2.	Cyclohexane, 1-ethyl-2-methyl-, cis- (8CI9CI)	126 C9H18
3.	Nonane, 3,7-dimethyl- (8CI9CI)	156 C11H24
4.	2-Tridecanol (8CI9CI)	200 C13H28O
5.	2-Hexadecanol (8CI9CI)	242 C16H34O
6.	Decane, 2,4-dimethyl- (8CI9CI)	170 C12H26
7.	Octane, 3,6-dimethyl- (8CI9CI)	142 C10H22

Sample file: >DD298 Spectrum #: 1510
Search speed: 2 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	66	17312753	13492	"BIGDB	73	36	0	2	64	16	31	44
2.	62*	4923777	8305	"BIGDB	44	48	0	-2	53	28	25	40
3.	61*	17302328	6100	"BIGDB	66	20	0	-2	84	41	18	66
4.	60*	1653312	8246	"BIGDB	22	88	3	0	748	14	30	12
5.	60*	14852314	8296	"BIGDB	28	100	3	0	361	14	30	13
6.	52	2801845	6054	"BIGDB	57	30	1	1	129	16	20	17
7.	47*	15869940	11043	"BIGDB	55	34	1	1	96	41	16	44

LIBRARY SEARCH SUMMARY

MS Data File:>DD298::D1 Analyst:BHADRA MS

Name:WILLOW GROVE Date/Time: 4/21/89 11:24
Misc:EA#1182,NL.S-1A,SOIL,1.02G,1, 1:2 DIL BTL# 1

Th following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Nearest ISTD Area
1	11.78	111652	73651
2	12.33	166879	73651
3	13.67	126818	54350
4	15.24	90534	54350
5	15.46	203224	54350
6	15.64	316846	54350
7	15.86	92994	54350
8	17.15	133402	54350
9	17.70	110924	54350
10	19.44	742316	20117
11	19.97	216479	20117
12	20.30	132165	20117
13	20.92	367801	20117
14	21.74	110385	20117
15	22.04	302111	20117
16	23.21	180950	20117
17	24.40	307537	20117
18	25.04	144805	18456
19	26.25	137374	18456
20	30.70	165692	18456

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1183,NL,S-13

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/06/89 5:10
Conc/Dil Factor: 1.00000
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	1100.	U
111-44-4	bis(2-Chloroethyl)ether	1100.	U
95-57-8	2-Chlorophenol	1100.	U
541-73-1	1,3-Dichlorobenzene	1100.	U
106-46-7	1,4-Dichlorobenzene	1100.	U
100-51-6	Benzyl Alcohol	1100.	U
95-50-1	1,2-Dichlorobenzene	1100.	U
95-48-7	2-Methylphenol	1100.	U
39638-32-9	bis(2-Chloroisopropyl)ether	1100.	U
106-44-5	4-Methylphenol	1100.	U
621-64-7	N-Nitroso-Di-n-propylamine	1100.	U
67-72-1	Hexachloroethane	1100.	U
98-95-3	Nitrobenzene	1100.	U
78-59-1	Isophorone	1100.	U
88-75-5	2-Nitrophenol	1100.	U
105-67-9	2,4-Dimethylphenol	1100.	U
65-85-0	Benzoic Acid	5700.	U
111-91-1	bis(2-Chloroethoxy)methane	1100.	U
120-83-2	2,4-Dichlorophenol	1100.	U
120-82-1	1,2,4-Trichlorobenzene	1100.	U
91-20-3	Naphthalene	220.	J
106-47-8	4-Chloroaniline	1100.	U
87-68-3	Hexachlorobutadiene	1100.	U
59-50-7	4-Chloro-3-methylphenol	1100.	U
91-57-6	2-Methylnaphthalene	510.	J
77-47-4	Hexachlorocyclopentadiene	1100.	U
88-06-2	2,4,6-Trichlorophenol	1100.	U
95-95-4	2,4,5-Trichlorophenol	5700.	U
91-58-7	2-Chloronaphthalene	1100.	U
88-74-4	2-Nitroaniline	5700.	U
131-11-3	Dimethylphthalate	1100.	U
208-96-8	Acenaphthylene	1100.	U
99-09-2	3-Nitroaniline	5700.	U

C.A.S. Number		ug/L or (ug/Kg) (Circle One)	
83-32-9	Acenaphthene	1100.	U
51-28-5	2,4-Dinitrophenol	5700.	U
100-02-7	4-Nitrophenol	5700.	U
132-64-9	Dibenzofuran	1100.	U
121-14-2	2,4-Dinitrotoluene	1100.	U
606-20-2	2,6-Dinitrotoluene	1100.	U
84-66-2	Diethylphthalate	1100.	U
7005-72-3	4-Chlorophenyl-phenylether	1100.	U
86-73-7	Fluorene	1100.	U
100-01-6	4-Nitroaniline	1100.	U
534-52-1	4,6-Dinitro-2-methylphenol	5700.	U
86-30-6	N-Nitrososdiphenylamine (1)	1100.	U
101-55-3	4-Bromophenyl-phenylether	1100.	U
118-74-1	Hexachlorobenzene	1100.	U
87-86-5	Pentachlorophenol	5700.	U
85-01-8	Phenanthrene	350.	J
120-12-7	Anthracene	1100.	U
84-74-2	Di-n-Butyl phthalate	1100.	U
206-44-0	Fluoranthene	1100.	U
129-00-0	Pyrene	1100.	U
85-68-7	Butylbenzylphthalate	1100.	U
91-94-1	3,3'-Dichlorobenzidine	2300.	U
56-55-3	Benzo(a)Anthracene	1100.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100.	U
218-01-9	Chrysene	180.	J
117-84-0	Di-n-Octyl phthalate	1100.	U
205-99-2	Benzo(b)Fluoranthene	1100.	U
207-08-9	Benzo(k)Fluoranthene	1100.	U
50-32-8	Benzo(a)Pyrene	1100.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1100.	U
53-70-3	Dibenzo(a,h)Anthracene	1100.	U
191-24-2	Benzo(g,h,i)Perylene	1100.	U

(1)-Cannot be separated from diphenylamine

Laboratory Name: EA LABORATORIES

Case No: WILLOW GROVE

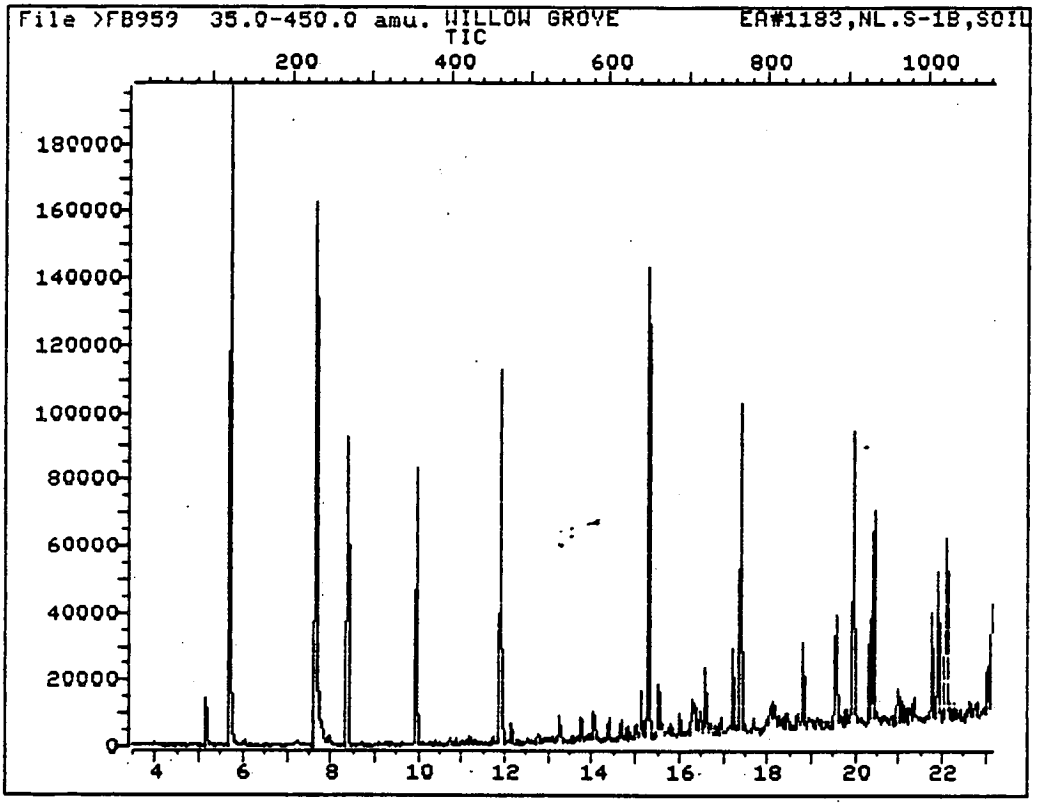
Sample Number
EA# 1183

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT ~~or Scan~~ Number	Estimated Concentration (ug/l ~~or~~ ug/kg)
1.	—	UNIDENTIFIED	BNA	16.59	980 J
2.	—	UNIDENTIFIED ALKANE		17.23	1100 J
3.	—	Unidentified Alkane		19.57	1700 J
4.	—	Unidentified Alkane		20.34	2000 J
5.	—	Unidentified Alkane		20.43	4100 J
6.	—	Unidentified Alkane		21.77	1900 J
7.	—	Unidentified Alkane		21.92	3600 J
8.	—	Unidentified Alkane		23.14	2000 J
9.	—	Unidentified Alkane		24.43	1900 J
10.	—	Unidentified Alkane		25.69	2200 J
11.	—	Unidentified Alkane		26.87	3100 J
12.	—	Unidentified Alkane		27.98	3500 J
13.	—	Unidentified Alkane		29.00	3400 J
14.	—	Unidentified Alkane		29.93	4600 J
15.	—	Unidentified		30.81	3900 J
16.	—	Unidentified		31.61	4300 J
17.	—	Unidentified		32.38	5200 J
18.	—	Unidentified Alkane		33.20	4800 J
19.	—	Unidentified		34.11	4700 J
20.	—	Unidentified Alkane		35.11	4300 J
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TOTAL ION CHROMATOGRAM



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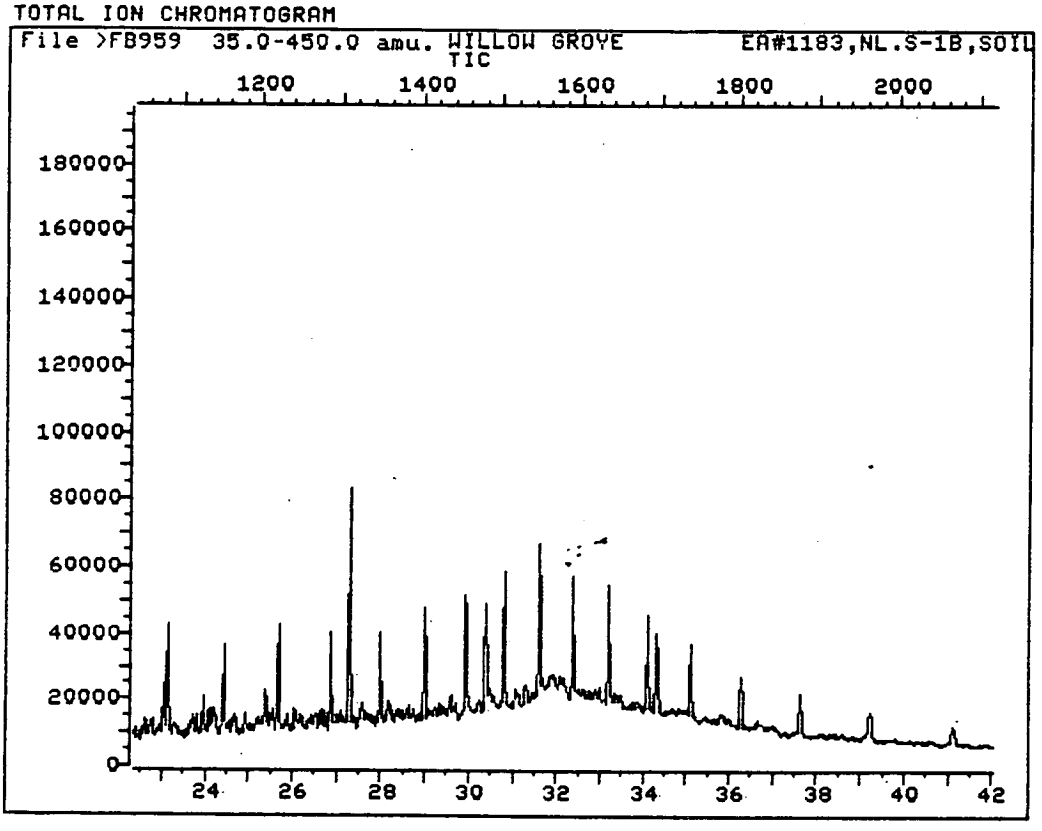
Name: WILLOW GROVE
Misc: EA#1183,NL.S-1B,SOIL,10.18,1, BTL#10

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

Operator ID: UNCLE
Quant Time: 890406 05:55
Injected at: 890406 05:10

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



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Name: WILLOW GROVE
Misc: EA#1183,NL.S-1B,SOIL,10.18,1, BTL#10

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

Operator ID: UNCLE
Quant Time: 890406 05:55
Injected at: 890406 05:10

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890406 05:55
Output File: ^FB959::QT Injected at: 8,0406 05:10
Data File: >FB959::D5 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#1183,NL.S-1B,SOIL,10.18,1, BTL#10

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	8.38	152.0	32816	40.00	NG	96
2)	2-Fluorophenol	5.70	112.0	95573	89.58	NG 45%	94
3)	Phenol-d5	7.66	99.0	149747	119.23	NG 60%	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-M thylphenol	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	11.90	136.0	117790	40.00	NG	88
17)	Nitrobenzene-d5	9.96	82.0	63951	48.90	NG 49%	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)	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	11.96	128.0	4650	1.90	NG ✓	98
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	14.05	142.0	6251	4.50	NG ✓	90
31)	*d10-Acenaphthene	17.41	164.0	50588	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	15.30	172.0	119853	58.44	NG 58%	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dim thylphthalate	17.41	163.0	17275	~~10.10~~	NG	54
39)	Ac naphthylene	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	

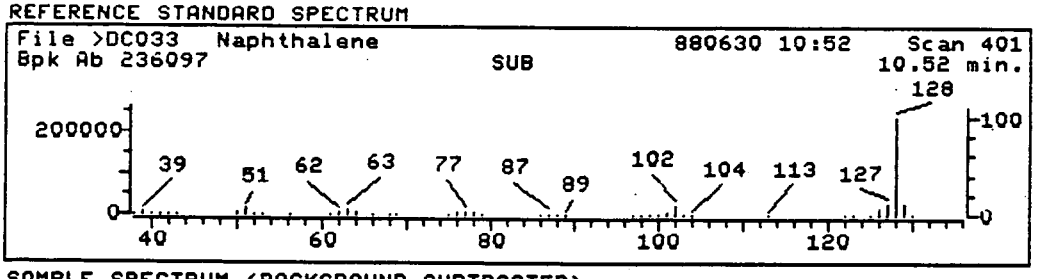
Output File:^FB959::

Data File:>FB959::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	19.10	166.0	785	~~.62~~	NG	81
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	22.10	188.0	55140	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	19.97	329.9	34201	136.52	NG 68%	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	22.17	178.0	3784	3.05	NG ✓	94
59)	Anthracene	~~22.17~~	178.0	3784	~~3.21~~	NG	94
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	30.39	240.0	28231	40.00	NG	98
63)	Pyrene	26.74	202.0	949	~~.67~~	NG	79
64)	Terphenyl-d14	27.31	244.0	67080	46.60	NG	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	30.44	228.0	1030	~~1.43~~	NG	90
68)	bis(2-Ethylhexyl)phthalate	30.55	149.0	500	~~.56~~	NG	88
69)	Chrysene	30.44	228.0	1030	1.62	NG ✓	92
70)	*d12-Perylene	34.33	264.0	30207	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



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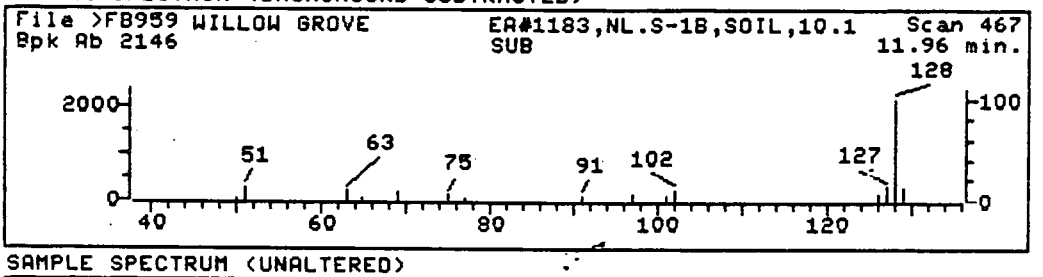

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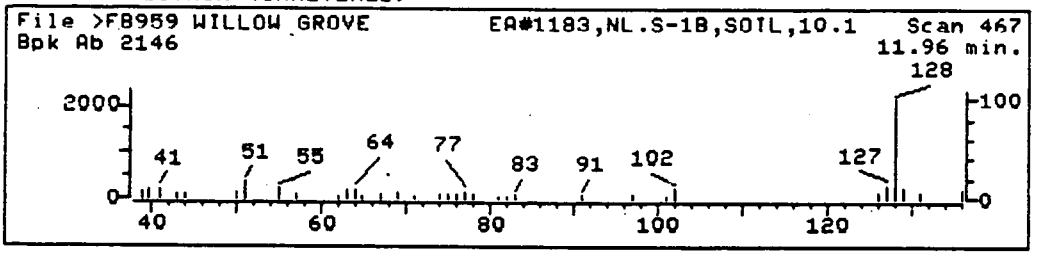

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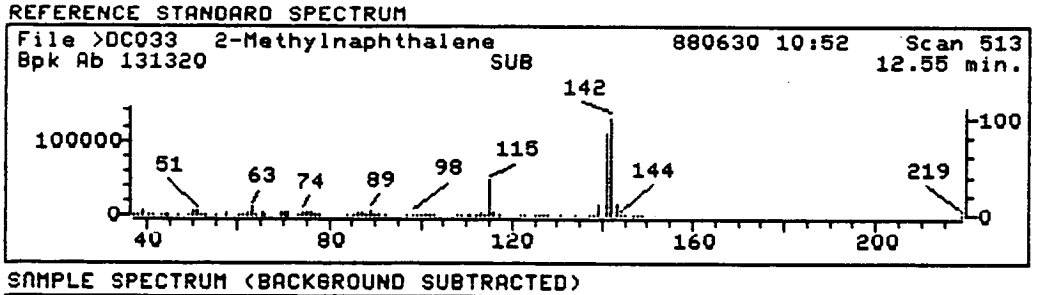
Name: WILLOW GROVE
Misc: EA#1183,NL.S-1B,SOIL,10.18,1, BTL#10
Quant Time: 890406 05:55 Quant ID File: IDFCLP::BD
Injected at: 890406 05:10 Last Calibration: 890330 10:03

Compound No: 26
Compound Name: Naphthalene
Scan Number: 467
Retention Time: 11.96 min.
Quant Ion: 128.0
Area: 4650
Concentration: 1.90 NG
q-value: 98

REFERENCE STANDARD SPECTRUM



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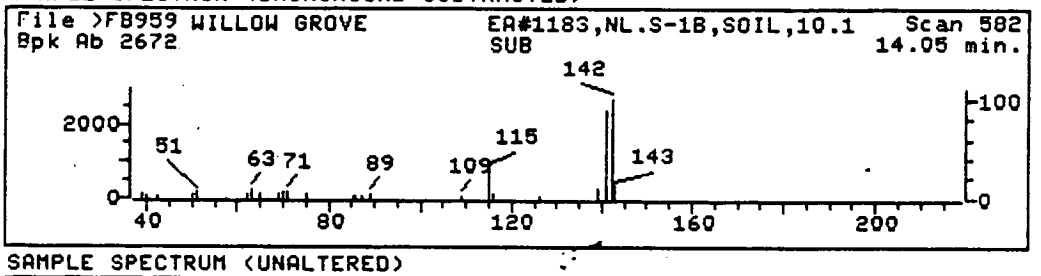

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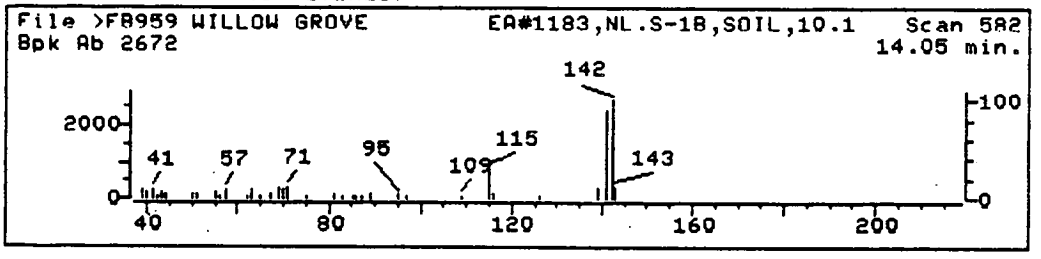

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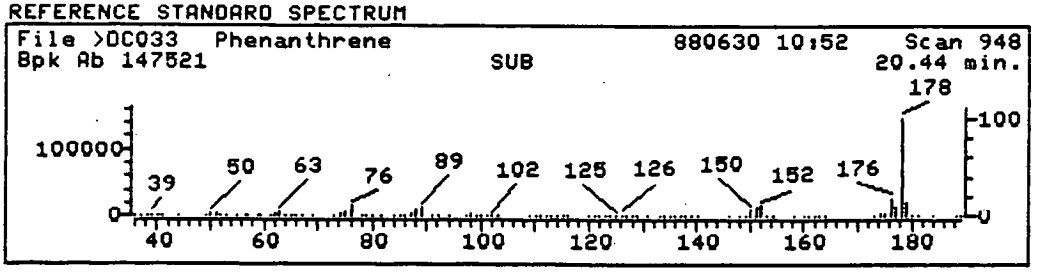
Misc: EA#1183,NL.S-1B,SOIL,10.18,1, BTL#10
Quant Time: 890406 05:55 Quant ID File: IDFCLP::BD
Injected at: 890406 05:10 Last Calibration: 890330 10:03

Compound No: 30
Compound Name: 2-Methylnaphthalene
Scan Number: 582
Ret ntion Time: 14.05 min.
Quant Ion: 142.0
Area: 6251
Concentration: 4.50 NG
q-value: 90

REFERENCE STANDARD SPECTRUM



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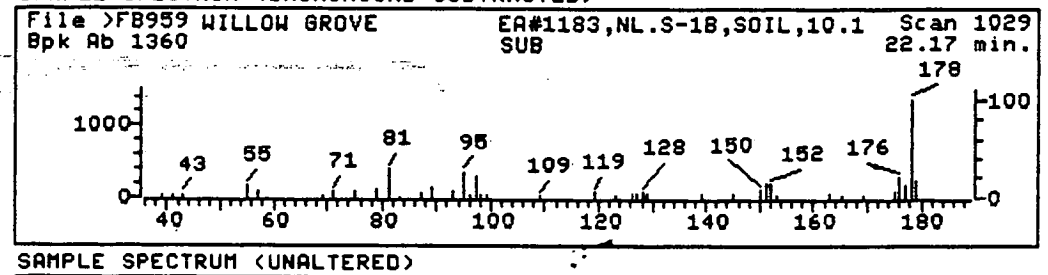

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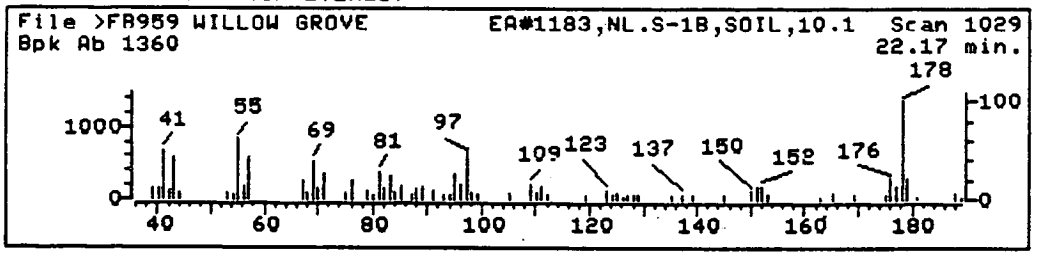

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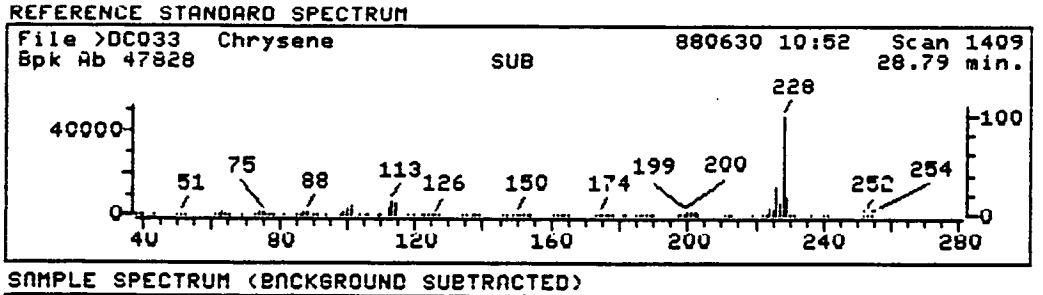
Nam : WILLOW GROVE
Misc: EA#1183,NL.S-1B,SOIL,10.18,1, BTL#10
Quant Time: 890406 05:55 Quant ID File: IDFCLP::BD
Injected at: 890406 05:10 Last Calibration: 890330 10:03

Compound No: 58
Compound Name: Phenanthrene
Scan Number: 1029
Retention Time: 22.17 min.
Quant Ion: 178.0
Area: 3784
Concentration: 3.05 NG
q-value: 94

REFERENCE STANDARD SPECTRUM



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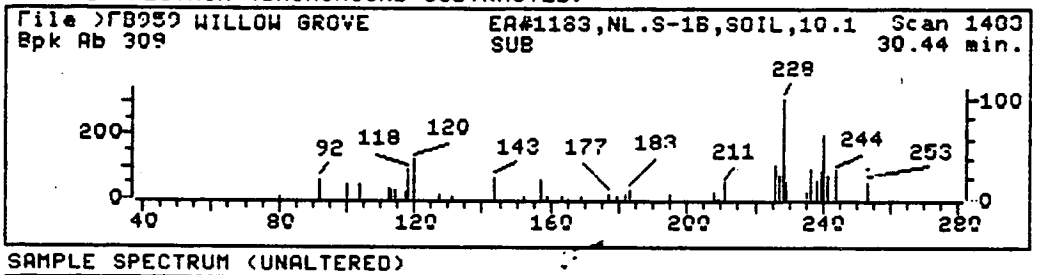

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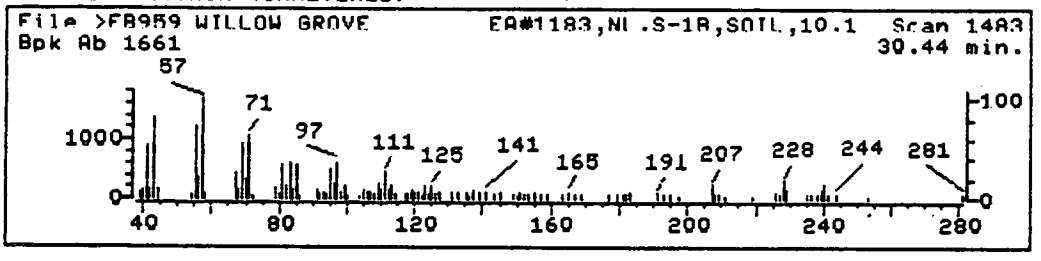

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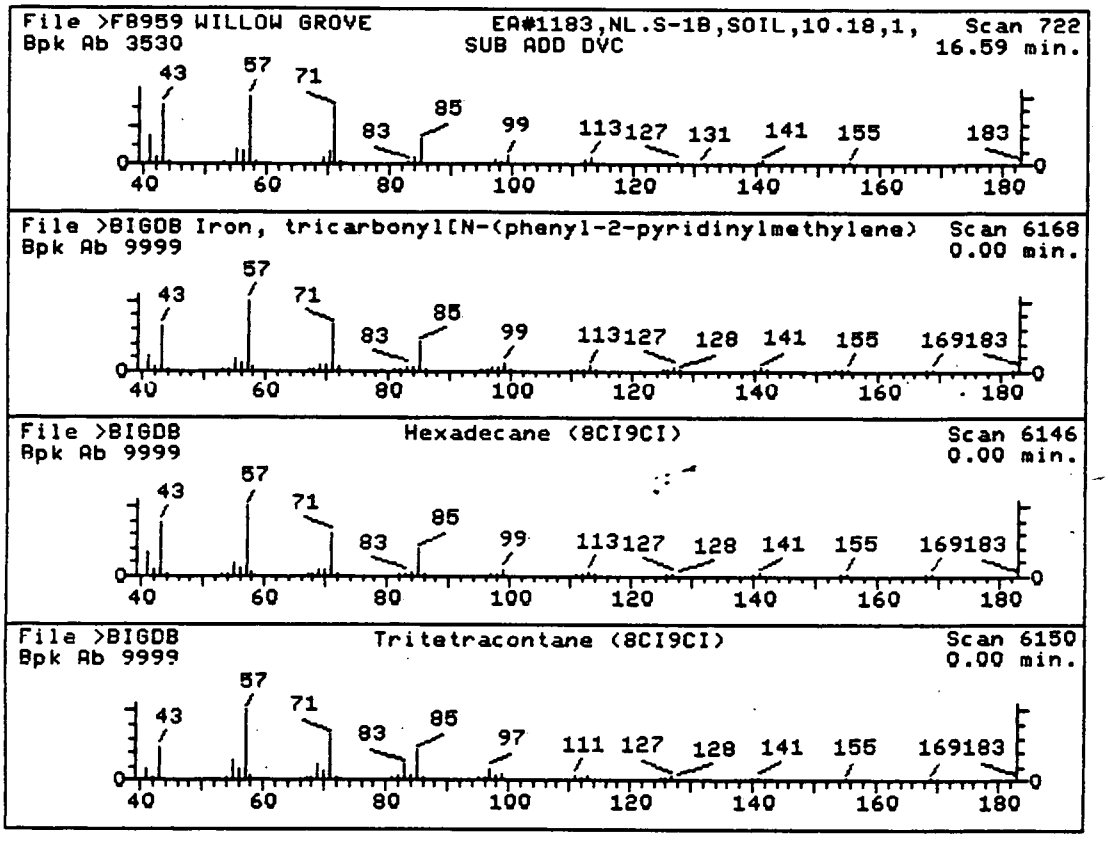
Nam : WILLOW GROVE
Misc: EA#1183,NL.S-1B,SOIL,10.18,1, BTL#10
Quant Time: 890406 05:55 Quant ID File: IDFCLP::BD
Injected at: 890406 05:10 Last Calibration: 890330 10:03

Compound No: 69
Compound Name: Chrysene
Scan Number: 1483
Ret ntion Time: 30.44 min.
Quant Ion: 228.0
Ar a: 1030
Concentration: 1.62 NG
q-value: 92



Retention time = 16.59

Area = 60105.00 Tentative Concentration is 980.00

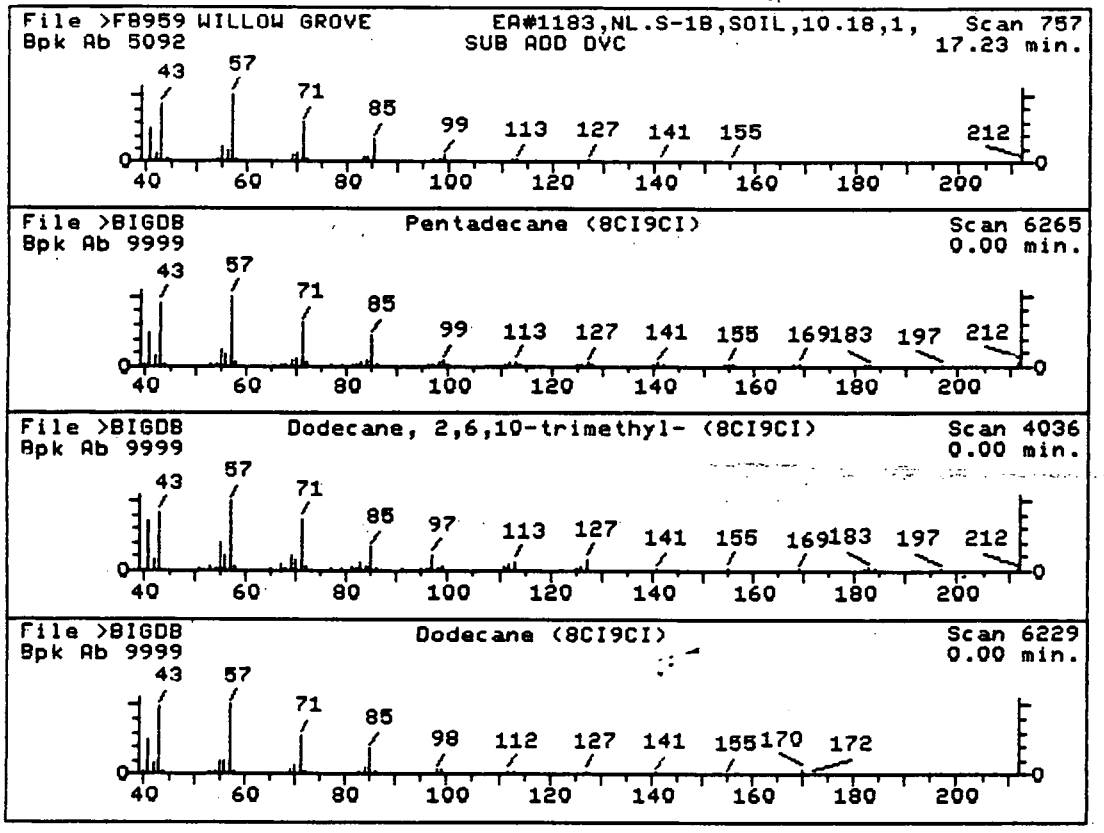
1.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
2.	Hexadecane (8CI9CI)	226	C16H34
3.	Tritetracontane (8CI9CI)	604	C43H88
4.	Heptane, 3-ethyl-5-methyl- (9CI)	142	C10H22
5.	Dod cane, 2,7,10-trimethyl- (9CI)	212	C15H32
6.	Decane, 2,3,7-trimethyl- (9CI)	184	C13H28
7.	Decan , 5-propyl- (8CI)	184	C13H28

UNIDENTIFIED

Sample file: >FB959 Spectrum #: 722
Search sp ed: 2 Tilting option: S No. of ion ranges searched: 51

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	78	74764117	6168	"BIGDB	76	61	2	0	92	4	55	19

2.	76	544763	6146	"BIGDB	88	32	2	0	95	6	45	26
3.	70	7098217	6150	"BIGDB	62	106	2	0	88	6	42	13
4.	69*	52896909	3958	"BIGDB	52	42	0	0	73	34	26	63
5.	67	74645980	3988	"BIGDB	65	44	1	0	100	13	34	23
6.	62	62238135	6166	"BIGDB	90	19	1	2	91	26	25	49
7.	60	17312628	4003	"BIGDB	69	42	2	1	100	13	30	14



R tention time = 17.23

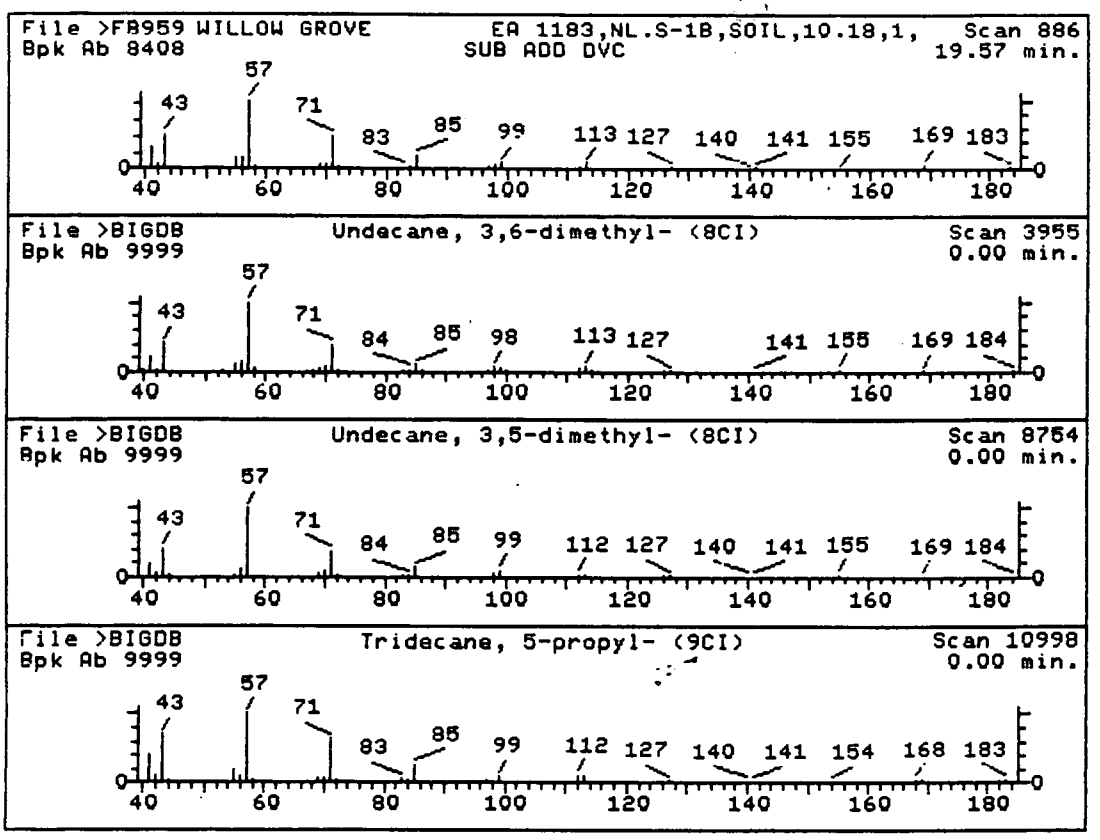
Area = 66896.00 Tentative Concentration is 1100.00

1.	Pentadecane (8CI9CI)	212 C15H32
2.	Dod cane, 2,6,10-trimethyl- (8CI9CI)	212 C15H32
3.	Dodecane (8CI9CI)	170 C12H26
4.	H xatriacontane (8CI9CI)	506 C36H74
5.	Tritetracontane (8CI9CI)	604 C43H88
6.	Undecane, 2,3-dimethyl- (8CI9CI)	184 C13H28
7.	Eicosane, 10-methyl- (9CI)	296 C21H44

UNIDENTIFIED ALKANE

Sample file: >FB959 Spectrum #: 757
Search speed: 2 Tilting option: S No. of ion ranges searched: 59

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	629629	6265	"BIGDB	106	14	2	2	86	1	66	72
2.	79*	3891983	4036	"BIGDB	56	68	2	0	73	8	48	33
3.	79	112403	6229	"BIGDB	80	21	1	0	72	9	48	39
4.	78	630068	6193	"BIGDB	70	92	2	0	79	1	55	16
5.	78	7098217	6150	"BIGDB	69	99	2	0	80	2	55	15
6.	78	17312775	6156	"BIGDB	73	39	2	0	80	5	55	19
7.	78	54833237	6226	"BIGDB	83	50	2	2	80	5	55	15



R tention time = 19.57

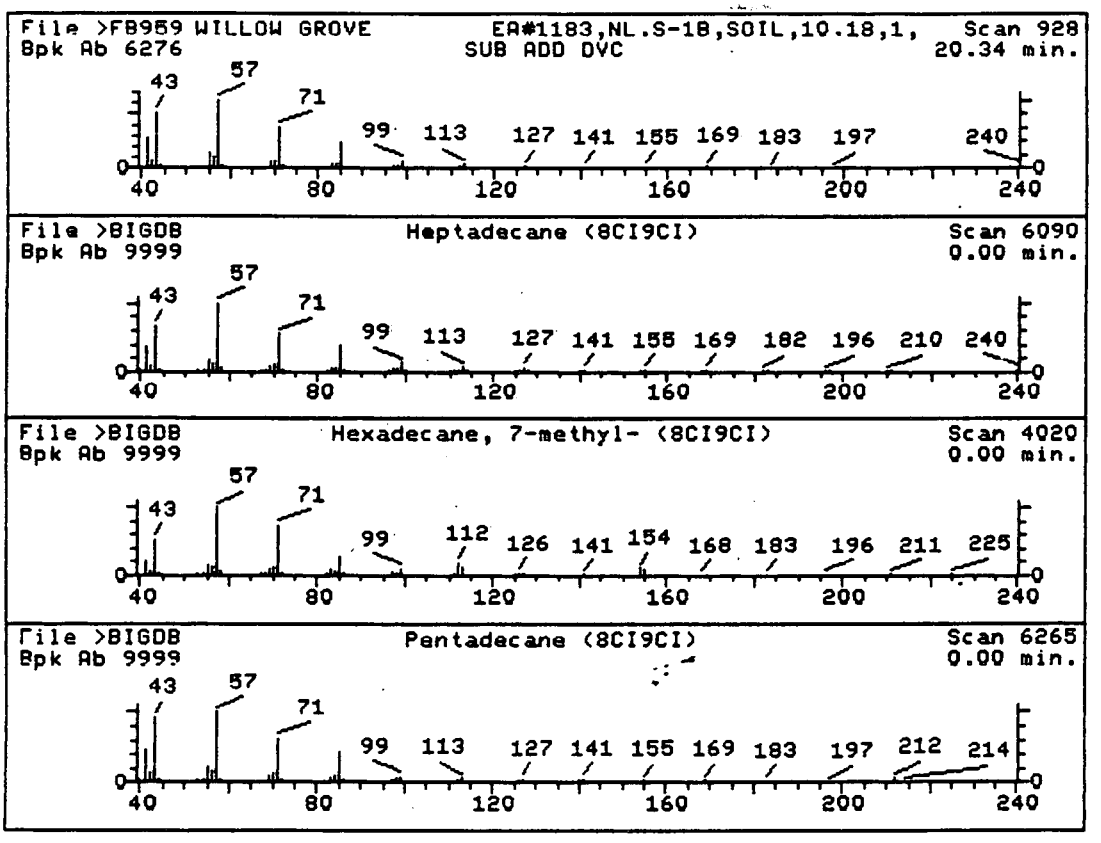
Ar a = 106126.0 Tentative Concentration is 1700.00

1.	Undecane, 3,6-dimethyl- (8CI)	184 C13H28
2.	Undecane, 3,5-dimethyl- (8CI)	184 C13H28
3.	Tridecane, 5-propyl- (9CI)	226 C16H34
4.	Heptadecane, 7-methyl- (8CI9CI)	254 C18H38
5.	Undecane, 4,6-dimethyl- (8CI)	184 C13H28
6.	Decane, 2,6,8-trimethyl- (9CI)	184 C13H28
7.	Undecane, 2,5-dimethyl- (8CI9CI)	184 C13H28

Unidentified Alkane

Sample file: >FB959 Spectrum #: 886
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.	79*	17301289	3955	"BIGDB	70	27	1	0	97	12	43	69
2.	79*	17312811	8754	"BIGDB	63	35	1	0	93	12	43	60
3.	78	55045119	10998	"BIGDB	63	50	2	0	75	4	55	13
4.	78	20959335	10979	"BIGDB	72	63	2	0	69	5	55	17
5.	74*	17312822	3957	"BIGDB	64	34	2	0	95	11	39	44
6.	74*	62108263	3928	"BIGDB	59	33	1	-2	91	15	39	42
7.	71*	17301223	10849	"BIGDB	62	37	1	0	79	28	29	60



R tention time = 20.34

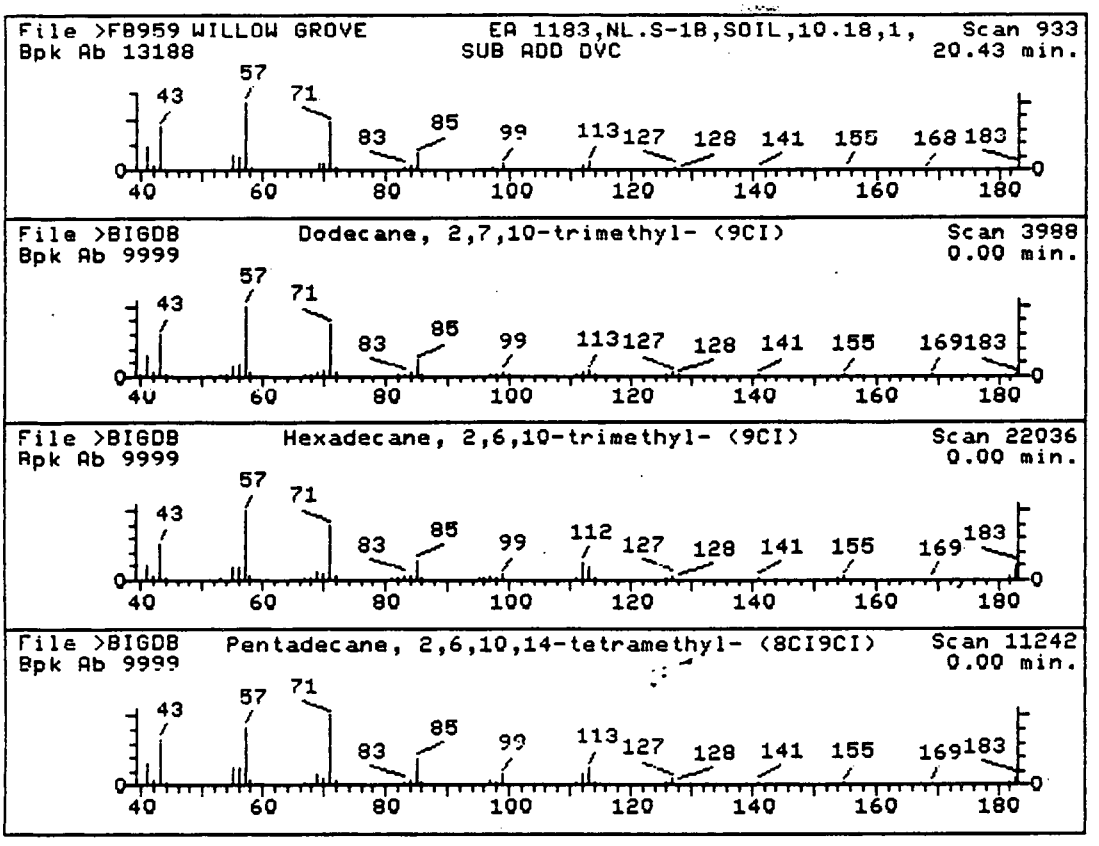
Area = 74861.00 Tentative Concentration is 2000.00

1.	Heptadecane (8CI9CI)	240 C17H36
2.	Hexadecane, 7-methyl- (8CI9CI)	240 C17H36
3.	Pentadecane (8CI9CI)	212 C15H32
4.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296 C21H44
5.	Docosane (8CI9CI)	310 C22H46
6.	Tritetracontane (8CI9CI)	604 C43H88
7.	Nonadecane, 9-methyl- (8CI9CI)	282 C20H42

UNIDENTIFIED ALKANE

Sample file: >FB959 Spectrum #: 928
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.	89*	629787	6090	"BIGDB	86	35	1	0	67	9	62	83
2.	83*	26730201	4020	"BIGDB	60	64	2	-1	78	4	57	21
3.	83	629629	6265	"BIGDB	81	39	2	0	84	4	57	22
4.	83	54833486	6161	"BIGDB	81	52	2	0	62	4	57	22
5.	78	629970	6221	"BIGDB	70	77	2	0	53	4	55	16
6.	78	7098217	6150	"BIGDB	69	99	2	0	80	4	55	15
7.	78	13287246	15864	"BIGDB	75	70	2	1	70	4	55	12



Retention time = 20.43

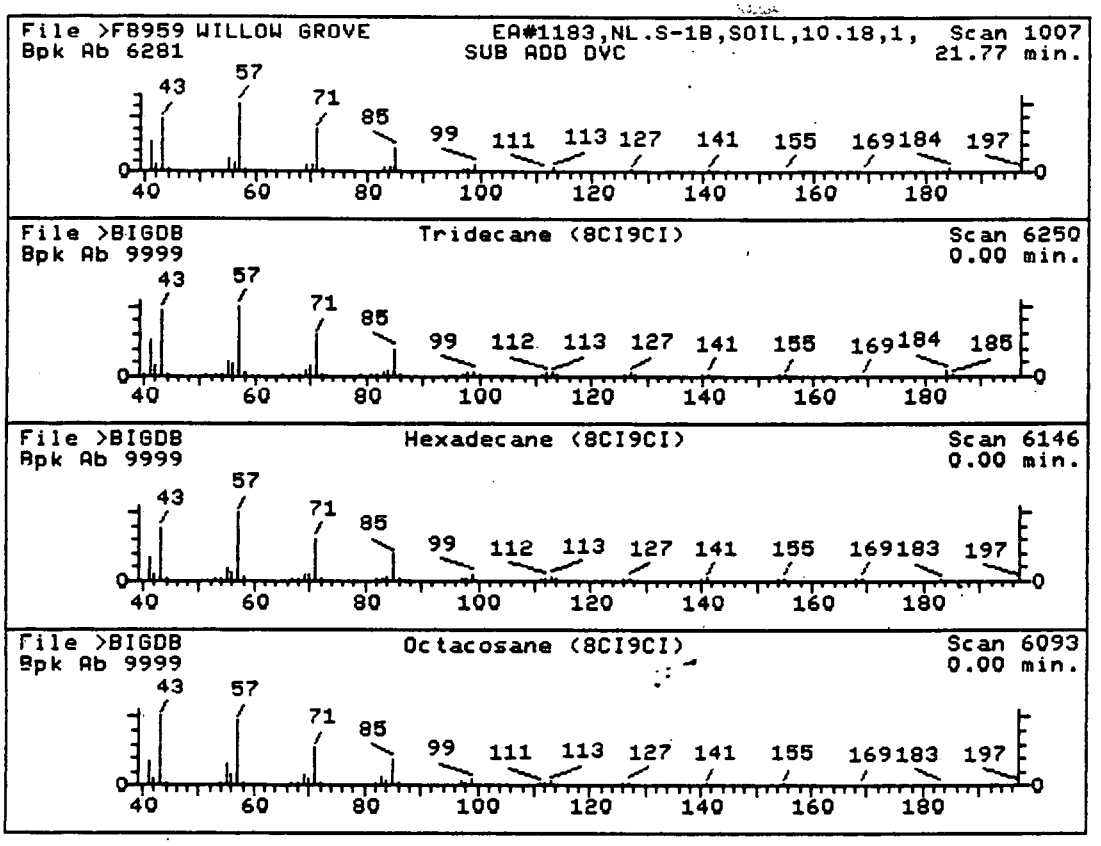
Ar a = 152534.0 Tentative Concentration is 4100.00

1.	Dodecane, 2,7,10-trimethyl- (9CI)	212 C15H32
2.	Hexadecane, 2,6,10-trimethyl- (9CI)	268 C19H40
3.	Pentadecane, 2,6,10,14-tetramethyl- (8CI9CI)	268 C19H40
4.	Trid cane, 5-propyl- (9CI)	226 C16H34
5.	Hexadecane, 7-methyl- (8CI9CI)	240 C17H36
6.	Dodecane, 2,6,10-trimethyl- (8CI9CI)	212 C15H32
7.	Dodecane, 2,6,11-trimethyl- (8CI9CI)	212 C15H32

UNIDENTIFIED ALKANE

Sample file: >FB959 Spectrum #: 933
Search spe d: 2 Tilting option: S No. of ion ranges searched: 59

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86	74645980	3988	"BIGDB	97	12	0	0	94	9	59	77
2.	78	55000527	22036	"BIGDB	68	66	2	0	70	0	55	15
3.	71	1921706	11242	"BIGDB	106	29	2	4	83	13	38	35
4.	67	55045119	10998	"BIGDB	81	32	2	1	100	11	34	23
5.	60	26730201	4020	"BIGDB	64	60	2	0	87	13	30	14
6.	60	3891983	4036	"BIGDB	64	60	2	0	76	13	30	14
7.	57	31295564	3984	"BIGDB	75	31	1	1	83	22	22	29



Retention time = 21.77

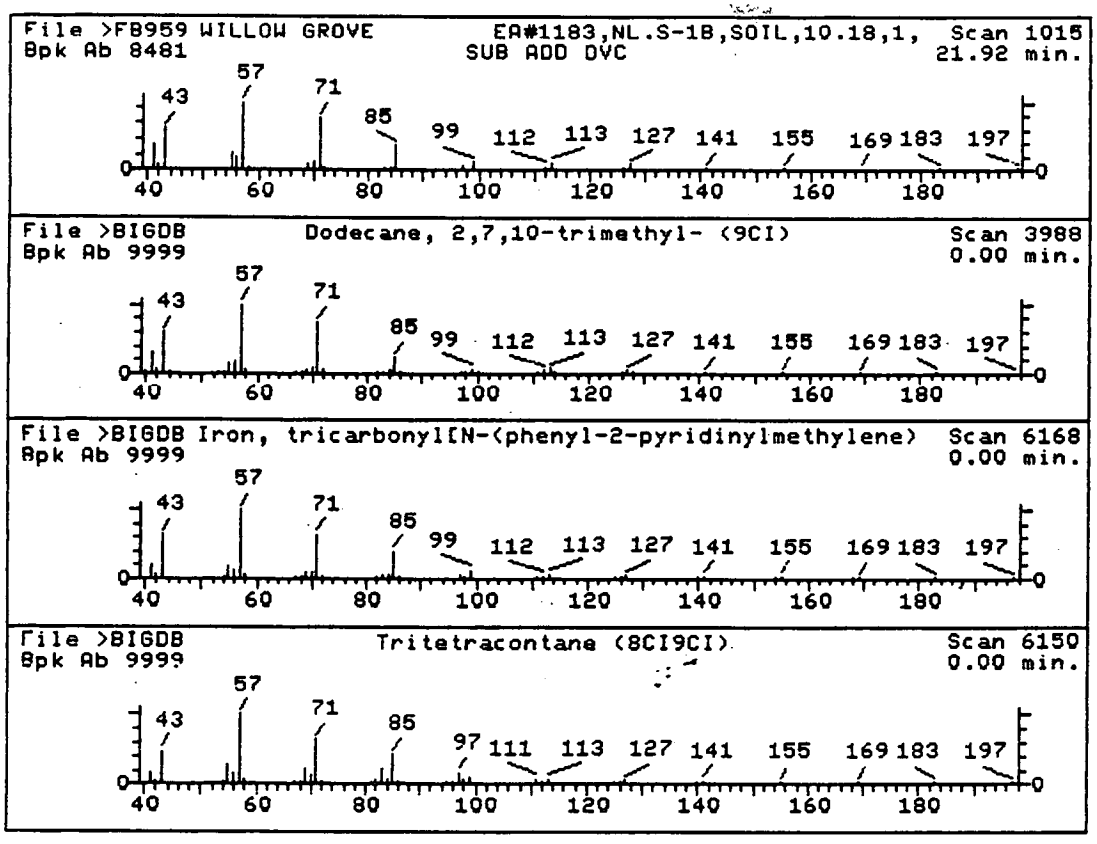
Area = 71109.00 Tentative Concentration is 1900.00

1.	Tridecane (8CI9CI)	184 C13H28
2.	Hexadecane (8CI9CI)	226 C16H34
3.	Octacosane (8CI9CI)	394 C28H58
4.	Heptadecane (8CI9CI)	240 C17H36
5.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296 C21H44
6.	Hexatriacontane (8CI9CI)	506 C36H74
7.	Nonadecane (8CI9CI)	268 C19H40

UNIDENTIFIED ALKANE

Sample file: >FB959 Spectrum #: 1007
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.	90*	629505	6250	"BIGDB	76	37	0	0	63	31	50	93
2.	79	544763	6146	"BIGDB	97	23	2	0	91	9	48	38
3.	76	630024	6093	"BIGDB	99	38	3	0	77	9	45	23
4.	76	629787	6090	"BIGDB	86	35	2	0	87	7	45	24
5.	71	54833486	6161	"BIGDB	100	33	2	0	67	12	38	33
6.	70	630068	6193	"BIGDB	70	92	2	0	81	9	42	16
7.	70	629925	6091	"BIGDB	87	47	3	0	80	9	42	17



Ret ntion time = 21.92

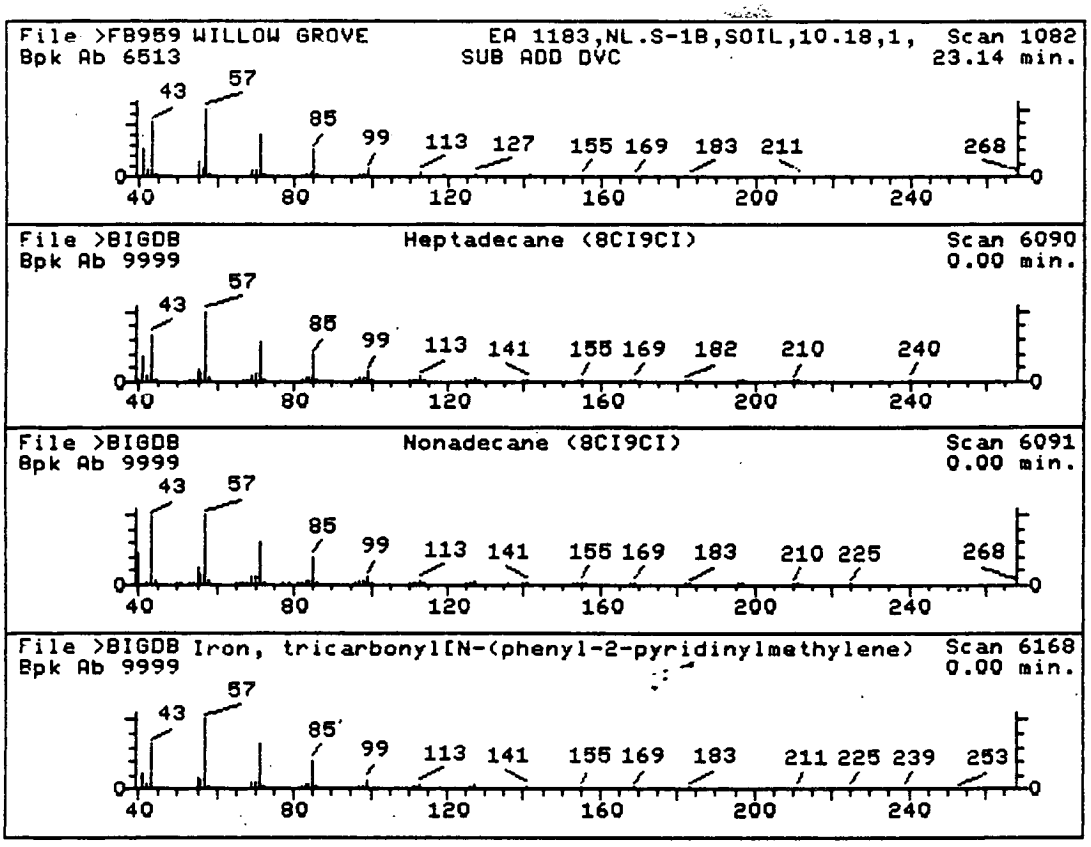
Area = 132494.0 Tentative Concentration is 3600.00

1.	Dodecane, 2,7,10-trimethyl- (9CI)	212	C15H32
2.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
3.	Tritetracontane (8CI9CI)	604	C43H88
4.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
5.	Heptane, 3-ethyl-5-methyl- (9CI)	142	C10H22
6.	Undecane, 3,8-dimethyl- (8CI)	184	C13H28
7.	Dodecane, 4,6-dimethyl- (9CI)	198	C14H30

UNIDENTIFIED ALKANE

Sample file: >FB959 Spectrum #: 1015
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.	84	74645980	3988	"BIGDB	103	6	1	-2	93	8	55	63
2.	83	74764117	6168	"BIGDB	88	49	2	0	90	3	57	25
3.	76	7098217	6150	"BIGDB	81	87	2	0	86	8	45	22
4.	76	54833486	6161	"BIGDB	95	38	2	0	76	8	45	29
5.	76*	52896909	3958	"BIGDB	64	30	0	0	70	33	32	77
6.	76	17301303	6154	"BIGDB	71	37	2	0	72	10	45	21
7.	73*	61141728	3960	"BIGDB	63	47	1	0	71	25	32	36



Retention time = 23.14

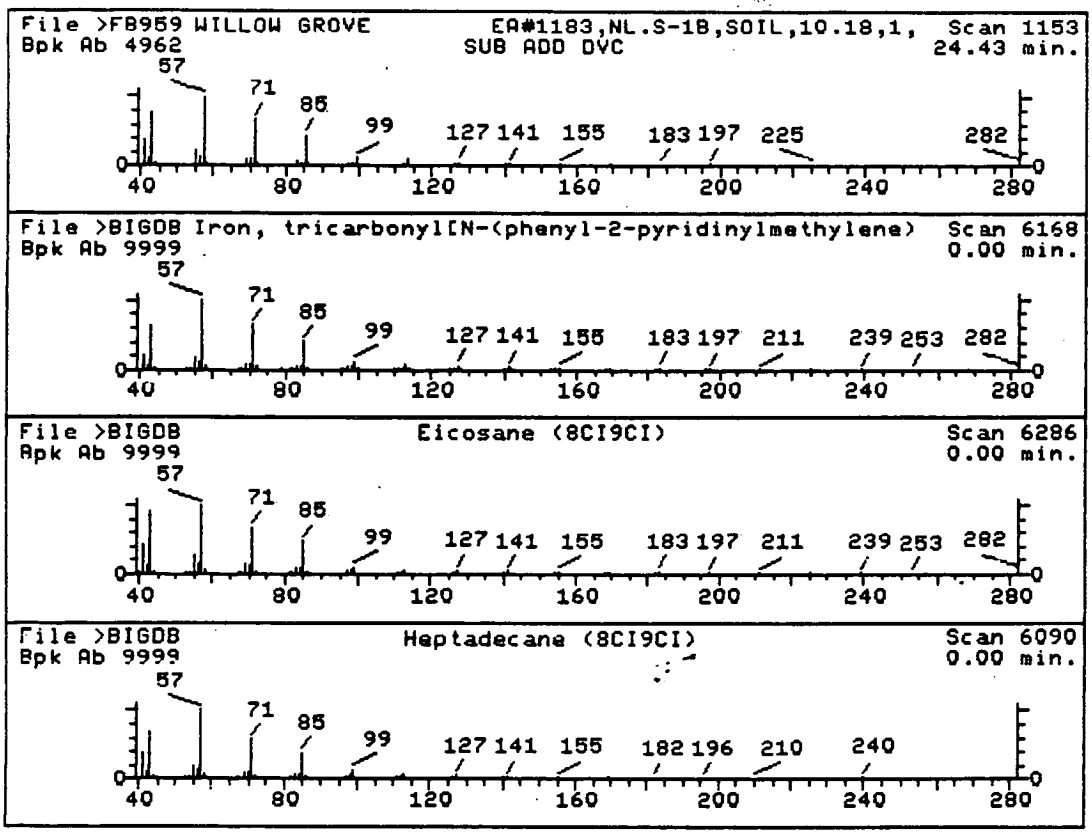
Area = 74535.00 Tentative Concentration is 2000.00

1.	Heptadecane (8CI9CI)	240	C17H36
2.	Nonadecane (8CI9CI)	268	C19H40
3.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)ben zenamine-N,N']- (9CI)	398	C21H14F N2O3
4.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
5.	Pentadecane, 8-hexyl- (8CI)	296	C21H44
6.	Octacosane (8CI9CI)	394	C28H58
7.	Hexadecane (8CI9CI)	226	C16H34

UNIDENTIFIED ALKANE

Sample file: >FB959 Spectrum #: 1082
Search spe d: 2 Tilting option: S No. of ion ranges searched: 51

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	88	629787	6090	"BIGDB	104	17	1	1	81	4	65	54
2.	83*	629925	6091	"BIGDB	99	35	3	1	78	6	54	54
3.	79	74764117	6168	"BIGDB	104	33	2	1	100	6	48	32
4.	79	54833486	6161	"BIGDB	99	34	2	0	66	6	48	32
5.	78	13475757	24006	"BIGDB	80	57	2	1	75	2	55	14
6.	76	630024	6093	"BIGDB	109	28	3	0	79	6	45	28
7.	76	544763	6146	"BIGDB	92	28	2	2	93	8	45	27



R tention time = 24.43

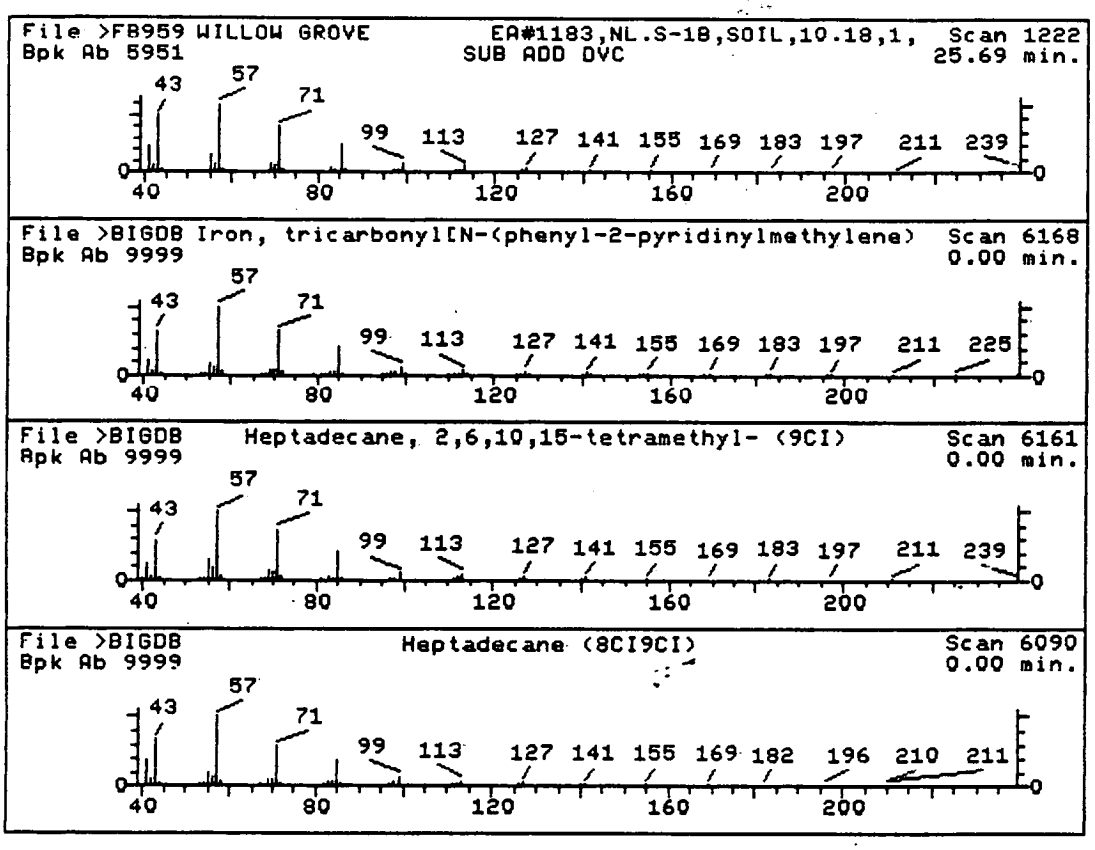
Area = 71562.00 Tentative Concentration is 1900.00

1.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
2.	Eicosane (8CI9CI)	282	C20H42
3.	Heptadecane (8CI9CI)	240	C17H36
4.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
5.	Hexadecane (8CI9CI)	226	C16H34
6.	Hexatriacontane (8CI9CI)	506	C36H74
7.	Hexadecane, 5-butyl- (8CI)	282	C20H42

Unidentified

Sample file: >FB959 Spectrum #: 1153
Search speed: 2 Tilting option: S No. of ion ranges searched: 54

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	95	74764117	6168	"BIGDB	137	0	0	0	96	4	72	93
2.	83*	112958	6286	"BIGDB	108	31	2	1	80	15	51	72
3.	79	629787	6090	"BIGDB	93	28	2	0	92	6	48	30
4.	76	54833486	6161	"BIGDB	94	39	2	0	70	10	45	28
5.	76	544763	6146	"BIGDB	87	33	2	0	99	10	45	25
6.	76	630068	6193	"BIGDB	83	79	2	0	85	10	45	23
7.	75*	6912078	27345	"BIGDB	88	55	2	0	71	17	35	67



R t ntion time = 25.69

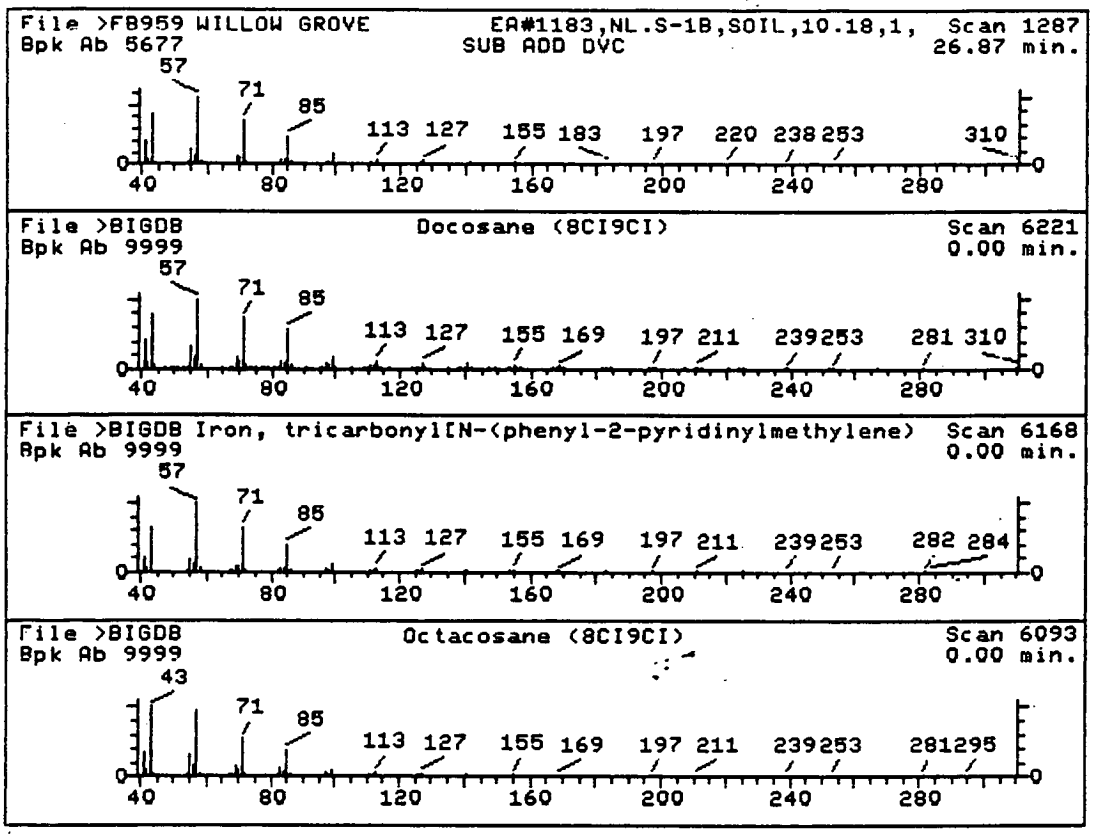
Area = 80156.00 Tentative Concentration is 2200.00

1.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
2.	H ptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
3.	Heptadecane (8CI9CI)	240	C17H36
4.	P ntadecane, 8-hexyl- (8CI)	296	C21H44
5.	Dodecane, 2-methyl-6-propyl- (9CI)	226	C16H34
6.	Tridecane, 6-propyl- (9CI)	226	C16H34
7.	Tetradecane, 4-ethyl- (9CI)	226	C16H34

UNIDENTIFIED

Sample file: >FB959 Spectrum #: 1222
Search spe d: 2 Tilting option: S No. of ion ranges searched: 54

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86	74764117	6168	"BIGDB	124	13	1	0	83	6	59	76
2.	79	54833486	6161	"BIGDB	112	21	1	0	74	13	43	69
3.	76	629787	6090	"BIGDB	91	30	2	0	99	9	45	27
4.	76	13475757	24006	"BIGDB	92	45	2	1	79	9	45	21
5.	76*	55045084	6244	"BIGDB	73	46	2	0	80	13	40	55
6.	75*	55045108	6247	"BIGDB	79	50	2	0	83	16	35	60
7.	74*	55045142	6255	"BIGDB	65	56	2	0	83	13	39	44



Retention time = 26.87

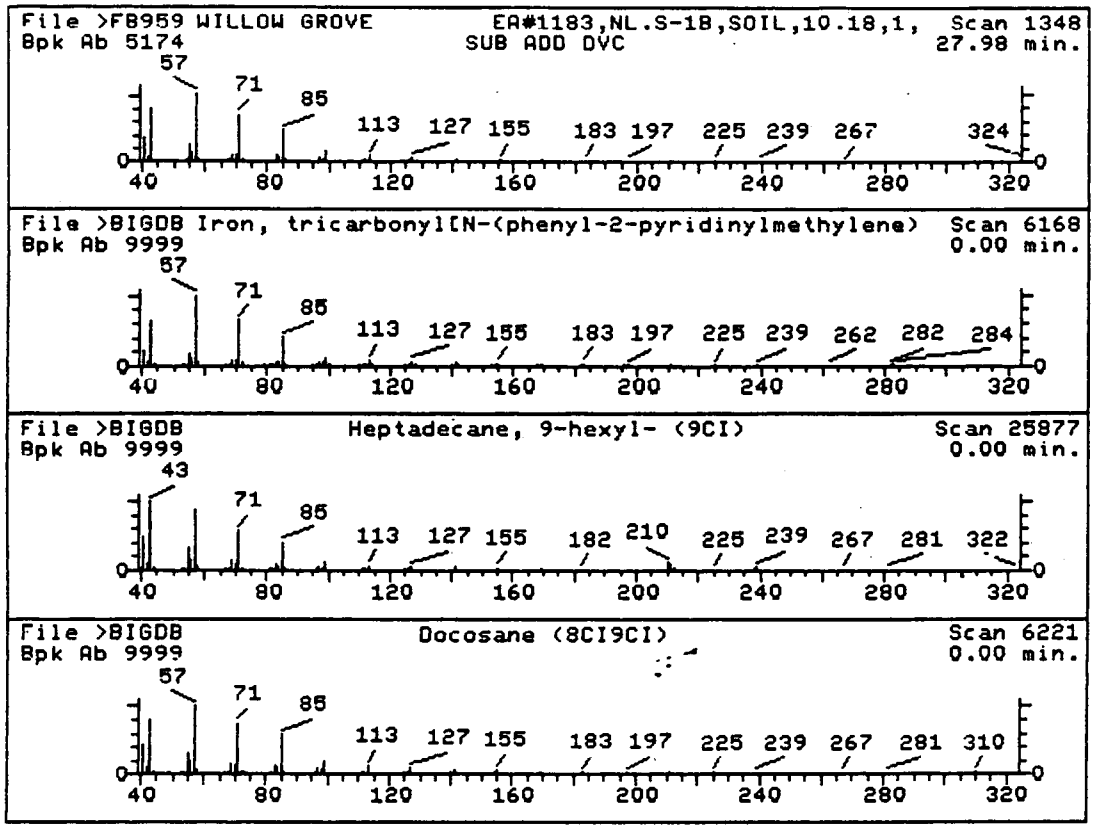
Area = 71748.00 Tentative Concentration is 3100.00

1.	Docosane (8CI9CI)	310 C22H46
2.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398 C21H14FeN2O3
3.	Octacosane (8CI9CI)	394 C28H58
4.	Hexatriacontane (8CI9CI)	506 C36H74
5.	H neicosane, 11-(1-ethylpropyl)- (9CI)	366 C26H54
6.	Hen icosane, 5-methyl- (8CI9CI)	310 C22H46
7.	Pentacosane (8CI9CI)	352 C25H52

UNIDENTIFIED HYDROCARBONS

Sampl file: >FB959 Spectrum #: 1287
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.	94*	629970	6221	"BIGDB	105	42	1	0	52	13	64	95
2.	86	74764117	6168	"BIGDB	131	6	1	0	89	9	59	78
3.	75	630024	6093	"BIGDB	102	35	1	0	74	16	35	61
4.	71	630068	6193	"BIGDB	105	57	2	1	83	13	38	33
5.	70	55282116	6162	"BIGDB	70	76	3	0	75	9	42	12
6.	67*	25117377	29589	"BIGDB	71	73	2	0	75	30	27	52
7.	67	629992	6092	"BIGDB	90	50	2	0	74	11	34	27



Retention time = 27.98

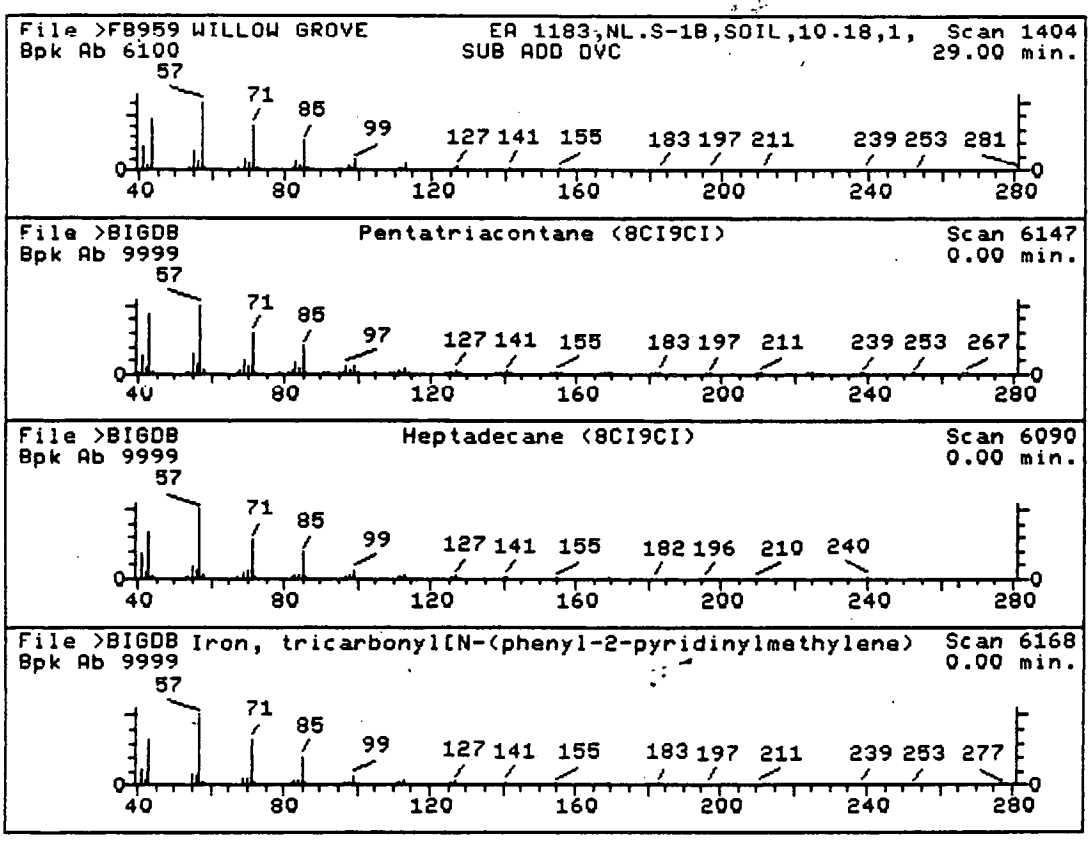
Area = 81645.00 Tentative Concentration is 3500.00

1.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
2.	Heptadecane, 9-hexyl- (9CI)	324	C23H48
3.	Docosane (8CI9CI)	310	C22H46
4.	Heptadecane, 9-octyl- (8CI9CI)	352	C25H52
5.	Octadecane, 5,14-dibutyl- (9CI)	366	C26H54
6.	Dodecane, 1-iodo- (8CI9CI)	296	C12H25I
7.	Heptadecane (8CI9CI)	240	C17H36

UNIDENTIFIED

Sample file: >FB959 Spectrum #: 1348
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.	86	74764117	6168	"BIGDB	131	6	1	0	100	8	59	78
2.	81*	55124793	25877	"BIGDB	87	58	3	-1	80	8	53	43
3.	79	629970	6221	"BIGDB	126	21	2	0	69	13	43	63
4.	79	7225641	6273	"BIGDB	111	32	3	0	83	10	48	30
5.	76	55282138	6289	"BIGDB	113	41	2	0	61	13	40	52
6.	76	4292197	6222	"BIGDB	94	35	1	0	85	13	40	54
7.	76	629787	6090	"BIGDB	87	34	2	0	93	10	45	25



Retention time = 29.00

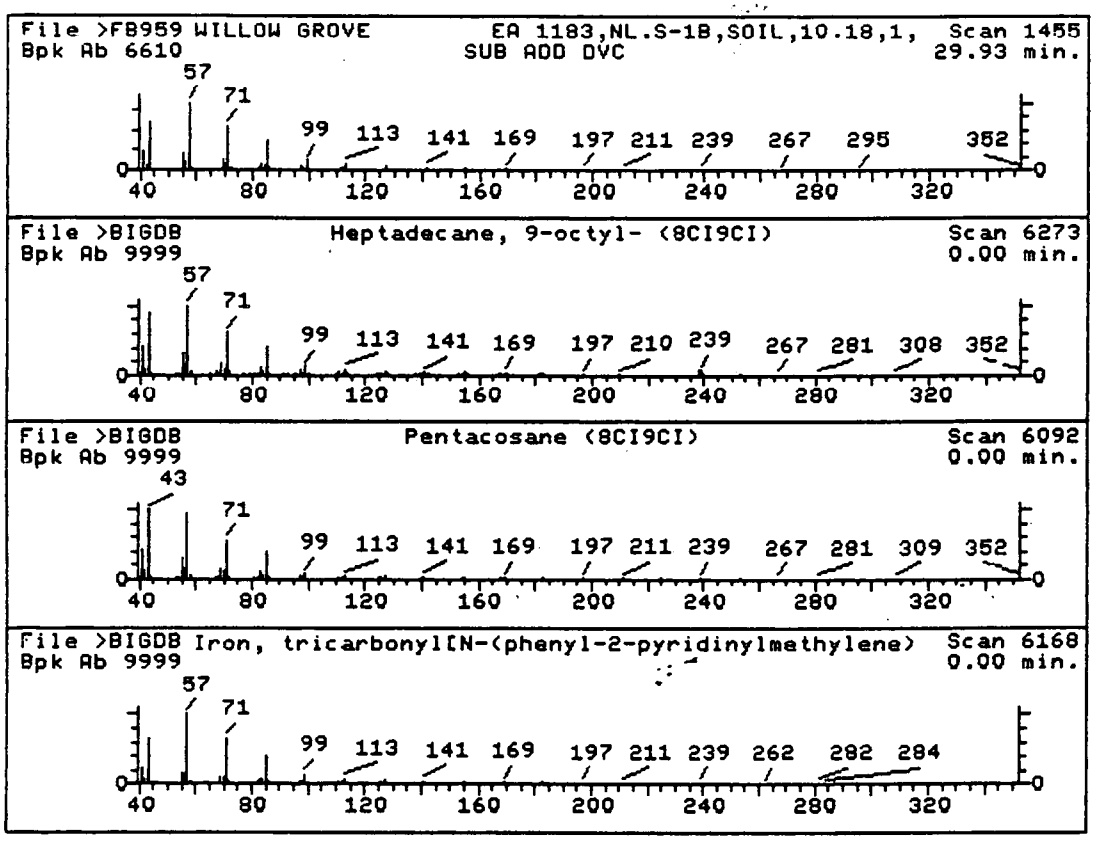
Area = 78539.00 Tentative Concentration is 3400.00

1.	Pentatriacontane (8CI9CI)	492	C35H72
2.	Heptadecane (8CI9CI)	240	C17H36
3.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
4.	Heptacosane (8CI9CI)	380	C27H56
5.	Octacosane (8CI9CI)	394	C28H58
6.	Eicosane, 7-hexyl- (9CI)	366	C26H54
7.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44

UNDETERMINED ALKANES

Sample file: >FB959 Spectrum #: 1404
Search sp ed: 2 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89	630079	6147	"BIGDB	129	22	0	0	68	21	47	89
2.	86	629787	6090	"BIGDB	115	6	1	0	93	10	59	78
3.	84	74764117	6168	"BIGDB	110	27	1	0	82	8	55	67
4.	83	593497	6220	"BIGDB	127	26	2	1	90	10	54	55
5.	83	630024	6093	"BIGDB	116	21	1	0	81	15	51	72
6.	83	55333998	6285	"BIGDB	112	33	2	0	81	10	54	50
7.	83	54833486	6161	"BIGDB	93	40	1	0	69	10	54	52



Retention time = 29.93

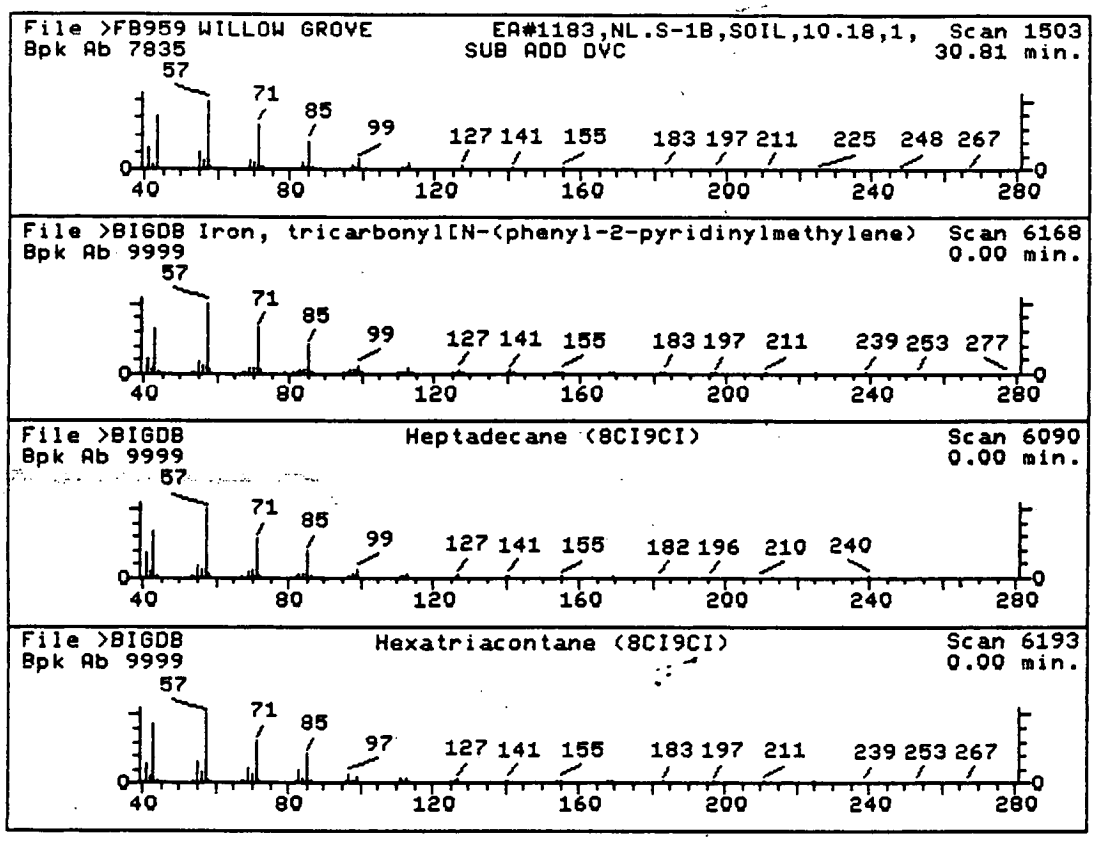
Area = 106422.0 Tentative Concentration is 4600.00

1.	Heptadecane, 9-octyl- (8CI9CI)	352	C25H52
2.	Pentacosane (8CI9CI)	352	C25H52
3.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14F N2O3
4.	Heptacosane (8CI9CI)	380	C27H56
5.	Hexadecane (8CI9CI)	226	C16H34
6.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
7.	Doco ane (8CI9CI)	310	C22H46

UNIDENTIFIED ALKANES

Sample file: >FB959 Spectrum #: 1455
Search speed: 2 Tilting option: S No. of ion ranges searched: 66

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	94*	7225641	6273	"BIGDB	117	26	2	0	76	8	68	93
2.	84*	629992	6092	"BIGDB	79	61	0	0	59	50	40	94
3.	83	74764117	6168	"BIGDB	131	6	1	0	100	13	51	78
4.	83	593497	6220	"BIGDB	113	40	2	0	80	8	54	52
5.	79	544763	6146	"BIGDB	114	6	1	-1	83	13	43	69
6.	79	54833486	6161	"BIGDB	112	21	1	0	77	13	43	69
7.	76	629970	6221	"BIGDB	129	18	2	1	83	13	40	86



Retention time = 30.81

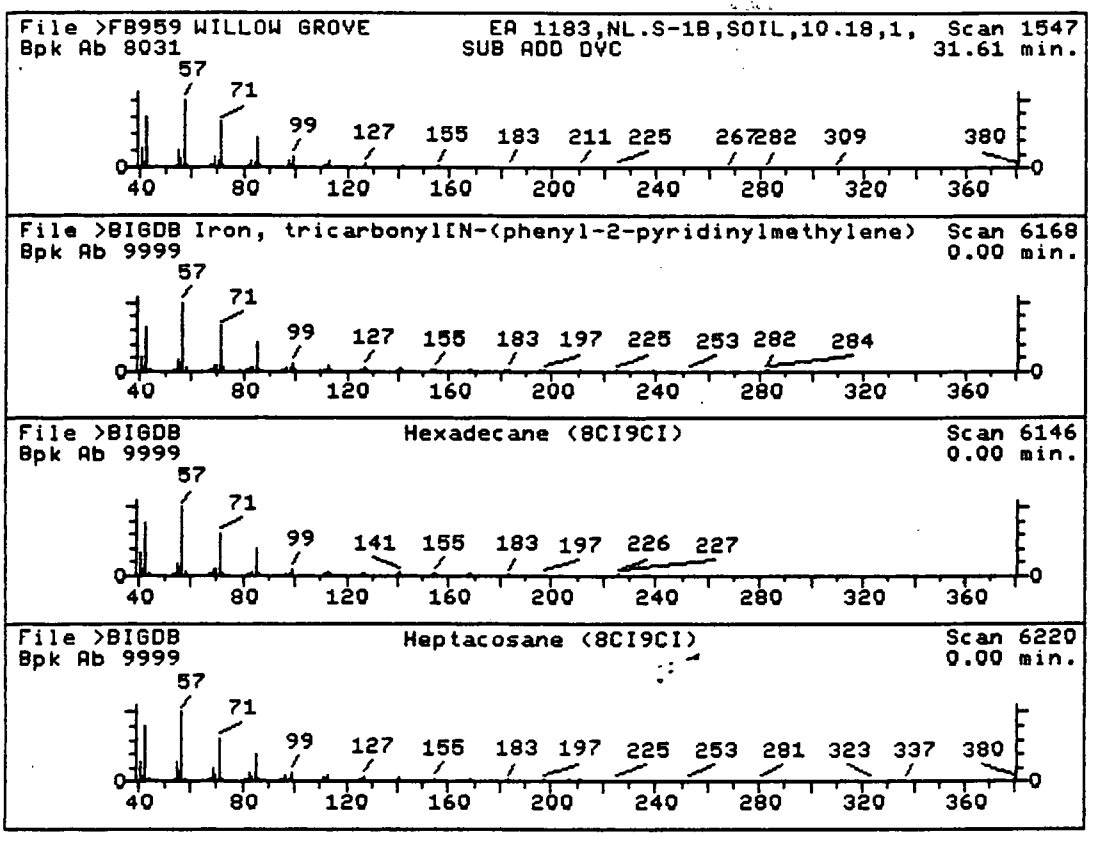
Area = 90578.00 Tentative Concentration is 3900.00

1.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
2.	H ptadecane (8CI9CI)	240	C17H36
3.	H xatriacontane (8CI9CI)	506	C36H74
4.	Octacosane (8CI9CI)	394	C28H58
5.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
6.	Heptacosane (8CI9CI)	380	C27H56
7.	Eicosane, 7-hexyl- (9CI)	366	C26H54

UNIDENTIFIED

Sample file: >FB959 Spectrum #: 1503
Search sp ed: 2 Tilting option: S No. of ion ranges searched: 58

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86	74764117	6168	"BIGDB	131	6	1	0	89	9	59	78
2.	76	629787	6090	"BIGDB	91	30	2	0	91	9	45	27
3.	76	630068	6193	"BIGDB	110	52	3	1	84	9	45	23
4.	75	630024	6093	"BIGDB	107	30	1	0	76	16	35	66
5.	74	54833486	6161	"BIGDB	106	27	2	0	70	13	39	42
6.	74	593497	6220	"BIGDB	111	42	2	1	77	11	39	42
7.	71	55333998	6285	"BIGDB	104	41	2	0	80	13	38	39



Retention time = 31.61

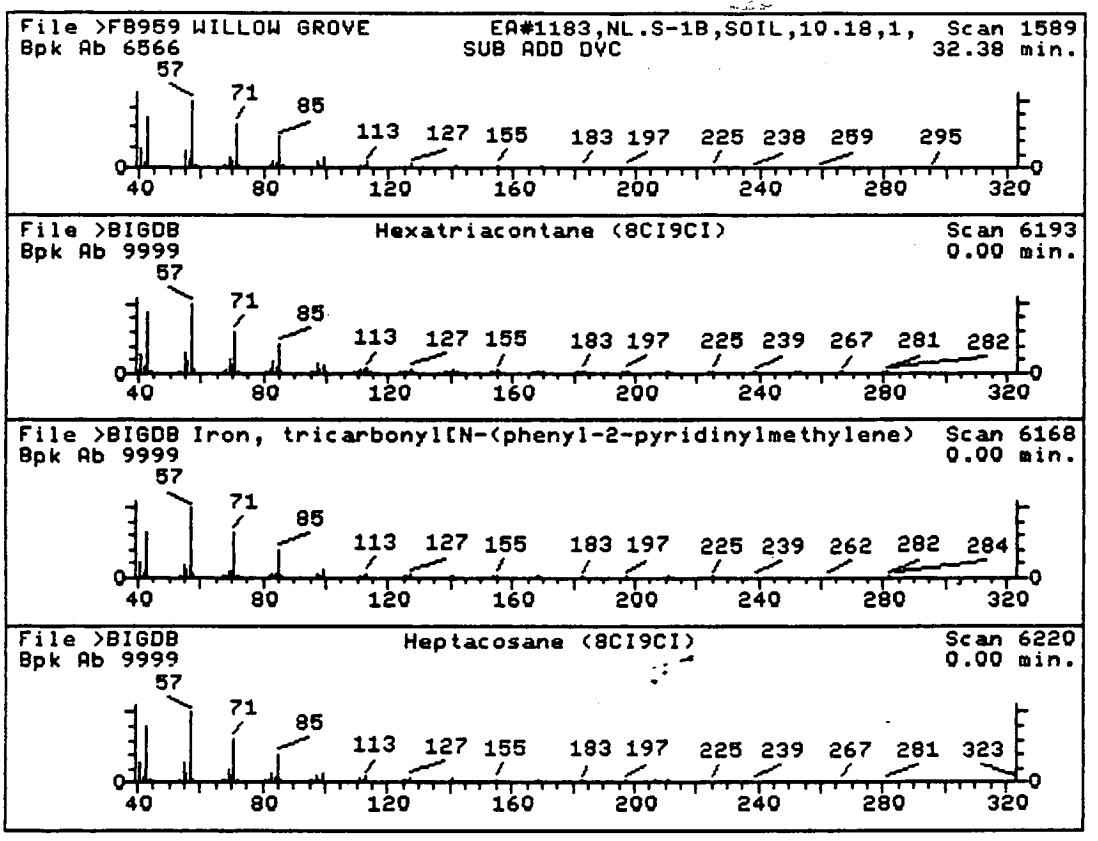
Ar a = 100219.0 Tentative Concentration is 4300.00

1.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14F N2O3
2.	Hexadecane (8CI9CI)	226	C16H34
3.	Heptacosane (8CI9CI)	380	C27H56
4.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
5.	Eicosane, 7-hexyl- (9CI)	366	C26H54
6.	Tritetracontane (8CI9CI)	604	C43H88
7.	Docosane (8CI9CI)	310	C22H46

UNIDENTIFIED

Sampl file: >FB959 Spectrum #: 1547
S arch sp ed: 2 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83	74764117	6168	"BIGDB	125	12	1	0	93	13	51	77
2.	83	544763	6146	"BIGDB	108	12	1	0	87	13	51	71
3.	81*	593497	6220	"BIGDB	120	33	2	1	88	17	45	77
4.	79	54833486	6161	"BIGDB	100	33	1	0	73	13	43	60
5.	79	55333998	6285	"BIGDB	104	41	2	0	81	8	48	39
6.	76	7098217	6150	"BIGDB	81	87	2	0	82	10	45	22
7.	76	629970	6221	"BIGDB	123	24	2	2	92	13	42	52



Retention time = 32.38

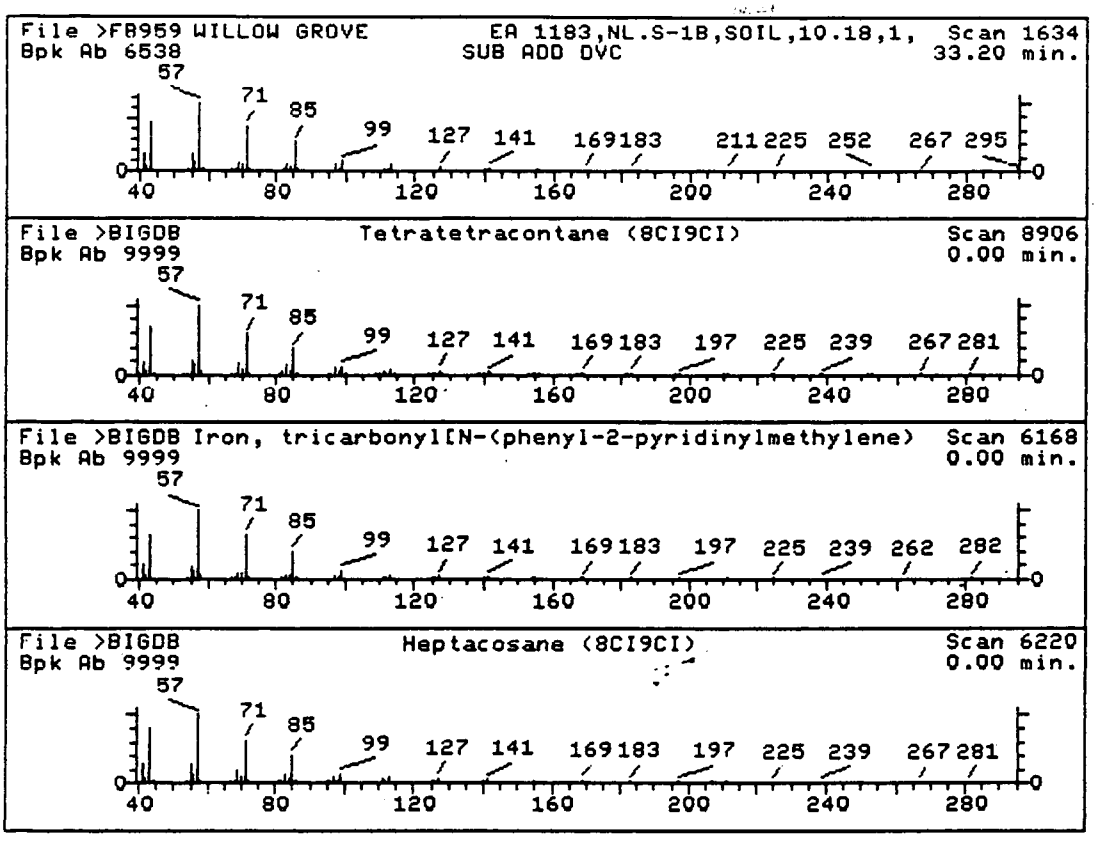
Area = 102723.0 Tentative Concentration is 5200.00

1.	Hexatriacontane (8CI9CI)	506	C36H74
2.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
3.	Heptacosane (8CI9CI)	380	C27H56
4.	D cosane (8CI9CI)	310	C22H46
5.	Hexadecane (8CI9CI)	226	C16H34
6.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
7.	Tetratetracontane (8CI9CI)	618	C44H90

UNIDENTIFIED ALKANE

Sample file: >FB959 Spectrum #: 1589
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.	84	630068	6193	"BIGDB	132	30	2	0	81	8	55	67
2.	83	74764117	6168	"BIGDB	125	12	1	0	96	13	51	77
3.	83	593497	6220	"BIGDB	115	38	2	0	86	8	54	55
4.	79	629970	6221	"BIGDB	135	12	2	2	90	13	43	60
5.	79	544763	6146	"BIGDB	114	6	1	-1	84	13	43	69
6.	79	54833486	6161	"BIGDB	100	33	1	0	73	13	43	60
7.	76	7098228	8906	"BIGDB	120	36	1	0	79	30	37	74



Retention time = 33.20

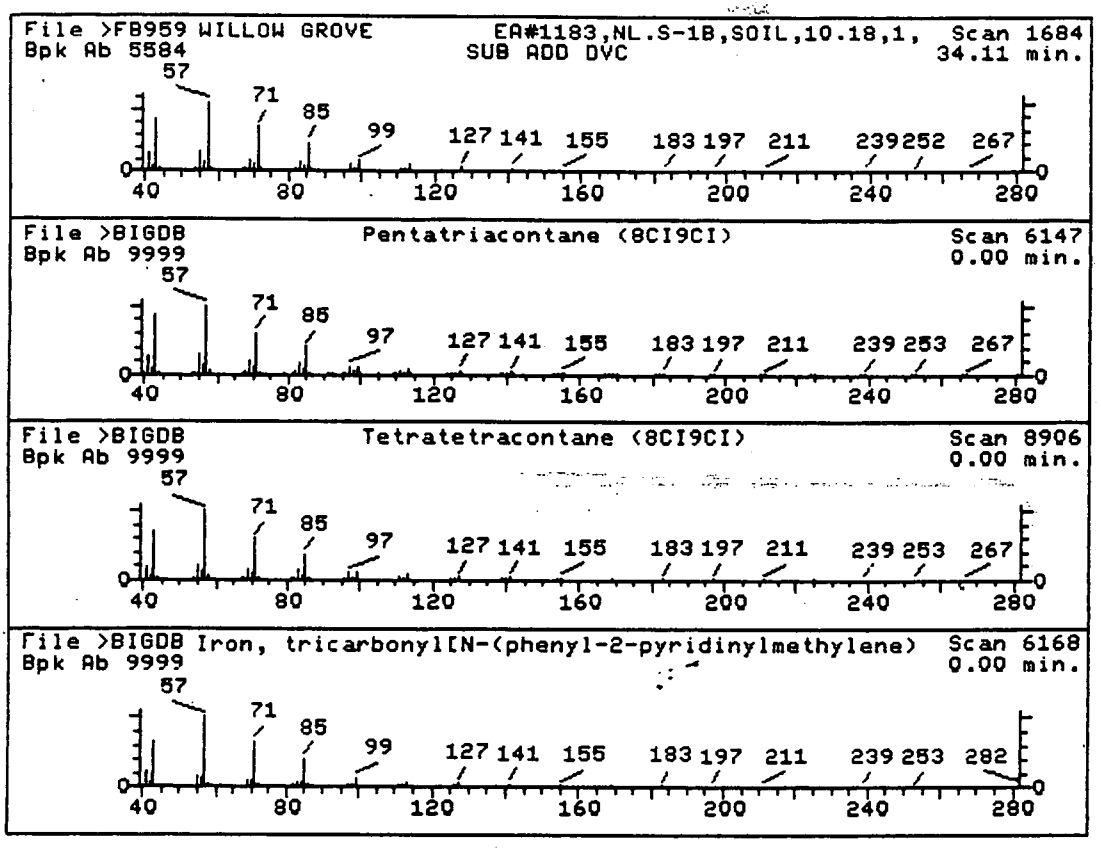
Area = 96259.00 Tentative Concentration is 4800.00

1.	T tratetracontane (8CI9CI)	618	C44H90
2.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14FeN2O3
3.	Heptacosane (8CI9CI)	380	C27H56
4.	Heptadecane, 9-octyl- (8CI9CI)	352	C25H52
5.	Nonadecane, 2-methyl- (8CI9CI)	282	C20H42
6.	Docosane (8CI9CI)	310	C22H46
7.	Eicosane (8CI9CI)	282	C20H42

UNIDENTIFIED ALKANE

Sample file: >FB959 Spectrum #: 1634
Search speed: 2 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89	7098228	8906	"BIGDB	136	20	1	0	78	8	62	86
2.	86	74764117	6168	"BIGDB	125	12	1	0	90	10	59	77
3.	83	593497	6220	"BIGDB	114	39	2	0	83	10	54	54
4.	81	7225641	6273	"BIGDB	109	34	2	0	76	10	53	46
5.	76*	1560867	28540	"BIGDB	65	71	3	1	121	6	45	27
6.	76	629970	6221	"BIGDB	129	18	2	2	89	13	40	56
7.	76	112958	6286	"BIGDB	113	26	2	0	77	13	40	52



R t ntion time = 34.11

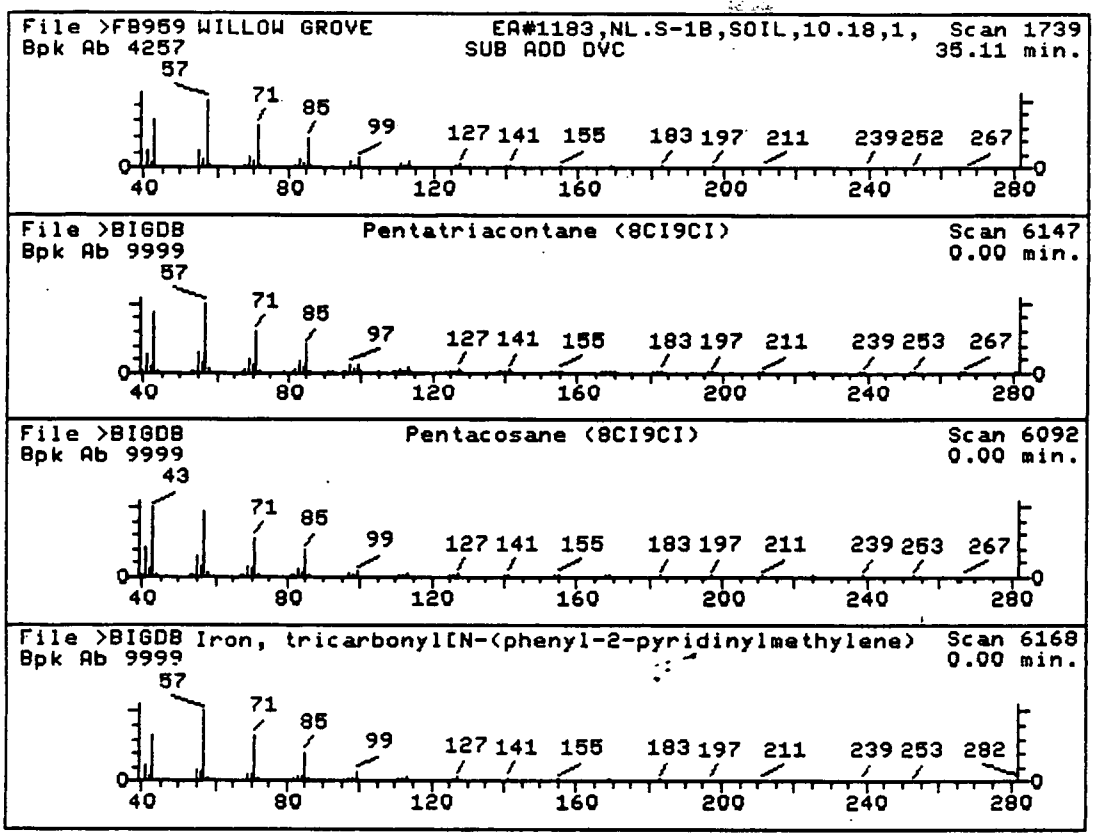
Area = 92997.00 Tentative Concentration is 4700.00

1. Pentatriacontane (8CI9CI)	492	C35H72
2. Tetratetracontane (8CI9CI)	618	C44H90
3. Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)ben z namine-N,N']- (9CI)	398	C21H14FeN2O3
4. Hexatriacontane (8CI9CI)	506	C36H74
5. Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44
6. Heptadecane, 9-octyl- (8CI9CI)	352	C25H52
7. Docosane (8CI9CI)	310	C22H46

UNIDENTIFIED

Sample file: >FB959 Spectrum #: 1684
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.	94	630079	6147	"BIGDB	143	8	1	0	74	6	68	93
2.	89	7098228	8906	"BIGDB	135	21	1	0	75	6	62	83
3.	86	74764117	6168	"BIGDB	125	12	1	0	82	8	59	77
4.	84	630068	6193	"BIGDB	121	41	2	0	66	8	55	60
5.	83	54833486	6161	"BIGDB	93	40	1	0	70	10	54	52
6.	81	7225641	6273	"BIGDB	106	37	2	0	80	10	53	42
7.	79	629970	6221	"BIGDB	135	12	2	2	83	13	43	60



Retention time = 35.11

Area = 84971.00 Tentative Concentration is 4300.00

1.	Pentatriacontane (8CI9CI)	492	C35H72
2.	Pentacosane (8CI9CI)	352	C25H52
3.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']- (9CI)	398	C21H14F N2O3
4.	T tratetracontane (8CI9CI)	618	C44H90
5.	Hexatriacontane (8CI9CI)	506	C36H74
6.	Nonacosane (8CI9CI)	408	C29H60
7.	Heptadecane, 2,6,10,15-tetramethyl- (9CI)	296	C21H44

UNIDENTIFIED ALKANES

Sampl file: >FB959 Spectrum #: 1739
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.	94	630079	6147	"BIGDB	144	7	1	0	78	6	68	93
2.	87	629992	6092	"BIGDB	111	29	2	-1	76	4	63	40
3.	86	74764117	6168	"BIGDB	125	12	1	0	97	8	59	77
4.	86	7098228	8906	"BIGDB	124	32	1	0	80	6	59	76
5.	84	630068	6193	"BIGDB	126	36	2	0	72	8	55	63
6.	81	630035	8905	"BIGDB	116	29	2	-1	76	8	53	45
7.	81	54833486	6161	"BIGDB	93	40	1	-1	72	10	53	42

Peak # in PBM file	Retention Tim	Peak Area	10% of Nearest ISTD Area
1	16.59	60105	28036
2	17.23	66896	28036
3	19.57	106126	28036
4	20.34	74861	16812
5	20.43	152534	16812
6	21.77	71109	16812
7	21.92	132494	16812
8	23.14	74535	16812
9	24.43	71562	16812
10	25.69	80156	16812
11	26.87	71748	10634
12	27.98	81645	10634
13	29.00	78539	10634
14	29.93	106422	10634
15	30.81	90578	10634
16	31.61	100219	10634
17	32.38	102723	9064
18	33.20	96259	9064
19	34.11	92997	9064
20	35.11	84971	9064

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1184,RINSATE BLANK

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/07/89 0:21
Conc/Dil Factor: 1.00000
Percent Moisture (Decanted) N/A

GPC Cleanup __ Yes ~~No~~
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ~~No~~ 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	10.	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

Laboratory Name: EA LABORATORIES

Case No: WILLOW GROVE

Sample Number: EA# 1184

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT ~~or Scan~~ Number	Estimated Concentration (ug/l ~~or ug/kg~~)
1.	3102338	3-Penten-2-one (E)	BNA	3.61	17. J
2.	—	Unknown		4.34	320 J B
3.	—	Unknown		4.73	47 J B
4.	—	Unknown		5.10	83 J B
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
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20.					
21.					
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27.					
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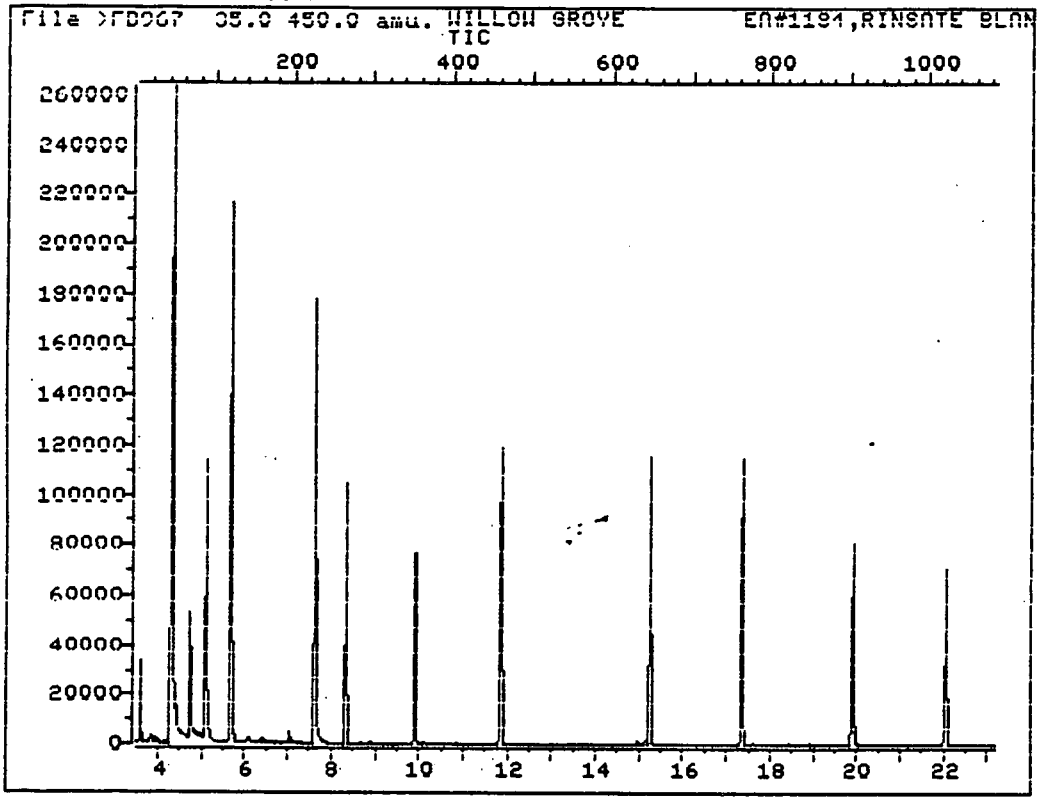
29.					
30.					

TOTAL ION CHROMATOGRAM



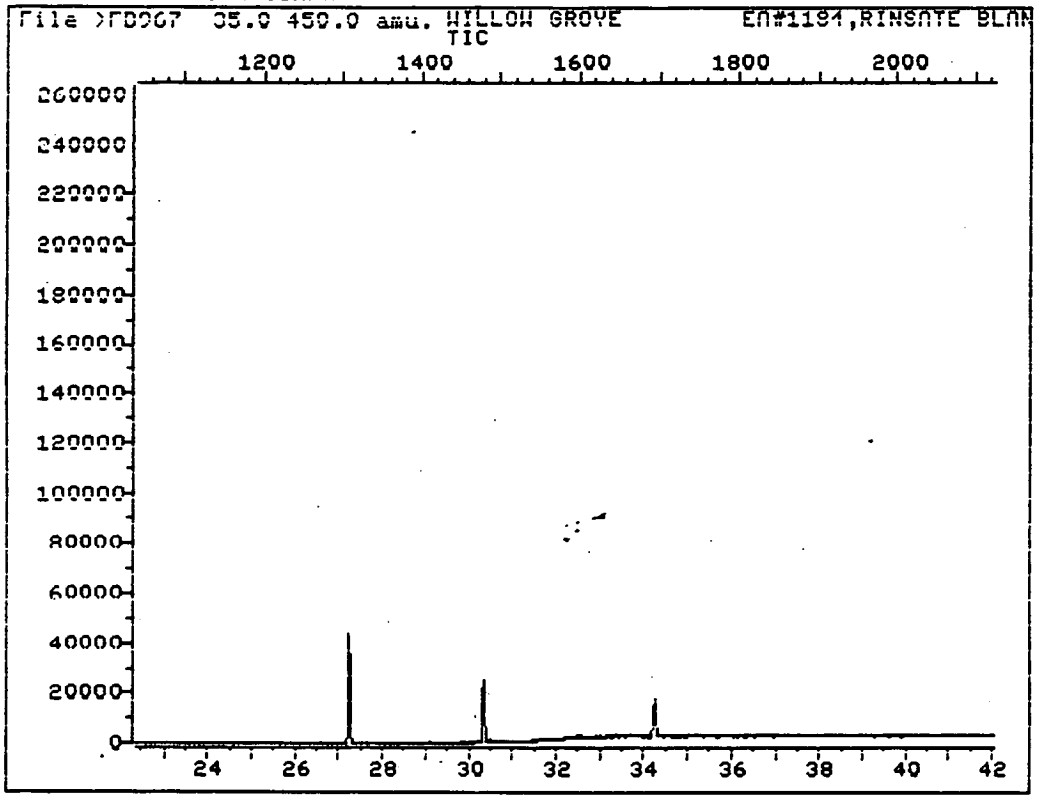
Data File: >FB967::D4 Quant Output File: ^FB967::QT
Name: WILLOW GROVE
Misc: EA#1184,RINSATE BLANK,WATER,1000,2, <2.00> BTL# 3

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
La t Calibration: 890407 01:05

Operator ID: UNCLE
Quant Time: 890407 02:34
Injected at: 890407 00:21

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FB967::D4 Quant Output File: ^FB967::QT
Name: WILLOW GROVE
Misc: EA#1184,RINSATE BLANK,WATER,1000,2, <2.00> BTL# 3

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890407 01:05

Operator ID: UNCLE
Quant Time: 890407 02:34
Injected at: 890407 00:21

TIC page 2 of 2

QUANT REPORT

Op rator ID: UNCLE Quant Rev: 6 Quant Time: 890407 02:34
Output File: ^FB967::QT Injected at: 890407 00:21
Data File: >FB967::D4 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#1184,RINSATE BLANK,WATER,1000,2, <2.00> BTL# 3

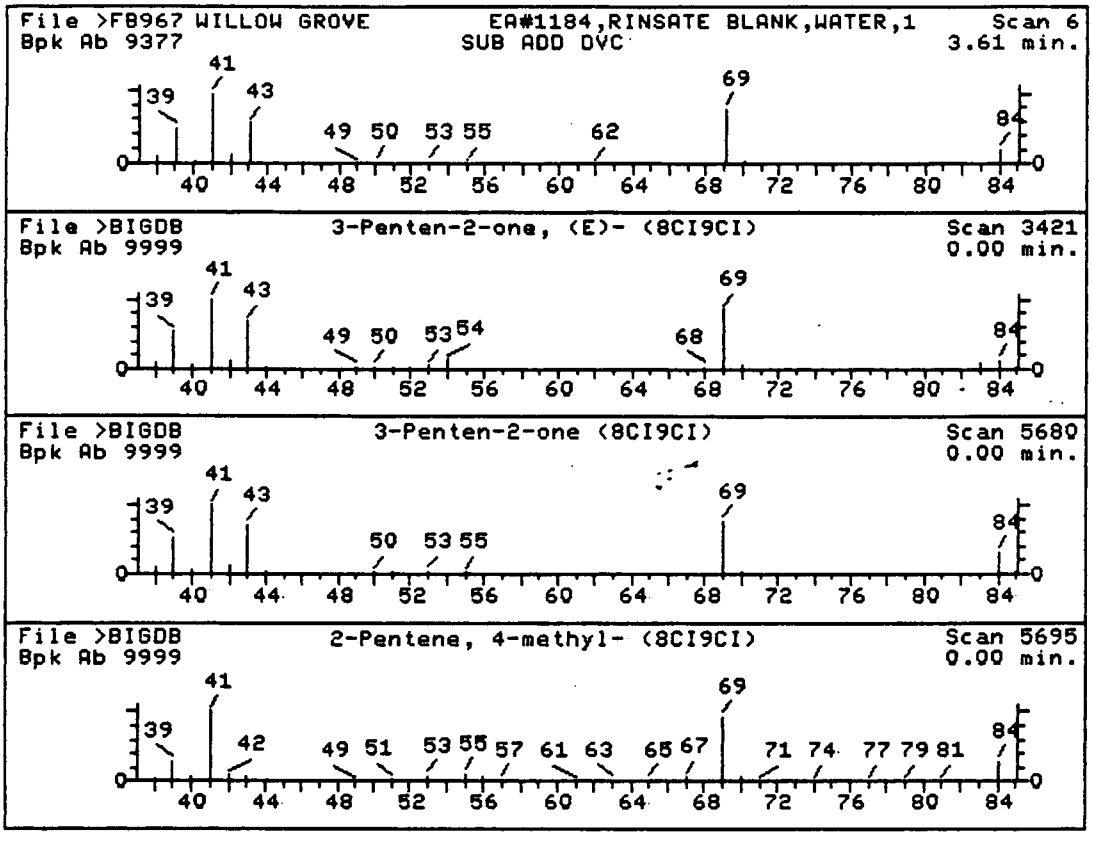
ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890407 01:05

	Compound	R.T.	Q ion	Area	Conc	Unit	q
1)	*d4-1,4-Dichlorobenzene	8.35	152.0	36015	40.00	NG	97
2)	2-Fluorophenol	5.68	112.0	96484	83.22	NG 83%	98
3)	Phenol-d5	7.62	99.0	139265	90.35	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	11.86	136.0	135345	40.00	NG	89
17)	Nitrobenzene-d5	9.91	82.0	65288	50.68	NG 101%	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	17.36	164.0	62184	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	15.26	172.0	96772	50.74	NG 101%	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	17.36	163.0	20753	~~9.97~~	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	

Output File:^FB967:: Data File:>FB967::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	22.06	188.0	71616	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	19.92	329.9	30531	116.85	NG 117%	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)	Ph nanthrene	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	30.35	240.0	23233	40.00	NG	96
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	T rph nyl-d14	27.25	244.0	45404	60.54	NG 121%	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	34.25	264.0	19863	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 = 3.61

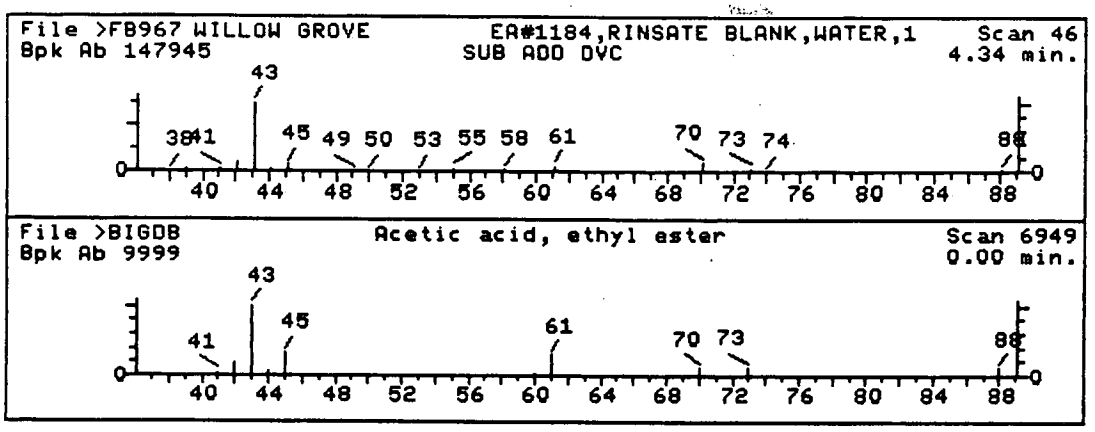
Area = 50665.00 Tentative Concentration is 17.00

1.	3-Penten-2-one, (E)- (8CI9CI)	84	C5H8O
2.	3-Penten-2-one (8CI9CI)	84	C5H8O
3.	2-Pentene, 4-methyl- (8CI9CI)	84	C6H12
4.	2-Pentene, 4-methyl-, (E)- (8CI9CI)	84	C6H12
5.	2-Pentene, 4-methyl-, (Z)- (8CI9CI)	84	C6H12
6.	1-Butene, 2,3-dimethyl- (8CI9CI)	84	C6H12
7.	1-Butene, 3,3-dimethyl- (8CI9CI)	84	C6H12

Sampl file: >FB967 Spectrum #: 6
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.	70*	3102338	3421	"BIGDB	35	62	2	0	90	10	42	14
2.	37*	625332	5680	"BIGDB	31	50	0	0	49	40	14	24

3.	34*	4461487	5695	"BIGDB	34	52	2	0	68	34	12	17
4.	30*	674760	5681	"BIGDB	33	50	2	0	71	36	10	16
5.	30*	691383	5682	"BIGDB	21	62	2	0	59	34	12	13
6.	28*	563780	5674	"BIGDB	29	56	2	0	82	37	10	14
7.	28*	558372	3420	"BIGDB	27	62	2	0	87	37	10	14



R t ntion time = 4.34

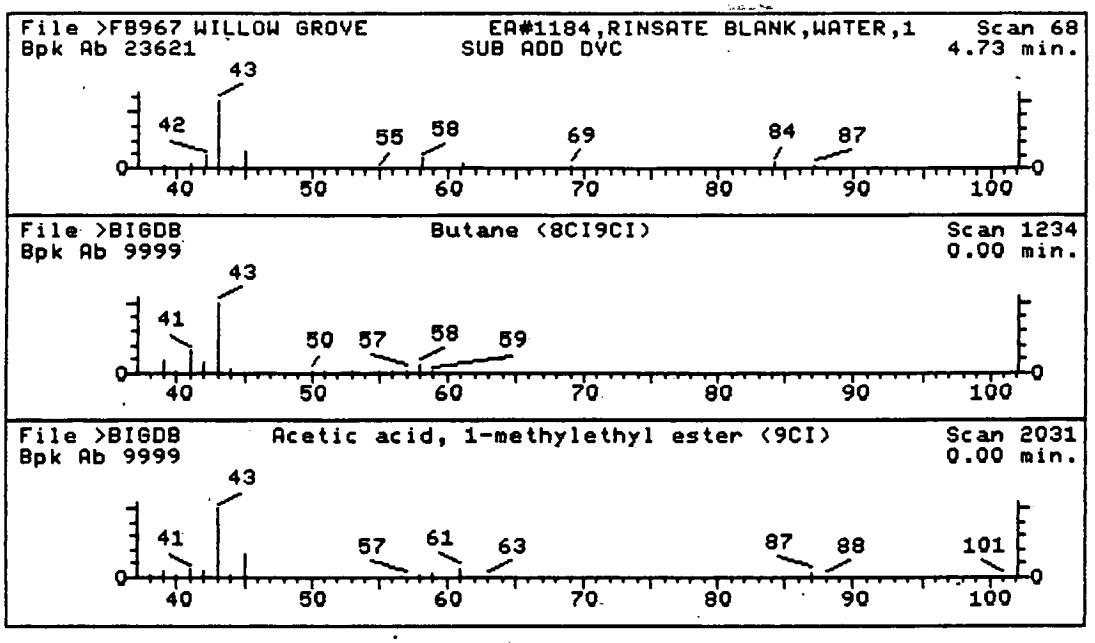
Area = 978325.0 Tentative Concentration is 320.00

1. Acetic acid, ethyl ester 88 C4H8O2

unknown

Sample file: >FB967 Spectrum #: 46
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.	11*	141786	6949	"BIGDB	24	38	0	0	24	61	2	17



R tention time = 4.73

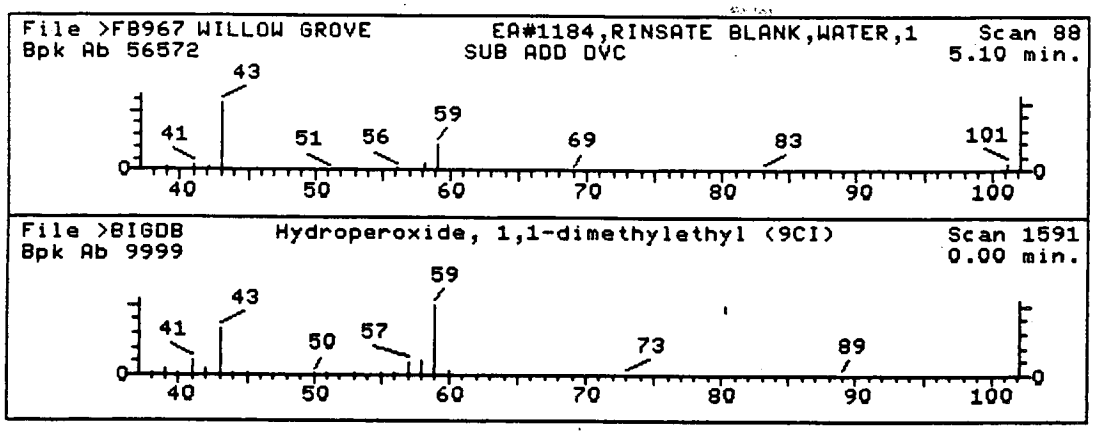
Area = 142839.0 Tentative Concentration is 47.00

1. Butane (8CI9CI) 58 C4H10
2. Acetic acid, 1-methylethyl ester (9CI) 102 C5H10O2

Unknown

Sampl file: >FB967 Spectrum #: 68
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.	30*	106978	1234	"BIGDB	23	56	2	0	100	35	12	13
2.	25	108214	2031	"BIGDB	36	43	1	0	65	44	8	13



Retention time = 5.10

Ar a = 250874.0 Tentative Concentration is 83.00

1. Hydroperoxide, 1,1-dimethylethyl (9CI) Unknown 90 C4H10O2

Sample file: >FB967 Spectrum #: 88
Search spe d: 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	75912	1591	"BIGDB	34	31	1	0	35	51	5	12

LIBRARY SEARCH SUMMARY

MS Data File:>FB967::D4 Analyst:UNCLE MS

Name:WILLOW GROVE Date/Time: 4/07/89 0:21
Misc:EA#1184,RINSATE BLANK,WATER,1000,2, ?2.00? 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	3.61	50665	24116
2	4.34	978325	24116
3	4.73	142839	24116
4	5.10	250874	24116

C. Standards Data

Initial Calibration Data
HSL Compounds

Case No: Willow Grove Instrument ID: GC/MS#4(D)

Contractor: EA LABORATORIES Calibration Date: 04/05/89

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>DD152	>DD148	>DD151	>DD150	>DD149					
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	1.50253	1.35170	1.33855	1.26462	1.11625	.690	1.31473	10.697		
Phenol-d5	1.78730	1.70818	1.58846	1.45331	1.37647	.914	1.58274	10.802		
Phenol	2.00699	1.79369	1.61766	1.43749	1.32765	.919	1.63670	16.658	*	
bis(2-Chloroethyl)ether	1.72986	1.59156	1.51072	1.27698	1.11318	.939	1.44446	17.143		
2-Chlorophenol	1.53730	1.51835	1.43001	1.36080	1.35494	.950	1.44028	5.934		
1,3-Dichlorobenzene	1.62307	1.55427	1.42619	1.29982	1.25512	.989	1.43169	11.058		
1,4-Dichlorobenzene	1.59758	1.52210	1.36878	1.22001	1.13183	1.005	1.36806	14.349	*	
Benzyl Alcohol	.90518	.90669	.85492	.77382	.67430	1.052	.82298	12.045		
1,2-Dichlorobenzene	1.55373	1.48542	1.37376	1.22628	.97756	1.060	1.32335	17.350		
2-Methylphenol	1.24889	1.22361	1.17126	1.08821	1.05102	1.091	1.15660	7.368		
bis(2-Chloroisopropyl)ether	1.88582	1.78654	1.84254	1.84366	1.79806	1.100	1.83132	2.177		
4-Methylphenol	1.24843	1.02844	1.23400	.40763	1.17471	1.142	1.01864	34.603		
N-Nitroso-Di-n-propylamine	1.14182	1.12286	.96657	.88674	1.17449	1.155	1.05849	11.808		**
Hexachloroethane	.67455	.67925	.55359	.47119	.42569	1.156	.56086	20.583		
Nitrobenzene-d5	.64858	.61203	.57010	.55977	.53136	.834	.58437	7.892		
Nitrobenzene	.38303	.36284	.33290	.31830	.31082	.838	.34158	8.944		
Isophorone	.82105	.81512	.74580	.74392	.72306	.896	.76979	5.850		
2-Nitrophenol	.23138	.23445	.21909	.21724	.21681	.911	.22379	3.773	*	
2,4-Dimethylphenol	.30225	.30122	.28085	.28779	.30376	.929	.29517	3.471		
Benzoic Acid	- -	.15807	.18932	.19403	.18381	.974	.18131	8.849		
bis(2-Chloroethoxy)methane	.52057	.47603	.46513	.43912	.35629	.953	.45143	13.463		
2,4-Dichlorophenol	.27635	.29156	.26789	.25554	.25722	.971	.26971	5.505	*	
1,2,4-Trichlorobenzene	.30345	.31334	.27959	.26586	.25251	.991	.28295	8.965		
Naphthalene	1.06450	.96100	.77431	.65883	.54979	1.006	.80168	26.392		
4-Chloroaniline	.39647	.36063	.36131	.34828	.32202	1.026	.35774	7.509		
Hexachlorobutadiene	.13870	.15458	.13109	.12400	.12306	1.055	.13429	9.661	*	
4-Chloro-3-methylphenol	.24476	.26224	.24038	.23871	.22520	1.158	.24226	5.510	*	
2-Methylnaphthalene	.53592	.53890	.48485	.44988	.42975	1.185	.48786	10.117		
Hexachlorocyclopentadiene	.19929	.29587	.27792	.26963	.30686	.849	.26991	15.599		**
2,4,6-Trichlorophenol	.38329	.44509	.41590	.39961	.44532	.864	.41784	6.584	*	

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: 04/05/89

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>DD152	>DD148	>DD151	>DD150	>DD149					
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	.34467	.41917	.38084	.37162	.39687	.870	.38263	7.280		
2-Chloronapnthalene	1.26281	1.28931	1.26304	1.20343	1.17781	.894	1.23928	3.760		
2-Fluorobiphenyl	2.46708	2.34998	2.14551	1.82628	1.72584	.880	2.10294	15.302		
2-Nitroaniline	-	.34836	.35410	.35944	.35359	.921	.35388	1.280		
Dimethylphthalate	1.46515	1.45792	1.41354	1.36240	1.28285	.966	1.39637	5.413		
Acenaphthylene	2.03390	2.04245	1.93352	1.62398	1.40679	.971	1.80813	15.559		
3-Nitroaniline	-	.26761	.27006	.26603	.25136	.999	.26377	3.199		
Acenapnthene	1.29511	1.25818	1.21745	1.15701	1.08022	1.007	1.20160	7.076	*	
2,4-Dinitrophenol	-	.13019	.13761	.15674	.16336	1.017	.14697	10.637		**
4-Nitrophenol	-	.05349	.05233	.04873	.04717	1.034	.05043	5.894		**
Dibenzofuran	1.59009	1.59806	1.54578	1.43315	1.29663	1.036	1.49274	8.566		
2,4-Dinitrotoluene	.36864	.37381	.38121	.39150	.38325	1.047	.37968	2.322		
2,6-Dinitrotoluene	.34977	.39019	.38226	.37823	.37988	.977	.37607	4.094		
Diethylphthalate	1.39063	1.23419	1.13936	1.00385	.85336	1.100	1.12428	18.399		
4-Chlorophenyl-phenylether	.54273	.54544	.52998	.52136	.47506	1.105	.52291	5.444		
Fluorene	1.23579	1.11514	1.03478	.94805	.82294	1.101	1.03134	15.270		
4-Nitroaniline	-	.17653	.18114	.18225	.16874	1.115	.17717	3.467		
4,6-Dinitro-2-methylphenol	-	.16854	.16216	.15748	.16797	.882	.16404	3.192		
N-Nitrosodiphenylamine	.65145	.61657	.60019	.56476	.49008	.887	.58461	10.497	*	
2,4,6-Tribromophenol	.09315	.10885	.09568	.10502	.10356	.902	.10125	6.514		
4-Bromophenyl-phenylether	.20916	.22401	.20531	.20493	.20487	.937	.20966	3.922		
Hexachlorobenzene	.24553	.26524	.23119	.23637	.22823	.957	.24131	6.177		
Pentachlorophenol	-	.11882	.10976	.11704	.11972	.983	.11634	3.886	*	
Phenanthrene	1.18312	1.10478	1.04807	.99712	.94409	1.004	1.05543	8.811		
Anthracene	1.14880	1.06799	1.04323	.98061	.89984	1.010	1.02809	9.111		
Di-n-Butyl phthalate	1.69643	1.57840	1.45291	1.16567	1.02204	1.103	1.38309	20.413		
Fluoranthene	.78181	.78390	.76457	.69835	.72461	1.179	.75065	5.022	*	
Pyrene	3.19837	3.10938	2.75808	2.80629	2.48202	.871	2.87083	10.039		
Terphenyl-d14	3.15773	3.14330	2.81859	2.83937	2.61686	.892	2.91517	7.952		
Butylbenzylphthalate	1.72131	1.39047	1.31703	1.28424	1.19004	.949	1.38062	14.747		

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: 04/05/89

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>DD152	>DD148	>DD151	>DD150	>DD149					
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	.27717	.34889	.34460	.33367	.33701	.999	.32827	8.892		
Benzo(a)Anthracene	1.31849	1.34150	1.29413	1.23964	1.22445	.998	1.28364	3.917		
bis(2-Ethylhexyl)phthalate	2.80458	2.06416	1.93662	1.87751	1.68218	1.014	2.07301	20.816		
Chrysene	1.19951	1.20703	1.17846	1.12331	1.12425	1.003	1.16651	3.462		
Di-n-Octyl phthalate	4.72161	3.15662	3.14910	2.88626	2.73811	.941	3.33034	23.959	*	
Benzo(b)Fluoranthene	1.54201	1.19222	1.27449	1.13668	1.35420	.968	1.29992	12.190		
Benzo(k)Fluoranthene	1.14809	1.16979	1.03120	1.18216	.95777	.970	1.09780	8.980		
Benzo(a)Pyrene	1.14293	1.07693	1.08385	1.06779	1.06773	.995	1.08784	2.898	*	
Indeno(1,2,3-cd)Pyrene	.94081	1.07864	1.07628	1.03933	1.02702	1.106	1.03242	5.421		
Dibenzo(a,h)Anthracene	.74183	.83324	.82739	.82306	.79486	1.108	.80408	4.701		
Benzo(g,h,i)Perylene	.74294	.92380	.83085	.85919	.85315	1.136	.84198	7.754		

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: ~~04/07/89~~ 04/06/89

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>FB955	>FB949	>FB952	>FB951	>FB954					
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	1.37369	1.43943	1.33832	1.28715	1.20408	.680	1.32853	6.694		
Phenol-d5	1.78454	1.78018	1.62068	1.49920	1.34071	.916	1.60506	11.830		
Phenol	1.82088	1.92863	1.65820	1.50182	1.45699	.920	1.67330	12.079	*	
bis(2-Chloroethyl)ether	1.64386	1.61443	1.43022	1.40638	1.46506	.940	1.51199	7.239		
2-Chlorophenol	1.51018	1.49287	1.40268	1.33105	1.28960	.952	1.40527	6.897		
1,3-Dichlorobenzene	1.59637	1.51068	1.32004	1.23316	1.11850	.989	1.35575	14.496		
1,4-Dichlorobenzene	1.58345	1.51068	1.32157	1.17264	1.02811	1.002	1.32329	17.423	*	
Benzyl Alcohol	.67067	.42955	.34404	.42116	.37271	1.093	.44763	28.938		
1,2-Dichlorobenzene	1.55378	1.48068	1.31947	1.21325	1.06731	1.061	1.32690	14.859		
2-Methylphenol	1.23673	1.45001	1.42858	1.51683	1.43385	1.095	1.41320	7.413		
bis(2-Chloroisopropyl)ether	3.44950	3.42678	3.06106	2.89170	2.66483	1.099	3.09877	10.982		
4-Methylphenol	1.20679	1.27812	1.29364	1.03410	.72798	1.147	1.10813	21.309		
N-Nitroso-Di-n-propylamine	1.39313	1.34493	1.13852	1.06325	1.07108	1.153	1.20218	12.979		**
Hexachloroethane	.74168	.70126	.55576	.45005	.38357	1.154	.56646	27.347		
Nitrobenzene-d5	.68840	.67709	.60332	.58336	.56203	.838	.62284	9.110		
Nitrobenzene	.41273	.40260	.36978	.34572	.32112	.842	.37039	10.340		
Isophorone	.88061	.88859	.80536	.79887	.80340	.896	.83537	5.398		
2-Nitrophenol	.21796	.22692	.20464	.20260	.19646	.915	.20972	5.917	*	
2,4-Dimethylphenol	.31947	.32777	.32855	.32453	.31073	.930	.32221	2.279		
Benzoic Acid	-	.18856	.16696	.16784	.12684	.972	.16255	15.880		
bis(2-Chloroethoxy)methane	.49601	.49519	.45109	.43154	.41808	.952	.45838	7.842		
2,4-Dichlorophenol	.28891	.29761	.28641	.27052	.26072	.974	.28083	5.307	*	
1,2,4-Trichlorobenzene	.34740	.32614	.30028	.27872	.25352	.989	.30121	12.351		
Naphthalene	1.03849	.94102	.85872	.78527	.71386	1.005	.86747	14.705		
4-Chloroaniline	.38433	.35840	.34714	.33115	.32086	1.030	.34838	7.102		
Hexachlorobutadiene	.21786	.19692	.18205	.16907	.14833	1.048	.18285	14.486	*	
4-Chloro-3-methylphenol	.28486	.31188	.30445	.29926	.30205	1.160	.30050	3.301	*	
2-Methylnaphthalene	.64014	.54188	.51915	.47259	.44765	1.180	.52428	14.243		
Hexachlorocyclopentadiene	.27081	.29391	.34791	.33533	.31102	.847	.31180	9.961		**
2,4,6-Trichlorophenol	.31896	.39569	.35337	.34867	.32694	.866	.34873	8.588	*	

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: ~~04/07/89~~ 04/06/89

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>FB955	>FB949	>FB952	>FB951	>FB954					
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	.42158	.45724	.47908	.40761	.38550	.875	.43020	8.777		
2-Chloronaphthalene	1.23514	1.18348	1.12494	1.03010	.97973	.896	1.11068	9.511		
2-Fluorobiphenyl	2.46736	2.16597	1.95779	1.67354	1.50437	.880	1.95381	19.645		
2-Nitroaniline	-	.41028	.41052	.39831	.40813	.927	.40681	1.417		
Dimethylphthalate	1.55507	1.51675	1.43582	1.30302	1.27408	.966	1.41695	8.842		
Acenaphthylene	2.00824	1.90454	1.74792	1.57737	1.50533	.972	1.74868	12.139		
3-Nitroaniline	-	.24520	.23031	.20689	.18740	1.004	.21745	11.723		
Acenaphthene	1.33493	1.21102	1.09229	.95265	.89462	1.006	1.09710	16.522	*	
2,4-Dinitrophenol	-	.17267	.14763	.14996	.16315	1.022	.15835	7.415		**
4-Nitrophenol	-	.06998	.06847	.06990	.07705	1.045	.07135	5.414		**
Dibenzofuran	1.63845	1.53012	1.43159	1.30139	1.27730	1.035	1.43577	10.630		
2,4-Dinitrotoluene	.36240	.39070	.36159	.35561	.35767	1.049	.36559	3.915		
2,6-Dinitrotoluene	.34884	.36005	.34478	.33171	.32639	.980	.34236	3.943		
Diethylphthalate	1.52498	1.45100	1.32144	1.18027	1.04857	1.095	1.30525	14.900		
4-Chlorophenyl-phenylether	.64005	.58436	.53239	.45495	.40922	1.100	.52419	17.876		
Fluorene	1.25180	1.14749	1.01057	.84852	.73397	1.098	.99847	21.185		
4-Nitroaniline	-	.16012	.15897	.14842	.13955	1.119	.15177	6.390		
4,6-Dinitro-2-methylphenol	-	.18764	.17712	.17712	.16428	.884	.17654	5.415		
N-Nitrosodiphenylamine	.61015	.57159	.52924	.49423	.44479	.887	.53000	12.189	*	
2,4,6-Tribromophenol	.11892	.15117	.14926	.16454	.17372	.904	.15152	13.727		
4-Bromophenyl-phenylether	.28062	.27823	.25895	.25005	.23928	.937	.26143	6.835		
Hexachlorobenzene	.38522	.36205	.34950	.32995	.31418	.956	.34818	7.936		
Pentachlorophenol	-	.16368	.16533	.16199	.16347	.985	.16362	.837	*	
Phenanthrene	1.07334	1.03718	.96843	.92283	.87300	1.004	.97496	8.381		
Anthracene	1.00465	1.00109	.93317	.88677	.82318	1.010	.92977	8.316		
Di-n-Butyl phthalate	1.57527	1.46995	1.34372	1.26394	1.13649	1.096	1.35787	12.641		
Fluoranthene	.83465	.79335	.78494	.75988	.72104	1.177	.77877	5.396	*	
Pyrene	2.76459	2.33258	2.19492	2.14287	1.87106	.880	2.26121	14.485		
Terphenyl-d14	3.31974	2.75200	2.56170	2.47523	2.13841	.899	2.64942	16.442		
Butylbenzylphthalate	1.19890	1.03530	.98018	.97609	.89510	.952	1.01711	11.136		

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: ~~04/07/87~~ 04/06/87

Contract No:

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>FB955	>FB949	>FB952	>FB951	>FB954				
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	.24595	.31776	.33331	.33333	.35553	.999	.31718	13.251	
Benzo(a)Anthracene	1.34264	1.24349	1.17138	1.15141	1.13512	.998	1.20881	7.073	
bis(2-Ethylhexyl)phthalate	.89665	1.49402	1.32422	1.34492	1.22307	1.005	1.25658	17.770	
Chrysene	1.34228	1.09766	1.04649	1.04815	1.02842	1.002	1.11260	11.769	
Di-n-Octyl phthalate	2.86200	2.19616	1.99572	2.04415	1.90811	.935	2.19923	17.517	*
Benzo(b)Fluoranthene	1.24048	1.33584	1.22106	1.32075	1.29896	.967	1.28342	3.918	
Benzo(k)Fluoranthene	1.15203	1.15285	1.06805	1.01693	1.00908	.969	1.07979	6.490	
Benzo(a)Pyrene	1.01977	1.11893	1.05763	1.05578	1.06497	.995	1.06342	3.351	*
Indeno(1,2,3-cd)Pyrene	.99724	1.13164	1.08676	1.10130	1.09950	1.110	1.08329	4.694	
Dibenzo(a,h)Anthracene	.71189	.89647	.85764	.87299	.87832	1.111	.84346	8.874	
Benzo(g,h,i)Perylene	.79183	.95304	.88825	.91073	.91883	1.143	.89254	6.825	

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 (**)

Continuing Calibration Check
HSL Compounds

Case No: Willow Grove — Calibration Date: 04/06/89

Contractor: EA LABORATORIES — Time: 12:33

Contract No: — Laboratory ID: >DD161

Instrument ID: GC/MS#4(D) — Initial Calibration Date: 04/05/89

Minimum $\overline{RF}$ for SPCC is 0.05 — Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorophenol	1.31473	1.49080	13.39		
Phenol-d5	1.58274	1.73864	9.85		
Phenol	1.63670	1.77034	8.17	*	
bis(2-Chloroethyl)ether	1.44446	1.54016	6.63		
2-Chlorophenol	1.44028	1.43943	.06		
1,3-Dichlorobenzene	1.43169	1.50256	4.95		
1,4-Dichlorobenzene	1.36806	1.41961	3.77	*	
Benzyl Alcohol	.82298	.83418	1.36		
1,2-Dichlorobenzene	1.32335	1.40555	6.21		
2-Methylphenol	1.15660	1.18235	2.23		
bis(2-Chloroisopropyl)ether	1.83132	1.45689	20.45		
4-Methylphenol	1.01864	1.21412	19.19		
N-Nitroso-Di-n-propylamine	1.05849	.96094	9.22		**
Hexachloroethane	.56086	.62234	10.96		
Nitrobenzene-d5	.58437	.36144	38.15		
Nitrobenzene	.34158	.35231	3.14		
Isophorone	.76979	.77166	.24		
2-Nitrophenol	.22379	.22585	.92	*	
2,4-Dimethylphenol	.29517	.31951	8.25		
Benzoic Acid	.18131	.17325	4.45		
bis(2-Chloroethoxy)methane	.45143	.44513	1.40		
2,4-Dichlorophenol	.26971	.26425	2.03	*	
1,2,4-Trichlorobenzene	.28295	.28653	1.26		
Naphthalene	.80168	.90862	13.34		
4-Chloroaniline	.35774	.34713	2.97		
Hexachlorobutadiene	.13429	.12988	3.28	*	
4-Chloro-3-methylphenol	.24226	.24783	2.30	*	
2-Methylnaphthalene	.48786	.51844	6.27		
Hexachlorocyclopentadiene	.26991	.27494	1.86		**
2,4,6-Trichlorophenol	.41784	.40871	2.18	*	
2,4,5-Trichlorophenol	.38263	.38380	.30		
2-Chloronaphthalene	1.23928	1.27759	3.09		

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: 04/06/89

Contractor: EA LABORATORIES — Time: 12:33

Contract No: — Laboratory ID: >DD161

Instrument ID: GC/MS#4(D) — Initial Calibration Date: 04/05/89

Minimum $\overline{RF}$ for SPCC is 0.05 — Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorobiphenyl	2.10294	1.47226	29.99		
2-Nitroaniline	.35388	.33282	5.95		
Dimethylphthalate	1.39637	1.41652	1.44		
Acenaphthylene	1.80813	1.89929	5.04		
3-Nitroaniline	.26377	.26556	.68		
Acenaphthene	1.20160	1.15902	3.54	*	
2,4-Dinitrophenol	.14697	.12329	16.11		**
4-Nitrophenol	.05043	.06026	19.50		**
Dibenzofuran	1.49274	1.51392	1.42		
2,4-Dinitrotoluene	.37968	.35667	6.06		
2,6-Dinitrotoluene	.37607	.35318	6.09		
Diethylphthalate	1.12428	1.18719	5.60		
4-Chlorophenyl-phenylether	.52291	.50219	3.96		
Fluorene	1.03134	1.00908	2.16		
4-Nitroaniline	.17717	.15167	14.39		
4,6-Dinitro-2-methylphenol	.16404	.16366	.23		
N-Nitrosodiphenylamine	.58461	.63358	8.38	*	
2,4,6-Tribromophenol	.10125	.09766	3.54		
4-Bromophenyl-phenylether	.20966	.21042	.36		
Hexachlorobenzene	.24131	.22304	7.57		
Pentachlorophenol	.11634	.10813	7.05	*	
Phenanthrene	1.05543	.99997	5.26		
Anthracene	1.02809	.98821	3.88		
Di-n-Butyl phthalate	1.38309	1.55594	12.50		
Fluoranthene	.75065	.69746	7.09	*	
Pyrene	2.87083	2.42427	15.55		
Terphenyl-d14	2.91517	1.59266	45.37		
Butylbenzylphthalate	1.38062	1.27298	7.80		
3,3'-Dichlorobenzidine	.32827	.18023	45.10		
Benzo(a)Anthracene	1.28364	1.23516	3.78		
bis(2-Ethylhexyl)phthalate	2.07301	1.87866	9.37		
Chrysene	1.16651	1.09692	5.97		

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: 04/06/89

Contractor: EA LABORATORIES — Time: 12:33

Contract No: — Laboratory ID: >DD161

Instrument ID: GC/MS#4(D) — Initial Calibration Date: 04/05/89

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	3.33034	2.68218	19.46	*	
Benzo(b)Fluoranthene	1.29992	1.04630	19.51		
Benzo(k)Fluoranthene	1.09780	1.14999	4.75		
Benzo(a)Pyrene	1.08784	.98210	9.72	*	
Indeno(1,2,3-cd)Pyrene	1.03242	.86580	16.14		
Dibenzo(a,h)Anthracene	.80408	.64835	19.37		
Benzo(g,h,i)Perylene	.84198	.71071	15.59		

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: ~~04/07/89~~ 04/07/89 MD

Contractor: EA LABORATORIES

Time: 21:24

Contract No:

Laboratory ID: >FB964

Instrument ID: GC/MS#6(F)

Initial Calibration Date: 04/07/89

Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorophenol	1.32853	1.28761	3.08		
Phenol-d5	1.60506	1.71199	6.66		
Phenol	1.67330	1.62405	2.94	*	
bis(2-Chloroethyl)ether	1.51199	1.42189	5.96		
2-Chlorophenol	1.40527	1.18119	15.95		
1,3-Dichlorobenzene	1.35575	1.21693	10.24		
1,4-Dichlorobenzene	1.32329	1.20965	8.59	*	
Benzyl Alcohol	.44763	.28779	35.71		
1,2-Dichlorobenzene	1.32690	1.18583	10.63		
2-Methylphenol	1.41320	1.41273	.03		
bis(2-Chloroisopropyl)ether	3.09877	2.95321	4.70		
4-Methylphenol	1.10813	1.15475	4.21		
N-Nitroso-Di-n-propylamine	1.20218	1.21157	.78		**
Hexachloroethane	.56646	.55981	1.18		
Nitrobenzene-d5	.62284	.38070	38.88		
Nitrobenzene	.37039	.35092	5.26		
Isophorone	.83537	.74053	11.35		
2-Nitrophenol	.20972	.18118	13.61	*	
2,4-Dimethylphenol	.32221	.31607	1.91		
Benzoic Acid	.16255	.15393	5.30		
bis(2-Chloroethoxy)methane	.45838	.42621	7.02		
2,4-Dichlorophenol	.28083	.24231	13.72	*	
1,2,4-Trichlorobenzene	.30121	.26294	12.70		
Naphthalene	.86747	.77245	10.95		
4-Chloroaniline	.34838	.33007	5.26		
Hexachlorobutadiene	.18285	.15023	17.84	*	
4-Chloro-3-methylphenol	.30050	.26941	10.35	*	
2-Methylnaphthalene	.52428	.47084	10.19		
Hexachlorocyclopentadiene	.31180	.25629	17.80		**
2,4,6-Trichlorophenol	.34873	.33907	2.77	*	
2,4,5-Trichlorophenol	.43020	.36932	14.15		
2-Chloronaphthalene	1.11068	1.00107	9.87		

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: Wilson Creek Calibration Date: ~~04/06/89~~ 04/07/89

Contractor: EA LABORATORIES Time: 21:24

Contract No: Laboratory ID: >FB964

Instrument ID: GC/MS#6(F) Initial Calibration Date: 04/07/89

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorobiphenyl	1.95381	1.22674	37.21		
2-Nitroaniline	.40681	.39048	4.01		
Dimethylphthalate	1.41695	1.33867	5.52		
Acenaphthylene	1.74868	1.52298	12.91		
3-Nitroaniline	.21745	.23131	6.37		
Acenaphthene	1.09710	.94897	13.50	*	
2,4-Dinitrophenol	.15835	.10649	32.75		**
4-Nitrophenol	.07135	.06611	7.34		**
Dibenzofuran	1.43577	1.32905	7.43		
2,4-Dinitrotoluene	.36559	.34120	6.67		
2,6-Dinitrotoluene	.34236	.30572	10.70		
Diethylphthalate	1.30525	1.27924	1.99		
4-Chlorophenyl-phenylether	.52419	.49863	4.88		
Fluorene	.99847	.90566	9.30		
4-Nitroaniline	.15177	.16375	7.90		
4,6-Dinitro-2-methylphenol	.17654	.13772	21.99		
N-Nitrosodiphenylamine	.53000	.49436	6.72	*	
2,4,6-Tribromophenol	.15152	.14593	3.69		
4-Bromophenyl-phenylether	.26143	.22481	14.01		
Hexachlorobenzene	.34818	.28228	18.93		
Pentachlorophenol	.16362	.12666	22.59	*	
Phenanthrene	.97496	.79388	18.57		
Anthracene	.92977	.77049	17.13		
Di-n-Butyl phthalate	1.35787	1.28704	5.22		
Fluoranthene	.77877	.68304	12.29	*	
Pyrene	2.26121	1.52926	32.37		
Terphenyl-d14	2.64942	1.29119	51.27		
Butylbenzylphthalate	1.01711	.89055	12.44		
3,3'-Dichlorobenzidine	.31718	.31161	1.75		
Benzo(a)Anthracene	1.20881	.95059	21.36		
bis(2-Ethylhexyl)phthalate	1.25658	1.17514	6.48		
Chrysene	1.11260	.84771	23.81		

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: 04/06/89

Contractor: EA LABORATORIES

Time: 21:24

Contract No:

Laboratory ID: >FB964

Instrument ID: GC/MS#6(F)

Initial Calibration Date: 04/07/89

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	2.19923	1.95142	11.27	*	
Benzo(b)Fluoranthene	1.28342	.93273	27.32		
Benzo(k)Fluoranthene	1.07979	.91284	15.46		
Benzo(a)Pyrene	1.06342	.81995	22.89	*	
Indeno(1,2,3-cd)Pyrene	1.08329	.76938	28.98		
Dibenzo(a,h)Anthracene	.84346	.60668	28.07		
Benzo(g,h,i)Perylene	.89254	.60508	32.21		

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: 04/21/89

Contractor: EA LABORATORIES — Time: 09:14

Contract No: — Laboratory ID: >DD296

Instrument ID: GC/MS#4(D) — Initial Calibration Date: 04/05/89

Minimum $\overline{RF}$ for SPCC is 0.05 — Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorophenol	1.31473	1.39529	6.13		
Phenol-d5	1.58274	1.52174	3.85		
Phenol	1.63670	1.48340	9.37	*	
bis(2-Chloroethyl)ether	1.44446	1.32277	8.42		
2-Chlorophenol	1.44028	1.28722	10.63		
1,3-Dichlorobenzene	1.43169	1.47161	2.79		
1,4-Dichlorobenzene	1.36806	1.47274	7.65	*	
Benzyl Alcohol	.82298	.74038	10.04		
1,2-Dichlorobenzene	1.32335	1.41159	6.67		
2-Methylphenol	1.15660	1.09060	5.71		
bis(2-Chloroisopropyl)ether	1.83132	.87227	52.37		
4-Methylphenol	1.01864	1.04603	2.69		
N-Nitroso-Di-n-propylamine	1.05849	.84494	20.18		**
Hexachloroethane	.56086	.65803	17.33		
Nitrobenzene-d5	.58437	.33440	42.78		
Nitrobenzene	.34158	.32434	5.05		
Isophorone	.76979	.69395	9.85		
2-Nitrophenol	.22379	.19620	12.33	*	
2,4-Dimethylphenol	.29517	.28487	3.49		
Benzoic Acid	.18131	.14632	19.30		
bis(2-Chloroethoxy)methane	.45143	.39247	13.06		
2,4-Dichlorophenol	.26971	.26397	2.13	*	
1,2,4-Trichlorobenzene	.28295	.30731	8.61		
Naphthalene	.80168	.92676	15.60		
4-Chloroaniline	.35774	.28802	19.49		
Hexachlorobutadiene	.13429	.16102	19.91	*	
4-Chloro-3-methylphenol	.24226	.21588	10.89	*	
2-Methylnaphthalene	.48786	.50650	3.82		
Hexachlorocyclopentadiene	.26991	.28342	5.00		**
2,4,6-Trichlorophenol	.41784	.40179	3.84	*	
2,4,5-Trichlorophenol	.38263	.38731	1.22		
2-Chloronaphthalene	1.23928	1.29337	4.36		

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: 04/21/89

Contractor: EA LABORATORIES
Time: 09:14

Contract No:
Laboratory ID: >DD296

Instrument ID: GC/MS#4(D)
Initial Calibration Date: 04/05/89

Minimum $\overline{RF}$ for SPCC is 0.05
Maximum % Diff for CCC is 25.00%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2-Fluorobiphenyl	2.10294	1.57856	24.94		
2-Nitroaniline	.35388	.26226	25.89		
Dimethylphthalate	1.39637	1.60550	14.98		
Acenaphthylene	1.80813	1.80116	.39		
3-Nitroaniline	.26377	.20407	22.63		
Acenaphthene	1.20160	1.17219	2.45	*	
2,4-Dinitrophenol	.14697	.06538	55.52		**
4-Nitrophenol	.05043	.08106	60.74		**
Dibenzofuran	1.49274	1.45569	2.48		
2,4-Dinitrotoluene	.37968	.32272	15.00		
2,6-Dinitrotoluene	.37607	.33575	10.72		
Diethylphthalate	1.12428	1.52045	35.24		
4-Chlorophenyl-phenylether	.52291	.55318	5.79		
Fluorene	1.03134	1.02991	.14		
4-Nitroaniline	.17717	.12727	28.16		
4,6-Dinitro-2-methylphenol	.16404	.14857	9.43		
N-Nitrosodiphenylamine	.58461	.70982	21.42	*	
2,4,6-Tribromophenol	.10125	.13459	32.93		
4-Bromophenyl-phenylether	.20966	.26535	26.56		
Hexachlorobenzene	.24131	.29221	21.09		
Pentachlorophenol	.11634	.12162	4.54	*	
Phenanthrene	1.05543	1.02034	3.33		
Anthracene	1.02809	.98934	3.77		
Di-n-Butyl phthalate	1.38309	1.81127	30.96		
Fluoranthene	.75065	.68222	9.12	*	
Pyrene	2.87083	1.91661	33.24		
Terphenyl-d14	2.91517	1.46771	49.65		
Butylbenzylphthalate	1.38062	1.27947	7.33		
3,3'-Dichlorobenzidine	.32827	.37009	12.74		
Benzo(a)Anthracene	1.28364	1.22422	4.63		
bis(2-Ethylhexyl)phthalate	2.07301	1.81373	12.51		
Chrysene	1.16651	1.09852	5.83		

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: 04/21/89

Contractor: EA LABORATORIES
Time: 09:14

Contract No:
Laboratory ID: >DD296

Instrument ID: GC/MS#4(D)
Initial Calibration Date: 04/05/89

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	3.33034	2.52910	24.06	*	
Benzo(b)Fluoranthene	1.29992	1.17285	9.78		
Benzo(k)Fluoranthene	1.09780	.93330	14.98		
Benzo(a)Pyrene	1.08784	.98743	9.23	*	
Indeno(1,2,3-cd)Pyrene	1.03242	1.11103	7.61		
Dibenzo(a,h)Anthracene	.80408	.85599	6.46		
Benzo(g,h,i)Perylene	.84198	.90601	7.60		

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 (**)

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES Contract: _____

Lab Code: EAENG Case No.: Willow Grove SAS No.: . SDG No.: .

Lab Fil ID (Standard): >DD148 Date Analyzed: 4/5/89

Instrument ID: GC/MS #4 Time Analyzed: 9:37

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	153377	8.10	567420	11.51	222027	16.94
	UPPER LIMIT	306754	8.60	1134840	12.01	444054	17.44
	LOWER LIMIT	76688	7.60	283710	11.01	111013	16.44
	EPA SAMPLE NO.						
01	Blank # 539	128833	8.08	446487	11.49	169190	16.92
02	~~9SL-B-2A EA011788~~	~~108657~~	~~8.09~~	~~387622~~	~~11.48~~	~~138674~~	~~16.94~~
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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 u ed to flag internal tandard ar a values with an asterisk

FORM VIII SV-1

1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Nam :EA LABORATORIES Contract:_____

Lab Code: EAENG Case No.:Willow Grove SAS No.: . SDG No.

Lab File ID (Standard): >DD148 Date Analyzed: 4/5/89

Instrument ID: GC/MS #4 Time Analyzed: 9:37

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	258708	21.58	58783	30.03	42437	34.32
	UPPER LIMIT	517416	22.08	117566	30.53	84874	34.82
	LOWER LIMIT	129354	21.08	29391	29.53	21218	33.82
	EPA SAMPLE NO.						
01	Blank #539	174329	21.55	38551	30.03	26378	34.32
02	~~9SL-S-2A 5A#178~~	~~144449~~	~~21.54~~	~~30535~~	~~30.02~~	~~25180~~	~~34.31~~ WA
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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

pag 1 of 1

FORM VIII SV-2 1/87 Rev.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Nam :EA LABORATORIES Contract: Willow Grove

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

Lab File ID (Standard): >PB949 Date Analyzed: 4-5-89

Instrument ID: P6 Time Analyzed: 19:14

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	41362	8.39	159396	11.91	72206	17.41
UPPER LIMIT	82724	8.89	318792	12.41	144412	17.91
LOWER LIMIT	20681	7.89	79698	11.41	36103	16.91
EPA SAMPLE NO.						
GSLS3A 01 EA#1180 (>PB958)	36707	8.36	140506	11.90	64157	17.39
GSLS39 02 EA#1181 (>PB957)	32678	8.38	142039	11.90	62847	17.39
NLSIB 03 EA#1183 (>PB959)	32816	8.38	117790	11.90	50588	17.41
04 EA#1183MS (>PB960)	33991	8.39	125270	11.91	53840	17.40
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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 t 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: Willow Grove

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

Lab File ID (Standard): >FB949 Date Analyzed: 4-5-89

Instrument ID: F6 Time Analyzed: 19:14

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
12 HOUR STD		89740		22.10	27825		30.39	22217		34.31
UPPER LIMIT		179480		22.60	55650		30.89	44434		34.81
LOWER LIMIT		44870		20.60	13913		29.89	11109		33.81
EPA SAMPLE NO.										
9SLS3A	01	EA#1180(>FB948)		22.09	27142		30.38	24248		34.30
9SLS3B	02	EA#1181(>FB957)		22.09	28128		30.38	25727		34.32
NLS1B	03	EA#1183(>FB955		22.10	28231		30.39	30207		34.33
	04	EA#1182(MS)(>FB960)		22.11	27049		30.40	28482		34.33
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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 value with an asterisk

FORM VIII SV-2 4 1/87 Rev.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Nam :EA LABORATORIES Contract: Willow Grove

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

Lab File ID (Standard): > FB 964 Date Analyzed: 4-6-89

Instrument ID: F6 Time Analyzed: 20:28

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	40847	8.34	163795	11.88	75230	17.38
UPPER LIMIT	81694	8.84	327590	12.38	150460	17.88
LOWER LIMIT	20424	7.84	81898	11.38	37615	16.88
EPA SAMPLE NO.						
01 BL#535(>FB966)	34157	8.32	130962	11.87	59870	17.38
Rinsate 02 EB#1184(>FB967)	36015	8.35	135345	11.86	62184	17.36
03 MSD#1184(>FB968)	36113	8.34	144433	11.86	65705	17.37
04 EB#1183(MSD)	38295	8.33	151691	11.86	67004	17.36
05 (>FB 972)						
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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.

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FORM VIII SV-1

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Nam :EA LABORATORIES Contract: Willow Grove

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

Lab File ID (Standard): >FB964 Date Analyzed: 4-6-89

Instrument ID: F6 Time Analyzed: 20:28

	EPA SAMPLE NO.	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS3(PRY) AREA #	RT
	12 HOUR STD	91528	22.06	36304	30.35	29075	34.26
	UPPER LIMIT	183056	22.56	72608	30.85	58150	34.76
	LOWER LIMIT	45764	21.56	18152	29.85	14538	33.76
01	BL#535(>FB946)	67199	22.06	21630	30.35	17704	34.28
02	EB#1184(>FB969)	71616	22.06	23233	30.35	19863	34.25
03	MSD#1184(>FB971)	77826	22.05	20819	30.34	16196	34.24
04	EB#1183(MSD)(>FB972)	M 67672043	22.06	25526	30.34	23266	34.25
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Rinsate

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 u ed to flag internal tandard area values with an asteri k

FORM VIII SV-2 1/87 R v.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES Contract: _____

Lab Code: EAENG Case No.: Willow Grove SAS No.: . SDG No.: .

Lab File ID (Standard): > DD161

Date Analyzed: 4/6/89

Instrument ID: GC/MS #4

Time Analyzed: 12:33

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	145034	8.08	497424	11.47	183260	16.90
UPPER LIMIT	290068	8.58	994848	11.97	366520	17.40
LOWER LIMIT	72517	7.58	248712	10.97	91630	16.40
EPA SAMPLE NO.						
01 95L.S-1A EA#11178	172226	8.05	597522	11.44	221949	16.88
02 95L.S-1B EA#11177	167045	8.07	551995	11.46	178914	16.88
03 95L.S-2B EA#11179	148982	8.07	515639	11.46	194015	16.88
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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 t flag internal standard area values with an a terisk

FORM VIII SV-1

1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Nam :EA LABORATORIES Contract:_____

Lab Code: EAENG Case No.:Willow Grove SAS No.: . SDG No.

Lab File ID (Standard):>DD161 Date Analyzed: 4/6/89

Instrum nt ID: GC/MS #4 Time Analyzed: 12:33

	IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
12 HOUR STD	188753.		21.52	47495		29.99	42118		34.27
UPPER LIMIT	377506		22.02	94990		30.49	84236		34.77
LOWER LIMIT	94376		21.02	23747		29.49	21059		33.77
EPA SAMPLE NO.									
01 9SL.S-1A EA#1174	240187		21.51	65629		29.98	56472		34.29
02 9SL.S-1B EA#1175	158474		21.52	48383		30.00	40746		34.30
03 9SL.S-2B EA#1179	184540		21.52	55547		29.99	55031		34.29
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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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: EA LABORATORIES Contract: _____

Lab Code: EAENG Case No.: Willow Grove SAS No.: . SDG No.: .

Lab File ID (Standard): >DD296 50PPm std. Date Analyzed: 4/21/89

Instrument ID: GC/MS #4 Time Analyzed: 9:14

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	98733	7.48	348170	10.79	125864	16.16
UPPER LIMIT	197466	7.98	696340	10.29	251728	16.66
LOWER LIMIT	49366	6.98	174085	9.29	62932	15.66
EPA SAMPLE NO.						
1178 01	95L.S-2A	100266	7.47	317215	10.78	114961	16.14
1182 02	NL.S-1A	90771	7.48	291715	10.78	101189	16.15
1184MS 03	Rinsate Blk MS	88635	7.46	321423	10.80	122756	16.16
1184MSD 04	Rinsate Blk MSD	77951	7.48	269476	10.79	101564	16.15
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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.

C lumn used to flag internal standard area values with an a terisk

FORM VIII SV-1

4 1/87 Rev. 247

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Nam :EA LABORATORIES Contract:_____

Lab Code: EAENG Case No.: Willow Grove SAS No.: . SDG No.

Lab File ID (Standard): > DD296 50PPm std. Date Analyzed: 4/21/89

Instrument ID: GC/MS #4 Time Analyzed: 9:14

	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
12 HOUR STD	112203.	20.74	35589.	29.16	33476	33.37
UPPER LIMIT	224406	21.24	71178	29.66	66952	33.87
LOWER LIMIT	56101	20.24	17794	28.66	16738	32.87
EPA SAMPLE NO.						
1178 01 95L.S-2A	101220	20.74	39296	29.15	40325	33.36
1182 02 NL.S-1A	82033	20.77	29501	29.19	27033	33.42
1184/85 03 Rinsate Blk (MS)	105019	20.76	37001	29.17	35840	33.37
1184/86 04 Rinsate Blk (MSD)	85705	20.75	25179	29.15	23575	33.38
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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 asteri k

FORM VIII SV-2 1/87 R v.

D. Raw QC Data

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
BLANK(#539)

EA # 1176-1183

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/05/89 19:21
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	980.	U
111-44-4	bis(2-Chloroethyl)ether	980.	U
95-57-8	2-Chlorophenol	980.	U
541-73-1	1,3-Dichlorobenzene	980.	U
106-46-7	1,4-Dichlorobenzene	980.	U
100-51-6	Benzyl Alcohol	980.	U
95-50-1	1,2-Dichlorobenzene	980.	U
95-48-7	2-Methylphenol	980.	U
39638-32-9	bis(2-Chloroisopropyl)ether	980.	U
106-44-5	4-Methylphenol	980.	U
621-64-7	N-Nitroso-Di-n-propylamine	980.	U
67-72-1	Hexachloroethane	980.	U
98-95-3	Nitrobenzene	980.	U
78-59-1	Isophorone	980.	U
88-75-5	2-Nitrophenol	980.	U
105-67-9	2,4-Dimethylphenol	980.	U
65-85-0	Benzoic Acid	4900.	U
111-91-1	bis(2-Chloroethoxy)methane	980.	U
120-83-2	2,4-Dichlorophenol	980.	U
120-82-1	1,2,4-Trichlorobenzene	980.	U
91-20-3	Naphthalene	980.	U
106-47-8	4-Chloroaniline	980.	U
87-68-3	Hexachlorobutadiene	980.	U
59-50-7	4-Chloro-3-methylphenol	980.	U
91-57-6	2-Methylnaphthalene	980.	U
77-47-4	Hexachlorocyclopentadiene	980.	U
88-06-2	2,4,6-Trichlorophenol	980.	U
95-95-4	2,4,5-Trichlorophenol	4900.	U
91-58-7	2-Chloronaphthalene	980.	U
88-74-4	2-Nitroaniline	4900.	U
131-11-3	Dimethylphthalate	980.	U
208-96-8	Acenaphthylene	980.	U
99-09-2	3-Nitroaniline	4900.	U

C.A.S. Number		ug/L or (ug/Kg) (Circle One)	
83-32-9	Acenaphthene	980.	U
51-28-5	2,4-Dinitrophenol	4900.	U
100-02-7	4-Nitrophenol	4900.	U
132-64-9	Dibenzofuran	980.	U
121-14-2	2,4-Dinitrotoluene	980.	U
606-20-2	2,6-Dinitrotoluene	980.	U
84-66-2	Diethylphthalate	980.	U
7005-72-3	4-Chlorophenyl-phenylether	980.	U
86-73-7	Fluorene	980.	U
100-01-6	4-Nitroaniline	980.	U
534-52-1	4,6-Dinitro-2-methylphenol	4900.	U
86-30-6	N-Nitrosodiphenylamine (1)	980.	U
101-55-3	4-Bromophenyl-phenylether	980.	U
118-74-1	Hexachlorobenzene	980.	U
87-86-5	Pentachlorophenol	4900.	U
85-01-8	Phenanthrene	980.	U
120-12-7	Anthracene	980.	U
84-74-2	Di-n-Butyl phthalate	980.	U
206-44-0	Fluoranthene	980.	U
129-00-0	Pyrene	980.	U
85-68-7	Butylbenzylphthalate	980.	U
91-94-1	3,3'-Dichlorobenzidine	2000.	U
56-55-3	Benzo(a)Anthracene	980.	U
117-81-7	bis(2-Ethylhexyl)phthalate	980.	U
218-01-9	Chrysene	980.	U
117-84-0	Di-n-Octyl phthalate	980.	U
205-99-2	Benzo(b)Fluoranthene	980.	U
207-08-9	Benzo(k)Fluoranthene	980.	U
50-32-8	Benzo(a)Pyrene	980.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	980.	U
53-70-3	Dibenzo(a,h)Anthracene	980.	U
191-24-2	Benzo(g,h,i)Perylene	980.	U

(1)-Cannot be separated from diphenylamine

Laboratory Name: EA Laboratories

Case No: Willow Grove

Sample Number: Blank # 539

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	—	Unknown	BNA	5.13	760.00
2.	—	Unknown	BNA	29.81	3100.00
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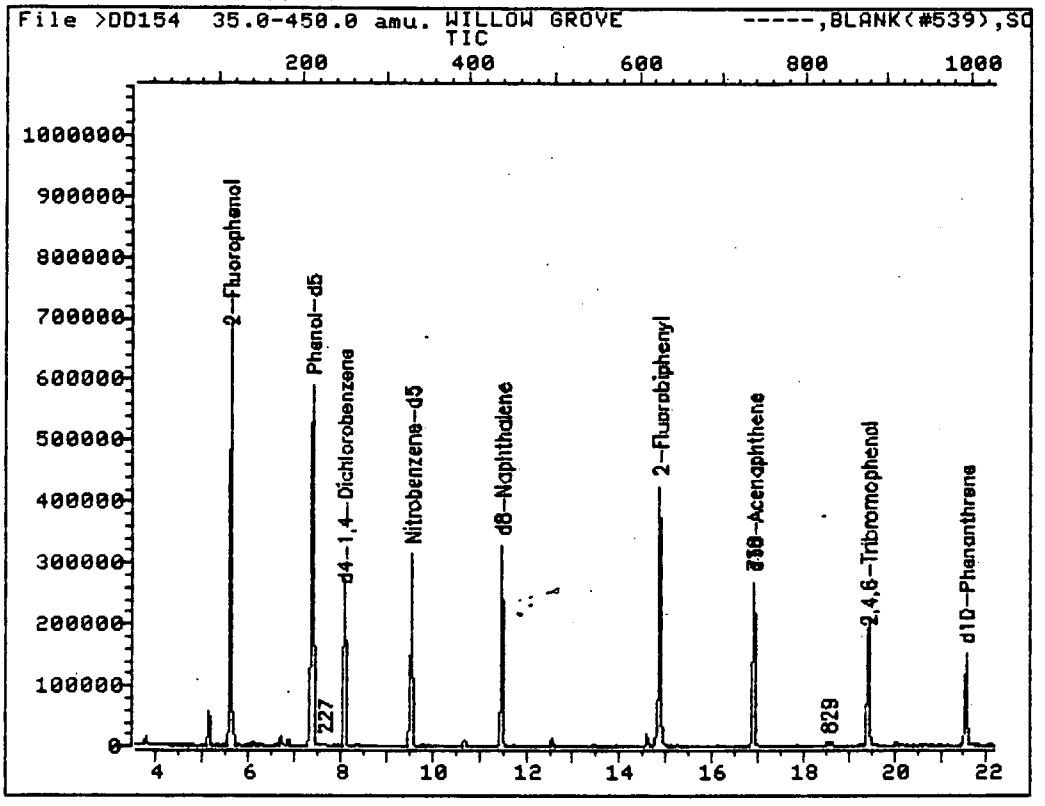
TOTAL ION CHROMATOGRAM



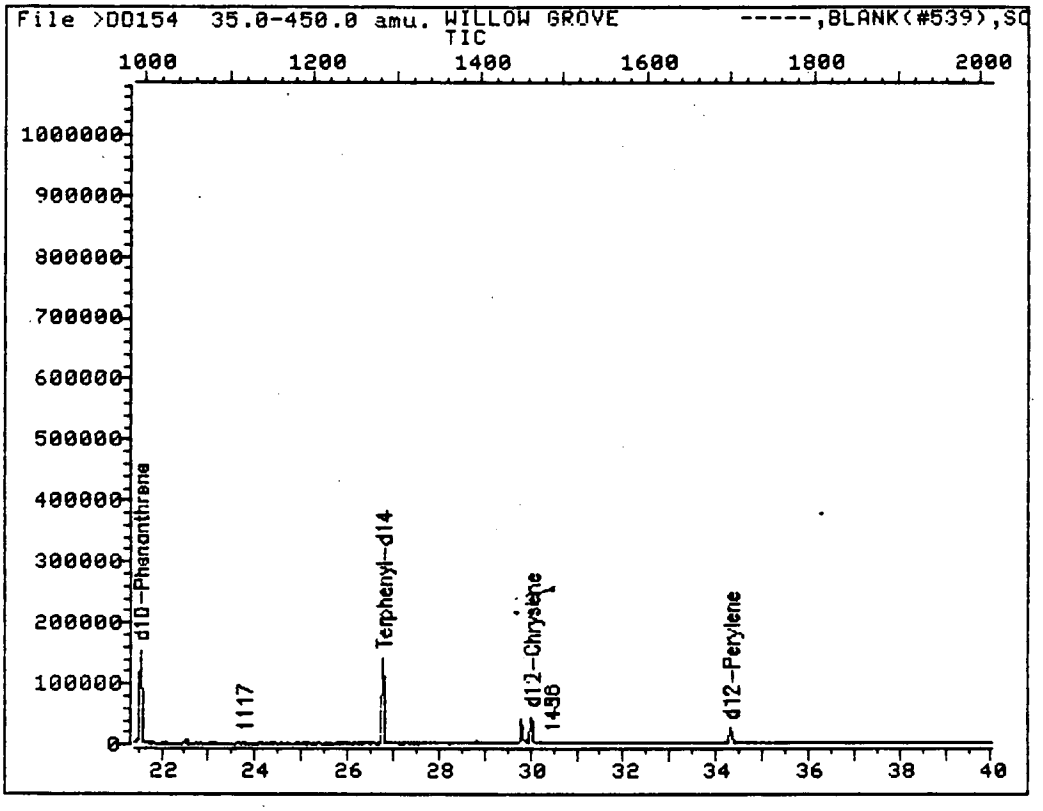
Data File: >DD154::D1 Quant Output File: ^DD154::QT
Name: WILLOW GROVE
Misc: -----,BLANK(#539),SOIL,10.23G,1, FOR EA#1176-1183 (97.BTL# 5

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890405 16:24

Operator ID: BHADRA
Quant Time: 890405 20:04
Injected at: 890405 19:21

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DD154::D1 Quant Output File: ^DD154::QT
Name: WILLOW GROVE
Misc: -----,BLANK(#539),SOIL,10.23G,1, FOR EA#1176-1183 <97.BTL# 5

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890405 16:24

Operator ID: BHADRA
Quant Time: 890405 20:04
Injected at: 890405 19:21

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 890405 20:04
Output File: ^DD154::QT Injected at: 890405 19:21
Data File: >DD154::D1 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: -----,BLANK(#539),SOIL,10.23G,1, FOR EA#1176-1183 (97.BTL# 5

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890405 16:24

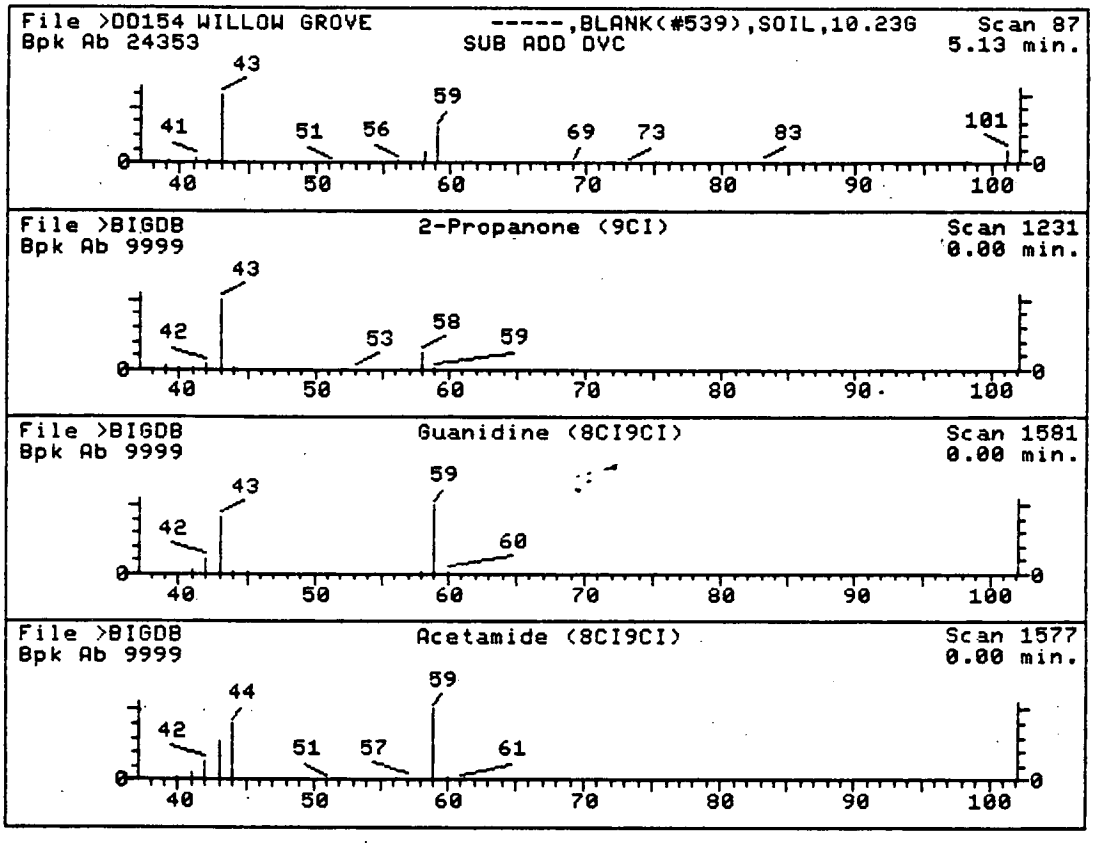
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	8.08	152.0	128833	40.00	NG	9
2)	2-Fluorophenol	5.60	112.0	602459	142.27	NG ✓71%	9
3)	Phenol-d5	7.39	99.0	827233	162.27	NG ✓81%	7
4)	Phenol	0.00	94.0	0	0.00	NG	
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	7.67	128.0	951	~~.21 NG~~		9
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	11.49	136.0	446487	40.00	NG	8
17)	Nitrobenzene-d5	9.55	82.0	326791	50.10	NG ✓50%	8
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	16.92	164.0	169190	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	14.87	172.0	444907	50.02	NG ✓50%	9
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	16.92	163.0	54547	~~9.24 NG~~		5
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	

Output File:^DD154::

Data File:>DD154::D1

	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	18.57	149.0	2680	~~.56~~	~~NG~~	9
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	21.55	188.0	174329	40.00	NG	9
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	19.43	329.9	57259	129.76	NG ~65%	9
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	23.78	149.0	3935	~~.65~~	~~NG~~	9
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	30.03	240.0	38551	40.00	NG	8
63)	Pyrene	0.00	202.0	0	0.00	NG	
64)	Terphenyl-d14	26.79	244.0	138813	49.41	NG ~49%	9
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	30.46	149.0	939	~~.47~~	~~NG~~	9
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	34.32	264.0	26378	40.00	NG	9
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



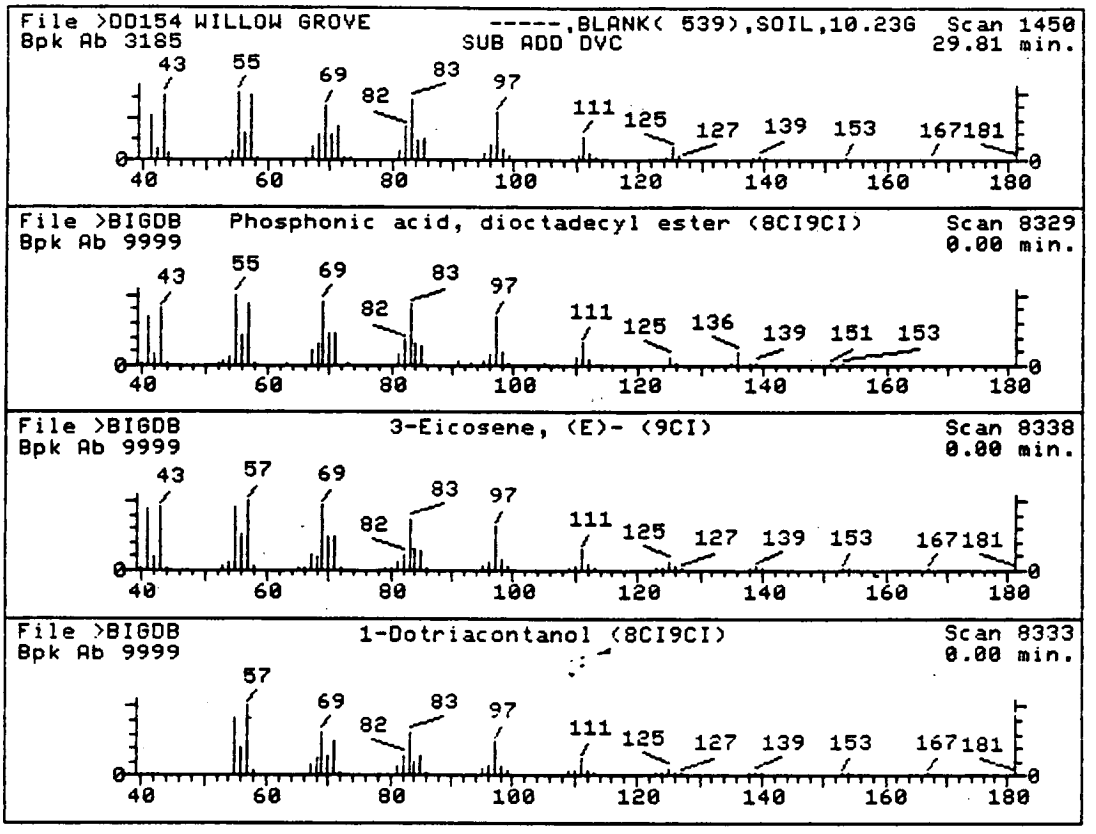
Ret ntion time = 5.13 unknown

Area = 147782.0 Tentative Concentration is 760.00

1. 2-Propanone (9CI)	58 C3H6O
2. Guanidine (8CI9CI)	59 CH5N3
3. Acetamide (8CI9CI)	59 C2H5NO

Sample file: >DD154 Spectrum #: 87
Search speed: 2 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	26*	67641	1231	"BIGDB	20	51	1	0	71	44	8	1
2.	25*	113008	1581	"BIGDB	20	47	1	0	52	49	7	1
3.	11*	60355	1577	"BIGDB	20	55	2	0	52	62	2	1



Unknown

Retention time = 29.81

Area = 134391.0 Tentative Concentration is 3100.00

1.	Phosphonic acid, dioctadecyl ester (8CI9CI)	586 C36H7503P
2.	3-Eicosene, (E)- (9CI)	280 C20H40
3.	1-Dotriacontanol (8CI9CI)	466 C32H660
4.	5-Eicosene, (E)- (9CI)	280 C20H40
5.	9-Eicosene, (E)- (9CI)	280 C20H40
6.	1-Tetracosanol (8CI9CI)	354 C24H500
7.	Hexadecane, 1,1-bis(dodecyloxy)- (9CI)	594 C40H8202

Sample file: >DD154 Spectrum #: 1450
Search speed: 2 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	86	19047859	8329	"BIGDB	139	61	2	0	83	10	59	7
2.	84	74685339	8338	"BIGDB	137	29	2	-2	64	10	55	6
3.	83	6624799	8333	"BIGDB	132	49	2	-1	95	6	54	5
4.	70	74685306	8337	"BIGDB	134	21	2	-2	83	16	32	5
5.	67	74685293	8336	"BIGDB	115	55	3	-1	72	15	34	2
6.	66	506514	8291	"BIGDB	121	43	2	-2	99	16	31	4
7.	59	56554644	5501	"BIGDB	110	83	2	-1	76	25	27	3

LIBRARY SEARCH SUMMARY

MS Data File:>DD154::D1 Analyst:BHADRA MS

Name:WILLOW GROVE Date/Time: 4/05/89 19:21
Misc:-----,BLANK(#539),SOIL,10.23G,1, FOR EA#1176-1183 ?97.BTL# 5

The following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Nearest ISTD Area
1	5.13	147782	76063
2	29.81	134391	16725

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
BLANK #535

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/06/89 23:18
Conc/Dil Factor: 1.00000
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	10.	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

Laboratory Name: EA LABORATORIES

Cas No: WILLOW GROVE

Sample Number
BLANK # 535

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT ~~or Scan Number~~	Estimated Concentration (ug/l ~~or ug/kg~~)
1.	—	Unknown	BNA	4.36	450 J
2.	—	Unknown		4.76	52 J
3.	—	Unknown		5.12	450 J
4.	—	Unknown		6.98	13 J
5.	—	Unidentified alkane		33.15	40 J
6.					
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10.					
11.					
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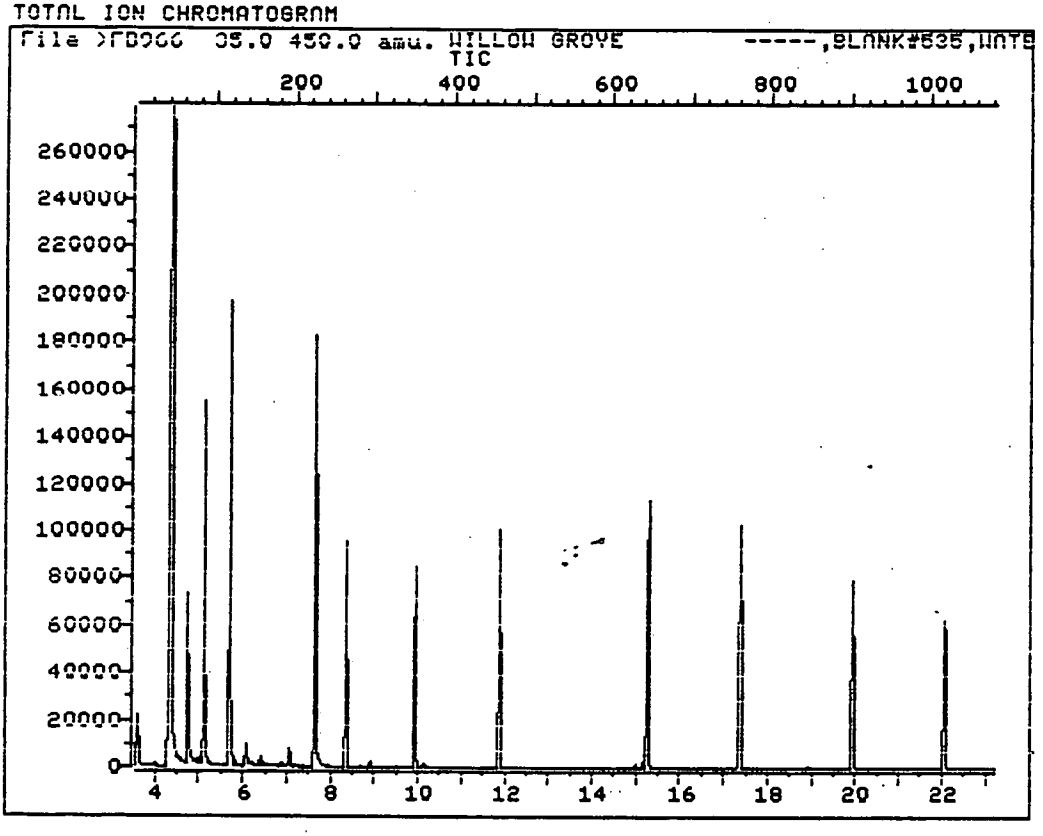
TOTAL ION CHROMATOGRAM



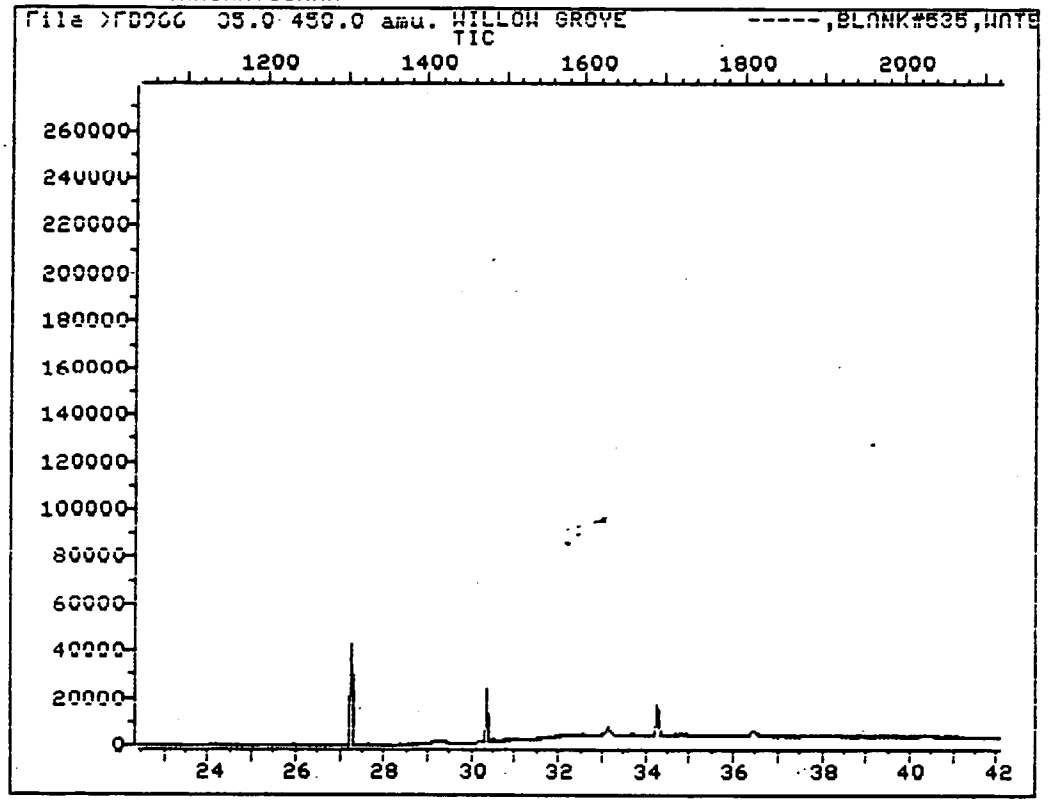
Data File: >FB966::D4 Quant Output File: ^FB966::QT
Name: WILLOW GROVE
Misc: -----,BLANK#535,WATER,1000,2, BL#535FOR1184 BTL# 2

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890407 01:05

Operator ID: UNCLE
Quant Time: 890407 02:13
Inj cted at: 890406 23:18

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FB966::D4 Quant Output File: ^FB966::QT
Name: WILLOW GROVE
Misc: -----,BLANK#535,WATER,1000,2, BL#535FOR1184 BTL# 2

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890407 01:05

Operator ID: UNCLE
Quant Time: 890407 02:13
Injected at: 890406 23:18

TIC page 2 of 2

QUANT REPORT

Op rator ID: UNCLE Quant Rev: 6 Quant Time: 890407 02:13
Output Fil : ^FB966::QT Injected at: 890406 23:18
Data File: >FB966::D4 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: -----,BLANK#535,WATER,1000,2, BL#535FOR1184 BTL# 2

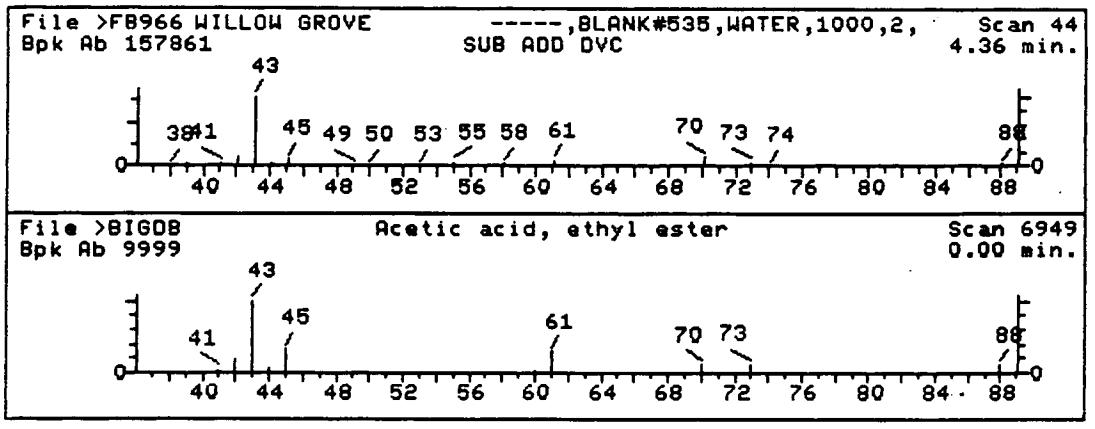
ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890407 01:05

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	8.35	152.0	34157	40.00	NG	97
2)	2-Fluorophenol	5.70	112.0	91697	83.40	NG 83%	94
3)	Phenol-d5	7.64	99.0	132608	90.71	NG 91%	92
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	11.87	136.0	130962	40.00	NG	87
17)	Nitrobenzene-d5	9.93	82.0	62418	50.08	NG 100%	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	17.38	164.0	59870	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	15.28	172.0	91630	49.90	NG 100%	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dim thylphthalate	17.38	163.0	19638	~~9.80~~	NG	54
39)	Acenaphthylene	0.00	152.0	0	0.00	NG	
40)	3-Nitroanilin	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	

Output File:^FB966:: Data File:>FB966::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)	Fluor ne	0.00	166.0	0	0.00	NG		
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG		
51)	*d10-Phenanthrene	22.06	188.0	67199	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	19.94	329.9	28498	116.24	NG	116%	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	0.00	149.0	0	0.00	NG		
61)	Fluoranthene	0.00	202.0	0	0.00	NG		
62)	d12-Chrysene	30.35	240.0	21630	40.00	NG		99
63)	Pyrene	0.00	202.0	0	0.00	NG		
64)	Terphenyl-d14	27.27	244.0	45090	64.58	NG	129%	90
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	0.00	149.0	0	0.00	NG		
69)	Chrysene	0.00	228.0	0	0.00	NG		
70)	*d12-Perylene	34.28	264.0	17704	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)	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



Ret ntion time = 4.36

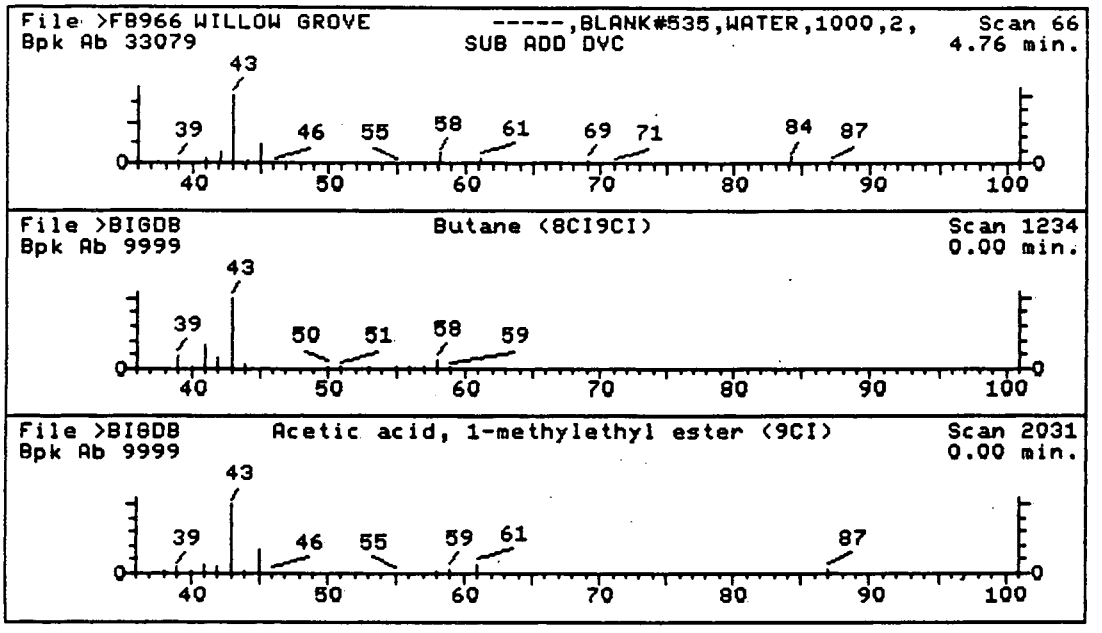
Area = 1316652. Tentative Concentration is 450.00

1. Acetic acid, ethyl ester 88 C4H8O2

Unknown

Sample file: >FB966 Spectrum #: 44
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.	11*	141786	6949	"BIGDB	27	50	1	0	28	63	2	15



Retention time = 4.76

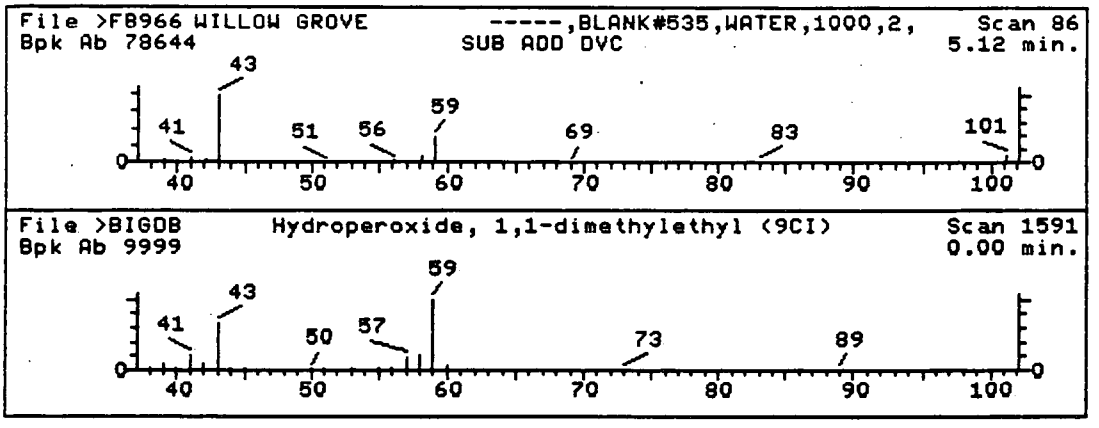
Area = 149975.0 Tentative Concentration is 52.00

1. Butane (8CI9CI) 58 C4H10
2. Acetic acid, 1-methylethyl ester (9CI) 102 C5H10O2

Unknown

Sample file: >FB966 Spectrum #: 66
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*	106978	1234	"BIGDB	23	56	2	0	100	33	12	13
2.	25	108214	2031	"BIGDB	36	43	1	0	66	42	8	13



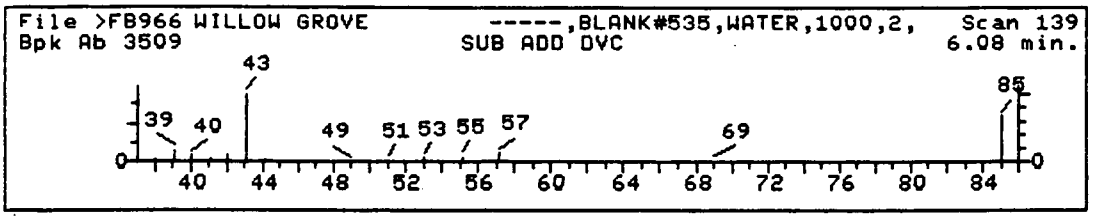
Retention time = 5.12

Area = 295389.0 Tentative Concentration is 100.00

1. Hydroperoxide, 1,1-dimethylethyl (9CI) Unknown 90 C4H10O2

Sample file: >F8966 Spectrum #: 86
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	75912	1591	"BIGDB	34	31	1	0	35	51	5	12



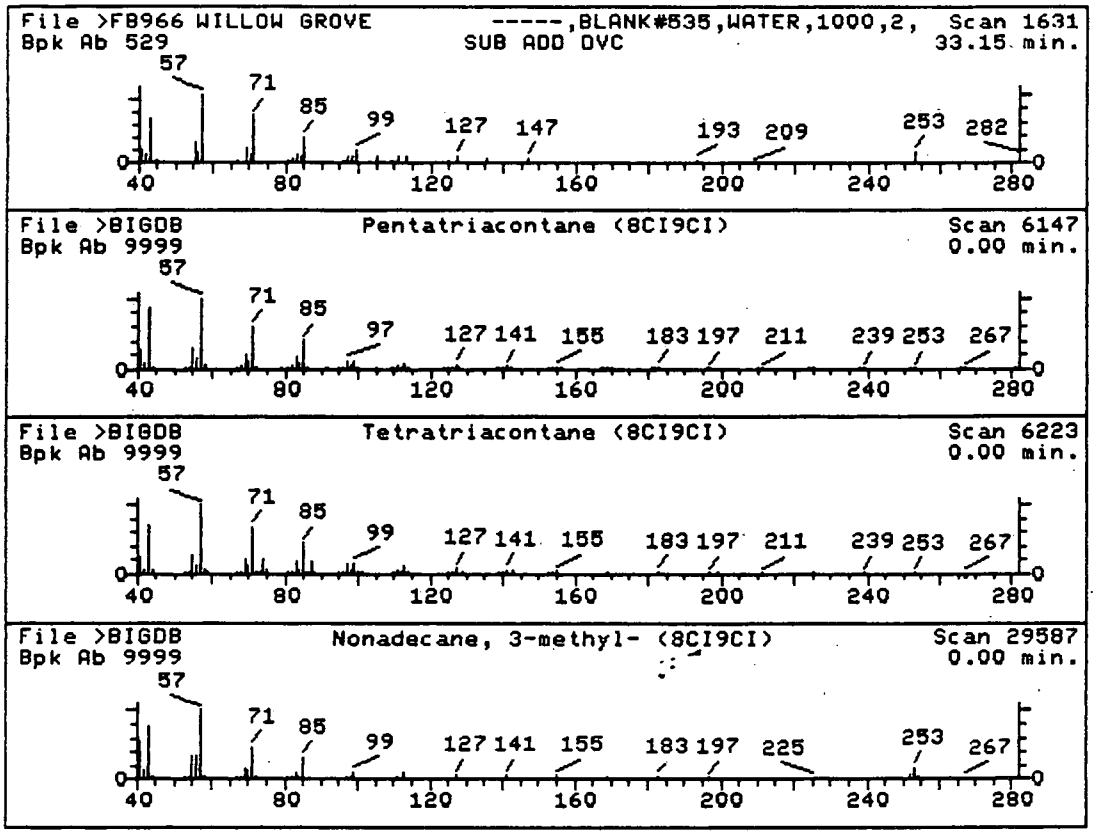
Retention time = 6.08

Area = 39078.00 Tentative Concentration is 13.00

Unknown

Sample file: >FB966 Spectrum #: 139

No data base entries were retrieved.



Retention time = 33.15

Area = 26928.00 Tentative Concentration is 40.00

1.	Pentatriacontane (8CI9CI)	492	C35H72
2.	Tetratriacontane (8CI9CI)	478	C34H70
3.	Nonadecane, 3-methyl- (8CI9CI)	282	C20H42
4.	Eicosane (8CI9CI)	282	C20H42
5.	H ptacosane (8CI9CI)	380	C27H56
6.	Eicosane, 2-methyl- (8CI9CI)	296	C21H44
7.	Tetratetracontane (8CI9CI)	618	C44H90

UNIDENTIFIED ALKANE

Sample file: >FB966 Spectrum #: 1631
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.	67	630079	6147	"BIGDB	97	54	2	-1	76	13	34	23
2.	60	14167590	6223	"BIGDB	84	79	3	0	84	15	30	16
3.	58*	6418457	29587	"BIGDB	62	81	3	0	85	20	25	29
4.	56*	112958	6286	"BIGDB	63	76	2	0	72	32	22	41
5.	54	593497	6220	"BIGDB	89	64	2	0	91	23	22	26
6.	52	1560845	29636	"BIGDB	77	67	3	0	95	16	20	14
7.	48	7098228	8906	"BIGDB	76	80	2	0	93	25	17	19

LIBRARY SEARCH SUMMARY

MS Data File:>FB966::D4 Analyst:UNCLE MS

Name:WILLOW GROVE Date/Time: 4/06/89 23:18
Misc:-----,BLANK#535,WATER,1000,2, BL#535FOR1184 BTL# 2

The following hits are >10% of the nearest ISTD.

Peak # in PBM file	Retention Time	Peak Area	10% of Nearest ISTD Area
1	4.36	1316652	23221
2	4.76	149975	23221
3	5.12	295389	23221
4	6.08	39078	23221
5	33.15	26928	5356

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1184(MS)

Rinsate Blank

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

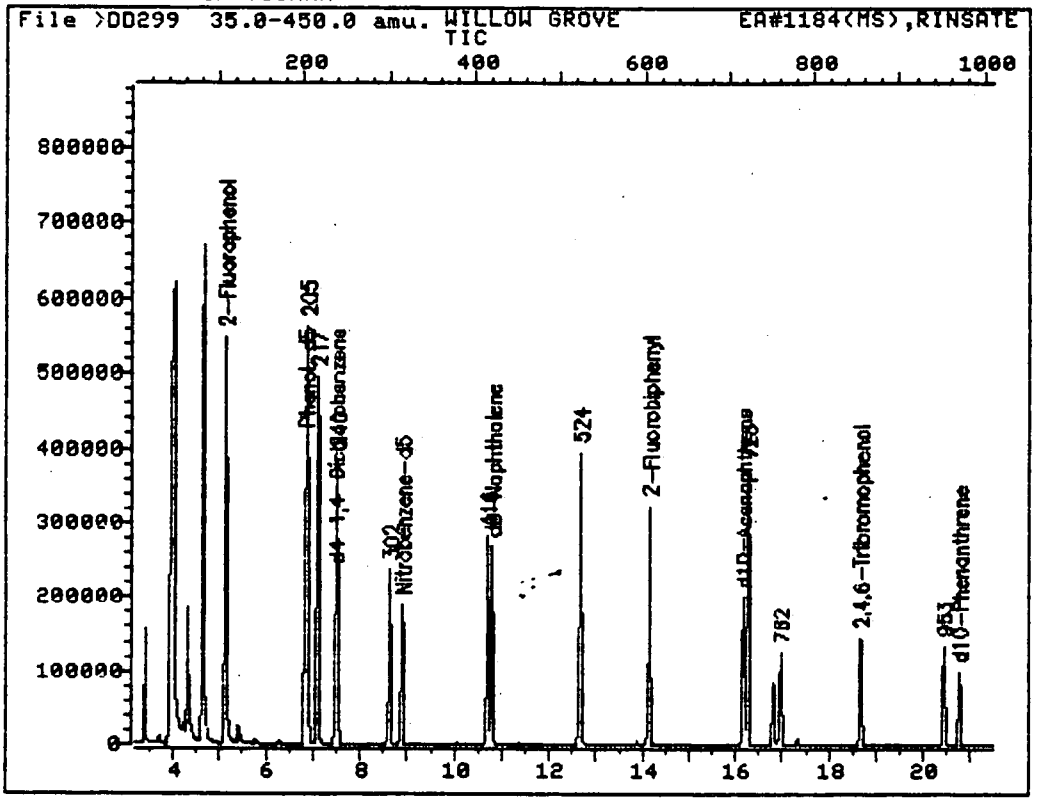
Concentration: (Low) Medium (Circle One)
Date Extracted: 3/31/89
Date Analyzed: 4/21/89 13:05
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

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	280.	
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	300.	
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	130.	
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	150.	
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	130.	
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	290.	
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
83-32-9	Acenaphthene	150.	
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	270.	
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	150.	
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	10.	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	270.	
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	140.	
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

TOTAL ION CHROMATOGRAM



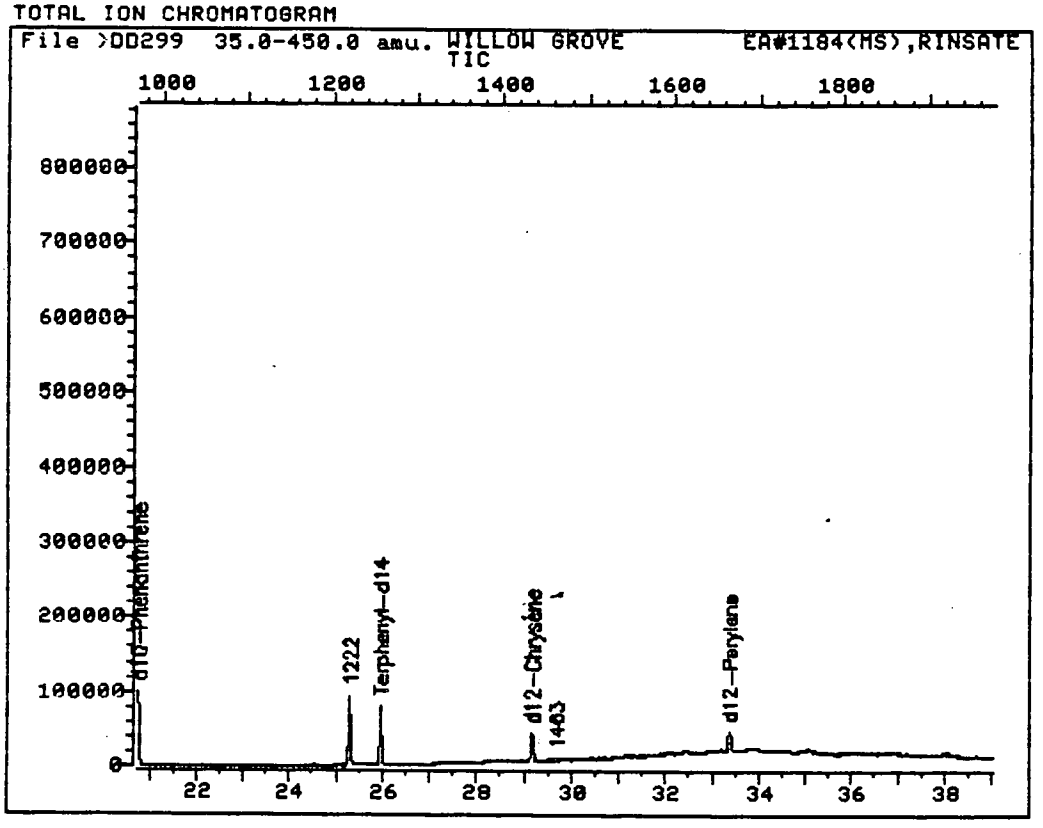
Data File: >DD299::D1 Quant Output File: ^DD299::D1
Name: WILLOW GROVE
Misc: EA#1184(MS),RINSATE BLANK,WATER,1000mL,2 (2) BTL# 2

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

Operator ID: BHADRA
Quant Time: 890421 13:48
Injected at: 890421 13:05

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >DD299::D1 Quant Output File: ^DD299::D1
Name: WILLOW GROVE
Misc: EA#1184(MS),RINSATE BLANK,WATER,1000mL,2 (2) BTL# 2

Id File: IDDCLP::8D
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

Operator ID: BHADRA
Quant Time: 890421 13:48
Injected at: 890421 13:05

TIC page 2 of 2

QUANT REPORT

Operator ID: BHADRA Quant Rev: 6 Quant Time: 890421 13:48
Output File: ^DD299::D1 Injected at: 890421 13:05
Data File: >DD299::D1 Dilution Factor: 1.00000
Name: WILLOW GROVE
Mi c: EA#1184(MS),RINSATE BLANK,WATER,1000mL,2 (2) BTL# 2

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	7.48	152.0	88635	40.00	NG	9
2)	2-Fluorophenol	5.13	112.0	388259	125.58	NG ✓126	8
3)	Phenol-d5	6.85	99.0	434233	128.78	NG ✓129	8 7
4)	Phenol	6.89	94.0	453051	✓137.83	NG	7
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	7.10	128.0	428647	✓150.28	NG	9
7)	1,3-Dichlorobenzene	7.52	146.0	211003	~~64.71~~	~~NG~~	9
8)	1,4-Dichlorobenzene	7.52	146.0	211003	✓64.66	NG	9
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	8.64	70.0	144484	✓77.17	NG	8
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	10.80	136.0	321423	40.00	NG	8
17)	Nitrobenzene-d5	8.90	82.0	165926	61.75	NG ✗124	8
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	10.71	180.0	163543	✓66.23	NG	9
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	12.66	107.0	248939	✓143.50	NG	8
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	16.16	164.0	122756	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	14.15	172.0	272067	56.16	NG ✓112	89
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	16.27	152.0	127077	~~22.99~~	~~NG~~	6
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Ac naphthene	16.27	153.0	264994	✓73.66	NG	9
42)	2,4-Dinitroph nol	0.00	184.0	0	0.00	NG	

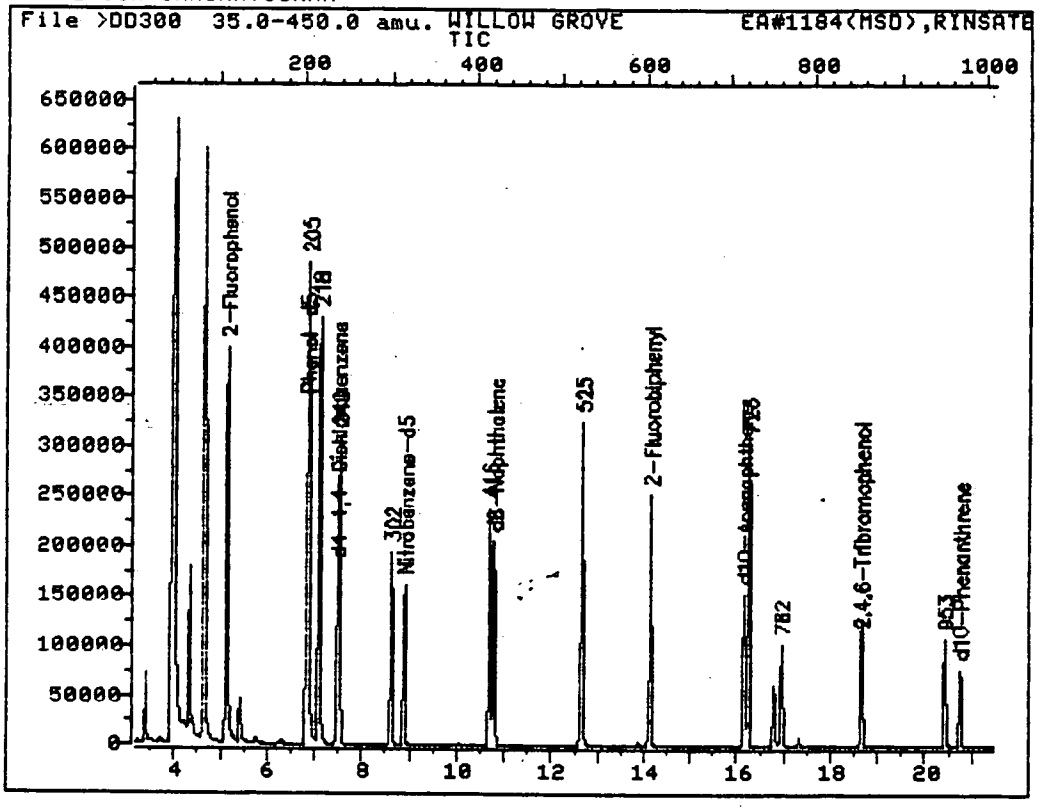
Output File:^DD299::

Data File:>DD299::D1

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	16.81	109.0	33950M	136.48	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	16.97	165.0	72365	73.07	NG	8
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	20.76	188.0	105019	40.00	NG	9
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	18.66	329.9	44512	125.97	NG	9
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	20.43	266.0	42916	134.41	NG	9
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	29.17	240.0	37001	40.00	NG	9
63)	Pyrene	25.31	202.0	127314	71.81	NG	9
64)	Terphenyl-d14	25.96	244.0	77380	56.99	NG	8
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	29.68	149.0	883	.53	NG	7
69)	Chrysene	0.00	228.0	0	0.00	NG	
70)	*d12-Perylene	33.37	264.0	35840	40.00	NG	9
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

TOTAL ION CHROMATOGRAM



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Name: WILLOW GROVE
Misc: EA#1184(MSD),RINSATE BLANK,WATER,1000mL,2 <2> BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

Operator ID: BHADRA
Quant Time: 890421 14:37
Injected at: 890421 13:55

TIC page 1 of 2

Lab Name : EA LABORATORIES
Case No : WILLOW GROVE

Sample Number
EA#1183(MS),NLS-18

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 03/31/89
Date Analyzed: 4/06/89 6:06
Conc/Dil Factor: 1.00000
Percent Moisture (Decanted) N/A

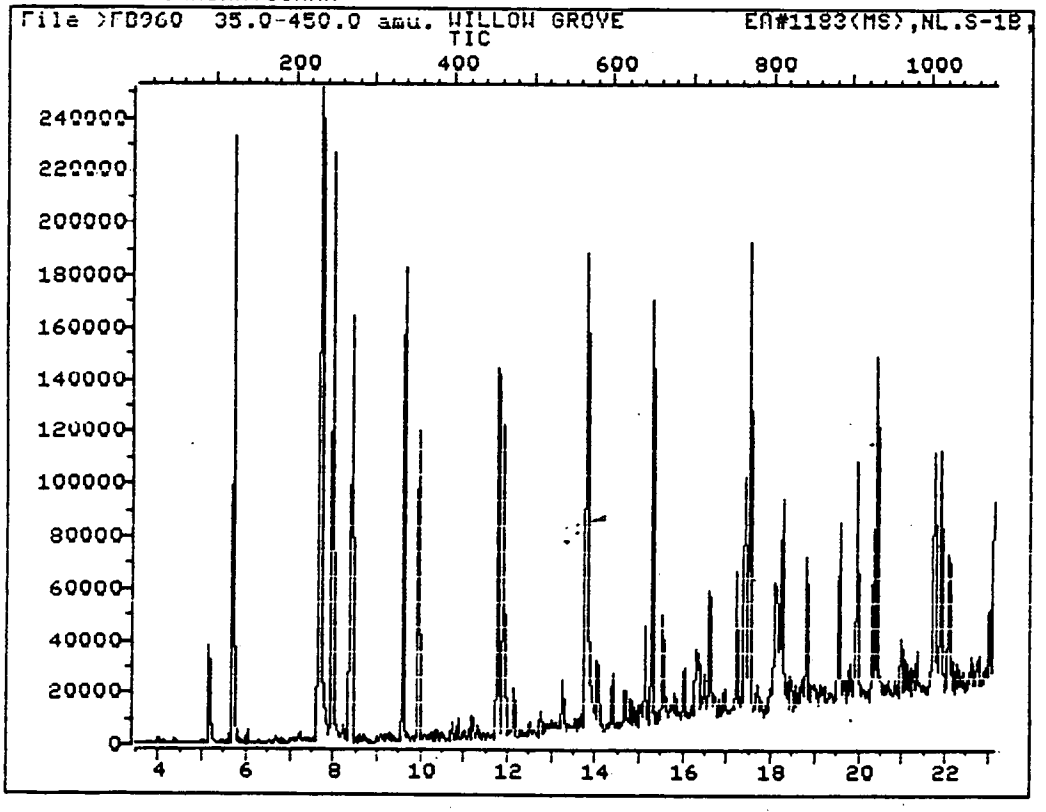
GPC Cleanup __ Yes L No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction __ Yes

C.A.S. Number		ug/L or (ug/Kg) (Circle One)	
108-95-2	Phenol	14000.	
111-44-4	bis(2-Chloroethyl)ether	1100.	U
95-57-8	2-Chlorophenol	17000.	
541-73-1	1,3-Dichlorobenzene	1100.	U
106-46-7	1,4-Dichlorobenzene	9600.	
100-51-6	Benzyl Alcohol	1100.	U
95-50-1	1,2-Dichlorobenzene	1100.	U
95-48-7	2-Methylphenol	1100.	U
39638-32-9	bis(2-Chloroisopropyl)ether	1100.	U
106-44-5	4-Methylphenol	1100.	U
621-64-7	N-Nitroso-Di-n-propylamine	13000.	
67-72-1	Hexachloroethane	1100.	U
98-95-3	Nitrobenzene	1100.	U
78-59-1	Isophorone	1100.	U
88-75-5	2-Nitrophenol	1100.	U
105-67-9	2,4-Dimethylphenol	1100.	U
65-85-0	Benzoic Acid	150.	J
111-91-1	bis(2-Chloroethoxy)methane	1100.	U
120-83-2	2,4-Dichlorophenol	1100.	U
120-82-1	1,2,4-Trichlorobenzene	10000.	
91-20-3	Naphthalene	650.	J
106-47-8	4-Chloroaniline	1100.	U
87-68-3	Hexachlorobutadiene	1100.	U
59-50-7	4-Chloro-3-methylphenol	19000.	
91-57-6	2-Methylnaphthalene	1500.	
77-47-4	Hexachlorocyclopentadiene	1100.	U
88-06-2	2,4,6-Trichlorophenol	1100.	U
95-95-4	2,4,5-Trichlorophenol	5700.	U
91-58-7	2-Chloronaphthalene	1100.	U
88-74-4	2-Nitroaniline	5700.	U
131-11-3	Dimethylphthalate	1100.	U
208-96-8	Acenaphthylene	1100.	U
99-09-2	3-Nitroaniline	5700.	U

C.A.S. Number		ug/L or (ug/Kg) (Circle One)	
83-32-9	Acenaphthene	11000.	
51-28-5	2,4-Dinitrophenol	5700.	U
100-02-7	4-Nitrophenol	19000.	
132-64-9	Dibenzofuran	1100.	U
121-14-2	2,4-Dinitrotoluene	8800.	
606-20-2	2,6-Dinitrotoluene	1100.	U
84-66-2	Diethylphthalate	1100.	U
7005-72-3	4-Chlorophenyl-phenylether	1100.	U
86-73-7	Fluorene	180.	J
100-01-6	4-Nitroaniline	1100.	U
534-52-1	4,6-Dinitro-2-methylphenol	5700.	U
86-30-6	N-Nitrosodiphenylamine (1)	1100.	U
101-55-3	4-Bromophenyl-phenylether	1100.	U
118-74-1	Hexachlorobenzene	1100.	U
87-86-5	Pentachlorophenol	20000.	
85-01-8	Phenanthrene	830.	J
120-12-7	Anthracene	120.	J
84-74-2	Di-n-Butyl phthalate	1100.	U
206-44-0	Fluoranthene	1100.	U
129-00-0	Pyrene	9100.	
85-68-7	Butylbenzylphthalate	1100.	U
91-94-1	3,3'-Dichlorobenzidine	2300.	U
56-55-3	Benzo(a)Anthracene	1100.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100.	U
218-01-9	Chrysene	1100.	U
117-84-0	Di-n-Octyl phthalate	1100.	U
205-99-2	Benzo(b)Fluoranthene	1100.	U
207-08-9	Benzo(k)Fluoranthene	1100.	U
50-32-8	Benzo(a)Pyrene	1100.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1100.	U
53-70-3	Dibenzo(a,h)Anthracene	1100.	U
191-24-2	Benzo(g,h,i)Perylene	1100.	U

(1)-Cannot be separated from diphenylamine

TOTAL ION CHROMATOGRAM



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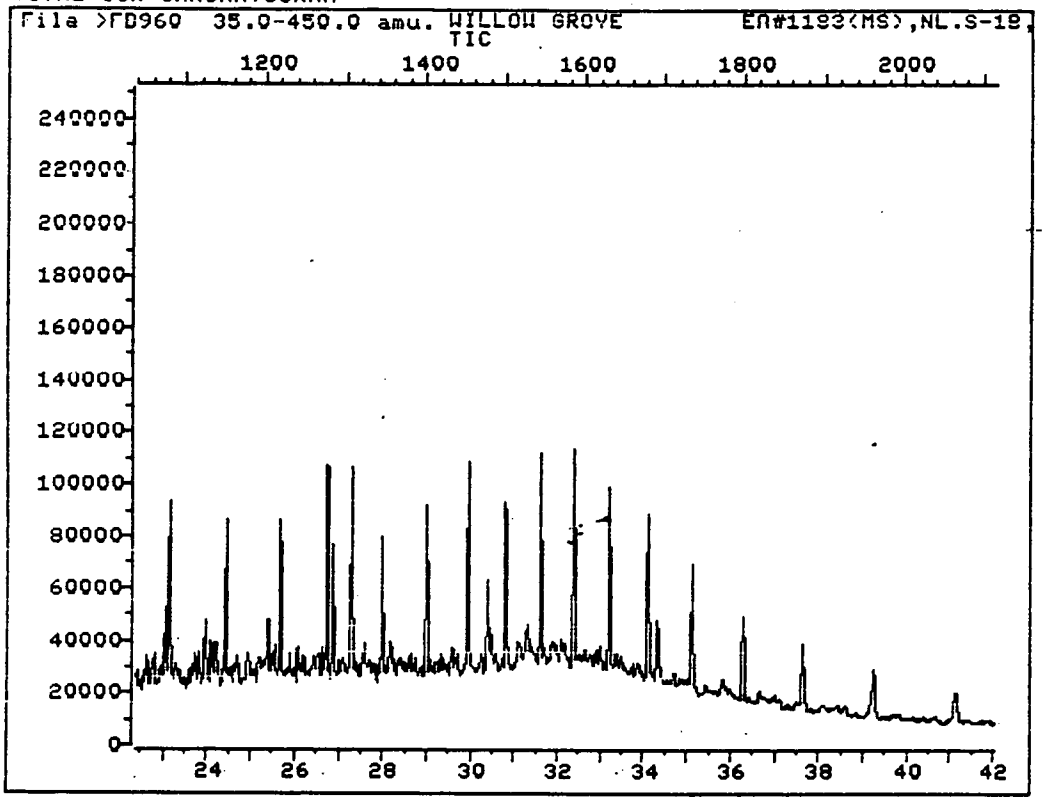
Misc: EA#1183(MS),NL.S-1B,SOIL,10.13,1, BTL#11

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

Operator ID: UNCLE
Quant Time: 890406 06:51
Injected at: 890406 06:06

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FB960::D5 Quant Output File: ^FB960::QT
Nam : WILLOW GROVE
Misc: EA#1183(MS),NL.S-1B,SOIL,10.13,1, BTL#11

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

Operator ID: UNCLE
Quant Time: 890406 06:51
Injected at: 890406 06:06

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890406 06:51
Output File: ^FB960::QT Injected at: 890406 06:06
Data File: >FB960::D5 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#1183(MS),NL.S-1B,SOIL,10.13,1, BTL#11

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890330 10:03

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	8.39	152.0	33991	40.00	NG	98
2)	2-Fluorophenol	5.72	112.0	135689	122.78	NG 61%	95
3)	Phenol-d5	7.69	99.0	176879	135.97	NG 68%	93
4)	Phenol	7.73	94.0	176791	123.29	NG	96
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	7.99	128.0	160875	146.73	NG	96
7)	1,3-Dichlorobenzene	8.30	146.0	90821	~~81.86~~	NG	96
8)	1,4-Dichlorobenzene	8.42	146.0	90821	83.49	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	0.00	108.0	0	0.00	NG	
14)	N-Nitroso-Di-n-propylamine	9.62	70.0	95797	109.73	NG	93
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	11.91	136.0	125270	40.00	NG	87
17)	Nitr benzene-d5	9.96	82.0	93160	66.98	NG 67%	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	11.27	122.0	701	1.35	NG	93
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	11.78	180.0	83466	90.03	NG	93
26)	Naphthalene	11.96	128.0	14799	5.69	NG	96
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	13.80	107.0	138654	169.15	NG	84
30)	2-Methylnaphthalene	14.05	142.0	18987	12.87	NG	90
31)	*d10-Acenaphthene	17.40	164.0	53840	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	15.31	172.0	145542	66.68	NG 67%	93
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Ac naphthylene	16.31	152.0	2268	~~1.01~~	NG	91
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	17.53	153.0	134948	95.05	NG	94
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

Output File:^FB960::

Data File:>FB960::D5

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.13	109.0	15032M	168.84	NG	
44)	Dibenzofuran	18.00	168.0	759	~~.40~~	NG	99
45)	2,4-Dinitrotoluene	18.26	165.0	39425	77.01	NG	75
46)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	NG	
47)	Diethylphthalate	19.03	149.0	844	~~.48~~	NG	81
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	NG	
49)	Fluorene	19.12	166.0	2160	1.60	NG	84
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	22.11	188.0	56713	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	19.97	329.9	41845	162.40	NG	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	21.74	266.0	39737	174.98	NG	98
58)	Phenanthrene	22.18	178.0	9190	7.19	NG	96
59)	Anthracene	22.33	178.0	1242	~~1.02~~	NG	89
60)	Di-n-Butyl phthalate	24.23	149.0	957	~~.54~~	NG	99
61)	Fluoranthene	26.02	202.0	640	~~.65~~	NG	84
62)	*d12-Chrysene	30.40	240.0	27049	40.00	NG	98
63)	Pyrene	26.75	202.0	108549	79.75	NG	99
64)	Terphenyl-d14	27.31	244.0	69609	50.47	NG	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	30.46	228.0	2140	~~3.09~~	NG	94
68)	bis(2-Ethylhexyl)phthalate	0.00	149.0	0	0.00	NG	
69)	Chrysene	30.46	228.0	2140	~~3.51~~	NG	95
70)	*d12-Perylene	34.33	264.0	28482	40.00	NG	93
71)	Di-n-Octyl phthalate	32.45	149.0	551	~~.49~~	NG	83
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
EA#1184(MSD)

Rinsate Blank

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 3/31/89
Date Analyzed: 4/21/89 13:55
Conc/Dil Factor: 1.0
Percent Moisture (Decanted) N/A

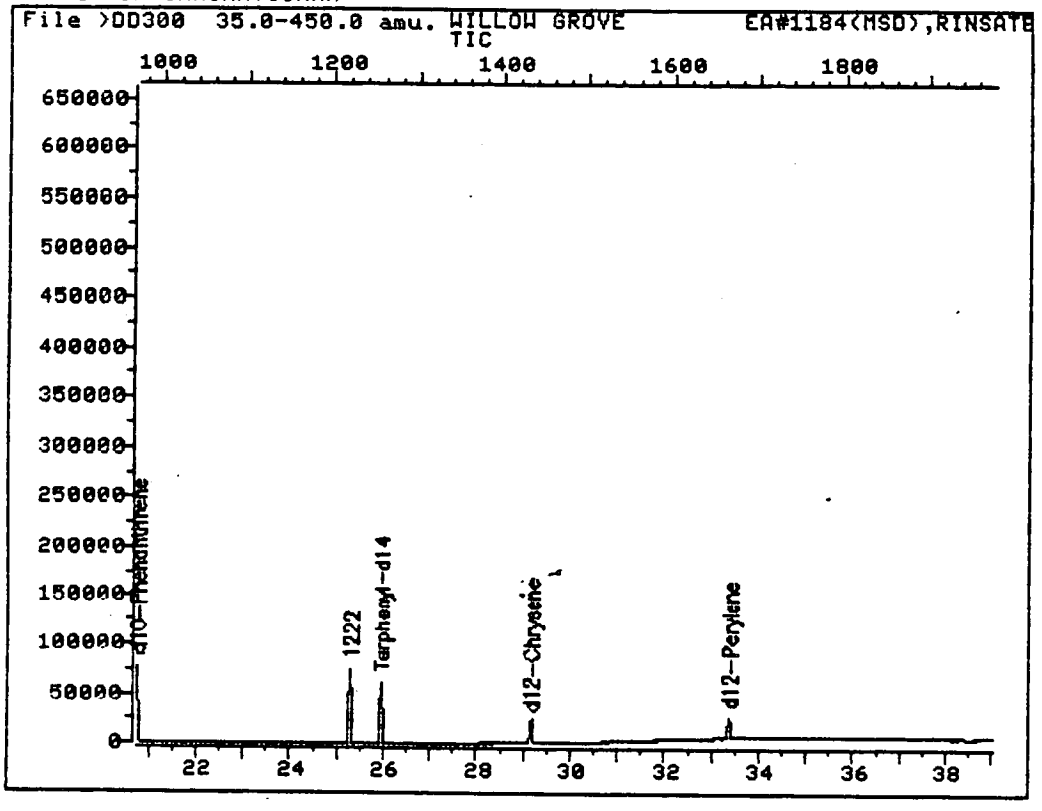
GPC Cleanup __ Yes ✓ No
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ✓ Yes

C.A.S. Number		(ug/L) or ug/Kg (Circle One)	
108-95-2	Phenol	260.	
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	290.	
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	130.	
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	160.	
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	130.	
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	290.	
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	150.	
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	140.	
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	10.	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	270.	
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	180.	
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

TOTAL ION CHROMATOGRAM



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Misc: EA#1184(MSD),RINSATE BLANK,WATER,1000mL,2 <2> BTL# 3

Id File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

Operator ID: BHADRA
Quant Time: 890421 14:37
Injected at: 890421 13:55

TIC page 2 of 2

QUANT REPORT

Op rator ID: BHADRA Quant R v: 6 Quant Time: 890421 14:37
Output File: ^DD300::D1 Injected at: 890421 13:55
Data File: >DD300::D1 Dilution Factor: 1.00000
Name: WILLOW GROVE
Misc: EA#1184(MSD),RINSATE BLANK,WATER,1000mL,2 <2> BTL# 3

ID File: IDDCLP::BD
Title: HSL BNA LIST---INSTRUMENT #4(D)
Last Calibration: 890421 10:13

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	7.48	152.0	77951	40.00	NG	9
2)	2-Fluorophenol	5.14	112.0	324004	119.16	NG x 119 %	9
3)	Phenol-d5	6.84	99.0	374107	126.15	NG x 126 %	8
4)	Phenol	6.88	94.0	380778	131.72	NG	7
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	7.11	128.0	368084	146.73	NG	9
7)	1,3-Dichlorobenzene	7.51	146.0	187364	~~65.33~~	~~NG~~	9
8)	1,4-Dichlorobenzene	7.51	146.0	187364	65.28	NG	9
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	8.64	70.0	130231	79.09	NG	7
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	10.79	136.0	269476	40.00	NG	8
17)	Nitrobenzene-d5	8.91	82.0	145050	64.39	NG x 129 %	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	10.70	180.0	136013	65.70	NG	9
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	12.67	107.0	211833	145.65	NG	9
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	NG	
31)	*d10-Acenaphthene	16.15	164.0	101564	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	14.14	172.0	231219	57.69	NG 115 %	9
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	16.26	152.0	107836	~~23.58~~	~~NG~~	6
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphth n	16.26	153.0	225196	75.66	NG	9
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

Output File:^DD300::

Data File:>DD300::D1

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	16.80	109.0	22497M	109.31	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	16.97	165.0	57218	69.83	NG	8
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	20.75	188.0	85705	40.00	NG	9
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	18.65	329.9	36794	127.59	NG X 128%	9
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	NG	
56)	Hexachlorobenzene	0.00	283.6	0	0.00	NG	
57)	Pentachlorophenol	20.42	266.0	34596	132.77	NG	9
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	29.15	240.0	25179	40.00	NG	9
63)	Pyrene	25.30	202.0	105782	87.68	NG	9
64)	Terphenyl-d14	25.95	244.0	64017	69.29	NG 139%	8
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	33.38	264.0	23575	40.00	NG	9
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
EA#1183(MSD), NL, S-1B

ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted: 05/31/89
Date Analyzed: 4/07/89 5:16
Conc/Dil Factor: 1.00000
Percent Moisture (Decanted) N/A

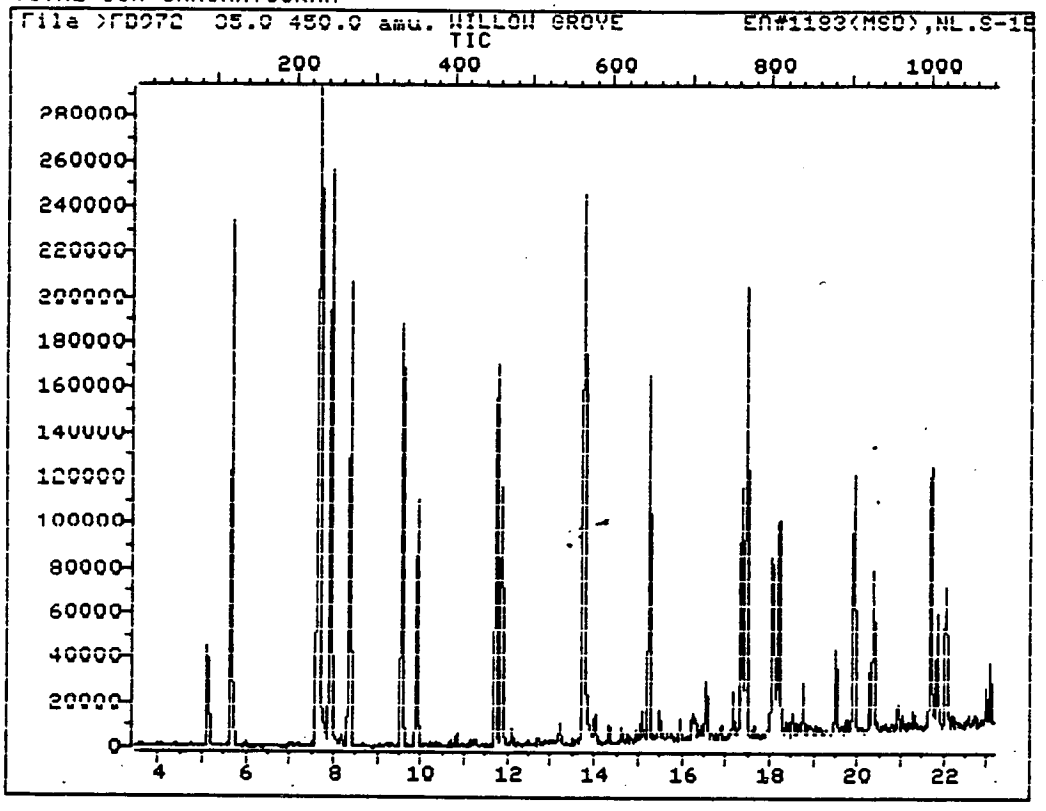
GPC Cleanup __ Yes ~~No~~
Separatory Funnel Extraction __ Yes
Continuous Liquid-Liquid Extraction ~~Yes~~

C.A.S. Number		ug/L or (ug/Kg) (Circle One)	
108-95-2	Phenol	16000.	
111-44-4	bis(2-Chloroethyl)ether	1100.	U
95-57-8	2-Chlorophenol	19000.	
541-73-1	1,3-Dichlorobenzene	1100.	U
106-46-7	1,4-Dichlorobenzene	10000.	
100-51-6	Benzyl Alcohol	1100.	U
95-50-1	1,2-Dichlorobenzene	1100.	U
95-48-7	2-Methylphenol	1100.	U
39638-32-9	bis(2-Chloroisopropyl)ether	1100.	U
106-44-5	4-Methylphenol	1100.	U
621-64-7	N-Nitroso-Di-n-propylamine	12000.	
67-72-1	Hexachloroethane	1100.	U
98-95-3	Nitrobenzene	1100.	U
78-59-1	Isophorone	1100.	U
88-75-5	2-Nitrophenol	1100.	U
105-67-9	2,4-Dimethylphenol	1100.	U
65-85-0	Benzoic Acid	190.	J
111-91-1	bis(2-Chloroethoxy)methane	1100.	U
120-83-2	2,4-Dichlorophenol	1100.	U
120-82-1	1,2,4-Trichlorobenzene	11000.	
91-20-3	Naphthalene	230.	J
106-47-8	4-Chloroaniline	1100.	U
87-68-3	Hexachlorobutadiene	1100.	U
59-50-7	4-Chloro-3-methylphenol	20000.	
91-57-6	2-Methylnaphthalene	530.	J
77-47-4	Hexachlorocyclopentadiene	1100.	U
88-06-2	2,4,6-Trichlorophenol	1100.	U
95-95-4	2,4,5-Trichlorophenol	5700.	U
91-58-7	2-Chloronaphthalene	1100.	U
88-74-4	2-Nitroaniline	5700.	U
131-11-3	Dimethylphthalate	1100.	U
208-96-8	Acenaphthylene	1100.	U
99-09-2	3-Nitroaniline	5700.	U

C.A.S. Number		ug/L or (ug/Kg) (Circle One)	
83-32-9	Acenaphthene	12000.	
51-28-5	2,4-Dinitrophenol	5700.	U
100-02-7	4-Nitrophenol	5700.	U
132-64-9	Dibenzofuran	1100.	U
121-14-2	2,4-Dinitrotoluene	12000.	
606-20-2	2,6-Dinitrotoluene	1100.	U
84-66-2	Diethylphthalate	1100.	U
7005-72-3	4-Chlorophenyl-phenylether	1100.	U
86-73-7	Fluorene	1100.	U
100-01-6	4-Nitroaniline	1100.	U
534-52-1	4,6-Dinitro-2-methylphenol	5700.	U
86-30-6	N-Nitrosodiphenylamine (1)	1100.	U
101-55-3	4-Bromophenyl-phenylether	1100.	U
118-74-1	Hexachlorobenzene	1100.	U
87-86-5	Pentachlorophenol	26000.	
85-01-8	Phenanthrene	330.	J
120-12-7	Anthracene	1100.	U
84-74-2	Di-n-Butyl phthalate	1100.	U
206-44-0	Fluoranthene	1100.	U
129-00-0	Pyrene	15000.	
85-68-7	Butylbenzylphthalate	1100.	U
91-94-1	3,3'-Dichlorobenzidine	2300.	U
56-55-3	Benzo(a)Anthracene	1100.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100.	U
218-01-9	Chrysene	1100.	U
117-84-0	Di-n-Octyl phthalate	1100.	U
205-99-2	Benzo(b)Fluoranthene	1100.	U
207-08-9	Benzo(k)Fluoranthene	1100.	U
50-32-8	Benzo(a)Pyrene	1100.	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1100.	U
53-70-3	Dibenzo(a,h)Anthracene	1100.	U
191-24-2	Benzo(g,h,i)Perylene	1100.	U

(1)-Cannot be separated from diphenylamine

TOTAL ION CHROMATOGRAM



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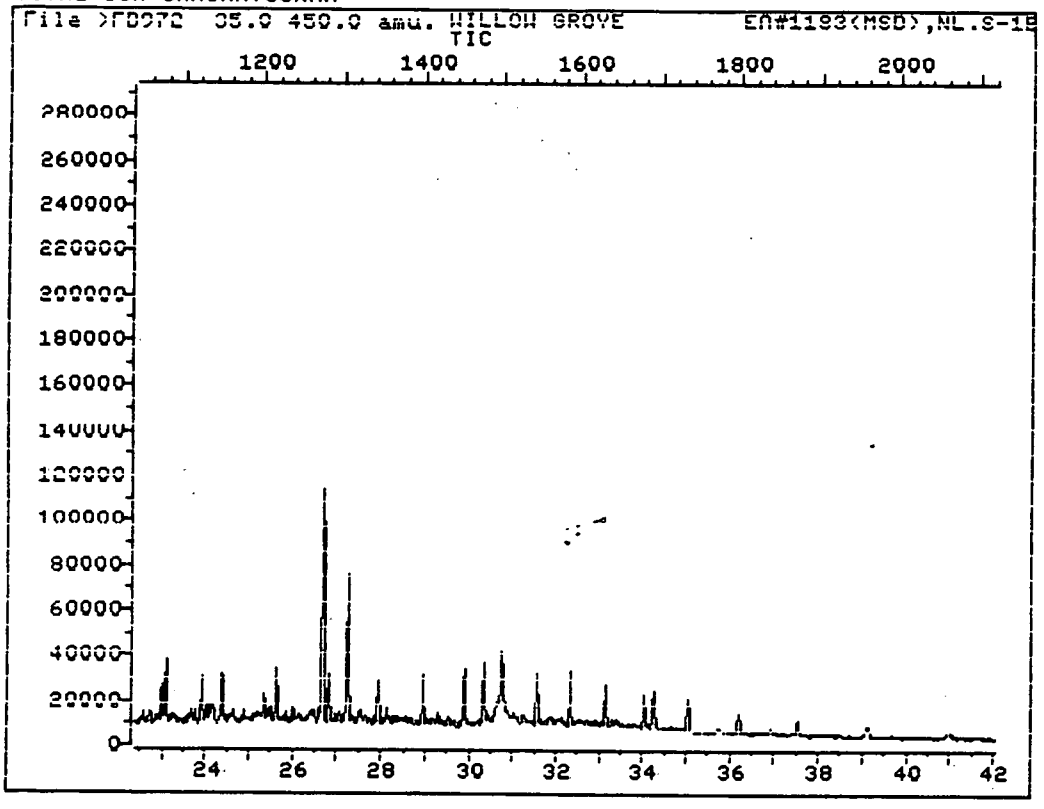
Name: WILLOW GROVE
Misc: EA#1183(MSD),NL.S-1B,SOIL,10.12,1 BTL# 8

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890407 01:05

Op rator ID: UNCLE
Quant Time: 890407 06:02
Injected at: 890407 05:16

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >FB972::D4 Quant Output File: ^FB972::QT
Name: WILLOW GROVE
Misc: EA#1183(MSD),NL.S-1B,SOIL,10.12,1 BTL# 8

Id File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890407 01:05

Operator ID: UNCLE
Quant Time: 890407 06:02
Injected at: 890407 05:16

TIC page 2 of 2

QUANT REPORT

Operator ID: UNCLE Quant Rev: 6 Quant Time: 890407 06:02
Output File: ^FB972::QT Injected at: 890407 05:16
Data File: >FB972::D4 Dilution Factor: 1.00000
Name: WILLOW GROVE
Mi c: EA#1183(MSD),NL.S-1B,SOIL,10.12,1 BTL# 8

ID File: IDFCLP::BD
Title: HSL BNA LIST---INSTRUMENT #6(F)
Last Calibration: 890407 01:05

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	8.33	152.0	38295	40.00	NG	98
2)	2-Fluorophenol	5.67	112.0	138368	112.25	NG 56%	92
3)	Phenol-d5	7.64	99.0	185308	113.06	NG 57%	92
4)	Phenol	7.68	94.0	222826	143.31	NG	97
5)	bis(2-Chloroethyl)ether	0.00	93.0	0	0.00	NG	
6)	2-Chlorophenol	7.93	128.0	183243	162.04	NG	97
7)	1,3-Dichlorobenzene	8.39	146.0	104226	~~89.46~~	NG	99
8)	1,4-Dichlorobenzene	8.39	146.0	104226	89.83	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	9.57	70.0	120985	104.30	NG	94
15)	Hexachloroethane	0.00	117.0	0	0.00	NG	
16)	*d8-Naphthalene	11.86	136.0	151691	40.00	NG	86
17)	Nitrobenzene-d5	9.91	82.0	99303	68.78	NG 69%	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	11.24	122.0	968	1.66	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	11.75	180.0	98949	99.23	NG	94
26)	Naphthalene	11.91	128.0	5804	1.98	NG	94
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	13.76	107.0	176727	172.98	NG	84
30)	2-Methylnaphthalene	14.02	142.0	8235	4.61	NG	92
31)	*d10-Acenaphthene	17.36	164.0	67004	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	15.27	172.0	149396	72.70	NG ~~73%~~	93
37)	2-Nitroaniline	0.00	65.0	0	0.00	NG	
38)	Dimethylphthalate	0.00	163.0	0	0.00	NG	
39)	Acenaphthylene	17.47	152.0	78011	~~38.58~~	NG	69
40)	3-Nitroaniline	0.00	138.0	0	0.00	NG	
41)	Acenaphthene	17.47	153.0	166366	104.66	NG	93
42)	2,4-Dinitrophenol	0.00	184.0	0	0.00	NG	

Output File:^FB972::

Data File:>FB972::D4

	Compound	R.T.	Q ion	Area	Conc	Units	q
43)	4-Nitrophenol	18.07	109.0	25157M	227.16	NG	
44)	Dibenzofuran	0.00	168.0	0	0.00	NG	
45)	2,4-Dinitrotoluene	18.22	165.0	58897	103.05	NG	72
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)	Fluor ne	19.05	166.0	966	~~.64~~	NG	81
50)	4-Nitroaniline	0.00	138.0	0	0.00	NG	
51)	*d10-Phenanthrene	22.06	188.0	72043	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	19.93	329.9	45059	171.44	NG	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	21.69	266.0	52250	229.04	NG	99
58)	Phenanthrene	22.13	178.0	4068	2.85	NG	96
59)	Anthracene	22.13	178.0	4068	~~2.93~~	NG	96
60)	Di-n-Butyl phthalate	24.17	149.0	2102	~~.91~~	NG	89
61)	Fluoranthene	0.00	202.0	0	0.00	NG	
62)	*d12-Chrysene	30.34	240.0	25526	40.00	NG	98
63)	Pyrene	26.70	202.0	128733	131.91	NG	97
64)	T rphenyl-d14	27.24	244.0	66452	80.65	NG	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	34.25	264.0	23266	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

E. Quality Assurance Summary

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EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove — Analysis: TCL semivolatiles

EA Laboratories Report No. 890178 — Method: U.S. EPA-CLP

Reviewed by: William Adams — Date: 7/13/89

1. Water samples were extracted within 5 days of sample receipt (soils samples within 10 days) and analyzed within 40 days of extraction.

✓ Yes ____ N

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 ____ N

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 ____ N

5. Surrogate recovery limits were met for all samples.
See Comments Section

____ Yes X N

6. MS and MSD criteria were met for all samples.
See Comments Section

✓ Yes ____ N

7. Method blank criteria were met for all samples: phthalates are ≤5X CRQL, all other compounds are <CRQL.

✓ Yes ____ No

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(Revised 2 June 1989)

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EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove — Analysis: TCL semivolatiles

EA Laboratories Report No. 890178 — Method: U.S. EPA-CLP

Reviewed by: Wm. Adams — Date: 7/18/89

8. Laboratory control sample criteria were met for all samples.

✓ Yes _____ No

9. Field and equipment blanks: no target compounds were detected in the samples at concentrations <5X the concentration found in the highest associated blank.

✓ Yes _____ No

Comments: ① Because of miscommunication between members of GC/MS lab staff, EA# 1184 MS & 1184MSD had no good runs. The data that has been provided has 4 out of 6 surrogates above upper QC limits. All MS/MSD recoveries are within EPA advisory limits, as are int. std. areas/retention times. In light of these other good recoveries, explanation of surrogate recoveries is difficult; perhaps surrogates were spiked in @ too high a concentration in extractions. The only other run of 1184MS & 1184MSD have low int. std. areas & high MS compound recoveries. The data that has been submitted in with the case is, in my opinion, the better quality of the two runs available for inclusion.

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(Revised 2 June 1989)

5. PESTICIDE DATA

A. QC Summary

2E

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case No.: WILLOW GROVE SAS No.: N/A SDG

	EPA SAMPLE NO.	S1 (HBB)#	OTHER
01	WATER METHOD BLANK	92.8%	
02	RINSATE BLANK	107.9%	
03	RINSATE BLANK MS	87.8%	
04	RINSATE BLANK MSD	88.5%	
05			
06			
07			
08			
09			
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ADVISORY QC LIMITS (24-154)

S1 (HBB) = Hexabromobenzene

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:10388.03

Lab Code: EALABS Case No.: WILLOW GROVE SAS No.: N/A SDG No.: N/

	EPA SAMPLE NO.	S1 (HBB)#	OTHER
01	SOIL METHOD BLANK	72.4%	
02	SSL, S-1A, SOIL	138.0%	
03	SSL, S-1B, SOIL	113.1%	
04	SSL, S-2A, SOIL DL	72.0%	
05	SSL, S-2B, SOIL DL	95.2%	
06	SSL, S-3A, SOIL	81.9%	
07	SSL, S-3B, SOIL DL	161.0%	*
08	NL, S-1A, SOIL DL	117.5%	
09	NL, S-1B MS DL	127.5%	
10	NL, S-1B MSD DL	118.9%	
11	NL, S-1B	157.5%	*
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30			

ADVISORY QC LIMITS -130

S1 (HBB) = Hexabromobenzene

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: 10388.030 SDG No.: N/A
Lab Code: EALABS Case No.: WILLOW SAS No.: N/A
Matrix Spike-EPA Sample No.: 1184MS 155

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
Lindane	0.20	0	0.20	100.1%		56-123
Heptachlor	0.20	0	0.15	73.2%		40-131
Aldrin	0.20	0	0.18	87.6%		40-120
Dieldrin	0.50	0	0.17	33.6%*		52-126
Endrin	0.50	0	0.22	43.8%*		56-121
4,4'-DDT	0.50	0	0.36	71.8%		38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMIT RPD	QC LIMIT REC
Lindane	0.20	0.19	95.2%		4.9%		15	56-123
Heptachlor	0.20	0.13	64.8%		11.5%		20	40-131
Aldrin	0.20	0.16	78.9%		9.9%		22	40-120
Dieldrin	0.50	0.17	34.0%*		-1.0%		18	52-126
Endrin	0.50	0.22	43.6%*		0.5%		21	56-121
4,4'-DDT	0.50	0.39	78.1%		-8.8%		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: 4 out of 12 outside limits

Comments:

3E

SOIL PESTICIDE MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EA LABORATORIES Contract: 10388.030 SDG No.: N/A
Lab Code: EALABS Case No.: WILLOW SAS No.: N/A
Matrix Spike-EPA Sample No.: MS149 NL, S-1B, SOIL MS

1183 MS/MSD

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
Lindane	19.78	0	14.91	75.4%		46-127
Heptachlor	19.78	0	11.47	58.0%		35-130
Aldrin	19.78	0	20.53	103.8%		34-132
Dieldrin	49.46	0	20.49	41.4%		31-134
Endrin	49.46	0	18.79	38.0%*		42-139
4,4'-DDT	49.46	0	33.29	67.3%		23-134

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMIT RPD	QC LIMIT REC
Lindane	19.94	16.93	84.9%		-12.6%		50	46-127
Heptachlor	19.94	13.92	69.8%		-20.4%		31	35-130
Aldrin	19.94	22.22	111.4%		-7.4%		43	34-132
Dieldrin	49.85	26.79	53.7%		-29.7%		38	31-134
Endrin	49.85	20.84	41.8%*		-10.0%		45	42-139
4,4'-DDT	49.85	65.96	132.3%		-96.6%*		50	23-134

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

* Values outside of QC limits

RPD: 1 out of 6 outside limits
Spike Recovery: 2 out of 12 outside limits

Comments:

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name:	EA LABORATORIES	Contract:	10388.03
Lab Code:	EALABS	Case No.:	WILLOW
Lab Sample ID:	BL0541	Lab File ID:	WILLOW
Matrix:	WATER/~~SOIL~~SMP	Level:	low
Date Extracted:	01 APR 89	Extraction:	Cont
Date Analyzed (1):	06 APR 89	Date Analyzed (2):	07 APR
Time Analyzed (1):	12:25	Time Analyzed (2):	18:14
Instrument ID (1):	3B	Instrument ID (2):	4C
GC Column ID (1):	1.5% SP-2250/1.95% SP-2401 ON 100/120 SUPELCOPORT	GC Column ID (2):	SP8-5 on 30M, 0.25mm ID,

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	WATER METHOD BLANK	BL0541	06 APR 89	25 APR 89
02	RINSATE BLANK	WG1184	06 APR 89	25 APR 89
03	RINSATE BLANK MS	MS155	07 APR 89	26 APR 89
04	RINSATE BLANK MSD	MSD156	07 APR 89	26 APR 89
05				
06				
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25				
26				

COMMENTS:

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: EA LABORATORIES Contract: 10388.03
Lab Code: EALABS Case No.: WILLOW SAS No.: N/A
Lab Sample ID: BL0537 Lab File ID: WILLOW SDG No.: N/A
Matrix: SOIL Level: low
Date Extracted: 31 MAR 89 Extraction: SOXHLET
Date Analyzed (1): 07 APR 89 Date Analyzed (2): 08 APR
Time Analyzed (1): 01:11 Time Analyzed (2): 07:45
Instrument ID (1): 3B Instrument ID (2): 4C
GC Column ID (1): 1.5% SP-2250/1.95% SP-2401 on 30M, 0.25mm ID, 0.25mm df GC Column ID (2): SPB-5 on 30M, 0.25mm ID,

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	SOIL METHOD BLANK	BL~~0541~~ 0537 3MS	06 APR 89	08 APR 89
02	9SL, S-1A, SOIL DL	1176	06 APR 89	08 APR 89
03	9SL, S-1B, SOIL DL	1177	06 APR 89	08 APR 89
04	9SL, S-2A, SOIL	1178X10	21 APR 89	08 APR 89
05	9SL, S-2B, SOIL	1179X10	21 APR 89	08 APR 89
06	9SL, S-3A, SOIL	1180	21 APR 89	08 APR 89
07	9SL, S-3B, SOIL	1181X10	21 APR 89	08 APR 89
08	NL, S-1A, SOIL	1182X100	21 APR 89	08 APR 89
09	NL, S-2A, SOIL	1183X10	21 APR 89	08 APR 89
10	NL, S-2A, SOIL MS	MS149X10	21 APR 89	09 APR 89
11	NL, S-2A, SOIL MSD	MSD150X10	21 APR 89	09 APR 89
12				
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20				
21				
22				
23				
24				
25				
26				

COMMENTS:

B. Sample Data

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SL, S-1A, SOIL DL

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) soil Lab Sample ID: 1176

Sample wt/vol: 10.21 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: 30 MAR 89

% Moisture: dec. 15.7% not dec. Date Extracted: 31 MAR 89

Extraction: SOXHLET Date Analyzed: 07 APR 89

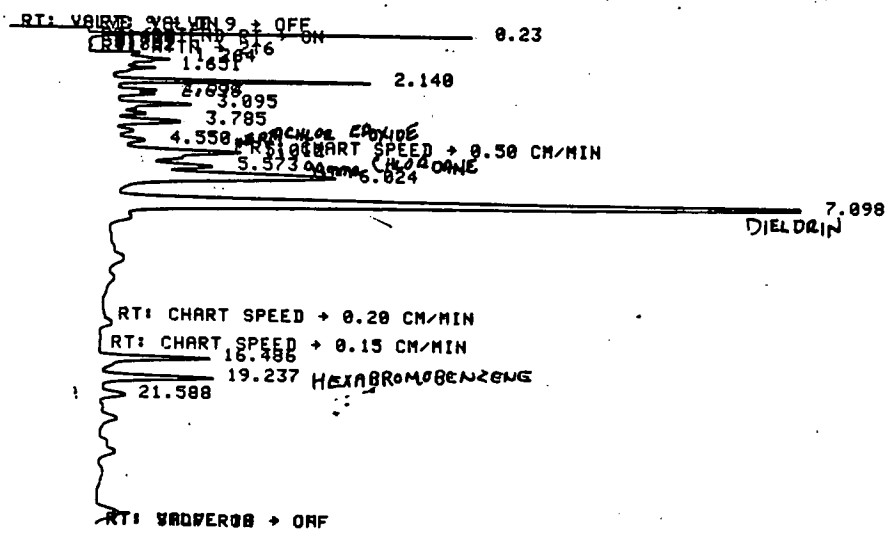
GPC Cleanup: (Y/N) N pH: Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	alpha-BHC	94	U
319-85-7	beta-BHC	94	U
319-86-8	delta-BHC	94	U
58-89-9	gamma-BHC (Lindane)	94	U
76-44-8	Heptachlor	94	U
309-00-2	Aldrin	94	U
1024-57-3	Heptachlor epoxide	3	J
959-98-8	Endosulfan I	94	U
60-57-1	Dieldrin	130	J
72-55-9	4,4'-DDE	190	U
72-20-8	Endrin	190	U
33213-65-9	Endosulfan II	190	U
72-54-8	4,4'-DDD	190	U
1031-07-8	Endosulfan sulfate	190	U
50-29-3	4,4'-DDT	190	U
72-43-5	Methoxychlor	940	U
53494-70-5	Endrin ketone	190	U
5103-71-9	alpha-Chlordane	940	U
5103-74-2	gamma-Chlordane	20	J
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	940	U
11104-28-2	Aroclor-1221	940	U
11141-16-5	Aroclor-1232	940	U
53469-21-9	Aroclor-1242	940	U
12672-29-6	Aroclor-1248	940	U
11097-69-1	Aroclor-1254	1900	U
11096-82-5	Aroclor-1260	1900	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 237

SAMPLE ID: 956, 958, SOIL



[hp] 5880A SAMPLER INJECTION @ 02:39 APR 7, 1989
SAMPLE # : ID CODE :
19 1176X10

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 246.41			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.227	272568.00	BV	0.03 *	126697.00	235.41	83.270
0.488	692.90	VV	-----	178.80	241.35	0.212
0.50			RT: EXTEND RT → ON			
0.605	1850.82	VV	-----	528.82	244.03	0.565
0.739	2090.26	VV	-----	543.67	247.07	0.639
0.852	622.14	VV	-----	105.70	249.65	0.190
1.264	579.15	VV	-----	88.46	259.01	0.177
1.651	411.71	VV	-----	61.70	267.83	0.126
2.140	2060.85	BV	0.098	329.75	276.48	0.630
2.552	316.58	BV	-----	51.72	279.99	0.097
2.698	356.91	VV	-----	42.41	279.77	0.109
3.095	840.05	VV	-----	96.78	279.22	0.257
3.785	954.33	VV	0.178	83.96	278.25	0.292
4.550	507.17	VV	-----	39.55	277.18	0.155
5.012	3350.67	VV	-----	161.38	276.53	1.024
5.573	1948.72	VV	-----	128.16	275.74	0.595
6.024	6299.81	VV	-----	286.18	275.11	1.925
7.098	16899.30	VV	0.254	1043.75	273.60	5.163
16.486	6384.72	BV	0.701	142.67	261.46	1.951
19.237	6775.87	VV	0.723	146.75	260.99	2.070
21.588	1819.60	VP	0.822	34.66	260.59	0.556

TOTAL AREA = 327330.00
MULTIPLIER = 1

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032

SUPELCO, Bellefonte, PA Cat.

5 010

********** EA LABORATORIES **********

---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 1125

SAMPLE ID: 9SL, 1-SA, SOIL

OVEN TEMP NOT READY

RT: VALVE 6 → OFF RT: EXTEND RT → ON

1.634
2.067
3.107
3.697
5.717
6.046
7.930
7.337
8.134
9.245

RT: OVEN TEMP=174°C SETPT=174°C LIMIT=300°C

11.556
12.221
15.303

RT: OVEN TEMP=182°C SETPT=182°C LIMIT=300°C

16.420
17.186
17.759

RT: OVEN TEMP=190°C SETPT=190°C LIMIT=300°C

20.120
21.323
21.614
22.350
22.771
22.953
23.438 HEPTACHLOR EPOXIDE

RT: OVEN TEMP=198°C SETPT=198°C LIMIT=300°C

24.605
25.366 gamma CHLORDANE
25.952
26.623
27.091
27.615

RT: OVEN TEMP=206°C SETPT=206°C LIMIT=300°C

28.459 DIELDRIN
28.700
29.359
29.561
30.182
30.674
30.989
31.322

RT: OVEN TEMP=214°C SETPT=214°C LIMIT=300°C

32.28
32.85
33.44
33.75
35.04
35.44

RT: OVEN TEMP=222°C SETPT=222°C LIMIT=300°C

36.32
36.60
37.34
38.47
38.70
39.11 HEXABROMOBENZENE
39.64

RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C

40.22
40.50
41.29
41.68
42.58
43.89
44.22

RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C

46.27
49.54

RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C

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SUPELCO, Bellefonte, PA Cat No. 2-21

[hp] 5880A SAMPLER INJECTION @ 11:30 APR 8, 1989
SAMPLE # : ID CODE :
16 WG 1176 10
AREA % COMPENSATED ANALYSIS

	RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
	0.00			BASELINE @ START RUN = 231.66			
	0.00			THRESHOLD @ START RUN = 4			
	0.00			PEAK WIDTH @ START RUN = 0.02			
	0.01			RT: EXTEND RT → ON			
	0.01			RP: EXTEND RT → ON			
	1.634	8414.46	BV	-----*	913.56	273.69	14.929
	2.067	15772.30	VB	*-----*	997.32	323.35	27.984
	3.107	67.79	BV	-----	9.70	298.25	0.120
Y	3.697	927.66	PV	-----*	48.33	295.13	1.64
	5.717	690.72	PV	-----	60.19	295.72	1.226
	6.046	975.31	VV	-----*	56.40	295.95	1.730
	7.098	120.95	VV	-----	12.93	296.69	0.215
	7.337	1114.38	VB	-----*	84.09	296.85	1.977
	8.134	103.72	BB	0.142	11.45	297.14	0.184
	9.245	190.71	PV	0.164	18.15	296.80	0.338
S	10.032	938.59	PB	-----*	58.47	296.66	1.66
	11.556	87.88	VV	-----	8.70	297.43	0.156
	12.221	560.06	BV	0.18	49.56	297.78	0.994
	15.303	627.56	VB	0.169	58.00	295.92	1.113
	16.180	86.79	BV	-----	10.23	295.41	0.154
	16.420	215.18	VV	-----	24.04	295.55	0.382
[	17.186	79.16	VV	0.136	9.12	295.99	0.14
	17.759	57.34	VV	-----	8.45	296.32	0.102
	19.977	259.16	BV	-----	42.54	296.39	0.460
	20.120	960.57	VV	-----*	65.49	295.26	1.704
	21.323	764.17	PV	0.173	69.00	298.31	1.356
	21.614	61.84	VV	-----	7.29	292.23	0.110
S	22.350	152.80	BV	0.136	17.65	296.16	0.27
	22.771	59.40	VV	-----	9.72	296.04	0.105
	22.953	879.87	VP	0.138	99.48	296.00	1.561
	23.438	76.82	PV	-----	10.31	295.95	0.136
	24.605	990.84	VV	0.118	131.11	296.42	1.758
	25.366	541.73	VP	0.143	59.44	296.71	0.961
	25.952	128.46	VP	0.124	16.22	297.00	0.228
	26.623	517.46	BV	0.123	66.01	296.03	0.918
	27.091	503.99	VV	-----	54.42	292.27	0.894
	27.615	679.59	VV	-----	75.04	288.06	1.206
	28.459	5954.24	VV	0.111	840.24	281.28	10.564
	28.708	319.50	VV	-----	28.97	279.28	0.567
	29.358	218.01	PV	-----	20.72	282.43	0.387
	29.565	146.21	VB	-----	12.07	290.37	0.259
	30.182	106.17	BV	-----*	7.52	296.88	0.188
	30.674	32.85	VV	-----	3.76	296.52	0.058
B	30.909	88.65	VV	-----	8.47	296.35	0.15
	31.322	67.02	VV	-----	9.01	296.04	0.119
	32.285	130.86	BV	-----	17.67	295.83	0.232
	32.848	180.85	BV	-----	13.54	295.42	0.321
	33.442	146.99	PV	-----	15.22	292.30	0.261
	33.751	629.20	VB	0.136	72.50	294.83	1.116
	35.044	1645.31	BV	0.124	208.85	296.35	2.91
	35.440	289.80	VV	0.130	34.93	296.11	0.514
	35.729	127.42	VV	-----	14.52	295.93	0.226
	36.316	447.29	BV	0.121	58.01	296.03	0.794
	36.598	238.52	VB	-----	20.88	296.59	0.42
	37.340	243.10	VP	-----	29.82	291.34	0.431
	38.472	61.56	BV	-----	6.39	296.31	0.109
	38.700	108.49	VV	-----	13.73	296.33	0.192
	39.112	1195.76	VV	0.117	160.63	296.35	2.122
	39.640	832.22	VV	0.150	86.64	296.36	1.477
	40.004	291.14	VV	-----	34.63	296.38	0.517
	40.222	106.76	VV	-----	14.04	296.39	0.189
	40.499	589.86	VV	-----*	54.98	296.40	1.047
	41.291	83.13	BV	-----	11.90	296.58	0.147
	41.511	115.55	VV	-----	15.48	296.81	0.205
	41.681	335.21	VB	-----	24.61	296.99	0.595
	42.577	76.04	BV	0.142	8.39	297.35	0.135
	43.894	379.58	BB	0.124	47.96	297.51	0.673
	44.717	819.49	VV	0.155	83.04	297.11	1.454
	46.267	694.63	VV	0.177	61.61	296.35	1.232
	49.545	180.26	BV	0.249	11.34	294.72	0.320
	51.292	326.79	PH	0.201	25.49	293.95	0.580
	52.938	441.97	HH	0.374	18.49	293.95	0.784
	54.285	654.28	HH	-----	46.21	293.95	1.161
T	54.695	449.76	A HH	-----	30.63	293.95	0.798

TOTAL AREA = 36361.78
MULTIPLIER = 1

box of 10 pads)
157
158
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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SL, S-1B, SOIL DL

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) soil Lab Sample ID: 1177

Sample wt/vol: 10.20 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: 30 MAR 89

% Moisture: dec. 14.8% not dec. Date Extracted: 31 MAR 89

Extraction: SOXHLET Date Analyzed: 07 APR 89

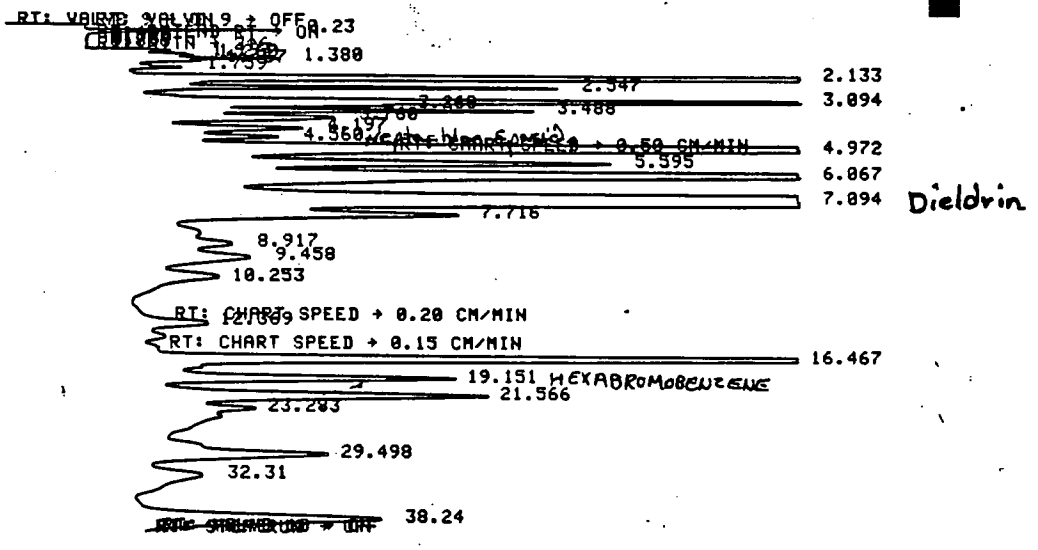
GPC Cleanup: (Y/N) N pH: Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	alpha-BHC	94	U
319-85-7	beta-BHC	94	U
319-86-8	delta-BHC	94	U
58-89-9	gamma-BHC (Lindane)	94	U
76-44-8	Heptachlor	94	U
309-00-2	Aldrin	94	U
1024-57-3	Heptachlor epoxide	94	U
959-98-8	Endosulfan I	94	U
60-57-1	Dieldrin	1300	
72-55-9	4,4'-DDE	190	U
72-20-8	Endrin	190	U
33213-65-9	Endosulfan II	190	U
72-54-8	4,4'-DDD	190	U
1031-07-8	Endosulfan sulfate	190	U
50-29-3	4,4'-DDT	190	U
72-43-5	Methoxychlor	940	U
53494-70-5	Endrin ketone	190	U
5103-71-9	alpha-Chlordane	64	J
5103-74-2	gamma-Chlordane	210	J
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	940	U
11104-28-2	Aroclor-1221	940	U
11141-16-5	Aroclor-1232	940	U
53469-21-9	Aroclor-1242	940	U
12672-29-6	Aroclor-1248	940	U
11097-69-1	Aroclor-1254	1900	U
11096-82-5	Aroclor-1260	1900	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 321

SAMPLE ID: 9SL, S1B, SOIL



[hp] 5880A SAMPLER INJECTION @ 03:24 APR 7, 1989
SAMPLE # : ID CODE :
20 1177X10
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 252.00			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.228	214799.00	BB	-----*	64898.50	324.68	27.470
0.498	46.98	BP	-----	22.86	455.09	0.006
0.50			RT: EXTEND RT → ON			
0.605	891.06	PP	0.040	345.11	400.08	0.114
0.739	1544.68	PV	0.052	466.41	373.11	0.198
0.856	215.77	VP	-----	69.39	352.52	0.028
1.197	175.32	PV	-----	54.35	326.55	0.022
1.260	292.43	VV	-----	64.55	324.57	0.037
1.380	817.10	VV	-----	177.27	320.78	0.104
1.467	349.68	VV	-----	81.26	318.01	0.045
1.759	387.67	VP	-----	65.49	308.90	0.050
2.133	49363.30	HH	0.092*	8397.76	304.49	6.313
2.547	4342.22	HH	0.121	561.46	304.49	0.555
3.094	11531.10	HH	-----	1318.49	304.49	1.475
3.260	2279.56	HH	-----	343.47	304.49	0.292
3.488	4792.26	HH	-----	529.00	304.49	0.613
3.760	4308.88	HH	-----	265.67	304.49	0.551
4.197	3553.03	HH	-----	225.33	304.49	0.454
4.560	2506.76	HH	-----	194.22	304.49	0.321
4.972	31974.60	HH	0.226	2216.74	304.49	4.089
5.595	10280.90	HH	-----	631.11	304.49	1.315
6.067	34465.20	HH	-----*	1911.67	304.49	4.408
7.094	169634.00	HH	0.270	9834.39	304.49	21.694
7.716	9132.33	HH	-----	427.89	304.49	1.168
8.917	3426.32	HH	-----	134.82	304.49	0.438
9.458	5105.92	HH	-----	157.91	304.49	0.653
10.253	4193.70	HH	-----	117.40	304.49	0.536
12.369	6136.77	HH	-----	103.40	304.49	0.785
16.467	67064.60	HH	0.690	1521.40	304.49	8.577
19.151	23322.90	HH	-----	425.59	304.49	2.983
21.566	32200.60	HH	-----	469.72	304.49	4.118
23.283	11073.40	HH	-----	164.97	304.49	1.416
29.498	26421.50	HH	-----	258.77	304.49	3.379
32.305	13520.10	HH	-----	96.38	304.49	1.729
38.242	31798.40 A	HH	-----	327.95	304.49	4.067

TOTAL AREA = 781948.00
MULTIPLIER = 1

© SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pad): Cat. No. 2-2888 (box of 10 pads)

SUPELCO, Bellefonte, PA Ca

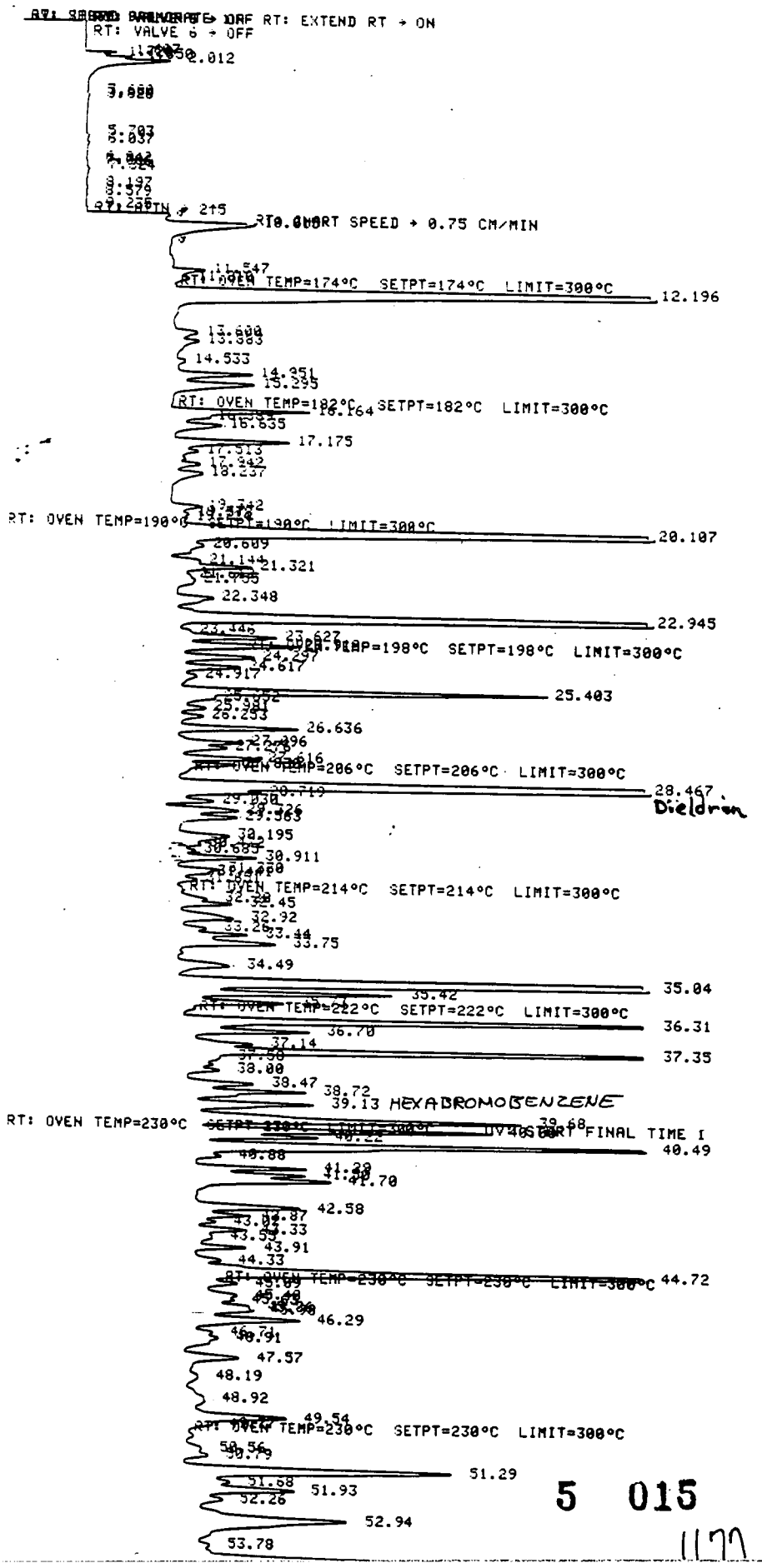
034

5 014

COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 1240

SAMPLE ID: 9SL, S-1B, SOIL

OVEN TEMP NOT READY



5 015

1177

BASELINE @ START RUN = 230.45
THRESHOLD @ START RUN = 4
PEAK WIDTH @ START RUN = 0.02
RT: EXTEND RT → ON
RP: EXTEND RT → ON

EA # 1177

	RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
	0.00						
	0.00						
	0.00						
	0.01						
	0.01						
	1.607	2991.88	BV	-----	806.61	268.64	1.285
	1.720	3916.62	VV	------*	597.53	270.49	1.682
	1.850	7704.75	VV	------*	1142.34	272.63	3.309
	2.012	37977.50	VV	+------*	2262.00	275.28	16.309
2	3.680	476.10	BV	-----	51.56	301.13	0.20
	3.826	397.59	VV	-----	38.34	301.00	0.171
	5.703	639.36	BV	-----	62.05	299.37	0.275
	6.037	861.18	VV	------*	60.06	299.13	0.370
	6.942	74.29	PV	-----	10.52	298.51	0.032
	7.086	152.15	VV	-----	17.38	298.46	0.065
	7.324	905.40	VV	-----	96.52	298.40	0.389
	8.197	330.67	VV	0.209	24.76	298.14	0.142
	8.579	98.89	VV	-----	10.40	298.03	0.042
	9.235	310.93	BV	0.17	28.72	297.37	0.134
	10.015	1139.17	BV	------*	73.44	298.10	0.489
	11.547	257.91	PV	-----	29.35	300.00	0.111
	11.810	143.49	VP	-----	16.00	300.44	0.062
	12.196	10135.20	PB	0.17 +	933.87	301.14	4.353
	13.600	204.06	VV	-----	18.55	301.77	0.08
	13.883	264.98	VV	-----	20.10	301.51	0.114
	14.533	104.03	VV	-----	10.08	300.93	0.045
	14.951	689.97	VV	0.162	66.79	300.56	0.296
	15.295	804.66	VB	0.18	68.94	300.25	0.346
	16.164	1115.67	BV	-----	118.02	298.15	0.479
	16.389	251.89	VV	-----	33.15	298.22	0.108
	16.635	561.70	VV	------*	43.90	298.31	0.241
	17.175	1021.70	VV	0.159	100.85	298.50	0.439
	17.513	234.45	VV	-----	24.19	298.61	0.101
	17.942	288.95	VV	-----	25.87	298.76	0.124
	18.237	395.38	VV	-----	28.10	298.86	0.170
	19.342	271.45	BV	-----	26.16	299.08	0.117
	19.578	146.07	VV	-----	17.01	299.01	0.063
	19.724	118.34	VV	-----	15.57	298.98	0.051
	20.107	9810.05	VV	*0.181	850.62	298.87	4.213
	20.609	358.80	VV	-----	27.67	298.74	0.154
3	21.144	224.55	VV	-----	25.65	298.60	0.09
	21.321	762.69	VV	-----	69.26	298.55	0.328
	21.612	130.83	VV	-----	17.94	298.47	0.056
	21.755	198.02	VV	-----	21.94	298.44	0.085
	22.348	563.79	VV	------*	38.12	298.28	0.242
	22.945	7647.30	VV	0.160	748.50	298.12	3.284
	23.446	141.33	VV	-----	18.88	297.99	0.061
L	23.627	959.81	VV	-----	91.36	297.94	0.41
	23.910	1140.19	VV	-----	108.62	297.87	0.490
	24.297	869.42	VV	-----	72.82	297.76	0.373
	24.617	609.35	VV	-----	61.42	297.68	0.262
	24.917	441.17	VV	-----	24.51	297.60	0.189
	25.403	3051.20	VV	0.151	317.41	297.47	1.310
	25.652	446.84	VV	-----	41.08	297.40	0.192
D	25.981	398.79	VV	-----	33.45	297.32	0.17
	26.253	377.88	VV	-----	31.83	297.24	0.162
	26.636	1119.60	VV	0.156	112.63	297.15	0.481
	27.096	694.08	VV	-----	66.50	297.02	0.298
	27.276	577.45	VV	-----	52.99	296.98	0.248
	27.616	746.43	VV	-----	81.21	296.88	0.321
	27.830	774.74	VV	-----	61.55	296.83	0.333
	28.467	37527.30	VV	0.116	5044.84	296.66	16.116
	28.719	661.67	VV	-----	79.11	296.59	0.284
	29.030	392.90	VP	-----	40.44	296.51	0.169
	29.326	679.52	PV	-----	62.32	296.82	0.292
	29.563	826.64	VV	-----	60.75	297.32	0.355
S	30.195	837.11	VV	------*	53.25	298.64	0.35
	30.472	256.88	VV	-----	28.71	299.22	0.110
	30.685	219.68	VV	-----	23.76	299.66	0.094
	30.911	759.88	VV	-----	75.28	300.13	0.326
	31.330	364.56	VV	-----	43.54	301.01	0.157
	31.441	236.47	VV	-----	33.99	301.24	0.102
	31.651	237.52	VV	-----	23.99	301.69	0.102
4	32.283	330.72	VV	-----	29.93	303.01	0.14
	32.451	447.60	VV	-----	50.68	303.36	0.192
	32.916	800.94	VV	+------	51.50	304.34	0.344
	33.258	250.97	VV	-----	27.74	305.05	0.108
	33.444	543.44	VV	-----	62.82	305.44	0.233
	33.751	1006.02	VV	-----	85.86	306.08	0.432
	34.487	602.29	VV	/SYM	45.96	307.63	0.259
	35.041	13638.70	VV	0.126	1699.11	308.78	5.857
	35.425	1436.74	VV	-----	176.75	309.59	0.617
	35.727	843.89	VV	-----	86.56	310.22	0.362
	36.313	4288.29	VV	0.131*	511.23	311.45	1.842
	36.696	896.88	VV	-----	105.93	312.25	0.385
	37.140	614.45	VV	+-----	58.05	313.18	0.264
	37.348	3879.08	VV	0.125	487.80	313.62	1.666
	37.578	328.77	VV	-----	28.59	314.10	0.141
	38.003	236.22	VP	-----	27.54	314.99	0.101
	38.469	502.48	PV	-----	53.52	318.46	0.216
	38.715	819.73	VV	-----	95.73	321.05	0.352
	39.127	980.04	BV	------*	100.27	323.86	0.421
	39.677	2762.30	VV	+-----	272.59	323.31	1.186
	40.003	2009.48	VV	0.129	242.99	322.99	0.863

161

162

5016

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pkg): Cat. No. 2-2888 (box of 10 pkgs)

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SL, S-2A, SOIL DL

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 1178

Sample wt/vol: 10.11 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: 30 MAR 89

% Moisture: dec. 18.5% not dec. Date Extracted: 03 APR 89

Extraction: SOXHLET Date Analyzed: 21 APR 89

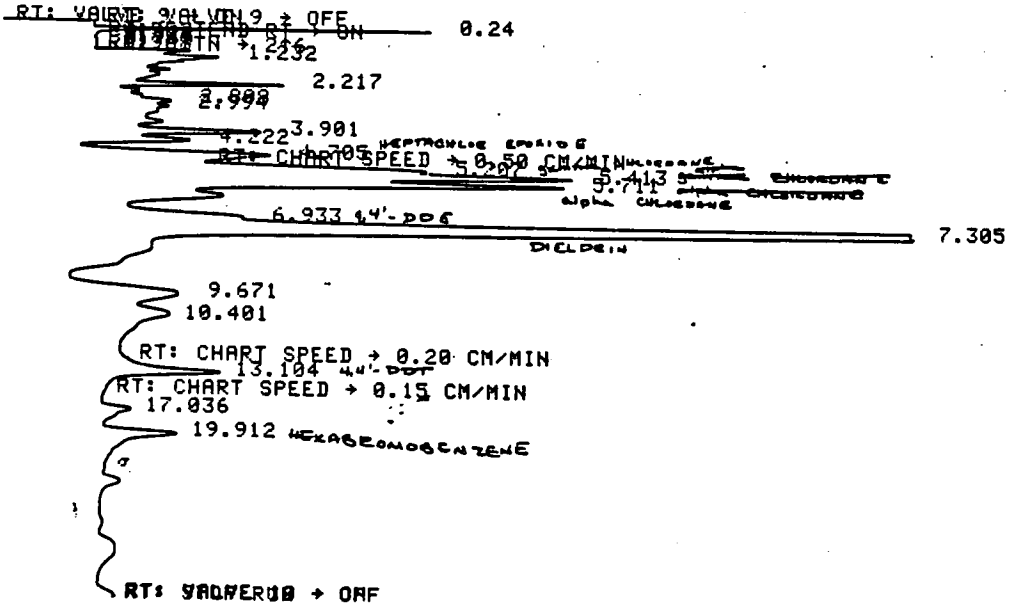
GPC Cleanup: (Y/N) N pH: Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	98	U
319-85-7	beta-BHC	98	U
319-86-8	delta-BHC	98	U
58-89-9	gamma-BHC (Lindane)	98	U
76-44-8	Heptachlor	98	U
309-00-2	Aldrin	98	U
1024-57-3	Heptachlor epoxide	22	J
959-98-8	Endosulfan I	98	U
60-57-1	Dieldrin	214 ~~130~~ RPS	~~J~~ RPS
72-55-9	4,4'-DDE	19	J
72-20-8	Endrin	200	U
33213-65-9	Endosulfan II	200	U
72-54-8	4,4'-DDD	200	U
1031-07-8	Endosulfan sulfate	200	U
50-29-3	4,4'-DDT	89	J
72-43-5	Methoxychlor	980	U
53494-70-5	Endrin ketone	200	U
5103-71-9	alpha-Chlordane	47	J
5103-74-2	gamma-Chlordane	26	J
8001-35-2	Toxaphene	2000	U
12674-11-2	Aroclor-1016	980	U
11104-28-2	Aroclor-1221	980	U
11141-16-5	Aroclor-1232	980	U
53469-21-9	Aroclor-1242	980	U
12672-29-6	Aroclor-1248	980	U
11097-69-1	Aroclor-1254	2000	U
11096-82-5	Aroclor-1260	2000	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 1035

SAMPLE ID: 9SLS-2A.S-J DL



[hp] 5880A SAMPLER INJECTION @ 10:37 APR 21, 1989
SAMPLE # : ID CODE :
14 1178X10
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 237.05			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.243	231848.00	BV	0.04 *	96755.40	227.54	68.392
0.50			RT: EXTEND RT → ON			
0.507	1399.70	VV	------*	269.43	235.21	0.413
0.628	2841.00	VV	-----	686.60	238.74	0.838
0.765	3993.77	VV	------*	814.01	242.73	1.178
0.938	1517.27	VV	-----	197.08	247.74	0.448
1.232	1291.50	VV	-----	119.94	256.30	0.381
2.217	1170.30	BP	0.104	175.96	273.19	0.345
2.808	707.36	VV	-----	69.80	254.00	0.209
2.994	737.15	VV	-----	71.15	250.07	0.217
3.901	2616.65	VV	-----	194.40	230.95	0.772
4.222	1506.04	VP	-----	121.51	224.17	0.444
4.705	4465.31	PV	------*	215.50	219.02	1.317
5.207	4721.68	VV	-----	392.09	217.91	1.393
5.413	8277.51	VV	-----	557.89	217.45	2.442
5.711	9073.98	VV	-----	550.60	216.79	2.677
6.933	3336.51	VV	-----	191.73	214.08	0.984
7.305	31805.70	VV	0.286	1741.97	213.26	9.382
9.671	4069.62	PV	-----	121.53	214.20	1.200
10.401	5960.30	VV	-----	106.52	219.76	1.758
13.104	9218.60	VB	-----	142.83	240.35	2.719
17.036	1976.60	BP	0.919	33.69	248.84	0.583
19.912	6464.23	BH	1.20	84.66	249.97	1.907

TOTAL AREA = 338999.00
MULTIPLIER = 1

********** EA LABORATORIES **********

---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 1510

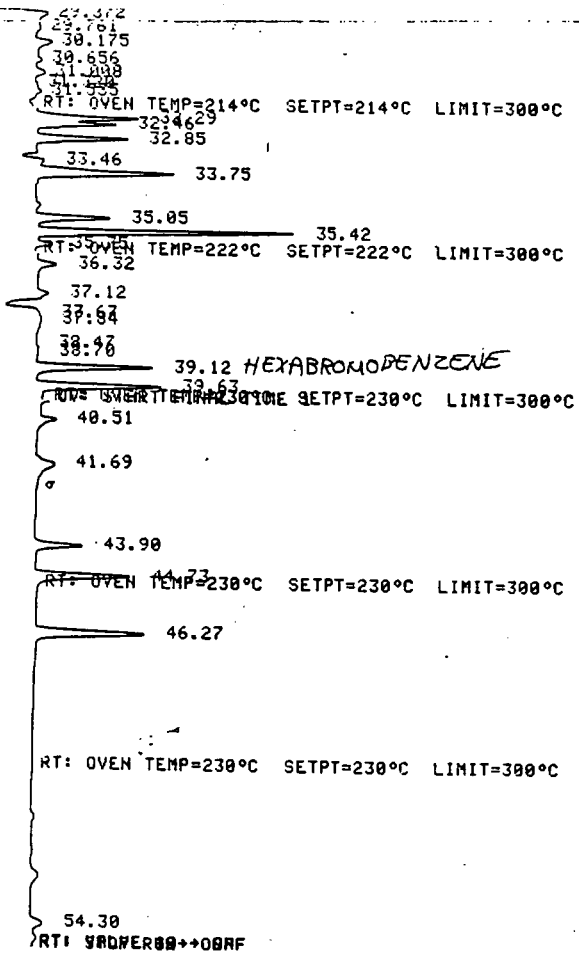
SAMPLE ID: 95L, S-3A, SOIL

OVEN TEMP NOT READY

RT: VALVE 6 → OFF
1.615
2.014
2.457
3.680
4.184
5.137
5.204
6.040
7.000
7.526
8.123
8.585
9.220
RT: AVIN → 2↑5
RT: CHART SPEED → 0.75 CM/MIN
10.030
11.559
RT: OVEN TEMP=174°C SETPT=174°C LIMIT=300°C
12.215
14.527
15.300
RT: OVEN TEMP=182°C SETPT=182°C LIMIT=300°C
16.414
RT: OVEN TEMP=190°C SETPT=190°C LIMIT=300°C
20.104
21.322
22.062
22.349
22.772
22.947
23.440 HEPTACHLOR EPOXIDE
RT: OVEN TEMP=198°C SETPT=198°C LIMIT=300°C
24.605
24.924
25.076
25.352 gamma CHLORDANE
25.953
26.620 alpha CHLORDANE
26.885
27.090
27.620
RT: OVEN TEMP=206°C SETPT=206°C LIMIT=300°C
28.244
28.719 4,4'-DDE
DIELDRIN 28.464
29.372
29.761
30.175
30.656
31.008
31.555
RT: OVEN TEMP=214°C SETPT=214°C LIMIT=300°C
32.29
32.46
32.85
33.46
33.75
35.05
35.42
RT: OVEN TEMP=222°C SETPT=222°C LIMIT=300°C
36.32
37.12
37.67
37.84
38.47
38.70
39.12 HEXABROMOBENZENE
39.63
RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C
40.51
41.69
43.90
44.73
RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C
46.27
RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C

SUPELCO, Bellefonte PA Cat. No. 2-2887 (bad); Cat. No. 2-2888 (box of 10 pads)

SUPELCO, Bellefonte, PA Cat. No. 2-28



[hp] 5890A SAMPLER INJECTION @ 15:14 APR 8, 1989
SAMPLE # : ID CODE :
19 WG 1178 10
AREA % COMPENSATED ANALYSIS

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 231.21			
0.00			THRESHOLD @ START RUN = 4			
0.00			PEAK WIDTH @ START RUN = 0.02			
0.01			RT: EXTEND RT → ON			
0.01			RP: EXTEND RT → ON			
1.615	8042.28	BV	-----*	866.27	274.16	11.587
2.014	15082.10	VV	*-----*	1067.51	320.13	21.730
2.457	259.05	VB	-----*	62.29	371.19	0.373
3.680	827.14	BB	-----*	58.05	298.40	1.192
4.184	76.72	BP	-----	5.39	312.31	0.111
5.137	123.63	BB	SYM\	11.83	295.95	0.178
5.704	507.00	BV	-----	46.69	298.65	0.730
6.040	887.55	VB	-----*	62.03	303.89	1.279
7.080	18.13	BB	0.063	4.50	311.10	0.026
7.326	1049.69	BV	-----*	83.69	305.36	1.512
8.123	87.07	PB	0.135	10.09	299.61	0.125
8.585	108.84	BV	-----	11.11	298.91	0.157
9.238	223.67	BB	0.16	22.32	299.15	0.322
10.030	1084.78	BB	0.252	67.44	298.67	1.563
11.559	83.44	PV	-----	8.22	298.54	0.120
12.215	239.12	BV	0.147	25.44	299.65	0.345
14.527	69.63	PV	0.136	8.02	298.27	0.100
15.300	792.77	VB	0.174	71.40	298.35	1.142
16.414	453.85	VV	0.19	38.35	296.99	0.654
19.975	467.64	VV	-----	56.24	290.13	0.674
20.107	718.33	VV	-----	61.00	289.88	1.035
21.322	1426.98	PV	0.247	90.62	288.70	2.056
22.062	153.73	VV	-----	11.83	290.02	0.221
22.349	446.28	VV	-----	39.84	290.55	0.643
22.772	407.46	VV	-----	41.79	291.31	0.587
22.947	502.56	VV	-----	38.29	291.63	0.724
23.440	1058.36	VV	-----*	70.63	292.51	1.525
24.605	681.51	VV	-----	65.83	294.60	0.982
24.924	244.65	VV	-----	25.19	295.18	0.352
25.076	172.48	VV	-----	19.28	295.46	0.249
25.352	1416.25	VV	0.137	161.68	295.95	2.041
25.953	668.18	VV	0.139	75.03	297.03	0.963
26.620	2122.63	VV	0.124	267.99	298.23	3.058
26.885	107.47	VV	-----	15.51	298.71	0.155
27.090	2048.56	VV	0.116	276.27	299.08	2.952
27.620	728.49	VV	0.134	84.97	300.04	1.050
28.244	53.94	PV	-----	8.66	301.29	0.078
28.464	7795.27	VV	0.107	1138.46	301.88	11.231
28.719	692.69	VB	-----	94.13	302.58	0.998
29.372	580.09	BV	-----	75.29	276.26	0.836

SUPELCO Bellefonte, PA Cat. No. 2-2887 (pack) Cat. No. 2-2888 (box of 10 packs)

SUPELCO, Bellefonte PA

6.040	887.55	VB	-----*	62.03	303.89	1.279
7.080	18.13	BB	0.063	4.50	311.10	0.026
7.326	1049.69	BV	-----*	83.69	305.36	1.512
8.123	87.07	PB	0.135	10.09	299.61	0.125
8.585	108.84	BV	-----	11.11	298.91	0.157
9.238	223.67	BB	0.16	22.32	299.15	0.322
10.030	1084.78	BB	0.252	67.44	298.67	1.563
11.559	83.44	PV	-----	8.22	298.54	0.120
12.215	239.12	BV	0.147	25.44	299.65	0.345
14.527	69.63	PV	0.136	8.02	298.27	0.100
15.300	792.77	VB	0.174	71.40	298.35	1.142
16.414	453.85	VV	0.19	38.35	296.99	0.654
19.975	467.64	VV	-----	56.24	290.13	0.674
20.107	718.33	VV	-----	61.00	289.88	1.035
21.322	1426.98	PV	0.247	90.62	288.70	2.056
22.062	153.73	VV	-----	11.83	290.02	0.221
22.349	446.28	VV	-----	39.84	290.55	0.643
22.772	407.46	VV	-----	41.79	291.31	0.587
22.947	502.56	VV	-----	38.29	291.63	0.724
23.440	1058.36	VV	-----*	70.63	292.51	1.525
24.605	681.51	VV	-----	65.83	294.60	0.982
24.924	244.65	VV	-----	25.19	295.18	0.352
25.076	172.48	VV	-----	19.28	295.46	0.249
25.352	1416.25	VV	0.137	161.68	295.95	2.041
25.953	668.18	VV	0.139	75.03	297.03	0.963
26.620	2122.63	VV	0.124	267.99	298.23	3.058
26.885	107.47	VV	-----	15.51	298.71	0.155
27.090	2048.56	VV	0.116	276.27	299.08	2.952
27.620	728.49	VV	0.134	84.97	300.04	1.050
28.244	53.94	PV	-----	8.66	301.29	0.078
28.464	7795.27	VV	0.107	1138.46	301.88	11.231
28.719	692.69	VB	-----	94.13	302.58	0.998
29.372	580.09	BV	-----	35.29	276.26	0.836
29.761	598.93	VV	-----	29.92	276.46	0.863
30.175	916.47	VV	-----	37.68	276.67	1.320
30.656	532.53	VV	-----	30.61	276.91	0.767
31.008	654.03	VV	-----	32.90	277.09	0.942
31.320	323.98	VV	-----	27.57	277.24	0.467
31.535	622.23	VV	-----	30.15	277.35	0.897
32.285	1006.93	VV	-----	95.36	277.73	1.451
32.457	789.40	VV	-----	80.63	277.81	1.137
32.849	1054.00	VV	-----	88.36	278.01	1.519
33.455	344.67	VV	-----	30.52	278.32	0.497
33.755	1348.65	VV	-----	119.81	278.46	1.943
35.051	938.43	VV	-----	75.69	279.11	1.352
35.424	1657.30	VV	-----	201.07	279.29	2.388
35.749	465.21	VV	-----	34.51	279.46	0.670
36.319	747.16	VV	-----	36.12	279.75	1.077
37.120	668.05	VP	-----	30.71	280.15	0.963
37.670	300.23	PV	-----	19.10	286.20	0.433
37.838	174.24	VV	-----	15.28	290.35	0.251
38.473	23.73	BV	-----	2.12	301.43	0.034
38.702	28.04	VV	-----	2.88	301.39	0.040
39.116	623.80	VV	0.118	82.48	301.31	0.899
39.630	747.22	VV	0.133	88.29	301.21	1.077
40.507	159.77	VV	-----	14.71	301.04	0.230
41.685	264.37	PV	0.288	14.35	300.90	0.381
43.897	290.96	PB	0.135	33.63	301.13	0.419
44.728	662.96	BB	0.154	67.34	300.92	0.955
46.273	846.41	VV	0.173	76.59	301.02	1.220
54.301	106.32	PH	0.194	8.59	299.54	0.153

TOTAL AREA = 69406.00
MULTIPLIER = 1

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SUPELCO Bellefonte PA Cat No 2-2887 Prod. Cat No 2-2888 Instruction Manual

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 1625

SAMPLE ID: 95L, S-2B SOIL

OVEN TEMP NOT READY

RT: VALVE 3 ON RT: VALVE 6 → OFF

1.622
2.050
3.851
3.987
3.686
5.707
6.040
7.087
7.325
8.202
9.237

RATIO → 2:5

RT: SHORT SPEED → 0.75 CM/MIN

5 021

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

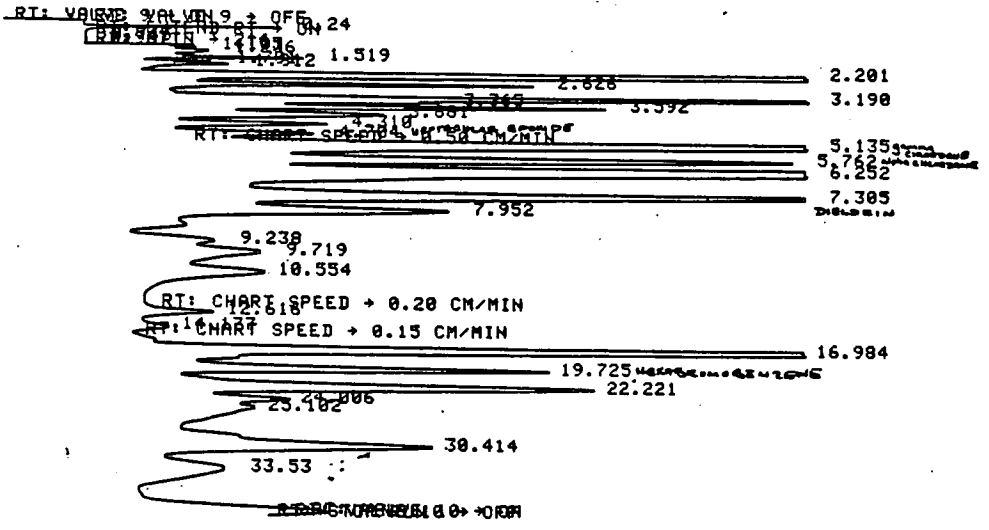
Lab Name: EA LABORATORIES	Contract: 10388.03	9SL, S-2B, SOIL, DL
Lab Code: EALABS	Case #: WILLOW GRO	SAS #: N/A
SDG No.: N/A		
Matrix: (soil/water) SOIL	Lab Sample ID: 1179	
Sample wt/vol: 10.17 g	Lab File ID: WILLOW	
Level: (low/med) LOW	Date Received: 30 MAR 89	
% Moisture: dec. 18.8%	not dec.	Date Extracted: 03 APR 89
Extraction: SOXHLET	Date Analyzed: 21 APR 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	98	U
319-85-7	beta-BHC	98	U
319-86-8	delta-BHC	98	U
58-89-9	gamma-BHC (Lindane)	98	U
76-44-8	Heptachlor	98	U
309-00-2	Aldrin	98	U
1024-57-3	Heptachlor epoxide	9	J
959-98-8	Endosulfan I	98	U
60-57-1	Dieldrin	89	J
72-55-9	4,4'-DDE	200	U
72-20-8	Endrin	200	U
33213-65-9	Endosulfan II	200	U
72-54-8	4,4'-DDD	200	U
1031-07-8	Endosulfan sulfate	200	U
50-29-3	4,4'-DDT	200	U
72-43-5	Methoxychlor	980	U
53494-70-5	Endrin ketone	200	U
5103-71-9	alpha-Chlordane	58	J
5103-74-2	gamma-Chlordane	148	J
8001-35-2	Toxaphene	2000	U
12674-11-2	Aroclor-1016	980	U
11104-28-2	Aroclor-1221	980	U
11141-16-5	Aroclor-1232	980	U
53469-21-9	Aroclor-1242	980	U
12672-29-6	Aroclor-1248	980	U
11097-69-1	Aroclor-1254	2000	U
11096-82-5	Aroclor-1260	2000	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 1120

SAMPLE ID: 9SL S-23 S-J DL



[hp] 5880A SAMPLER INJECTION @ 11:22 APR 21, 1989
SAMPLE # : ID CODE :
15 1179X10
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 248.09			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.242	161918.00	BB	0.04 *	63027.50	313.83	26.066
0.50			RT: EXTEND RT → ON			
0.627	1110.08	PP	0.041	426.95	469.70	0.179
0.765	2943.58	PV	0.056	824.34	427.85	0.474
0.937	822.39	VP	-----	231.01	385.14	0.132
1.103	124.16	PV	-----	38.43	352.84	0.020
1.236	319.13	VV	-----	62.62	344.85	0.051
1.519	853.50	VP	-----	198.57	327.78	0.137
1.701	381.02	PV	-----	88.12	320.89	0.061
1.812	757.74	VP	-----	111.78	319.98	0.122
2.201	49239.30	PV	0.096	8043.12	320.45	7.927
2.626	3968.20	VV	0.126	492.32	327.97	0.639
3.190	10704.10	VV	-----	1235.80	337.94	1.723
3.365	2561.47	VV	-----	356.66	341.01	0.412
3.592	5244.54	VV	-----	569.38	345.03	0.844
3.881	3919.53	VV	-----	277.86	350.13	0.631
4.310	2154.46	VP	0.171	197.71	357.72	0.347
4.704	1896.70	PV	-----	169.92	368.87	0.305
5.135	27761.60	VV	0.236	1838.26	386.55	4.469
5.762	11220.60	VV	-----	748.90	412.35	1.806
6.252	35253.00	VB	0.254*	2170.81	432.47	5.675
7.305	14794.90	BV	0.256	906.09	428.70	2.382
7.952	6841.61	VV	-----	333.56	379.00	1.101
9.238	2082.23	PV	-----	106.90	307.91	0.335
9.719	5382.49	VV	-----	162.41	311.17	0.866
10.554	5310.91	VB	-----	161.89	316.82	0.855
12.616	3640.08	BV	0.598	95.35	319.63	0.586
14.177	2044.02	VP	-----	45.76	312.47	0.329
16.984	90550.20	HH	0.724*	1958.26	309.28	14.577
19.725	30011.40	HH	-----	532.90	309.28	4.831
22.221	41983.20	HH	-----	593.79	309.28	6.759
24.006	12887.20	HH	-----	200.20	309.28	2.075
25.102	22554.40	HH	-----	158.02	309.28	3.631
30.414	40986.60	HH	*-----	384.39	309.28	6.598
33.530	18953.90	HH	-----	120.75	309.28	3.051

TOTAL AREA = 621176.00
MULTIPLIER = 1

54.301	106.32	PH	0.194	76.59 8.59	301.02 299.54	1.220 0.153

TOTAL AREA = 69406.00
MULTIPLIER = 1

169

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 1625

SAMPLE ID: 9SL, S-2B, SOIL

OVEN TEMP NOT READY

RT: VALVE 6 → OFF
1.622
2.050
3.686
8.202
RT: ATTN → 2↑5
RT: CHART SPEED → 0.75 CM/MIN
RT: OVEN TEMP=174°C SETPT=174°C LIMIT=300°C
12.195
13.591
13.887
14.951
15.293
RT: OVEN TEMP=182°C SETPT=182°C LIMIT=300°C
16.165
17.173
18.237
RT: OVEN TEMP=190°C SETPT=190°C LIMIT=300°C
20.106
20.603
21.318
22.356
22.770
22.943
23.447
23.629
RT: OVEN TEMP=198°C SETPT=198°C LIMIT=300°C
24.283
24.915
25.399
26.254
26.624
27.091
RT: OVEN TEMP=206°C SETPT=206°C LIMIT=300°C
28.462
29.028
29.560
30.904
RT: OVEN TEMP=214°C SETPT=214°C LIMIT=300°C
32.91
33.74
34.44
35.04
35.42
RT: OVEN TEMP=222°C SETPT=222°C LIMIT=300°C
36.31
36.69
37.14
37.34
38.47
38.72
39.13 HEXABROMOBENZENE
RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C
39.68
40.00
40.22
40.49
40.87
41.29
41.74
42.58
42.86
43.31
43.91
44.32
RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C
44.72
45.97
46.29
47.06

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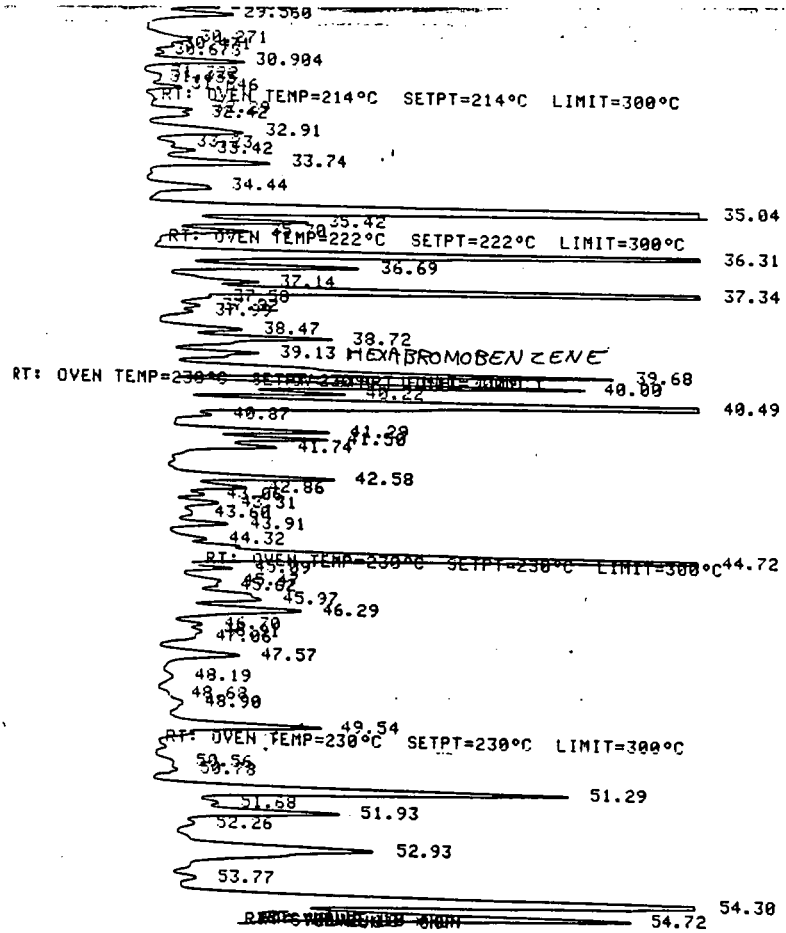
SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pad) Cat. No. 2-2888 (box of 10 pads)

5 024



[hp] 5880A SAMPLER INJECTION @ 16:30 APR 8, 1989
SAMPLE # : ID CODE :
20 WG 1179 10
AREA % COMPENSATED ANALYSIS

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 225.86			
0.00			THRESHOLD @ START RUN = 4			
0.00			PEAK WIDTH @ START RUN = 0.02			
0.01			RT: EXTEND RT → ON			
0.01			RP: EXTEND RT → ON			
1.622	7660.83	BV	-----*	868.96	270.20	4.082
2.059	19004.00	VB	*------*	1262.38	321.84	10.127
2.851	31.98	BB	-----	15.67	334.80	0.017
3.107	66.20	BV	-----	10.51	310.21	0.035
3.686	243.40	BB	-----	33.94	313.74	0.130
5.707	520.39	PV	-----	48.48	295.54	0.277
6.040	849.29	VV	-----*	59.51	295.90	0.453
7.087	89.72	VV	-----	10.32	297.04	0.048
7.325	1249.98	VB	-----*	97.56	297.30	0.666
8.202	413.00	BV	0.193	33.49	297.60	0.220
9.233	455.24	BP	0.18	38.56	296.94	0.243
10.010	1285.31	PV	-----*	80.12	297.09	0.685
11.814	359.08	VV	0.143	39.18	300.54	0.191
12.195	11265.30	VB	0.17 *	1055.19	301.27	6.003
13.591	211.06	VV	-----	19.33	302.20	0.112
13.887	392.40	VV	-----*	28.76	302.10	0.209
14.951	689.60	VV	0.156	69.12	301.72	0.367
15.293	856.33	VB	0.18	75.13	301.60	0.456
16.163	1254.76	BV	-----	137.91	298.54	0.669
16.400	429.35	VV	-----	49.42	298.49	0.229
16.627	526.09	VV	-----	48.52	298.44	0.280
17.173	1268.18	VV	0.154	128.71	298.30	0.676
17.516	252.28	VV	-----	26.16	298.22	0.134
17.751	181.87	VV	-----	21.46	298.16	0.097
17.942	378.22	VV	-----	33.38	298.12	0.202
18.237	715.83	VV	-----	52.23	298.04	0.381
19.343	351.52	VV	-----	29.77	297.78	0.187
19.571	189.29	VV	-----	21.81	297.72	0.101
19.725	167.85	VV	-----	19.28	297.69	0.089
20.106	9066.65	VV	*------*	785.47	297.60	4.831
20.603	595.60	VV	-----	44.70	297.48	0.317
21.318	894.42	PV	*-----	73.92	299.43	0.477
21.616	138.88	VV	-----	19.38	301.33	0.074
21.745	195.09	VV	-----	23.60	302.15	0.104
21.873	171.40	VV	-----	19.22	302.98	0.091
22.356	221.78	VV	-----	28.15	306.06	0.118
22.770	142.17	BV	-----	29.48	307.64	0.076
22.943	9038.46	VV	0.151	935.43	307.13	4.818
23.447	154.77	VV	-----	23.77	305.65	0.082
23.629	1132.38	VV	-----	114.98	308.10	0.607

SUPELCO Bellefonte PA Cat No 2-3887 (mod) Cat No 2-3888 (mod)

7.087	89.72	VV	------	99.31	295.90	0.453
7.325	1249.98	VB	------*	10.32	297.04	0.048
8.202	413.00	BV	0.193	97.56	297.30	0.666
9.233	455.24	BP	0.18	33.49	297.60	0.220
10.810	1285.31	PV	------*	38.56	296.94	0.243
11.814	359.08	VV	0.143	80.12	297.09	0.685
12.195	11265.30	VB	0.17 *	39.18	300.54	0.191
13.591	211.06	VV	------	1055.19	301.27	6.003
13.887	392.40	VV	------*	19.33	302.20	0.112
14.951	689.60	VV	0.156	28.76	302.10	0.209
15.293	856.33	VB	0.18	69.12	301.72	0.367
16.163	1254.76	BV	------	75.13	301.60	0.456
16.400	429.35	VV	------	137.91	298.54	0.669
16.627	526.09	VV	------	49.42	298.49	0.229
17.173	1268.18	VV	0.154	48.52	298.44	0.280
17.516	252.28	VV	------	128.71	298.30	0.676
17.751	181.87	VV	------	26.16	298.22	0.134
17.942	378.22	VV	------	21.46	298.16	0.097
18.237	715.83	VV	------	33.38	298.12	0.202
19.343	351.52	VV	------	52.23	298.04	0.381
19.571	189.29	VV	------	29.77	297.78	0.187
19.725	167.85	VV	------	21.81	297.72	0.181
20.106	9066.65	VV	*------*	19.28	297.69	0.089
20.603	595.60	VV	------	785.47	297.60	4.831
21.318	894.42	PV	*------	44.70	297.48	0.317
21.616	138.88	VV	------	73.92	299.43	0.477
21.745	195.09	VV	------	19.38	301.33	0.074
21.873	171.40	VV	------	23.60	302.15	0.104
22.356	221.78	VV	------	19.22	302.98	0.091
22.770	142.17	BV	------	28.15	306.06	0.118
22.943	9038.46	VV	0.151	29.48	307.64	0.076
23.447	154.77	VV	------	935.43	307.13	4.816
23.629	1132.38	VV	------	23.77	305.65	0.082
23.904	1097.42	VV	0.149	114.98	305.10	0.603
24.283	913.68	VV	------	115.05	304.29	0.585
24.603	383.41	VV	------	86.08	303.17	0.487
24.915	521.10	VV	------	33.98	302.23	0.204
25.399	3390.37	VV	0.150	32.55	301.31	0.278
25.662	469.97	VV	------	353.13	299.88	1.807
25.962	481.67	VV	------	45.74	299.11	0.250
26.254	348.59	VV	------	41.55	298.22	0.257
26.624	1694.19	VV	0.143	24.43	297.36	0.186
27.091	999.15	VV	------	184.96	296.27	0.903
27.269	873.63	VV	------	99.26	294.89	0.532
27.610	841.32	VV	------	81.13	294.37	0.466
27.822	841.06	VV	------	89.57	293.36	0.448
28.462	5628.65	VV	0.134	85.70	292.74	0.448
29.028	477.47	VP	------	655.24	290.85	2.999
29.322	671.65	PV	------	47.88	289.18	0.254
29.560	814.99	VV	------	68.17	292.76	0.358
30.271	436.18	BV	*------	72.16	298.72	0.434
30.471	177.84	VV	------	32.13	308.48	0.232
30.673	113.60	VV	------	21.15	308.21	0.095
30.904	613.24	VP	0.135	14.39	307.92	0.061
31.322	97.60	PV	------	71.36	307.59	0.327
31.435	82.77	VV	------	13.43	307.33	0.052
31.646	227.95	VV	------	11.82	307.37	0.044
32.287	232.85	VV	------	27.30	307.45	0.121
32.425	263.38	VV	------	32.81	307.70	0.124
32.906	1003.33	VV	*------	31.06	307.75	0.140
33.234	192.30	VV	------	68.67	307.93	0.535
33.418	351.24	VV	------	21.11	308.05	0.102
33.745	914.39	VV	0.164	35.06	308.13	0.187
34.444	621.68	PV	0.215	87.16	308.25	0.487
35.039	16204.80	VV	0.126	45.15	308.95	0.331
35.422	1062.01	VV	------	2021.56	310.14	8.635
35.699	705.01	VV	------	108.11	310.91	0.566
36.311	5262.59	VV	0.131*	67.27	311.46	0.376
36.695	1171.51	VV	------	627.78	312.68	2.804
37.138	732.78	VV	*------	141.25	313.44	0.624
37.344	4717.29	VV	0.122	71.24	314.33	0.390
37.575	313.80	VV	------	606.85	314.74	2.514
37.822	246.43	VV	------	36.46	315.20	0.167
37.988	231.44	VP	------	29.27	315.70	0.131
38.471	584.48	PV	------	24.57	316.03	0.123
38.719	1392.41	VV	------*	57.59	317.26	0.311
39.130	825.10	VV	------*	119.82	318.05	0.742
39.676	3375.72	VV	*------	67.44	319.35	0.440
40.002	2411.97	VV	------	311.56	321.10	1.799
40.220	951.40	VV	------	290.62	322.13	1.285
40.489	6078.05	VV	------*	125.04	322.83	0.507
40.872	231.90	VV	------	628.34	323.68	3.239
41.291	808.25	BV	------	27.30	324.91	0.124
41.496	1035.61	VV	------	110.08	325.34	0.431
41.736	762.48	VV	------	109.06	324.81	0.552
42.575	1183.92	PV	0.158	74.20	324.19	0.406
42.860	588.55	VV	------	117.35	322.58	0.631
43.062	221.99	VV	------	56.58	322.32	0.314
43.313	424.70	VV	------	28.16	322.15	0.118
43.604	290.50	VV	------	38.31	321.92	0.226
43.908	451.85	VV	------	20.66	321.66	0.155
44.319	351.64	VV	------	45.87	321.39	0.241
44.717	5427.75	VV	*0.164	32.16	321.02	0.187
45.092	557.66	VV	------	516.68	320.66	5.892
45.474	492.42	VV	------	47.95	320.32	0.297
45.617	344.23	VV	------	41.07	319.99	0.262
45.973	1272.71	VV	------	39.18	319.85	0.183

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (and) Cat. No. 2-2888 (box of 10 vials)

35.039	16204.80	VV	0.126	2021.56	310.14	8.635	
35.422	1062.01	VV	-----	108.11	310.91	0.566	
35.699	705.01	VV	-----	67.27	311.46	0.376	
36.311	5262.59	VV	0.131*	627.78	312.68	2.804	
36.695	1171.51	VV	-----	141.25	313.44	0.624	179
37.138	732.78	VV	*-----	71.24	314.33	0.390	
37.344	4717.29	VV	0.122	606.85	314.74	2.514	
37.575	313.80	VV	-----	36.46	315.20	0.167	
37.822	246.43	VV	-----	29.27	315.70	0.131	
37.988	231.44	VP	-----	24.57	316.03	0.123	
38.471	584.48	PV	-----	57.59	317.26	0.311	
38.719	1392.41	VV	-----*	119.82	318.05	0.742	
39.130	825.10	VV	-----*	67.44	319.35	0.440	
39.676	3375.72	VV	*-----	311.56	321.10	1.799	
40.002	2411.97	VV	-----	290.62	322.13	1.285	
40.220	951.40	VV	-----	125.04	322.83	0.507	
40.489	6078.85	VV	-----*	628.34	323.68	3.239	
40.872	231.90	VV	-----	27.30	324.91	0.124	
41.291	808.25	BV	-----	110.08	325.34	0.431	
41.496	1035.61	VV	-----	109.06	324.81	0.552	
41.736	762.48	VV	-----	74.20	324.19	0.406	
42.575	1183.92	PV	0.158	117.35	322.58	0.631	
42.860	588.55	VV	-----	56.58	322.32	0.314	
43.062	221.99	VV	-----	28.16	322.15	0.118	
43.313	424.70	VV	-----	38.31	321.92	0.226	
43.604	290.50	VV	-----	20.66	321.66	0.155	
43.998	451.85	VV	-----	45.87	321.39	0.241	
44.319	351.64	VV	-----	32.16	321.02	0.187	
44.717	5427.75	VV	*0.164	516.68	320.66	2.892	
45.092	557.66	VV	-----	47.95	320.32	0.297	
45.474	492.42	VV	-----	41.07	319.99	0.262	
45.617	344.23	VV	-----	39.18	319.85	0.183	
45.973	1272.71	VV	*-----	69.76	319.53	0.678	
46.287	1385.80	VV	-----	98.43	319.26	0.738	
46.704	314.66	VV	-----	30.65	318.87	0.168	
46.907	341.09	VV	-----	30.94	318.70	0.182	
47.065	245.31	VV	-----	25.33	318.55	0.131	
47.566	795.72	VV	0.216	57.70	318.11	0.424	
48.185	216.02	VV	-----	12.46	317.55	0.115	
48.681	110.21	VV	-----	10.97	317.11	0.059	
48.904	433.97	VV	-----	20.93	316.91	0.231	
49.536	1564.57	VV	-----	117.72	316.34	0.834	
50.565	176.36	VV	-----	14.14	315.42	0.094	
50.780	195.31	VP	-----	17.30	315.22	0.104	
51.289	3725.49	PH	0.202	288.61	315.02	1.985	
51.676	480.06	HH	-----	46.61	315.02	0.256	
51.925	1768.31	HH	-----	130.64	315.02	0.942	
52.257	430.64	HH	-----	29.98	315.02	0.229	
52.934	3620.74	HH	-----*	155.21	315.02	1.929	
53.775	452.45	HH	-----	31.95	315.02	0.241	
54.302	7048.09	HH	-----	448.14	315.02	3.756	
54.724	4753.21 A	HH	-----	327.85	315.02	2.533	

TOTAL AREA = 187657.00
MULTIPLIER = 1

SUPELCO Bellefonte PA Cat No 2-2887 (pad) Cat No 2-2888 (box of 10 pads)

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********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 1740

SAMPLE ID: 9SL,S-3A,SOIL

OVEN TEMP NOT READY

SKIP

RT: SPEED [illegible] DAF RT: EXTEND RT → ON
RT: VALVE 6 → OFF

1.819
2.191
3.181
3.735
5.784
6.787
7.987
8.186
8.650
RT: ATTN → 2^5504
10.059 CHART SPEED → 0.75 CM/MIN
11.787

C

5 027

SUPELCO Bellefonte PA

ID

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

9SL, S-3A, SOIL

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: 1180

Sample wt/vol: 10.13 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: 30 MAR 89

% Moisture: dec. 20.1% not dec. Date Extracted: 03 APR 89

Extraction: SOXHLET Date Analyzed: 21 APR 89

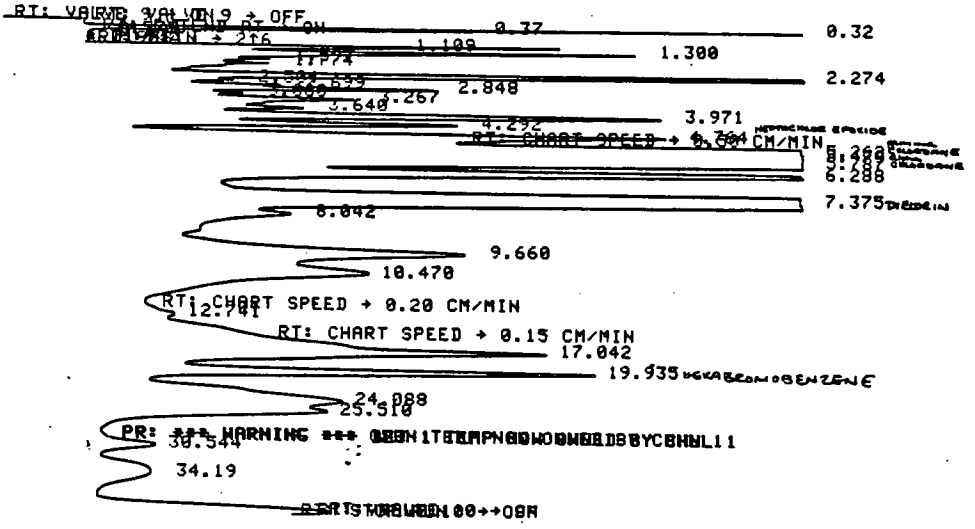
GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

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	10	U
1024-57-3	Heptachlor epoxide	7	J
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	110	
72-55-9	4,4'-DDE	20	U
72-20-8	Endrin	20	U
33213-65-9	Endosulfan II	20	U
72-54-8	4,4'-DDD	20	U
1031-07-8	Endosulfan sulfate	20	U
50-29-3	4,4'-DDT	20	U
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	20	U
5103-71-9	alpha-Chlordane	22	J
5103-74-2	gamma-Chlordane	14	J
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

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 1205

SAMPLE ID: 95L,S-3A,Soil



[hp] 5880A SAMPLER INJECTION @ 12:07 APR 21, 1989
SAMPLE # : ID CODE :
16 1180

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 322.09			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.317	731888.00	BH	-----	368013.00	303.03	37.788
0.370	423982.00	HH	-----	126836.00	303.03	21.891
0.50			RT: EXTEND RT → ON			
0.573	10483.60	HH	-----	2691.87	303.03	0.541
0.694	13130.80	HH	-----	3614.58	303.03	0.678
0.832	14160.20	HH	-----	3560.42	303.03	0.731
0.958	5588.42	HH	-----	791.31	303.03	0.289
1.109	2816.36	HH	-----	414.39	303.03	0.145
1.300	7552.47	HH	-----*	729.53	303.03	0.390
1.597	2047.56	HH	-----	255.92	303.03	0.106
1.774	1989.41	HH	-----	255.40	303.03	0.103
2.274	14906.80	HH	0.116	2009.26	303.03	0.770
2.504	1721.77	HH	-----	209.44	303.03	0.089
2.699	1930.96	HH	-----	270.50	303.03	0.100
2.848	4694.89	HH	-----	467.94	303.03	0.242
3.060	1863.51	HH	-----	221.42	303.03	0.096
3.267	6278.16	HH	-----	366.59	303.03	0.324
3.640	3758.39	HH	-----	300.04	303.03	0.194
3.971	10636.80	HH	-----	763.45	303.03	0.549
4.292	6483.96	HH	-----	498.68	303.03	0.335
4.764	14425.80	HH	-----*	768.90	303.03	0.745
5.262	26412.40	HH	-----	2019.83	303.03	1.364
5.479	36368.60	HH	-----	2536.22	303.03	1.878
5.787	42715.70	HH	-----	2633.17	303.03	2.205
6.288	23838.50	HH	-----	1216.93	303.03	1.231
7.375	186069.00	HH	0.285	10216.30	303.03	9.607
8.042	10421.70	HH	-----	285.52	303.03	0.538
9.660	21400.80	HH	-----	512.15	303.03	1.105
10.470	22595.40	HH	-----	388.34	303.03	1.167
12.741	10534.40	HH	-----	139.06	303.03	0.544
17.042	102708.00	HH	*------*	619.27	303.03	5.303
19.935	43677.90	HH	-----	681.22	303.03	2.255
24.088	55785.40	HH	*-----	356.75	303.03	2.880
25.510	34289.60	HH	-----	337.14	303.03	1.770
30.544	14799.20	HH	-----	116.58	303.03	0.764
34.193	24844.20	HH	-----	110.97	303.03	1.283

TOTAL AREA = 1936800.00
MULTIPLIER = 1

********** EA LABORATORIES **********

---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 1740

SAMPLE ID: 9SL,S-3A,SO1L

OVEN TEMP NOT READY

RT: VALVE 6 → OFF RT: EXTEND RT → ON

1.819 2.191

3.181 3.735

5.784

6.787 7.387

8.186 8.650

RT: CHART SPEED → 0.75 CM/MIN

RT: OVEN TEMP=174°C SETPT=174°C LIMIT=300°C

12.257

13.425

14.368 15.326

RT: OVEN TEMP=182°C SETPT=182°C LIMIT=300°C

16.443

17.208 17.787 18.328

RT: OVEN TEMP=198°C SETPT=198°C LIMIT=300°C

19.631 19.989 20.135

20.301 21.357

22.090 22.792 22.965

24.309 24.625 25.098 25.364

25.961

26.257 26.628 27.100

RT: OVEN TEMP=206°C SETPT=206°C LIMIT=300°C

28.255 28.472

28.724

29.363

30.237 30.674 30.993

RT: OVEN TEMP=214°C SETPT=214°C LIMIT=300°C

32.29 32.85

33.26 33.76

34.47 34.88 35.05

35.45

RT: OVEN TEMP=222°C SETPT=222°C LIMIT=300°C

36.32 36.70 36.96 37.13 37.35

38.48 38.71 39.12

HEXABROMOBENZENE

RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C OV: START FINAL TIME 1

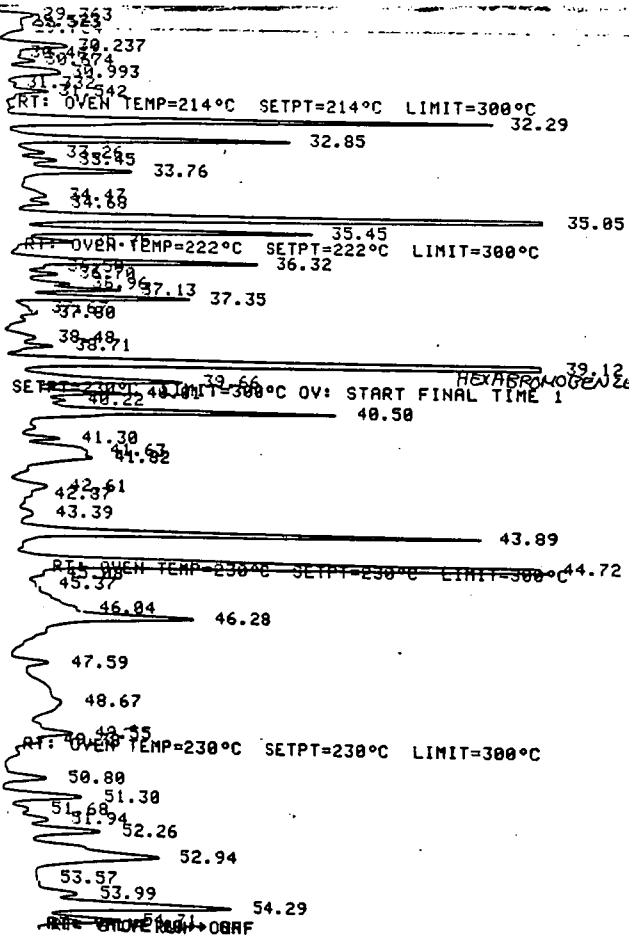
40.22 40.50

41.30

5 030

174

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (each) Cat. No. 2-2888 (box of 10 pcs)



[hp] 5880A SAMPLER INJECTION @ 17:45 APR 8, 1989
SAMPLE # : ID CODE :
21 WG 1180
AREA % COMPENSATED ANALYSIS

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 230.68			
0.00			THRESHOLD @ START RUN = 4			
0.00			PEAK WIDTH @ START RUN = 0.02			
0.00			RP: EXTEND RT → ON			
0.01			RP: EXTEND RT → ON			
1.819	30356.30	BV	-----*	1941.47	265.49	7.728
2.191	136760.00	VV	-----*	7139.78	268.79	34.816
3.181	3363.22	VV	-----*	176.59	277.59	0.856
3.735	1602.19	VV	-----*	73.53	282.50	0.408
5.784	3023.73	VV	-----	232.07	300.68	0.770
6.787	114.45	BV	-----	10.62	308.02	0.029
7.162	488.78	VV	-----	51.92	307.12	0.124
7.387	3964.33	VP	0.22	281.30	306.58	1.009
8.186	543.69	PV	0.195	43.75	305.02	0.138
8.650	1281.62	VV	0.20	98.85	304.85	0.326
9.301	186.64	VV	-----	15.55	304.60	0.048
9.504	252.96	VV	-----	19.12	304.53	0.064
10.055	871.38	VV	0.248	54.98	304.31	0.222
11.783	146.50	VV	-----	12.86	303.66	0.037
12.257	2911.59	VV	0.195*	233.94	303.48	0.741
13.425	250.39	VV	-----	14.88	303.04	0.064
14.568	406.36	VV	-----	41.18	302.60	0.103
14.798	416.11	VV	-----	43.39	302.52	0.106
14.988	288.30	VV	-----	25.58	302.44	0.073
15.326	716.47	VV	-----	50.28	302.31	0.182
16.206	328.25	VV	-----	32.90	301.98	0.084
16.443	2023.95	VV	-----*	193.84	301.89	0.515
17.208	331.22	VV	-----	28.13	301.60	0.084
17.783	230.92	VV	-----	25.85	301.39	0.059
18.007	307.53	VV	-----	25.64	301.30	0.078
18.328	490.66	VV	-----	31.12	301.17	0.125
19.631	323.39	VV	-----	27.21	300.68	0.082
19.989	2003.29	VV	-----	301.06	300.55	0.510
20.135	6364.51	VV	-----*	399.81	300.49	1.620
20.901	409.34	VV	-----	37.44	300.20	0.104
21.124	233.65	VV	-----	25.46	300.12	0.059
21.357	1165.87	VV	-----	68.19	300.03	0.297
22.090	312.33	VV	-----	23.94	299.75	0.080
22.792	1102.43	VV	-----	142.21	299.48	0.281
22.965	2876.97	VV	-----	294.93	299.42	0.732
23.459	1773.67	VV	-----	256.99	299.24	0.452
23.568	1844.83	VV	-----	218.07	299.19	0.470
23.929	915.88	VV	-----	59.50	299.06	0.233
24.300	477.40	VV	-----	36.19	298.92	0.122
24.625	1068.71	VV	-----	79.27	298.79	0.272

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (bag) Cat. No. 2-2888 (box of 10 vials)

7.162	488.78	VV	-----	51.92	307.12	0.124
7.387	3964.33	VP	0.22	281.30	306.58	1.009
8.186	543.69	PV	0.195	43.75	305.02	0.138
8.650	1281.62	VV	0.20	98.85	304.85	0.326
9.301	186.64	VV	-----	15.55	304.60	0.048
9.504	252.96	VV	-----	19.12	304.53	0.064
10.055	871.38	VV	0.248	54.98	304.31	0.222
11.783	146.50	VV	-----	12.06	303.66	0.037
12.257	2911.59	VV	0.195*	233.94	303.48	0.741
13.425	250.39	VV	-----	14.88	303.04	0.064
14.568	406.36	VV	-----	41.18	302.60	0.103
14.798	416.11	VV	-----	43.39	302.52	0.106
14.988	288.30	VV	-----	25.58	302.44	0.073
15.326	716.47	VV	-----	50.28	302.31	0.182
16.206	328.25	VV	-----	32.90	301.98	0.084
16.443	2023.95	VV	-----*	193.04	301.89	0.515
17.208	331.22	VV	-----	28.13	301.60	0.084
17.783	230.92	VV	-----	25.85	301.39	0.059
18.007	307.53	VV	-----	25.64	301.30	0.078
18.328	490.66	VV	-----	31.12	301.17	0.125
19.631	323.39	VV	-----	27.21	300.68	0.082
19.989	2003.29	VV	-----	301.06	300.55	0.510
20.135	6364.51	VV	-----*	399.81	300.49	1.620
20.901	409.34	VV	-----	37.44	300.20	0.104
21.124	233.65	VV	-----	25.46	300.12	0.059
21.357	1165.87	VV	-----	68.19	300.03	0.297
22.090	312.33	VV	-----	23.94	299.75	0.080
22.792	1102.43	VV	-----	142.21	299.48	0.281
22.965	2876.97	VV	-----	294.93	299.42	0.732
23.459	1773.67	VV	-----	256.99	299.24	0.452
23.568	1844.83	VV	-----	218.07	299.19	0.470
23.929	915.88	VV	-----	59.50	299.06	0.233
24.300	477.40	VV	-----	36.19	298.92	0.122
24.625	1068.71	VV	-----	70.23	298.79	0.272
24.939	806.56	VV	-----	88.82	298.68	0.205
25.096	612.96	VV	-----	72.60	298.61	0.156
25.364	6755.13	VV	-----	814.73	298.51	1.720
25.961	2641.43	VV	-----	348.15	298.28	0.672
26.257	327.89	VV	-----	30.09	298.17	0.083
26.628	9588.45	VV	0.115	1302.60	298.04	2.441
26.899	536.97	VV	-----	74.21	297.93	0.137
27.100	9500.09	VV	-----	1354.65	297.85	2.419
27.370	601.79	VV	-----	60.65	297.75	0.153
27.622	771.81	VV	-----	76.76	297.65	0.196
27.834	405.97	VV	-----	38.20	297.57	0.103
28.255	391.13	VV	-----	48.23	297.41	0.10
28.472	43935.30	VV	-----	6474.52	297.33	11.185
28.724	942.18	VV	-----	93.02	297.24	0.240
29.363	559.65	PH	-----	46.38	297.06	0.142
29.573	396.56	HH	-----	37.97	297.06	0.101
29.754	633.26	HH	-----	40.27	297.06	0.161
30.237	1138.40	HH	-----	70.31	297.06	0.290
30.467	295.57	HH	-----	38.18	297.06	0.075
30.674	611.66	HH	-----	48.37	297.06	0.156
30.993	1224.67	HH	-----	66.48	297.06	0.312
31.332	346.45	HH	-----	35.57	297.06	0.088
31.542	673.84	HH	-----	57.71	297.06	0.172
32.292	3467.78	HH	-----*	361.61	297.06	0.883
32.855	2287.90	HH	-----	221.48	297.06	0.582
33.262	704.91	HH	-----	52.38	297.06	0.179
33.455	669.50	HH	-----	61.11	297.06	0.170
33.758	1644.72	HH	-----	112.86	297.06	0.419
34.471	1095.05	HH	-----	54.77	297.06	0.279
34.684	750.66	VV	-----	56.70	297.06	0.191
35.047	5245.17	HH	0.139	589.30	297.06	1.335
35.453	2102.01	HH	-----	237.14	297.06	0.535
35.748	1256.67	HH	-----	71.57	297.06	0.320
36.317	1997.57	HH	-----	199.23	297.06	0.509
36.502	421.74	HH	-----	53.36	297.06	0.107
36.700	626.98	HH	-----	62.06	297.06	0.160
36.958	762.94	HH	-----	70.93	297.06	0.194
37.128	945.42	HH	-----	105.59	297.06	0.241
37.349	1348.52	HH	-----	154.21	297.06	0.343
37.674	537.20	HH	-----	44.48	297.06	0.137
37.798	513.85	HH	-----	49.48	297.06	0.131
38.478	809.98	HH	-----	49.24	297.06	0.206
38.706	928.56	HH	-----	61.12	297.06	0.236
39.118	7095.35	HH	0.119	932.13	297.06	1.806
39.658	2117.10	HH	-----	148.53	297.06	0.539
40.008	1390.67	HH	-----	108.08	297.06	0.354
40.222	568.27	HH	-----	67.78	297.06	0.145
40.497	3499.22	HH	-----*	256.36	297.06	0.891
41.296	689.02	HH	-----	64.27	297.06	0.175
41.627	1492.73	HH	-----	83.96	297.06	0.380
41.815	1439.57	HH	-----	87.21	297.06	0.366
42.613	1090.93	HH	-----	57.05	297.06	0.278
42.873	555.03	HH	-----	47.35	297.06	0.141
43.390	1155.42	HH	-----	48.31	297.06	0.294
43.893	4097.07	HH	0.180	357.25	297.06	1.043
44.723	9741.05	HH	0.166	918.24	297.06	2.480
45.080	660.08	HH	-----	54.29	297.06	0.168
45.373	515.33	HH	-----	49.75	297.06	0.131
46.037	2475.33	HH	*-----	78.03	297.06	0.630
46.280	3192.32	HH	-----	158.81	297.06	0.813
47.593	1080.96	HH	-----	59.69	297.06	0.275
48.673	4921.60	HH	*-----*			

1180

5032

34.684	750.66	VV	-----	34.77	297.06	0.279
35.047	5245.17	HH	0.139	56.79	297.06	0.191
35.453	2102.01	HH	-----	589.30	297.06	1.335
35.748	1256.67	HH	-----	237.14	297.06	0.535
36.317	1997.57	HH	-----	71.57	297.06	0.320
36.502	421.74	HH	-----	199.23	297.06	0.509
36.700	626.98	HH	-----	53.36	297.06	0.107
36.958	762.94	HH	-----	62.06	297.06	0.160
37.128	945.42	HH	-----	70.93	297.06	0.194
37.349	1348.52	HH	-----	105.59	297.06	0.241
37.674	537.20	HH	-----	154.21	297.06	0.343
37.798	513.85	HH	-----	44.48	297.06	0.137
38.478	809.98	HH	-----	49.48	297.06	0.131
38.706	928.56	HH	-----	49.24	297.06	0.206
39.118	7095.35	HH	0.119	61.12	297.06	0.236
39.658	2117.10	HH	-----	932.13	297.06	1.806
40.008	1390.67	HH	-----	148.53	297.06	0.539
40.222	568.27	HH	-----	108.08	297.06	0.354
40.497	3499.22	HH	-----*	67.78	297.06	0.145
41.296	689.02	HH	-----	256.36	297.06	0.891
41.627	1492.73	HH	-----	64.27	297.06	0.175
41.815	1439.57	HH	-----	83.96	297.06	0.380
42.613	1090.93	HH	-----	87.21	297.06	0.366
42.873	555.03	HH	-----	57.05	297.06	0.278
43.390	1155.42	HH	-----	47.35	297.06	0.141
43.893	4097.07	HH	0.180	48.31	297.06	0.294
44.723	9741.05	HH	0.166	357.25	297.06	1.043
45.080	660.08	HH	-----	918.24	297.06	2.480
45.373	515.33	HH	-----	54.29	297.06	0.168
46.037	2475.33	HH	*-----	49.75	297.06	0.131
46.280	3192.32	HH	-----	78.03	297.06	0.630
47.593	1080.96	HH	-----	158.81	297.06	0.813
48.673	4921.60	HH	*-----*	59.69	297.06	0.275
49.546	1782.75	HH	-----	68.99	297.06	1.253
49.777	922.66	HH	-----	76.80	297.06	0.454
50.799	1068.79	HH	-----	55.86	297.06	0.235
51.302	1385.90	HH	-----	57.49	297.06	0.272
51.677	674.91	HH	-----	82.55	297.06	0.353
51.938	904.54	HH	-----	47.12	297.06	0.172
52.257	1669.47	HH	-----	60.68	297.06	0.230
52.936	4449.18	HH	*-----	95.75	297.06	0.425
53.566	899.62	HH	-----	137.53	297.06	1.133
53.987	1803.03	HH	-----	54.34	297.06	0.229
54.292	3196.19	HH	-----	81.60	297.06	0.459
54.710	1930.42 A	HH	-----	188.10	297.06	0.814
				112.08	297.06	0.491

TOTAL AREA = 392809.00
MULTIPLIER = 1

1180

SUPELCO Bellefonte PA Cat No 2-3887 [illegible] Cat No 2-3888 [illegible]

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********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 1855

SAMPLE ID: 954, S-38, SO1C

OVEN TEMP NOT READY

[illegible] RT: EXTEND RT +
RT: VALVE 6 → OFF
1.603
2.010
3.052
3.670
5.128
6.030
7.522
8.110
[illegible] → 275
RT: CHART SPEED → 0.75 CM/MIN

C

5 033

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

95L, S-3B, SOIL DL

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) soil Lab Sample ID: 1181

Sample wt/vol: 10.09 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: 30 MAR 89

% Moisture: dec. 14.3% not dec. Date Extracted: 03 APR 89

Extraction: SOXHLET Date Analyzed: 21 APR 89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 10

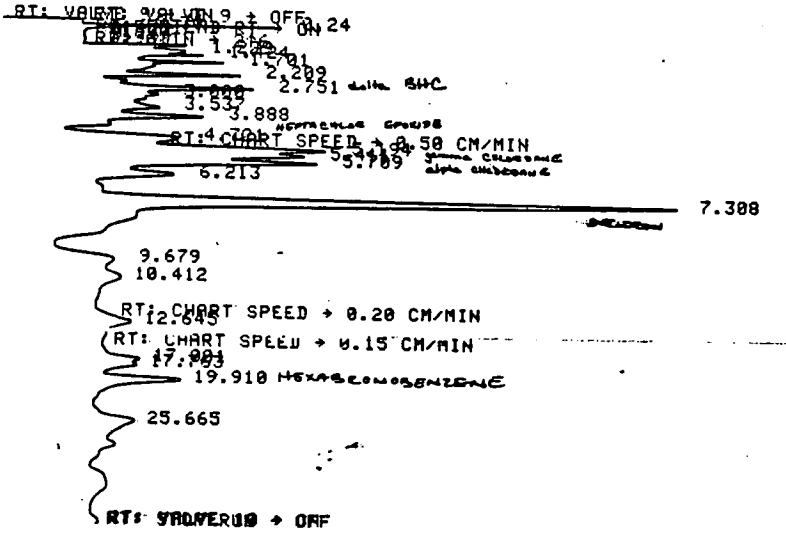
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	94	U
319-85-7	beta-BHC	94	U
319-86-8	delta-BHC	27	J
58-89-9	gamma-BHC (Lindane)	94	U
76-44-8	Heptachlor	94	U
309-00-2	Aldrin	94	U
1024-57-3	Heptachlor epoxide	15	J
959-98-8	Endosulfan I	94	U
60-57-1	Dieldrin	98	J
72-55-9	4,4'-DDE	190	U
72-20-8	Endrin	190	U
33213-65-9	Endosulfan II	190	U
72-54-8	4,4'-DDD	190	U
1031-07-8	Endosulfan sulfate	190	U
50-29-3	4,4'-DDT	190	U
72-43-5	Methoxychlor	940	U
53494-70-5	Endrin ketone	190	U
5103-71-9	alpha-Chlordane	29	J
5103-74-2	gamma-Chlordane	27	J
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	940	U
11104-28-2	Aroclor-1221	940	U
11141-16-5	Aroclor-1232	940	U
53469-21-9	Aroclor-1242	940	U
12672-29-6	Aroclor-1248	940	U
11097-69-1	Aroclor-1254	1900	U
11096-82-5	Aroclor-1260	1900	U

FORM I PES

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 1318

SAMPLE ID: 9SL,S-3B,S-0 DL



[hp] 5880A SAMPLER INJECTION @ 13:24 APR 21, 1989
SAMPLE # : ID CODE :
17 1181X10
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 295.86			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT + ON			
0.242	123578.00	BV	0.031	63385.30	283.48	46.732
0.300	52873.90	VV	-----	15369.40	283.30	19.995
0.50			RT: EXTEND RT + ON			
0.506	1905.81	VV	-----	382.09	282.66	0.721
0.627	3439.25	VV	-----	826.16	282.28	1.301
0.764	5517.05	VV	-----	1198.11	281.85	2.086
0.938	1628.13	VV	-----	319.17	281.31	0.616
1.229	1087.01	VV	-----	145.37	280.48	0.411
1.424	1530.03	VV	-----	168.01	279.79	0.579
1.701	1503.98	VV	-----	194.94	278.92	0.569
2.209	2024.10	VV	-----	218.32	277.34	0.765
2.751	2818.54	VV	-----	236.44	275.64	1.066
3.000	1300.42	VV	-----	115.91	274.86	0.492
3.537	2308.94	VV	-----	119.25	273.18	0.873
3.888	2704.87	VV	-----	176.40	272.08	1.023
4.721	3175.80	PV	------	148.09	269.65	1.201
5.194	5073.10	VV	-----	337.02	268.45	1.918
5.411	4081.28	VV	-----	310.22	267.90	1.543
5.709	5587.81	VV	-----	326.88	267.13	2.113
6.213	3155.67	VV	-----	146.31	265.85	1.193
7.308	16215.30	VV	0.318	797.37	263.07	6.132
9.679	1803.72	PV	-----	60.63	277.29	0.682
10.412	1788.14	VB	-----	48.56	298.56	0.676
12.645	2499.88	BB	-----	41.83	319.41	0.945
17.001	1720.79	BV	-----	41.99	330.25	0.651
17.763	1919.39	VP	-----	40.50	328.24	0.726
19.910	6032.67	PB	0.928	101.82	323.07	2.281
25.665	7168.02	BH	-----	53.81	312.53	2.711

TOTAL AREA = 264441.00
MULTIPLIER = 1

********** EA LABORATORIES **********

---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 1855

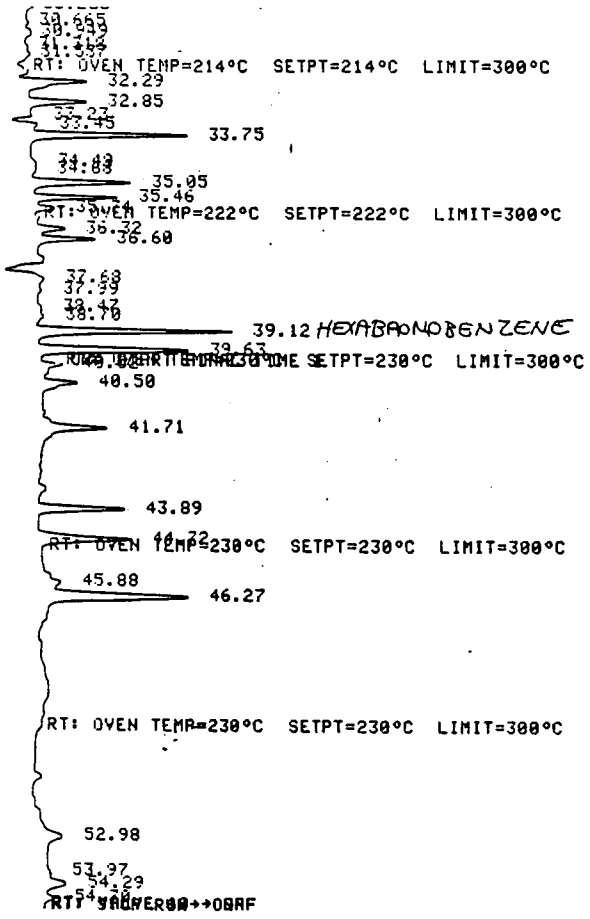
SAMPLE ID: 95L, S-3B, SOIL

OVEN TEMP NOT READY

RT: EXTEND RT → ON
RT: VALVE 6 → OFF
1.603
2.010
3.052
3.670
5.128
5.632
6.030
7.522
8.110
9.225
RT: ALTN → 2↑5
RT: CHART SPEED → 0.75 CM/MIN
10.078
11.539
RT: OVEN TEMP=174°C SETPT=174°C LIMIT=300°C
12.203
14.313
15.296
RT: OVEN TEMP=182°C SETPT=182°C LIMIT=300°C
16.407
17.757
RT: OVEN TEMP=190°C SETPT=190°C LIMIT=300°C
20.379
21.322
22.082
22.345
22.766
22.944
23.435
RT: OVEN TEMP=198°C SETPT=198°C LIMIT=300°C
24.575
24.916
25.349
25.949
26.617
27.087
27.618
RT: OVEN TEMP=206°C SETPT=206°C LIMIT=300°C
28.241
28.460
29.404
30.256
30.665
30.949
31.537
RT: OVEN TEMP=214°C SETPT=214°C LIMIT=300°C
32.29
32.85
33.23
33.45
33.75
34.49
34.83
35.05
35.46
RT: OVEN TEMP=222°C SETPT=222°C LIMIT=300°C
36.32
36.60
37.68
37.99
38.47
38.70
39.12 HEXABROMOBENZENE
39.63
RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C
40.50
41.71
43.89
44.72
RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C
45.88
46.27

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pad): Cat. No. 2-2888 (box of 10 pads)

SUPELCO, Bellefonte, PA



[hp] 5880A SAMPLER INJECTION @ 19:00 APR 8, 1989
SAMPLE # : ID CODE :
22 WG 1181 10
AREA % COMPENSATED ANALYSIS

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 229.62			
0.00			THRESHOLD @ START RUN = 4			
0.00			PEAK WIDTH @ START RUN = 0.02			
0.01			RT: EXTEND RT → ON			
0.01			RP: EXTEND RT → ON			
1.603	9231.10	BV	-----*	961.42	268.93	11.941
2.010	27076.90	VV	*------*	1816.63	280.57	35.025
3.052	58.22	BB	-----	10.70	309.74	0.075
3.670	1316.55	BV	-----*	70.82	295.80	1.703
5.128	160.21	VV	0.15	16.50	297.63	0.207
5.692	554.29	VV	-----	55.17	298.33	0.717
6.030	1404.19	VV	-----*	75.18	298.75	1.816
6.932	69.05	VV	-----	9.47	299.88	0.089
7.080	127.69	VV	-----	14.70	300.06	0.165
7.314	1147.19	VV	-----*	127.84	300.36	1.484
7.522	499.36	VV	-----	46.37	300.61	0.634
8.110	86.16	VB	0.132	10.25	301.34	0.111
9.225	313.29	BV	0.15	32.05	300.23	0.405
10.078	1312.45	VB	*------*	76.40	300.28	1.698
11.539	134.82	VV	-----	15.42	301.26	0.174
12.203	224.00	BV	0.140	25.10	301.79	0.290
14.313	268.97	BV	-----	31.31	300.46	0.348
15.296	890.19	BV	-----*	75.38	300.78	1.151
16.407	478.20	VV	0.18	40.64	298.35	0.619
17.757	198.49	VV	-----	20.07	295.38	0.257
19.970	484.10	VV	-----	56.05	290.52	0.626
20.105	713.43	VV	-----*	56.30	290.23	0.923
20.379	427.61	VV	-----	43.15	289.62	0.553
21.322	1395.95	PV	0.221	98.93	289.66	1.806
22.082	147.12	VV	-----	10.91	293.12	0.190
22.345	306.64	VV	-----	24.78	294.32	0.397
22.766	332.23	VV	-----	38.29	296.24	0.430
22.944	542.14	VV	-----	51.07	297.05	0.701
23.435	285.58	VV	-----	21.71	299.28	0.369
24.575	293.84	BV	0.168	27.40	304.24	0.380
24.916	132.11	VB	0.135	15.29	305.32	0.171
25.349	1223.07	BP	0.126	151.87	303.89	1.582
25.949	357.08	VV	0.127	43.87	302.94	0.462
26.617	1327.55	VV	0.121	171.91	303.15	1.717
27.087	1104.65	VV	0.119	144.76	303.29	1.429
27.618	783.13	VV	0.132	93.00	303.45	1.013
28.241	82.33	BV	-----	11.78	300.68	0.106
28.460	4415.99	VV	0.114	605.52	295.55	5.710
29.404	431.28	PV	-----*	25.92	286.02	0.558
29.741	188.46	VV	-----	12.54	296.15	0.244
30.256	64.98	BB	0.167	6.09	305.98	0.084

SUPELCO, Bellefonte PA, Cat No 2-2887 (and) Cat No 2-2888 (box of 10 vials)

6.936	1484.19	VV	-----*	75.18	298.75	1.816	
6.932	69.05	VV	-----	9.47	299.88	0.089	
7.080	127.69	VV	-----	14.70	300.06	0.165	1181
7.314	1147.19	VV	-----*	127.84	300.36	1.484	
7.522	490.36	VV	-----	46.37	300.61	0.634	
8.110	86.16	VB	0.132	10.25	301.34	0.111	
9.225	313.29	BV	0.15	32.05	300.23	0.405	
10.078	1312.45	VB	*-----*	76.40	300.28	1.698	
11.539	134.82	VV	-----	15.42	301.26	0.174	
12.203	224.00	BV	0.140	25.10	301.79	0.290	
14.313	268.97	BV	-----	31.31	300.46	0.348	
15.296	890.19	BV	-----*	75.38	300.78	1.151	
16.407	478.20	VV	0.18	40.64	298.35	0.619	
17.757	198.49	VV	-----	20.07	295.38	0.257	
19.970	484.10	VV	-----	56.05	290.52	0.626	
20.105	713.43	VV	-----*	56.30	290.23	0.923	
20.379	427.61	VV	-----	43.15	289.62	0.553	
21.322	1395.95	PV	0.221	98.93	289.66	1.806	
22.082	147.12	VV	-----	10.91	293.12	0.190	
22.345	306.64	VV	-----	24.78	294.32	0.397	
22.766	332.23	VV	-----	38.29	296.24	0.430	
22.944	542.14	VV	-----	51.07	297.05	0.701	
23.435	285.58	VV	-----	21.71	299.28	0.369	
24.575	293.84	BV	0.168	27.40	304.24	0.380	
24.916	132.11	VB	0.135	15.29	305.32	0.171	
25.349	1223.07	BP	0.126	151.87	303.89	1.582	
25.949	357.08	VV	0.127	43.87	302.94	0.462	
26.617	1327.55	VV	0.121	171.91	303.15	1.717	
27.087	1104.65	VV	0.119	144.76	303.29	1.429	
27.618	783.13	VV	0.132	93.00	303.45	1.013	
28.241	82.33	BV	-----	11.78	300.68	0.106	
28.460	4415.99	VV	0.114	605.52	295.55	5.712	
29.404	431.28	PV	-----*	25.92	286.02	0.558	
29.741	188.46	VV	-----	12.54	296.15	0.244	
30.256	64.98	BB	0.167	6.09	305.98	0.084	
30.665	39.74	BV	-----	4.26	305.02	0.051	
30.949	110.05	VV	-----	7.55	303.74	0.142	
31.318	68.66	VV	-----	6.79	302.07	0.089	
31.537	130.81	VP	-----	9.29	301.03	0.169	
32.287	560.45	VV	-----*	49.66	298.20	0.725	
32.847	587.43	VV	-----	51.64	296.26	0.760	
33.228	186.04	VP	-----	14.82	294.94	0.241	
33.452	200.98	PV	-----	19.37	294.42	0.260	
33.754	1286.68	VV	0.162	124.16	294.03	1.664	
34.486	507.12	VV	-----	19.81	293.09	0.656	
34.675	308.81	VV	-----	19.72	292.85	0.399	
35.049	968.16	VV	-----	86.34	292.38	1.252	
35.456	762.28	VV	-----	77.86	291.86	0.986	
35.741	433.70	VV	-----	34.54	291.49	0.561	
36.318	535.45	VV	-----	39.96	290.75	0.693	
36.596	921.48	VV	-----	61.82	290.40	1.192	
37.681	526.59	PV	*-----	26.54	290.42	0.681	
37.992	337.86	VV	-----	22.99	291.94	0.437	
38.469	369.38	VV	-----	21.07	294.26	0.478	
38.701	373.31	VV	-----	21.59	295.39	0.483	
39.116	1394.59	VV	0.145	150.75	297.40	1.804	
39.633	1240.98	VV	0.164	118.18	299.91	1.605	
40.015	311.96	VV	-----	24.98	301.77	0.404	
40.504	499.13	VV	-----	34.28	304.14	0.646	
41.715	712.65	VB	0.225	49.58	310.03	0.922	
43.893	483.90	PV	0.124	60.93	310.57	0.626	
44.720	736.20	PV	0.176	65.65	310.78	0.952	
45.882	223.83	VV	-----	16.06	311.09	0.290	
46.271	1342.89	VV	0.201	104.85	311.19	1.737	
52.979	206.72	PB	-----	12.70	315.58	0.267	
53.967	63.41	VV	-----	4.25	315.99	0.082	
54.290	214.05	VV	-----	15.59	315.46	0.277	
54.697	81.43 A	VP	-----	7.38	314.81	0.105	

TOTAL AREA = 77308.20
MULTIPLIER = 1

SUPELCO Bellefonte PA Cat No 2-2987 (mod) Cat No 2-2988 Pkg of 10 (mod)

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NL, S-1A, SOIL DL

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) soil Lab Sample ID: 1182

Sample wt/vol: 1.03 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: 30 MAR 89

% Moisture: dec. 12.7% not dec. Date Extracted: 03 APR 89

Extraction: SOXHLET Date Analyzed: 21 APR 89

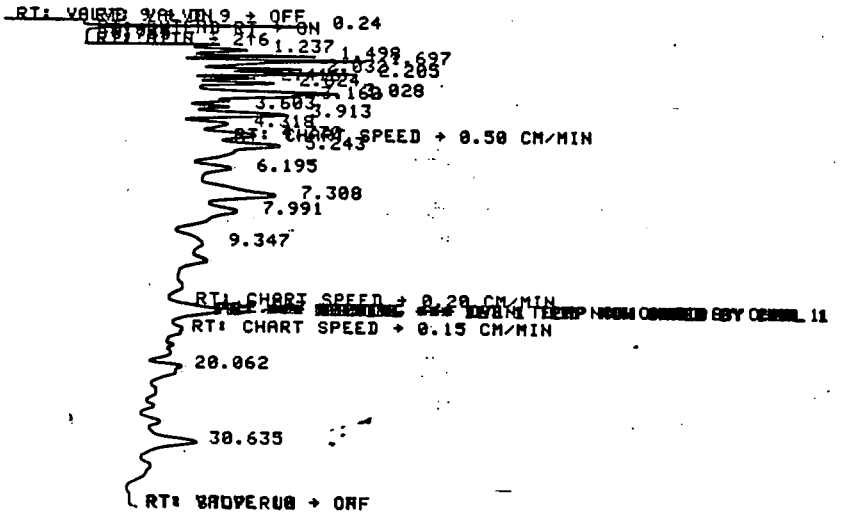
GPC Cleanup: (Y/N) N pH: Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	920	U
319-85-7	beta-BHC	920	U
319-86-8	delta-BHC	920	U
58-89-9	gamma-BHC (Lindane)	920	U
76-44-8	Heptachlor	920	U
309-00-2	Aldrin	920	U
1024-57-3	Heptachlor epoxide	920	U
959-98-8	Endosulfan I	920	U
60-57-1	Dieldrin	1800	U
72-55-9	4,4'-DDE	1800	U
72-20-8	Endrin	1800	U
33213-65-9	Endosulfan II	1800	U
72-54-8	4,4'-DDD	1800	U
1031-07-8	Endosulfan sulfate	1800	U
50-29-3	4,4'-DDT	1800	U
72-43-5	Methoxychlor	9000	U
53494-70-5	Endrin ketone	1800	U
5103-71-9	alpha-Chlordane	9200	U
5103-74-2	gamma-Chlordane	9200	U
8001-35-2	Toxaphene	18000	U
12674-11-2	Aroclor-1016	9200	U
11104-28-2	Aroclor-1221	9200	U
11141-16-5	Aroclor-1232	9200	U
53469-21-9	Aroclor-1242	9200	U
12672-29-6	Aroclor-1248	9200	U
11097-69-1	Aroclor-1254	18000	U
11096-82-5	Aroclor-1260	18000	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 1637

SAMPLE ID: NL, S-1A, Sa, J DL



[hp] 5880A SAMPLER INJECTION @ 16:44 APR 21, 1989
SAMPLE # : ID CODE :
19 1182X10
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 298.66			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.240	187927.00	BB	0.04 *	73446.80	326.15	79.252
0.50			RT: EXTEND RT → ON			
0.626	1012.57	BP	0.043	367.68	535.06	0.427
0.765	2108.54	PV	0.058	574.02	477.68	0.889
1.237	578.89	PV	0.123	73.92	434.05	0.244
1.498	798.63	VP	0.076	164.40	429.06	0.337
1.697	1849.04	PV	-----*	230.87	426.74	0.780
2.032	898.26	VV	-----	149.89	425.89	0.379
2.205	1471.68	VV	-----	217.38	425.44	0.621
2.416	623.35	VV	-----	91.87	424.91	0.263
2.624	866.41	VV	-----	116.15	424.39	0.365
3.028	1996.31	VV	-----	199.48	423.36	0.842
3.162	1139.68	VV	-----	144.95	423.01	0.481
3.603	527.75	VV	-----	62.29	421.89	0.223
3.913	1808.09	VV	0.211	134.31	421.10	0.763
4.318	1064.96	VV	-----	62.54	420.07	0.449
4.770	1967.12	VV	-----	99.69	418.92	0.830
5.243	3949.60	VV	-----	131.06	417.71	1.666
6.195	2038.08	VV	-----	71.72	415.29	0.859
7.308	4420.54	VV	-----	131.64	412.46	1.864
7.991	3410.83	VV	-----	85.06	410.71	1.438
9.347	1917.67	VV	-----	45.06	407.26	0.809
12.647	5506.80	VV	-----	76.64	398.86	2.322
20.062	2249.10	PV	-----	44.39	381.44	0.948
30.635	6995.47	VP	1.528	71.70	373.15	2.950

TOTAL AREA = 237126.00
MULTIPLIER = 1

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 2010

SAMPLE ID: NL, S-1A, SOIL

OVEN TEMP NOT READY

RT: VALVE 6 → OFF RT: EXTEND RT → ON

RT: VALVE 6 → OFF

2.138

3.265

5.757

6.774

7.568

RT: CHART SPEED → 0.75 CM/MIN

11.368

RT: OVEN TEMP=174°C SETPT=174°C LIMIT=300°C

12.623

RT: OVEN TEMP=182°C SETPT=182°C LIMIT=300°C

17.233

18.010

18.370

18.895

19.343

RT: OVEN TEMP=190°C SETPT=190°C LIMIT=300°C

20.387

21.383

21.702

22.492

23.610

RT: OVEN TEMP=198°C SETPT=198°C LIMIT=300°C

24.644

25.161

25.490

26.018

26.335

26.663

27.096

27.642

RT: OVEN TEMP=206°C SETPT=206°C LIMIT=300°C

28.535

29.125

29.394

30.012

31.005

31.398

RT: OVEN TEMP=214°C SETPT=214°C LIMIT=300°C

32.52

33.56

33.80

34.60

35.17

35.54

RT: OVEN TEMP=222°C SETPT=222°C LIMIT=300°C

36.44

36.66

37.16

37.46

37.90

38.09

38.47

38.81

39.26

RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C OV: START FINAL TIME 1

40.62

41.43

41.66

42.36

42.68

43.24

43.71

44.08

44.48

RT: OVEN TEMP=230°C SETPT=230°C LIMIT=300°C

45.65

46.48

46.88

47.10

47.82

48.43

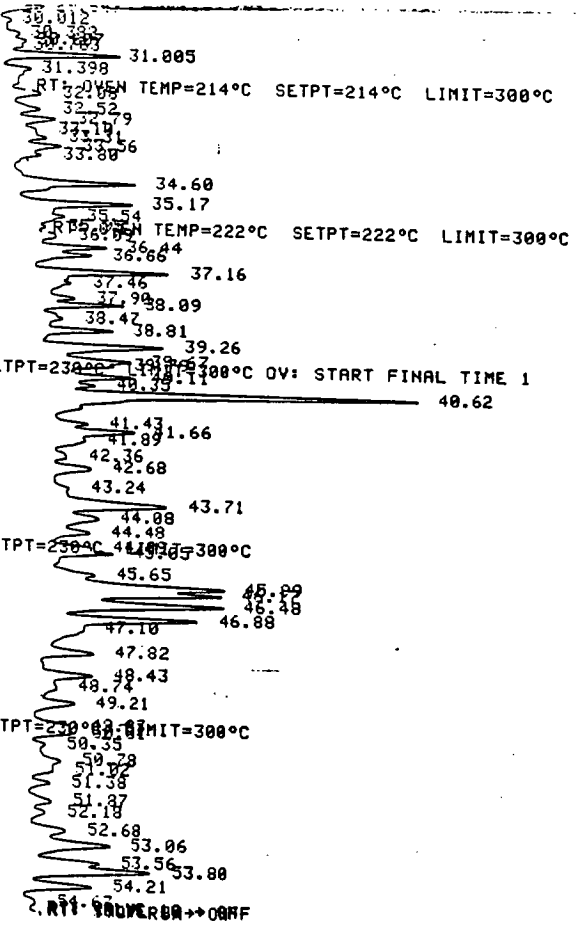
48.74

49.21

5 1182 041

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pad) Cat. No. 2-2888 (box of 10 pads)

SUPELCO, Bellefonte PA



[hp] 5880A SAMPLER INJECTION @ 20:15 APR 8, 1989
SAMPLE # : ID CODE :
23 WG 1182 10
AREA % COMPENSATED ANALYSIS

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 227.70			
0.00			THRESHOLD @ START RUN = 4			
0.00			PEAK WIDTH @ START RUN = 0.02			
0.01			RT: EXTEND RT → ON			
0.01			RP: EXTEND RT → ON			
1.693	1442.27	BV	-----	369.05	301.76	2.111
1.770	1939.97	VB	-----*	260.30	344.92	2.839
2.138	10106.50	BB	-----*	677.36	436.98	14.792
3.265	26.05	BB	0.090	4.54	310.34	0.038
3.715	125.51	BV	-----	17.89	299.37	0.184
3.872	77.64	VP	-----	10.15	298.74	0.114
5.757	390.85	VV	-----	31.86	294.45	0.572
6.070	253.44	VP	-----	19.91	293.82	0.371
6.774	431.84	VV	-----*	30.12	293.62	0.632
7.117	261.42	VV	-----	22.29	294.25	0.383
7.368	969.58	VB	-----*	59.10	294.71	1.419
9.306	105.29	BV	-----	9.36	297.15	0.154
9.492	388.25	VV	-----	26.16	297.31	0.568
10.059	845.16	VV	0.225	58.86	297.80	1.237
11.368	158.26	VV	-----	14.15	298.93	0.232
12.295	265.66	VV	-----	19.88	299.73	0.389
12.623	433.19	VV	-----	30.22	300.02	0.634
13.528	229.06	VV	-----	27.53	300.80	0.335
13.642	338.90	VV	-----	29.39	300.91	0.496
14.562	104.78	VV	-----	10.64	301.70	0.153
14.747	130.74	VV	-----	12.92	301.86	0.191
15.029	297.19	VV	-----	24.53	302.11	0.435
15.180	160.11	VV	-----	22.85	302.23	0.234
15.357	691.12	VV	-----	51.05	302.39	1.012
16.260	210.70	PV	-----	19.75	303.62	0.308
16.476	380.87	VV	-----	23.05	304.16	0.557
16.772	204.48	VV	-----	17.52	304.90	0.299
17.233	250.64	VV	-----	12.30	306.04	0.367
18.010	108.47	VV	-----	10.62	307.97	0.159
18.370	402.41	VV	-----	25.10	308.86	0.589
18.895	140.99	VV	-----	11.23	310.17	0.206
19.164	191.02	VV	-----	15.94	310.84	0.280
19.343	188.05	VV	-----	16.65	311.28	0.275
19.839	113.97	VV	-----	11.39	312.51	0.167
20.132	534.07	VV	-----	32.20	313.24	0.782
20.387	380.05	VV	-----	23.02	313.87	0.556
21.383	168.32	PV	0.147	17.96	316.67	0.246
21.702	123.88	VV	-----	10.04	318.25	0.181
22.492	394.04	VV	-----	25.56	322.16	0.577
22.802	166.27	VV	-----	15.26	323.69	0.243
23.032	167.12	VV	-----			

6.070	253.44	VP	-----		19.91	293.82	0.371
6.774	431.84	VV	-----*		30.12	293.62	0.632
7.117	261.42	VV	-----		22.29	294.25	0.383
7.368	969.58	VB	-----*		59.10	294.71	1.419
9.306	105.29	BV	-----		9.36	297.15	0.154
9.492	388.25	VV	-----		26.16	297.31	0.568
10.059	845.16	VV	0.225		58.86	297.80	1.237
11.368	158.26	VV	-----		14.15	298.93	0.232
12.295	265.66	VV	-----		19.88	299.73	0.389
12.623	433.19	VV	-----		30.22	300.02	0.634
13.528	229.06	VV	-----		27.53	300.80	0.335
13.642	338.90	VV	-----		29.39	300.91	0.496
14.562	104.78	VV	-----		10.64	301.70	0.153
14.747	130.74	VV	-----		12.92	301.86	0.191
15.029	297.19	VV	-----		24.53	302.11	0.435
15.180	160.11	VV	-----		22.85	302.23	0.234
15.357	691.12	VV	-----		51.05	302.39	1.012
16.260	210.70	PV	-----		19.75	303.62	0.308
16.476	380.87	VV	-----		23.05	304.16	0.557
16.772	204.48	VV	-----		17.52	304.90	0.299
17.233	250.64	VV	-----		12.30	306.04	0.367
18.010	108.47	VV	-----		10.62	307.97	0.159
18.370	402.41	VV	-----		25.10	308.86	0.589
18.895	140.99	VV	-----		11.23	310.17	0.206
19.164	191.02	VV	-----		15.94	310.84	0.280
19.343	188.05	VV	-----		16.65	311.28	0.275
19.839	113.97	VV	-----		11.39	312.51	0.167
20.132	534.07	VV	-----		32.20	313.24	0.782
20.387	380.05	VV	-----		23.02	313.87	0.556
21.333	168.32	PV	0.147		17.96	316.67	0.246
21.702	123.88	VV	-----		10.04	318.25	0.181
22.492	394.04	VV	-----		25.56	322.16	0.577
22.802	166.27	VV	-----		15.26	323.69	0.243
23.032	163.17	VV	-----		16.71	324.83	0.239
23.610	154.37	BV	0.170		14.22	325.74	0.226
23.987	416.89	VV	0.191		34.26	324.74	0.610
24.644	260.55	PV	0.159		25.60	323.65	0.381
25.161	127.51	VV	-----		9.38	324.64	0.187
25.490	658.80	VV	0.176		58.49	325.28	0.964
26.018	99.51	VV	0.131		11.87	326.29	0.146
26.335	231.45	VV	-----		20.83	326.90	0.339
26.663	332.45	VV	-----		18.82	327.53	0.487
27.096	275.04	VV	-----		17.25	328.36	0.403
27.642	543.84	VP	*-----		43.10	329.41	0.796
28.002	184.65	PV	-----		17.59	330.29	0.270
28.197	255.27	VV	-----		21.49	330.85	0.374
28.535	911.72	VV	0.140		102.13	331.83	1.334
29.125	346.20	VV	-----		28.93	333.53	0.507
29.394	490.73	VV	-----		46.52	334.30	0.718
29.647	364.63	VV	-----		35.17	335.03	0.534
30.012	118.21	VV	-----		11.19	336.08	0.173
30.382	159.20	VV	-----		16.20	337.14	0.233
30.607	216.03	VV	-----		20.15	337.79	0.316
30.763	135.25	VV	-----		16.82	338.25	0.198
31.005	761.16	VV	0.142		84.13	338.94	1.114
31.398	281.96	VV	-----		21.53	340.07	0.413
32.082	298.18	VV	-----		23.63	342.04	0.436
32.525	291.87	VV	-----		22.83	343.31	0.427
32.791	390.25	VV	-----		32.60	344.08	0.571
33.098	184.65	VV	-----		19.11	344.97	0.270
33.311	294.47	VV	-----		25.67	345.58	0.431
33.560	409.82	VV	-----		34.99	346.30	0.600
33.804	187.05	VP	-----		20.68	347.00	0.274
34.607	1330.03	PV	-----*		84.17	350.23	1.581
35.171	863.79	VV	-----		79.45	352.88	1.264
35.537	400.92	VV	-----		30.29	354.59	0.587
35.847	131.01	VV	-----		15.73	356.03	0.192
36.087	266.83	VV	-----		19.09	357.15	0.391
36.435	519.06	VV	-----		53.13	358.77	0.760
36.664	404.92	VP	-----		41.40	359.83	0.593
37.160	636.21	PV	-----		86.63	370.23	0.931
37.463	60.01	BP	-----		8.53	379.26	0.088
37.902	146.29	PV	-----		19.77	370.83	0.214
38.093	424.20	VP	0.119		55.61	369.45	0.621
38.473	187.69	PV	-----		14.32	368.10	0.275
38.814	394.87	VP	0.125		49.64	367.89	0.578
39.255	1017.81	PV	0.185		86.26	367.69	1.490
39.670	642.29	VV	-----		63.24	367.65	0.940
39.794	428.90	VV	-----		50.52	367.63	0.628
40.113	658.48	VV	-----		61.26	367.59	0.964
40.351	369.40	VV	-----		35.60	367.56	0.541
40.615	2662.93	VV	-----*		259.30	367.53	3.898
41.430	367.87	VV	-----		31.43	367.43	0.538
41.661	767.12	VV	-----		64.44	367.41	1.123
41.893	409.40	VV	-----		29.79	367.38	0.599
42.365	278.48	VV	-----		17.70	367.32	0.408
42.676	549.97	VV	-----		34.53	367.28	0.805
43.236	255.44	VV	-----		19.97	367.22	0.374
43.705	1547.15	VV	-----		88.90	367.16	2.264
44.084	668.56	VV	-----		40.34	367.11	0.979
44.475	521.52	VV	-----		34.37	367.07	0.763
44.889	328.42	VV	-----		36.12	367.02	0.481
45.055	660.62	VV	-----		60.37	367.00	0.967
45.653	734.69	VV	-----		48.20	366.93	1.075
45.988	1791.45	VV	-----		138.26	366.88	2.622
46.166	1470.57	VV	-----		136.09	366.87	2.152
46.478	1781.95	VV	-----				

35.171	863.79	VV	-----	64.17	350.23	1.581
35.537	400.92	VV	-----	79.45	352.88	1.264
35.847	131.01	VV	-----	30.29	354.59	0.587
36.087	266.83	VV	-----	15.73	356.03	0.192
36.435	519.06	VV	-----	19.09	357.15	0.391
36.664	404.92	VP	-----	53.13	358.77	0.760
37.160	636.21	PV	-----	41.40	359.83	0.593
37.463	60.01	BP	-----	86.63	370.23	0.931
37.902	146.29	PV	-----	8.53	379.26	0.088
38.093	424.20	VP	0.119	19.77	370.83	0.214
38.473	187.69	PV	-----	55.61	369.45	0.621
38.814	394.87	VP	0.125	14.32	368.10	0.275
39.255	1017.81	PV	0.185	49.64	367.89	0.578
39.670	642.29	VV	-----	86.26	367.69	1.490
39.794	428.90	VV	-----	63.24	367.65	0.940
40.113	658.48	VV	-----	50.52	367.63	0.628
40.351	369.40	VV	-----	61.26	367.59	0.964
40.615	2662.93	VV	-----*	35.60	367.56	0.541
41.430	367.87	VV	-----	259.30	367.53	3.898
41.661	767.12	VV	-----	31.43	367.43	0.538
41.893	409.40	VV	-----	64.44	367.41	1.123
42.365	278.48	VV	-----	29.79	367.38	0.599
42.676	549.97	VV	-----	17.70	367.32	0.408
43.236	255.44	VV	-----	34.53	367.28	0.805
43.705	1547.15	VV	-----	19.97	367.22	0.374
44.084	668.56	VV	-----	88.90	367.16	2.264
44.475	521.52	VV	-----	40.34	367.11	0.979
44.889	328.42	VV	-----	34.37	367.07	0.763
45.055	660.62	VV	-----	36.12	367.02	0.481
45.653	734.69	VV	-----	60.37	367.00	0.967
45.988	1791.45	VV	-----	48.20	366.93	1.075
46.166	1470.57	VV	-----	138.26	366.88	2.622
46.478	1781.95	VV	-----	136.09	366.87	2.152
46.877	1501.07	VV	-----	137.17	366.83	2.608
47.105	879.40	VV	-----	119.17	366.79	2.197
47.815	682.44	VV	-----	39.07	366.75	1.287
48.426	646.31	VV	-----	46.81	366.67	0.999
48.739	407.15	VV	-----	46.08	366.60	0.946
49.207	516.82	VV	-----	21.10	366.55	0.596
49.835	442.40	VV	-----	33.93	366.50	0.756
50.007	362.96	VV	-----	30.80	366.43	0.648
50.348	175.28	VV	-----	32.58	366.40	0.531
50.778	509.43	VV	-----	15.10	366.37	0.257
51.025	262.37	VV	-----	26.01	366.31	0.746
51.380	232.48	VV	-----	20.67	366.29	0.384
51.869	307.71	VV	-----	18.85	366.24	0.340
52.177	210.39	VV	-----	19.61	366.18	0.450
52.677	481.37	VV	-----	15.74	366.15	0.308
53.062	1085.07	VV	-----	30.01	366.08	0.705
53.556	596.62	VV	-----	61.34	366.04	1.588
53.795	1203.04	VV	-----	54.09	365.98	0.873
54.213	587.28	VP	0.190	90.09	365.95	1.761
54.667	128.90	PH	-----	48.34	365.91	0.860
				9.45	365.87	0.189

TOTAL AREA = 68323.20
MULTIPLIER = 1

© SUPELCO Bellefonte PA Cat No 2-2887 (pad) Cat No 2-2888 (vial of 10 vials)

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 2125

SAMPLE ID: INDIVIDUAL MIX R

OVEN TEMP NOT READY

RT: VALVE 6 → OFF RT: EXTEND RT → ON
RT: VALVE 6 → OFF
2.103 1.619

5.710

7.338
8.135

RT: ATTN → 2↑5
10.089 RT: CHART SPEED → 0.75 CM/MIN
11.840 alphaBHC 0.015ng
11.662
RT: OVEN TEMP=174.9C SETPT=174.9C

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NL, S-1B, SOIL

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) soil Lab Sample ID: 1183

Sample wt/vol: 10.14 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: 30 MAR 89

% Moisture: dec. 13.9% not dec. Date Extracted: 03 APR 89

Extraction: SOXHLET Date Analyzed: 21 APR 89

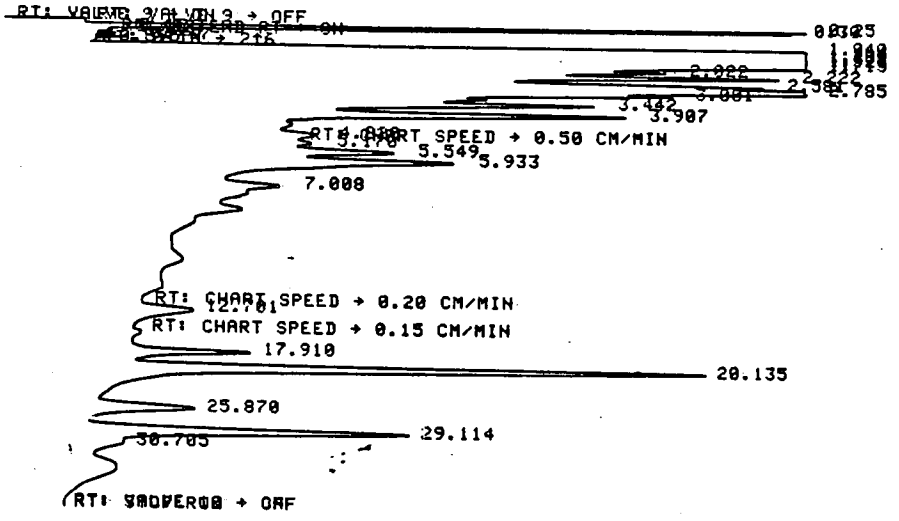
GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	9	U
319-85-7	beta-BHC	9	U
319-86-8	delta-BHC	9	U
58-89-9	gamma-BHC (Lindane)	9	U
76-44-8	Heptachlor	9	U
309-00-2	Aldrin	9	U
1024-57-3	Heptachlor epoxide	9	U
959-98-8	Endosulfan I	9	U
60-57-1	Dieldrin	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	Endrin	19	U
33213-65-9	Endosulfan II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	Endosulfan sulfate	19	U
50-29-3	4,4'-DDT	19	U
72-43-5	Methoxychlor	93	U
53494-70-5	Endrin ketone	19	U
5103-71-9	alpha-Chlordane	93	U
5103-74-2	gamma-Chlordane	93	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	93	U
11104-28-2	Aroclor-1221	93	U
11141-16-5	Aroclor-1232	93	U
53469-21-9	Aroclor-1242	93	U
12672-29-6	Aroclor-1248	93	U
11097-69-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	190	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X,2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 1727

SAMPLE ID: NL, S-1B, Soil



[hp] 5880A SAMPLER INJECTION @ 17:29 APR 21, 1989
SAMPLE # : ID CODE :
20 1183
AREA %

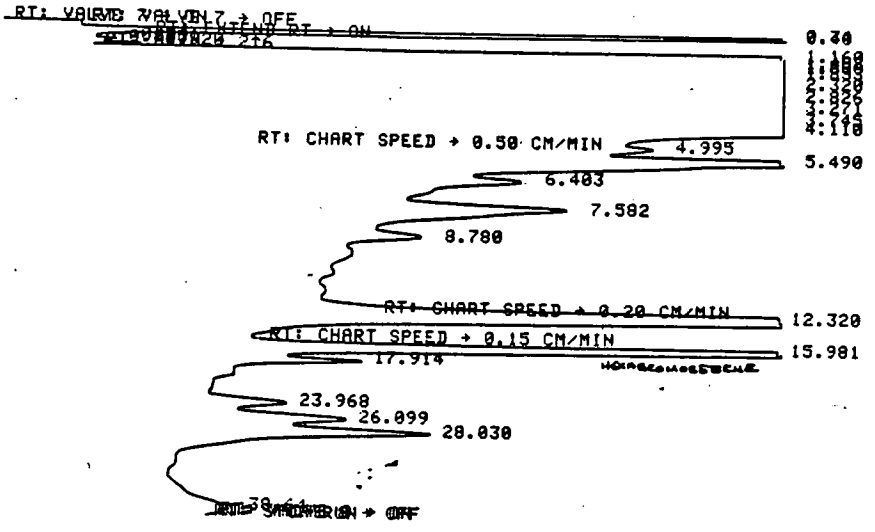
RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 417.59			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.250	827557.00	BV	-----	368060.00	404.53	41.079
0.300	739214.00	VV	-----	233384.00	404.89	36.694
0.452	31184.60	VV	-----	8942.53	405.99	1.548
0.497	29875.80	VV	-----	7712.07	406.31	1.483
0.50			RT: EXTEND RT → ON			
0.628	42397.60	VV	-----	9921.86	407.26	2.105
0.767	55962.50	VV	-----	13080.30	408.26	2.778
0.895	9341.28	VV	-----	2852.93	409.18	0.464
1.040	9757.89	VV	-----	1731.12	410.23	0.484
1.294	10018.70	VV	-----	1345.15	412.07	0.497
1.382	11164.50	VV	-----	1431.35	412.70	0.554
1.523	9205.36	VV	-----	1132.72	413.73	0.457
1.715	16926.70	VV	-----	1124.72	415.11	0.840
2.022	6928.99	VV	-----	744.27	417.34	0.344
2.222	12269.40	VV	-----	893.28	418.78	0.609
2.581	10527.50	VV	-----	870.90	421.37	0.523
2.785	22868.30	VV	-----	1738.20	422.85	1.135
3.001	7360.92	VV	-----	745.34	424.41	0.365
3.442	11663.60	VV	-----	639.10	427.60	0.579
3.907	12917.30	VV	-----	678.37	430.96	0.641
4.820	6199.74	VV	-----	273.20	437.56	0.308
5.170	4808.22	VV	-----	267.65	440.08	0.239
5.549	7781.98	VV	-----	369.57	442.83	0.386
5.933	14969.10	VV	-----	443.31	445.60	0.743
7.008	5806.77	VV	-----	212.29	453.37	0.288
12.701	4481.52	BB	0.985	71.25	485.27	0.222
17.910	8672.13	BV	0.850	159.82	470.85	0.430
20.135	46132.90	VP	0.95	760.19	459.08	2.290
25.870	9182.49	PP	1.111	129.46	430.33	0.456
29.114	26038.50	PH	0.984	414.22	422.94	1.293
30.705	3343.22	HH	-----	46.47	422.94	0.166

TOTAL AREA = 2014560.00
MULTIPLIER = 1

********** CA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL A
COLUMN TYPE - 3% OV-1 ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 2346

SAMPLE ID: NL-S-1R, Sp.1



[hp] 5880A SAMPLER INJECTION @ 23:49 APR 25, 1989
SAMPLE #: 13 ID CODE: 1183
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 309.84			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.337	1908590.00	BH	-----	368274.00	299.60	36.402
0.400	1797800.00	HH	-----	368272.00	299.60	34.289
0.50			RT: EXTEND RT → ON			
0.761	65449.60	HH	-----	12242.70	299.60	1.248
0.835	24639.20	HH	-----	7996.92	299.60	0.470
0.920	105966.00	HH	-----	20122.60	299.60	2.021
1.160	163233.00	HH	0.096	26585.70	299.60	3.113
1.457	18399.20	HH	-----	2953.18	299.60	0.351
1.596	25542.20	HH	-----	3906.44	299.60	0.487
1.639	26905.30	HH	-----	3896.12	299.60	0.513
1.853	59365.40	HH	-----*	3892.99	299.60	1.132
2.320	40954.70	HH	-----	2560.71	299.60	0.781
2.826	124990.00	HH	*-----	5650.47	299.60	2.384
3.271	37798.70	HH	-----	1615.67	299.60	0.721
3.745	49616.20	HH	-----	2467.42	299.60	0.946
4.110	50954.60	HH	-----	1584.29	299.60	0.972
4.995	18606.70	HH	-----	768.94	299.60	0.355
5.490	48841.70	HH	-----*	1403.79	299.60	0.932
6.403	31347.70	HH	-----	597.05	299.60	0.598
7.582	38662.10	HH	-----*	657.28	299.60	0.737
8.780	18697.50	HH	-----	462.70	299.60	0.357
12.320	209565.00	HH	0.700	4687.13	299.60	3.997
15.981	140541.00	HH	0.893	2463.22	299.60	2.681
17.914	34999.40	HH	-----	385.62	299.60	0.668
23.968	32983.70	HH	-----	285.85	299.60	0.629
26.099	36551.00	HH	-----	365.80	299.60	0.697
28.030	75765.00	HH	-----	478.56	299.60	1.445
38.645	56328.40	A HH	-----	204.68	299.60	1.074

TOTAL AREA = 5243090.00
MULTIPLIER = 1

ID

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RINSATE BLANK

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: 1184

Sample wt/vol: 1000 ML Lab File ID: WILLOW

Level: (low/med) LOW Date Received: 30 MAR 89

% Moisture: dec. N/A not dec. Date Extracted: 03 APR 89

Extraction: CONT. Date Analyzed: 25 APR 89

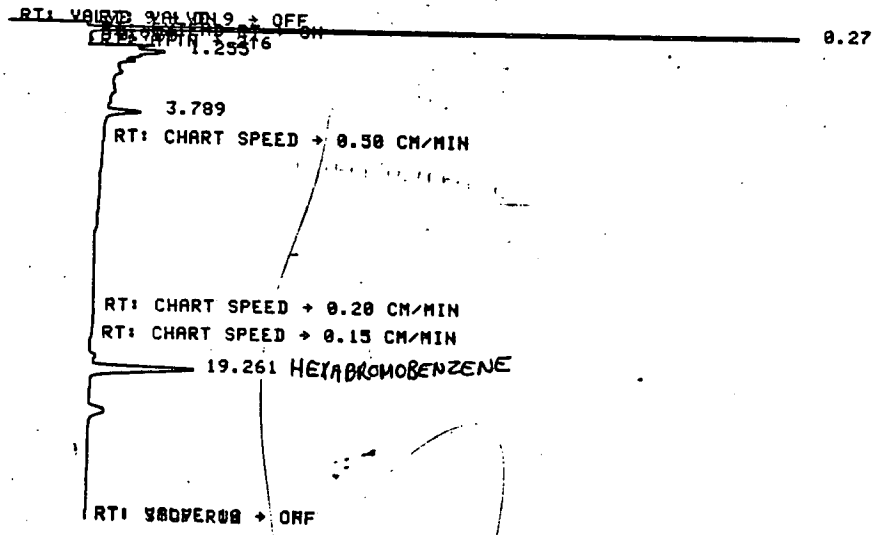
GPC Cleanup: (Y/N) N pH: Dilution Factor: 1

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
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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 2257

SAMPLE ID: RINSATE BLANK



[hp] 5880A SAMPLER INJECTION @ 22:59 APR 6, 1989
SAMPLE # : ID CODE :
14 WG1184

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 242.01			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.269	2105890.00	BV	/SYM	368319.00	232.42	99.284
0.50			RT: EXTEND RT → ON			
0.604	2392.64	VV	-----	601.86	235.97	0.113
0.738	5364.25	VV	0.052	1600.12	237.38	0.253
1.255	886.02	VV	-----	96.96	242.85	0.042
3.789	434.20	BB	0.155	43.72	266.54	0.020
19.261	6114.87	BB	0.709	135.13	250.45	0.288

TOTAL AREA = 2121090.00
MULTIPLIER = 1

022

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (and) Cat. No. 2-2889 Box of 10 (sold)

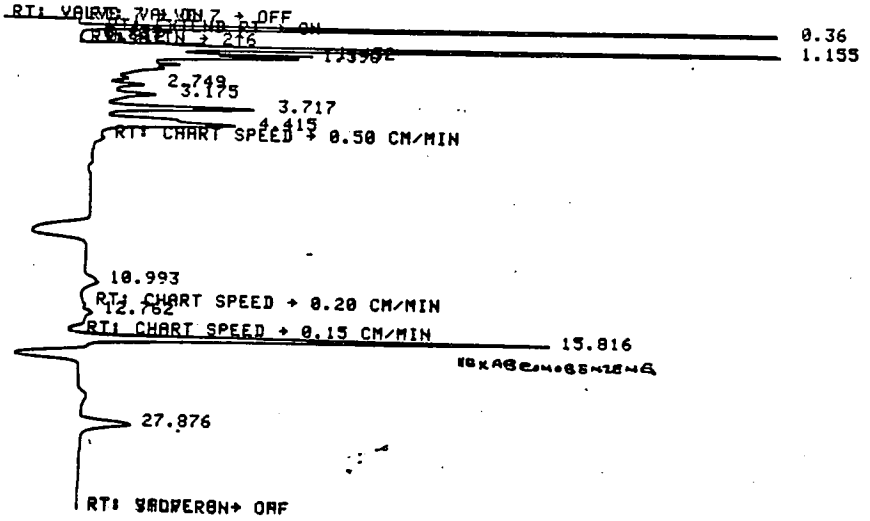
SUPELCO, Bellefonte, PA Cat. No. 2-2887 (and) Cat. No. 2-2889

5 049

********** CA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL A
COLUMN TYPE - 3% OV-1 ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 2302

SAMPLE ID: RINSATE BLANK



[hp] 5880A SAMPLER INJECTION @ 23:04 APR 25, 1989
SAMPLE # : ID CODE :
12 1184
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 308.05			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.357	2946810.00	BV	/SYM # 368299.00	298.94	97.209	
0.50			RT: EXTEND RT → ON			
0.729	2619.42	VV	-----	485.47	299.61	0.086
0.837	1120.87	VV	-----	380.33	299.80	0.037
0.912	7727.68	VV	-----	1608.57	299.94	0.255
1.155	19592.90	VV	0.077	3988.39	300.37	0.646
1.452	2185.03	VV	-----	318.52	300.91	0.072
1.590	2594.66	VV	-----	299.48	301.15	0.086
2.749	1377.83	VV	-----	90.75	303.23	0.045
3.175	2118.38	VV	-----	106.12	303.99	0.070
3.717	3471.28	VV	-----	236.60	304.97	0.115
4.415	4536.35	VV	*-----	210.38	306.22	0.150
10.993	505.07	BP	-----	19.97	314.52	0.017
12.762	471.15	VB	-----	14.11	313.55	0.016
15.816	31764.50	BP	0.745	667.17	271.39	1.048
27.876	4532.45	BB	1.061	66.89	312.99	0.150

TOTAL AREA = 3031430.00
MULTIPLIER = 1

C. Standards Data

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: FARARATORIES — Contract: 10388.03
Lab Code: EALABS Case No: WILLOW — SAS No.: N/A — SDG No.: N/A
Instrument ID: 3B — GC Column ID: 1.5% SP-2250/1.95% SP-2401 ON 100/120 SUPELCOPORT

DATE(S) OF ANALYSIS	FROM:	06 APR 89		DATE OF ANALYSIS	07 APR 89				
	TO:	07 APR 89		TIME OF ANALYSIS	12:21 - 13:06				
TIME(S) OF ANALYSIS	FROM:	12:25		EPA SAMPLE NO.	INDA	INDB			
	TO:	13:06		(STANDARD #)	S-417	S-422			

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	%D	
alpha BHC	1.527	1.496	1.558	9.69E+04	1.526	9.23E+04	Y	4.68%	
beta BHC	2.281	2.235	2.327	6.63E+04	2.281	6.08E+04	Y	8.32%	
delta BHC	2.658	2.605	2.711	7.24E+04	2.658	6.99E+04	Y	3.3%	
gamma BHC	1.959	1.920	1.998	1.09E+05	1.956	1.05E+05	Y	4.25%	
Heptachlor	2.412	2.364	2.460	1.47E+05	2.409	1.40E+05	Y	4.62%	
Aldrin	2.924	2.866	2.982	1.09E+05	2.920	1.01E+05	Y	6.82%	
Hept. Epoxide	4.547	4.456	4.638	1.27E+05	4.540	1.19E+05	Y	5.79%	
Endosulfan I	5.766	5.651	5.881	1.24E+05	5.756	1.17E+05	Y	5.45%	
Dieldrin	7.100	6.958	7.242	1.04E+05	7.087	9.64E+04	Y	7.42%	
4,4'-DDE	6.725	6.591	6.860	1.08E+05	6.720	9.85E+04	Y	8.41%	
Endrin	8.657	8.484	8.830	7.67E+04	8.647	7.62E+04	Y	0.67%	
Endosulfan II	10.639	10.426	10.852	1.14E+05	10.616	1.01E+05	Y	11.26%	
4,4'-DDD	10.558	10.347	10.769	6.84E+04	10.552	6.80E+04	Y	0.60%	
Endosulfan Sulf.	17.612	17.260	17.964	9.53E+04	17.580	9.56E+04	Y	-0.35%	
4,4'-DDT	12.739	12.484	12.994	6.54E+04	12.713	5.02E+04	Y	23.31%	*
Methoxychlor	25.155	24.652	25.658	5.97E+05	25.092	4.56E+05	N	23.58%	*
Endrin Ketone	23.630	23.157	24.103	1.26E+05	23.585	1.14E+05	Y	9.19%	
alpha Chlordane	5.533	5.422	5.644	1.23E+05	5.530	1.14E+05	Y	7.76%	
gamma Chlordane	5.044	4.943	5.145	1.16E+05	5.042	1.09E+05	Y	6.77%	
Toxaphene	13.256	12.991	13.521	1.27E+03					
Aroclor 1016	2.385	2.337	2.433	1.10E+04					
Aroclor 1221	1.387	1.359	1.415	1.80E+04					
Aroclor 1232	2.385	2.337	2.433	4.73E+03					
Aroclor 1242	2.383	2.335	2.431	9.36E+03					
Aroclor 1248	2.384	2.336	2.432	6.04E+03					
Aroclor 1254	5.355	5.248	5.462	1.20E+04					
Aroclor 1260	9.629	9.436	9.822	1.43E+04					

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.

* any samples run subsequent to this standard were rerun

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: EA LABORATORIES Contract: 10388.03
Lab Code: EALABS Case No: WILLOW SAS No.: N/A SDG No.: N/A
Instrument ID: 3B GC Column ID: 1.5% SP-2250/1.95% SP-2401 ON 100/120 SUPELCOPORT

DATE(S) OF ANALYSIS	FROM:	06 APR 89	DATE OF ANALYSIS	07 APR 89					
	TO:	07 APR 89	TIME OF ANALYSIS	06:25					
TIME(S) OF ANALYSIS	FROM:	12:25	EPA SAMPLE NO. (STANDARD #)	INDB S-4228					
	TO:	13:06							

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	% D	
alpha BHC	1.527	1.496	1.558	9.69E+04	1.526	1.02E+05	Y	-5.11%	
beta BHC	2.281	2.235	2.327	6.63E+04	2.281	6.41E+04	Y	3.39%	
delta BHC	2.658	2.605	2.711	7.24E+04	2.657	7.73E+04	Y	-6.8%	
gamma BHC	1.959	1.920	1.998	1.09E+05					
Heptachlor	2.412	2.364	2.460	1.47E+05					
Aldrin	2.924	2.866	2.982	1.09E+05	2.922	1.11E+05	Y	-2.36%	
Hept. Epoxide	4.547	4.456	4.638	1.27E+05					
Endosulfan I	5.766	5.651	5.881	1.24E+05					
Dieldrin	7.100	6.958	7.242	1.04E+05					
4,4'-DDE	6.725	6.591	6.860	1.08E+05	6.725	9.51E+04	Y	11.60%	
Endrin	8.657	8.484	8.830	7.67E+04	8.649	8.62E+04	Y	-12.26%	
Endosulfan II	10.639	10.426	10.852	1.14E+05			Y		
4,4'-DDD	10.558	10.347	10.769	6.84E+04	10.561	7.52E+04	Y	-9.90%	
Endosulfan Sulf.	17.612	17.260	17.964	9.53E+04	17.589	1.68E+06	N	-1666.60%	*
4,4'-DDT	12.739	12.484	12.994	6.54E+04					
Methoxychlor	25.155	24.652	25.658	5.97E+05					
Endrin Ketone	23.630	23.157	24.103	1.26E+05					
alpha Chlordane	5.533	5.422	5.644	1.23E+05	5.532	1.15E+05	Y	6.90%	
gamma Chlordane	5.044	4.943	5.145	1.16E+05	5.043	1.12E+05	Y	3.38%	
Toxaphene	13.256	12.991	13.521	1.27E+03					
Aroclor 1016	2.385	2.337	2.433	1.10E+04					
Aroclor 1221	1.387	1.359	1.415	1.80E+04					
Aroclor 1232	2.385	2.337	2.433	4.73E+03					
Aroclor 1242	2.383	2.335	2.431	9.36E+03					
Aroclor 1248	2.384	2.336	2.432	6.04E+03					
Aroclor 1254	5.355	5.248	5.462	1.20E+04					
Aroclor 1260	9.629	9.436	9.822	1.43E+04					

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.

* any samples run subsequent to this standard were rerun

5 053

9.0D

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case No: WILLOW SAS No.: N/A SDG No.: N/A

Instrument ID: 5D GC Column ID: SPB-5

on 30M, 0.25mm ID, 0.25mm df

DATE(S) OF ANALYSIS	FROM:	07 APR 89	DATE OF ANALYSIS	07 APR 89					
	TO:	09 APR 89	TIME OF ANALYSIS	20:34	-21:49				
TIME(S) OF ANALYSIS	FROM:	16:51	EPA SAMPLE NO.	INDA	INDB				
	TO:	02:26	(STANDARD #)	S-417	S-422				

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	%D	
alpha BHC	11.053	11.020	11.086	3.95E+04	11.045	3.86E+04	N	4.7%	
beta BHC	12.499	12.462	12.536	2.97E+04	12.490	2.98E+04	N	-0.5%	
delta BHC	14.339	14.296	14.382	2.60E+04	14.330	2.49E+04	N	4.3%	
gamma BHC	12.930	12.891	12.969	4.49E+04	12.910	4.22E+04	N	6.0%	
Heptachlor	17.797	17.744	17.850	5.21E+04	17.780	5.66E+04	N	-8.6%	
Aldrin	20.327	20.266	20.388	3.97E+04	20.305	4.19E+04	N	-5.7%	
Hept. Epoxide	23.444	23.374	23.514	4.55E+04	23.419	4.87E+04	N	-7.0%	
Endosulfan I	26.307	26.228	26.386	4.28E+04	26.281	4.73E+04	N	-10.6%	
Dieldrin	28.471	28.386	28.556	3.79E+04	28.443	4.08E+04	N	-7.6%	
4,4'-DDE	28.730	28.644	28.816	3.59E+04	28.713	3.49E+04	N	2.9%	
Endrin	30.195	30.104	30.286	3.08E+04	30.177	2.93E+04	N	4.9%	
Endosulfan II	30.974	30.881	31.067	3.40E+04	10.616	4.04E+04	N	-19.0%	*
4,4'-DDD	32.199	32.102	32.296	2.57E+04	32.182	2.43E+04	N	5.6%	
Endosulfan Sulf.	34.677	34.573	34.781	2.28E+04	34.656	2.40E+04	N	-5.0%	
4,4'-DDT	35.422	35.316	35.528	2.74E+04	35.395	3.51E+04	N	-28.2%	*
Methoxychlor	40.732	40.610	40.854	1.72E+05	40.704	1.93E+05	N	-12.0%	
Endrin Ketone	38.465	38.350	38.580	4.15E+04	38.443	3.94E+04	N	9.2%	
alpha Chlordane	26.637	26.557	26.717	4.63E+04	26.620	4.54E+04	N	2.0%	
gamma Chlordane	25.362	25.286	25.438	4.55E+04	25.350	4.49E+04	N	1.3%	
Toxaphene	13.256	13.216	13.296	1.27E+03			N		
Aroclor 1016	2.385	2.378	2.392	1.10E+04			N		
Aroclor 1221	1.387	1.383	1.391	1.80E+04			N		
Aroclor 1232	2.385	2.378	2.392	4.73E+03			N		
Aroclor 1242	2.383	2.376	2.390	9.36E+03			N		
Aroclor 1248	2.384	2.377	2.391	6.04E+03			N		
Aroclor 1254	5.355	5.339	5.371	1.20E+04			N		
Aroclor 1260	9.629	9.600	9.658	1.43E+04			N		

Under QMT 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.

9.00

PESTICIDE / PCB STANDARDS SUMMARY

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case No: WILLOW SAS No.: N/A SDG No.: N/A

Instrument ID: 4C GC Column ID: SPB-5 on 30M, 0.25mm ID, 0.25mm df

DATE(S) OF ANALYSIS	FROM:	07 APR 89	DATE OF ANALYSIS	08 APR 89					
	TO:	07 APR 89	TIME OF ANALYSIS	21:30					
TIME(S) OF ANALYSIS	FROM:	16:51	EPA SAMPLE NO.	INDB					
	TO:	18:14	(STANDARD #)	S-422					

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	% D	
alpha BHC	11.053	11.020	11.086	3.95E+04	11.040	4.46E+04	N	-13.0%	
beta BHC	12.499	12.462	12.536	2.97E+04	12.284	3.45E+04	N	-16.3%	
delta BHC	14.339	14.296	14.382	2.60E+04	14.320	3.17E+04	N	-21.8%	*
gamma BHC	12.930	12.891	12.969	4.49E+04				0.0%	
Heptachlor	17.797	17.744	17.850	5.21E+04					
Aldrin	20.327	20.266	20.388	3.97E+04	20.312	4.41E+04	N	-11.2%	
Hept. Epoxide	23.444	23.374	23.514	4.55E+04					
Endosulfan I	26.307	26.228	26.386	4.28E+04					
Dieldrin	28.471	28.386	28.556	3.79E+04					
4,4'-DDE	28.730	28.644	28.816	3.59E+04	28.713	4.24E+04	N	-18.1%	
Endrin	30.195	30.104	30.286	3.08E+04	30.177	3.93E+04	N	-27.5%	*
Endosulfan II	30.974	30.881	31.067	3.40E+04					
4,4'-DDD	32.199	32.102	32.296	2.57E+04	32.183	3.30E+04	N	-28.2%	*
Endosulfan Sulf.	34.677	34.573	34.781	2.28E+04	34.659	3.52E+04	N	-54.2%	*
4,4'-DDT	35.422	35.316	35.528	2.74E+04					
Methoxychlor	40.732	40.610	40.854	1.72E+05					
Endrin Ketone	38.465	38.350	38.580	4.15E+04	38.448	5.61E+04	N	-35.4%	*
alpha Chlordane	26.637	26.557	26.717	4.63E+04	26.616	5.48E+04	N	-18.4%	
gamma Chlordane	25.362	25.286	25.438	4.55E+04	25.344	5.41E+04	N	-19.0%	
Toxaphene	13.256	13.216	13.296	1.27E+03					
Aroclor 1016	2.385	2.378	2.392	1.10E+04					
Aroclor 1221	1.387	1.383	1.391	1.80E+04					
Aroclor 1232	2.385	2.378	2.392	4.73E+03					
Aroclor 1242	2.383	2.376	2.390	9.36E+03					
Aroclor 1248	2.384	2.377	2.391	6.04E+03					
Aroclor 1254	5.355	5.339	5.371	1.20E+04					
Aroclor 1260	9.629	9.600	9.658	1.43E+04					

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 Contract: 10388.030
Lab Code: EALABS Case No: WILLOW SAS No.: N/A SDG No.: N/A
Instrument ID: 3B GC Column ID: 1.5% SP-2250/1.95% SP-2401 ON 100/120 SUPELCOPORT

DATE(S) OF ANALYSIS	FROM:	20 APR 89	DATE OF ANALYSIS	21 APR 89	-21 APR 89
	TO:	20 APR 89	TIME OF ANALYSIS	19:43	-20:26
TIME(S) OF ANALYSIS	FROM:	17:03	EPA SAMPLE NO.	INDA	-INDB
	TO:	17:46	(STANDARD #)	S-417	S-422

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	%D	
alpha BHC	1.574	1.571	1.577	9.24E+04	1.580	9.29E+04	N	-0.5%	
beta BHC	2.351	2.346	2.356	6.66E+04	2.365	5.91E+04	N	11.2%	
delta BHC	2.740	2.726	2.754	7.01E+04	2.754	7.92E+04	N	-12.9%	
gamma BHC	2.016	1.996	2.036	1.03E+05	2.025	9.89E+04	N	3.6%	
Heptachlor	2.481	2.456	2.506	1.56E+05	2.494	1.36E+05	N	12.6%	
Aldrin	3.007	2.977	3.037	1.12E+05	3.025	1.02E+05	N	8.6%	
Hept. Epoxide	4.670	4.577	4.763	1.36E+05	4.697	1.20E+05	N	11.5%	
Endosulfan I	5.923	5.911	5.935	1.36E+05	5.958	1.18E+05	N	13.3%	
Dieldrin	7.292	7.146	7.438	1.09E+05	7.333	9.59E+04	N	12.2%	
4,4'-DDE	6.915	6.894	6.936	1.19E+05	6.953	1.54E+05	N	-29.4%	*
Endrin	8.888	8.799	8.977	5.79E+04	8.914	8.21E+04	N	-41.8%	*
Endosulfan II	10.927	10.905	10.949	1.21E+05	10.986	1.21E+05	N	-0.5%	
4,4'-DDD	10.859	10.837	10.881	6.59E+04	10.918	8.27E+04	N	-25.5%	*
Endosulfan Sulf.	18.096	18.060	18.132	1.00E+05	18.153	9.93E+04	N	0.9%	
4,4'-DDT	13.087	12.956	13.218	6.86E+04	13.163	4.46E+04	N	35.0%	*
Methoxychlor	25.812	25.760	25.864	5.77E+05	25.947	4.97E+05	N	14.0%	
Endrin Ketone	24.292	24.243	24.341	1.39E+05	24.362	1.17E+05	N	15.7%	*
alpha Chlordane	5.689	5.575	5.803	1.28E+05	5.717	1.82E+05	N	-41.6%	*
gamma Chlordane	5.187	5.083	5.291	1.23E+05	5.217	1.47E+05	N	-20.0%	*
Toxaphene	11.132	11.110	11.154	2.51E+03			N		
Aroclor 1016	2.462	2.457	2.467	7.11E+03			N		
Aroclor 1221	1.435	1.432	1.438	1.09E+04			N		
Aroclor 1232	2.465	2.460	2.470	3.73E+03			N		
Aroclor 1242	2.463	2.458	2.468	5.90E+03			N		
Aroclor 1248	2.464	2.459	2.469	3.98E+03			N		
Aroclor 1254	8.755	8.737	8.773	1.09E+04			N		
Aroclor 1260	9.927	9.907	9.947	9.86E+03			N		

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
XD 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 Contract: 10388.030
Lab Code: EALABS Case No: WILLOW SAS No.: N/A SDG No.: N/A
Instrument ID: 3A GC Column ID: 3% OV-1
ON 100/120 SUPELCOPORT

DATE(S) OF ANALYSIS	FROM:	25 APR 89			DATE OF ANALYSIS	26 APR 89	-26 APR 89			
	TO:	25 APR 89			TIME OF ANALYSIS	04:17	-05:02			
TIME(S) OF ANALYSIS	FROM:	14:55			EPA SAMPLE NO.	IN08	-IN08			
	TO:	15:31			(STANDARD #)	S-417	S-422			
COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR (area/ng)	RT	CALIBRATION FACTOR (area/ng)	QUANT Y/N	%D	
alpha BHC	1.703	1.700	1.706	2.31E+05	1.706	1.77E+05	N	23.4%	*
beta BHC	1.825	1.821	1.829	1.72E+05	1.831	1.31E+05	N	23.8%	*
delta BHC	2.073	2.063	2.083	2.20E+05	2.080	1.60E+05	N	27.3%	*
gamma BHC	2.016	1.996	2.036	2.70E+05	2.025	2.01E+05	N	25.6%	*
Heptachlor	3.315	3.282	3.348	4.08E+05	3.329	3.02E+05	N	25.9%	*
Aldrin	4.130	4.089	4.171	2.55E+05	4.148	1.92E+05	N	24.7%	*
Hept. Epoxide	5.081	4.979	5.183	3.34E+05	5.104	2.55E+05	N	23.7%	*
Endosulfan I	6.364	6.351	6.377	3.28E+05	6.394	2.54E+05	N	22.5%	*
Dieldrin	7.469	7.320	7.618	2.59E+05	7.502	2.07E+05	N	20.3%	*
4,4'-DDE	7.527	7.504	7.550	2.06E+05	7.558	1.89E+05	N	8.2%	
Endrin	8.342	8.259	8.425	1.67E+05	8.377	1.92E+05	N	-14.9%	*
Endosulfan II	8.527	8.510	8.544	2.99E+05	8.561	2.16E+05	N	27.9%	*
4,4'-DDD	9.532	9.513	9.551	1.85E+05	9.575	1.65E+05	N	11.0%	
Endosulfan Sulf.	11.071	11.049	11.093	2.59E+05	11.117	2.15E+05	N	16.9%	*
4,4'-DDT	12.619	12.493	12.745	1.80E+05	12.689	1.33E+05	N	25.9%	*
Methoxychlor	19.147	19.109	19.185	1.78E+06	19.247	1.40E+06	N	21.7%	*
Endrin Ketone	14.261	14.232	14.290	3.19E+05	14.320	2.39E+05	N	25.0%	*
alpha Chlordane	5.689	5.575	5.803	3.12E+05	6.525	2.48E+05	N	20.7%	*
gamma Chlordane	5.841	5.724	5.958	3.05E+05	5.864	2.26E+05	N	25.8%	*
Toxaphene	9.190	9.172	9.208	9.94E+03			N		
Aroclor 1016	2.892	2.886	2.898	1.60E+04			N		
Aroclor 1221	-	-	-	-			N		
Aroclor 1232	-	-	-	-			N		
Aroclor 1242	2.891	2.885	2.897	1.40E+04			N		
Aroclor 1248	2.890	2.884	2.896	8.15E+03			N		
Aroclor 1254	7.780	7.764	7.796	18265.400			N		
Aroclor 1260	11.072	11.050	11.094	1.69E+04			N		

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.

WATER METHOD BLANK

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: BLK0541

Sample wt/vol: 1000 ML Lab File ID: WILLOW

Level: (low/med) LOW Date Received: N/A

% Moisture: dec. N/A not dec. Date Extracted: 03 APR 89

Extraction: CONT. Date Analyzed: 21 APR 89

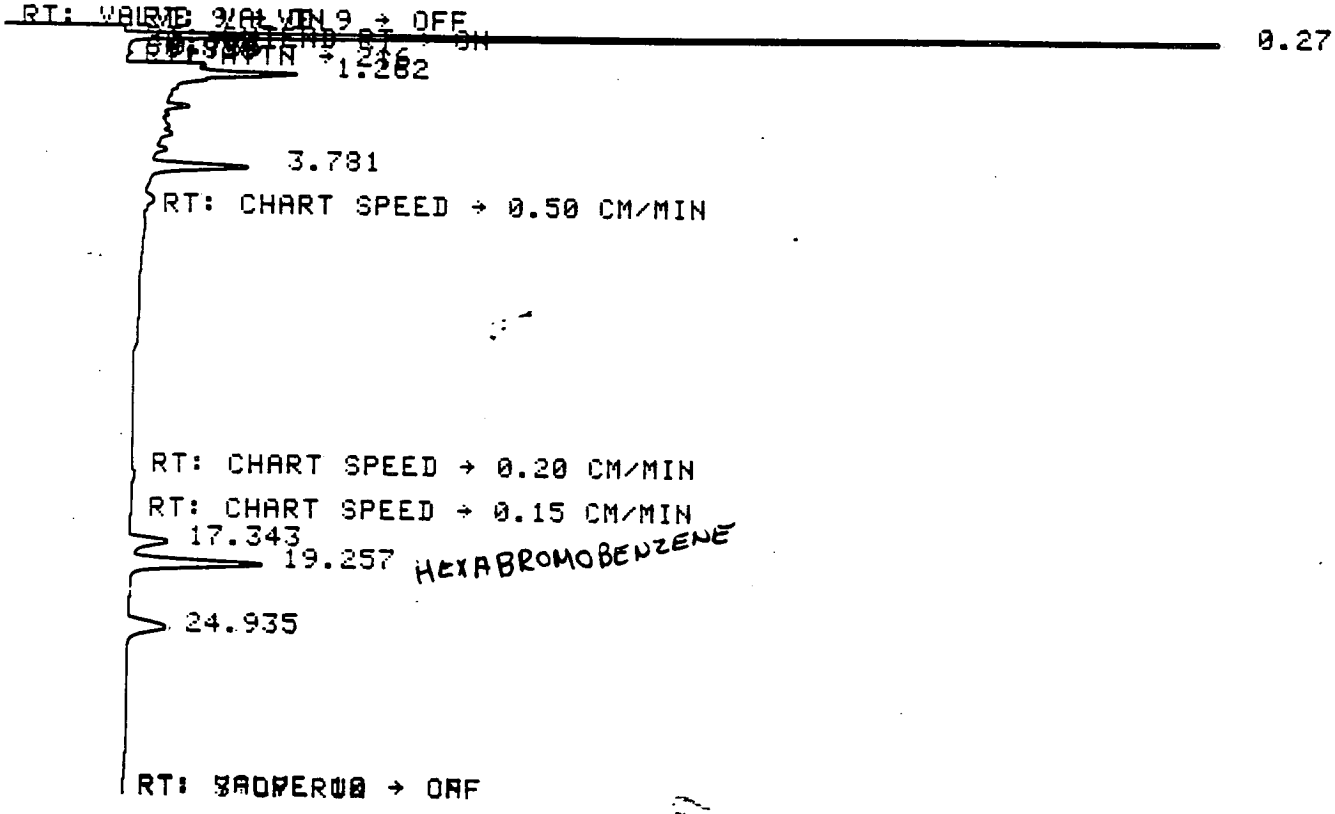
GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

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
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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 2213

SAMPLE ID: __METHOD__BLANK_____



[hp] 5880A SAMPLER INJECTION @ 22:15 APR 6, 1989
SAMPLE # : ID CODE :
13 BL541
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 243.41			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.270	2045420.00	BV	/SYM *	368337.00	234.06	99.065
0.50			RT: EXTEND RT → ON			
0.602	1928.55	VV	-----*	437.62	237.06	0.093
0.736	4598.86	VV	0.053	1370.44	238.27	0.223
0.838	1220.62	VV	-----	150.76	239.20	0.059
1.262	1592.39	VV	-----	141.47	243.02	0.077
3.781	826.18	BB	0.158	82.03	263.85	0.040
17.343	1590.84	BV	0.718	34.68	248.78	0.077
19.257	5255.33	VB	0.733	112.32	248.82	0.255
24.935	2283.28	BB	1.025	34.89	247.18	0.111

TOTAL AREA = 2064720.00
MULTIPLIER = 1

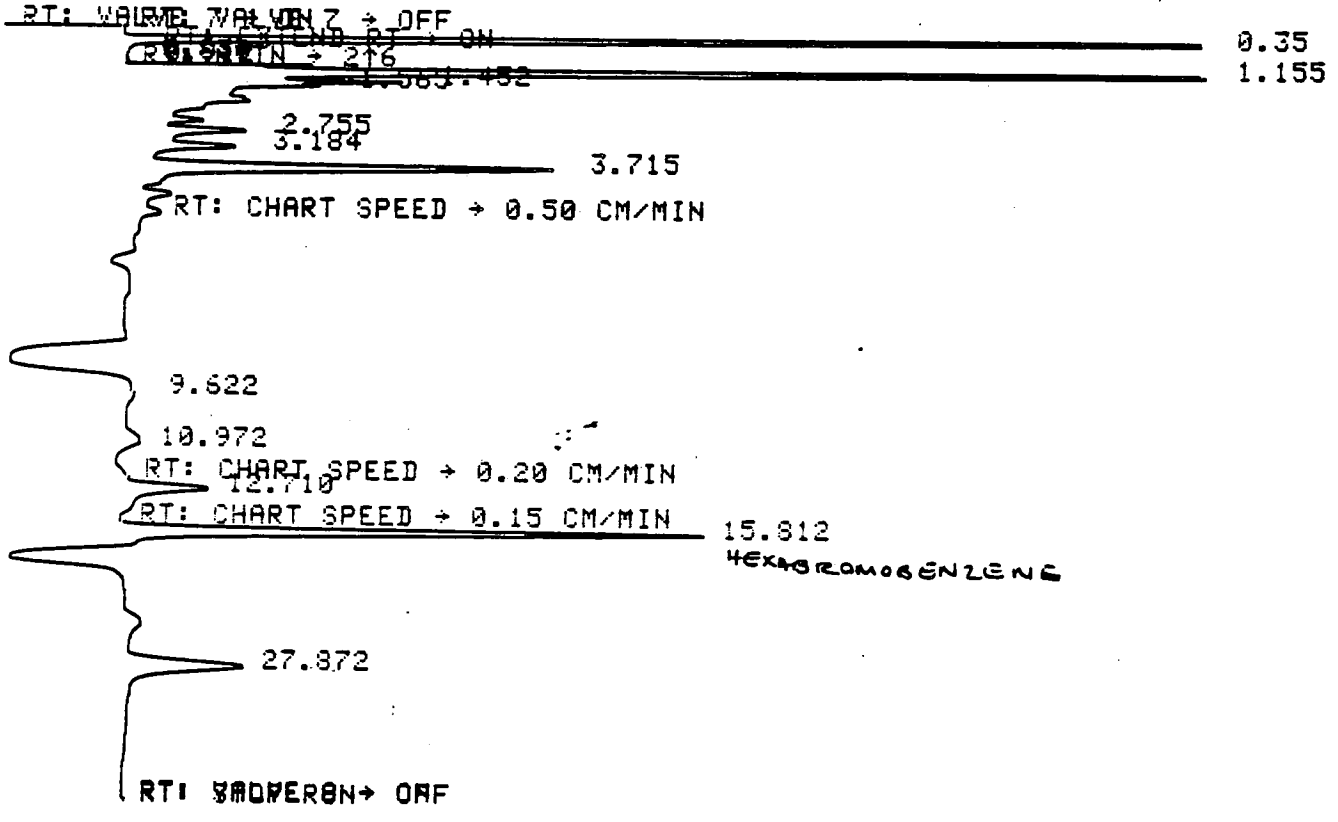
5 060

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pad); Cat. No. 2-2888 (box of 10 pads)

021

GC #3 / SIGNAL A
COLUMN TYPE - 3% OV-1 ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 2218

SAMPLE ID: METHOD BLANK



[hp] 5880A SAMPLER INJECTION @ 22:20 APR 25, 1989
SAMPLE # : ID CODE :
11 BL541
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 309.95			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.351	2854170.00	BV	/SYM *	368323.00	299.61	95.879
0.50			RT: EXTEND RT → ON			
0.735	2483.02	VV	-----	445.90	295.54	0.083
0.836	932.10	VV	-----	350.57	294.46	0.031
0.912	6108.27	VV	-----	1142.19	293.66	0.205
1.155	18075.70	VV	0.083	3423.50	291.08	0.607
1.452	1765.03	VV	-----	264.08	287.93	0.059
1.565	1907.81	VV	-----	195.28	286.74	0.064
2.755	2190.19	VV	-----	140.59	274.12	0.074
3.184	2775.14	VV	-----	137.09	269.57	0.093
3.715	6885.00	VV	-----	417.35	263.93	0.231
9.622	7000.76	PV	-----	107.41	210.04	0.235
10.972	7402.19	VV	-----	114.62	210.01	0.249
12.710	21970.90	VV	-----	173.94	209.98	0.738
15.812	36069.10	VP	0.937	602.62	209.91	1.211
27.872	7106.68	BB	1.995	101.63	313.28	0.239

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOIL METHOD BLANK

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: BLK0537

Sample wt/vol: 10.12 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: N/A

% Moisture: dec. N/A not dec. Date Extracted: 01 APR 89

Extraction: SOXHLET Date Analyzed: 08 APR 89

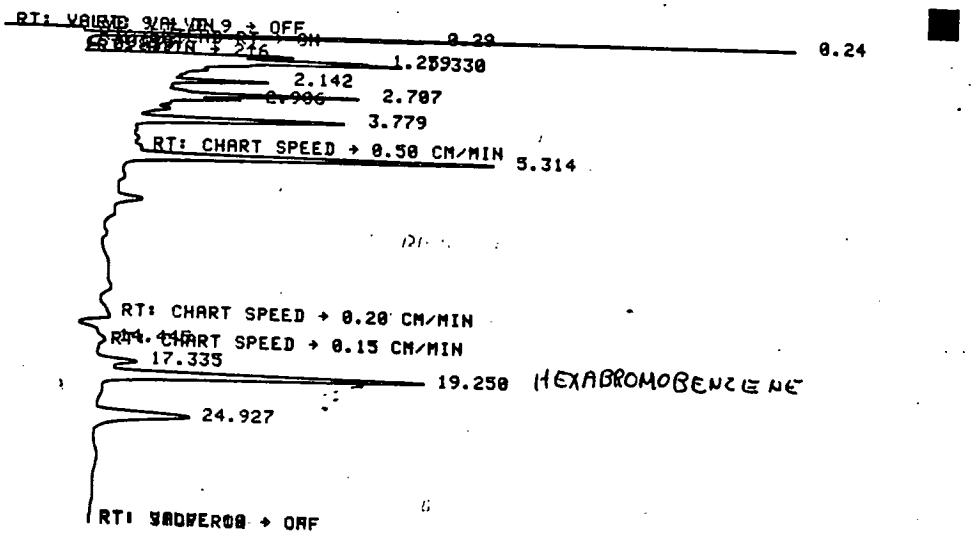
GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
319-84-6	alpha-BHC	8.00	U
319-85-7	beta-BHC	8.00	U
319-86-8	delta-BHC	8.00	U
58-89-9	gamma-BHC (Lindane)	8.00	U
76-44-8	Heptachlor	8.00	U
309-00-2	Aldrin	8.00	U
1024-57-3	Heptachlor epoxide	8.00	U
959-98-8	Endosulfan I	8.00	U
60-57-1	Dieldrin	16.00	U
72-55-9	4,4'-DDE	16.00	U
72-20-8	Endrin	16.00	U
33213-65-9	Endosulfan II	16.00	U
72-54-8	4,4'-DDD	16.00	U
1031-07-8	Endosulfan sulfate	16.00	U
50-29-3	4,4'-DDT	16.00	U
72-43-5	Methoxychlor	80.00	U
53494-70-5	Endrin ketone	16.00	U
5103-71-9	alpha-Chlordane	80.00	U
5103-74-2	gamma-Chlordane	80.00	U
8001-35-2	Toxaphene	160.00	U
12674-11-2	Aroclor-1016	80.00	U
11104-28-2	Aroclor-1221	80.00	U
11141-16-5	Aroclor-1232	80.00	U
53469-21-9	Aroclor-1242	80.00	U
12672-29-6	Aroclor-1248	80.00	U
11097-69-1	Aroclor-1254	160.00	U
11096-82-5	Aroclor-1260	160.00	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 108

SAMPLE ID: METHOD BLANK



[hp] 5880A SAMPLER INJECTION @ 01:11 APR 7, 1989
SAMPLE # : ID CODE :
17 BL537

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 240.61			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.237	863196.00	BV	-----	368150.00	229.17	65.340
0.288	364984.00	VV	-----	112500.00	229.31	27.627
0.50			RT: EXTEND RT → ON			
0.603	7992.45	VV	-----	2064.12	230.18	0.605
0.737	18879.60	VV	0.053	5536.62	230.56	1.429
0.859	6034.77	VV	-----	909.29	230.89	0.457
1.259	2475.22	VV	-----	375.60	232.00	0.187
1.330	2645.34	VV	-----	421.50	232.19	0.200
2.142	2717.70	VV	-----	243.23	234.44	0.206
2.707	4575.34	VV	-----	360.64	236.02	0.346
2.306	2033.23	VV	-----	205.10	236.56	0.154
3.779	4921.58	VV	-----	339.35	238.98	0.373
5.314	8427.11	VV	0.248	531.96	243.23	0.638
14.445	305.08	BB	0.550	8.68	266.60	0.023
17.335	2985.38	BV	-----	53.09	263.13	0.226
19.250	20523.20	VV	0.747	430.05	263.85	1.554
24.927	8398.83	BP	1.079	121.91	263.61	0.636

TOTAL AREA = 1321090.00
MULTIPLIER = 1

© SUPELCO, Bellefonte, PA Cat. No. 3-2887 (vial); Cat. No. 2-2888 (box of 10 vials)

028

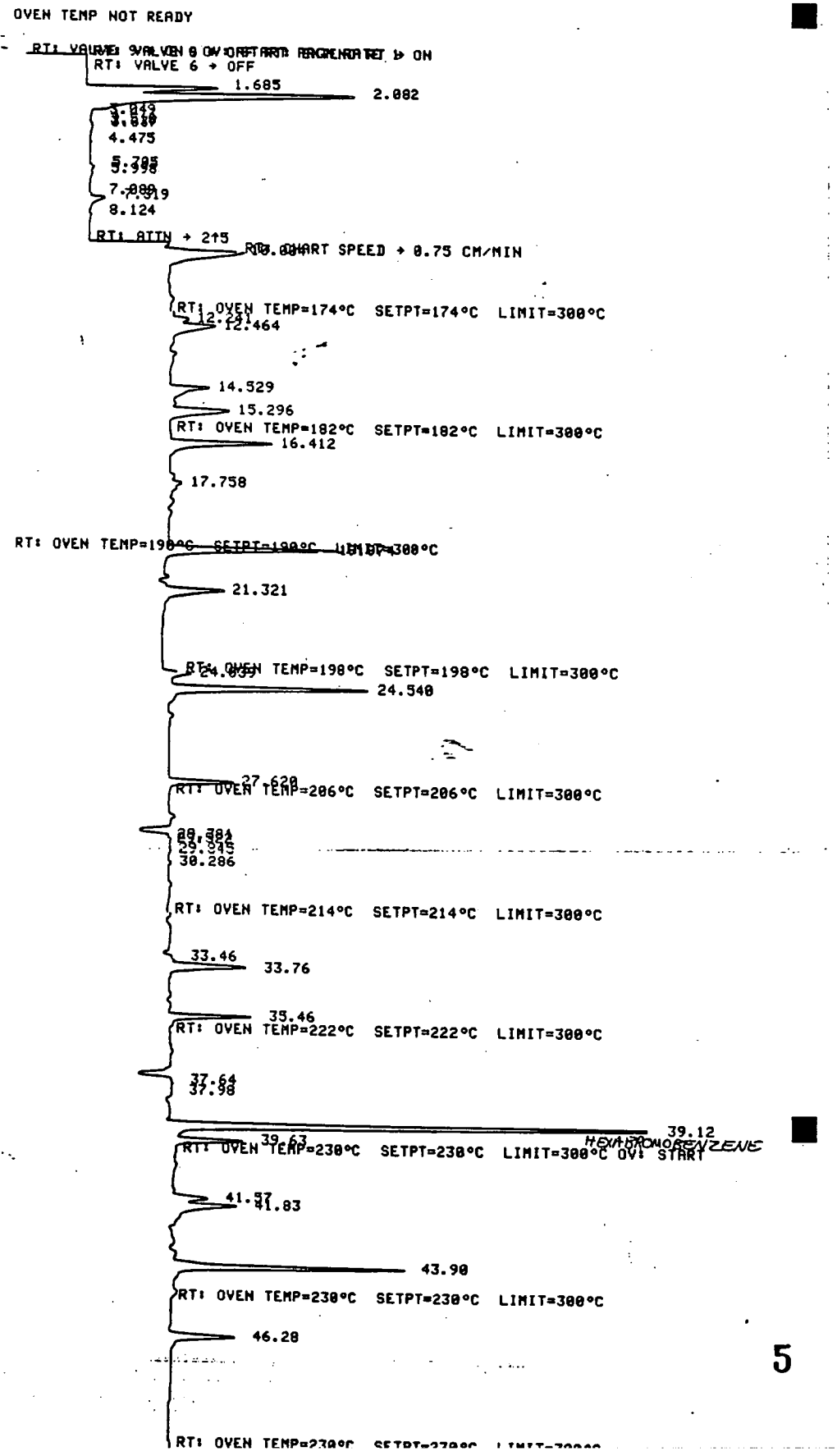
SUPELCO, Bellefonte, PA

5 063

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SP8-5 (CAP. - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 741

SAMPLE ID: METHOD BLANK



© SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pad) Cat. No. 2-2888 (box of 10 pads)

[hp] 5880A SAMPLER INJECTION @ 07:45 APR 8, 1989
SAMPLE # : ID CODE :
13 BLK 0537
AREA % COMPENSATED ANALYSIS

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 237.45			
0.00			THRESHOLD @ START RUN = 4			
0.00			PEAK WIDTH @ START RUN = 0.02			
0.01			RT: EXTEND RT → ON			
0.01			RP: EXTEND RT → ON			
1.685	55236.80	BV	-----*	3474.55	273.35	21.761
2.082	153941.00	VV	*-----*	7247.79	273.92	60.646
3.049	665.35	VV	-----	79.01	275.34	0.262
3.510	819.35	VV	-----	91.56	276.01	0.32
3.637	2576.02	VV	-----*	115.77	276.20	1.015
4.475	960.99	VV	-----	53.49	277.43	0.379
5.705	2437.62	VV	-----*	152.87	279.22	0.960
5.996	2534.33	VV	-----*	106.25	279.65	0.998
7.089	830.45	VV	-----*	74.67	281.24	0.327
7.319	7298.29	VV	-----*	448.74	281.58	2.875
8.124	1305.96	VV	-----*	66.29	282.75	0.514
10.004	1781.25	VV	*-----*	78.80	285.50	0.702
12.241	346.98	VV	-----	28.25	288.77	0.137
12.464	887.55	VV	-----	50.21	289.10	0.350
14.529	683.84	VV	-----	42.05	292.11	0.269
15.296	860.53	VV	-----	58.21	293.23	0.339
16.412	1053.10	VV	0.18	91.85	294.87	0.415
17.758	143.43	VV	-----	14.70	296.84	0.057
19.974	1269.31	VB	0.139	142.88	300.07	0.500
21.321	831.49	PV	-----*	56.56	296.10	0.328
24.039	217.87	VV	-----	21.11	298.63	0.086
24.540	1548.08	VP	0.142	171.04	299.10	0.610
27.620	523.14	BV	-----	55.56	300.14	0.206
29.381	240.45	PV	-----	25.76	277.20	0.095
29.522	212.30	VV	-----	25.48	277.19	0.084
29.845	454.64	VV	-----	27.32	277.18	0.179
30.286	633.86	VV	-----	27.62	277.16	0.250
33.462	429.61	VV	-----	27.81	277.04	0.169
33.758	1107.09	VV	-----	89.74	277.03	0.436
35.465	1360.74	VV	-----	94.20	276.96	0.536
37.644	523.37	PV	-----	28.22	277.85	0.206
37.980	652.53	VV	*-----*	25.84	279.17	0.257
39.117	4457.21	VV	0.124	564.03	283.61	1.756
39.631	847.07	VV	-----	76.72	285.61	0.334
41.575	493.15	VV	-----	39.60	293.19	0.194
41.830	1043.24	VV	-----	63.00	294.19	0.411
43.900	1767.69	VB	0.140	197.48	302.27	0.696
46.276	666.71	PH	0.189	55.37	300.99	0.263
53.052	191.78	HH	-----	12.93	300.99	0.076

TOTAL AREA = 253834.00
MULTIPLIER = 1

148

SUPELCO, Bellefonte, PA Cat. No. 2-2887 (bed); Cat. No. 2-2888 (box of 10 peds)

149

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #4 / SIGNAL D
COLUMN TYPE - SPB-5 (CAP., - 0.25 UM DF)
COLUMN DIMENSIONS - 30 METERS X 0.25 MM ID
INJECTION TYPE - AUTOMATIC / HP7671A
INJECTION VOLUME - 3 MICROLITERS
TIME: 856

5 065

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RINSATE BLANK MS

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) water Lab Sample ID: MS155

Sample wt/vol: 1000 ml Lab File ID: WILLOW

Level: (low/med) LOW Date Received: N/A

% Moisture: dec. N/A not dec. Date Extracted: 01 APR 89

Extraction: CONT Date Analyzed: 07 APR 89

GPC Cleanup: (Y/N) N pH: Dilution Factor:

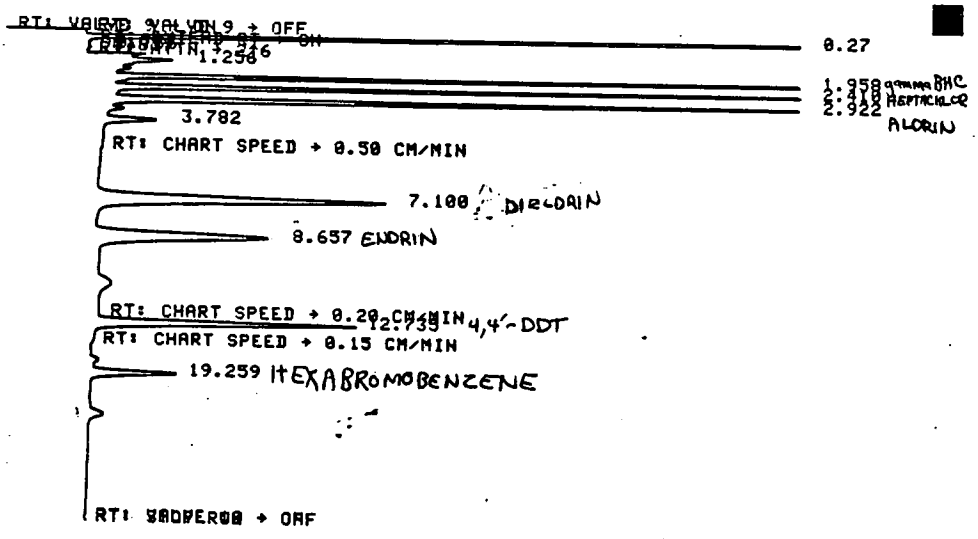
CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

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)	0.20	
76-44-8	Heptachlor	0.15	
309-00-2	Aldrin	0.18	
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.17	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.22	
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	0.36	
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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 2340

SAMPLE ID: MATRIX SPIKE



HP 5880A SAMPLER INJECTION @ 23:43 APR 6, 1989
SAMPLE # : ID CODE :
15 MS155

AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 241.85			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.273	2072260.00	BV	/SYM * 368290.00	234.12		97.344
0.50			RT: EXTEND RT → ON			
0.603	2467.14	VV	-----	687.79	242.90	0.116
0.736	4492.26	VV	0.051	1371.98	246.44	0.211
0.837	485.84	VV	-----	132.38	249.14	0.023
1.256	975.98	VV	-----	89.66	260.28	0.046
1.958	7396.56	BB	0.072	1617.98	280.54	0.347
2.410	7572.36	BV	0.095	1246.50	273.87	0.356
2.922	6705.59	VV	0.111	945.17	269.72	0.315
3.782	677.67	BB	0.159	66.59	262.96	0.032
7.100	6211.61	BB	0.263	359.92	269.43	0.292
8.657	4615.22	BV	0.325	222.52	254.27	0.217
12.735	9969.57	BB	0.464	336.77	257.51	0.468
19.259	4972.54	BB	0.708	109.93	250.25	0.234

TOTAL AREA = 2128800.00
MULTIPLIER = 1

© SUPELCO, Bellefonte, PA Cat. No. 2-2887 (and) Cat. No. 2-2888 (box of 10 pads)

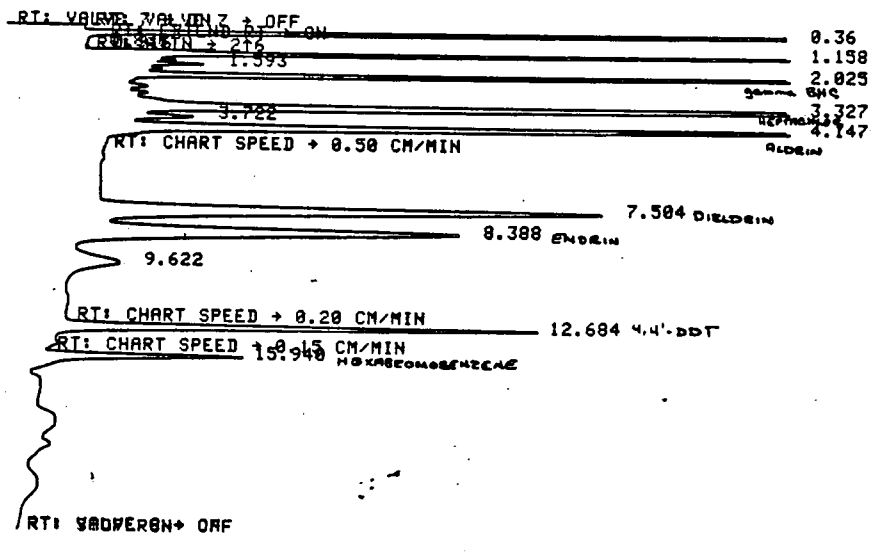
024

SUPELCO, Bellefonte, PA Cat. No.

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL A
COLUMN TYPE - 3% OV-1 ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 32

SAMPLE ID: MATRIX SPIKE DN RINSATE BLANK



[HP] 5880A SAMPLER INJECTION @ 00:34 APR 26, 1989
SAMPLE # : ID CODE :
14 MS155
AREA %

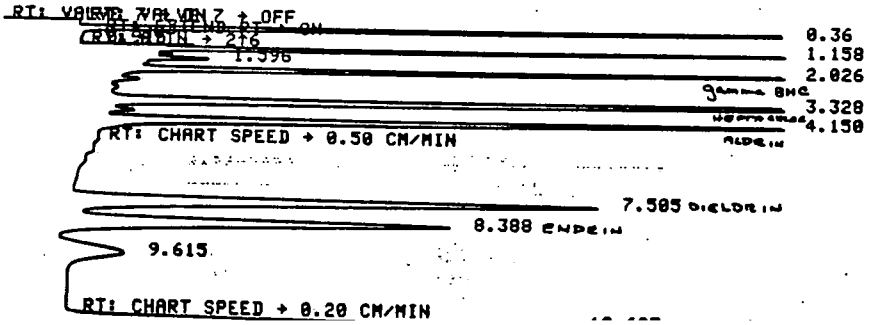
RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 444.16			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.362	2982830.00	BV	/SYM * 368132.00	448.50		96.045
0.50			RT: EXTEND RT → ON			
0.836	615.72	VV	-----	222.35	492.30	0.020
0.916	5160.53	VV	-----	1112.00	499.71	0.166
1.158	10245.30	VB	0.072	2225.61	522.09	0.330
1.593	364.25	PV	0.082	69.19	532.26	0.012
2.025	16226.20	VB	0.086	2938.69	515.09	0.522
3.327	17904.20	VV	0.151	1861.44	490.66	0.577
3.722	1311.05	VV	-----	102.89	484.98	0.042
4.147	13416.00	VB	0.170	1236.67	478.84	0.432
7.504	13082.60	BV	0.303	675.12	457.90	0.421
8.388	10949.60	VP	0.342	501.53	441.48	0.353
9.622	2082.39	PB	0.496	65.79	425.60	0.067
12.684	19340.80	BV	0.477	634.80	412.55	0.623
15.940	12138.60	PP	0.714	266.15	388.06	0.391

TOTAL AREA = 3105670.00
MULTIPLIER = 1

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL A
COLUMN TYPE - 3% OV-1 ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 115

SAMPLE ID: RINSATE BLANK MATRIX SPIKE DUPLICATE



1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NL, S-1B, SOIL MS

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) soil Lab Sample ID: MS149 EA#1123

Sample wt/vol: 10.14 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: N/A

% Moisture: dec. 13.9% not dec. Date Extracted: 03 APR 89

Extraction: SOXHLET Date Analyzed: 21 APR 89

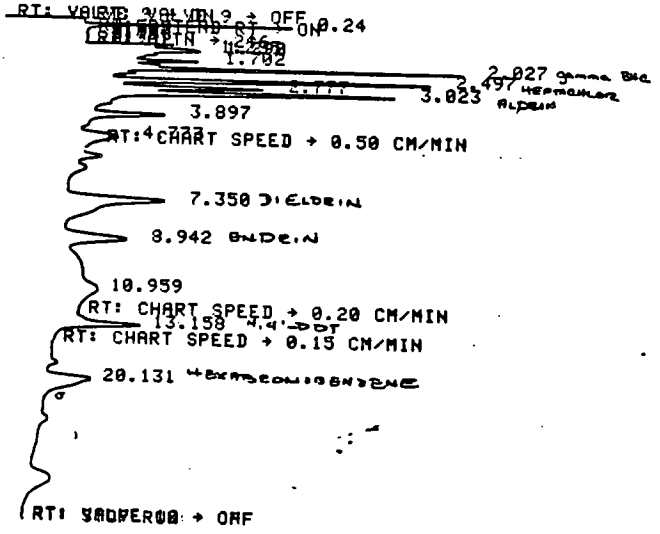
GPC Cleanup:(Y/N) N pH: Dilution Factor: 10.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	93	U
319-85-7	beta-BHC	93	U
319-86-8	delta-BHC	93	U
58-89-9	gamma-BHC (Lindane)	15	J
76-44-8	Heptachlor	11	J
309-00-2	Aldrin	21	J
1024-57-3	Heptachlor epoxide	93	U
959-98-8	Endosulfan I	93	U
60-57-1	Dieldrin	20	J
72-55-9	4,4'-DDE	190	U
72-20-8	Endrin	19	J
33213-65-9	Endosulfan II	190	U
72-54-8	4,4'-DDD	190	U
1031-07-8	Endosulfan sulfate	190	U
50-29-3	4,4'-DDT	33	J
72-43-5	Methoxychlor	930	U
53494-70-5	Endrin ketone	190	U
5103-71-9	alpha-Chlordane	930	U
5103-74-2	gamma-Chlordane	930	U
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	930	U
11104-28-2	Aroclor-1221	930	U
11141-16-5	Aroclor-1232	930	U
53469-21-9	Aroclor-1242	930	U
12672-29-6	Aroclor-1248	930	U
11097-69-1	Aroclor-1254	1900	U
11096-82-5	Aroclor-1260	1900	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 1812

SAMPLE ID: Matrix Spike MS, NL, S-16, Soil



[hp] 5880A SAMPLER INJECTION @ 18:14 APR 21, 1989
SAMPLE # : ID CODE :
21 MS149X10
AREA %

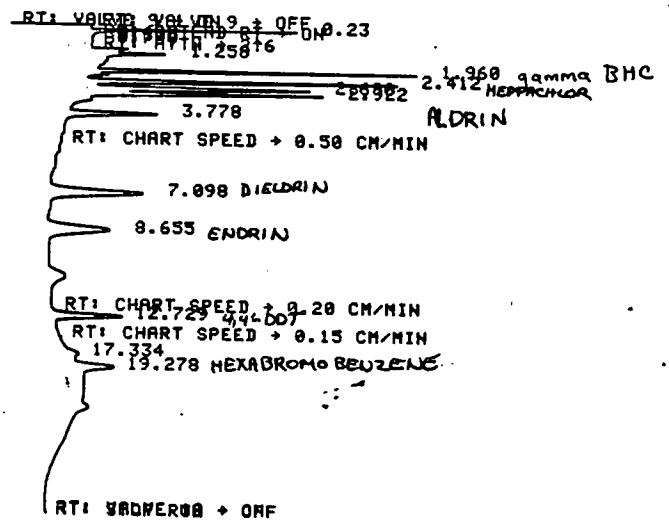
RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 420.71			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.241	177700.00	BB	0.04 *	68181.60	502.57	83.663
0.30			RT: EXTEND RT → ON			
0.505	90.14	BP	-----	50.82	796.90	0.042
0.627	1525.99	PP	0.041	577.44	677.09	0.718
0.766	2289.90	PV	0.056	634.91	604.09	1.078
0.937	600.67	VP	-----	176.92	556.31	0.283
1.235	269.25	PV	-----	60.38	501.00	0.127
1.290	365.66	VV	-----	69.78	498.55	0.172
1.702	397.49	PV	0.072	86.05	480.45	0.187
2.027	2320.40	VV	0.083	436.74	466.80	1.092
2.497	2715.71	PV	0.103	412.18	450.46	1.279
2.777	1693.35	VV	-----	203.46	445.20	0.797
3.023	3476.69	VV	0.144	377.07	440.56	1.637
3.897	1192.57	VP	0.188	99.16	424.14	0.561
4.773	1283.19	PV	-----	52.32	411.55	0.604
7.350	3394.67	BP	0.415	128.03	397.95	1.598
8.942	1650.02	BV	0.322	80.17	398.44	0.777
10.959	2460.43	VB	-----	33.72	408.65	1.158
13.158	3460.23	BB	-----	96.18	401.60	1.629
20.131	5513.75	BP	1.430	60.38	375.15	2.596

TOTAL AREA = 212400.00
MULTIPLIER = 1

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 920

SAMPLE ID: MATRIX SPIKE



[hp] 5880A SAMPLER INJECTION @ 09:23 APR 7, 1989
SAMPLE # : ID CODE :
28 MS149X10
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 366.51			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.227	175183.00	BB	0.04 *	68304.60	437.42	89.280
0.487	49.99	BP	-----	40.02	587.10	0.025
0.50			RT: EXTEND RT → ON			
0.605	814.89	PP	0.041	312.54	464.30	0.415
0.738	586.18	PV	0.047	195.71	446.13	0.299
1.258	298.48	BP	0.070	66.55	392.59	0.152
1.960	2009.90	BV	0.075	419.47	367.11	1.024
2.412	2547.49	PV	0.098	406.83	355.25	1.298
2.690	2409.08	VV	-----	297.48	350.58	1.228
2.922	2447.61	VV	-----	318.24	346.69	1.247
3.778	1193.69	PB	0.161	115.70	333.76	0.607
7.098	1974.80	BP	0.262	117.83	315.07	1.006
8.655	1651.11	BP	0.322	80.19	310.43	0.841
12.729	2571.61	BP	0.458	87.84	321.07	1.311
17.334	397.13	BV	-----	10.45	342.39	0.202
19.278	2085.33	BB	0.705	46.31	352.74	1.063

TOTAL AREA = 196218.00
MULTIPLIER = 1

© SUPELCO, Bellefonte, PA Cat. No. 2-2887 (pod); Cat. No. 2-2888 (box of 10 pods)

049

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RINSATE BLANK MSD

Lab Name: EA LABORATORIES Contract:10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) water Lab Sample ID: MSD156

Sample wt/vol: 1000 ml Lab File ID: WILLOW

Level: (low/med) LOW Date Received: N/A

% Moisture: dec. N/A not dec. Date Extracted: 01 APR 89

Extraction: CONT Date Analyzed: 07 APR 89

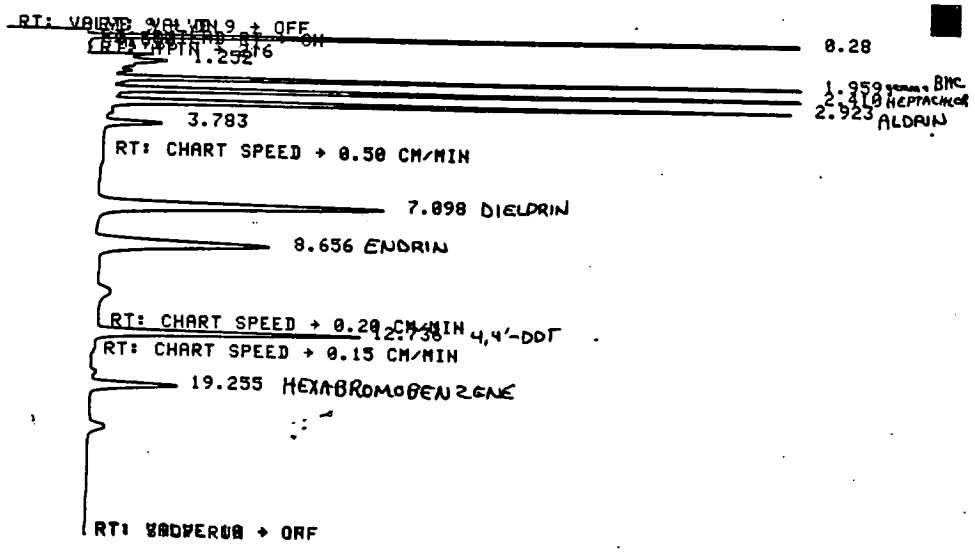
GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

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)	0.19	
76-44-8	Heptachlor	0.13	
309-00-2	Aldrin	0.16	
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.17	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.22	
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	0.39	
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	1.00	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	1.00	U
11096-82-5	Aroclor-1260	1.00	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 24

SAMPLE ID: MATRIX SPIKE DUPLICATE



[hp] 5880A SAMPLER INJECTION @ 00:27 APR 7, 1989
SAMPLE # : ID CODE :
16 MSD156
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 241.27			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.276	2112750.00	BV	/SYM	368262.00	232.70	97.382
0.50			RT: EXTEND RT → ON			
0.530	1257.92	VV	-----	419.30	239.34	0.058
0.603	2420.48	VV	------*	610.32	241.25	0.112
0.736	4733.34	VV	0.051	1448.92	244.75	0.218
1.252	948.12	VV	-----	81.77	258.24	0.044
1.959	7190.43	PB	0.072	1566.32	277.36	0.331
2.410	7320.23	BV	0.095	1201.80	270.65	0.337
2.923	6323.45	VV	0.111	893.36	266.83	0.291
3.783	762.28	BB	0.162	73.85	260.86	0.035
7.098	6166.12	BB	0.267	366.52	259.79	0.284
8.656	4608.24	BV	0.325	222.20	253.26	0.212
12.736	10047.50	BB	0.463	339.73	256.61	0.463
19.255	5017.00	BB	0.706	111.28	249.77	0.231

TOTAL AREA = 2169550.00
MULTIPLIER = 1

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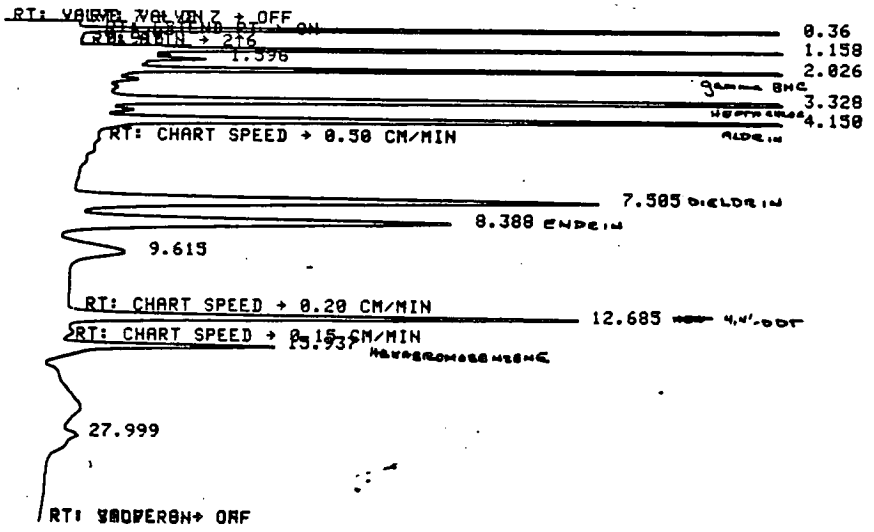
026 J

SUPELCO, Bellefonte, PA Cat. N

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL A
COLUMN TYPE - 3% OV-1 ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 115

SAMPLE ID: RINSATE BLANK MATRIX SPIKE DUPLICATE



[hp] 5880A SAMPLER INJECTION @ 01:18 APR 26, 1989
SAMPLE # : ID CODE :
15 MSD156
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 384.17			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.363	3000130.00	BV	/SYM #	368164.00	390.92	95.996
0.50			RT: EXTEND RT → ON			
0.730	2287.86	VV	-----	495.49	425.27	0.073
0.915	5433.60	VV	*-----	1026.31	442.59	0.174
1.158	10353.20	VB	0.072	2261.16	465.39	0.331
1.596	525.01	VV	-----	80.36	472.29	0.017
2.026	15434.40	VP	0.087	2772.54	451.32	0.494
3.328	15845.90	PV	0.142	1741.40	420.16	0.507
4.150	12087.20	VB	0.167	1134.70	412.28	0.387
7.585	13219.00	BV	0.204	783.31	371.00	0.423
8.388	10900.30	VP	0.331	514.86	362.06	0.349
9.615	2861.52	PB	0.536	83.64	360.46	0.092
12.685	21052.20	BV	0.481	684.62	363.38	0.674
15.937	12433.60	VB	0.681	285.84	358.21	0.398
27.999	2693.95	BB	-----	24.08	355.85	0.086

TOTAL AREA = 3125260.00
MULTIPLIER = 1

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NL, S-1B, SOIL MSD

Lab Name: EA LABORATORIES Contract: 10388.03

Lab Code: EALABS Case #: WILLOW GRO SAS #: N/A SDG No.: N/A

Matrix: (soil/water) soil Lab Sample ID: MSD150 EA# 1183

Sample wt/vol: 10.14 g Lab File ID: WILLOW

Level: (low/med) LOW Date Received: N/A

% Moisture: dec. 13.9% not dec. Date Extracted: 03 APR 89

Extraction: SOXHLET Date Analyzed: 21 APR 89

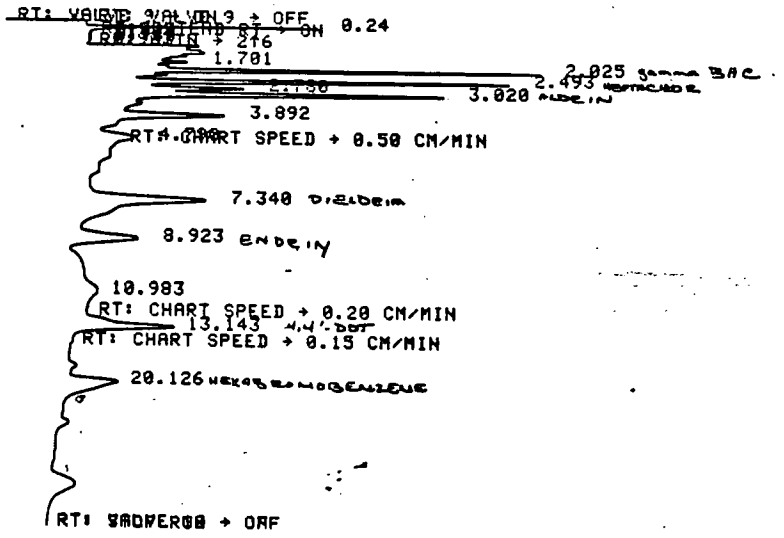
GPC Cleanup:(Y/N) N pH: Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	93	U
319-85-7	beta-BHC	93	U
319-86-8	delta-BHC	93	U
58-89-9	gamma-BHC (Lindane)	17	J
76-44-8	Heptachlor	14	J
309-00-2	Aldrin	22	J
1024-57-3	Heptachlor epoxide	93	U
959-98-8	Endosulfan I	93	U
60-57-1	Dieldrin	27	J
72-55-9	4,4'-DDE	190	U
72-20-8	Endrin	21	J
33213-65-9	Endosulfan II	190	U
72-54-8	4,4'-DDD	190	U
1031-07-8	Endosulfan sulfate	190	U
50-29-3	4,4'-DDT	66	J
72-43-5	Methoxychlor	930	U
53494-70-5	Endrin ketone	190	U
5103-71-9	alpha-Chlordane	930	U
5103-74-2	gamma-Chlordane	930	U
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	930	U
11104-28-2	Aroclor-1221	930	U
11141-16-5	Aroclor-1232	930	U
53469-21-9	Aroclor-1242	930	U
12672-29-6	Aroclor-1248	930	U
11097-69-1	Aroclor-1254	1900	U
11096-82-5	Aroclor-1260	1900	U

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 1856

SAMPLE ID: Matrix Spike Duplicate — NL, SIB, SJ



[hp] 5880A SAMPLER INJECTION @ 18:59 APR 21, 1989
SAMPLE # : ID CODE :
22 MSDX10 150

AREA %

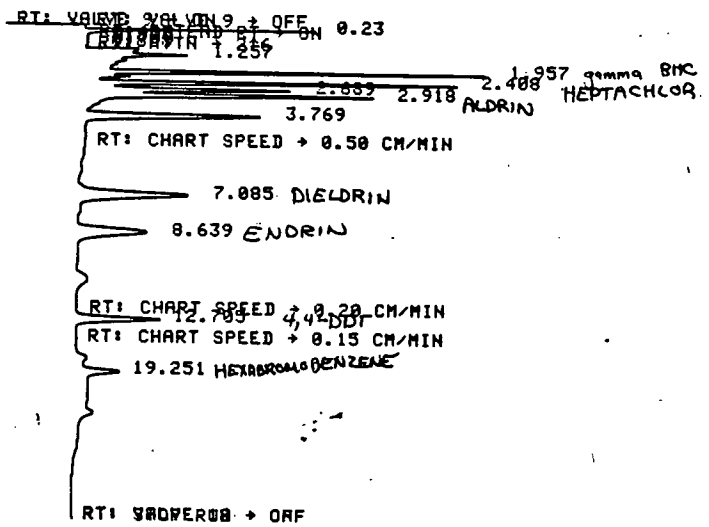
RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 377.72			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.240	198118.00	BV	0.04 *	75549.70	377.14	80.627
0.505	2722.31	VV	-----	633.49	414.89	1.108
0.51			RT: EXTEND RT → ON			
0.626	3576.74	VV	-----	943.77	432.19	1.456
0.765	4045.58	VV	-----	980.74	451.99	1.646
0.933	792.01	VB	-----	174.93	475.96	0.322
1.701	172.86	PV	0.069	39.49	466.60	0.070
2.025	2613.59	VV	0.080	509.21	451.99	1.064
2.493	3269.56	PV	0.105	486.06	434.47	1.331
2.780	1287.00	VV	-----	148.93	428.49	0.524
3.020	3732.84	VV	0.141	413.07	423.48	1.519
3.892	2073.44	VP	0.219	148.19	405.31	0.844
4.790	1286.74	PV	-----	46.16	391.03	0.524
7.340	4402.97	BV	0.441	156.17	374.18	1.792
8.923	1815.52	VP	0.335	84.94	359.47	0.739
10.983	3231.79	PV	-----	37.49	357.06	1.315
13.143	6802.93	VB	0.798	133.49	358.95	2.769
20.126	5778.98	BP	1.417	63.86	356.07	2.352

TOTAL AREA = 245722.00
MULTIPLIER = 1

********** EA LABORATORIES **********
---------- PESTICIDE / PCB ANALYSIS ----------

GC #3 / SIGNAL B
COLUMN TYPE - 1.5% SP-2250 / 1.95% SP-2401
ON 100/120 SUPELCOPORT
COLUMN DIMENSIONS - 2 METERS X 2MM ID
INJECTION TYPE - AUTOMATIC / HP7672A
INJECTION VOLUME - 5 MICROLITERS
TIME: 1005

SAMPLE ID: MATRIX SPIKE DUPLICATE



[hp] 5880A SAMPLER INJECTION @ 10:07 APR 7, 1989
SAMPLE # : ID CODE :
29 MSD150X10
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASELINE	AREA %
0.00			BASELINE @ START RUN = 312.60			
0.00			THRESHOLD @ START RUN = 6			
0.00			PEAK WIDTH @ START RUN = 0.04			
0.01			RP: EXTEND RT → ON			
0.226	195017.00	BV	0.04 *	74574.20	302.92	86.246
0.490	1850.62	VV	-----	490.11	305.11	0.818
0.50			RT: EXTEND RT → ON			
0.605	2204.78	VV	-----	618.39	306.07	0.975
0.738	2483.92	VV	-----	644.27	307.18	1.099
0.858	995.78	VV	-----	165.31	308.19	0.440
1.257	1200.97	VV	-----	130.25	311.50	0.531
1.957	2585.25	VV	0.079	514.12	317.35	1.143
2.408	2987.72	VV	0.099	472.96	321.11	1.321
2.689	2031.69	VV	-----	251.32	323.45	0.899
2.918	2655.29	VB	0.113	357.62	325.36	1.192
3.769	2384.72	BB	0.166	224.83	311.47	1.055
7.085	2593.87	PV	0.287	141.60	301.90	1.147
8.639	1842.26	BB	0.320	90.05	301.65	0.815
12.705	3133.16	BB	0.461	106.30	303.41	1.386
19.251	2110.23	BB	0.788	46.64	312.15	0.933

TOTAL AREA = 226118.00
MULTIPLIER = 1

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051

SUPELCO, Bellefonte, PA Cat. No.

5 077

E. Quality Assurance Summary

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EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove — Analysis: TCL pesticide/PCBs

EA Laboratories Report No. 476-1184 — Method: U.S. EPA-CLP

Reviewed by: [signature] — Date: 5-25-89

1. Water samples were extracted within 5 days of sample ~~collection~~ receipt (soils samples within 10 days) and analyzed within 40 days of extraction.

✓ Yes ____ No

2. Three-point calibration curve prepared and used to establish standard deviations for retention time windows.

____ Yes ✓ No

3. The 72-hour calibration period was met for all samples.

✓ Yes ____ No

4. Initial calibration criteria were met for all samples: a three-point calibration curve was run, the RSD is <10% for all compounds, the maximum percent difference for compounds is 25%.

____ Yes ✓ No

5. Instrument performance evaluation criteria were met for each 72-hour analytical sequence: DDT retention time >12 min.; DDT/endrin breakdown <20%; linearity as %RSD for aldrin, endrin, 4,4'-DDT, and ~~DBC~~ HRB <10%; retention time windows established.

✓ Yes ____ No

6. 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

7. Surrogate recoveries were within advisory limits for all samples.

✓ Yes ____ No

(Revised 31 May 1989)

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EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Alla Groove Analysis: TCL pesticide/PCBs

EA Laboratories Report No. 1176 - 1184 Method: U.S. EPA-CLP

Reviewed by: Cary Lih Date: 5-25-89

8. MS and MSD criteria were met for all samples.

✓ Yes _____ No

9. Method blank criteria were met for all samples: the method blank must contain ≤CRQL of any single pesticide/PCB target compound.

✓ Yes _____ No

10. Laboratory control sample criteria were met for all samples.

~~✓~~ mmw Yes X No

11. All tentatively identified compounds were confirmed on a second column.

✓ Yes _____ No

12. Field and equipment blanks: no target compounds were detected in the samples at concentrations <5X the concentration found in the highest associated blank.

✓ Yes _____ No

Comments: 2) 1% window used.

4) 3+ individual calibration for each analyte not Run.

10) Spike recoveries in the spiked blank were 37% and 38% respectively for dieldrin and endrin mmw 10Aug89

(Revised 31 May 1989)

6. INORGANIC DATA

A. Sample Data

U.S. EPA CLP INORGANIC ANALYSIS DATA QUALIFIERS

1. C (concentration) qualifier -- Enter "B" if the reported value is less than the Contract Required Detection Limit (CRDL) but greater that the Instrument Detection Limit (IDL). If the analyte was analyzed for but not detected, a "U" must be entered.

2. Q qualifier -- Specified entries and their meanings are as follows:

   2.1 E -- The reported value is estimated because of the presence of interference.

   2.2 M -- Duplicate injection precision was not met.

   2.3 N -- Spiked sample recovery was not within control limits.

   2.4 S -- The reported value was determined by the Method of Standard Additions (MSA).

   2.5 W -- Post-digestion spike for furnace AA analysis is out of control limits (85-115%), while the sample absorbance is less than 50% of the spike absorbance.

   2.5 * -- Duplicate analyses were not within control limits.

   2.6 + -- Correlation coefficient for MSA is less than 0.995.

3. M (Method) qualifier -- Enter:

   3.1 "P" for ICP

   3.2 "A" for Flame AA

   3.3 "F" for Furnace AA

   3.4 "CV" for Cold Vapor AA

   3.5 "AV" for Automated Cold Vapor AA

   3.6 "AS" for Semi-automated Spectrophotometric

   3.7 "C" for Manual Spectrophotometric

   3.8 "T" for Titrimetric

   3.9 "NR" for an analyte not required to be determined.

(U.S. EPA CLP SOW 12/87)

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

SOW No.: 7/87

EPA Sample No.	Lab Sample ID.
ET1176	9SL, S-1A, Soil
ET1177	9SL, S-1B, Soil
ET1178	9SL, S-2A, Soil
ET1179	9SL, S-2B, Soil
ET1180	9SL, S-3A, Soil
ET1181	9SL, S-3B, Soil
ET1182	NL, S-1A, Soil
ET1183	NL, S-1B, Soil
~~ET2087~~	~~NSLA-1, Composite~~
~~ET2089~~	~~NSLA-2, Composite~~
~~ET2091~~	~~NSLA-3, Composite~~
~~ET2093~~	~~NSLA-4, Composite~~
~~ET2095~~	~~NSLA-5, Composite~~
~~ET2097~~	~~NSLA-6, Composite~~
~~ET2104~~	~~Duplicate, 9SL #1~~
~~ET2104D~~ ok slot	
ET2104S	

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:

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by th Laborat ry Manager or the Manager's designee, as verified by the following signature.

Lab Manager: Stephen E. Shelley

Date: 16 JUNE 89

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

SOW No.: 7/87

EPA Sample No.	Lab Sample ID.
ET1184	Rinsate Blank
ET1184D	
ET1184S	
~~ET2098~~	Rinsate #1, 9SL, water
~~ET2099~~ Rn	Rinsate #2, 9SL, water

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:

R lease of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manag r or the Manager's design e, as verified by the following signature.

Lab Manager: Stephen E. Shelley

Date: 12 JUNE 89

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET1176

Lab Name: EA Laboratories Contract:

Lab C de: Case No.: SAS No.: SDG No.: ET1176

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/30/89

% Solids: 84.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13600		E	P
7440-36-0	Antimony	6.3	U	N	P
7440-38-2	Arsenic	17.3		N	F
7440-39-3	Barium	77.6		N	P
7440-41-7	Beryllium	0.79		N	P
7440-43-9	Cadmium	4.3		N	P
7440-70-2	Calcium	2050			P
7440-47-3	Chromium	19.2		N	P
7440-48-4	Cobalt	0.61	U	N	P
7440-50-8	Copper	18.0		N	P
7439-89-6	Iron	21500			P
7439-92-1	Lead	24.2		S	F
7439-95-4	Magnesium	2620			P
7439-96-5	Manganese	437			P
7439-97-6	Mercury	0.15		N	CV
7440-02-0	Nickel	13.1		N	P
7440-09-7	Potassium	976			P
7782-49-2	Selenium	0.10	U	N	F
7440-22-4	Silver	0.81	U	N	P
7440-23-5	Sodium	125	B		P
7440-28-0	Thallium	33.6	U	N	P
7440-62-2	Vanadium	27.5		N	P
7440-66-6	Zinc	46.5			P
	Cyanide				

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
9SL, S-1A, SOIL

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET1177

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/30/89

% Solids: 85.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11500		E	P
7440-36-0	Antimony	6.3	U	N	P
7440-38-2	Arsenic	14.4		N	F
7440-39-3	Barium	111		N	P
7440-41-7	Beryllium	0.85		N	P
7440-43-9	Cadmium	8.3		N	P
7440-70-2	Calcium	36100			P
7440-47-3	Chromium	39.4		N	P
7440-48-4	Cobalt	0.62	U	N	P
7440-50-8	Copper	105		N	P
7439-89-6	Iron	24100			P
7439-92-1	Lead	47.8		S	F
7439-95-4	Magnesium	13300			P
7439-96-5	Manganese	527			P
7439-97-6	Mercury	0.11		N	CV
7440-02-0	Nickel	51.6		N	P
7440-09-7	Potassium	570			P
7782-49-2	Selenium	0.10	U	N	F
7440-22-4	Silver	0.81	U	N	P
7440-23-5	Sodium	156	B		P
7440-28-0	Thallium	34.9	U	N	P
7440-62-2	Vanadium	21.0		N	P
7440-66-6	Zinc	180			P
	Cyanide				

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
9SL, S-1B, SOIL

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET1178

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/30/89

% S lids: 81.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11900		E	P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	16.1		N	F
7440-39-3	Barium	73.1		N	P
7440-41-7	Beryllium	0.73		N	P
7440-43-9	Cadmium	4.5		N	P
7440-70-2	Calcium	1180			P
7440-47-3	Chromium	17.9		N	P
7440-48-4	Cobalt	0.56	U	N	P
7440-50-8	Copper	14.4		N	P
7439-89-6	Iron	23200			P
7439-92-1	Lead	17.2		S	F
7439-95-4	Magnesium	2230			P
7439-96-5	Manganese	386			P
7439-97-6	Mercury	0.11		N	CV
7440-02-0	Nickel	10.6		N	P
7440-09-7	Potassium	956			P
7782-49-2	Selenium	0.12	U	N	F
7440-22-4	Silver	0.74	U	N	P
7440-23-5	Sodium	105	B		P
7440-28-0	Thallium	36.6	U	N	P
7440-62-2	Vanadium	28.2		N	P
7440-66-6	Zinc	65.7			P
	Cyanide				

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
9SL, S-2A, SOIL

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET1179

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/30/89

% Solids: 81.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9870		E	P
7440-36-0	Antimony	5.6	U	N	P
7440-38-2	Arsenic	13.8		N	F
7440-39-3	Barium	71.4		N	P
7440-41-7	Beryllium	0.68		N	P
7440-43-9	Cadmium	3.1		N	P
7440-70-2	Calcium	8600			P
7440-47-3	Chromium	16.0		N	P
7440-48-4	Cobalt	0.55	U	N	P
7440-50-8	Copper	14.1		N	P
7439-89-6	Iron	17900			P
7439-92-1	Lead	30.9			F
7439-95-4	Magnesium	2550			P
7439-96-5	Manganese	345			P
7439-97-6	Mercury	0.07		N	CV
7440-02-0	Nickel	9.9		N	P
7440-09-7	Potassium	770			P
7782-49-2	Selenium	0.10	U	N	F
7440-22-4	Silver	0.72	U	N	P
7440-23-5	Sodium	107	B		P
7440-28-0	Thallium	32.1	U	N	P
7440-62-2	Vanadium	21.8		N	P
7440-66-6	Zinc	40.0			P
	Cyanide				

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
9SL, S-2B, SOIL

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET1180

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/30/89

% Solids: 79.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9890		E	P
7440-36-0	Antimony	5.0	U	N	P
7440-38-2	Arsenic	19.1		N	F
7440-39-3	Barium	85.5		N	P
7440-41-7	Beryllium	0.87		N	P
7440-43-9	Cadmium	2.9		N	P
7440-70-2	Calcium	677			P
7440-47-3	Chromium	14.0		N	P
7440-48-4	Cobalt	0.49	U	N	P
7440-50-8	Copper	7.2		N	P
7439-89-6	Iron	15000			P
7439-92-1	Lead	32.3		S	F
7439-95-4	Magnesium	1370			P
7439-96-5	Manganese	653			P
7439-97-6	Mercury	0.12		N	CV
7440-02-0	Nickel	8.3		N	P
7440-09-7	Potassium	480	B		P
7782-49-2	Selenium	0.12	U	N	F
7440-22-4	Silver	0.64	U	N	P
7440-23-5	Sodium	82.1	B		P
7440-28-0	Thallium	33.0	U	N	P
7440-62-2	Vanadium	20.8		N	P
7440-66-6	Zinc	46.0			P
	Cyanide				

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
9SL, S-3A, SOIL

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET1181

Lab Name: EA Laboratories Contract:

Lab C de: Case No.: SAS No.: SDG No.: ET1176

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/30/89

% S lids: 85.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13600		E	P
7440-36-0	Antimony	4.6	U	N	P
7440-38-2	Arsenic	3.6		NS	F
7440-39-3	Barium	69.3		N	P
7440-41-7	Beryllium	0.72		N	P
7440-43-9	Cadmium	3.7		N	P
7440-70-2	Calcium	3160			P
7440-47-3	Chromium	19.2		N	P
7440-48-4	Cobalt	0.46	U	N	P
7440-50-8	Copper	8.4		N	P
7439-89-6	Iron	21800			P
7439-92-1	Lead	21.5			F
7439-95-4	Magnesium	2530			P
7439-96-5	Manganese	339			P
7439-97-6	Mercury	0.07	U	N	CV
7440-02-0	Nickel	13.1		N	P
7440-09-7	Potassium	996			P
7782-49-2	Selenium	0.10	U	N	F
7440-22-4	Silver	0.60	U	N	P
7440-23-5	Sodium	119	B		P
7440-28-0	Thallium	33.0	U	N	P
7440-62-2	Vanadium	28.5		N	P
7440-66-6	Zinc	37.8			P
	Cyanide				

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
9SL, S-3B, SOIL

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

ET1182

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Matrix (s il/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/30/89

% Solids: 87.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7790		E	P
7440-36-0	Antimony	5.1	U	N	P
7440-38-2	Arsenic	1.7	U	N	F
7440-39-3	Barium	62.7		N	P
7440-41-7	Beryllium	3.7		N	P
7440-43-9	Cadmium	1.9		N	P
7440-70-2	Calcium	838			P
7440-47-3	Chromium	11.1		N	P
7440-48-4	Cobalt	0.50	U	N	P
7440-50-8	Copper	12.9		N	P
7439-89-6	Iron	14800			P
7439-92-1	Lead	35.8		S	F
7439-95-4	Magnesium	1100			P
7439-96-5	Manganese	216			P
7439-97-6	Mercury	0.11		N	CV
7440-02-0	Nickel	81.5		N	P
7440-09-7	Potassium	698			P
7782-49-2	Selenium	0.12	B	N	F
7440-22-4	Silver	0.65	U	N	P
7440-23-5	Sodium	88.7	B		P
7440-28-0	Thallium	36.2		N	P
7440-62-2	Vanadium	561		N	P
7440-66-6	Zinc	38.4			P
	Cyanide				

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
NL, S-1A, SOIL

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

ET1183

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Matrix (soil/water): SOIL Lab Sample ID:

Level (low/med): LOW Date Received: 03/30/89

% Solids: 86.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12900		E	P
7440-36-0	Antimony	5.6	U	N	P
7440-38-2	Arsenic	3.8		NS	F
7440-39-3	Barium	246		N	P
7440-41-7	Beryllium	1.4		N	P
7440-43-9	Cadmium	3.5		N	P
7440-70-2	Calcium	1120			P
7440-47-3	Chromium	9.7		N	P
7440-48-4	Cobalt	0.55	U	N	P
7440-50-8	Copper	68.9		N	P
7439-89-6	Iron	19700			P
7439-92-1	Lead	9.5		S	F
7439-95-4	Magnesium	2300			P
7439-96-5	Manganese	1920			P
7439-97-6	Mercury	0.07	U	N	CV
7440-02-0	Nickel	17.9		N	P
7440-09-7	Potassium	1770			P
7782-49-2	Selenium	0.09	U	N	F
7440-22-4	Silver	0.72	U	N	P
7440-23-5	Sodium	108	B		P
7440-28-0	Thallium	31.9	U	N	P
7440-62-2	Vanadium	11.9		N	P
7440-66-6	Zinc	53.2			P
	Cyanide				

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
NL, S-1B, SOIL

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET1184

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

Matrix (soil/water): WATER Lab Sample ID:

Level (low/med): LOW Date Received: 03/30/89

% 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	182	B		P
7440-36-0	Antimony	59.1	U		P
7440-38-2	Arsenic	1.9	U		F
7440-39-3	Barium	14.4	U		P
7440-41-7	Beryllium	4.6	B		P
7440-43-9	Cadmium	2.6	U		P
7440-70-2	Calcium	366	B		P
7440-47-3	Chromium	8.3	B		P
7440-48-4	Cobalt	5.8	U		P
7440-50-8	Copper	7.6	U		P
7439-89-6	Iron	34.0	B		P
7439-92-1	Lead	2.1	B		F
7439-95-4	Magnesium	49.0	B		P
7439-96-5	Manganese	1.7	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	15.8	B		P
7440-09-7	Potassium	300	U	N	P
7782-49-2	Selenium	3.0	U	N	F
7440-22-4	Silver	7.6	U	N	P
7440-23-5	Sodium	800	B		P
7440-28-0	Thallium	300	U	N	P
7440-62-2	Vanadium	6.4	U		P
7440-66-6	Zinc	9.4	B		P
	Cyanide				

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
RINSATE BLANK

B. Quality Control Data

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum	10000.0	9431.00	94.3	10000.0	9491.00	94.9	9446.00	94.5	P
Antimony	3000.0	3022.40	100.7	3000.0	2952.50	98.4	3044.00	101.5	P
Arsenic	40.0	40.10	100.2	40.0	39.40	98.5	39.40	98.5	F
Barium	10000.0	10127.00	101.3	10000.0	9844.00	98.4	9694.00	96.9	P
Beryllium	250.0	251.14	100.5	250.0	243.50	97.4	241.72	96.7	P
Cadmium	2500.0	2553.60	102.1	2500.0	2535.40	101.4	2575.80	103.0	P
Calcium	25000.0	24917.00	99.7	25000.0	24995.00	100.0	25525.00	102.1	P
Chromium	1000.0	1026.60	102.7	1000.0	1034.10	103.4	1016.30	101.6	P
Cobalt	2500.0	2533.60	101.3	2500.0	2486.50	99.5	2506.90	100.3	P
Copper	1250.0	1260.40	100.8	1250.0	1236.50	98.9	1248.10	99.8	P
Iron	5000.0	5107.00	102.1	5000.0	5218.00	104.4	5185.00	103.7	P
Lead	50.0	54.30	108.6	50.0	55.00	110.0	54.90	109.8	F
Magnesium	25000.0	25640.00	102.6	25000.0	25756.00	103.0	25794.00	103.2	P
Manganese	2500.0	2514.50	100.6	2500.0	2476.50	99.1	2359.30	94.4	P
Mercury	3.0	2.89	96.3	3.0	2.82	94.0	3.19	106.3	CV
Nickel	2000.0	1983.00	99.2	2000.0	1947.80	97.4	2025.70	101.3	P
Potassium	25000.0	26511.00	106.0	25000.0	25620.00	102.5	23548.00	94.2	P
Selenium	40.0	40.33	100.8	40.0	36.63	91.6	39.05	97.6	F
Silver	250.0	259.43	103.8	250.0	262.85	105.1	249.27	99.7	P
Sodium	25000.0	25005.00	100.0	25000.0	25201.00	100.8	25672.00	102.7	P
Thallium	5000.0	4713.00	94.3	5000.0	4849.00	97.0	5057.00	101.1	P
Vanadium	2500.0	2371.00	94.8	2500.0	2336.00	93.4	2367.40	94.7	P
Zinc	2500.0	2486.50	99.5	2500.0	2441.30	97.7	2521.30	100.9	P
Cyanide	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum	10000.0			10000.0	9511.00	95.1			P
Antimony	3000.0	3075.80	102.6	3000.0	3003.60	100.1	3038.60	101.3	P
Arsenic	40.0	41.11	102.8	40.0	42.77	106.9	42.00	105.0	F
Barium	10000.0	9666.00	96.7	10000.0	9917.00	99.2	10104.00	101.0	P
Beryllium	250.0			250.0	238.54	95.4	245.42	98.2	P
Cadmium	2500.0			2500.0	2569.30	102.8	2615.50	104.6	P
Calcium	25000.0	23944.00	95.8	25000.0	25177.00	100.7	25197.00	100.8	P
Chromium	1000.0			1000.0	1039.70	104.0	1039.70	104.0	P
Cobalt	2500.0			2500.0	2493.80	99.8	2506.20	100.2	P
Copper	1250.0			1250.0	1211.60	96.9	1220.70	97.7	P
Iron	5000.0			5000.0	5193.00	103.9	5191.00	103.8	P
Lead	50.0	48.00	96.0	50.0	52.10	104.2	52.30	104.6	F
Magnesium	25000.0	24390.00	97.6	25000.0	25745.00	103.0	25823.00	103.3	P
Manganese	2500.0			2500.0	2387.40	95.5	2412.10	96.5	P
Mercury	3.0	2.50	83.3	3.0	2.84	94.7	2.44	81.3	CV
Nickel	2000.0			2000.0	2100.20	105.0	2098.20	104.9	P
Potassium	25000.0			25000.0	23429.00	93.7	23243.00	93.0	P
Selenium	40.0	40.51	101.3	40.0	43.15	107.9	41.33	103.3	F
Silver	250.0			250.0	248.96	99.6	250.52	100.2	P
Sodium	25000.0			25000.0	27279.00	109.1	25537.00	102.1	P
Thallium	5000.0			5000.0	4918.00	98.4	5087.00	101.7	P
Vanadium	2500.0	2360.90	94.4	2500.0	2301.70	92.1	2361.90	94.5	P
Zinc	2500.0	2507.70	100.3	2500.0	2442.90	97.7	2496.70	99.9	P
Cyanide	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0	3070.90	102.4	2914.80	97.2	P
Arsenic	40.0	38.80	97.0	40.0	40.80	102.0	41.25	103.1	F
Barium	10000.0			10000.0	10184.00	101.8	9791.00	97.9	P
Beryllium	250.0			250.0	244.05	97.6			P
Cadmium	2500.0			2500.0	2640.60	105.6	2552.30	102.1	P
Calcium	25000.0			25000.0	25563.00	102.3	24510.00	98.0	P
Chromium	1000.0			1000.0	1066.00	106.6	1021.90	102.2	P
Cobalt	2500.0			2500.0	2555.80	102.2	2460.90	98.4	P
Copper	1250.0			1250.0	1256.50	100.5	1244.90	99.6	P
Iron	5000.0			5000.0					
Lead	50.0	52.60	105.2	50.0	49.60	99.2	54.40	108.8	F
Magnesium	25000.0			25000.0	25952.00	103.8	25018.00	100.1	P
Manganese	2500.0			2500.0					
Mercury	3.0	3.30	110.0	3.0	2.45	81.7	2.64	88.0	CV
Nickel	2000.0			2000.0	2063.40	103.2			P
Potassium	25000.0			25000.0					
Selenium	40.0	39.80	99.5	40.0	40.25	100.6	39.61	99.0	F
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0	2374.60	95.0	2302.00	92.1	P
Zinc	2500.0			2500.0	2493.50	99.7	2396.40	95.9	P
Cyanide	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0	3119.70	104.0	3115.70	103.9	P
Arsenic	40.0	39.56	98.9	40.0	39.70	99.2	39.40	98.5	F
Barium	10000.0			10000.0	10070.00	100.7	10370.00	103.7	P
Beryllium	250.0			250.0					
Cadmium	2500.0			2500.0					
Calcium	25000.0			25000.0	24779.00	99.1	24284.00	97.1	P
Chromium	1000.0			1000.0					
Cobalt	2500.0			2500.0					
Copper	1250.0			1250.0					
Iron	5000.0			5000.0					
Lead	50.0	51.10	102.2	50.0	52.60	105.2	51.60	103.2	F
Magnesium	25000.0			25000.0	25115.00	100.5	25780.00	103.1	P
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0	36.35	90.9	41.10	102.8	F
Silver	250.0			250.0					
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0					
Vanadium	2500.0			2500.0	2403.20	96.1	2353.60	94.1	P
Zinc	2500.0			2500.0	2509.90	100.4	2486.40	99.5	P
Cyanide	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0	42.16	105.4	40.0	37.59	94.0	42.28	105.7	F
Barium	10000.0			1000.0					
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	49.80	99.6	50.0	53.60	107.2	53.00	106.0	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0	37.40	93.5			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	2420.90	96.8	2453.60	98.1	P
Cyanide	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0					
Arsenic	80.0	86.55	108.2	40.0	42.03	105.1	42.51	106.3	F
Barium	10000.0			1000.0					
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	40.0	41.14	102.8	50.0	49.70	99.4	48.50	97.0	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0					
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	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0					
Arsenic	80.0	84.43	105.5	40.0	42.71	106.8	40.29	100.7	F
Barium	10000.0			1000.0					
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	40.0	40.00	100.0	50.0	51.50	103.0	50.90	101.8	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0					
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	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0			TV=80 MB1R		
Arsenic	40.0			40.0	41.98	105.0	81.90	102.4	F
Barium	10000.0			1000.0					
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	40.0	42.24	105.6	50.0	50.00	100.0	50.40	100.8	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0					
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	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0			80.0	84.09	105.1	86.42	108.0	F
Barium	10000.0			1000.0					
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	40.0			40.0	41.79	104.5	40.38	101.0	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0					
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	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0					
Arsenic	80.0			80.0	83.41	104.3	84.19	105.2	F
Barium	10000.0			1000.0					
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	40.0			40.0	42.44	106.1	38.14	95.4	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0					
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	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0					
Arsenic	80.0			80.0	76.15	95.2			F
Barium	10000.0			1000.0					
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	40.0			40.0	39.61	99.0	40.14	100.4	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0					
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	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0					
Arsenic	40.0			40.0					
Barium	10000.0			1000.0					
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	40.0			40.0	40.99	102.5	39.74	99.4	F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0					
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	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum	10000.0	10158.00	101.6	10000.0	10500.00	105.0	9882.00	98.8	P
Antimony	3000.0	3022.40	100.7	3000.0	3038.60	101.3	3070.90	102.4	P
Arsenic	40.0	39.40	98.5	40.0	40.55	101.4	40.49	101.2	F
Barium	10000.0	10127.00	101.3	10000.0	10104.00	101.0	10184.00	101.8	P
Beryllium	250.0	251.14	100.5	250.0	238.54	95.4	245.42	98.2	P
Cadmium	2500.0	2418.50	96.7	2500.0	2517.70	100.7	2407.90	96.3	P
Calcium	25000.0	24917.00	99.7	25000.0	25197.00	100.8	25563.00	102.3	P
Chromium	1000.0	1057.40	105.7	1000.0	1049.20	104.9	1006.00	100.6	P
Cobalt	2500.0	2524.90	101.0	2500.0	2509.60	100.4	2542.10	101.7	P
Copper	1250.0	1254.40	100.4	1250.0	1233.90	98.7	1251.10	100.1	P
Iron	5000.0	5093.00	101.9	5000.0	4948.00	99.0	5064.00	101.3	P
Lead	50.0	48.00	96.0	50.0	54.40	108.8	52.60	105.2	F
Magnesium	25000.0	25640.00	102.6	25000.0	25823.00	103.3	25952.00	103.8	P
Manganese	2500.0	2420.50	96.8	2500.0	2490.40	99.6	2339.30	93.6	P
Mercury	3.0	3.13	104.3	3.0	3.20	106.7	2.67	89.0	CV
Nickel	2500.0	2434.80	97.4	2500.0	2531.70	101.3	2389.30	95.6	P
Potassium	25000.0	26511.00	106.0	25000.0	23429.00	93.7	22674.00	90.7	P
Selenium	40.0	41.20	103.0	40.0	39.70	99.2	41.40	103.5	F
Silver	250.0	255.75	102.3	250.0	248.58	99.4	244.09	97.6	P
S dium	25000.0	25839.00	103.4	25000.0	27279.00	109.1	25537.00	102.1	P
Thallium	5000.0	4698.00	94.0	5000.0	4709.00	94.2	4613.00	92.3	P
Vanadium	2500.0	2371.00	94.8	2500.0	2361.90	94.5	2374.60	95.0	P
Zinc	2500.0	2507.70	100.3	2500.0	2486.40	99.5	2420.90	96.8	P
Cyanide	0.0			0.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum	10000.0			10000.0	10444.00	104.4			P
Antimony	3000.0			3000.0	2914.80	97.2	TV=80.0		P
Arsenic	80.0	80.57	100.7	40.0	41.13	102.8	↑ 77.74	97.2	F
Barium	10000.0			10000.0	9791.00	97.9			P
Beryllium	250.0			250.0	244.05	97.6			P
Cadmium	2500.0			2500.0	2501.80	100.1			P
Calcium	25000.0			25000.0	24510.00	98.0			P
Chromium	1000.0			1000.0	1013.60	101.4			P
Cobalt	2500.0			2500.0	2421.40	96.9			P
Copper	1250.0			1250.0	1179.40	94.4	TV=40.0		P
Iron	5000.0			5000.0	4840.00	96.8	↑		P
Lead	40.0	41.14	102.8	50.0	51.60	103.2	41.79	104.5	F
Magnesium	25000.0			25000.0	25018.00	100.1			P
Manganese	2500.0			2500.0	2549.40	102.0			P
Mercury	3.0	2.89	96.3	3.0	2.88	96.0	2.82	94.0	CV
Nickel	2500.0			2500.0	2551.10	102.0			P
Potassium	25000.0			25000.0					
Selenium	40.0	40.02	100.0	40.0	42.65	106.6	40.76	101.9	F
Silver	250.0			250.0	245.79	98.3			P
Sodium	25000.0			25000.0					
Thallium	5000.0			5000.0	4577.00	91.5			P
Vanadium	2500.0			2500.0	2302.00	92.1			P
Zinc	2500.0			2500.0	2453.60	98.1			P
Cyanide	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

Initial Calibration Source:

Continuing Calibration Source:

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Aluminum	25000.0			25000.0					
Antimony	3000.0			3000.0					
Arsenic	80.0			80.0	72.43	90.5			F
Barium	10000.0			1000.0					
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	40.0			40.0	40.38	101.0			F
Magnesium	25000.0			25000.0					
Manganese	2500.0			2500.0					
Mercury	3.0			3.0					
Nickel	5000.0			5000.0					
Potassium	25000.0			25000.0					
Selenium	40.0			40.0					
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	561.0			561.0					

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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	179.0	B	199.0	B	198.0	B	192.0	B	21.1		P
Antimony	59.1	U	59.1	U	59.1	U	59.1	U	5.9	U	P
Arsenic	1.9	U	1.9	U	1.9	U	1.9	U	0.2	U	F
Barium	14.4	U	14.4	U	14.4	U	14.4	U	1.4	U	P
Beryllium	4.8	B	4.7	B	4.5	B	4.4	B	0.4	B	P
Cadmium	2.6	U	2.6	U	2.6	U	2.6	U	0.3	U	P
Calcium	1020.0	B	20.2	U	24.0	B	44.0	B	10.1	B	P
Chromium	12.0	U	12.0	U	12.0	U	12.0	U	1.2	U	P
Cobalt	5.8	U	5.8	U	5.8	U	5.8	U	0.6	U	P
Copper	7.6	U	7.6	U	7.6	U	7.6	U	0.8	U	P
Iron	37.6	U	37.6	U	37.6	U	37.6	U	5.5	B	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	0.1	B	F
Magnesium	36.0	B	9.0	U	9.0	U	9.0	U	2.3	B	P
Manganese	1.7	U	1.7	U	1.7	U	1.7	U	0.3	B	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.1	U	CV
Nickel	9.3	B	9.0	U	9.0	U	15.7	B	1.5	B	P
Potassium	300.0	U	300.0	U	300.0	U	300.0	U	30.0	U	P
Selenium	1.6	B	1.0	U	1.0	U	1.0	U	0.1	U	F
Silver	7.6	U	7.6	U	7.6	U	7.6	U	0.8	U	P
Sodium	383.0	B	367.0	B	588.0	B	348.0	B	40.7	B	P
Thallium	300.0	U	300.0	U	300.0	U	300.0	U	30.0	U	P
Vanadium	6.4	U	6.4	U	6.4	U	6.4	U	0.6	U	P
Zinc	14.4	B	3.4	U	3.4	U	3.4	U	3.5		P
Cyanide											

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BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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	59.1	U	59.1	U	59.1	U	59.1	U			P
Arsenic	1.9	U	1.9	U	1.9	U	1.9	U			F
Barium	14.4	U	14.4	U	14.4	U	14.4	U			P
Beryllium			4.8	B	4.5	B					P
Cadmium			2.6	U	3.0	B	2.6	U			P
Calcium	20.2	U	45.0	B	45.0	B	41.0	B			P
Chromium			9.1	B	5.2	U	10.0				P
Cobalt			5.8	U	5.8	U	5.8	U			P
Copper			7.6	U	7.6	U	7.6	U			P
Iron			37.6	U							P
Lead	1.0	U	1.0	B	1.0	U	1.0	U			F
Magnesium	9.0	U	9.0	U	9.0	U	9.0	U			P
Manganese			2.7	B							P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U			CV
Nickel			10.8	B	9.0	U					P
Potassium			300.0	U							P
Selenium	1.0	U	1.0	U	1.0	U	1.0	U			F
Silver			7.6	U							P
Sodium			379.0	B							P
Thallium			300.0	U							P
Vanadium	6.4	U	6.4	U	6.4	U	6.4	U			P
Zinc	3.4	U	3.4	U	3.4	U	3.4	U	1.3	B	P
Cyanide											

U.S. EPA - CLP

3
BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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			59.1	U	59.1	U					P
Arsenic	1.9	U	1.9	U	1.9	U	1.9	U			F
Barium			14.4	U	14.4	U					P
Beryllium											
Cadmium											
Calcium			20.2	U	20.2	U					P
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	B	1.6	B	1.0	U			F
Magnesium			32.0	B	9.0	U					P
Manganese											
Mercury	0.2	U									CV
Nickel											
Potassium											
Selenium	1.0	U	1.0	U	1.0	U	1.0	U			F
Silver											
Sodium											
Thallium											
Vanadium			6.4	U	7.2	B					P
Zinc			3.4	U	-3.5	B	3.4	U			P
Cyanide											

U.S. EPA - CLP

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BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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	1.9	U	1.9	U	1.9	U	1.9	U			F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	1.0	U	1.0	U			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc			3.4	U							P
Cyanide											

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3
BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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	1.9	U	1.9	U	1.9	U	1.9	U			F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	1.0	U	1.0	U			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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	1.9	U	1.9	U	1.9	U	1.9	U			F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	-1.7	B	1.0	U	-3.4	B	-3.9	B			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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	1.9	U	1.9	U	1.9	U	1.9	U			F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	-2.2	B	-3.4	B	1.0	U			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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	1.0	U	-1.0	B	1.0	U	-1.9	B			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

3
BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

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	145.0	B	174.0	B	152.0	B	162.5	B	138.0	B	P
Antimony	59.1	U	59.1	U	59.1	U	59.1	U	59.1	U	P
Arsenic	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	F
Barium	14.4	U	14.4	U	14.4	U	14.4	U	14.4	U	P
Beryllium	4.8	B	4.4	B	4.8	B	4.5	B	5.0		P
Cadmium	2.6	U	3.5	B	3.5	B	2.6	U	3.5	B	P
Calcium	1020.0	B	45.0	B	45.0	B	41.0	B	99.0	B	P
Chromium	8.0	B	5.2	U	5.2	U	5.2	U	8.6	B	P
Cobalt	5.8	U	5.8	U	5.8	U	5.8	U	5.8	U	P
Copper	7.6	U	7.6	U	7.6	U	7.6	U	7.6	U	P
Iron	6.0	U	6.0	B	7.0	B	8.0	B	14.0	B	P
Lead	0.5	U	0.8	B	1.0	B	1.6	B	1.7	B	F
Magnesium	36.0	B	9.0	U	9.0	U	9.0	U	9.0	U	P
Manganese	1.7	U	1.7	U	1.7	U	8.0	B	1.7	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	CV
Nickel	18.8	B	9.0	U	13.9	B	16.5	B	18.8	B	P
Potassium	300.0	U	300.0	U	300.0	U			300.0	U	P
Selenium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	F
Silver	7.6	U	7.6	U	7.6	U	7.6	U	7.6	U	P
Sodium	258.0	B	348.0	B	379.0	B			493.0	B	P
Thallium	300.0	U	300.0	U	300.0	U	300.0	U	300.0	U	P
Vanadium	6.4	U	6.4	U	6.4	U	6.4	U	6.4	U	P
Zinc	3.4	U	-3.5	B	3.4	U	3.4	U	7.1	B	P
Cyanide											

3
BLANKS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

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											
Antim ny											
Arsenic	1.9	U	1.9	U	1.9	U					F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	-1.7	B	-3.4	B	-3.9	B					F
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U							CV
Nickel											
Potassium											
Selenium	3.0	U	3.0	U							F
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

ICP ID Number: 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	500000	500000						
Antimony								
Arsenic								
Barium	0	500	9	480.0	96.0	38	474.0	94.8
Beryllium	0	500	5	453.6	90.7	5	459.7	91.9
Cadmium	0	1000	112	1032.1	103.2	117	1054.9	105.5
Calcium	500000	500000						
Chromium	0	500	12	464.8	93.0	7	469.5	93.9
Cobalt	0	1000	-46	889.6	89.0	12	950.4	95.0
Copper	0	500	6	474.9	95.0	-6	469.6	93.9
Iron	200000	200000						
Lead	0	1000						
Magnesium	500000	500000						
Manganese	0	500	55	513.3	102.7	56	488.9	97.8
Mercury								
Nickel	0	1000	3	914.3	91.4	10	925.1	92.5
Potassium								
Selenium								
Silver	0	1000	4	1016.4	101.6	6	929.5	93.0
Sodium								
Thallium								
Vanadium	0	500	22	445.8	89.2	-31	423.9	84.8
Zinc	0	1000	58	965.3	96.5	32	931.8	93.2

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

ICP ID Number: 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	500000	500000						
Antimony								
Arsenic								
Barium	0	500	6	477.0	95.4	12	508.0	101.6
Beryllium	0	500						
Cadmium	0	1000						
Calcium	500000	500000						
Chromium	0	500						
Cobalt	0	500						
Copper	0	500						
Iron	200000	200000						
Lead	0	1000						
Magnesium	500000	500000						
Manganese	0	500						
Mercury								
Nickel	0	1000						
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium	0	500	36	491.5	98.3	35	478.7	95.7
Zinc	0	1000	39	1167.5	116.8	40	1134.2	113.4

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

ICP ID Number: 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	500000	500000						
Antimony								
Arsenic								
Barium	0	500	9	480.0	96.0	38	474.0	94.8
Beryllium	0	500	5	453.6	90.7	5	459.7	91.9
Cadmium	0	1000	43	903.4	90.3	44	879.9	88.0
Calcium	500000	500000						
Chromium	0	500	11	477.0	95.4	9		
Cobalt	0	1000	-141	805.4	80.5	-71	900.5	90.0
Copper	0	500	6	460.9	92.2	3	445.3	89.1
Iron	200000	200000						
Lead	0	1000						
Magnesium	500000	500000						
Manganese	0	500	49	515.3	103.1	52	494.7	98.9
Mercury								
Nickel	0	1000	5	902.9	90.3	13	901.1	90.1
Potassium								
Selenium								
Silver	0	1000	2	944.0	94.4	2	929.8	93.0
Sodium								
Thallium								
Vanadium	0	500	22	445.8	89.2	-31	423.9	84.8
Zinc	0	1000	39	1167.5	116.8	40	1134.2	113.4

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
ET2104S

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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

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		12004.2700		15025.5800		214.6	-1407.9		P
Antimony	75-125	6.3406	U	6.6453	U	53.6	0.0	N	P
Arsenic	75-125	22.2940		18.9124		5.4	62.6	N	F
Barium	75-125	60.4022		59.4816		214.6	0.4	N	P
Beryllium	75-125	0.7435		0.8219		5.4	-1.5	N	P
Cadmium	75-125	3.5404		4.4414		5.4	-16.7	N	P
Calcium									NR
Chromium	75-125	15.4600		16.6301		21.5	-5.4	N	P
Cobalt	75-125	0.6223	U	0.6522	U	53.6	0.0	N	P
Copper	75-125	10.0098		12.8633		26.8	-10.6	N	P
Iron									NR
Lead		11.1741		10.5100		2.2	30.2		F
Magnesium									NR
Manganese		296.9150		327.0478		53.6	-56.2		P
Mercury	75-125	2.1576		0.1192	U	1.5	143.8	N	CV
Nickel	75-125	9.2481		12.0650		53.6	-5.3	N	P
Potassium									NR
Selenium	75-125	0.1562	B	0.5145	U	1.1	14.2	N	F
Silver	75-125	0.8154	U	0.8546	U	5.4	0.0	N	P
Sodium									NR
Thallium	75-125	29.1212	U	30.1648	U	194.1	0.0	N	P
Vanadium	75-125	24.7831		26.3114		53.6	-2.9	N	P
Zinc	75-125	90.9519		29.3634		53.5	115.1		P
Cyanide									NR

Comments:

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5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ET2104A

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		190.20		74.50		200.0	57.8		NR
Arsenic									NR
Barium		1588.00		541.00		1000.0	104.7		P
B ryllium		30.10		7.31		20.0	114.0		P
Cadmium		72.10		39.50		50.0	65.2		P
Calcium									NR
Chromium		326.00		147.90		200.0	89.0		P
Cobalt		5.80	U	5.80	U	100.0	0.0		P
Copper		291.60		114.40		200.0	88.6		P
Iron									NR
Lead									NR
Magnesium									NR
Manganese		7688.60		2908.60		5000.0	95.6		P
Mercury									NR
Nickel		287.10		107.30		200.0	89.9		P
Potassium									NR
Selenium									NR
Silver		25.50		7.36		20.0	90.7		NR
Sodium									NR
Thallium		431.00		43.00		500.0	77.6		NR
Vanadium		804.40		248.70		500.0	105.7		NR
Zinc									NR
Cyanide									NR

Comments:

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
ET1184S

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

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

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	1972.0000		182.0000	B	2000.0	89.5		P
Antimony	75-125	578.6000		59.1000	U	500.0	115.7		P
Arsenic	75-125	39.3400		1.9000	U	50.0	78.7		F
Barium	75-125	2021.0000		14.4000	U	2000.0	101.0		P
Beryllium	75-125	46.7700		4.6000	B	50.0	84.3		P
Cadmium	75-125	44.4000		2.6000	U	50.0	88.8		P
Calcium									NR
Chromium	75-125	193.7000		8.3000	B	200.0	92.7		P
Cobalt	75-125	45.1000	B	5.8000	U	50.0	90.2		P
Copper	75-125	247.8000		7.6000	U	250.0	99.1		P
Iron	75-125	1054.0000		34.0000	B	1000.0	102.0		P
Lead	75-125	23.8000		2.1000	B	20.0	108.5		F
Magnesium									NR
Manganese	75-125	471.0000		1.7000	U	500.0	94.2		P
Mercury									NR
Nickel	75-125	489.0000		15.8000	B	500.0	94.6		P
Potassium	75-125	300.0000	U	300.0000	U	500.0	0.0	N	P
Selenium	75-125	3.0000	U	3.0000	U	10.0	0.0	N	F
Silver	75-125	26.5400		7.6000	U	50.0	53.1	N	P
Sodium									NR
Thallium	75-125	300.0000	U	300.0000	U	2000.0	0.0	N	P
Vanadium	75-125	478.9000		6.4000	U	500.0	95.8		P
Zinc	75-125	505.4000		9.4000	B	500.0	99.2		P
Cyanide									NR

Comments:

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5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ET1184A

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

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

Concentration Units: 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									NR
Nickel									NR
Potassium		9633.00		300.00	U	10000.0	96.3		P
Selenium									NR
Silver		75.27		7.60	U	100.0	75.3		P
Sodium									NR
Thallium		300.00	U	300.00	U	200.0	0.0		P
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

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6
DUPLICATES

EPA SAMPLE NO.

ET2104D

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

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

% Solids for Sample: 82.5 % Solids for Duplicate: 82.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		15025.5800		17763.4180		16.7		P
Antimony	6.7	6.6453	U	5.6327	U			P
Arsenic	10.3	18.9124		16.3332		14.6		F
Barium	22.5	59.4816		62.7124		5.3		P
Beryllium	0.6	0.8219		0.7558		8.4		P
Cadmium		4.4414		4.3841		1.3		P
Calcium	562.2	528.0261	B	466.0538	B	12.5		P
Chromium		16.6301		16.9552		1.9		P
Cobalt	5.6	0.6522	U	0.5528	U			P
Copper	2.8	12.8633		13.8958		7.7		P
Iron		23884.8590		21581.4370		10.1		P
Lead	2.6	10.5100		12.6044		18.1		F
Magnesium	562.2	1978.7485		1886.4220		4.8		P
Manganese		327.0478		324.6079		0.7		P
Mercury	0.1	0.1192	U	0.1199	U			CV
Nickel	4.5	12.0650		11.8181		2.1		P
Potassium	392.3	597.3897		644.9950		7.7		P
Selenium	2.6	0.5145	U	0.1050	U			F
Silver	1.1	0.8546	U	0.7243	U			P
Sodium	562.2	82.1949	B	78.4381	B	4.7		P
Thallium	1.0	30.1648	U	30.4349	U			P
Vanadium	5.6	26.3114		24.4083		7.5		P
Zinc		29.3634		33.3191		12.6		P
Cyanide								

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6
DUPLICATES

EPA SAMPLE NO.

ET1184D

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

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	200.0	182.0000	B	181.0000	B	0.6		P
Antimony	60.0	59.1000	U	59.1000	U			P
Arsenic	10.0	1.9000	U	1.9000	U			F
Barium	200.0	14.4000	U	14.4000	U			P
Beryllium	5.0	4.6000	B	4.6600	B	1.3		P
Cadmium	5.0	2.6000	U	3.5000	B	200.0		P
Calcium	5000.0	366.0000	B	246.0000	B	39.2		P
Chromium	10.0	8.3000	B	7.4000	B	11.5		P
Cobalt	50.0	5.8000	U	5.8000	U			P
Copper	25.0	7.6000	U	7.6000	U			P
Iron	100.0	34.0000	B	16.0000	B	72.0		P
Lead	5.0	2.1000	B	2.1000	B	0.0		F
Magnesium	5000.0	49.0000	B	19.0000	B	88.2		P
Manganese	15.0	1.7000	U	1.7000	U			P
Mercury								CV
Nickel	40.0	15.8000	B	9.1000	B	53.8		P
Potassium	5000.0	300.0000	U	300.0000	U			P
Selenium	5.0	3.0000	U	3.0000	U			F
Silver	10.0	7.6000	U	7.6000	U			P
Sodium	5000.0	800.0000	B	684.0000	B	15.6		P
Thallium		300.0000	U	300.0000	U			P
Vanadium	50.0	6.4000	U	6.4000	U			P
Zinc	20.0	9.4000	B	9.9000	B	5.2		P
Cyanide								

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STANDARD ADDITION RESULTS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

Concentration Units: ug/L

EPA Sample No.	An	Dil	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
ET1181	AS	1	0.144	10	0.190	20	0.226	30	0.264	37.0	0.9985	
ET1183	AS	1	0.144	10	0.183	20	0.215	30	0.251	41.2	0.9993	
ET2087	AS	1	0.082	10	0.125	20	0.153	30	0.186	25.1	0.9961	
ET2089	AS	1	0.137	10	0.186	20	0.226	30	0.262	33.9	0.9975	
ET1176	PB	5	0.245	10	0.297	20	0.347	30	0.392	251.1	0.9995	
ET1177	PB	10	0.752	10	0.918	20	1.070	30	1.225	481.0	0.9998	
ET1178	PB	10	0.286	10	0.490	20	0.690	30	0.879	146.2	0.9999	
ET1180	PB	10	0.075	10	0.102	20	0.129	30	0.157	274.0	1.0000	
ET1182	PB	10	0.172	10	0.220	20	0.267	30	0.305	390.4	0.9986	
ET1183	PB	5	0.116	10	0.178	20	0.232	30	0.287	104.2	0.9995	
ET2087	PB	5	0.119	10	0.180	20	0.233	30	0.275	118.6	0.9967	
ET2095	PB	5	0.100	10	0.158	20	0.215	30	0.272	87.5	1.0000	
ET2097	PB	5	0.092	10	0.151	20	0.203	30	0.262	82.5	0.9997	
ET2104	PB	5	0.108	10	0.166	20	0.217	30	0.270	102.1	0.9996	

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8
STANDARD ADDITION RESULTS

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

Concentration Units: ug/L

EPA Sample No.	An	Dil	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

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10
HOLDING TIMES

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1176

EPA Sample No.	Matrix	Date Received	Mercury Prep Date	Mercury Holding Time	Cyanide Prep Date	Cyanide Holding Time
ET1176	SOIL	03/30/89	04/09/89	10		
ET1177	SOIL	03/30/89	04/09/89	10		
ET1178	SOIL	03/30/89	04/09/89	10		
ET1179	SOIL	03/30/89	04/09/89	10		
ET1180	SOIL	03/30/89	04/09/89	10		
ET1181	SOIL	03/30/89	04/09/89	10		
ET1182	SOIL	03/30/89	04/09/89	10		
ET1183	SOIL	03/30/89	04/09/89	10		
~~ET2087~~	~~SOIL~~	~~05/03/89~~	~~05/24/89~~	~~21~~		
~~ET2089~~	~~SOIL~~	~~05/03/89~~	~~05/24/89~~	~~21~~		
~~ET2091~~	~~SOIL~~	05/03/89	05/24/89	~~21~~		
ET2093	SOIL	05/03/89	05/24/89	~~21~~		
ET2095	SOIL	05/03/89	05/24/89	21		
~~ET2097~~	~~SOIL~~	~~05/03/89~~	~~05/24/89~~	~~21~~		
~~ET2104~~	~~SOIL~~	~~05/03/89~~	~~05/24/89~~	~~21~~		
ET2104D	SOIL	05/03/89	05/24/89	21	KM 6/19/89	
ET2104S	SOIL	05/03/89	05/24/89	21		

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HOLDING TIMES

Lab Name: EA Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: ET1184

EPA Sample No.	Matrix	Date Received	Mercury Prep Date	Mercury Holding Time	Cyanide Prep Date	Cyanide Holding Time
ET1184	WATER	03/30/89	04/09/89	10		
ET1184D	WATER					
ET1184S	WATER					
~~ET2098~~	~~WATER~~	~~05/03/89~~	~~05/22/89~~	~~19~~		
~~ET2099~~	WATER	05/03/89	05/22/89	19	6/19/89	

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C. Quality Assurance Summary

EA LABORATORIES

QUALITY ASSURANCE SUMMARY

FOR NAVAL ENERGY AND ENVIRONMENTAL SUPPORT ACTIVITY CONTRACTS

Project: Willow Grove — Analysis: TCL metals

EA Laboratories Report No. _____ — Method: U.S. EPA-CLP

Reviewed by: Stephen E. Shelley — Date: 16 June 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 _____ N

7. Laboratory control sample criteria were met for all samples.

   ✓ Yes _____ N

(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: 16 JUNE 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.

✓ Yes _____ No

Comments: _____

(Revised 2 June 1989)

7. MISCELLANEOUS WET CHEMISTRY DATA

A. Analytical Results

RESULTS OF ANALYSIS OF EIGHT SOIL SAMPLES COLLECTED AT WILLOW GROVE ON 28 MARCH 1989

Sample	Cyanide total (mg/kg, dry)	Total Petroleum Hydrocarbons (mg/kg, dry)	Total Organic Carbon (mg/kg, dry)	EA Number
9SL, S-1A	<0.12	202	5,220	1176
9SL, S-1B	0.35	1,440	12,200	1177
9SL, S-2A	0.25	49.1	10,800	1178
9SL, S-2B	<0.12	172	30,800	1179
9SL, S-3A	0.25	37.5	1,500	1180
9SL, S-3B	<0.12	105	4,670	1181
NL, S-1A	<0.11	211,000	>137,000 (a)	1182
NL, S-1B	<0.12	2,240	4,650	1183

(a) A small enough aliquot could not be taken for this sample to obtain measurable results. Sample sizes as small as 0.0010g and 0.0007g gave offscale readings for this parameter.

RESULTS OF ANALYSIS OF ONE RINSATE BLANK COLLECTED AT WILLOW GROVE ON 28 MARCH 1989

Sample	Cyanide total (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Organic Carbon (mg/L)	EA Number
Rinsate Blank	<0.01	<1.0	20.8	1184

B. QC Summary

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation 9SL, S-1A

EA Number 8901176

Matrix: Liquid _____ (mg/L)

Soil X (mg/kg) (dry)

Parameter	Sample results	Method detection limit	Method blank	QC check std. recovery (%)	Duplicate	Matrix spike recovery (%)
General organics						
Total petroleum hydrocarbons	202	1.0	3	98.0/96.3	83	92.4
Total organic carbon	5,200	1.0	<1.0	91.5/95.7	5,200	----
Inorganic nonmetals						
Cyanide, total	<0.12	0.1	<0.1	96.7/98.7	<0.12	98.1/110

EA LABORATORIES QA/QC DATA FOR WET CHEMISTRY DATA

Project name: Willow Grove

Client sample designation 9SL, S-1A

EA Number 8901177

Matrix: Liquid _____ (mg/L)

Soil X (mg/kg) (dry)

Parameter	Sample results	Method detection limit	Method blank	QC check std. recovery (%)	Duplicate	Matrix spike recovery (%)
General organics						
Total organic carbon	12,200	10	----	111/112	13,100	----

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