

Page 1 of 1
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		Design Authority									
		Design Agent									
2	1	Cog.Eng. G. A. Ross	<i>G. A. Ross</i>	12/4/97							
2	1	Cog. Mgr. G. B. Svancara	<i>G. B. Svancara</i>	12/4/97							
2	1	QA T. L. Tung	<i>T. L. Tung</i>	12/4/97							
		Safety									
		Env.									
18.		19.			20.		21. DOE APPROVAL (if required) Ctrl. No.				
M. T. Ellsworth <i>M. T. Ellsworth</i> 12/4/97 Signature of EDT Date		N/A Authorized Representative Date for Receiving Organization			G. B. Svancara <i>G. B. Svancara</i> 12/4/97 Design Authority/ Significant Manager Date		☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments				

Polychlorinated Biphenyls (PCB) Analysis Report for Solid Sample from 219S Tank 102

Gerald A. Ross

Waste Management of Hanford, Inc., Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

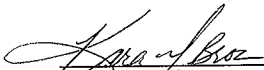
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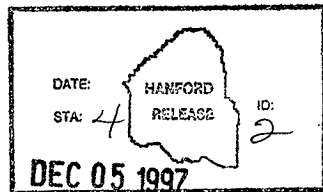
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HNF-SD-WM-DP-275, REV. 0

ANALYTICAL SERVICES

**POLYCHLORINATED BIPHENYLS (PCB)
ANALYSIS REPORT FOR SOLID SAMPLE
FROM 219S TANK 102**

Project Coordinator: Gerald A. Ross

Prepared for the U.S. Department of Energy
Office of Environmental Restoration
and Waste Management

by

222-S Laboratory
Waste Management of Hanford, Inc.
P.O. Box 700
Richland, Washington

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This document consists of pages through 100. Pages ii, 2, 9, 12, 15, 25, 28, 30, 31, 34, 40 and 98 were initially left blank.

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NARRATIVE

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HNF-SD-WM-DP-275, REV. 0

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS REPORT FOR SOLID SAMPLE FROM 219S TANK 102

SAMPLE ANALYSIS REPORTED

One waste sample was analyzed (with duplicate, matrix spike, and matrix spike duplicate) for PCBs as Aroclor mixtures by the Inorganic/Organic Chemistry Group. A soxhlet extraction procedure was used for extraction of the Aroclors from the sample. Analysis was performed using dual column confirmation gas chromatography/electron capture detection (GC/ECD). Extraction follows closely method 3540C of SW-846, analysis follows SW-846 method 8082.

A cross reference of laboratory sample number to the customer identification is given in the following table:

Sample Number	Customer ID
S97S000184	102LW Organic Tests (S97S180)
S97S000180 (parent sample)	102LW NON Organic Analysis

SAMPLE DESCRIPTION, HANDLING, AND PREPARATION

The sample was dark brown in color and had the consistency of soft peanut butter. After limited stirring four one gram aliquots were taken from the parent sample jar for analysis. Due to limited sample and radiation dose concerns a nominal one gram of sample was used for each analysis. Extraction of the samples was completed on November 19,20, 1997 in a radiological fume hood.

Preparation Procedure: LA-523-138 Rev. A0
Preparation Location: 222-S Laboratory, 200W Area, Hanford Site, Room 4P
Preparation Type: Soxhlet Extraction using methylene chloride, Kuderna-Danish concentration with solvent exchange to hexane and cleanup by sulfuric acid.
Sample Extract Storage: 4 degrees Celsius in darkness

ANALYSIS METHOD

GC/ECD Procedure: LA-523-136 Rev. A0
GC/ECD instrumentation: HP-5890 Series II gas chromatograph with dual on-column injection, XTI-5 and DB-608 columns, and dual EC Detectors, (property number AL 11217).

Location: 222-S Laboratory, Room 4TUV

The analysis was performed on November 22,23, 1997 on the extracts obtained on November 19,20, 1997.

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QUALITY CONTROL

Due to limited sample amount and radiological issues the extraction portion of the procedure is scaled down from SW-846 method 3540C. Appendix A of LA-523-138 details the deviations to method 3540C that are contained in the procedure. Analysis follows method 8082 of SW-846. Deviations from method 8082 are detailed in appendix D of LA-523-136. Nominally, 1g of sample was extracted per analytical result.

Five point calibrations were run for the following aroclors: Aroclor 1248, Aroclor 1254 and Aroclors 1016/1260. Concentration ranges went from 20 ng/mL to 400 ng/mL. Single point calibrations were performed for Aroclors 1221, 1232, and 1242. The sample analysis was bracketed with a second mid-level calibration point of Aroclors 1016/1260 analyzed at the end of the run sequence. An instrument blank was analyzed at the end of the calibration prior to the sample analysis.

Quantitation was performed using a primary column and the secondary column was used for confirmation of identification. A detailed description of the specific procedure requirements is available in the procedure. The following summarizes the QC requirements and adherence:

Table I.

QC Parameter	Comments
Target Compounds	Detection levels are based on sample size and the determination of MDLs from multiple injections of a low standard. Met requirements. (Form 1D, pg 16).
Surrogate Recoveries	Surrogate spiking was performed on all samples using TCX and DCB. No control limits have been established for these compounds in this matrix. A summary of the surrogate recoveries is provided in Table II. Surrogate recoveries were judged acceptable. (Form 2F).
Matrix Spike Recovery	A matrix spike and matrix spike duplicate using Aroclors 1016 and 1260 were performed. Spike recoveries were judged acceptable. (Except the MSD for 1016 was high, Form 3F).
Method Blank Summary	A method blank was extracted and met requirements. (Form 1D, pg 16).
Initial Method Detection Limit Determination	Multiple extraction and analysis of a low concentration standard. Met requirements. (For 2g sample the MDL for 1248 = 3.71 ug/kg).

Initial Calibration	Five point calibrations were performed for Aroclors 1248, 1254*, and 1016/1260*. Concentrations ranged from 20ng/mL to 400ng/mL. Single point calibrations were performed for Aroclors 1221, 1232, and 1242 at 100 or 200 ng/mL. Some levels with prep error were omitted. (* = < 5 points used). Met requirements. (Initial calibration report, pg 33).
Carry-over evaluation	An instrument blank was run after the calibration standards. No carry-over was detected. Met requirements. (Form ID, pg 21).
Continuing Calibration Verifications	Initial calibration was performed during the sample sequence. Aroclors 1016/1260 were used to assess ongoing instrument performance after the sample was analyzed on it. Percent Differences were 0.23%, and 1.44% respectively. Met requirements. (quant report pg 97).
Laboratory Control Sample	A matrix spike blank was used as a Laboratory Control Sample to assess method performance. This contained Aroclor 1248. A low recovery of 58.93 ng/g (58.9%) was obtained and also low surrogate recoveries of 39.0% and 44.7%. This one LCS spike sample extract did not meet the interim 70-130% requirements, due to a low bias. However, the four QC extract samples extracted by the same technician two days before this did meet the requirements, and the MS recovery with this sample is good.

Laboratory bench sheets, data, chromatograms, and reports are maintained in room 3B at the 222-S Laboratory. The initial calibration information and data is located on the HP UNIX system, Chemsysl.

DISCUSSION

The aroclors 1016, 1248, 1254, and 1260 were observed in the sample, above the lower quantitation limit. The amounts are reported in the attached Form IDs. Higher result numbers were noted on the sample duplicate compared to the sample. Surrogate quantities were also higher for the duplicate. This bias could be due to concentration to a different final volume in the extract preparation. The Aroclor concentrations found in the sample were also observed to have a similar bias to that observed for the surrogates.

Surrogate spiking was performed on all samples using Tetrachloro-m-xylene (TCX) and Decachlorobiphenyl (DCB) and is summarized in Table II. No control limits have been established for these compounds in this matrix. USEPA advisory limits set at 50-150% further indicate surrogate recoveries for these samples is acceptable.

Matrix spike results are summarized in the attached Form 3F. A high recovery and a high RPD were noted for Aroclor 1016. This is not unusual when the matrix has the target compounds being quantified.

Table II.
SURROGATE RECOVERIES (%)

Sample	TCX (%)	DCB (%)
Inst. Blank	88.75	66.11
Meth. Blank	49.78	56.39
LCS	39.00*	44.73*
S97S00184	56.15	60.28
S97S00184 Dup	71.67	72.93
S97S00184MS	57.18	56.28
S97S00184MSD	69.22	67.33

(* = flagged as low recovery)

File: C:\WPDATA\ROSS\PCB00184.LET

ANALYST Jason DATE 12-3-97 REVIEWER _____ DATE _____

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APPENDIX A

LA-523-138

HNF-SD-WM-DP-275, REV. 0

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Appendix A
Comparison to SW-846

Method 3540C, Soxhlet Extraction, Revision 3, December 1996

SW-846 States:	Procedure States:	Type of Change:	Reason for Change:
Section 7.2: Use 5 to 10 grams of sample	Step 9.5: Use 2 to 10 grams of sample	Deviation- allows scale down of the sample and spike additions appropriately (cut by approximately 1/4)	Due to limited amounts of samples, waste minimization and ALARA concerns, smaller amounts of sample may need to be used.
Section 7.4: Use 300 mL solvent	Step 9.5: Use 90 mL solvent.	Deviation- scale down of the sample, solvent, and spike additions appropriately (cut by approximately 1/4)	See above. This also reduces the amount of methylene chloride evaporated up the hood.
Section 7.4: Use 500 mL round flask.	Step 9.11: Use 125 mL round flask with flat bottom.	Deviation	Smaller flasks provide efficient extraction in limited hood space.
Section 7.10: Add approximately 50 mL exchange solvent once.	Steps 9.16.1 - 9.16.2: Add 30 mL of hexane three times	Deviation	Repeating process efficiently removes first solvent residue.
Section 7.12.2: Place the concentrator tube in a warm bath (35 °C) and evaporate to 0.5 mL...	9.25.1: Place the tube in the Reacti-vap evaporator assembly, with the heating module preheated to 40 °C... semivolatiles are collected when the MeCl ₂ level reaches 2 mL.	Substitution	Heat transfer is done with a heating block instead of a bath, temperature differences are nominal. A final volume of 2 mL was necessary to prevent losses.

Procedure No.

LA-523-138

Rev Mod

A-0

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APPENDIX D

LA-523-136

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Appendix D
Comparison to SW-846⁸

Method 8082, Revision 0, December 1996, *Polychlorinated Biphenyls (PCBs) By Gas Chromatography*

SW-846 States:	Procedure States:	Type of Change:	Reason for Change:
Table 3 or Step 2.5: (GC Operating Conditions or summary) Injection volume: 2 μ L (with a 0.54 mm id. megabore column), or Step 7.4.5 A 2- μ L injection of each calibration standard is recommended. Other injection volumes may be used if the analyst can demonstrate adequate sensitivity for the compounds.	Step 10.1: Gas Chromatograph Operating Conditions - Injection Volume: 1 μ L	Substitution	Smaller injection needed for mid-bore column (0.32 mm id). Otherwise injection of oil sample extracts will compromise the system. The "Suggested" calibration levels of 100, 150, 200, 400, and 600 ng/mL extends above the linear calibration range for a 1 μ L injection. Hence the calibration levels selected are at 20, 50, 100, 200, and 400 ng/mL.
Step 5.5: Stock standard solutions (1000 mg/L)	Step 4.1.2: ...the QC reference sample concentrate should contain the most representative multicomponent parameter at a concentration of 50 mg/L. (In fact, 40 mg/L Standards custom made by Restek are used so that the threshold limit of 50 PPM will not be met or exceeded.)	Deviation- scale down of the spike additions appropriately (cut by approximately 1/100).	TSCA Regulation concerns, waste minimization, otherwise all spiked matrices must be isolated and treated as mixed regulated waste without a disposal path. Also, the level of QC spike suggested is above the calibration levels of the GC.
Section 8.3.1: A 1 mL volume of the (QC) concentrate spiked into 1 L of organic free water will result in a sample concentration of 10-50 μ g/L.	See step 9.1.5.2 of LA-523-115: If not, add the water diluent first, so the sample plus diluent equals 100 mL.	Deviation	Custom semi-micro liquid-liquid extractor used in LA-523-115 requires less volume (ca. 100 mL) ALARA concerns and limited sample and hood size make smaller extraction vessel a necessity.
8081A and 8082 are separate methods.	8081A and 8082 have been combined.	Two methods combined.	Sulfuric acid cleanup limits pesticide applicability. Acid cleanup rarely used for pesticides.

⁸NOTE: See LA-523-115 and LA-523-138 for sample preparation comparisons.

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CLP-LIKE FORMS

1D, 2F, 3F

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1D
PCB COMPOUNDS ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000000879

Lab Name: 222-S

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 112297

Matrix: (soil/water) SOIL

Lab Sample ID: methblnk0087

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: 020F0201.D

Level: (low/med) LOW

Date Received: 11/17/97

% Moisture: not dec. 0

Date Analyzed: 11/23/97

GC Column:Xti-5 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 2000 (uL)

Soil Aliquot Volume: 1 (uL)

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	33	U
11104-28-2-----Aroclor-1221	67	U
1114-16-5-----Aroclor-1232	33	U
53469-21-9-----Aroclor-1242	33	U
12672-29-6-----Aroclor-1248	33	U
11097-69-1-----Aroclor-1254	33	U
11096-82-5-----Aroclor-1260	33	U

PCB COMPOUNDS ORGANICS ANALYSIS DATA SHEET

Lab Name: 222-S

Contract:

S97S00184

Lab Code:

Case No.:

SAS No.:

SDG No.: 112297

Matrix: (soil/water) SOIL

Lab Sample ID: S97S00184

Sample wt/vol: 1.038 (g/mL) G

Lab File ID: 022F0201.D

Level: (low/med) LOW

Date Received: 11/17/97

% Moisture: not dec. 0

Date Analyzed: 11/23/97

GC Column:Xti-5 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 2000 (uL)

Soil Aliquot Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	154	
11104-28-2-----Aroclor-1221	67	U
1114-16-5-----Aroclor-1232	33	U
53469-21-9-----Aroclor-1242	33	U
12672-29-6-----Aroclor-1248	181	
11097-69-1-----Aroclor-1254	238	
11096-82-5-----Aroclor-1260	266	

1D HNF-SD-WM-DP-275, REV. 0
PCB COMPOUNDS ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S97S00184DUP

Lab Name: 222-S

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 112297

Matrix: (soil/water) SOIL

Lab Sample ID: S97S00184D

Sample wt/vol: 1.034 (g/mL) G

Lab File ID: 023F0201.D

Level: (low/med) LOW

Date Received: 11/17/97

% Moisture: not dec. 0

Date Analyzed: 11/23/97

GC Column:Xti-5 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 2000 (uL)

Soil Aliquot Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	244	
11104-28-2-----Aroclor-1221	67	U
1114-16-5-----Aroclor-1232	33	U
53469-21-9-----Aroclor-1242	33	U
12672-29-6-----Aroclor-1248	333	
11097-69-1-----Aroclor-1254	426	
11096-82-5-----Aroclor-1260	329	

1D
PCB COMPOUNDS ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S97S00184MS

Lab Name: 222-S

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 112297

Matrix: (soil/water) SOIL

Lab Sample ID: S97S00184MS

Sample wt/vol: 1.045 (g/mL) G

Lab File ID: 024F0201.D

Level: (low/med) LOW

Date Received: 11/17/97

% Moisture: not dec. 0

Date Analyzed: 11/23/97

GC Column:Xti-5 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 2000 (uL)

Soil Aliquot Volume: 1 (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	337	
11104-28-2-----Aroclor-1221	67	U
1114-16-5-----Aroclor-1232	33	U
53469-21-9-----Aroclor-1242	33	U
12672-29-6-----Aroclor-1248	289	
11097-69-1-----Aroclor-1254	386	
11096-82-5-----Aroclor-1260	444	

1D
PCB COMPOUNDS ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S97S00184MSD

Lab Name: 222-S

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 112297

Matrix: (soil/water) SOIL

Lab Sample ID: S97S00184MSD

Sample wt/vol: 1.048 (g/mL) G

Lab File ID: 025F0201.D

Level: (low/med) LOW

Date Received: 11/17/97

% Moisture: not dec. 0

Date Analyzed: 11/23/97

GC Column:Xti-5 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 2000 (uL)

Soil Aliquot Volume: 1 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	468	
11104-28-2-----Aroclor-1221	67	U
1114-16-5-----Aroclor-1232	33	U
53469-21-9-----Aroclor-1242	33	U
12672-29-6-----Aroclor-1248	261	
11097-69-1-----Aroclor-1254	369	
11096-82-5-----Aroclor-1260	516	

1D
PCB COMPOUNDS ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

INST. BLANK

Lab Name: 222-S

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 112297

Matrix: (soil/water) SOIL

Lab Sample ID: INST. BLNK

Sample wt/vol: 1.0 (g/mL) G

Lab File ID: 019F0201.D

Level: (low/med) LOW

Date Received: 11/17/97

% Moisture: not dec. 0

Date Analyzed: 11/23/97

GC Column:Xti-5 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 2000 (uL)

Soil Aliquot Volume: 1 (uL)

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	33	U
11104-28-2-----Aroclor-1221	67	U
1114-16-5-----Aroclor-1232	33	U
53469-21-9-----Aroclor-1242	33	U
12672-29-6-----Aroclor-1248	33	U
11097-69-1-----Aroclor-1254	33	U
11096-82-5-----Aroclor-1260	33	U

2F
HNF-SD-WM-DP-275, REV. 0
SOIL PCB COMPOUNDS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: 222-S

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 112297

Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER	TOT OUT
01	000000879	50	56			0
02	S97S00184	56	60			0
03	S97S00184D	72	73			0
04	S97S00184MS	57	56			0
05	S97S00184MSD	69	67			0
06						
07						
08						
09						
10						
11						
12						
13						
14						
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16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1	= Tetrachloro-m-xylene	(50-150)
SMC2	= Decachlorobiphenyl	(50-150)
SMC3	= N/A	

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3F

SOIL PCB COMPOUNDS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 222-S

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 112297

Matrix Spike - EPA Sample No.: S97S00184

Level (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Aroclor-1016	191	154	337	96	50-150
Aroclor-1260	191	266	444	93	50-150

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Aroclor-1016	191	468	164*	52*	40	50-150
Aroclor-1260	191	516	131	34	40	50-150

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

* Values outside of QC limits

RPD: 1 out of 2 outside limits

Spike Recovery: 1 out of 4 outside limits

COMMENTS:

HNF-SD-WM-DP-275, REV. 0

EXTRACTION BENCHSHEET

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GC SEQUENCE

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page 1

Sequence: C:\HPCHEM\2\SEQUENCE\112297A.SEQ

Sequence Table

Seq.	Cal.	Method	From	To	Inj/
Line	Line	Name	Vial	Vial	Vial
1		PCB-FRNT	1	1	3
2		PCB-FRNT	2	26	1
1		PCB-REAR	51	51	3
2		PCB-REAR	52	76	1

Sample Table

Vial	Sample Name	Sample	Multiplier	ISTD
Num.		Amount		Amount
1	400ng/ml A1660		1	
2	200ng/ml A1660		1	
3	100ng/mL A1660		1	
4	50ng/mL A1660		1	
5	20ng/ml A1660		1	
6	400ng/ml A1248		1	
7	200ng/ml A1248		1	
8	100ng/ml A1248		1	
9	50ng/ml A1248		1	
10	20ng/ml A1248		1	
11	400ng/ml A1254		1	
12	200ng/ml A1254		1	
13	100ng/ml A1254		1	
14	50ng/ml A1254		1	
15	20ng/ml A1254		1	
16	200ng/ml A1221		1	
17	100ng/ml A1232		1	
18	100ng/ml A1242		1	
19	Inst.blk		1	
20	meth blk 00879		1	
21	LCS spk 00881		1	
22	97S 0184 00883		1	
23	97S0184D 00885		1	
24	97S0184MS 00887		1	
25	97S0184MSB00889		1	
26	100ng/ml A1660		1	
27	400ng/ml A1660		1	
28	200ng/ml A1660		1	
29	100ng/ml A1660		1	
30	50ng/ml A1660		1	
31	20ng/ml A1660		1	
32	400ng/ml A1248		1	
33	200ng/ml A1248		1	
34	100ng/ml A1248		1	
35	50ng/ml A1248		1	
36	20ng/ml A1248		1	
37	400ng/ml A1254		1	
38	200ng/ml A1254		1	
39	100ng/ml A1254		1	
40	50ng/ml A1254		1	
41	20ng/ml A1254		1	
42	200ng/ml A1221		1	

HNH-SD-WM-DP-275, REV. 0

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HNF-SD-WM-DP-275, REV. 0

page 2

Sequence: C:\HPCHEM\2\SEQUENCE\112297A.SEQ

Sample Table

ial um.	Sample Name	Sample Amount	Multiplier	ISTD Amount
7	100ng/ml A1232		1	
8	100ng/ml A1242		1	
9	Inst.blnk		1	
0	meth.blnk 00880		1	
1	LCS spk 00882		1	
2	97S0184 00884		1	
3	97S0184D 00886		1	
4	97S0184MS 00888		1	
5	97S0184MSD00890		1	
6	100ng/ml A1660		1	

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Sequence: C:\HPCHEM\2\SEQUENCE\112297A.SEQ

Sample Table

Sample Name

Sample Amount

Multiplier

ISTD Amount

7 100ng/ml A1232

8 100ng/ml A1242

9 Inst.blnk

0 meth.blnk 00880

1 LCS spk 00882

2 97S0184 00884

3 97S0184D 00886

4 97S0184MS 00888

5 97S0184MSD00890

6 100ng/ml A1660

HNF-SD-WM-DP-275, REV. 0

INITIAL CALIBRATION REPORT

HNF-SD-WM-DP-275, REV. 0

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Report Date : 03-Dec-1997 13:20

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INITIAL CALIBRATION DATA

Start Cal Date : 06-AUG-97 17:19
 End Cal Date : 23-NOV-1997 19:11
 Quant Method : ESTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP Genie
 Method file : /chem/gc2.i/112297.b/rcrapcb.m
 Cal Date : 03-Dec-1997 13:18 gar
 Curve Type : Average

Calibration File Names:

Level 1: /chem/gc2.i/112297.b/015f0201.d
 Level 2: /chem/gc2.i/112297.b/014f0201.d
 Level 3: /chem/gc2.i/112297.b/026f0201.d
 Level 4: /chem/gc2.i/112297.b/016f0201.d
 Level 5: /chem/gc2.i/112297.b/011f0201.d

Compound	0.0200 Level 1	0.0500 Level 2	0.1000 Level 3	0.2000 Level 4	0.4000 Level 5	RRF	% RSD
1 alpha-BHC	++++	++++	++++	++++	++++	++++	++++
2 beta-BHC	++++	++++	++++	++++	++++	++++	++++
3 delta-BHC	++++	++++	++++	++++	++++	++++	++++
4 gamma-BHC (Lindane)	++++	++++	++++	++++	++++	++++	++++
5 Heptachlor	++++	++++	++++	++++	++++	++++	++++
6 Aldrin	++++	++++	++++	++++	++++	++++	++++
7 Heptachlor epoxide	++++	++++	++++	++++	++++	++++	++++
8 Endosulfan I	++++	++++	++++	++++	++++	++++	++++
9 Dieldrin	++++	++++	++++	++++	++++	++++	++++
10 4,4'-DDE	++++	++++	++++	++++	++++	++++	++++
11 Endrin	++++	++++	++++	++++	++++	++++	++++
12 Endosulfan II	++++	++++	++++	++++	++++	++++	++++
13 4,4'-DDD	++++	++++	++++	++++	++++	++++	++++
14 Endosulfan sulfate	++++	++++	++++	++++	++++	++++	++++
15 4,4'-DDT	++++	++++	++++	++++	++++	++++	++++
16 Methoxychlor	++++	++++	++++	++++	++++	++++	++++
17 Endrin ketone	++++	++++	++++	++++	++++	++++	++++
18 Endrin aldehyde	++++	++++	++++	++++	++++	++++	++++
19 alpha-Chlordane	++++	++++	++++	++++	++++	++++	++++
20 gamma-Chlordane	++++	++++	++++	++++	++++	++++	++++
21 Toxaphene(1)	++++	++++	++++	++++	++++	++++	++++
(2)	++++	++++	++++	++++	++++	++++	++++
(3)	++++	++++	++++	++++	++++	++++	++++
22 Aroclor-1016(1)	407900	423080	418920	++++	++++	416633	1.883
(2)	337750	333440	331930	++++	++++	334373	0.903
(3)	559200	602120	588460	++++	++++	583260	3.759
23 Aroclor-1221(1)	++++	++++	++++	238230	++++	238230	0.000
(2)	++++	++++	++++	244555	++++	244555	0.000
(3)	++++	++++	++++	591370	++++	591370	0.000

Report Date : 03-Dec-1997 13:20

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INITIAL CALIBRATION DATA

Start Cal Date : 06-AUG-97 17:19
 End Cal Date : 23-NOV-1997 19:11
 Quant Method : ESTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP Genie
 Method file : /chem/gc2.i/112297.b/rcrapcb.m
 Cal Date : 03-Dec-1997 13:18 gar
 Curve Type : Average

Compound	0.0200 Level 1	0.0500 Level 2	0.1000 Level 3	0.2000 Level 4	0.4000 Level 5	RRF	% RSD
=====	=====	=====	=====	=====	=====	=====	=====
24 Aroclor-1232(1)	+++++	+++++	215600	+++++	+++++	215600	0.000
(2)	+++++	+++++	282460	+++++	+++++	282460	0.000
(3)	+++++	+++++	212410	+++++	+++++	212410	0.000
25 Aroclor-1242(1)	+++++	+++++	236440	+++++	+++++	236440	0.000
(2)	+++++	+++++	190020	+++++	+++++	190020	0.000
(3)	+++++	+++++	146410	+++++	+++++	146410	0.000
26 Aroclor-1248(1)	860700	948380	790100	587585	711758	779704	17.754
(2)	1027600	1119740	938810	677105	826055	917862	18.841
(3)	1149000	1243160	1058570	758630	947750	1031422	18.191
27 Aroclor-1254(1)	923000	814420	595230	+++++	891405	806014	18.329
(2)	1204800	1103200	826740	+++++	1206432	1085293	16.494
(3)	1019050	947120	716510	+++++	1159798	960619	19.276
28 Aroclor-1260(1)	749950	776420	718330	+++++	+++++	748233	3.887
(2)	744300	783240	776980	+++++	+++++	768173	2.722
(3)	579150	696200	708850	+++++	+++++	661400	10.812
=====	=====	=====	=====	=====	=====	=====	=====
\$ 29 Tetrachloro-m-xylene	22364100	22663120	14904080	19687580	19003100	19720000	15.904
\$ 30 Decachlorobiphenyl	17991700	16373600	+++++	13567180	12548935	15120000	16.574

HNH-SD-WM-DP-275, REV. 0

RAW DATA

HNH-SD-WM-DP-275, REV. 0

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Data File: /chem/gc2.i/112297.b/001f0103.d
 Report Date: 03-Dec-1997 13:02

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222-S Laboratory

Data file : /chem/gc2.i/112297.b/001f0103.d

Lab Smp Id: 400ng/ml A1660

Client Smp ID: 400ng/ml A1660

Inj Date : 22-NOV-1997 16:31

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 400ng/ml A1660

Misc Info : 400ng/ml A1660

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:02 gar

Quant Type: ESTD

Cal Date : 22-NOV-1997 16:31

Cal File: 001f0103.d

Als bottle: 1

Calibration Sample, Level: 5

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1660.sub

Target Version: 3.10

Sample Matrix: SOIL

AMOUNTS

			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO	
==	=====		=====	=====	=====	=====	=====	
22 Aroclor-1016					CAS #:	12674-11-2		
15.797	15.797	0.000	252990	0.40000	0.60890		100.00	
16.604	16.604	0.000	216432	0.40000	0.64492	0.00- 20.00	85.55	
17.714	17.714	0.000	400057	0.40000	0.68897	0.00- 20.00	158.13	
Average of Peak Amounts =					0.64760			

28 Aroclor-1260					CAS #:	11096-82-5		
26.622	26.622	0.000	448186	0.40000	0.83086		100.00	
27.864	27.864	0.000	447030	0.40000	0.82221	0.00- 20.00	99.74	
29.426	29.426	0.000	440935	0.40000	0.95670	0.00- 20.00	98.38	
Average of Peak Amounts =					0.86992			

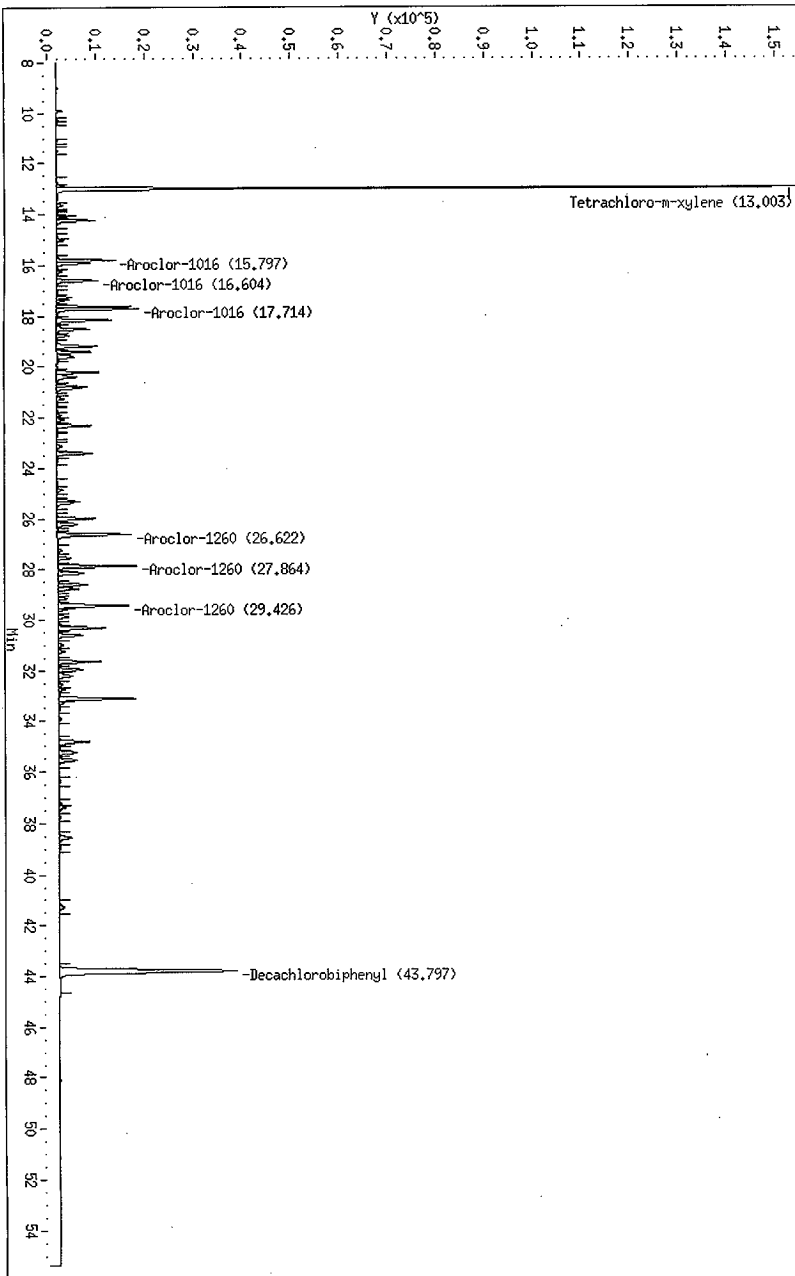
\$ 29 Tetrachloro-m-xylene					CAS #:	877-09-8		
13.003	13.029	-0.026	2815805	0.20000	0.14279		100.00	

\$ 30 Decachlorobiphenyl					CAS #:	2051-24-3		
43.797	43.887	-0.090	1675965	0.20000	0.11084		100.00	

Data File: /chem/gc2.i/112297.b/001F0103.d
Date : 22-NOV-1997 16:31
Client ID: 400rg/ml A1660
Sample Info: 400rg/ml A1660
Volume Injected (ul): 1.0
Column Phase: K1-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25

/chem/gc2.i/112297.b/001F0103.d



Data File: /chem/gc2.i/112297.b/002f0201.d
 Report Date: 03-Dec-1997 13:02

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222-S Laboratory

Data file : /chem/gc2.i/112297.b/002f0201.d

Lab Smp Id: 200ng/ml A1660

Client Smp ID: 200ng/ml A1660

Inj Date : 22-NOV-97 17:35

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 200ng/ml A1660

Misc Info : 200ng/ml A1660

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:02 gar

Quant Type: ESTD

Cal Date : 22-NOV-97 17:35

Cal File: 002f0201.d

Als bottle: 1

Calibration Sample, Level: 4

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1660.sub

Target Version: 3.10

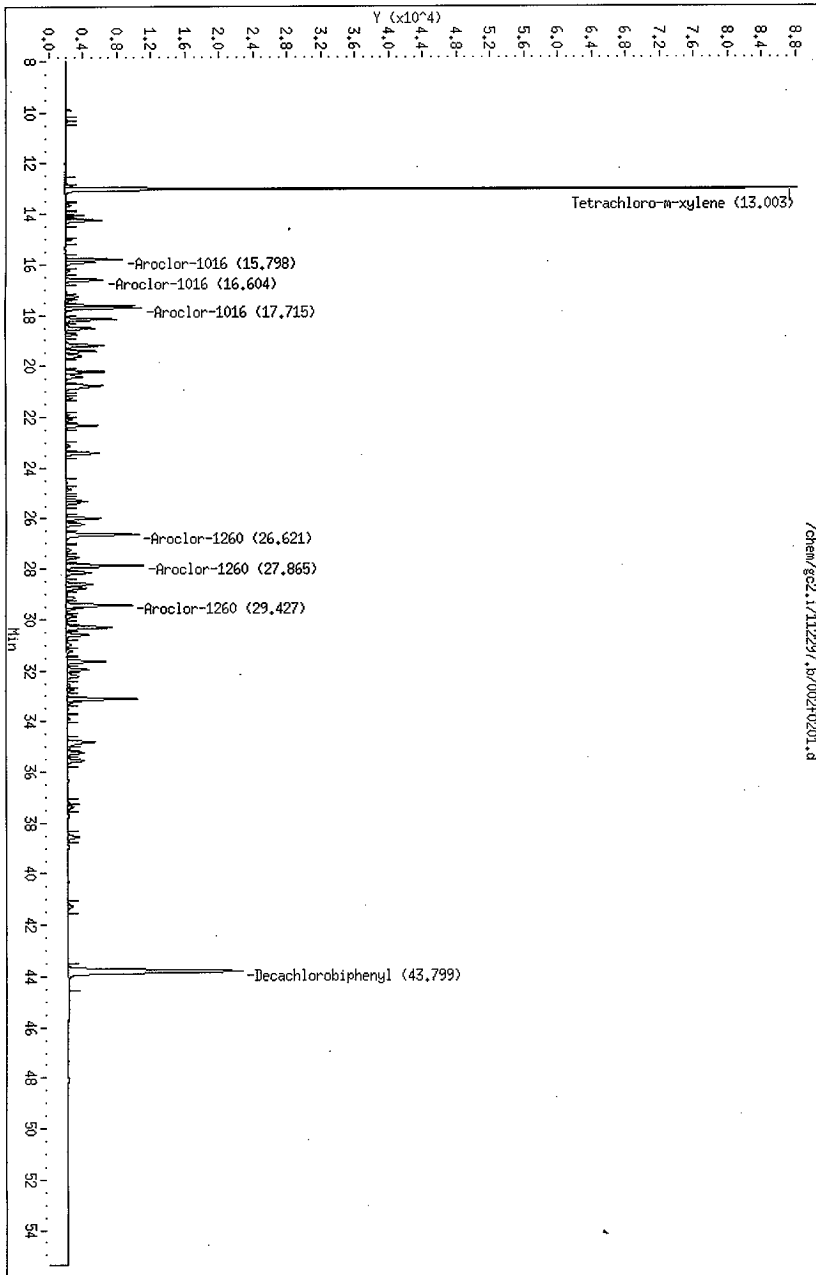
Sample Matrix: SOIL

AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT		ON-COL		TARGET RANGE	RATIO
			RESPONSE (	ng)	(	ng)		
==	=====	=====	=====	=====	=====	=====	=====	=====
22 Aroclor-1016			CAS #: 12674-11-2					
15.798	15.798	0.000	138406	0.20000	0.33312			100.00
16.604	16.604	0.000	114440	0.20000	0.34101	0.00-	20.00	82.68
17.715	17.715	0.000	214974	0.20000	0.37022	0.00-	20.00	155.32
Average of Peak Amounts =			0.34811					
28 Aroclor-1260			CAS #: 11096-82-5					
26.621	26.621	0.000	247877	0.20000	0.45952			100.00
27.865	27.865	0.000	246401	0.20000	0.45320	0.00-	20.00	99.40
29.427	29.427	0.000	233900	0.20000	0.50750	0.00-	20.00	94.36
Average of Peak Amounts =			0.47340					
\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8					
13.003	13.029	-0.026	1569986	0.10000	0			100.00
\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3					
43.799	43.887	-0.088	937072	0.10000	0			100.00

Data File: /chem/gc2.i/112297.b/002f0201.d
Date : 22-NOV-97 17:35
Client ID: 200mg/ml A1660
Sample Info: 200mg/ml A1660
Volume Injected (ul): 1.0
Column phase: Rt-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/003f0201.d
 Report Date: 03-Dec-1997 13:02

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222-S Laboratory

Data file : /chem/gc2.i/112297.b/003f0201.d
 Lab Smp Id: 100ng/mL A1660 Client Smp ID: 100ng/mL A1660
 Inj Date : 22-NOV-97 18:39
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 100ng/mL A1660
 Misc Info : 100ng/mL A1660
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:02 gar Quant Type: ESTD
 Cal Date : 22-NOV-97 18:39 Cal File: 003f0201.d
 Als bottle: 1 Calibration Sample, Level: 3
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1660.sub
 Target Version: 3.10 Sample Matrix: SOIL

AMOUNTS							
			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
28 Aroclor-1260			CAS #: 11096-82-5				
26.628	26.628	0.000	9190	0.10000	0		100.00(a)
27.873	27.873	0.000	10354	0.10000	0	0.00- 20.00	112.67
29.435	29.435	0.000	10732	0.10000	0	0.00- 20.00	116.78
Average of Peak Amounts =					0.019789		

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8				
13.014	13.029	-0.015	16737	0	0		100.00(a)

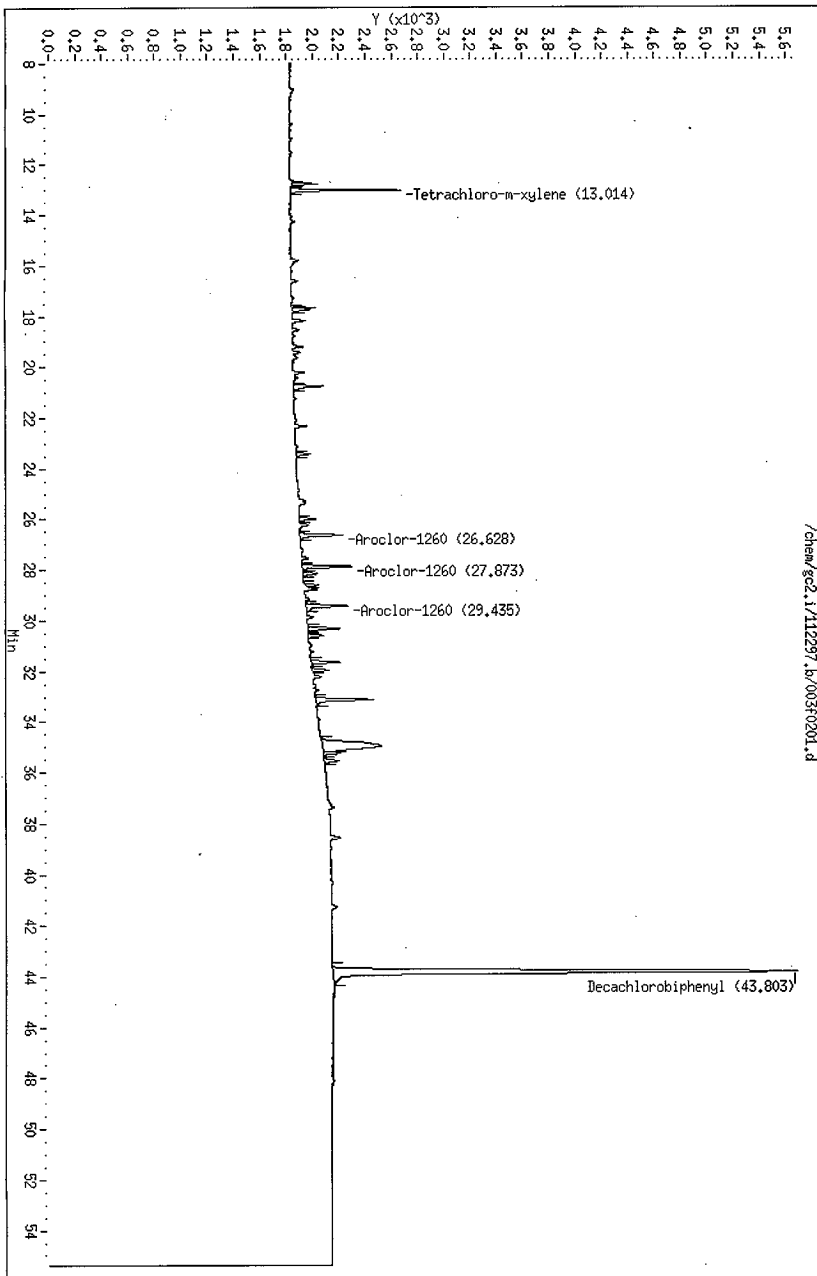
\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3				
43.803	43.887	-0.084	161642	0	0		100.00

QC Flag Legend

a - Target compound detected but, quantitated amount
 Below Limit Of Quantitation(BLOQ).

Data File: /chem/gc2.i/112297.b/003f0201.d
Date : 22-NOV-97 18:39
Client ID: 100ng/mL At1660
Sample Info: 100ng/mL At1660
Volume Injected (uL): 1.0
Column phase: Kti-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/026f0201.d
 Report Date: 03-Dec-1997 13:18

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Data file : /chem/gc2.i/112297.b/026f0201.d

Lab Smp Id: 100ng/ml A1660

Client Smp ID: 100ng/ml A1660

Inj Date : 23-NOV-1997 19:11

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1660

Misc Info : 100ng/ml A1660

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:18 gar

Quant Type: ESTD

Cal Date : 23-NOV-1997 19:11

Cal File: 026f0201.d

Als bottle: 1

Calibration Sample, Level: 3

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1660.sub

Target Version: 3.10

Sample Matrix: SOIL

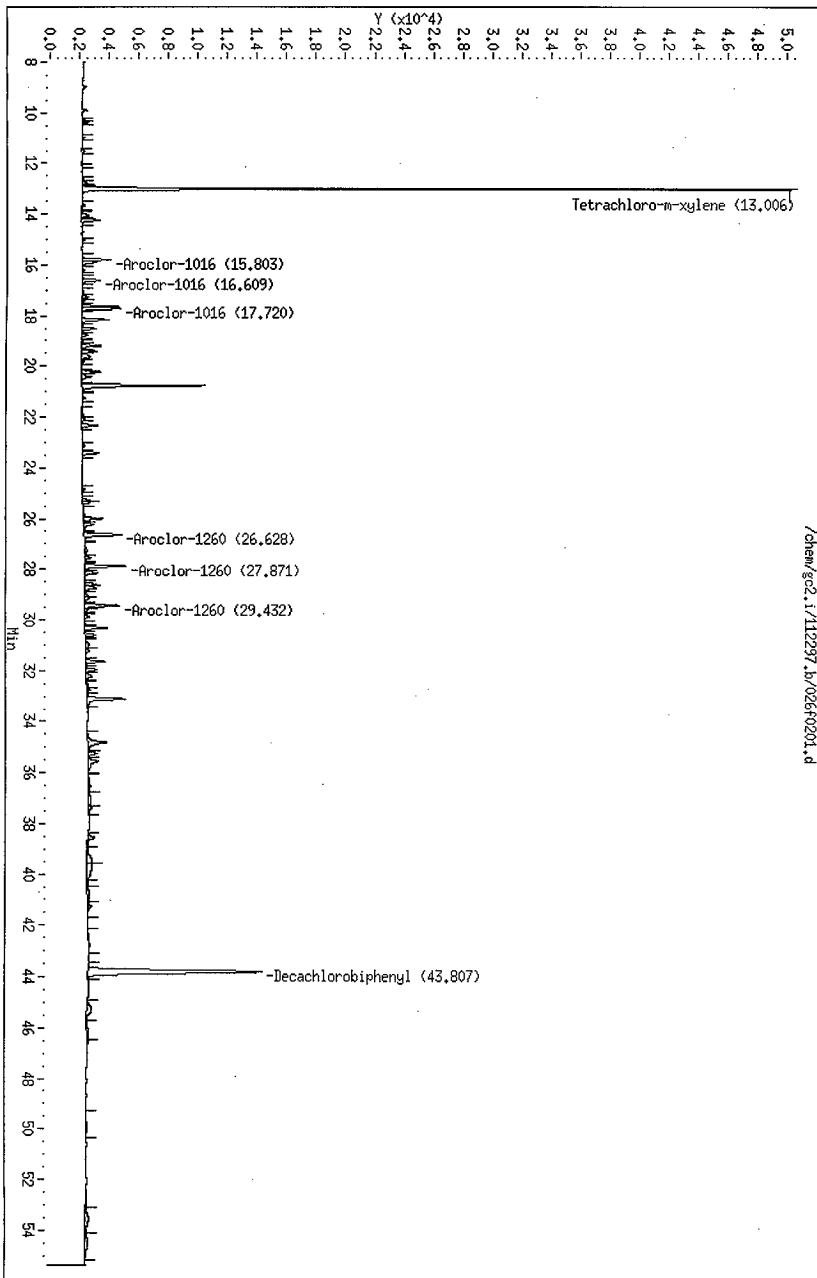
AMOUNTS

RT	EXP RT	DLT RT	RESPONSE (ng)	CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
==	=====		=====	=====	=====	=====	=====
22 Aroclor-1016			CAS #: 12674-11-2				
15.803	15.803	0.000	41892 0.10000	0.10055		100.00	
16.609	16.609	0.000	33193 0.10000	0	0.00- 20.00	79.23	
17.720	17.720	0.000	58846 0.10000	0.10089	0.00- 20.00	140.47	
Average of Peak Amounts =			0.10024				
28 Aroclor-1260			CAS #: 11096-82-5				
26.628	26.628	0.000	71833 0.10000	0		100.00	
27.871	27.871	0.000	77698 0.10000	0.10115	0.00- 20.00	108.16	
29.432	29.432	0.000	70885 0.10000	0.10717	0.00- 20.00	98.68	
Average of Peak Amounts =			0.10144				
\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8				
13.006	13.029	-0.023	863975	0	0	100.00	
\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3				
43.807	43.887	-0.080	529027	0	0	100.00	

Data File: /chem/gc2.1/112297.b/026f0201.d
Date : 23-NOV-1997 19:11
Client ID: 100mg/ml B1660
Sample Info: 100mg/ml B1660
Volume Injected (uL): 1.0
Column phase: M1-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25

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Data File: /chem/gc2.i/112297.b/004f0201.d
 Report Date: 03-Dec-1997 13:02

Page 1

222-S Laboratory

Data file : /chem/gc2.i/112297.b/004f0201.d
 Lab Smp Id: 50ng/mL A1660 Client Smp ID: 50ng/mL A1660
 Inj Date : 22-NOV-97 19:43
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 50ng/mL A1660
 Misc Info : 50ng/mL A1660
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:02 gar Quant Type: ESTD
 Cal Date : 22-NOV-97 19:43 Cal File: 004f0201.d
 Als bottle: 1 Calibration Sample, Level: 2
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1660.sub
 Target Version: 3.10 Sample Matrix: SOIL

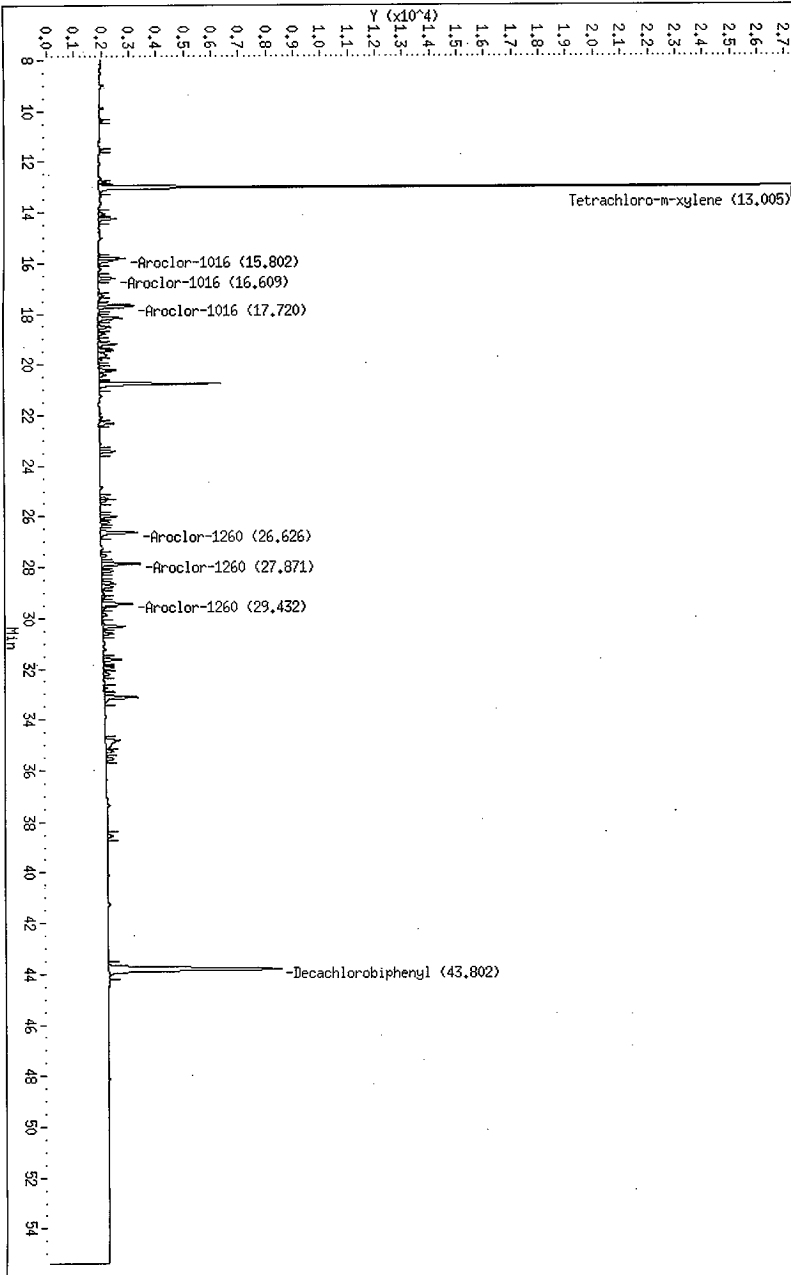
AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT RESPONSE (ng)	ON-COL (ng)	TARGET RANGE	RATIO
22 Aroclor-1016			CAS #: 12674-11-2			
15.802	15.802	0.000	21154	0	0	100.00
16.609	16.609	0.000	16672	0	0.00- 20.00	78.81
17.720	17.720	0.000	30106	0	0.00- 20.00	142.32
Average of Peak Amounts =			0.050813			
28 Aroclor-1260			CAS #: 11096-82-5			
26.626	26.626	0.000	38821	0	0	100.00
27.871	27.871	0.000	39162	0	0.00- 20.00	100.88
29.432	29.432	0.000	34810	0	0.00- 20.00	89.67
Average of Peak Amounts =			0.073175			
\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8			
13.005	13.029	-0.024	445817	0	0	100.00
\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3			
43.802	43.887	-0.085	283378	0	0	100.00

Data File: /chem/gc2.i/112297.b/004f0201.d
Date: 22-NOV-97 19:43
Client ID: 50ng/mL A1660
Sample Info: 50ng/mL A1660
Volume Injected (uL): 1.0
Column phase: M1-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25

/chem/gc2.i/112297.b/004f0201.d



Data File: /chem/gc2.i/112297.b/005f0201.d
 Report Date: 03-Dec-1997 13:02

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Data file : /chem/gc2.i/112297.b/005f0201.d
 Lab Smp Id: 20ng/ml A1660 Client Smp ID: 20ng/ml A1660
 Inj Date : 22-NOV-97 20:47
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 20ng/ml A1660
 Misc Info : 20ng/ml A1660
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:02 gar Quant Type: ESTD
 Cal Date : 22-NOV-97 20:47 Cal File: 005f0201.d
 Als bottle: 1 Calibration Sample, Level: 1
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1660.sub
 Target Version: 3.10 Sample Matrix: SOIL

AMOUNTS									
			CAL-AMT		ON-COL				
RT	EXP RT	DLT RT	RESPONSE (	ng)	(	ng)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====	=====	
22 Aroclor-1016					CAS #: 12674-11-2				
15.802	15.802	0.000	8158	0	0			100.00(a)	
16.610	16.610	0.000	6755	0	0	0.00-	20.00	82.80	
17.722	17.722	0.000	11184	0	0	0.00-	20.00	137.09	
Average of Peak Amounts =					0.019675				

28 Aroclor-1260					CAS #: 11096-82-5				
26.626	26.626	0.000	14999	0	0			100.00(a)	
27.871	27.871	0.000	14886	0	0	0.00-	20.00	99.25	
29.432	29.432	0.000	11583	0	0	0.00-	20.00	77.23	
Average of Peak Amounts =					0.026772				

\$ 29 Tetrachloro-m-xylene					CAS #: 877-09-8				
13.007	13.029	-0.022	165456	0	0			100.00	

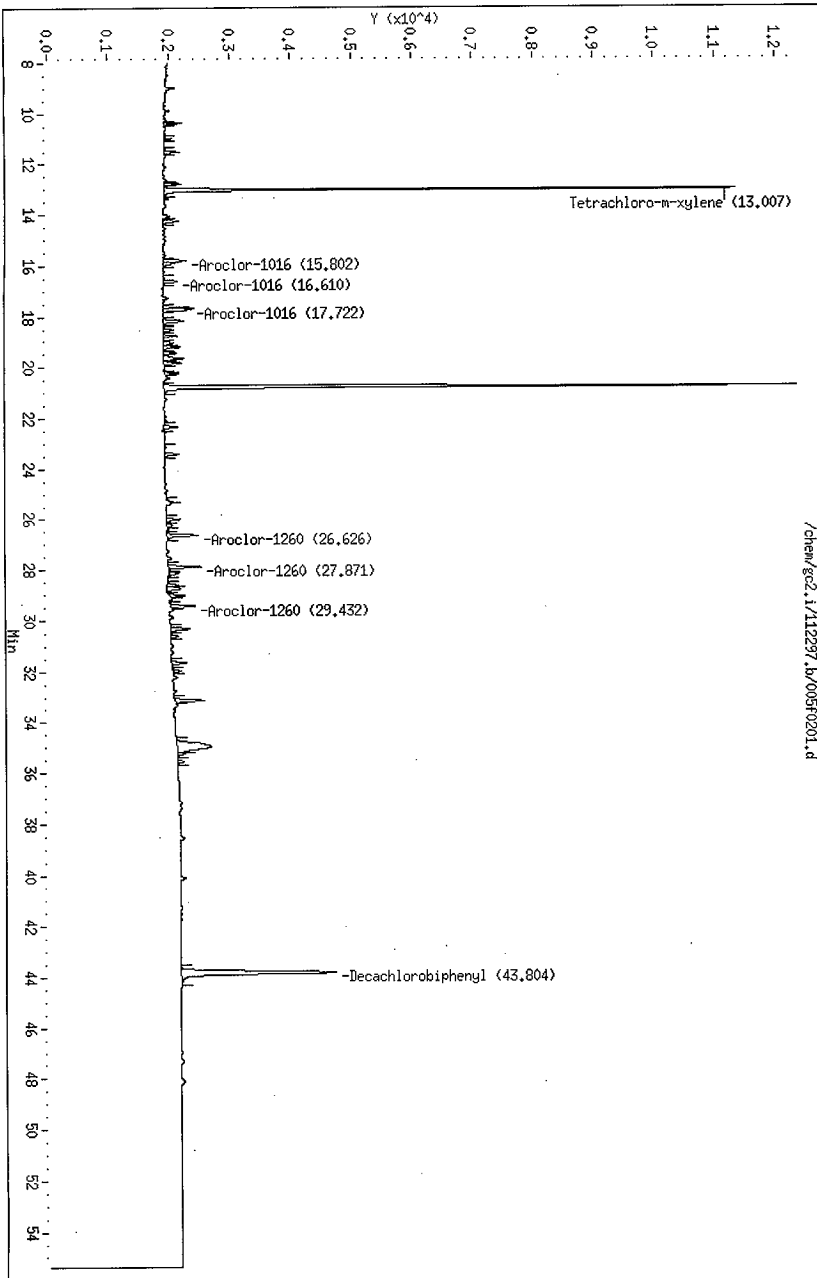
\$ 30 Decachlorobiphenyl					CAS #: 2051-24-3				
43.804	43.887	-0.083	116438	0	0			100.00	

QC Flag Legend

a - Target compound detected but, quantitated amount
 Below Limit Of Quantitation(BLOQ).

Data File: /chem/gc2.i/112297.b/005f0201.d
Date : 22-NOV-97 20:47
Client ID: 20ng/ml A1660
Sample Info: 20ng/ml A1660
Volume Injected (ul): 1.0
Column phase: Kti-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/006f0201.d
 Report Date: 03-Dec-1997 13:03

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Data file : /chem/gc2.i/112297.b/006f0201.d
 Lab Smp Id: 400ng/ml A1248 Client Smp ID: 400ng/ml A1248
 Inj Date : 22-NOV-97 21:51
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 400ng/ml A1248
 Misc Info : 400ng/ml A1248
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:03 gar Quant Type: ESTD
 Cal Date : 22-NOV-97 21:51 Cal File: 006f0201.d
 Als bottle: 1 Calibration Sample, Level: 5
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1248.sub
 Target Version: 3.10 Sample Matrix: SOIL

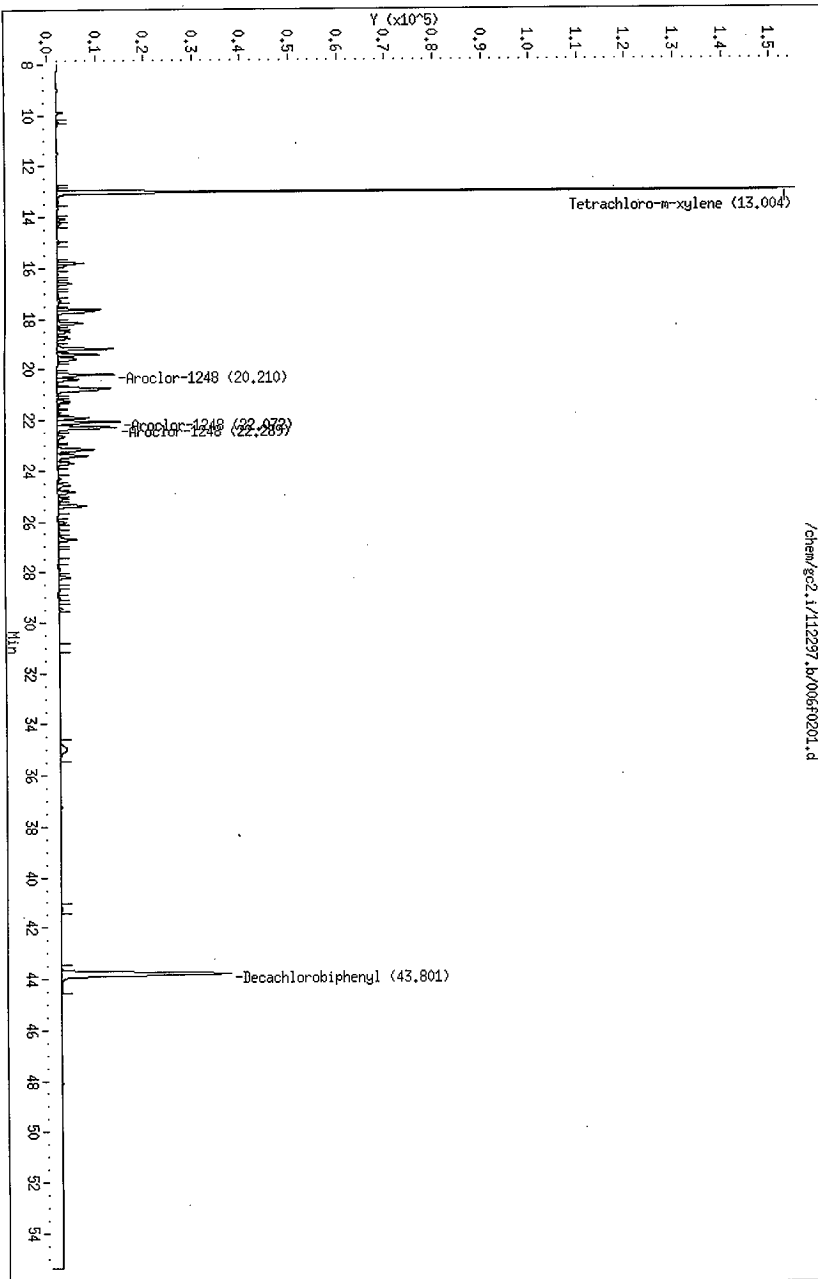
AMOUNTS									
			CAL-AMT		ON-COL				
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO		
==	=====	=====	=====	=====	=====	=====	=====		
26 Aroclor-1248					CAS #: 12672-29-6				
20.210	20.210	0.000	284703	0.40000	0.36514				100.00
22.072	22.072	0.000	330422	0.40000	0.35999	0.00-	20.00		116.06
22.289	22.289	0.000	379100	0.40000	0.36755	0.00-	20.00		133.16
Average of Peak Amounts =					0.36423				

\$ 29 Tetrachloro-m-xylene					CAS #: 877-09-8				
13.004	13.029	-0.025	2822508	0.20000	0.14313				100.00

\$ 30 Decachlorobiphenyl					CAS #: 2051-24-3				
43.801	43.887	-0.086	1624065	0.20000	0.10741				100.00

Data File: /chem/gc2.1/112297.b/006f0201.d
Date : 22-NOV-97 21:51
Client ID: 4006g/ml A1248
Sample Info: 4006g/ml A1248
Volume Injected (ul): 1.0
Column phase: Kti-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/007f0201.d
 Report Date: 03-Dec-1997 13:03

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Data file : /chem/gc2.i/112297.b/007f0201.d
 Lab Smp Id: 200ng/ml A1248 Client Smp ID: 200ng/ml A1248
 Inj Date : 22-NOV-97 22:55
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 200ng/ml A1248
 Misc Info : 200ng/ml A1248
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:03 gar Quant Type: ESTD
 Cal Date : 22-NOV-97 22:55 Cal File: 007f0201.d
 Als bottle: 1 Calibration Sample, Level: 4
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1248.sub
 Target Version: 3.10 Sample Matrix: SOIL

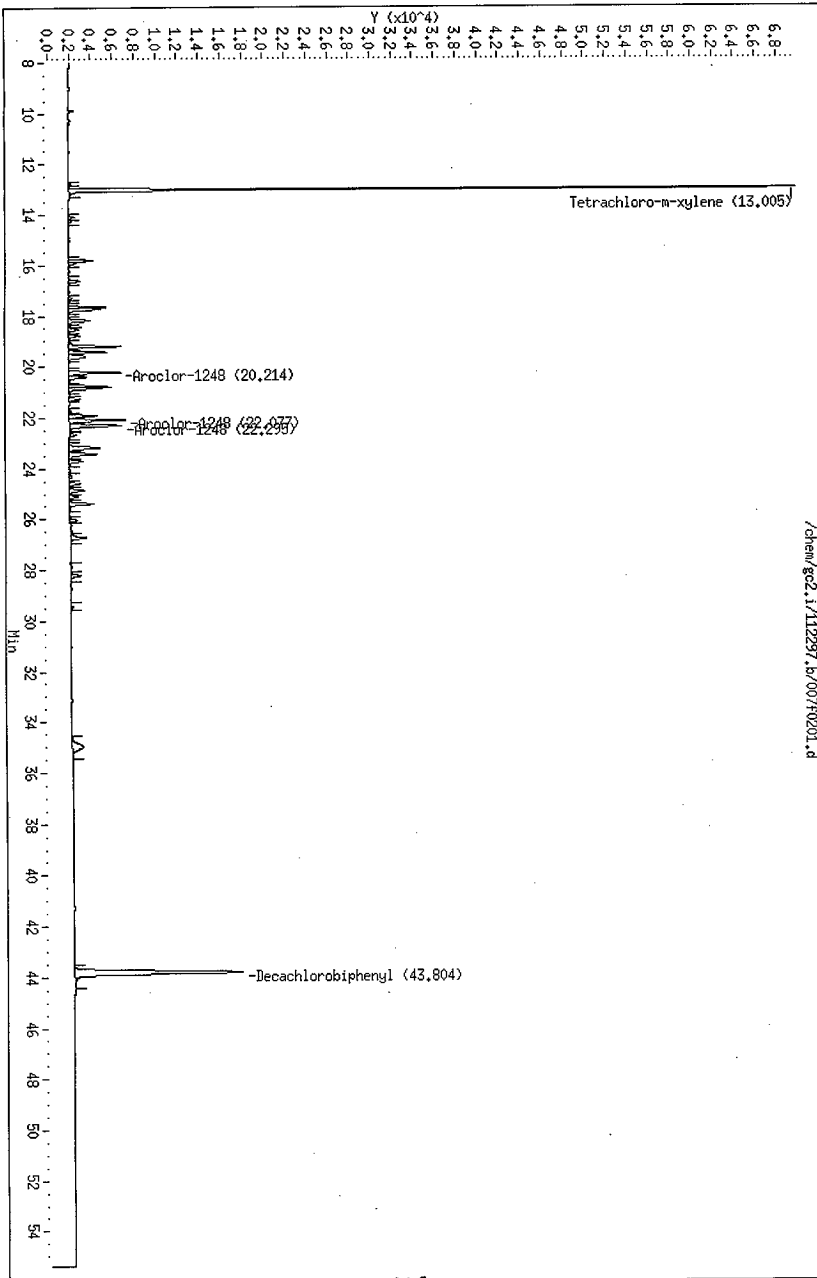
AMOUNTS							
			CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
26 Aroclor-1248				CAS #: 12672-29-6			
20.214	20.214	0.000	117517	0.20000	0.15072		100.00
22.077	22.077	0.000	135421	0.20000	0.14754	0.00- 20.00	115.24
22.295	22.295	0.000	151726	0.20000	0.14710	0.00- 20.00	129.11
Average of Peak Amounts =				0.14845			

\$ 29 Tetrachloro-m-xylene				CAS #: 877-09-8			
13.005	13.029	-0.024	1221272	0.10000	0		100.00

\$ 30 Decachlorobiphenyl				CAS #: 2051-24-3			
43.804	43.887	-0.083	720619	0.10000	0		100.00

Data File: /chem/gc2.i/112297.b/007F0201.d
Date : 22-Nov-97 22:55
Client ID: 2006/ml A1248
Sample Info: 2006/ml A1248
Volume Injected (ul): 1.0
Column phase: Rt1-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/008f0201.d
 Report Date: 03-Dec-1997 13:03

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Data file : /chem/gc2.i/112297.b/008f0201.d
 Lab Smp Id: 100ng/ml A1248 Client Smp ID: 100ng/ml A1248
 Inj Date : 22-NOV-97 23:59
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 100ng/ml A1248
 Misc Info : 100ng/ml A1248
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:03 gar Quant Type: ESTD
 Cal Date : 22-NOV-97 23:59 Cal File: 008f0201.d
 Als bottle: 1 Calibration Sample, Level: 3
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1248.sub
 Target Version: 3.10 Sample Matrix: SOIL

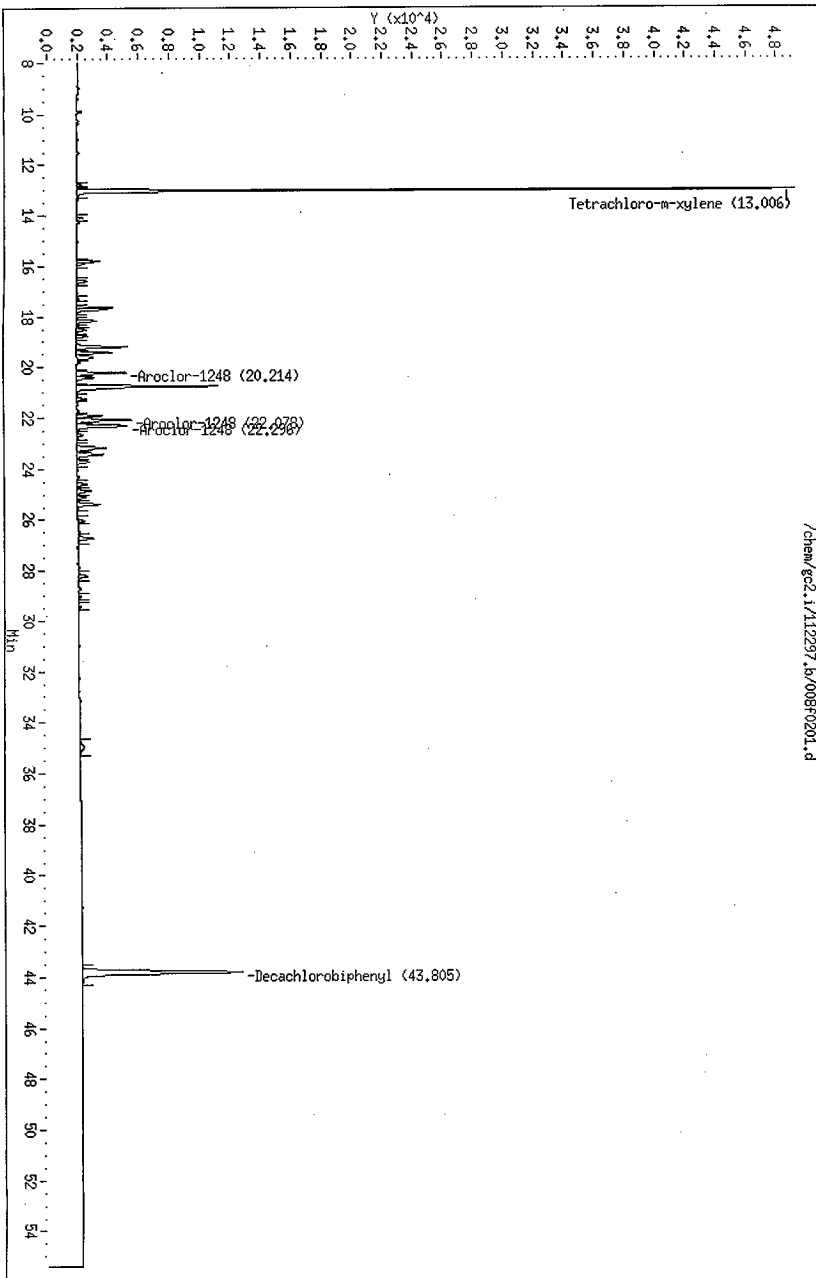
AMOUNTS							
			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
26 Aroclor-1248			CAS #: 12672-29-6				
20.214	20.214	0.000	79010	0.10000	0.10133		100.00
22.078	22.078	0.000	93881	0.10000	0.10228	0.00- 20.00	118.82
22.296	22.296	0.000	105857	0.10000	0.10263	0.00- 20.00	133.98
Average of Peak Amounts =			0.10208				

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8				
13.006	13.029	-0.023	836370	0	0		100.00

\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3				
43.805	43.887	-0.082	478535	0	0		100.00

Data File: /chem/gc2.i/112297.b/008f0201.d
Date: 22-NOV-97 23:59
Client ID: 100rg/ml A1248
Sample Info: 100rg/ml A1248
Volume Injected (ul): 1.0
Column phase: Xti-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/009f0201.d
 Report Date: 03-Dec-1997 13:03

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Data file : /chem/gc2.i/112297.b/009f0201.d
 Lab Smp Id: 50ng/ml A1248 Client Smp ID: 50ng/ml A1248
 Inj Date : 23-NOV-97 01:03
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 50ng/ml A1248
 Misc Info : 50ng/ml A1248
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:03 gar Quant Type: ESTD
 Cal Date : 23-NOV-97 01:03 Cal File: 009f0201.d
 Als bottle: 1 Calibration Sample, Level: 2
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1248.sub
 Target Version: 3.10 Sample Matrix: SOIL

AMOUNTS

RT	EXP RT	DLT RT	RESPONSE (ng)	CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
26	Aroclor-1248					CAS #: 12672-29-6	
20.215	20.215	0.000	47419	0	0	100.00	
22.080	22.080	0.000	55987	0	0	0.00- 20.00	118.07
22.299	22.299	0.000	62158	0	0	0.00- 20.00	131.08
Average of Peak Amounts =				0.060693			

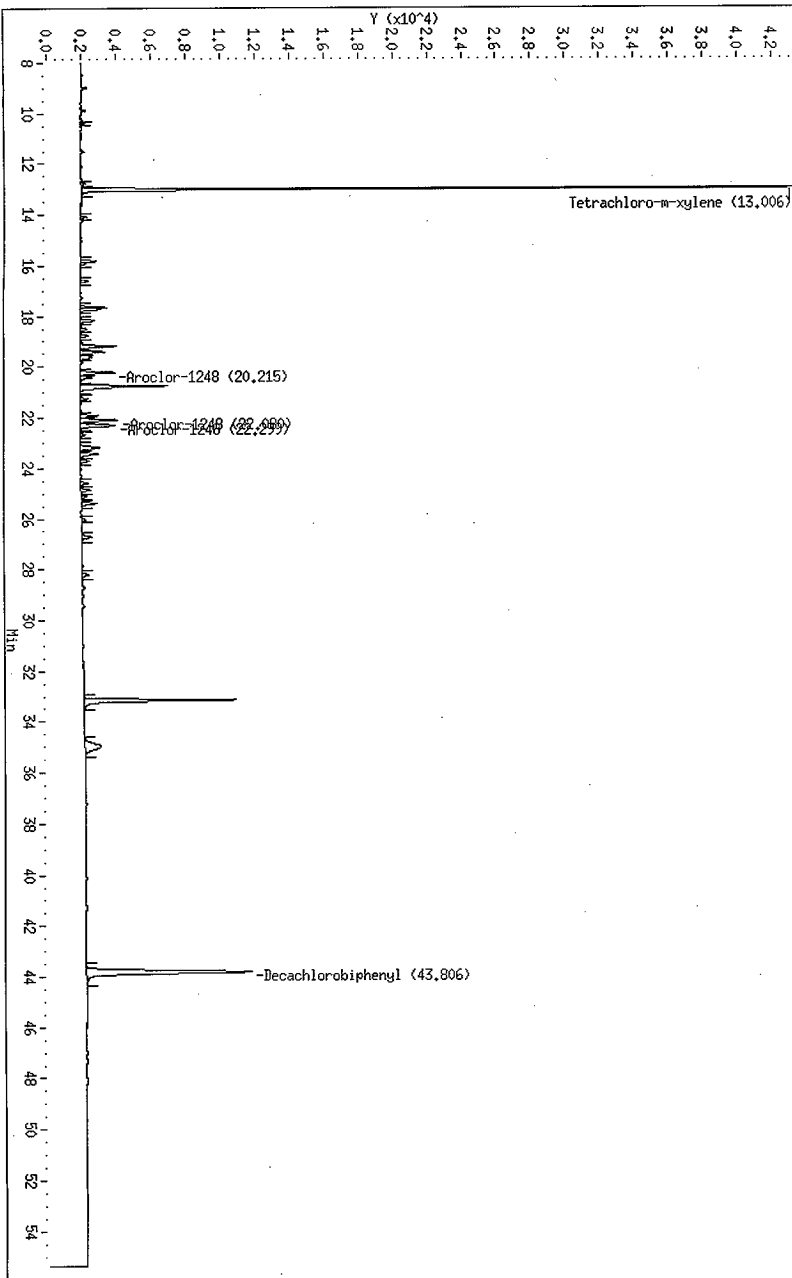
\$ 29	Tetrachloro-m-xylene					CAS #: 877-09-8	
13.006	13.029	-0.023	731298	0	0	100.00	

\$ 30	Decachlorobiphenyl					CAS #: 2051-24-3	
43.806	43.887	-0.081	433663	0	0	100.00	

Data File: /chem/gc2.i/112297.b/009f0201.d
Date : 23-NOV-97 01:03
Client ID: 50ng/ml A1248
Sample Info: 50ng/ml A1248
Volume Injected (ul): 1.0
Column phase: Xti-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25

/chem/gc2.i/112297.b/009f0201.d



Data File: /chem/gc2.i/112297.b/010f0201.d
 Report Date: 03-Dec-1997 13:03

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Data file : /chem/gc2.i/112297.b/010f0201.d
 Lab Smp Id: 20ng/ml A1248 Client Smp ID: 20ng/ml A1248
 Inj Date : 23-NOV-97 02:07
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 20ng/ml A1248
 Misc Info : 20ng/ml A1248
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:03 gar Quant Type: ESTD
 Cal Date : 23-NOV-97 02:07 Cal File: 010f0201.d
 Als bottle: 1 Calibration Sample, Level: 1
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1248.sub
 Target Version: 3.10 Sample Matrix: SOIL

AMOUNTS						
			CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE RATIO
==	=====	=====	=====	=====	=====	=====
26 Aroclor-1248			CAS #: 12672-29-6			
20.217	20.217	0.000	17214	0	0	100.00(a)
22.084	22.084	0.000	20552	0	0.00- 20.00	119.39
22.304	22.304	0.000	22980	0	0.00- 20.00	133.50
Average of Peak Amounts =				0.022250		

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8			
13.008	13.029	-0.021	259106	0	0	100.00

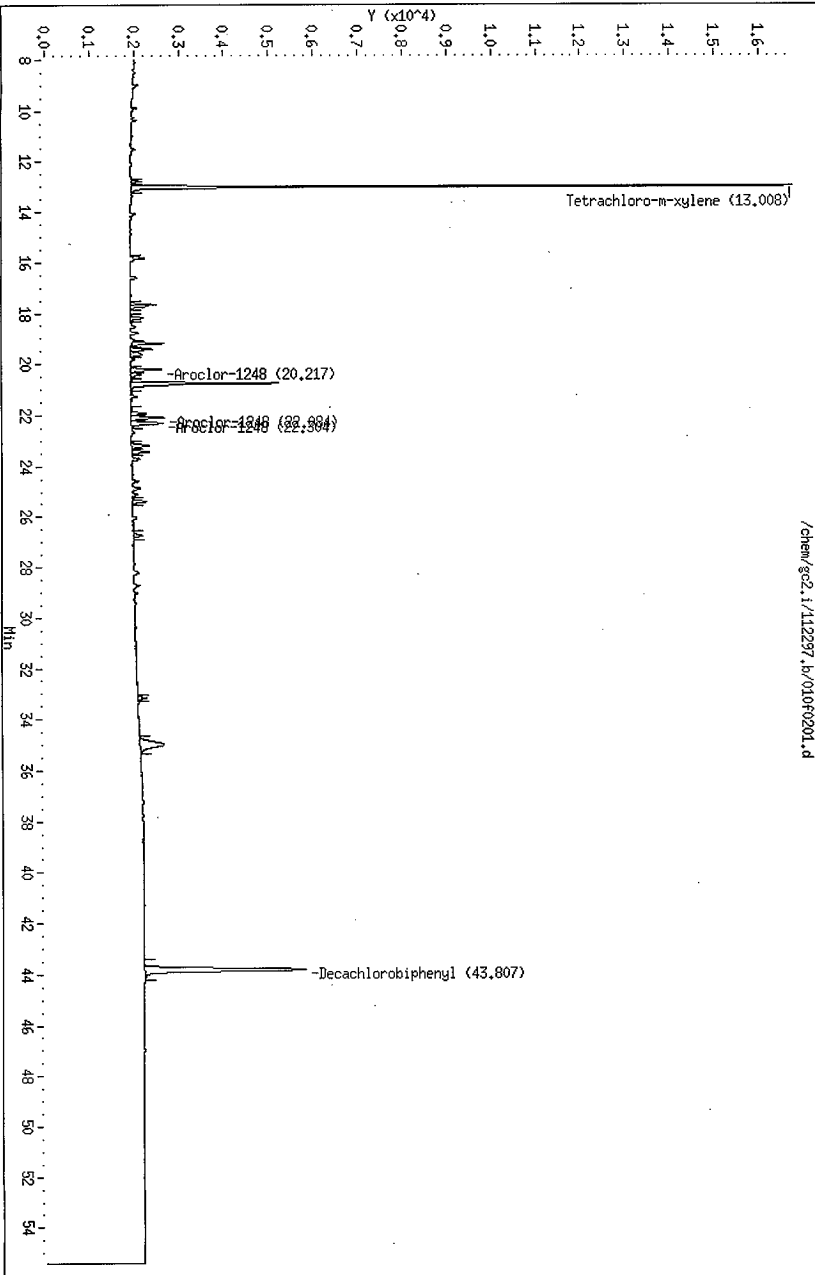
\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3			
43.807	43.887	-0.080	162240	0	0	100.00

QC Flag Legend

a - Target compound detected but, quantitated amount
 Below Limit Of Quantitation(BLOQ).

Data File: /chem/gc2.i/112297.b/010f0201.d
Date : 23-NOV-97 02:07
Client ID: 20ng/ml A1248
Sample Info: 20ng/ml A1248
Volume Injected (ul): 1.0
Column phase: Rt-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/011f0201.d
 Report Date: 03-Dec-1997 13:03

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Data file : /chem/gc2.i/112297.b/011f0201.d

Lab Smp Id: 400ng/ml A1254

Client Smp ID: 400ng/ml A1254

Inj Date : 23-NOV-97 03:11

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 400ng/ml A1254

Misc Info : 400ng/ml A1254

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:03 gar

Quant Type: ESTD

Cal Date : 23-NOV-97 03:11

Cal File: 011f0201.d

Als bottle: 1

Calibration Sample, Level: 5

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1254.sub

Target Version: 3.10

Sample Matrix: SOIL

AMOUNTS

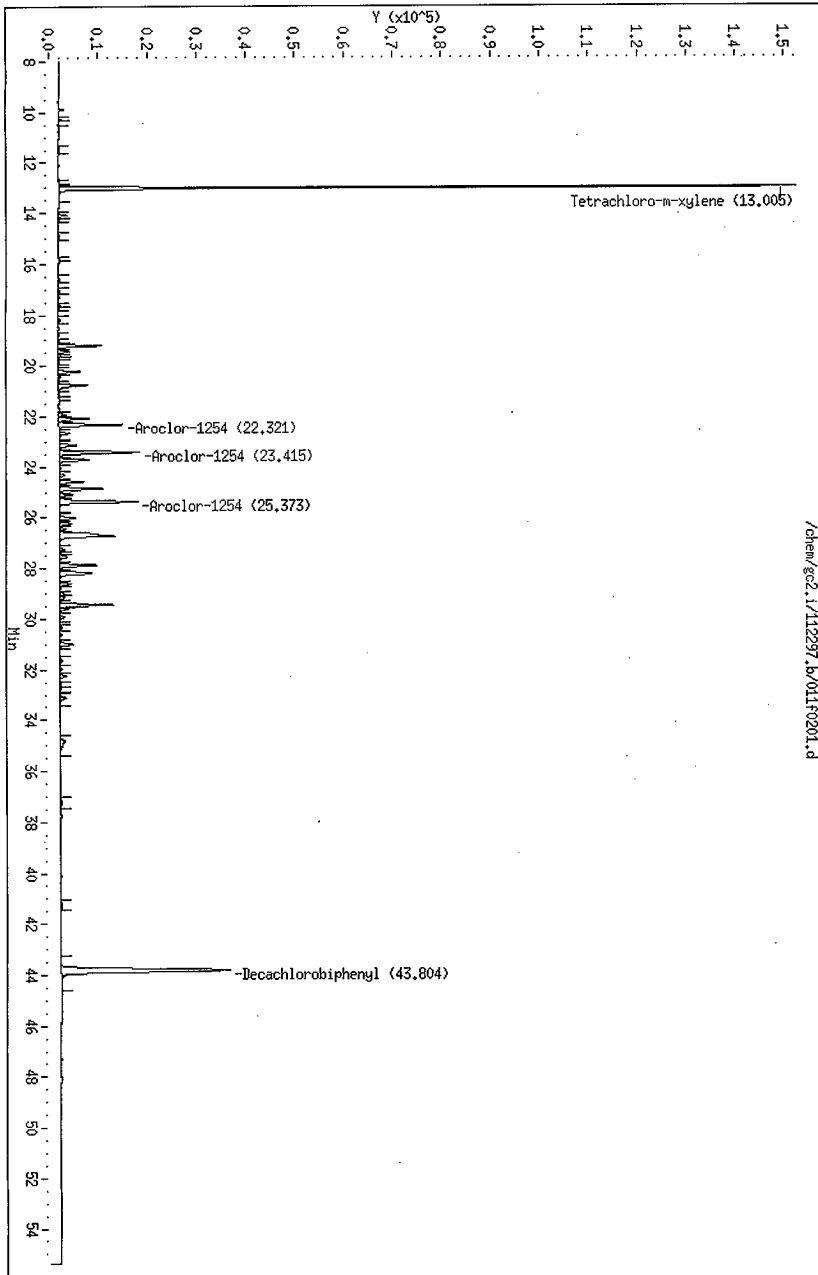
			CAL-AMT		ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO	
==	=====	=====	=====	=====	=====	=====	=====	
27 Aroclor-1254			CAS #: 11097-69-1					
22.321	22.321	0.000	356562	0.40000	0.44238		100.00	
23.415	23.415	0.000	482573	0.40000	0.44465	0.00- 20.00	135.34	
25.373	25.373	0.000	463919	0.40000	0.48294	0.00- 20.00	130.11	
Average of Peak Amounts =			0.45665					

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8					
13.005	13.029	-0.024	2769029	0.20000	0.14042		100.00	

\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3					
43.804	43.887	-0.083	1590525	0.20000	0.10519		100.00	

Data File: /chem/gc2.1/112297.b/011F0201.d
Date : 23-NOV-97 03:11
Client ID: 400g/ml R1254
Sample Info: 400g/ml R1254
Volume Injected (uL): 1.0
Column phase: Kt1-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/012f0201.d
 Report Date: 03-Dec-1997 13:03

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Data file : /chem/gc2.i/112297.b/012f0201.d

Lab Smp Id: 200ng/ml A1254

Client Smp ID: 200ng/ml A1254

Inj Date : 23-NOV-97 04:15

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 200ng/ml A1254

Misc Info : 200ng/ml A1254

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:03 gar

Quant Type: ESTD

Cal Date : 23-NOV-97 04:15

Cal File: 012f0201.d

Als bottle: 1

Calibration Sample, Level: 4

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1254.sub

Target Version: 3.10

Sample Matrix: SOIL

AMOUNTS

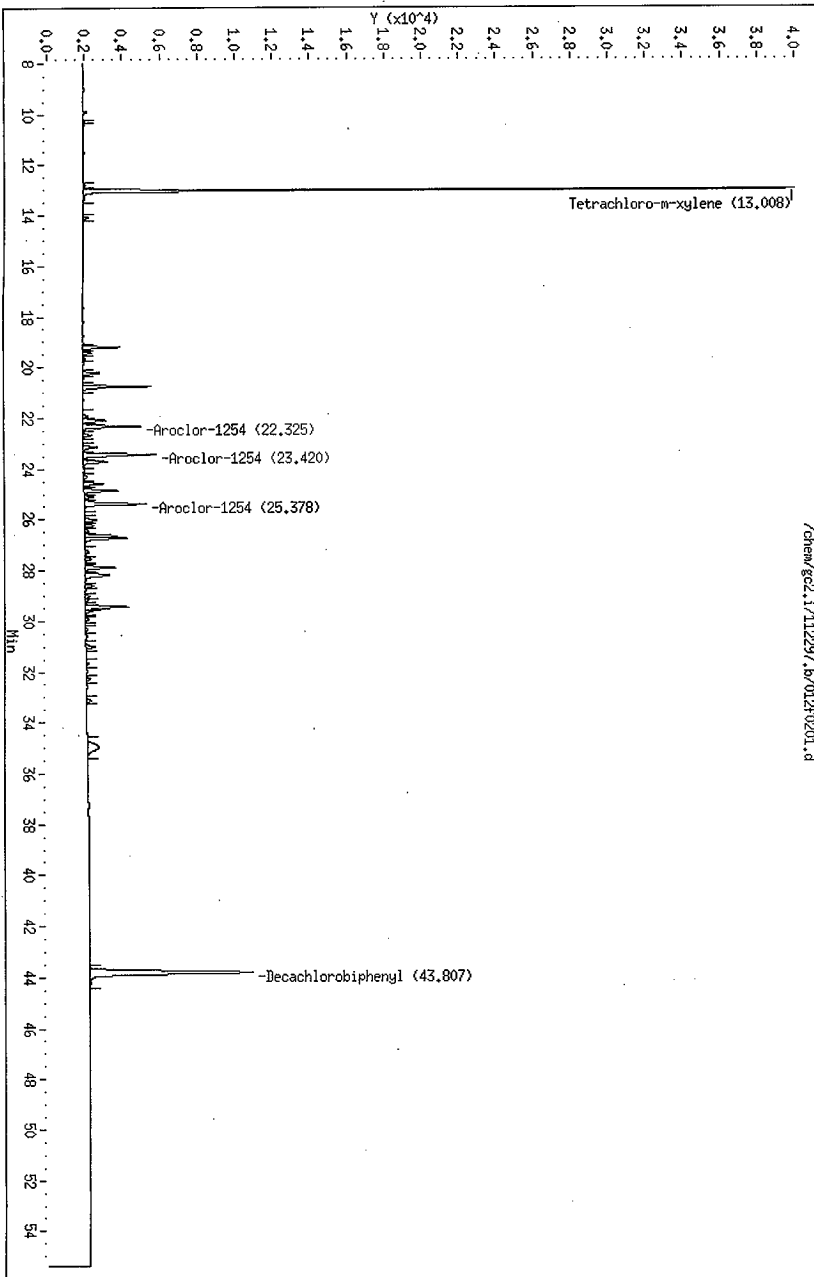
			CAL-AMT		ON-COL		TARGET RANGE	RATIO
RT	EXP RT	DLT RT	RESPONSE (	ng)	(	ng)		
=====			=====	=====	=====	=====	=====	=====
27 Aroclor-1254			CAS #: 11097-69-1					
22.325	22.325	0.000	83612	0.20000	0.10374			100.00
23.420	23.420	0.000	115119	0.20000	0.10607	0.00-	20.00	137.68
25.378	25.378	0.000	99636	0.20000	0.10372	0.00-	20.00	119.16
Average of Peak Amounts =					0.10451			

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8					
13.008	13.029	-0.021	682363	0.10000	0			100.00

\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3					
43.807	43.887	-0.080	400885	0.10000	0			100.00

Data File: /chem/gc2.i/112297.b/01240201.d
Date : 23-NOV-97 04:15
Client ID: 2006/ml R1254
Sample Info: 2006/ml R1254
Volume Injected (ul): 1.0
Column phase: Xtl-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/013f0201.d
 Report Date: 03-Dec-1997 13:04

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Data file : /chem/gc2.i/112297.b/013f0201.d
 Lab Smp Id: 100ng/ml A1254 Client Smp ID: 100ng/ml A1254
 Inj Date : 23-NOV-97 05:19
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 100ng/ml A1254
 Misc Info : 100ng/ml A1254
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:04 gar Quant Type: ESTD
 Cal Date : 23-NOV-97 05:19 Cal File: 013f0201.d
 Als bottle: 1 Calibration Sample, Level: 3
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1254.sub
 Target Version: 3.10 Sample Matrix: SOIL

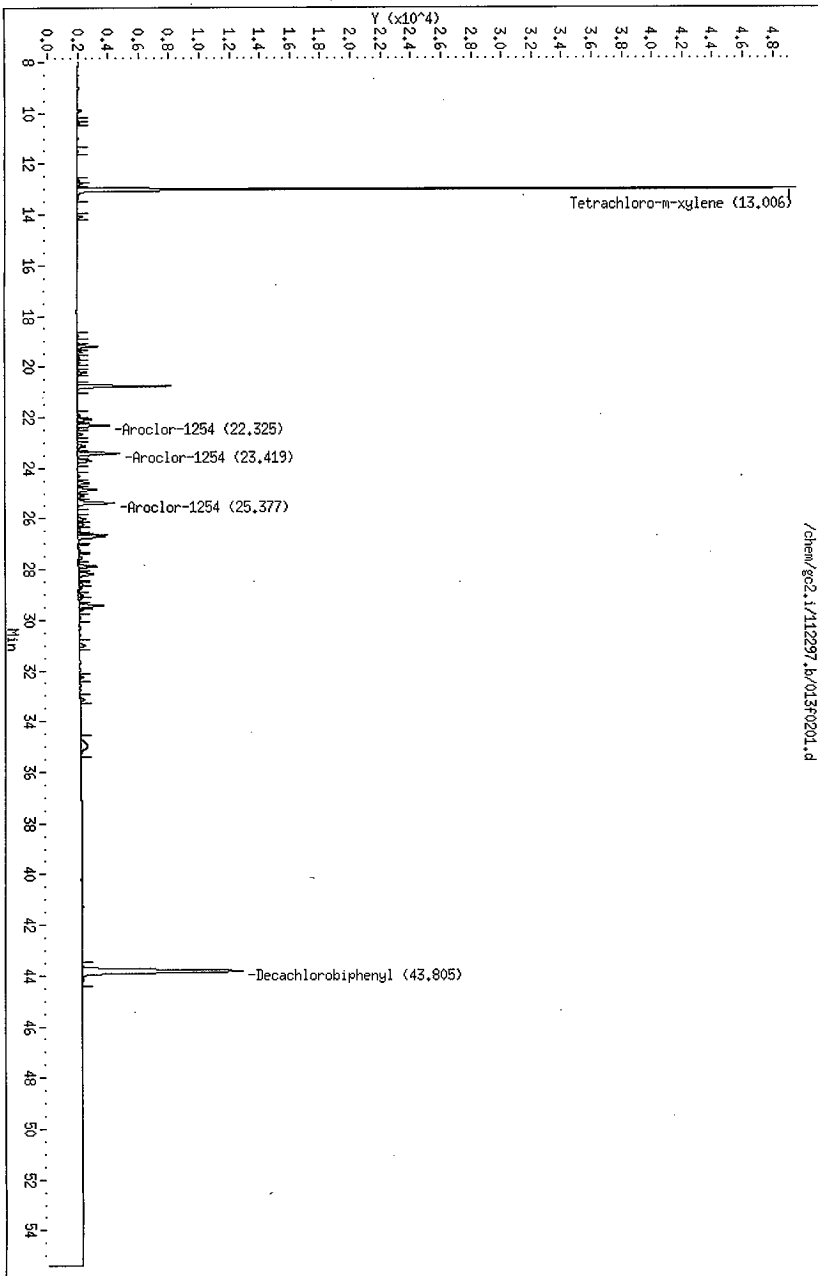
AMOUNTS							
			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
27 Aroclor-1254					CAS #: 11097-69-1		
22.325	22.325	0.000	59523	0.10000	0		100.00
23.419	23.419	0.000	82674	0.10000	0	0.00- 20.00	138.89
25.377	25.377	0.000	71651	0.10000	0	0.00- 20.00	120.38
Average of Peak Amounts =					0.074871		

\$ 29 Tetrachloro-m-xylene					CAS #: 877-09-8		
13.006	13.029	-0.023	848615	0	0		100.00

\$ 30 Decachlorobiphenyl					CAS #: 2051-24-3		
43.805	43.887	-0.082	488293	0	0		100.00

Data File: /chem/gc2.i/112297.b/013f0201.d
Date : 23-MAY-97 05:19
Client ID: 1006/ml R1254
Sample Info: 1006/ml R1254
Volume Injected (ul): 1.0
Column phase: K11-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/014f0201.d
 Report Date: 03-Dec-1997 13:04

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Data file : /chem/gc2.i/112297.b/014f0201.d

Lab Smp Id: 50ng/ml A1254

Client Smp ID: 50ng/ml A1254

Inj Date : 23-NOV-97 06:23

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 50ng/ml A1254

Misc Info : 50ng/ml A1254

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:04 gar

Quant Type: ESTD

Cal Date : 23-NOV-97 06:23

Cal File: 014f0201.d

Als bottle: 1

Calibration Sample, Level: 2

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1254.sub

Target Version: 3.10

Sample Matrix: SOIL

AMOUNTS

RT	EXP RT	DLT RT	RESPONSE (ng)	CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
27						CAS #: 11097-69-1	
22.325	22.325	0.000	40721	0	0		100.00
23.421	23.421	0.000	55160	0	0	0.00- 20.00	135.46
25.378	25.378	0.000	47356	0	0	0.00- 20.00	116.29
Average of Peak Amounts =				0.050215			

\$ 29 Tetrachloro-m-xylene

CAS #: 877-09-8

13.007 13.029 -0.022

584085

0

0

100.00

\$ 30 Decachlorobiphenyl

CAS #: 2051-24-3

43.806 43.887 -0.081

347920

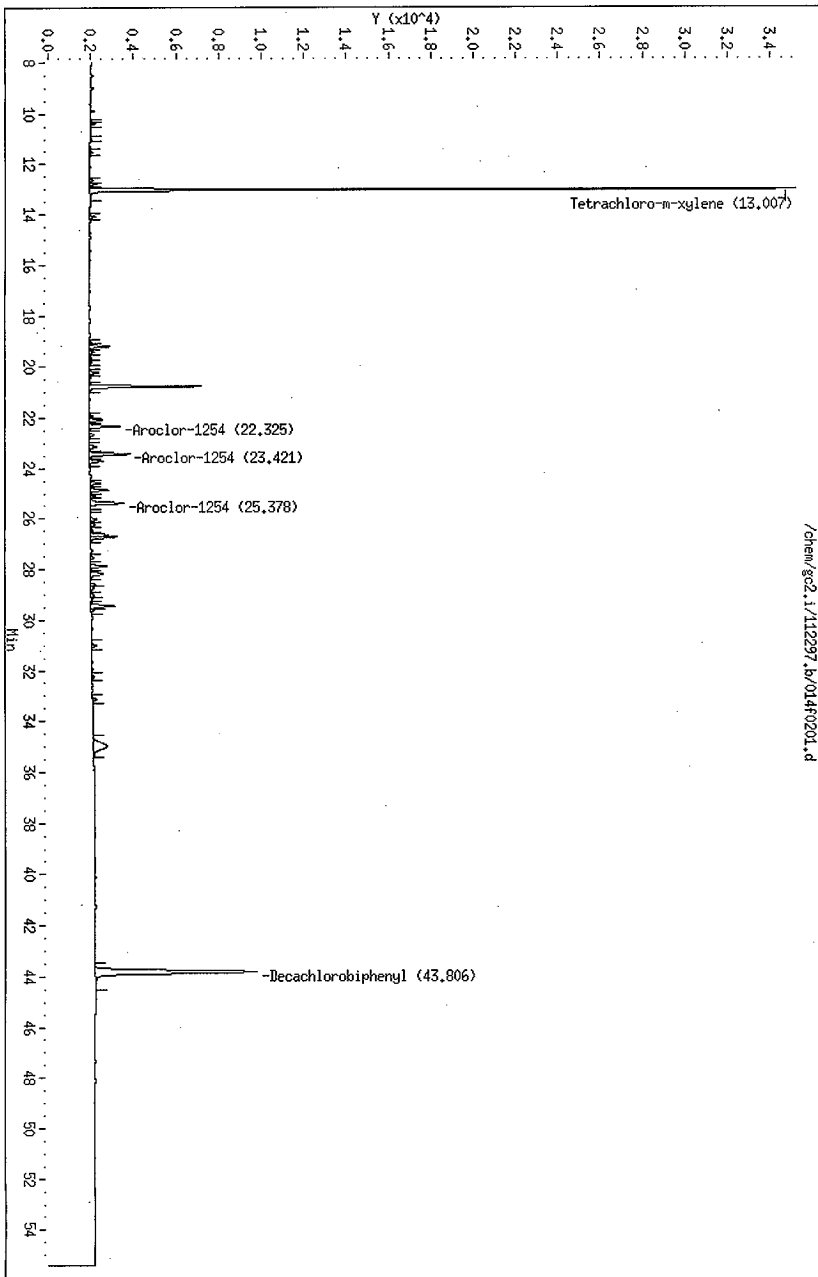
0

0

100.00

Data File: /chem/gc2.i/112297.b/014f0201.d
Date : 23-NOV-97 06:23
Client ID: 50ng/ml A1254
Sample Info: 50ng/ml A1254
Volume Injected (uL): 1.0
Column phase: Rt-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/015f0201.d
 Report Date: 03-Dec-1997 13:04

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Data file : /chem/gc2.i/112297.b/015f0201.d
 Lab Smp Id: 20ng/ml A1254 Client Smp ID: 20ng/ml A1254
 Inj Date : 23-NOV-97 07:27
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 20ng/ml A1254
 Misc Info : 20ng/ml A1254
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:04 gar Quant Type: ESTD
 Cal Date : 23-NOV-97 07:27 Cal File: 015f0201.d
 Als bottle: 1 Calibration Sample, Level: 1
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1254.sub
 Target Version: 3.10 Sample Matrix: SOIL

AMOUNTS

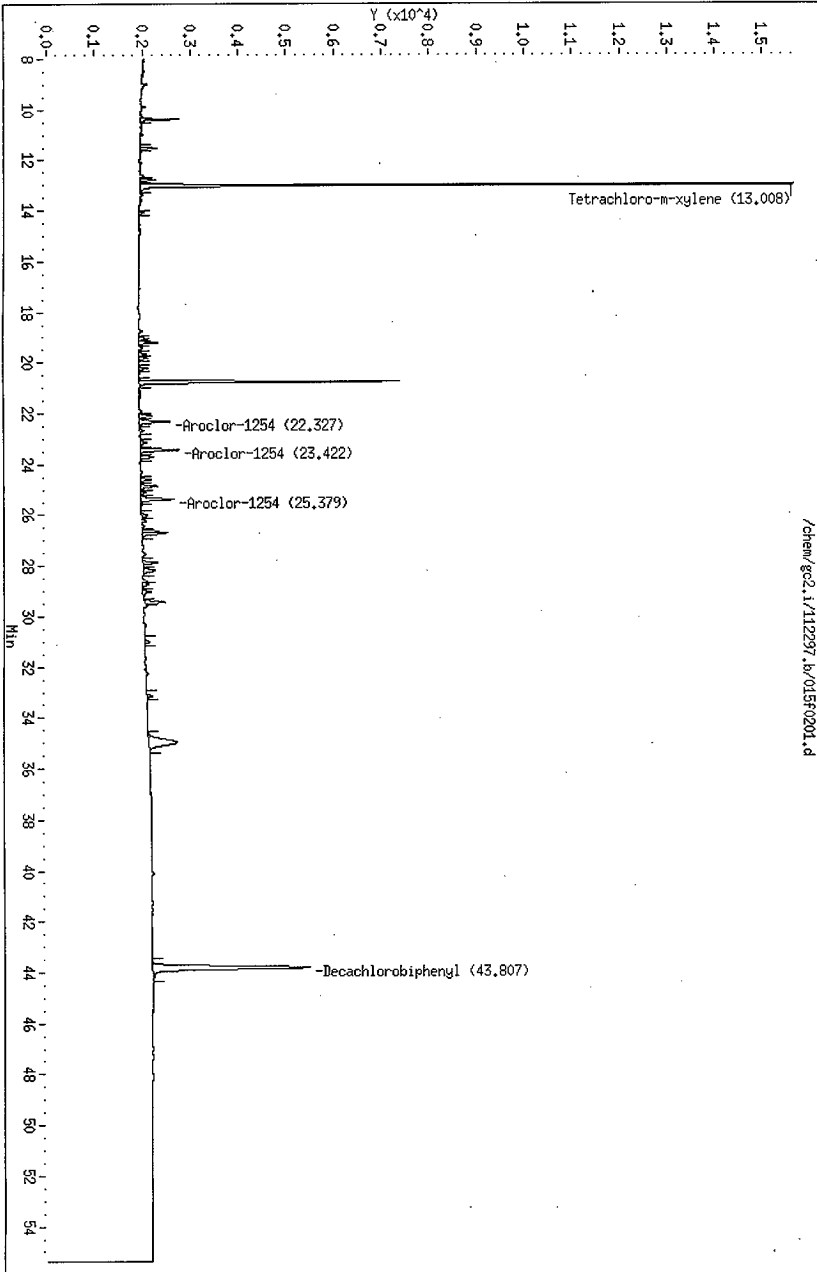
			CAL-AMT	ON-COL				
RT	EXP RT	DLT RT	RESPONSE (	ng)	(	ng)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====	=====
27 Aroclor-1254			CAS #: 11097-69-1					
22.327	22.327	0.000	18460	0	0			100.00
23.422	23.422	0.000	24096	0	0	0.00-	20.00	130.53
25.379	25.379	0.000	20381	0	0	0.00-	20.00	110.41
Average of Peak Amounts =				0.022107				

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8					
13.008	13.029	-0.021	238181	0	0			100.00

\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3					
43.807	43.887	-0.080	150566	0	0			100.00

Data File: /chem/gc2.i/112297.b/015f0201.d
Date : 23-MAY-97 07:27
Client ID: 20ng/ml A1254
Sample Info: 20ng/ml A1254
Volume Injected (ul): 1.0
Column phase: K11-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/016f0201.d
 Report Date: 03-Dec-1997 13:04

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Data file : /chem/gc2.i/112297.b/016f0201.d
 Lab Smp Id: 200ng/ml A1221 Client Smp ID: 200ng/ml A1221
 Inj Date : 23-NOV-97 08:31
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 200ng/ml A1221
 Misc Info : 200ng/ml A1221
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:04 gar Quant Type: ESTD
 Cal Date : 23-NOV-97 08:31 Cal File: 016f0201.d
 Als bottle: 1 Calibration Sample, Level: 4
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1221.sub
 Target Version: 3.10 Sample Matrix: SOIL

AMOUNTS							
			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
23 Aroclor-1221			CAS #: 11104-28-2				
13.658	13.658	0.000	47646	0.20000	0.20000		100.00(M)
14.022	14.022	0.000	48911	0.20000	0.20000	0.00- 20.00	102.65
14.238	14.238	0.000	118274	0.20000	0.20000	0.00- 20.00	248.23
Average of Peak Amounts =				0.20000			

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8				
13.005	13.029	-0.024	1459451	0.10000	0		100.00

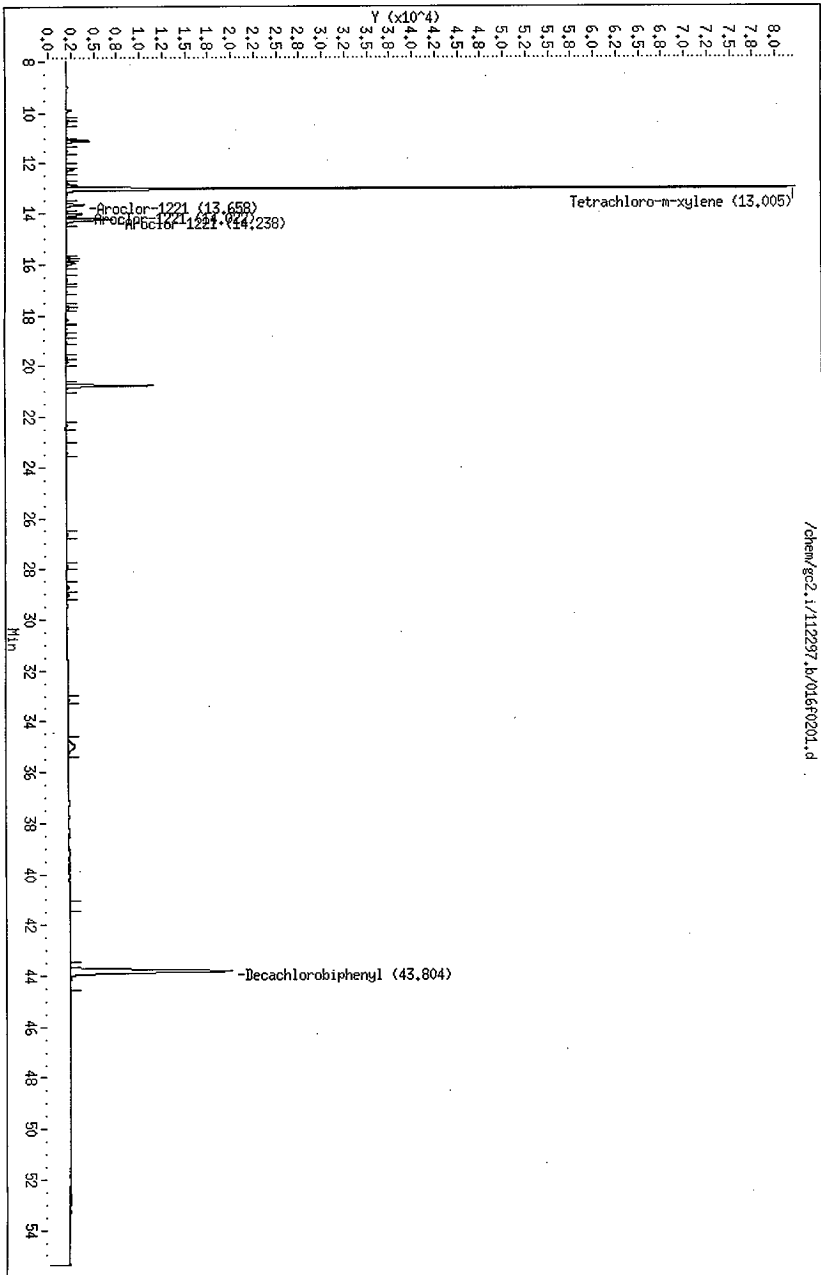
\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3				
43.804	43.887	-0.083	827766	0.10000	0		100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/gc2.1/112297.bv/016f0201.d
 Date : 23-NOV-97 08:31
 Client ID: 2006/m/1 A1221
 Sample Info: 2006/m/1 A1221
 Volume Injected (uL): 1.0
 Column phase: Rt-5

Instrument: gc2.1
 Operator: Gerald Ross
 Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/017f0201.d
 Report Date: 03-Dec-1997 13:04

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222-S Laboratory

Data file : /chem/gc2.i/112297.b/017f0201.d
 Lab Smp Id: 100ng/ml A1232 Client Smp ID: 100ng/ml A1232
 Inj Date : 23-NOV-97 09:35
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 100ng/ml A1232
 Misc Info : 100ng/ml A1232
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:04 gar Quant Type: ESTD
 Cal Date : 23-NOV-97 09:35 Cal File: 017f0201.d
 Als bottle: 1 Calibration Sample, Level: 3
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1232.sub
 Target Version: 3.10 Sample Matrix: SOIL

AMOUNTS							
			CAL-AMT		ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
24 Aroclor-1232			CAS #: 1114-16-5				
15.804	15.804	0.000	21560	0.10000	0.10000		100.00(M)
17.723	17.723	0.000	28246	0.10000	0.10000	0.00- 20.00	131.01
18.167	18.167	0.000	21241	0.10000	0.10000	0.00- 20.00	98.52
Average of Peak Amounts =					0.10000		

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8				
13.005	13.029	-0.024	971028	0	0		100.00

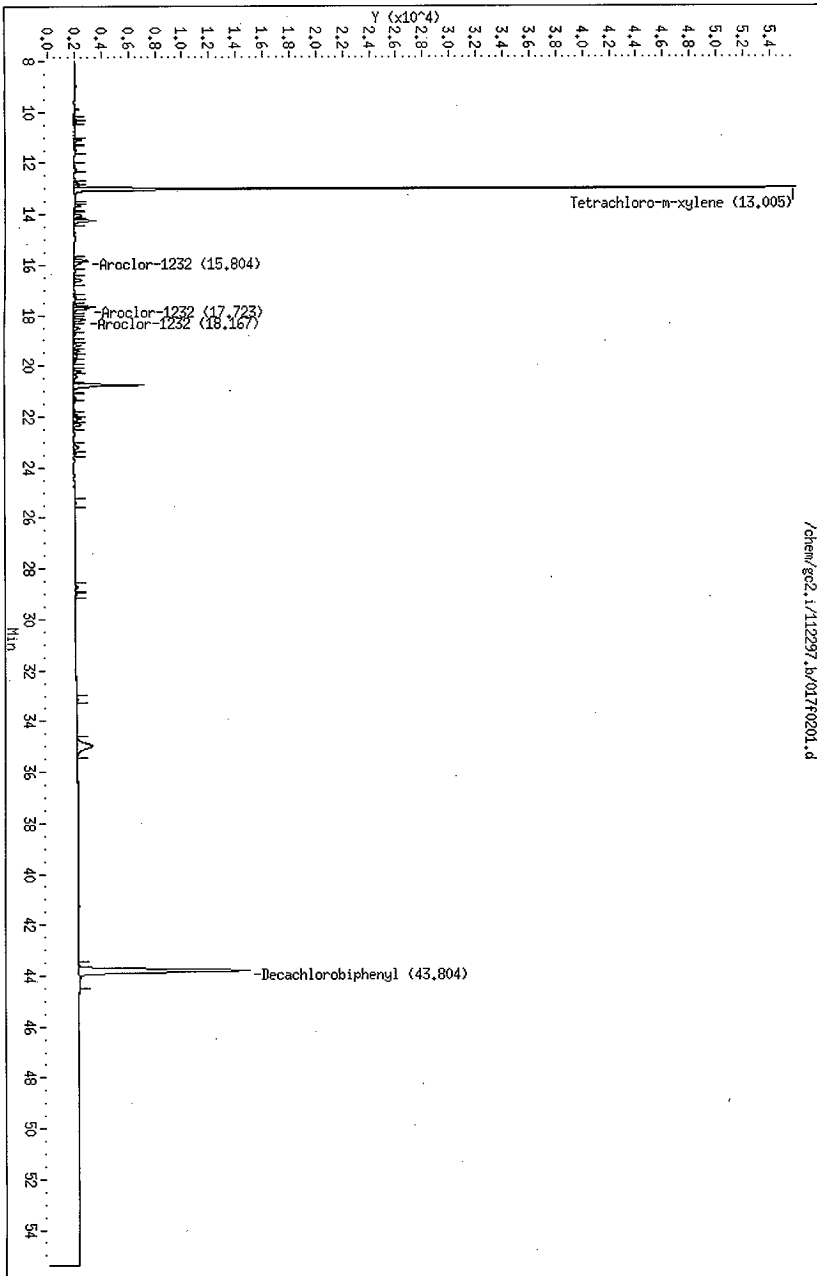
\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3				
43.804	43.887	-0.083	584622	0	0		100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/gc2.1/112297.b/017P0201.d
Date : 23-NOV-97 09:35
Client ID: 100mg/ml R1232
Sample Info: 100mg/ml R1232
Volume Injected (uL): 1.0
Column phase: Rt1-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/018f0201.d
 Report Date: 03-Dec-1997 13:04

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222-S Laboratory

Data file : /chem/gc2.i/112297.b/018f0201.d
 Lab Smp Id: 100ng/ml A1242 Client Smp ID: 100ng/ml A1242
 Inj Date : 23-NOV-97 10:39
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 100ng/ml A1242
 Misc Info : 100ng/ml A1242
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:04 gar Quant Type: ESTD
 Cal Date : 23-NOV-97 10:39 Cal File: 018f0201.d
 Als bottle: 1 Calibration Sample, Level: 3
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1242.sub
 Target Version: 3.10 Sample Matrix: SOIL

AMOUNTS						
			CAL-AMT		ON-COL	
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE
==	=====	=====	=====	=====	=====	=====
25 Aroclor-1242			CAS #: 53469-21-9			
17.725	17.725	0.000	23644	0.10000	0.10000	100.00(M)
18.168	18.168	0.000	19002	0.10000	0.10000	0.00- 20.00 80.37
20.217	20.217	0.000	14641	0.10000	0.10000	0.00- 20.00 61.92
Average of Peak Amounts =			0.10000			

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8			
13.008	13.029	-0.021	489394	0	0	100.00

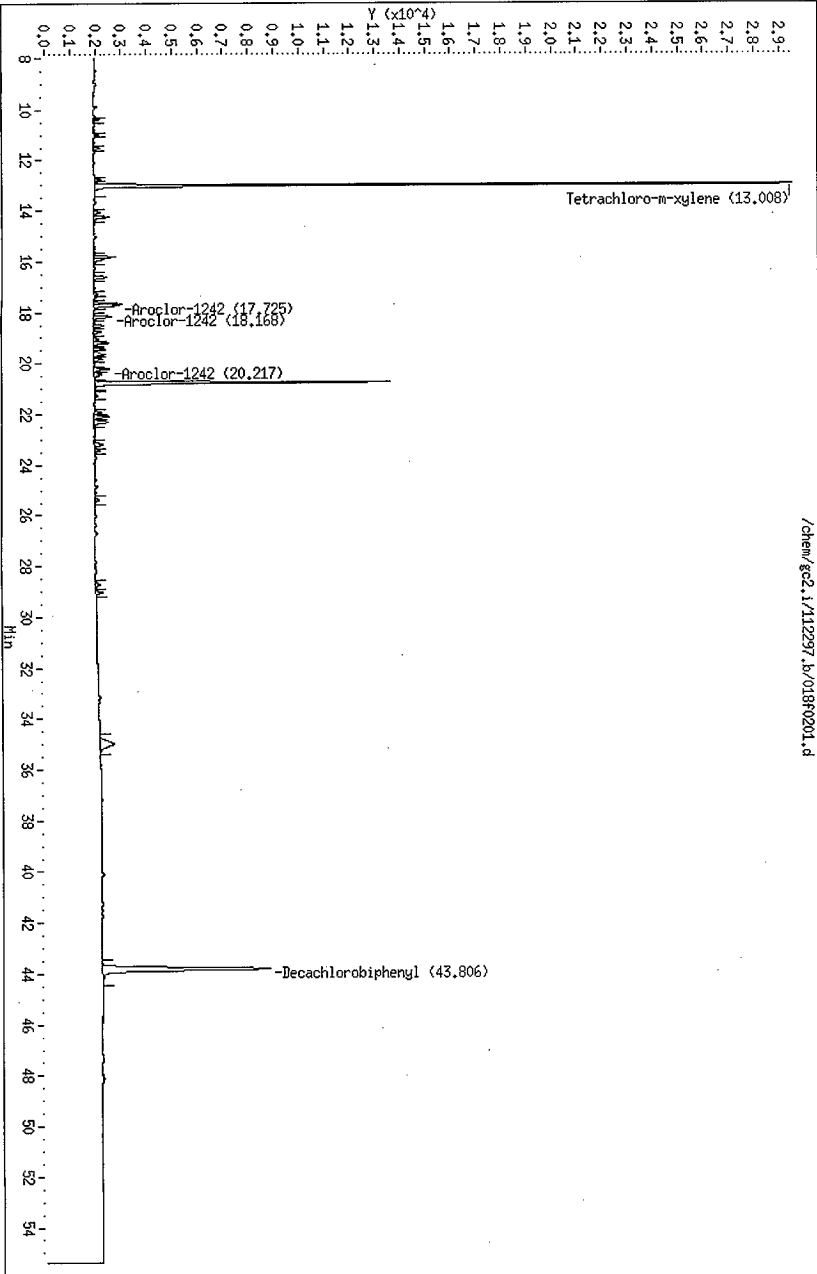
\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3			
43.806	43.887	-0.081	301856	0	0	100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/gc2.1/112297.b/018f0201.d
Date: 23-NOV-97 10:39
Client ID: 1006/ml R1242
Sample Info: 1006/ml R1242
Volume Injected (ul): 1.0
Column phase: Xti-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/019f0201.d
Report Date: 03-Dec-1997 13:05

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222-S Laboratory

Data file : /chem/gc2.i/112297.b/019f0201.d
Lab Smp Id: Inst.blnc Client Smp ID: Inst.blnc
Inj Date : 23-NOV-1997 11:43
Operator : Gerald Ross Inst ID: gc2.i
Smp Info : Inst.blnc
Misc Info : Inst.blnc
Comment :
Method : /chem/gc2.i/112297.b/rcrapcb.m
Meth Date : 03-Dec-1997 13:04 gar Quant Type: ESTD
Cal Date : 23-NOV-97 10:39 Cal File: 018f0201.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: AroclorS.sub
Target Version: 3.10 Sample Matrix: SOIL

				CONCENTRATIONS		TARGET RANGE	RATIO
				ON-COL	FINAL		
RT	EXP RT	DLT RT		RESPONSE (ng)	(ug/Kg)		
==	=====			=====	=====	=====	=====
\$ 29 Tetrachloro-m-xylene				CAS #: 877-09-8			
13.006	13.029	-0.023		877012	0 44.473	100.00(R)	

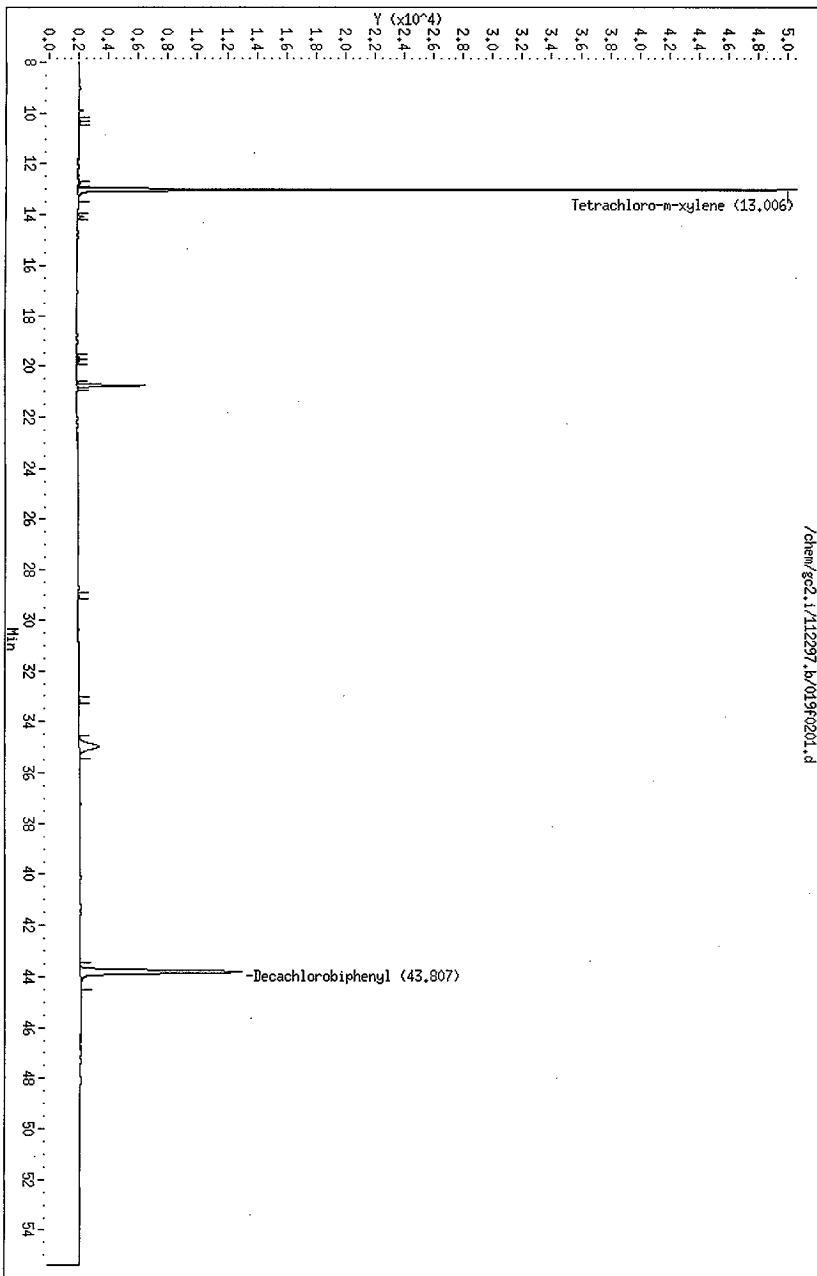
\$ 30 Decachlorobiphenyl				CAS #: 2051-24-3			
43.807	43.887	-0.080		499769	0 33.054	100.00(R)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/gc2.i/112297.b/019f0201.d
Date : 23-NOV-1997 11:43
Client ID: Inst.blink
Sample Info: Inst.blink
Volume Injected (uL): 1.0
Column phase: M1-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/019f0201.d
Report Date: 04-Dec-1997 07:33

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Data file : /chem/gc2.i/112297.b/019f0201.d
Lab Smp Id: Inst.blk Client Smp ID: Inst.blk
Inj Date : 23-NOV-1997 11:43
Operator : Gerald Ross Inst ID: gc2.i
Smp Info : Inst.blk
Misc Info : Inst.blk
Comment :
Method : /chem/gc2.i/112297.b/rcrapcb.m
Meth Date : 03-Dec-1997 13:20 gar Quant Type: ESTD
Cal Date : 23-NOV-1997 19:11 Cal File: 026f0201.d
Als bottle: 1
Dil Factor: 1.000
Integrator: HP Genie Compound Sublist: AroclorS.sub
Target Version: 3.10 Sample Matrix: SOIL

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (	ng)	(ug/Kg)	TARGET RANGE RATIO
==	=====	=====	=====	=====	=====	=====
\$ 29 Tetrachloro-m-xylene						
13.006	13.029	-0.023	877012	0	44.473	100.00(R)

\$ 30 Decachlorobiphenyl						
43.807	43.887	-0.080	499769	0	33.054	100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/gc2.1/112297.b/019f0201.d

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Date : 23-NOV-1997 11:43

Client ID: Inst.blink

Sample Info: Inst.blink

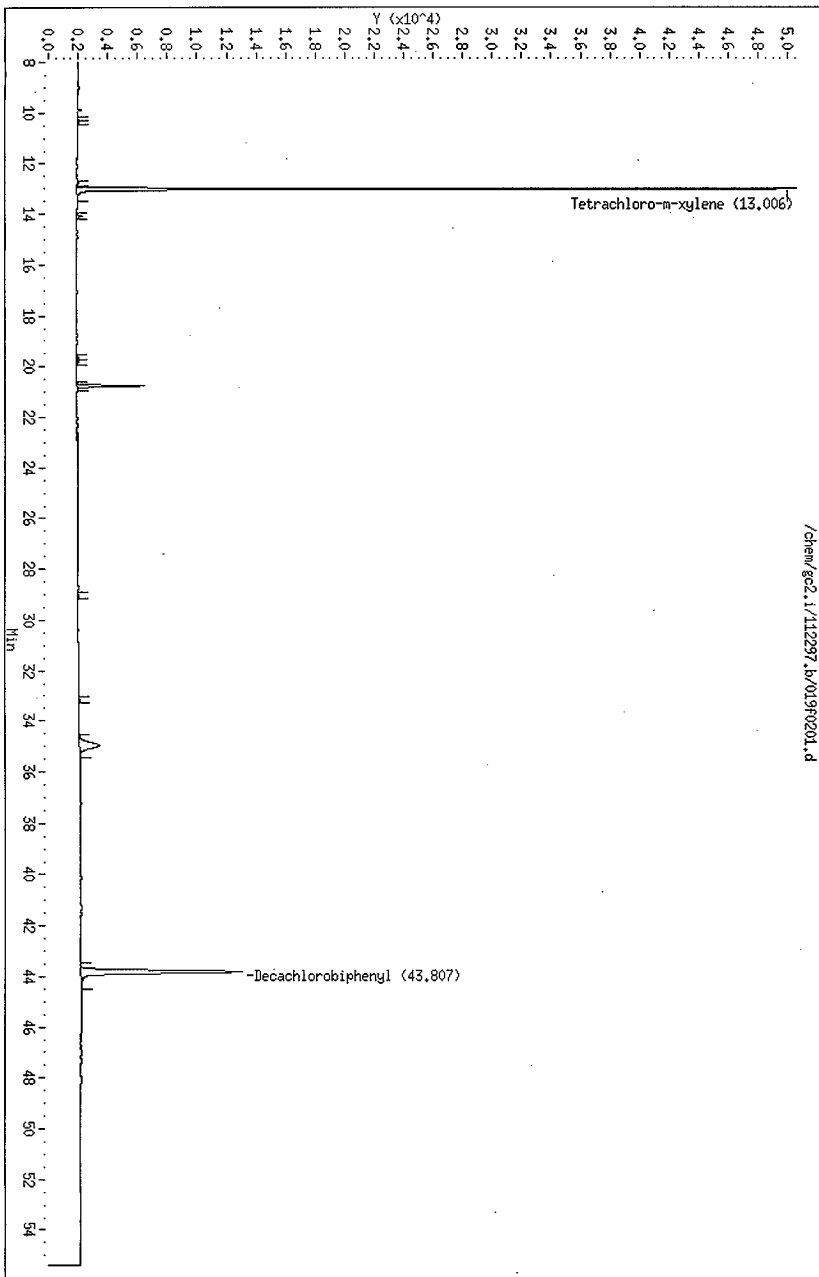
Volume Injected (ul): 1.0

Column phase: Rt-5

Instrument: gc2.1

Operator: Gerald Ross

Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/020f0201.d
 Report Date: 04-Dec-1997 07:33

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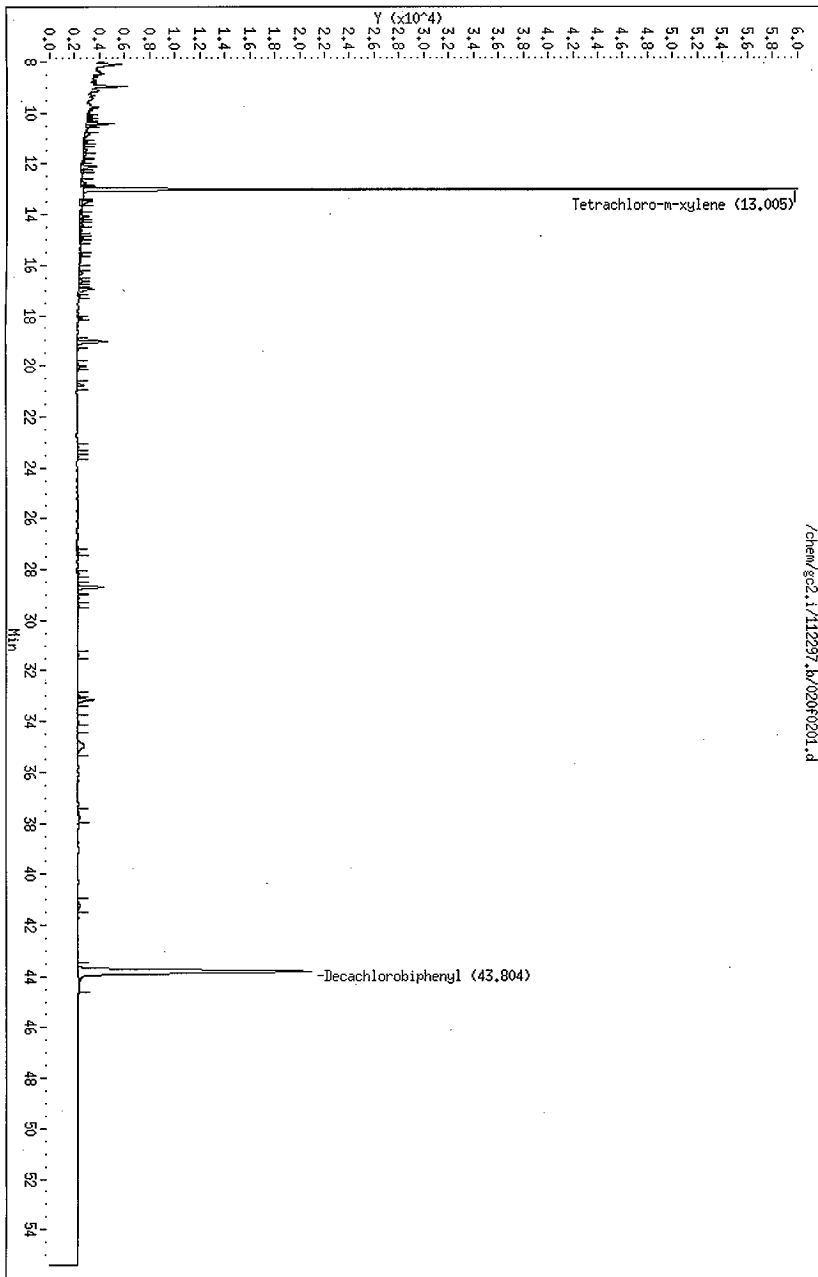
Data file : /chem/gc2.i/112297.b/020f0201.d
 Lab Smp Id: meth blk 00879 Client Smp ID: 000000879
 Inj Date : 23-NOV-1997 12:47
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : meth blk 00879
 Misc Info : 000000879
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:20 gar Quant Type: ESTD
 Cal Date : 23-NOV-1997 19:11 Cal File: 026f0201.d
 Als bottle: 1
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AroclorS.sub
 Target Version: 3.10 Sample Matrix: SOIL

CONCENTRATIONS							
			ON-COL		FINAL		
RT	EXP RT	DLT RT	RESPONSE (	ng)	(ug/Kg)	TARGET RANGE	RATIO
==	=====		=====	=====	=====	=====	=====
\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8				
13.005	13.029	-0.024	981573	0	49.776		100.00

\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3				
43.804	43.887	-0.083	852586	0	56.388		100.00

Data File: /chem/gc2.1/112297.b/020f0201.d
Date : 23-NOV-1997 12:47
Client ID: 000000879
Sample Info: meth brk 00879
Volume Injected (uL): 1.0
Column phase: Rt1-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/021f0201.d
 Report Date: 04-Dec-1997 07:33

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Data file : /chem/gc2.i/112297.b/021f0201.d
 Lab Smp Id: LCS spk 00881 Client Smp ID: 000000881
 Inj Date : 23-NOV-1997 13:51
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : LCS spk 00881
 Misc Info : 000000881
 Comment :
 Method : /chem/gc2.i/112297.b/rcrapcb.m
 Meth Date : 03-Dec-1997 13:20 gar Quant Type: ESTD
 Cal Date : 23-NOV-1997 19:11 Cal File: 026f0201.d
 Als bottle: 1
 Dil Factor: 1.000
 Integrator: HP Genie Compound Sublist: AR1248.sub
 Target Version: 3.10 Sample Matrix: SOIL

CONCENTRATIONS						
			ON-COL		FINAL	
RT	EXP RT	DLT RT	RESPONSE (	ng)	(ug/Kg)	TARGET RANGE RATIO
==	=====	=====	=====	=====	=====	=====
26 Aroclor-1248 CAS #: 12672-29-6						
20.214	20.217	-0.003	45262	0	58.050	100.00
22.075	22.084	-0.009	54288	0	59.146	0.00- 20.00 119.94
22.292	22.304	-0.012	61459	0	59.587	0.00- 20.00 135.78
Average of Peak Concentrations = 58.928						

\$ 29 Tetrachloro-m-xylene CAS #: 877-09-8						
13.006	13.029	-0.023	769131	0	39.002	100.00(R)

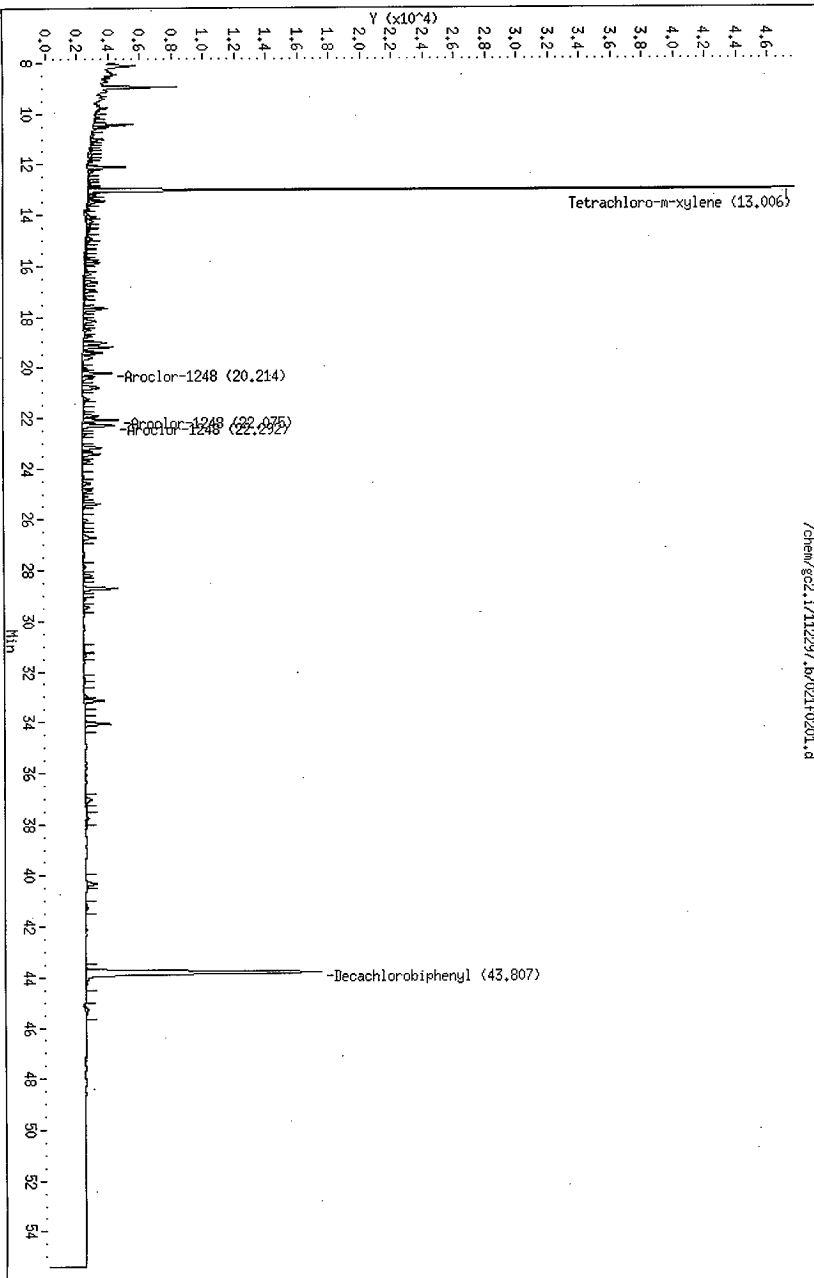
\$ 30 Decachlorobiphenyl CAS #: 2051-24-3						
43.807	43.887	-0.080	676297	0	44.729	100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/gc2.1/112297.b/021f0201.d
Date : 23-MAY-1997 13:51
Client ID: 000000881
Sample Info: LCS sk 00881
Volume Injected (ul): 1.0
Column phase: Kti-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/022f0201.d
 Report Date: 04-Dec-1997 07:34

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Data file : /chem/gc2.i/112297.b/022f0201.d

Lab Smp Id: S97S00184

Client Smp ID: S97S00184

Inj Date : 23-NOV-1997 14:55

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : S97S00184

Misc Info : 00883

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:20 gar

Quant Type: ESTD

Cal Date : 23-NOV-1997 19:11

Cal File: 026f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: SOIL

CONCENTRATIONS									
RT	EXP RT	DLT RT	ON-COL		FINAL		TARGET RANGE	RATIO	
			RESPONSE	(ng)	(ug/Kg)				
==	=====	=====	=====	=====	=====		=====	=====	
22 Aroclor-1016					CAS #: 12674-11-2				
15.692	15.803	-0.111	25808	0	119.35				100.00(M)
16.603	16.609	-0.006	26762	0	154.21	0.00-	20.00		103.70
17.652	17.720	-0.068	57058	0	188.49	0.00-	20.00		221.09
Average of Peak Concentrations =					154.02				

26 Aroclor-1248					CAS #: 12672-29-6				
20.212	20.217	-0.005	53852	0	133.08				100.00
22.078	22.084	-0.006	108280	0.11797	227.30	0.00-	20.00		201.07
22.306	22.304	0.002	98132	0	183.32	0.00-	20.00		182.23
Average of Peak Concentrations =					181.23				

27 Aroclor-1254					CAS #: 11097-69-1				
22.306	22.327	-0.021	98132	0.12175	234.58				100.00
23.422	23.422	0.000	142030	0.13087	252.15	0.00-	20.00		144.73
25.380	25.379	0.001	114047	0.11872	228.75	0.00-	20.00		116.22
Average of Peak Concentrations =					238.50				

28 Aroclor-1260					CAS #: 11096-82-5				
26.711	26.628	0.083	138573	0.18520	356.84				100.00(M)
27.873	27.871	0.002	70592	0	177.06	0.00-	20.00		50.94
29.437	29.432	0.005	90756	0.13722	264.39	0.00-	20.00		65.49
Average of Peak Concentrations =					266.10				

\$ 29 Tetrachloro-m-xylene					CAS #: 877-09-8				
13.007	13.029	-0.022	1107201	0	108.18				100.00(M)

\$ 30 Decachlorobiphenyl					CAS #: 2051-24-3				
43.809	43.887	-0.078	911466	0	116.15				100.00

Data File: /chem/gc2.i/112297.b/022f0201.d
Report Date: 04-Dec-1997 07:34

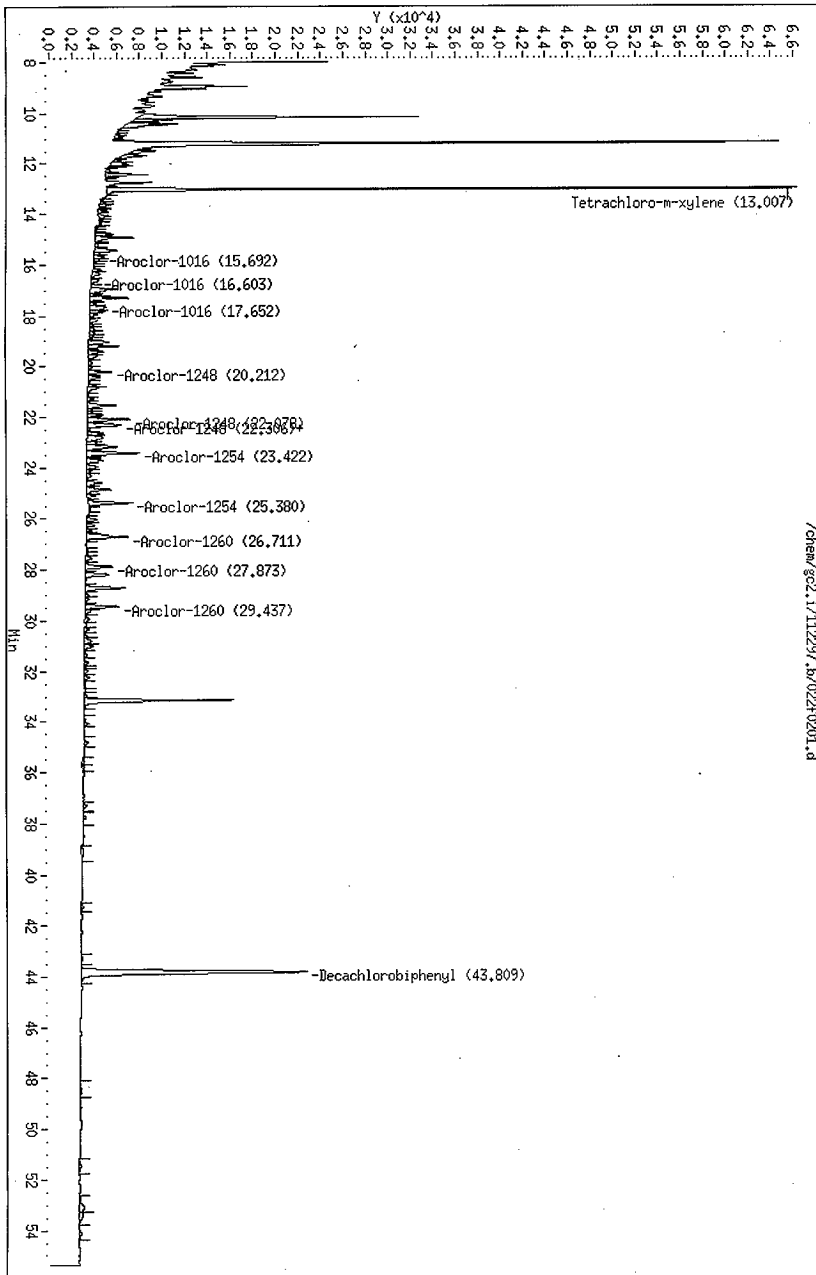
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QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/gc2.1/112297.b/022f0201.d
Date : 23-NOV-1997 14:55
Client ID: S97500184
Sample Info: S97500184
Volume Injected (ul): 1.0
Column phase: K11-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/023f0201.d
 Report Date: 04-Dec-1997 07:34

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Data file : /chem/gc2.i/112297.b/023f0201.d

Lab Smp Id: S97S00184D

Client Smp ID: S97S00184D

Inj Date : 23-NOV-1997 15:59

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : S97S00184

Misc Info : 00885

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:20 gar

Quant Type: ESTD

Cal Date : 23-NOV-1997 19:11

Cal File: .026f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: SOIL

CONCENTRATIONS

RT	EXP RT	DLT RT	RESPONSE (ng)	ON-COL	FINAL (ug/Kg)	TARGET RANGE	RATIO
==	=====		=====		=====	=====	=====
22 Aroclor-1016					CAS #: 12674-11-2		
15.798	15.803	-0.005	22390	0	103.95	100.00(M)	
16.601	16.609	-0.008	44548	0.13323	257.70	0.00- 20.00	198.96
17.654	17.720	-0.066	112040	0.19209	371.55	0.00- 20.00	500.40
Average of Peak Concentrations =					244.40		
26 Aroclor-1248					CAS #: 12672-29-6		
20.212	20.217	-0.005	99621	0.12777	247.13	100.00	
22.077	22.084	-0.007	197709	0.21540	416.64	0.00- 20.00	198.46
22.304	22.304	0.000	179487	0.17402	336.59	0.00- 20.00	180.17
Average of Peak Concentrations =					333.45		
27 Aroclor-1254					CAS #: 11097-69-1		
22.304	22.327	-0.023	179487	0.22268	430.72	100.00	
23.421	23.422	-0.001	247117	0.22770	440.42	0.00- 20.00	137.68
25.380	25.379	0.001	201584	0.20985	405.90	0.00- 20.00	112.31
Average of Peak Concentrations =					425.68		
28 Aroclor-1260					CAS #: 11096-82-5		
26.657	26.628	0.029	66435	0	171.74	100.00(M)	
27.872	27.871	0.001	124473	0.16204	313.42	0.00- 20.00	187.36
29.435	29.432	0.003	171467	0.25925	501.45	0.00- 20.00	258.10
Average of Peak Concentrations =					328.87		
\$ 29 Tetrachloro-m-xylene					CAS #: 877-09-8		
13.007	13.029	-0.022	1413356	0	138.63	100.00(M)	
\$ 30 Decachlorobiphenyl					CAS #: 2051-24-3		
43.809	43.887	-0.078	1102718	0	141.06	100.00	

Data File: /chem/gc2.i/112297.b/023f0201.d
Report Date: 04-Dec-1997 07:34

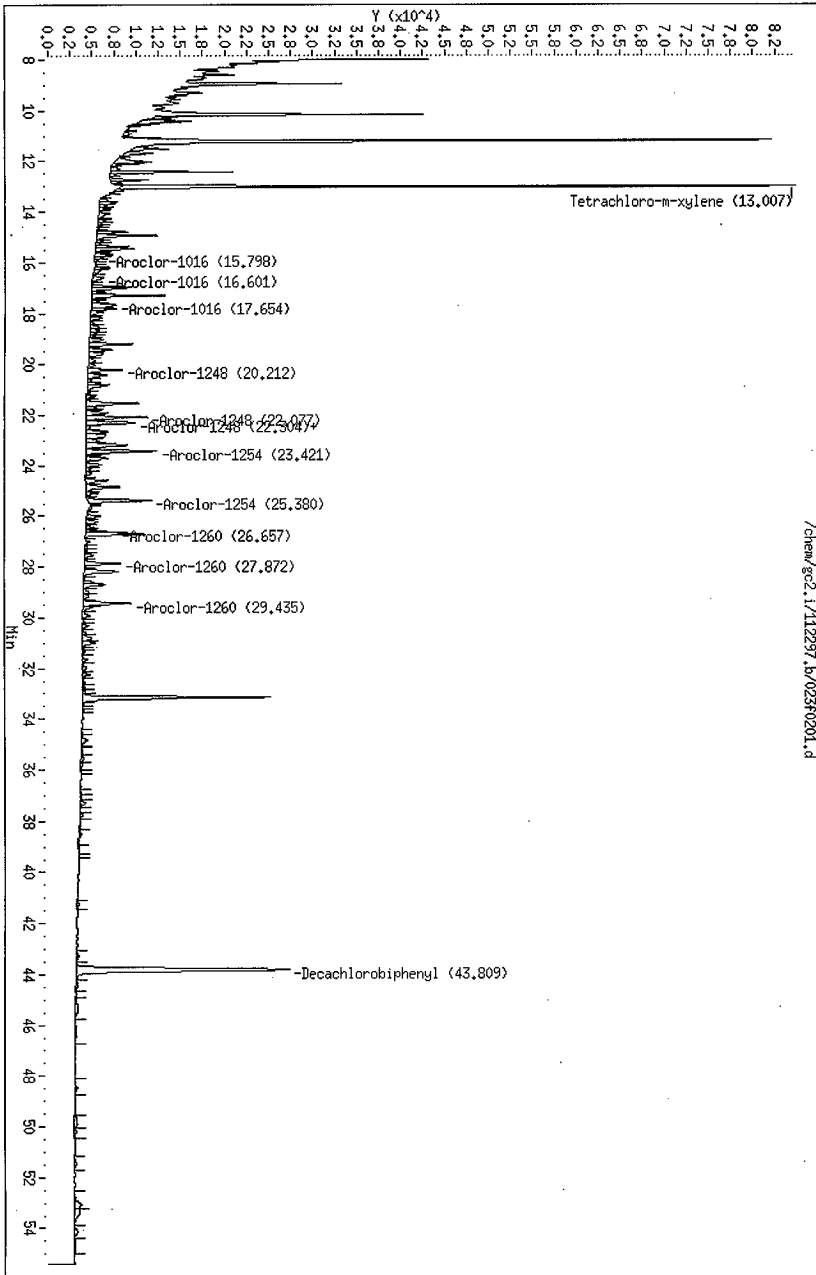
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QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: /chem/ge2.i/112297.b/023f0201.d
Date : 23-NOV-1997 15:59
Client ID: S97500184D
Sample Info: S97500184
Volume Injected (ul): 1.0
Column phase: Rt-1-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/024f0201.d
 Report Date: 04-Dec-1997 07:34

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222-S Laboratory

Data file : /chem/gc2.i/112297.b/024f0201.d

Lab Smp Id: S97S00184MS

Client Smp ID: S97S00184MS

Inj Date : 23-NOV-1997 17:03

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : S97S00184MS

Misc Info : 000000887

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:20 gar

Quant Type: ESTD

Cal Date : 23-NOV-1997 19:11

Cal File: 026f0201.d

Als bottle: 1

QC Sample: MS

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: SOIL

CONCENTRATIONS

			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE (ng)	(ug/Kg)	TARGET RANGE	RATIO	
==	=====		=====	=====	=====	=====	=====
22 Aroclor-1016				CAS #: 12674-11-2			
15.799	15.803	-0.004	65119 0.15630	299.14			100.00(R)
16.605	16.609	-0.004	67927 0.20315	388.80	0.00- 20.00		104.31
17.714	17.720	-0.006	98807 0.16940	324.22	0.00- 20.00		151.73
Average of Peak Concentrations =				337.38			

26 Aroclor-1248				CAS #: 12672-29-6			
20.212	20.217	-0.005	99820 0.12802	245.02			100.00
22.076	22.084	-0.008	148626 0.16193	309.91	0.00- 20.00		148.89
22.310	22.304	0.006	168655 0.16352	312.95	0.00- 20.00		168.96
Average of Peak Concentrations =				289.29			

27 Aroclor-1254				CAS #: 11097-69-1			
22.310	22.327	-0.017	168655 0.20924	400.47			100.00
23.420	23.422	-0.002	205117 0.18900	361.72	0.00- 20.00		121.62
25.379	25.379	0.000	199009 0.20717	396.49	0.00- 20.00		118.00
Average of Peak Concentrations =				386.23			

28 Aroclor-1260				CAS #: 11096-82-5			
26.631	26.628	0.003	123320 0.16481	315.44			100.00(R)
27.870	27.871	-0.001	178878 0.23286	445.67	0.00- 20.00		145.05
29.433	29.432	0.001	197509 0.29862	571.53	0.00- 20.00		160.16
Average of Peak Concentrations =				444.21			

\$ 29 Tetrachloro-m-xylene				CAS #: 877-09-8			
13.007	13.029	-0.022	1127656	0	109.44		100.00(M)

\$ 30 Decachlorobiphenyl				CAS #: 2051-24-3			
43.810	43.887	-0.077	850981	0	107.72		100.00

Data File: /chem/gc2.i/112297.b/024f0201.d
Report Date: 04-Dec-1997 07:34

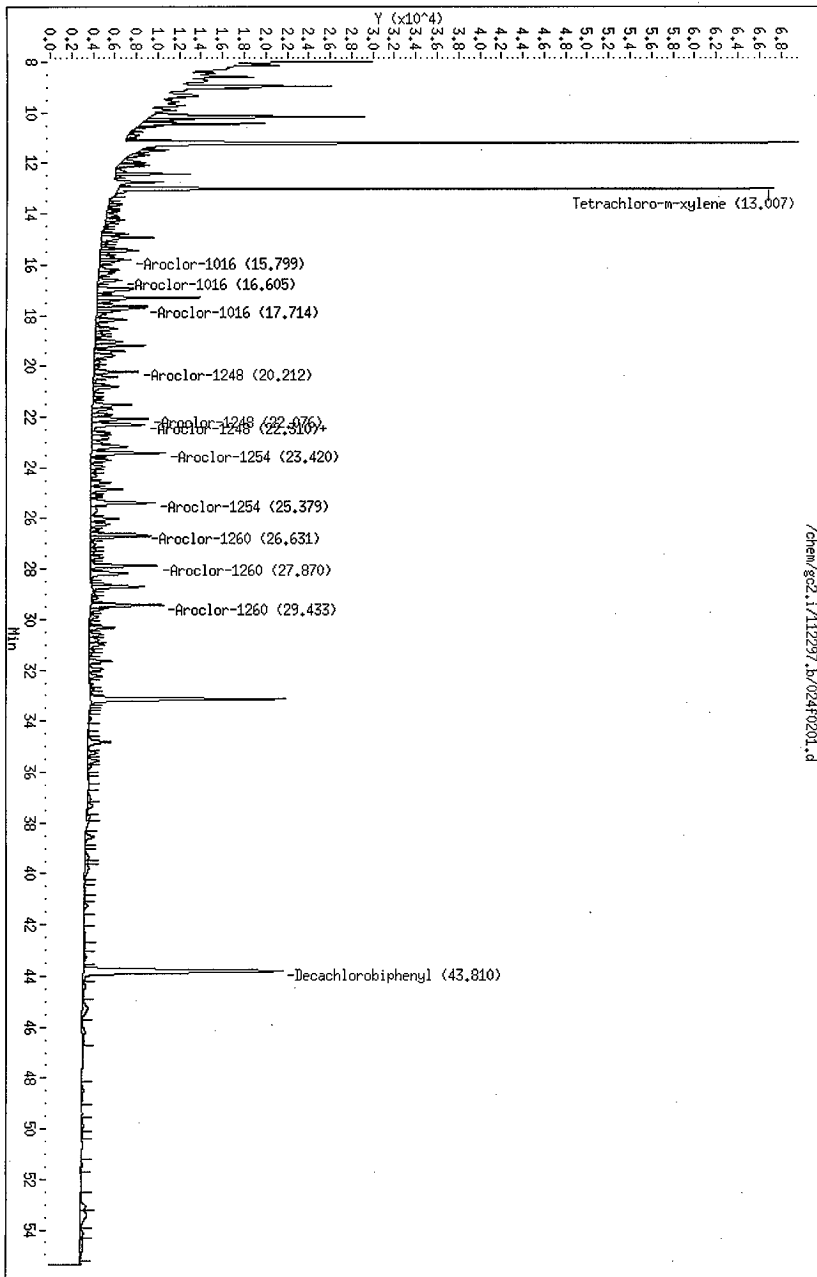
Page 2

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/gc2.i/112297.b/024f0201.d
Date : 23-NOV-1997 17:03
Client ID: S97500184MS
Sample Info: S97500184MS
Volume Injected (uL): 1.0
Column phase: Xlt-5

Instrument: gc2.i
Operator: Gerald Ross
Column diameter: 0.25



Data File: /chem/gc2.i/112297.b/025f0201.d
 Report Date: 04-Dec-1997 07:34

Page 1

222-S Laboratory

Data file : /chem/gc2.i/112297.b/025f0201.d

Lab Smp Id: S97S00184MSD

Client Smp ID: S97S00184MSD

Inj Date : 23-NOV-1997 18:07

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : S97S00184MSD

Misc Info : 00889

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:20 gar

Quant Type: ESTD

Cal Date : 23-NOV-1997 19:11

Cal File: 026f0201.d

Als bottle: 1

QC Sample: MSD

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: SOIL

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	RATIO
==	=====		RESPONSE (ng)	(ug/Kg)	=====	=====
22 Aroclor-1016				CAS #:	12674-11-2	
15.796	15.803	-0.007	87277 0.20948	399.77		100.00(R)
16.610	16.609	0.001	108073 0.32321	616.81	0.00- 20.00	123.83
17.712	17.720	-0.008	118407 0.20301	387.42	0.00- 20.00	135.67
Average of Peak Concentrations =				468.00		
26 Aroclor-1248				CAS #:	12672-29-6	
20.211	20.217	-0.006	107107 0.13737	262.15		100.00
22.076	22.084	-0.008	121829 0.13273	253.30	0.00- 20.00	113.75
22.309	22.304	0.005	143892 0.13951	266.24	0.00- 20.00	134.34
Average of Peak Concentrations =				260.56		
27 Aroclor-1254				CAS #:	11097-69-1	
22.309	22.327	-0.018	143892 0.17852	340.69		100.00
23.418	23.422	-0.004	194540 0.17925	342.08	0.00- 20.00	135.20
25.378	25.379	-0.001	213737 0.22250	424.62	0.00- 20.00	148.54
Average of Peak Concentrations =				369.13		
28 Aroclor-1260				CAS #:	11096-82-5	
26.631	26.628	0.003	143072 0.19121	364.91		100.00(R)
27.870	27.871	-0.001	202533 0.26366	503.16	0.00- 20.00	141.56
29.433	29.432	0.001	235656 0.35630	679.96	0.00- 20.00	164.71
Average of Peak Concentrations =				516.01		
\$ 29 Tetrachloro-m-xylene				CAS #:	877-09-8	
13.007	13.029	-0.022	1364986 0	132.10		100.00(M)
\$ 30 Decachlorobiphenyl				CAS #:	2051-24-3	
43.811	43.887	-0.076	1017966 0	128.48		100.00

Data File: /chem/gc2.i/112297.b/025f0201.d
Report Date: 04-Dec-1997 07:34

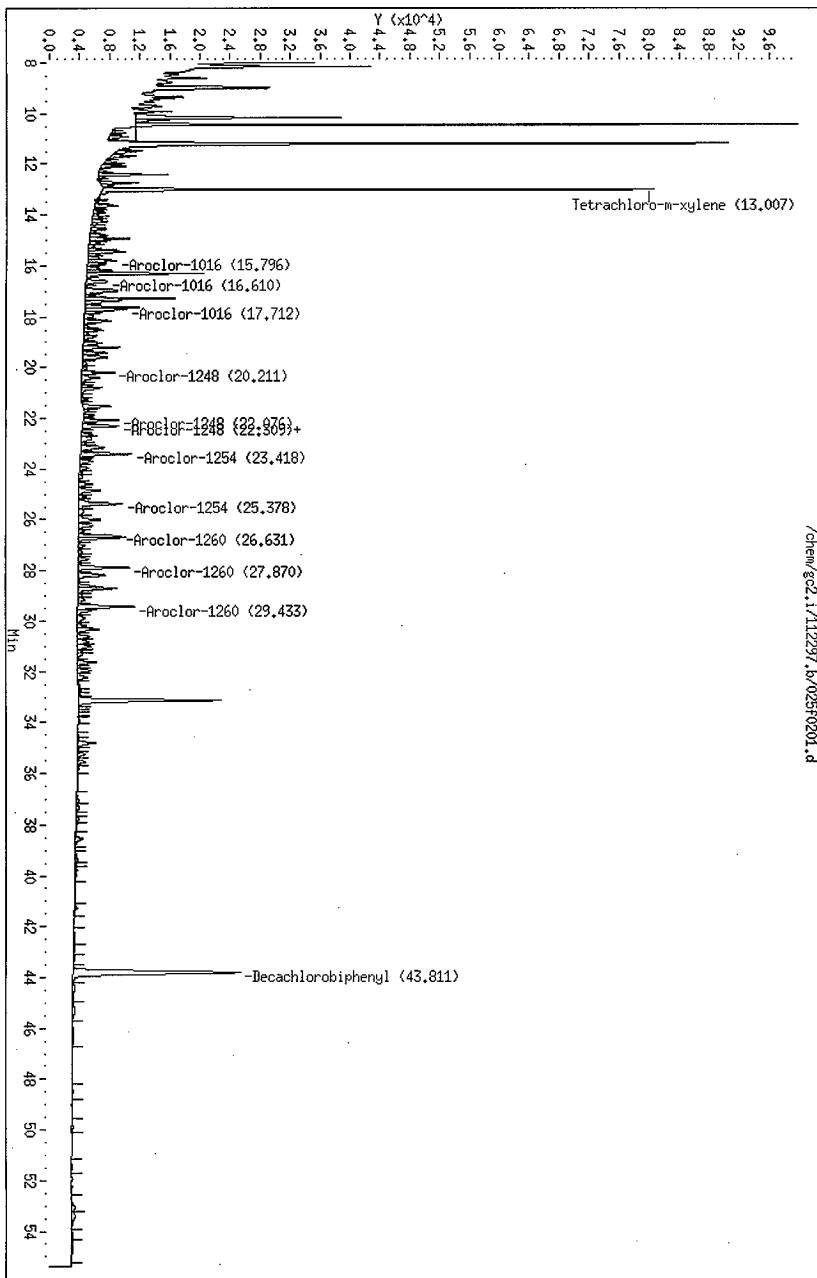
Page 2

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/gc2.1/112297.b/025f0201.d
Date : 23-NOV-1997 18:07
Client ID: S97S00184MSD
Sample Info: S97S00184MSD
Volume Injected (uL): 1.0
Column phase: M1-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



HNF-SD-WM-DP-275, REV. 0

CONTINUING CALIBRATION VERIFICATION

HNF-SD-WM-DP-275, REV. 0

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Data File: /chem/gc2.i/112297.b/026f0201.d
Report Date: 03-Dec-1997 13:41

Page 1

222-S Laboratory

Data file : /chem/gc2.i/112297.b/026f0201.d

Lab Smp Id: 100ng/ml A1660

Client Smp ID: 100ng/ml A1660

Inj Date : 23-NOV-1997 19:11

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1660

Misc Info : 100ng/ml A1660

Comment :

Method : /chem/gc2.i/112297.b/rcrapcb.m

Meth Date : 03-Dec-1997 13:20 gar

Quant Type: ESTD

Cal Date : 23-NOV-1997 19:11

Cal File: 026f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1660.sub

Target Version: 3.10

Sample Matrix: SOIL

CONCENTRATIONS						
			ON-COL		FINAL	TARGET RANGE
RT	EXP RT	DLT RT	RESPONSE (	ng)	(ug/Kg)	
==	=====	=====	=====	=====	=====	=====
22 Aroclor-1016					CAS #: 12674-11-2	
15.803	15.803	0.000	41892	0.10055	100.55	100.00
16.609	16.609	0.000	33193	0	99.269	0.00- 20.00 79.23
17.720	17.720	0.000	58846	0.10089	100.89	0.00- 20.00 140.47
Average of Peak Concentrations =					100.24	
28 Aroclor-1260					CAS #: 11096-82-5	
26.628	26.628	0.000	71833	0	96.003	100.00
27.871	27.871	0.000	77698	0.10115	101.15	0.00- 20.00 108.16
29.432	29.432	0.000	70885	0.10717	107.17	0.00- 20.00 98.68
Average of Peak Concentrations =					101.44	
\$ 29 Tetrachloro-m-xylene					CAS #: 877-09-8	
13.006	13.029	-0.023	863975	0	43.812	100.00(R)
\$ 30 Decachlorobiphenyl					CAS #: 2051-24-3	
43.807	43.887	-0.080	529027	0	34.988	100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

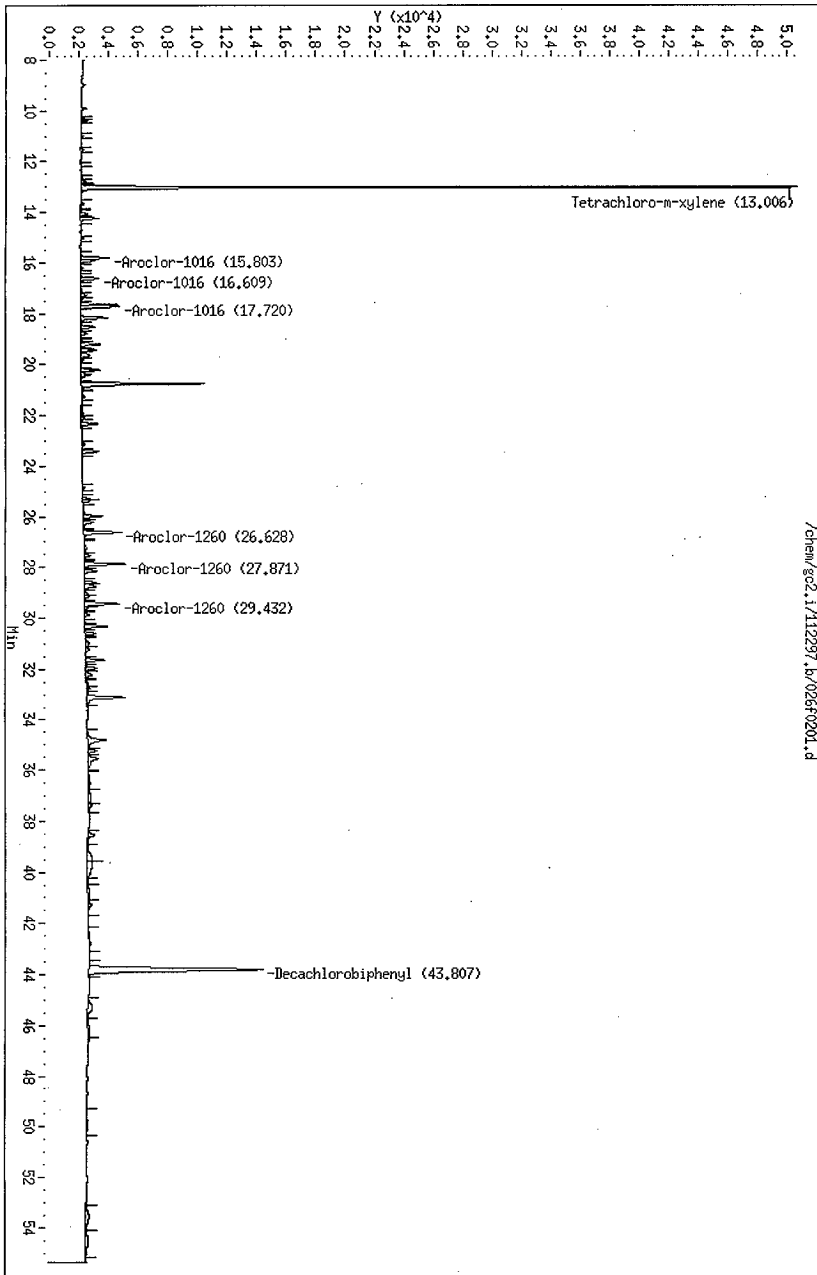
70 diff

0.24%

1.44%

Data File: /chem/gc2.1/112297.b/026f0201.d
Date : 23-NOV-1997 19:11
Client ID: 100mg/ml B1660
Sample Info: 100mg/ml B1660
Volume Injected (uL): 1.0
Column phase: M1-5

Instrument: gc2.1
Operator: Gerald Ross
Column diameter: 0.25



DISTRIBUTION SHEET

To Distribution	From Production Planning & Control	Page 1 of 1
		Date: 12/04/97
Project Title/Work Order HNF-SD-WM-DP-275, Rev. 0 "Polychlorinated Biphenyls (PCB) Analysis Report for Solid Sample from 219S Tank 102"		EDT NO.: EDT-623136
		ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY	
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U.S. Department of Energy

E. M. Mattlin	A5-15	X
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Lockheed Martin Hanford Corp.

B. G. Erlandson	R1-51	X
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C. H. Mulkey	R1-51	X
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Fluor Daniel Hanford, Inc.

T. A. Quayle	H6-23	X
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Lockheed Martin Services, Inc.

Central Files	A3-88	1
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Los Alamos Technical Associates

M. T. Ellsworth	T6-06		X*
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Waste Management of Hanford, Inc.

J. B. Buckley	T3-04	X
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R. H. Engelmann	H6-26	X
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L. P. Markel	T6-16	X
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L. F. Perkins	T6-14	X
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J. R. Prilucik	T6-14	X
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G. A. Ross	T6-50	X
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C. M. Seidel	T6-14	X
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K. S. Tollefson	T6-12	X
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J. A. Winterhalder	H6-21	X
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* Needs only releasing paperwork, not a copy of the released document.