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ENGINEERING DATA TRANSMITTAL
ENGINEERING DATA TRANSMITTALPage 1 of 1
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1. EDT 623146

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		Design Agent									
2	1	Cog.Eng. G. A. Ross	<i>G. A. Ross</i>	3/26/98							
2	1	Cog. Mgr. D. B. Hardy	<i>D. B. Hardy</i>	3/26/98							
2	1	QA T. L. Tung	<i>T. L. Tung</i>	3/26/98							
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		Env.									

18. M. T. Ellsworth <i>M. T. Ellsworth</i> 3/26/98 Signature of EDT Originator		19. N/A Authorized Representative Date for Receiving Organization		20. D. B. Hardy <i>D. B. Hardy</i> 3/26/98 Design Authority/ for Cognizant Manager D.B. Hardy		21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments	
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Polychlorinated Biphenyls (PCB) Analysis Report for Solid Sample From 219S Tank 104

Gerald A. Ross

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

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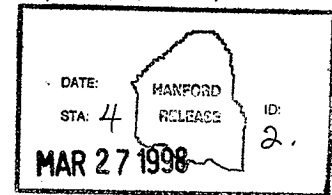
Abstract: N/A

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ANALYTICAL SERVICES

**POLYCHLORINATED BIPHENYLS (PCB)
ANALYSIS REPORT FOR SOLID SAMPLE
FROM 219S TANK 104**

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

by

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This document consists of pages 1 through 114. Pages ii, 2, 10, 12, 15, 18, 28, 31, 37, 53 and 65 were intentionally left blank.

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NARRATIVE

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POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS REPORT
FOR SOLID SAMPLE FROM 219S TANK 104

SAMPLE ANALYSIS REPORTED

A sample of solids was obtained from tank 104 of 219S via a peristaltic pump equipped with a stainless steel tube and Norprene¹ tubing (Phthalate free). The sample, obtained in a glass jar with Teflon² lid, was analyzed for PCBs as Aroclor³ mixtures. A soxhlet extraction procedure was used to extract the Aroclors from the sample. Analysis was performed using dual column confirmation gas chromatography/ electron capture detection (GC/ECD). The extraction method closely follows SW-846 method 3540C and the analysis follows SW-846 method 8082.

A cross reference of laboratory sample number to the customer identification follows:

Sample Number	Customer ID
S98M000022	Tank 104 Solid J# 13731

SAMPLE DESCRIPTION, HANDLING, AND PREPARATION

The analysis was performed on the centrifuged solids. The solids were gray in color and had the consistency of soft peanut butter. The sample was homogenized (by stirring) prior to removing aliquots for sample, duplicate, matrix spike and matrix spike duplicate analyses. Due to limited sample amount and radiation dose concerns a one-gram sample size was used for each analysis. Extraction of the samples was started on January 26, 1998 in a radiological fume hood and completed on January 28, 1998.

Preparation Procedure: LA-523-138 Rev. A0, Soxhlet Extraction of Solid Samples for Semivolatile and/or Pesticide and/or PCB Analysis, Waste Management Federal Services of Hanford, Inc. for Fluor Daniel Hanford, Inc., Richland, Washington.

Preparation Location: Room 4P, 222-S Laboratory, 200W Area, Hanford Site

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

¹ Norprene is a trademark of Norton Corporation

² Teflon is a trademark of E.I. duPont de Nemours & Company, Incorporated.

³ Aroclor is a trademark of the Monsanto Company

ANALYSIS METHOD

GC/ECD Procedure: LA-523-136 Rev. A0, Gas Chromatograph Analysis of Pesticides and PCBs - SW-846, Waste Management Federal Services of Hanford, Inc. for Fluor Daniel Hanford, Inc., Richland, Washington.

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

Location: Room 4TUV, 222-S Laboratory, 200 West Area

The analyses were initially performed on February 11, 12 and 13, 1998 on the extracts obtained on January 28, 1998. However, due to the high concentrations of PCBs present in the extracts a reanalysis was performed on March 13 and 14, 1998 using a 40X dilution of the original extracts. The dilution of the sample and sample duplicate was accomplished by diluting 2.5 μ L of the extract with 97.5 μ L of hexane, which contained the surrogates at 100 ng/mL. The matrix spike and matrix spike duplicate was accomplished by adding 2.5 μ L of the original sample extract to 97.5 μ L of a 200 ng/mL Aroclor 1254 standard containing the surrogates at 100 ng/mL.

QUALITY CONTROL

Due to limited sample amount and radiological issues the extraction portion of the procedure was 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. The analysis follows SW-846 method 8082. Deviations from method 8082 are detailed in appendix D of LA-523-136. Nominally, one gram of sample was extracted per analytical result.

Five point calibrations were run for the following Aroclors: 1016, 1248 and 1260. A four point calibration curve was used for Aroclor 1254. 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, 1232, 1248, 1254 and 1260. After analysis of the diluted samples Option 2 in LA-523-136 was used to quantitate the PCBs present in the samples, using the total area of the PCBs. The high Aroclor 1254 standard (400ng/mL) was used (see the discussion for more detail).

An instrument blank, method blank and LCS were analyzed after calibration verification prior to sample analysis.

Quantitation was performed using a primary column and the secondary column was used to confirm identification. A detailed description of the specific procedural requirements is available in the analytical procedure LA-523-136. Laboratory bench sheets, data, chromatograms, and reports are maintained in room 25, 2704-S at the 222-S Laboratory. The initial calibration information and data is located on the HP UNIX computer system, Chemsys1.

Table I summarizes the QC requirements and adherence.

Table I.

QC Parameter	Comments
Target Compounds	Detection levels are based on sample size and the determination of Method Detection Limits (MDLs) from multiple injections of a low standard. Requirements were met.
Surrogate Recoveries	Surrogate spiking was performed on all samples using Tetrachloro-m-xylene (TCX) and Decachlorobiphenyl (DCB). Because of the large dilution (40X), the surrogates were not able to be quantitated in the diluted sample, duplicate, matrix spike or matrix spike duplicate. Control limits have not yet been established for these compounds in this matrix. Where applicable, a summary of the surrogate recoveries for undiluted samples is provided in Table II. All Surrogate recoveries were within acceptable administrative limits.
Matrix Spike Recovery	A matrix spike (MS) and matrix spike duplicate (MSD) using Aroclors 1016 and 1260 were performed. Due to the levels of Aroclors in the sample, spike amounts were less than the variability in the sample result. Hence, spike amounts, recoveries, and relative percent differences (RPD) are invalid. A post-preparation spike and duplicate was prepared by diluting the sample extract into the high (200 ng/mL) Aroclor 1254 standard. See Table III, and the discussion for more details.
Method Blank Summary	A method blank was extracted and met requirements.
Initial Method Detection Limit Determination	Multiple extraction and analysis of a low concentration standard. Requirements were met. (For 2g sample the MDL for Aroclor 1248 = 3.71 ug/kg, documented in files).
Initial Calibration	Five point calibrations were performed for Aroclors 1016, 1248, and 1260. A four point calibration was used for Aroclor 1254. Concentrations ranged from 20ng/mL to 400ng/mL and met the requirements ($\leq 20\%$). Single point calibrations were performed for Aroclors 1221, 1232, and 1242 at 100 or 200 ng/mL.
Carry-over evaluation	An instrument blank was run after the calibration standards. No carry-over was detected. Met requirements.

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QC Parameter	Comments
Continuing Calibration Verifications (CCV)	Initial calibration was performed prior to the sample sequence. Aroclors 1016, 1248 and 1254 were used to assess instrument performance before and after the samples were analyzed on it. Recoveries ranged from 86% to 112% before analysis which met the criteria ($\leq 15\%$). The recoveries ranged from 74% (AR1254) to 126% (AR1248) after.
Laboratory Control Sample	A matrix spike blank was used as a Laboratory Control Sample to assess method performance. This contained Aroclors 1016, and 1260. Recoveries of A1016/A1260 were 83% and 96%, respectively, and met the requirements (70%-130%).

RESULTS / DISCUSSION

The Aroclors 1016, 1248, and 1254 were observed in the sample at high concentrations, such that a 40X dilution was necessary to bring the amounts on column within the calibration curve. The calibration of the individual Aroclors could not be performed because three peaks, free from interference from the other Aroclors, could not be found. Using the curves would lead to an overestimation of the PCBs present. Therefore, PCB Aroclor quantitation option 2 in LA-523-136 was used. This method uses the total area of the PCB pattern in the sample and quantitates on the Aroclor standard that is most similar to the sample. The Aroclor 1254 high standard (400 ng/mL) was used for this purpose.

From the individual Aroclor standards analyzed, several peaks in the sample were identified as non-PCB and subtracted from the total area. The retention times for the peaks were approximately 14.810, 15.279 and 17.437 minutes. Peaks outside the retention time window of 13.036 - 29.99 minutes were also subtracted. The amounts are reported in the attached result summary forms. The total PCB result, quantified as Aroclor 1254, was 43 mg/Kg for the sample and 47 mg/Kg for the duplicate (see Table IV). The average result was 45 mg/Kg.

The Aroclor concentrations found in the sample were much higher than the spike levels (200ppb). Since the spike concentration was less than 5% of the sample concentration, the MS and MSD values are invalid. A post-preparation spike and spike duplicate were prepared for Aroclor 1254 at about 50% of the diluted sample concentration. The recoveries (107% and 76%) and relative percent difference (34%) do not reflect preparation efficiency, but can indicate the ability to quantitate both accurately and reproducibly in the matrix, near the concentration levels found in the sample.

The Laboratory Control Spike (LCS) recoveries were acceptable. An Aroclor mixture of 1016 and 1260 was used as the LCS. The recoveries were 83% and 96%, respectively.

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Tetrachloro-m-xylene (TCX) and Decachlorobiphenyl (DCB) were used as the surrogate spikes on the following: the instrument blanks, method blank and LCS as well as the undiluted portions of the sample, duplicate, MS and MSD. The results are summarized in Table II. The surrogate results for the diluted portions of the sample, duplicate, MS and MSD were not applicable and are not included in Table II. The surrogate compounds were present in the diluted samples only because of their presence in the diluent and do not represent method efficiency. Control limits have not yet been established for these compounds in this matrix. Advisory limits were set at 50%-100% recovery by the U.S. Environmental Protection Agency. All surrogate recoveries were acceptable.

Table II.
SURROGATE RECOVERIES (%)

Sample	TCX (%)	DCB (%)
Inst. Blank (2/12)	109	139
Meth. Blank	67	95
LCS	61	76
S98M000022	75	115
S98M000022DUP	88	130
S98M000022MS	83	88
S08M000022MSD	75	129
Inst. Blank (3/13)	122	110

All results were within advisory limits of 50-150%.

Table III.
POST SPIKE RECOVERIES (%)

Sample	Aroclor 1254 (%)
Spike	107
Spike Duplicate	76
Spike RPD	34

All results were within advisory limits of 50-150%, RPD $\leq$ 40%.

Table IV.
AROCOLOR RESULTS

AROCOLOR	S98M000022 (mg/Kg*)	S98M000022DUP (mg/Kg*)	RPD
PCBs as Aroclor 1254	43	47	9%

* results are based on sample as received, post centrifugation

ANALYST SA Ross DATE 3-26-88 REVIEWER MP Hansen DATE 3-26-88

QUANTITATION SUMMARY FOR OPTION 2

The following equation is used to calculate the PCB concentrations, using option 2 in LA-523-136:

$$\text{Sample conc. (mg/Kg)} = [(Ax)(A)(Vt)(D)] / [(As)(Vi)(W)(1000)] \quad \text{where}$$

Ax = Total PCB area of sample
 A = Amount of standard injected (ng)
 As = Total PCB area of standard
 Vi = Injection volume (μL)
 D = Dilution factor
 Vt = Extract volume (μL)
 W = Weight of sample (g)
 1000 = Unit correction factor from μg to mg

Sample S98M000022 conc. (mg/Kg) = 43 where:

Ax = 3823788
 A = 0.4 ng
 As = 2760398
 Vi = 1 μL
 D = 40
 Vt = 2000 μL
 W = 1.036 g

Sample S98M000022Dup conc. (mg/Kg) = 47 where:

Ax = 4082274
 W = 1.008 g

and the other parameters are the same.

Sample S98M000022MS conc. (mg/Kg) = 59 where:

Ax = 5241102
 W = 1.036 g

Sample S98M000022MSD conc. (mg/Kg) = 54 where:

Ax = 5054551
 W = 1.036 g

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APPENDIX A

LA-523-138

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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 1 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.

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APPENDIX D

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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 SUMMARY RESULT FORMS

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TARGET COMPOUNDS

Client Name:
 Lab Smp Id: TK-104

Sample Location:

Sample Date:

Sample Matrix: SOIL

Analysis Type: PCB

Data Type: GC MULTI COMP

Misc Info: TK-104 (1/40 dilution) *W. Hansen*
 3-24-98

Client SDG: 031098

Client Smp ID: TK-104

Sample Point:

Date Received:

Quant Type: ESTD

Level: LOW

Operator: Gerald Ross

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	1320	U
11104-28-2-----Aroclor-1221	2680	U
1114-16-5-----Aroclor-1232	1320	U
53469-21-9-----Aroclor-1242	1320	U
12672-29-6-----Aroclor-1248	1320	U
11097-69-1-----Aroclor-1254	43000	*
11096-82-5-----Aroclor-1260	1320	U
=====	=====	=====
877-09-8-----Tetrachloro-m-xylene	232	
2051-24-3-----Decachlorobiphenyl	258	

*Quant by total area method

Data File: /chem/gc2.i/031398.b/021f0301.d
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TARGET COMPOUNDS

Client Name:
 Lab Smp Id: TK-104DUP
 Sample Location:
 Sample Date:
 Sample Matrix: SOIL
 Analysis Type: PCB
 Data Type: GC MULTI COMP
 Misc Info: 953 tk104 (1/40)

Client SDG: 031098
 Client Smp ID: TK-104DUP
 Sample Point:
 Date Received:
 Quant Type: ESTD
 Level: LOW
 Operator: Gerald Ross

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/KG)	ug/Kg
			Q
12674-11-2-----	Aroclor-1016	1320	U
11104-28-2-----	Aroclor-1221	2680	U
1114-16-5-----	Aroclor-1232	1320	U
53469-21-9-----	Aroclor-1242	1320	U
12672-29-6-----	Aroclor-1248	1320	U
11097-69-1-----	Aroclor-1254	47000	*
11096-82-5-----	Aroclor-1260	1320	U
=====		=====	=====
877-09-8-----	Tetrachloro-m-xylene	250	
2051-24-3-----	Decachlorobiphenyl	280	

*Quant by total area method

Data File: /chem/gc2.i/031398.b/022f0301.d
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222-S Laboratory

TARGET COMPOUNDS

Client Name:	Client SDG: 031098
Lab Smp Id: TK-104MS	Client Smp ID: TK-104MS
Sample Location:	Sample Point:
Sample Date:	Date Received:
Sample Matrix: SOIL	Quant Type: ESTD
Analysis Type: PCB	Level: LOW
Data Type: GC MULTI COMP	Operator: Gerald Ross
Misc Info: TK-104MS (1-40 dilution)	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
12674-11-2-----	Aroclor-1016	1320	U
11104-28-2-----	Aroclor-1221	2680	U
1114-16-5-----	Aroclor-1232	1320	U
53469-21-9-----	Aroclor-1242	1320	U
12672-29-6-----	Aroclor-1248	1320	U
11097-69-1-----	Aroclor-1254	59000	*
11096-82-5-----	Aroclor-1260	1320	U
877-09-8-----	Tetrachloro-m-xylene	248	
2051-24-3-----	Decachlorobiphenyl	308	

* Quant by total area method

Data File: /chem/gc2.i/031398.b/023f0301.d
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TARGET COMPOUNDS

Client Name:
 Lab Smp Id: TK-104MS
 Sample Location:
 Sample Date:
 Sample Matrix: SOIL
 Analysis Type: PCB
 Data Type: GC MULTI COMP
 Misc Info: TK-104MS (1-40 dilution)

Client SDG: 031098
 Client Smp ID: TK-104MS
 Sample Point:
 Date Received:
 Quant Type: ESTD
 Level: LOW
 Operator: Gerald Ross

CAS NO. COMPOUND *3-2498* CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg Q

12674-11-2-----Aroclor-1016	1320	U
11104-28-2-----Aroclor-1221	2680	U
1114-16-5-----Aroclor-1232	1320	U
53469-21-9-----Aroclor-1242	1320	U
12672-29-6-----Aroclor-1248	1320	U
11097-69-1-----Aroclor-1254	54000	*
11096-82-5-----Aroclor-1260	1320	U
=====	=====	=====
877-09-8-----Tetrachloro-m-xylene	248	
2051-24-3-----Decachlorobiphenyl	308	

* Quant by total area method

Data File: /chem/gc2.i/021298.b/010f0201.d
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TARGET COMPOUNDS

Client Name:
 Lab Smp ID: (TK104)
 Sample Location:
 Sample Date:
 Sample Matrix: SOIL
 Analysis Type: PEST
 Data Type: GC MULTI COMP
 Misc Info: (TK104)

Client SDG: 021298
 Client Smp ID: (TK104)
 Sample Point:
 Date Received:
 Quant Type: ESTD
 Level: LOW
 Operator: Gerald Ross

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

12674-11-2-----Aroclor-1016	421.0	
11104-28-2-----Aroclor-1221	67.0	U
1114-16-5-----Aroclor-1232	33.0	U
53469-21-9-----Aroclor-1242	33.0	U
12672-29-6-----Aroclor-1248	12200	
11097-69-1-----Aroclor-1254	12000	
11096-82-5-----Aroclor-1260	33.0	U
877-09-8-----Tetrachloro-m-xylene	144	
2051-24-3-----Decachlorobiphenyl	221	

Data File: /chem/gc2.i/021298.b/011f0201.d
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TARGET COMPOUNDS

Client Name:
 Lab Smp Id: 0953(TK104D)
 Sample Location:
 Sample Date:
 Sample Matrix: SOIL
 Analysis Type: PEST
 Data Type: GC MULTI COMP
 Misc Info: 0953(TK104D)

Client SDG: 021298
 Client Smp ID: 0953(TK104D)
 Sample Point:
 Date Received:
 Quant Type: ESTD
 Level: LOW
 Operator: Gerald Ross

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/KG)	ug/Kg
12674-11-2-----	Aroclor-1016	4660	
11104-28-2-----	Aroclor-1221	67.0	U
1114-16-5-----	Aroclor-1232	33.0	U
53469-21-9-----	Aroclor-1242	33.0	U
12672-29-6-----	Aroclor-1248	12000	
11097-69-1-----	Aroclor-1254	11100	
11096-82-5-----	Aroclor-1260	33.0	U
=====		=====	
877-09-8-----	Tetrachloro-m-xylene	174	
2051-24-3-----	Decachlorobiphenyl	258	

HNF-SD-WM-DP-297 REV. 0

Data File: /chem/gc2.i/021298.b/012f0201.d

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Report Date: 17-Feb-1998 15:33

222-S Laboratory

TARGET COMPOUNDS

Client Name:
Lab Smp ID: (TK104)MS
Sample Location:
Sample Date:
Sample Matrix: SOIL
Analysis Type: PEST
Data Type: GC MULTI COMP
Misc Info: (TK104)MS

Client SDG: 021298
Client Smp ID: (TK104)MS
Sample Point:
Date Received:
Quant Type: ESTD
Level: LOW
Operator: Gerald Ross

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

12674-11-2-----Aroclor-1016	4450	
11104-28-2-----Aroclor-1221	67.0	U
1114-16-5-----Aroclor-1232	33.0	U
53469-21-9-----Aroclor-1242	33.0	U
12672-29-6-----Aroclor-1248	12400	
11097-69-1-----Aroclor-1254	11700	
11096-82-5-----Aroclor-1260	33.0	U
=====		
877-09-8-----Tetrachloro-m-xylene	161	
2051-24-3-----Decachlorobiphenyl	170	

Data File: /chem/gc2.i/021298.b/013f0201.d
 Report Date: 17-Feb-1998 15:33

222-S Laboratory

TARGET COMPOUNDS

Client Name:
 Lab Smp Id: (TK104)MSD
 Sample Location:
 Sample Date:
 Sample Matrix: SOIL
 Analysis Type: PEST
 Data Type: GC MULTI COMP
 Misc Info: (TK104)MSD

Client SDG: 021298
 Client Smp ID: (TK104)MSD
 Sample Point:
 Date Received:
 Quant Type: ESTD
 Level: LOW
 Operator: Gerald Ross

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg		Q
12674-11-2-----	Aroclor-1016	4550		
11104-28-2-----	Aroclor-1221	67.0	U	
1114-16-5-----	Aroclor-1232	33.0	U	
53469-21-9-----	Aroclor-1242	33.0	U	
12672-29-6-----	Aroclor-1248	12600		
11097-69-1-----	Aroclor-1254	12100		
11096-82-5-----	Aroclor-1260	33.0	U	
=====				
877-09-8-----	Tetrachloro-m-xylene	140		
2051-24-3-----	Decachlorobiphenyl	239		

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EXTRACTION BENCHSHEET

HNF-SD-WM-DP-297, REV. 0

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FILE LOCATION: #	EXTRACTION PROCEDURE: LA-523-138	ANALYSIS PROCEDURE:
598500022 219S TR104 WORK PKG. /R NUMBER	EXTRACTION ANALYST: JFW	INSTRUMENTAL ANALYST:
MATRIX: MECL/HEXANE	DATE/SYSTEM: 1/28/98	DATE/SYSTEM:

SAMPLE NUMBER	WEIGHT VOLUME	BAR CODE #	FINAL SOLVENT	FINAL VOLUME
PK (1) 2g NAS ₂ O ₄ + 1.036 g	SAMPLE + TCX/DCB SPK (25X) 8ug/ml	951/952		
AMPLE DUP (2) 2g NAS ₂ O ₄ + 1.008 g	SAMPLE + TCX/DCB SPK (25X) 8ug/ml	953/954		
PK (3) 2g NAS ₂ O ₄ + 1.031 g	SAMPLE + TCX/DCB SPK (25X) 8ug/ml + 25X OF 1016/260 8ug/ml	955/956		
PK DUP (4) 2g NAS ₂ O ₄ + 1.080 g	SAMPLE + TCX/DCB SPK (25X) 8ug/ml + 25X OF 1016/260 8ug/ml	957/958		
* EXTRACTION START @ 0900 1-26-98				
* STOP @ 0900 1-27-98				
* CONTACTED THICE UT CON NAS ₂ O ₄ AFTER HEXANE EXCHANGE				
* RAN THROUGH COLUMN W/ NAS ₂ O ₄ (AGAIN)				

SURR. NAME	VOLUME (uL)	ID NUMBER	CONC.	MATRIX SPIKE NAME	VOLUME (uL)	ID NUMBER	CONC.
TCX/DCB	2L		8ug/ml	ARO 1016/260 25X			8ug/ml

ANALYSIS VOLUME OF EXTRACT USED	INTERNAL STANDARD SUPPLIER	VOLUME ADDED (uL)	ID NUMBER LOT NUMBER	CONC. INITIAL	CONC. FINAL

HNH-SD-WM-DP-297, REV. 0

GC SEQUENCE

HNF-SD-WM-DP-297, REV. 0

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HNF-SD-WM-DP-297 REV. 0

Sequence Table

Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
1		PCB-FRNT	1	6	2
2		PCB-FRNT	7	18	1
3		PCB-FRNT	19	21	2
4		PCB-FRNT	22	24	1
1		PCB-REAR	51	56	2
2		PCB-REAR	57	68	1
3		PCB-REAR	69	71	2
4		PCB-REAR	72	74	1

Sample Table

Sample Name	Sample Amount	Multiplier	ISTD Amount
GC Cond. mix		1	
400ng/ml A1660		1	
100ng/ml A1660		1	
100ng/ml A1232		1	
100ng/ml A1248		1	
100ng/ml A1254		1	
Inst. Blank		1	
0959Methblnk		1	
0961LCS		1	
0951 (TK104)		1	
0953 (TK104D)		1	
0955MS		1	
0957MSD		1	
0979 AY102		1	
0981		1	
0983		1	
0985		1	
Inst. Blank		1	
100ng/ml A1660		1	
100ng/ml A1248		1	
100ng/ml A1254		1	
00951 (1/10)		1	
00979 (1/10)		1	
100ng/ml A1660		1	
GC Cond. mix		1	
400ng/ml A1660		1	
100ng/ml A1660		1	
100ng/ml A1232		1	
100ng/ml A1248		1	
100ng/ml A1254		1	
Inst. Blank		1	
0960 (Meth blnk)		1	
0962 (LCS)		1	
0952 (TK104)		1	
0954 (TK104du)		1	
0956 (tk104ms)		1	
0958 (tk104msd)		1	
0980 (ay102)		1	

HNF-SD-WM-DP-297 REV. 0

Sample Table

Seq nm.	Sample Name	Sample Amount	Multiplier	ISTD Amount
5	0982 (ay102du)		1	
6	0984 (ay102ms)		1	
7	0986 (ay102msd)		1	
8	Inst. Blank		1	
9	100ng/ml A1660		1	
10	100ng/ml A1248		1	
11	100ng/ml A1254		1	
12	00951 (1/10)		1	
13	00979 (1/10)		1	
14	100ng/ml A1660		1	

2 Sep 98 01:01 PM
Sequence: C:\HPCHEM\2\SEQUENCE\021198A.SEQ

141	0982 (ay102du)		1	
142	0984 (ay102ms)		1	
143	0986 (ay102msd)		1	
144	Inst. Blank		1	
145	100ng/ml A1660		1	
146	100ng/ml A1248		1	
147	100ng/ml A1254		1	
148	00951 (1/10)		1	
149	00979 (1/10)		1	
150	100ng/ml A1660		1	

6 Mar 98 07:30 AM
 Sequence: C:\HPCHEM\2\SEQUENCE\031398A.SEQ

HNF-SD-WM-DP-297 REV. 0

Sequence Table

Inj.	Seq.	Cal.	Method	From	To	Inj/
FRONT	Line	Line	Name	Vial	Vial	Vial
	1		PCB-FRNT	1	1	2
	2		PCB-FRNT	2	3	2
	3		PCB-FRNT	4	33	1
REAR						
	1		PCB-REAR	51	51	2
	2		PCB-REAR	52	53	2
	3		PCB-REAR	53	83	1

Sample Table

Vial	Sample Name	Sample	Multiplier	ISTD
Num.		Amount		Amount
1	400ng/ml A1254		1	
2	200ng/ml A1254		1	
3	100ng/ml A1254		1	
4	100ng/ml A1660		1	
5	100ng/ml A1248		1	
6	100ng/ml A1242		1	
7	200ng/ml A1232		1	
8	100ng/ml A1221		1	
9	inst blank		1	
10	831 (1/10)		1	
11	833 (1/10) lcs		1	
12	819 (1/10)		1	
13	821 (1/10)		1	
14	823 (1/10)		1	
15	825 (1/10)		1	
16	827 (1/10)		1	
17	829 (1/10)		1	
18	blank		1	
19	100ng/ml A1254		1	
20	951 tk104 (1/40)		1	
21	953 tk104 (1/40)		1	
22	951tk104ms(1/40)		1	
23	951tk104msd1/40)		1	
24	100ng/ml A1254		1	
25	100ng/ml A1660		1	
26	400ng/ml A1248		1	
27	200ng/ml A1248		1	
28	100ng/ml A1248		1	
29	50ng/ml A1248		1	
30	20ng/ml A1248		1	
31	845 (1/50)		1	
32	849 (1/50)		1	
33	100ng/ml A1248		1	
51	400ng/ml A1254		1	
52	200ng/ml A1254		1	
53	100ng/ml A1254		1	
54	100ng/ml A1660		1	
55	100ng/ml A1248		1	
56	100ng/ml A1242		1	
57	100ng/ml A1232		1	

Mar 98 07:30 AM
Sequence: C:\HPCHEM\2\SEQUENCE\031398A.SEQ

HNF-SD-WM-DP-297 REV. 0

Sample Table

Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount
58	200ng/ml A1221		1	
59	inst blank		1	
50	831 (1/10)		1	
51	833 (1/10)		1	
52	819 (1/10)		1	
53	821 (1/10)		1	
54	823 (1/10)		1	
55	825 (1/10)		1	
56	827 (1/10)		1	
57	829 (1/10)		1	
58	i blank		1	
59	100ng/ml A1254		1	
60	951 1/40		1	
71	953 1/40		1	
72	951 1/40ms200'54		1	
73	951 1/40ms200'54		1	
74	100ng/ml A1254		1	
75	100ng/ml A1660		1	
76	400ng/ml A1248		1	
77	200ng/ml A1248		1	
78	100ng/ml A1248		1	
79	50ng/ml A1248		1	
80	20ng/ml A1248		1	
81	845 (1/50)		1	
82	849 (1/50)		1	
83	100ng/ml A1248		1	
84	100ng/ml A1248		1	
85	100ng/ml A1248		1	
86	100ng/ml A1248		1	
87	100ng/ml A1248		1	
88	100ng/ml A1248		1	
89	100ng/ml A1248		1	
90	100ng/ml A1248		1	
91	100ng/ml A1248		1	
92	100ng/ml A1248		1	
93	100ng/ml A1248		1	
94	100ng/ml A1248		1	
95	100ng/ml A1248		1	
96	100ng/ml A1248		1	
97	100ng/ml A1248		1	
98	100ng/ml A1248		1	
99	100ng/ml A1248		1	
100	100ng/ml A1248		1	
101	100ng/ml A1248		1	
102	100ng/ml A1248		1	
103	100ng/ml A1248		1	

HNF-SD-WM-DP-297, REV. 0

INITIAL CALIBRATION REPORT

HNF-SD-WM-DP-297, REV. 0

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HNF-SD-WM-DP-297 REV. 0

222-S Laboratory

Data file : /chem/gc2.i/031398.b/001f0102.d

Lab Smp Id: 400ng/ml A1254

Client Smp ID: 400ng/ml A1254

Inj Date : 13-MAR-98 12:51

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 400ng/ml A1254

Misc Info :

Comment :

Method : /chem/gc2.i/031098.b/rcrapcb.m

Meth Date : 18-Mar-1998 13:24 gar

Quant Type: AREA%

Cal Date : 17-MAR-1998 20:06

Cal File: 019f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: WATER

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
10.061	4957	319	0.064	0.0798	
12.719	1979756	109467	0.055	31.9	Tetrachloro-m-xylene
13.773	18811	988	0.053	0.303	
15.464	1686	100	0.059	0.0272	Aroclor-1016
16.688	4550	188	0.041	0.0733	
17.278	4475	206	0.046	0.0721	Aroclor-1016
17.346	4244	183	0.043	0.0684	Aroclor-1016
17.798	5703	190	0.033	0.0919	Aroclor-1242
18.361	2101	94	0.045	0.0338	
18.649	2027	99	0.049	0.0327	
18.791	125474	5319	0.042	2.02	Aroclor-1232
19.013	30842	1272	0.041	0.497	
19.226	8906	215	0.024	0.143	
19.396	2827	119	0.042	0.0455	
19.802	61063	2576	0.042	0.984	Aroclor-1232
19.987	4696	171	0.036	0.0756	
20.319	153151	6036	0.039	2.47	Aroclor-1242
20.700	2058	71	0.035	0.0332	
20.834	3196	137	0.043	0.0515	
21.482	21677	863	0.040	0.349	
21.644	98418	3709	0.038	1.58	Aroclor-1232
21.881	209486	7857	0.038	3.37	Aroclor-1242
22.214	30208	1207	0.040	0.487	
22.672	57831	1950	0.034	0.932	
22.964	279540	9628	0.034	4.50	Aroclor-1254
23.247	84196	3409	0.040	1.36	
23.590	2982	119	0.040	0.0480	
23.851	13719	543	0.040	0.221	
24.120	76149	2888	0.038	1.23	
24.384	141541	5189	0.037	2.28	
24.633	40986	1565	0.038	0.660	
24.905	272649	9524	0.035	4.39	Aroclor-1254

Data File: /chem/gc2.i/031398.b/001f0102.d
Report Date: 19-Mar-1998 14:37

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
25.538	52390	1713	0.033	0.844	
25.753	36361	1338	0.037	0.586	
25.965	14424	614	0.043	0.232	
26.151	80607	4221	0.052	1.30	Aroclor-1260
26.233	215544	7093	0.033	3.47	
26.766	15451	535	0.035	0.249	
26.885	4231	183	0.043	0.0682	
27.053	28577	921	0.032	0.460	
27.379	116940	4309	0.037	1.88	Aroclor-1260
27.701	161505	3869	0.024	2.60	
28.103	32384	1280	0.040	0.522	
28.247	4060	191	0.047	0.0654	
28.505	17251	665	0.039	0.278	
28.643	16868	624	0.037	0.272	
28.936	167448	6224	0.037	2.70	Aroclor-1260
29.084	6844	487	0.071	0.110	
29.414	15859	550	0.035	0.256	
29.812	8463	330	0.039	0.136	
30.094	6136	245	0.040	0.0988	
30.496	56047	1793	0.032	0.903	
30.738	1448	37	0.026	0.0233	
31.136	8950	353	0.039	0.144	
31.454	5815	229	0.039	0.0937	
31.742	28689	962	0.034	0.462	
32.067	4407	188	0.043	0.0710	
32.242	1576	66	0.042	0.0254	
32.601	23305	771	0.033	0.375	
32.970	21966	189	0.009	0.354	
34.290	6772	534	0.079	0.109	
36.645	107700	131	0.001	1.74	
37.134	3871	105	0.027	0.0624	
39.406	11250	45	0.004	0.181	
40.519	8182	233	0.028	0.132	
42.939	1165981	26637	0.023	18.8	Decachlorobiphenyl

Total area = 6207206

~~2948812~~ HNF 3-24-98

$\sum_{\text{area}} \text{PCB} = 2,760,398$ (RT: 13 - 36 min)

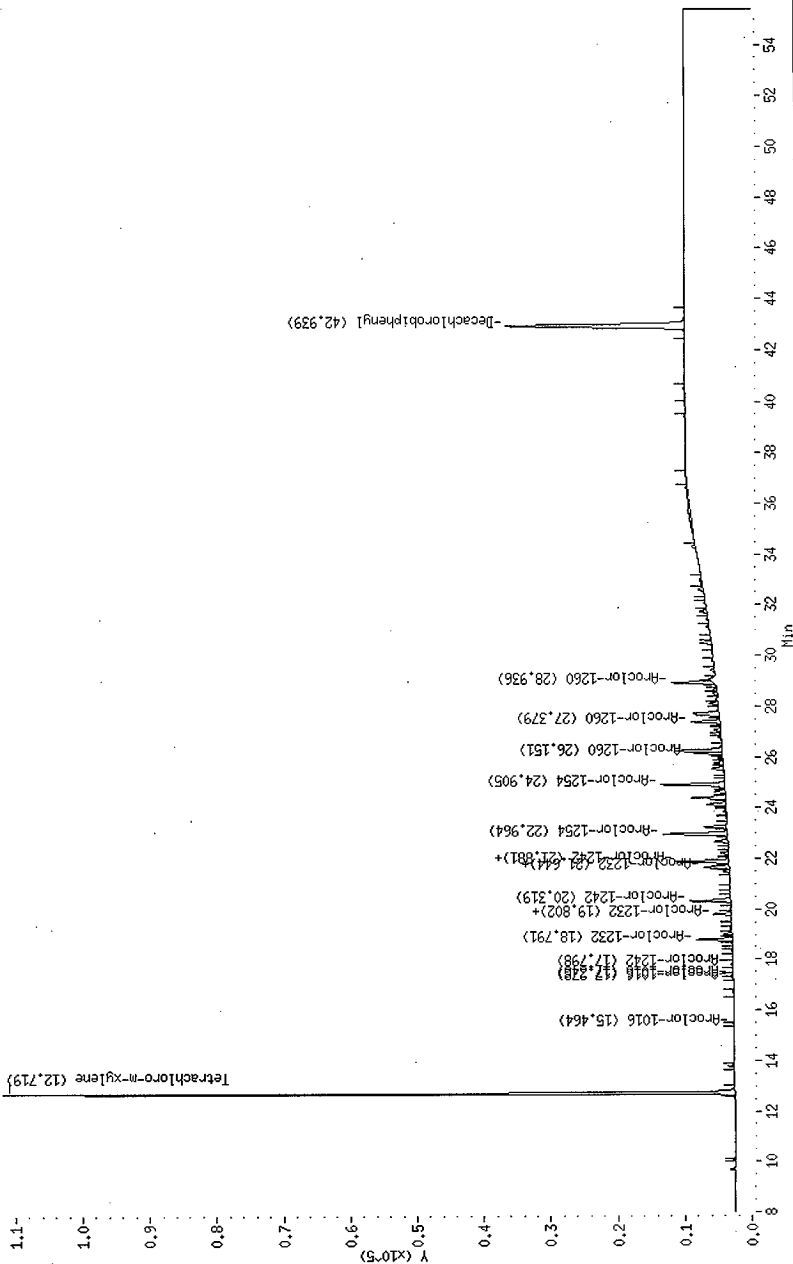
KK Hanson

3-24-98

Data File: /chem/gc2.i/031398.b/001F0102.d
 Date : 13-MAR-98 12:51
 Client ID: 400mg/ml R1254
 Sample Info: 400mg/ml R1254
 Volume Injected (ul): 1.0
 Column phase: Xti-5

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

/chem/gc2.i/031398.b/001F0102.d



Data File: /chem/gc2.i/031398.b/004f0301.d
 Report Date: 18-Mar-1998 13:32

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Data file : /chem/gc2.i/031398.b/004f0301.d

Lab Smp Id:

Inj Date : 13-MAR-98 18:05

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1660

Misc Info :

Comment :

Method : /chem/gc2.i/031398.b/rcrapcb.m

Meth Date : 18-Mar-1998 13:01 drh

Quant Type: AREA%

Cal Date : 17-MAR-1998 20:06

Cal File: 019f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: WATER

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
10.067	1996	127	0.064	0.0747	
10.177	2727	148	0.054	0.102	
12.502	4472	170	0.038	0.167	
12.614	3985	269	0.068	0.149	
12.722	614308	34945	0.057	23.0	Tetrachloro-m-xylene
14.692	4556	223	0.049	0.170	
15.461	46437	2233	0.048	1.74	Aroclor-1016
15.557	29088	1083	0.037	1.09	
15.887	4350	162	0.037	0.163	
16.254	35308	1366	0.039	1.32	
16.906	10068	447	0.044	0.377	
17.037	5302	224	0.042	0.198	
17.270	52128	2580	0.049	1.95	Aroclor-1016
17.348	71784	2840	0.040	2.69	Aroclor-1016
18.134	27228	1003	0.037	1.02	
18.374	11138	448	0.040	0.417	
18.651	4190	198	0.047	0.157	
19.015	26413	1127	0.043	0.988	
19.219	23230	617	0.027	0.869	
19.395	2446	97	0.040	0.0915	
19.991	19469	535	0.027	0.728	
20.835	4777	209	0.044	0.179	
21.488	622	108	0.174	0.0233	
22.679	6030	135	0.022	0.226	
24.393	3639	149	0.041	0.136	
24.812	13559	507	0.037	0.507	
25.518	29292	1172	0.040	1.10	
25.754	15806	573	0.036	0.591	
26.147	70214	2542	0.036	2.63	Aroclor-1260
26.770	3690	138	0.037	0.138	
27.059	9844	379	0.038	0.368	
27.383	74462	2764	0.037	2.79	Aroclor-1260

Data File: /chem/gc2.i/031398.b/004f0301.d
 Report Date: 18-Mar-1998 13:32

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
=====	=====	=====	=====	=====	=====
27.658	22697	816	0.036	0.849	Aroclor-1260
28.106	13479	743	0.055	0.504	
28.260	17960	713	0.040	0.672	
28.520	2333	98	0.042	0.0873	
28.653	7331	270	0.037	0.274	
28.937	71235	2357	0.033	2.66	
29.366	8826	304	0.034	0.330	
29.812	43118	1550	0.036	1.61	
30.094	19278	726	0.038	0.721	
30.500	5703	174	0.031	0.213	
30.727	5152	196	0.038	0.193	
31.136	36397	1371	0.038	1.36	
31.451	20576	757	0.037	0.770	
31.715	14519	395	0.027	0.543	
32.058	1269	72	0.057	0.0475	
32.239	5402	209	0.039	0.202	
32.598	80680	2746	0.034	3.02	
32.775	43133	501	0.012	1.61	
33.376	397	53	0.134	0.0148	
34.289	27721	1081	0.039	1.04	
34.712	14560	549	0.038	0.545	Decachlorobiphenyl
35.020	16022	567	0.035	0.600	
36.648	93990	305	0.003	3.52	
36.788	22767	437	0.019	0.852	
37.134	18818	236	0.013	0.704	
37.923	45347	549	0.012	1.70	
38.314	2370	29	0.012	0.0887	
40.523	6400	179	0.028	0.239	
42.946	392760	8820	0.022	14.7	

Total area = 2672485

Data File: /chem/gc2.i/031398.b/005f0301.d
 Report Date: 18-Mar-1998 13:32

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Data file : /chem/gc2.i/031398.b/005f0301.d

Lab Smp Id:

Inj Date : 13-MAR-98 19:07

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1248

Misc Info :

Comment :

Method : /chem/gc2.i/031398.b/rcrapcb.m

Meth Date : 18-Mar-1998 13:01 drh

Quant Type: AREA%

Cal Date : 17-MAR-1998 20:06

Cal File: 019f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: WATER

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
12.503	2568	111	0.043	0.158	Tetrachloro-m-xylene
12.723	581236	32643	0.056	35.9	
13.776	4818	243	0.050	0.297	
13.943	2210	95	0.043	0.136	
15.556	5914	280	0.047	0.365	
16.253	10517	400	0.038	0.649	
16.910	1869	96	0.051	0.115	
17.793	21669	807	0.037	1.34	
18.027	1929	93	0.048	0.119	
18.137	9027	356	0.039	0.557	
18.375	8807	378	0.043	0.544	
18.652	2547	130	0.051	0.157	
19.015	31336	1335	0.043	1.93	
19.205	22967	580	0.025	1.42	
19.989	18842	588	0.031	1.16	
20.406	42510	1068	0.025	2.62	
20.835	8911	364	0.041	0.550	
21.485	24409	956	0.039	1.51	
22.218	5059	199	0.039	0.312	
22.740	38345	1102	0.029	2.37	
23.253	10446	429	0.041	0.645	
23.859	1971	70	0.036	0.122	
24.126	10407	361	0.035	0.642	
24.392	14239	492	0.035	0.879	
24.639	8375	295	0.035	0.517	
25.562	5507	222	0.040	0.340	
25.773	941	37	0.039	0.0581	
25.980	1000	48	0.048	0.0617	
26.247	18824	597	0.032	1.16	
27.730	13000	410	0.032	0.802	
28.248	3279	108	0.033	0.202	
28.946	3452	105	0.030	0.213	

Data File: /chem/gc2.i/031398.b/005f0301.d

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Report Date: 18-Mar-1998 13:32

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
42.944	348797	8161	0.023	21.5	Decachlorobiphenyl

Total area = 1620261

Data File: /chem/gc2.i/031398.b/006f0301.d
 Report Date: 18-Mar-1998 13:07

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222-S Laboratory

Data file : /chem/gc2.i/031398.b/006f0301.d

Lab Smp Id:

Inj Date : 13-MAR-98 20:10

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1242

Misc Info :

Comment :

Method : /chem/gc2.i/031398.b/rcrapcb.m

Meth Date : 18-Mar-1998 13:01 drh

Quant Type: AREA%

Cal Date : 17-MAR-1998 20:06

Cal File: 019f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: WATER

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
12.502	4055	169	0.042	0.242	
12.615	3193	219	0.069	0.191	
12.722	535621	30173	0.056	32.0	Tetrachloro-m-xylene
13.363	3367	140	0.042	0.201	Aroclor-1221
13.764	8954	299	0.033	0.535	Aroclor-1221
13.940	24482	1007	0.041	1.46	Aroclor-1221
14.692	2815	139	0.049	0.168	
15.462	30865	1480	0.048	1.84	Aroclor-1016
15.557	18591	682	0.037	1.11	
16.255	23599	905	0.038	1.41	
16.908	6520	287	0.044	0.389	
17.039	3483	142	0.041	0.208	
17.272	33957	1657	0.049	2.03	Aroclor-1016
17.350	47036	1802	0.038	2.81	Aroclor-1016
17.787	32463	1257	0.039	1.94	Aroclor-1242
18.136	17827	655	0.037	1.06	
18.371	6861	278	0.041	0.410	
18.794	25659	941	0.037	1.53	Aroclor-1232
19.014	16909	729	0.043	1.01	
19.221	15349	416	0.027	0.916	
19.395	2726	115	0.042	0.163	
19.804	23271	976	0.042	1.39	Aroclor-1232
20.000	17590	400	0.023	1.05	
20.320	143890	5731	0.040	8.59	Aroclor-1242
20.834	4816	211	0.044	0.288	
21.485	13088	495	0.038	0.782	
21.650	27692	999	0.036	1.65	Aroclor-1232
21.864	30080	989	0.033	1.80	Aroclor-1242
22.218	1662	57	0.034	0.0993	
22.742	20411	592	0.029	1.22	
22.978	9204	298	0.032	0.550	Aroclor-1254
23.254	3116	132	0.042	0.186	

Data File: /chem/gc2.i/031398.b/006f0301.d
Report Date: 18-Mar-1998 13:07

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
24.126	1177	93	0.079	0.0702	
24.393	3951	144	0.036	0.236	
24.643	2142	82	0.038	0.128	
24.918	7181	241	0.034	0.429	Aroclor-1254
25.567	1480	64	0.043	0.0884	
26.250	5056	163	0.032	0.302	
28.243	4873	183	0.038	0.291	
28.518	3053	115	0.038	0.182	
36.644	183041	78	0.000	10.9	
39.061	18430	14	0.001	1.10	
42.943	285164	6650	0.023	17.0	Decachlorobiphenyl

Total area = 1674699

Data File: /chem/gc2.i/031398.b/007f0301.d
Report Date: 18-Mar-1998 13:07

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222-S Laboratory

Data file : /chem/gc2.i/031398.b/007f0301.d

Lab Smp Id:

Inj Date : 13-MAR-98 21:13

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 200ng/ml A1232

Misc Info :

Comment :

Method : /chem/gc2.i/031398.b/rcrapcb.m

Meth Date : 18-Mar-1998 13:01 drh

Quant Type: AREA%

Cal Date : 17-MAR-1998 20:06

Cal File: 019f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: WATER

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
10.752	2231	149	0.067	0.151	
10.874	9952	513	0.052	0.676	
11.990	6475	151	0.023	0.440	
12.501	4567	187	0.041	0.310	
12.612	5449	341	0.063	0.370	
12.721	544921	30832	0.057	37.0	Tetrachloro-m-xylene
13.363	12634	465	0.037	0.858	Aroclor-1221
13.728	12583	409	0.033	0.854	Aroclor-1221
13.936	35243	1465	0.042	2.39	Aroclor-1221
15.460	19828	877	0.044	1.35	Aroclor-1016
15.558	14854	423	0.028	1.01	
16.254	13448	520	0.039	0.913	
16.906	3842	171	0.045	0.261	
17.038	2066	88	0.043	0.140	
17.271	18956	938	0.049	1.29	Aroclor-1016
17.349	26172	1053	0.040	1.78	Aroclor-1016
17.786	19879	721	0.036	1.35	Aroclor-1242
18.135	9920	370	0.037	0.673	
18.368	3801	160	0.042	0.258	
18.650	2219	100	0.045	0.151	
18.794	11494	448	0.039	0.780	Aroclor-1232
19.014	8597	370	0.043	0.584	
19.224	8570	238	0.028	0.582	
19.395	1907	81	0.042	0.129	
19.803	10578	458	0.043	0.718	Aroclor-1232
20.004	8498	198	0.023	0.577	
20.319	96778	3960	0.041	6.57	Aroclor-1242
20.834	2319	104	0.045	0.157	
21.486	2492	217	0.087	0.169	
21.650	10715	438	0.041	0.727	Aroclor-1232
21.864	13784	461	0.033	0.936	Aroclor-1242
22.745	13635	292	0.021	0.926	

Data File: /chem/gc2.i/031398.b/007f0301.d
Report Date: 18-Mar-1998 13:07

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
=====	=====	=====	=====	=====	=====
22.979	3523	122	0.035	0.239	Aroclor-1254
24.394	1683	60	0.036	0.114	
24.919	5114	92	0.018	0.347	Aroclor-1254
26.251	73	63	0.858	0.00498	
27.739	335	33	0.099	0.0227	
28.245	1754	64	0.036	0.119	
28.522	1957	73	0.037	0.133	
36.648	184186	100	0.001	12.5	
39.402	25243	33	0.001	1.71	
42.942	290756	6775	0.023	19.7	Decachlorobiphenyl

Total area = 1473032

Data File: /chem/gc2.i/031398.b/008f0301.d
 Report Date: 18-Mar-1998 13:07

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222-S Laboratory

Data file : /chem/gc2.i/031398.b/008f0301.d

Lab Smp Id:

Inj Date : 13-MAR-98 22:15

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1221

Misc Info :

Comment :

Method : /chem/gc2.i/031398.b/rcrapcb.m

Meth Date : 18-Mar-1998 13:01 drh

Quant Type: AREA%

Cal Date : 17-MAR-1998 20:06

Cal File: 019f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: WATER

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
=====	=====	=====	=====	=====	=====
10.060	2571	165	0.064	0.112	
10.870	34758	1827	0.053	1.51	
11.984	16122	540	0.033	0.700	
12.501	5017	202	0.040	0.218	
12.610	14144	874	0.062	0.614	
12.719	1119488	62208	0.056	48.6	Tetrachloro-m-xylene
13.364	32404	1311	0.040	1.41	Aroclor-1221
13.723	32597	1124	0.034	1.42	Aroclor-1221
13.932	84571	3461	0.041	3.67	Aroclor-1221
15.450	11256	288	0.026	0.489	Aroclor-1016
15.620	18207	526	0.029	0.791	
16.257	3163	128	0.040	0.137	
16.688	2604	91	0.035	0.113	
17.278	3124	166	0.053	0.136	Aroclor-1016
17.352	5416	214	0.040	0.235	Aroclor-1016
17.788	1308	93	0.071	0.0568	Aroclor-1242
18.648	2289	106	0.046	0.0994	
20.319	65694	2855	0.043	2.85	Aroclor-1242
21.885	4710	81	0.017	0.204	Aroclor-1242
22.971	2138	63	0.029	0.0928	
28.240	7945	268	0.034	0.345	
28.950	3717	40	0.011	0.161	
36.639	181961	82	0.000	7.90	
40.514	3820	109	0.029	0.166	
42.938	643597	14919	0.023	28.0	Decachlorobiphenyl

Total area = 2302619

HNF-SD-WM-DP-297 REV. 0

222-S Laboratory

INITIAL CALIBRATION DATA

Start Cal Date : 06-AUG-97 17:19
 End Cal Date : 11-FEB-1998 01:55
 Quant Method : ESTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP Genie
 Method file : /chem/gc2.i/021098.b/rcrapcb.m
 Cal Date : 11-Feb-1998 13:41 gar
 Curve Type : Average

Calibration File Names:

Level 1: /chem/gc2.i/012398.b/016f0201.d
 Level 2: /chem/gc2.i/012398.b/015f0201.d
 Level 3: /chem/gc2.i/021098.b/004f0201.d
 Level 4: /chem/gc2.i/012398.b/013f0201.d
 Level 5: /chem/gc2.i/012398.b/012f0201.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)	372900	398960	418330	340015	346138	375268	8.950
(2)	467000	479860	490430	400010	405562	448572	9.510
(3)	560050	585080	597780	499560	516360	551766	7.729
23 Aroclor-1221(1)	++++	++++	130315	++++	++++	130315	0.000
(2)	++++	++++	123860	++++	++++	123860	0.000
(3)	++++	++++	309360	++++	++++	309360	0.000

222-S Laboratory

INITIAL CALIBRATION DATA

Start Cal Date : 06-AUG-97 17:19
 End Cal Date : 11-FEB-1998 01:55
 Quant Method : ESTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP Genie
 Method file : /chem/gc2.i/021098.b/rcrapeb.m
 Cal Date : 11-Feb-1998 13:41 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)	++++	++++	102030	++++	++++	102030	0.000
(2)	++++	++++	103990	++++	++++	104000	0.000
(3)	++++	++++	131030	++++	++++	131000	0.000
25 Aroclor-1242(1)	++++	++++	27310	++++	++++	27310	0.000
(2)	++++	++++	60420	++++	++++	60420	0.000
(3)	++++	++++	30780	++++	++++	30780	0.000
26 Aroclor-1248(1)	401750	399020	361130	366260	335330	372698	7.480
(2)	458700	493740	416530	414865	395092	435786	9.142
(3)	562000	555060	462270	459740	438390	495492	11.774
27 Aroclor-1254(1)	498050	374160	++++	388470	494245	438731	15.174
(2)	669950	494140	++++	515700	643340	580782	15.274
(3)	613850	433880	++++	452665	601848	525561	18.162
28 Aroclor-1260(1)	616100	586620	569840	494240	455742	544508	12.301
(2)	621500	595100	567060	503415	449508	547316	12.813
(3)	589600	502480	523760	432700	385842	486876	16.334
=====	=====	=====	=====	=====	=====	=====	=====
\$ 29 Tetrachloro-m-xylene	9447800	10393400	10907440	8788180	8755855	9658535	9.980
\$ 30 Decachlorobiphenyl	++++	5849320	4463060	4553640	++++	4955340	15.650

HNF-SD-WM-DP-297, REV. 0

CONTINUING CALIBRATION VERIFICATION

HNF-SD-WM-DP-297, REV. 0

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Report Date: 13-Feb-1998 11:53

HNF-SD-WM-DP-297 REV. 0

222-S Laboratory

Data file : /chem/gc2.i/021298.b/003f0102.d

Lab Smp Id: 100ng/ml A1660

Client Smp ID: 100ng/ml A1660

Inj Date : 11-FEB-1998 19:07

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1660

Misc Info : 100ng/ml A1660

Comment :

Method : /chem/gc2.i/021298.b/rcrapcb.m

Meth Date : 13-Feb-1998 09:53 gar

Quant Type: ESTD

Cal Date : 24-JAN-1998 05:06

Cal File: 016f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1660.sub

Target Version: 3.10

Sample Matrix: WATER

CONCENTRATIONS

RT	EXP RT	DLT RT	CONCENTRATIONS		RESPONSE (ng)	(ug/L)	TARGET RANGE	RATIO
			ON-COL	FINAL				
==	=====	=====	=====	=====	=====	=====	=====	=====
22 Aroclor-1016			CAS #: 12674-11-2					
15.479	15.500	-0.021	43538	0.11601	2.3202		100.00	
17.286	17.311	-0.025	52049	0.11602	2.3205	114.00- 134.00	119.55	
17.365	17.389	-0.024	63206	0.11454	2.2909	134.00- 154.00	145.17	
Average of Peak Concentrations =			2.3105					

28 Aroclor-1260			CAS #: 11096-82-5					
26.180	26.212	-0.032	68029	0.12494	2.4988		100.00	
27.416	27.448	-0.032	71709	0.13102	2.6205	89.00- 109.00	105.41	
28.972	29.007	-0.035	61710	0.12674	2.5348	72.00- 92.00	90.71	
Average of Peak Concentrations =			2.5513					

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8					
12.733	12.750	-0.017	555702	0	1.1507		100.00	

\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3					
43.005	43.059	-0.054	344107	0	1.3888		100.00	

115.5%

127.6%
127.6%
MAR 3-12-98

115.1%

138.9%

Data File: /chem/gc2.i/021298.b/003f0102.d
Report Date: 13-Feb-1998 11:53

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RECOVERY REPORT

Client Name: Client SDG: 021298
Sample Matrix: LIQUID Fraction: PEST
Lab Smp Id: 100ng/ml A1660 Client Smp ID: 100ng/ml A1660
Level: LOW Operator: Gerald Ross
Data Type: GC MULTI COMP SampleType: SAMPLE
SpikeList File: RESOLUTION.spk Quant Type: ESTD
Method File: /chem/gc2.i/021298.b/rcrapcb.m
Misc Info: 100ng/ml A1660

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED		LIMITS
\$ 29 Tetrachloro-m-xyle	0.96000	1.1507	115.1	119.86	50-150
\$ 30 Decachlorobiphenyl	0.96000	1.3888	138.9	144.67	50-150

APR 30 1998

Data File: /chem/gc2.i/021298.b/003f0102.d
Report Date: 13-Feb-1998 11:53

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222-S Laboratory

TARGET COMPOUNDS

Client Name:
Lab Smp ID: 100ng/ml A1660
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: PEST
Data Type: GC MULTI COMP
Misc Info: 100ng/ml A1660

Client SDG: 021298
Client Smp ID: 100ng/ml A1660
Sample Point:
Date Received:
Quant Type: ESTD
Level: LOW
Operator: Gerald Ross

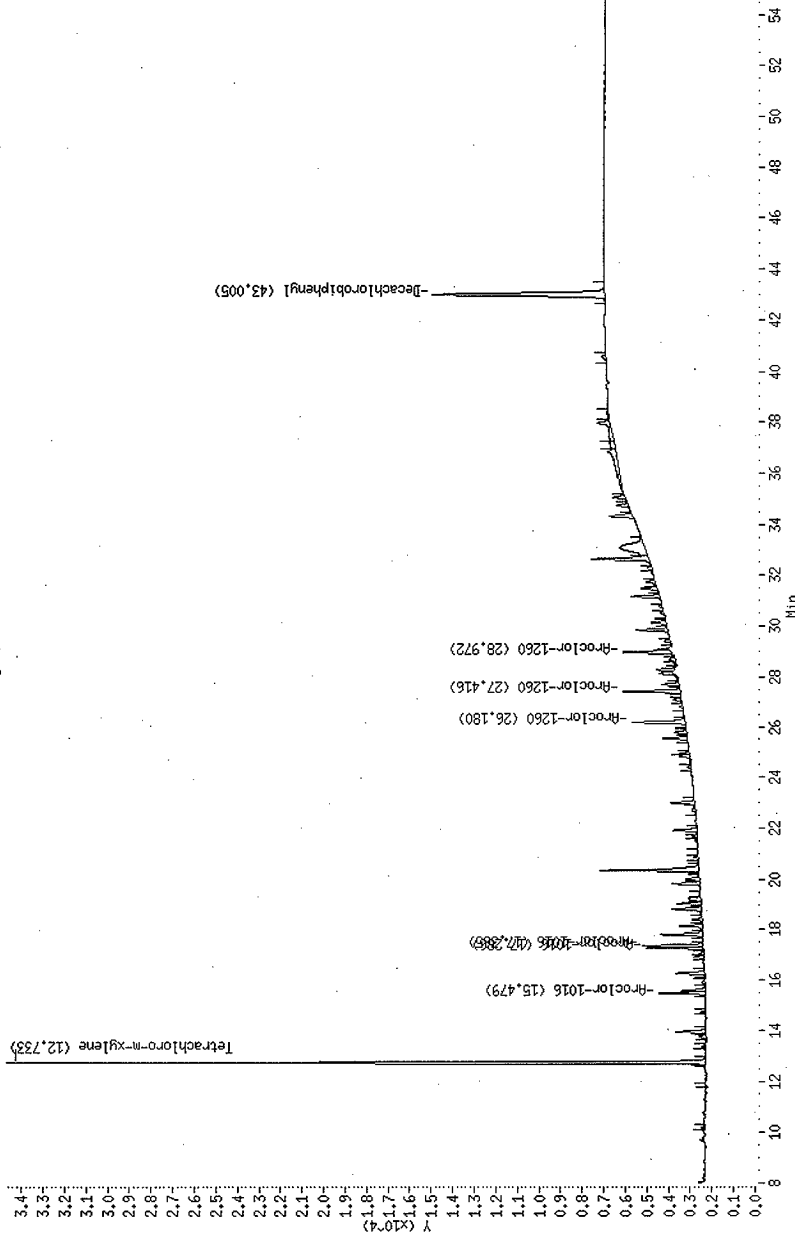
CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/KG)	ug/L Q
12674-11-2-----	Aroclor-1016	2.3105	
11096-82-5-----	Aroclor-1260	2.5513	
877-09-8-----	Tetrachloro-m-xylene	1.1507	
2051-24-3-----	Decachlorobiphenyl	1.3888	

Data File: /chem/gc2.i/021298.b/003f0102.d
Date : 11-FEB-1998 19:07
Client ID: 100ng/ml A1660
Sample Info: 100ng/ml A1660
Volume Injected (uL): 1.0
Column phase: Xti-5

Instrument: gc2.i

Operator: Gerald Ross
Column diameter: 0.25

/chem/gc2.i/021298.b/003f0102.d



Data File: /chem/gc2.i/021298.b/004f0102.d
 Report Date: 18-Feb-1998 14:25

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222-S Laboratory

Data file : /chem/gc2.i/021298.b/004f0102.d

Lab Smp Id: 100ng/ml A1232

Client Smp ID: 100ng/ml A1232

Inj Date : 11-FEB-1998 21:12

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1232

Misc Info : 100ng/ml A1232

Comment :

Method : /chem/gc2.i/021298.b/rcrapcb.m

Meth Date : 18-Feb-1998 14:25 gar

Quant Type: ESTD

Cal Date : 11-FEB-1998 21:12

Cal File: 004f0102.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: WATER

AMOUNTS

RT	EXP RT	DLT RT	CAL-AMT		ON-COL		TARGET RANGE	RATIO
			RESPONSE (	ng)	(	ng)		
==	=====	=====	=====	=====	=====	=====	=====	=====
24	Aroclor-1232					CAS #: 1114-16-5		
15.481	15.481	0.000	18733	0.100	0.100		100.00	
17.290	17.290	0.000	17754	0.100	0.100	110.00- 140.00	94.77	
17.368	17.368	0.000	22163	0.100	0.100	126.00- 166.00	118.31	
Average of Peak Amounts =					0.100			

\$ 29	Tetrachloro-m-xylene					CAS #: 877-09-8		
12.733	12.750	-0.017	819368	0.0500	0.0848		100.00	
\$ 30	Decachlorobiphenyl					CAS #: 2051-24-3		
43.003	43.059	-0.056	563808	0.0500	0.114		100.00	

170%

Adhemor
 228% 3-18-98

Data File: /chem/gc2.i/021298.b/005f0102.d
 Report Date: 13-Feb-1998 08:27

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222-S Laboratory

Data file : /chem/gc2.i/021298.b/005f0102.d

Lab Smp Id: 100ng/ml A1248

Client Smp ID: 100ng/ml A1248

Inj Date : 11-FEB-98 23:18

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1248

Misc Info : 100ng/ml A1248

Comment :

Method : /chem/gc2.i/021298.b/rcrapcb.m

Meth Date : 13-Feb-1998 07:25

Quant Type: ESTD

Cal Date : 24-JAN-1998 05:06

Cal File: 016f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1248.sub

Target Version: 3.10

Sample Matrix: WATER

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL		FINAL		TARGET RANGE	RATIO
			RESPONSE (	ng)	(ug/L)			
==	=====	=====	=====	=====	=====		=====	=====
26 Aroclor-1248								
			CAS #: 12672-29-6					
19.831	19.860	-0.029	45586	0.12231	2.4463			100.00
21.673	21.705	-0.032	57558	0.13208	2.6416	0.00-	20.00	126.26
21.889	21.922	-0.033	63389	0.12793	2.5587	0.00-	20.00	139.05
Average of Peak Concentrations =			2.5488					

127.40%

\$ 29 Tetrachloro-m-xylene								
			CAS #: 877-09-8					
12.735	12.750	-0.015	552085	0	1.1432			100.00

\$ 30 Decachlorobiphenyl								
			CAS #: 2051-24-3					
43.006	43.059	-0.053	346084	0	1.3968			100.00

114%
 3-18-98
 139.7%

Data File: /chem/gc2.i/021298.b/006f0101.d
 Report Date: 13-Feb-1998 11:53

Page 1

222-S Laboratory

Data file : /chem/gc2.i/021298.b/006f0101.d

Lab Smp Id: 100ng/ml A1254

Client Smp ID: 100ng/ml A1254

Inj Date : 12-FEB-1998 00:20

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 100ng/ml A1254

Misc Info : 100ng/ml A1254

Comment :

Method : /chem/gc2.i/021298.b/rcrapcb.m

Meth Date : 13-Feb-1998 09:53 gar

Quant Type: ESTD

Cal Date : 24-JAN-1998 05:06

Cal File: 016f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AR1254.sub

Target Version: 3.10

Sample Matrix: WATER

			CONCENTRATIONS					
			ON-COL		FINAL			
RT	EXP RT	DLT RT	RT	RESPONSE	(ng)	(ug/L)	TARGET RANGE	RATIO
==	=====	=====		=====	=====	=====	=====	=====
27 Aroclor-1254			CAS #: 11097-69-1					
21.916	21.947	-0.031		35770	0	1.6307		100.00
22.999	23.030	-0.031		50038	0	1.7231	112.00- 152.00	139.89
24.944	24.977	-0.033		45553	0	1.7334	96.00- 136.00	127.35
Average of Peak Concentrations =			1.6957					

\$ 29 Tetrachloro-m-xylene			CAS #: 877-09-8					
12.734	12.750	-0.016		609492	0	1.2621		100.00

\$ 30 Decachlorobiphenyl			CAS #: 2051-24-3					
43.007	43.059	-0.052		411715	0	1.6617		100.00(R)

84.4%

126.8%
 McManis
 3-19-98
 166.2%

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/gc2.i/021298.b/006f0101.d
 Report Date: 13-Feb-1998 11:53

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RECOVERY REPORT

Client Name: Client SDG: 021298
 Sample Matrix: LIQUID Fraction: PEST
 Lab Smp Id: 100ng/ml A1254 Client Smp ID: 100ng/ml A1254
 Level: LOW Operator: Gerald Ross
 Data Type: GC MULTI COMP SampleType: SAMPLE
 SpikeList File: RESOLUTION.spk Quant Type: ESTD
 Method File: /chem/gc2.i/021298.b/rcrapcb.m
 Misc Info: 100ng/ml A1254

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
\$ 29 Tetrachloro-m-xyle	0.96000	1.2621	130.5%	50-150
\$ 30 Decachlorobiphenyl	0.96000	1.6617	173.09*	50-150

APL 3-12-98

Data File: /chem/gc2.i/021298.b/006f0101.d
Report Date: 13-Feb-1998 11:53

222-S Laboratory

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 100ng/ml A1254
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: PEST
Data Type: GC MULTI COMP
Misc Info: 100ng/ml A1254

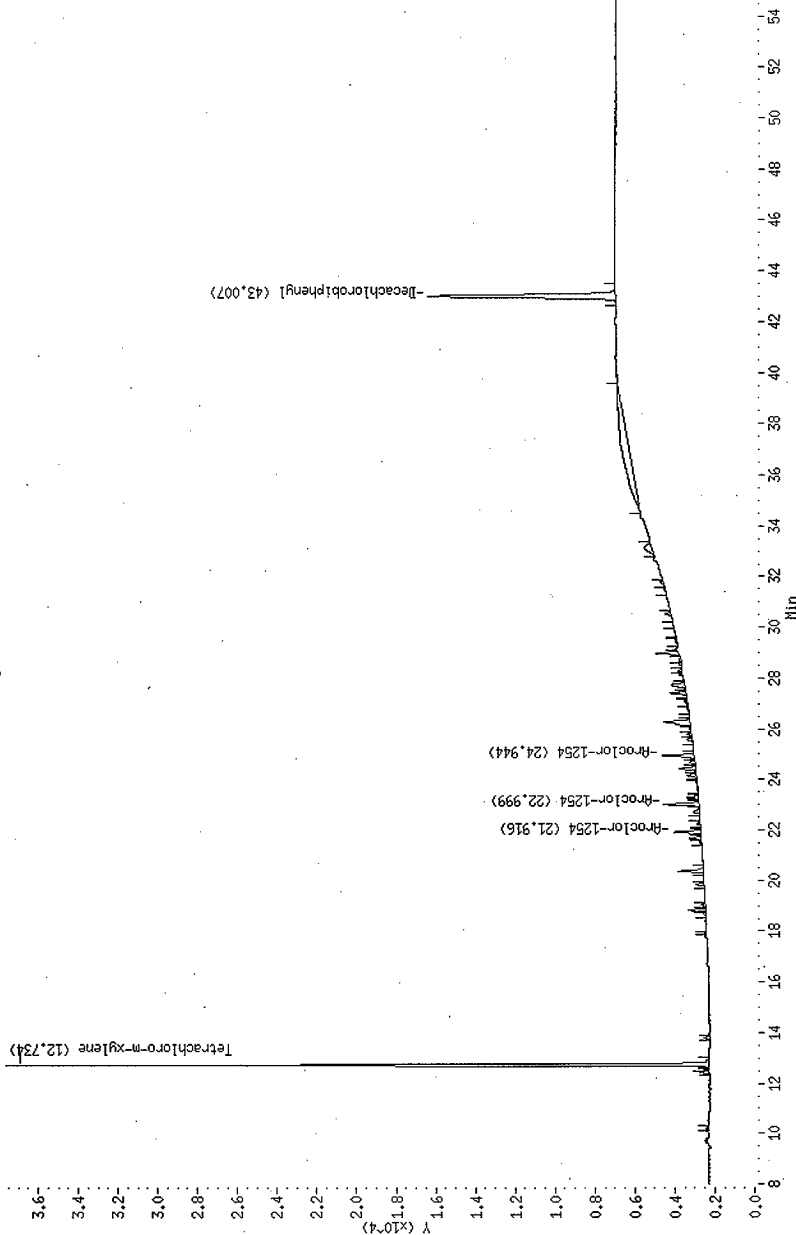
Client SDG: 021298
Client Smp ID: 100ng/ml A1254
Sample Point:
Date Received:
Quant Type: ESTD
Level: LOW
Operator: Gerald Ross

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/KG)	ug/L
11097-69-1-----	Aroclor-1254	1.6957	Q
877-09-8-----	Tetrachloro-m-xylene	1.2621	
2051-24-3-----	Decachlorobiphenyl	1.6617	

Data File: /chem/gc2.i/021298.b/006f0101.d
Date: 12-FEB-1998 00:20
Client ID: 100ng/ml A1254
Sample Info: 100ng/ml A1254
Volume Injected (ul): 1.0
Column phase: Xti-5

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

/chem/gc2.i/021298.b/006f0101.d



HNH-SD-WM-DP-297, REV. 0

RAW DATA

HNF-SD-WM-DP-297, REV. 0

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Data File: /chem/gc2.i/031398.b/020f0301.d
 Report Date: 18-Mar-1998 12:55

Page 1

222-S Laboratory

Data file : /chem/gc2.i/031398.b/020f0301.d

Lab Smp Id: TK-104

Client Smp ID: TK-104

Inj Date : 14-MAR-1998 10:48

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 951 tk104 (1/40)

Misc Info : TK-104

Comment :

Method : /chem/gc2.i/031098.b/rcrapcb.m

Meth Date : 18-Mar-1998 06:44 gar

Quant Type: AREA%

Cal Date : 17-MAR-1998 03:24

Cal File: 003f0103.d

Als bottle: 1

Dil Factor: 40.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: SOIL

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
10.121	9687	734	0.076	0.134	
10.196	11095	610	0.055	0.154	
10.437	5776	246	0.043	0.0801	
10.684	39037	2351	0.060	0.541	
10.811	7881	310	0.039	0.109	
11.291	1589	121	0.076	0.0220	
11.512	5293	193	0.036	0.0734	
11.595	7494	425	0.057	0.104	
11.651	6505	361	0.055	0.0902	
11.871	35313	1585	0.045	0.490	
11.932	19241	1075	0.056	0.267	
12.057	60995	2249	0.037	0.846	
12.221	9714	305	0.031	0.135	
12.480	12897	426	0.033	0.179	
12.718	1118622	64334	0.058	15.5	Tetrachloro-m-xylene
13.036	31949	1651	0.052	0.443	
13.352	46639	1870	0.040	0.646	
13.542	1626	129	0.079	0.0225	
13.687	9157	414	0.045	0.127	
13.766	8895	504	0.057	0.123	
13.998	7975	270	0.034	0.110	
14.130	4014	258	0.064	0.0556	
14.214	13714	494	0.036	0.190	
14.460	16145	451	0.028	0.224	
14.706	14725	514	0.035	0.204	
14.810	55161	1878	0.034	0.765	
15.109	5278	237	0.045	0.0732	
15.279	61183	2317	0.038	0.848	
15.457	58354	2372	0.041	0.809	Aroclor-1016
15.547	18449	928	0.050	0.256	
15.801	7360	270	0.037	0.102	
15.965	33317	880	0.026	0.462	

Data File: /chem/gc2.i/031398.b/020f0301.d
 Report Date: 18-Mar-1998 12:55

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
=====	=====	=====	=====	=====	=====
16.247	32401	1296	0.040	0.449	
16.448	9179	339	0.037	0.127	
16.701	9602	376	0.039	0.133	
16.892	50042	1256	0.025	0.694	
17.145	4607	238	0.052	0.0639	
17.260	86064	4086	0.047	1.19	Aroclor-1016
17.339	70745	3612	0.051	0.981	Aroclor-1016
17.437	199964 (-)	8481	0.042	2.77	
18.026	8620	409	0.047	0.120	
18.122	29905	1220	0.041	0.414	
18.386	49876	1192	0.024	0.691	
18.640	4387	216	0.049	0.0608	
19.006	91716	3968	0.043	1.27	
19.207	78736	2162	0.027	1.09	
19.631	10871	394	0.036	0.151	
19.977	199364	7712	0.039	2.76	
20.669	5987	198	0.033	0.0830	
20.828	30062	1198	0.040	0.417	
20.999	5198	221	0.043	0.0721	
21.272	9969	347	0.035	0.138	
21.471	79024	3217	0.041	1.10	
22.199	68759	2092	0.030	0.953	
22.351	55526	1437	0.026	0.770	
22.578	15839	667	0.042	0.220	
22.727	166441	4760	0.029	2.31	
22.966	191271	6820	0.036	2.65	Aroclor-1254
23.129	3520	227	0.064	0.0488	
23.244	53713	2263	0.042	0.745	
23.508	32485	1124	0.035	0.450	
23.668	14637	491	0.034	0.203	
23.847	17840	575	0.032	0.247	
24.116	54379	2096	0.039	0.754	
24.382	94744	3411	0.036	1.31	
24.628	35281	1389	0.039	0.489	
24.904	189902	6505	0.034	2.63	Aroclor-1254
25.160	3440	125	0.036	0.0477	
25.542	46992	1554	0.033	0.651	
25.751	23722	805	0.034	0.329	
25.963	12829	567	0.044	0.178	
26.227	200113	5418	0.027	2.77	
26.763	6165	228	0.037	0.0855	
26.882	2283	111	0.049	0.0316	
27.049	16383	529	0.032	0.227	
27.377	72022	2585	0.036	0.998	
27.705	121143	3313	0.027	1.68	
27.903	2958	109	0.037	0.0410	
28.097	15713	678	0.043	0.218	
28.236	7428	279	0.038	0.103	
28.499	9436	374	0.040	0.131	
28.639	10797	404	0.037	0.150	
28.932	98392	3623	0.037	1.36	
29.077	3135	273	0.087	0.0435	

Data File: /chem/gc2.i/031398.b/020f0301.d
Report Date: 18-Mar-1998 12:55

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
29.415	14644	397	0.027	0.203	
29.807	11928	387	0.032	0.165	
30.088	6172	228	0.037	0.0856	
30.490	32451	1023	0.032	0.450	
30.744	980	45	0.046	0.0136	
31.132	12422	405	0.033	0.172	
31.307	2633	113	0.043	0.0365	
31.449	8007	268	0.033	0.111	
31.732	21837	722	0.033	0.303	
32.055	4312	132	0.031	0.0598	
32.237	1848	73	0.040	0.0256	
32.598	36709	1013	0.028	0.509	
32.863	85218	1155	0.014	1.18	
34.286	17408	500	0.029	0.241	
34.725	1576	102	0.065	0.0218	
35.024	2967	74	0.025	0.0411	
35.277	7071	147	0.021	0.0980	
36.276	56887	255	0.004	0.789	
36.430	9698	216	0.022	0.134	
36.647	11160	256	0.023	0.155	
36.774	8874	204	0.023	0.123	
37.131	6396	78	0.012	0.0887	
37.741	8257	246	0.030	0.114	
37.946	22225	417	0.019	0.308	
38.134	10401	163	0.016	0.144	
38.497	10429	150	0.014	0.144	
39.602	49247	582	0.012	0.683	
40.183	3382	36	0.011	0.0469	
40.517	9846	226	0.023	0.136	
42.443	6538	112	0.017	0.0906	
42.935	752394	16622	0.022	10.4	Decachlorobiphenyl
43.443	14777	173	0.012	0.205	
46.995	56061	291	0.005	0.777	
47.395	18664	287	0.015	0.259	
48.776	53369	406	0.008	0.740	
49.167	68297	413	0.006	0.947	
50.247	8505	119	0.014	0.118	
51.103	21865	97	0.004	0.303	
52.052	184172	1529	0.008	2.55	
53.703	14483	178	0.012	0.201	
54.173	42412	364	0.009	0.588	

Total area = 7213134

non-PCB area 3389346

Total PCB area 3823788

(-)

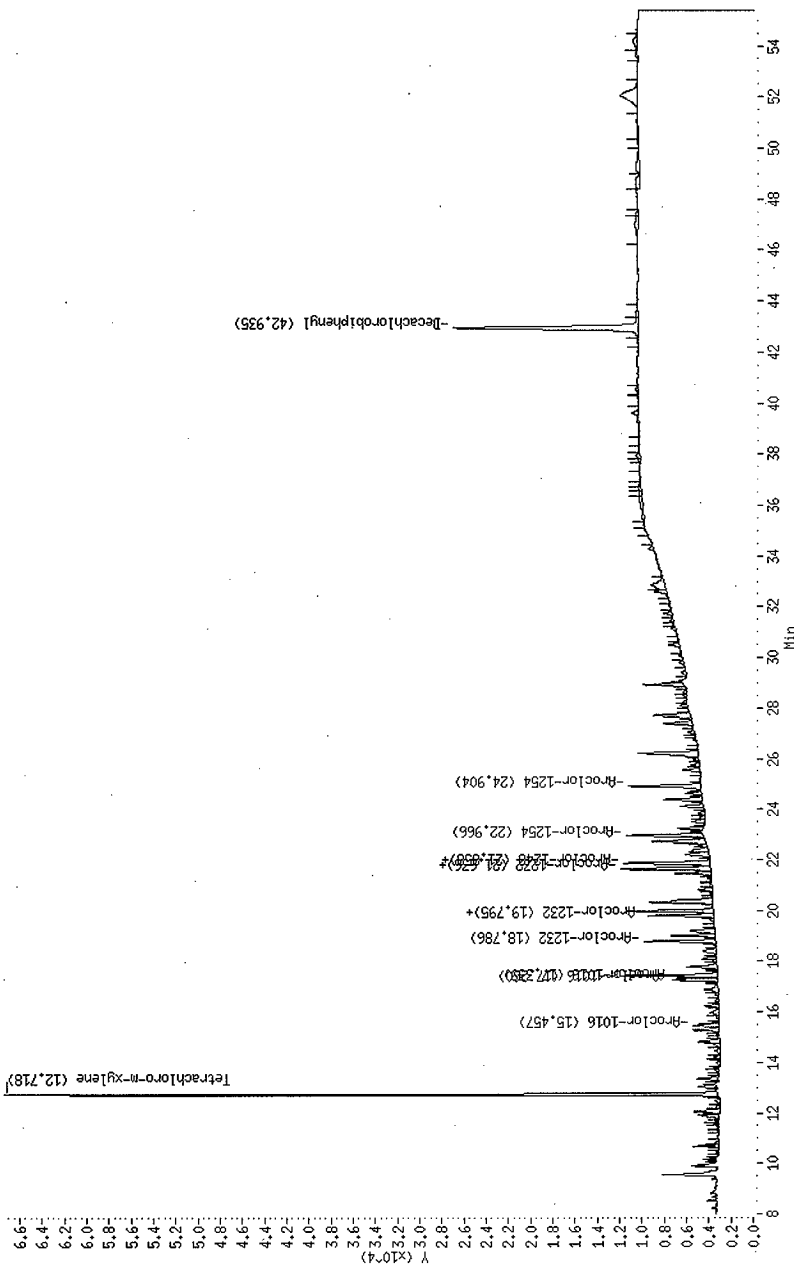
3-24-98

Data File: /chem/gc2.1/031398.b/020f0301.d
Date: 14-Mar-1998 10:48
Client ID: TK-104
Sample Info: 951 tk104 (1/40)
Volume Injected (uL): 1.0
Column phase: Xti-5

Instrument: gc2.1

Operator: Gerald Ross
Column diameter: 0.25

/chem/gc2.1/031398.b/020f0301.d



Data File: /chem/gc2.i/031398.b/021f0301.d
 Report Date: 18-Mar-1998 13:21

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Data file : /chem/gc2.i/031398.b/021f0301.d

Lab Smp Id: TK-104D

Client Smp ID: TK-104D

Inj Date : 14-MAR-1998 11:50

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 953 tk104 (1/40)

Misc Info : 953 tk104 (1/40)

Comment :

Method : /chem/gc2.i/031098.b/rcrapcb.m

Meth Date : 18-Mar-1998 06:44 gar

Quant Type: AREA%

Cal Date : 17-MAR-1998 03:24

Cal File: 003f0103.d

Als bottle: 1

Dil Factor: 40.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: SOIL

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
10.121	12758	923	0.072	0.163	
10.196	6155	319	0.052	0.0786	
10.438	7489	312	0.042	0.0956	
10.575	1453	107	0.074	0.0186	
10.683	43291	2659	0.061	0.553	
10.813	10031	410	0.041	0.128	
11.288	1857	142	0.076	0.0237	
11.509	5911	216	0.037	0.0755	
11.595	8360	488	0.058	0.107	
11.651	7762	433	0.056	0.0991	
11.871	41025	1845	0.045	0.524	
11.932	22308	1244	0.056	0.285	
12.057	67776	2436	0.036	0.865	
12.217	11834	359	0.030	0.151	
12.483	15243	511	0.034	0.195	
12.718	1173776	67009	0.057	15.0	Tetrachloro-m-xylene
13.036	40635	2112	0.052	0.519	
13.350	61295	2557	0.042	0.783	
13.542	2171	166	0.076	0.0277	
13.686	9550	427	0.045	0.122	
13.766	8548	492	0.058	0.109	
13.998	8212	310	0.038	0.105	
14.130	4707	310	0.066	0.0601	
14.213	16292	579	0.036	0.208	
14.459	19603	558	0.028	0.250	
14.705	17173	594	0.035	0.219	
14.808	70770	2537	0.036	0.904	
15.108	6566	297	0.045	0.0838	
15.278	57031	2070	0.036	0.728	
15.457	64561	2643	0.041	0.824	Aroclor-1016
15.547	20530	1039	0.051	0.262	
15.802	9747	336	0.034	0.124	

Data File: /chem/gc2.i/031398.b/021f0301.d
Report Date: 18-Mar-1998 13:21

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
=====	=====	=====	=====	=====	=====
15.962	20231	648	0.032	0.258	
16.045	10842	482	0.044	0.138	
16.247	37025	1482	0.040	0.473	
16.447	9677	333	0.034	0.124	
16.697	7879	311	0.039	0.101	
16.892	48503	1269	0.026	0.619	
17.259	99594	4619	0.046	1.27	Aroclor-1016
17.338	79749	4072	0.051	1.02	Aroclor-1016
17.437	238177 (-)	10390	0.044	3.04	
18.023	8508	359	0.042	0.109	
18.122	33957	1367	0.040	0.434	
18.412	59723	1411	0.024	0.763	
19.006	102317	4447	0.043	1.31	
19.205	85007	2296	0.027	1.08	
19.629	10335	373	0.036	0.132	
19.976	231308	8951	0.039	2.95	
20.673	7455	226	0.030	0.0952	
20.827	35898	1393	0.039	0.458	
20.997	6093	255	0.042	0.0778	
21.273	11546	376	0.033	0.147	
21.471	92120	3752	0.041	1.18	
22.197	72959	2262	0.031	0.932	
22.348	62005	1628	0.026	0.792	
22.575	18512	761	0.041	0.236	
22.726	184356	5385	0.029	2.35	
22.966	195477	6904	0.035	2.50	Aroclor-1254
23.127	4387	273	0.062	0.0560	
23.242	54957	2317	0.042	0.702	
23.506	40719	1371	0.034	0.520	
23.667	17945	608	0.034	0.229	
23.845	18999	602	0.032	0.243	
24.115	54353	2104	0.039	0.694	
24.380	92742	3321	0.036	1.18	
24.627	35637	1408	0.040	0.455	
24.904	183709	6357	0.035	2.34	Aroclor-1254
25.156	4264	143	0.034	0.0544	
25.543	48532	1598	0.033	0.620	
25.750	22922	750	0.033	0.293	
25.962	12494	546	0.044	0.160	
26.226	190730	5264	0.028	2.44	
26.761	5495	205	0.037	0.0702	
26.880	2984	136	0.046	0.0381	
27.047	16947	505	0.030	0.216	
27.377	61444	2274	0.037	0.785	
27.705	111794	3270	0.029	1.43	
27.908	2964	108	0.036	0.0378	
28.098	17106	659	0.039	0.218	
28.244	4388	150	0.034	0.0560	
28.501	8999	368	0.041	0.115	
28.638	9552	362	0.038	0.122	
28.930	100152	3427	0.034	1.28	
29.078	3665	254	0.069	0.0468	

Data File: /chem/gc2.i/031398.b/021f0301.d
 Report Date: 18-Mar-1998 13:21

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
29.416	14600	382	0.026	0.186	
29.805	10944	315	0.029	0.140	
30.089	4911	169	0.034	0.0627	
30.489	31762	938	0.030	0.406	
30.729	1484	54	0.036	0.0190	
31.131	8929	319	0.036	0.114	
31.306	4166	170	0.041	0.0532	
31.451	7599	250	0.033	0.0970	
31.732	18676	646	0.035	0.238	
32.054	3505	115	0.033	0.0448	
32.598	37487	902	0.024	0.479	
32.864	52154	808	0.015	0.666	
33.874	27021	151	0.006	0.345	
33.989	2764	80	0.029	0.0353	
34.291	15560	464	0.030	0.199	
34.710	4374	110	0.025	0.0558	
35.146	2601	80	0.031	0.0332	
35.627	14304	180	0.013	0.183	
36.088	27803	232	0.008	0.355	
36.262	8368	188	0.022	0.107	
36.648	24676	344	0.014	0.315	
36.768	12576	294	0.023	0.160	
36.984	4063	133	0.033	0.0519	
37.491	47779	354	0.007	0.610	
37.741	19874	511	0.026	0.254	
37.937	44957	640	0.014	0.574	
38.492	3606	91	0.025	0.0460	
38.753	2731	57	0.021	0.0349	
39.600	19185	554	0.029	0.245	
40.511	23768	288	0.012	0.304	
42.934	795518	17808	0.022	10.2	Decachlorobiphenyl
43.909	8889	127	0.014	0.114	
47.416	19688	250	0.013	0.251	
48.065	78461	425	0.005	1.00	
49.175	34233	472	0.014	0.437	
49.458	73525	433	0.006	0.939	
50.214	45117	364	0.008	0.576	
50.979	91933	469	0.005	1.17	
52.044	214267	1784	0.008	2.74	
52.807	5556	75	0.013	0.0710	
54.183	40580	374	0.009	0.518	
54.695	20611	152	0.007	0.263	

Total area = 7830977

non-PCB area 3748703 (-)

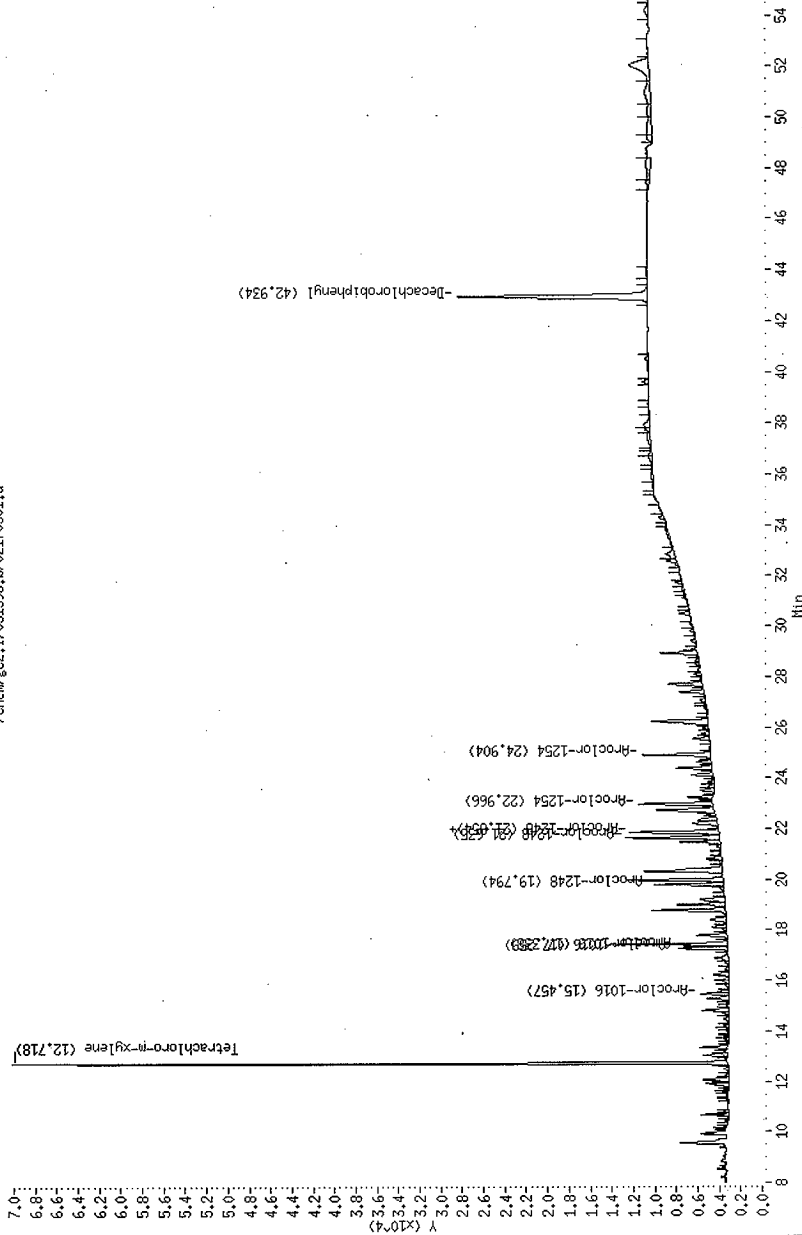
Total PCB area 4082274

Data File: /chem/gc2.1/031398.b/021f0301.d
 Date : 14-MAR-1998 11:50
 Client ID: TK-104D
 Sample Info: 953 tk104 (1/40)
 Volume Injected (ul): 1.0
 Column phase: Xti-5

Instrument: gc2.1

Operator: Gerald Ross
 Column diameter: 0.25

/chem/gc2.1/031398.b/021f0301.d



Data File: /chem/gc2.i/031398.b/022f0301.d
 Report Date: 18-Mar-1998 13:22

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222-S Laboratory

Data file : /chem/gc2.i/031398.b/022f0301.d

Lab Smp Id: TK-104MS

Client Smp ID: TK-104MS

Inj Date : 14-MAR-1998 12:53

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 951tk104ms(1/40)

Misc Info : 951tk104ms(1/40)

Comment :

Method : /chem/gc2.i/031098.b/rcrapcb.m

Meth Date : 18-Mar-1998 06:44 gar

Quant Type: AREA%

Cal Date : 17-MAR-1998 03:24

Cal File: 003f0103.d

Als bottle: 1

QC Sample: MS

Dil Factor: 40.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: SOIL

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
10.121	9043	663	0.073	0.101	
10.195	11196	621	0.055	0.125	
10.438	5033	220	0.044	0.0563	
10.683	35694	2220	0.062	0.399	
10.813	6246	271	0.043	0.0699	
11.512	10163	230	0.023	0.114	
11.594	8249	431	0.052	0.0923	
11.645	5210	312	0.060	0.0583	
11.871	33722	1515	0.045	0.377	
11.933	19098	1036	0.054	0.214	
12.057	57129	2109	0.037	0.639	
12.220	9416	286	0.030	0.105	
12.482	11296	419	0.037	0.126	
12.718	1264422	71549	0.057	14.2	Tetrachloro-m-xylene
13.036	30340	1526	0.050	0.340	
13.351	44376	1726	0.039	0.497	
13.542	1706	131	0.077	0.0191	
13.686	7994	371	0.046	0.0895	
13.766	10015	559	0.056	0.112	
13.996	7711	247	0.032	0.0863	
14.214	16764	477	0.028	0.188	
14.458	16978	473	0.028	0.190	
14.705	15042	496	0.033	0.168	
14.809	50756	1709	0.034	0.568	
15.108	8620	357	0.041	0.0965	
15.277	54443	2045	0.038	0.609	
15.457	55388	2274	0.041	0.620	Aroclor-1016
15.547	18240	895	0.049	0.204	
15.798	6953	249	0.036	0.0778	
15.963	30470	769	0.025	0.341	
16.245	31439	1251	0.040	0.352	
16.447	8597	307	0.036	0.0962	

Data File: /chem/gc2.i/031398.b/022f0301.d

Page 2

Report Date: 18-Mar-1998 13:22

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
16.700	8421	333	0.040	0.0942	
16.890	46067	1168	0.025	0.516	
17.144	3789	206	0.054	0.0424	
17.258	82672	3925	0.047	0.925	Aroclor-1016
17.337	67404	3433	0.051	0.754	Aroclor-1016
17.436	190324(-)	8077	0.042	2.13	
18.025	7942	371	0.047	0.0889	
18.120	28078	1165	0.041	0.314	
18.381	47203	1139	0.024	0.528	
18.641	3338	177	0.053	0.0374	
19.005	100860	4409	0.044	1.13	
19.206	76545	2102	0.027	0.857	
19.392	4750	151	0.032	0.0532	
19.629	9969	370	0.037	0.112	
19.976	186342	7117	0.038	2.08	
20.672	9126	263	0.029	0.102	
20.825	32177	1233	0.038	0.360	
20.996	5573	228	0.041	0.0624	
21.274	10180	340	0.033	0.114	
21.470	90168	3664	0.041	1.01	
22.201	78032	2531	0.032	0.873	
22.347	46442	1240	0.027	0.520	
22.718	198014	4886	0.025	2.22	
22.960	326039	11503	0.035	3.65	Aroclor-1254
23.241	98400	4084	0.042	1.10	
23.507	30428	980	0.032	0.340	
23.666	13757	449	0.033	0.154	
23.845	27711	903	0.033	0.310	
24.113	113141	3847	0.034	1.27	
24.378	168414	6255	0.037	1.88	
24.626	55392	2215	0.040	0.620	
24.900	333070	11605	0.035	3.73	Aroclor-1254
25.537	77278	2517	0.033	0.865	
25.748	45925	1605	0.035	0.514	
25.960	24906	996	0.040	0.279	
26.224	363329	9389	0.026	4.07	
26.759	16549	568	0.034	0.185	
26.877	5963	257	0.043	0.0667	
27.046	34647	1087	0.031	0.388	
27.374	133107	4973	0.037	1.49	
27.699	207314	5582	0.027	2.32	
27.906	1959	82	0.042	0.0219	
28.098	38465	1514	0.039	0.430	
28.240	6063	257	0.042	0.0678	
28.499	19922	781	0.039	0.223	
28.637	20652	776	0.038	0.231	
28.929	222285	7746	0.035	2.49	
29.077	9524	627	0.066	0.106	
29.409	33531	822	0.025	0.375	
29.805	49565	940	0.019	0.555	
30.087	53274(-)	959	0.018	0.596	
30.488	67529(-)	2115	0.031	0.756	

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3-24-98

Data File: /chem/gc2.i/031398.b/022f0301.d
 Report Date: 18-Mar-1998 13:22

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
30.726	3518	106	0.030	0.0394	
31.130	15092	576	0.038	0.169	
31.304	2221	107	0.048	0.0249	
31.448	11193	413	0.037	0.125	
31.729	38259	1321	0.035	0.428	
32.055	9806	293	0.030	0.110	
32.237	2427	104	0.043	0.0272	
32.594	59690	1552	0.026	0.668	
32.857	67274	918	0.014	0.753	
33.668	21938	243	0.011	0.246	
33.866	11050	194	0.018	0.124	
33.983	3047	95	0.031	0.0341	
34.285	29824	889	0.030	0.334	
34.707	4852	134	0.028	0.0543	
35.146	2195	91	0.041	0.0246	
35.539	9539	220	0.023	0.107	
35.717	10639	222	0.021	0.119	
36.108	32471	295	0.009	0.363	
36.279	12459	267	0.021	0.139	
36.424	10862	238	0.022	0.122	
36.651	13161	268	0.020	0.147	
36.763	12509	262	0.021	0.140	
37.520	50013	315	0.006	0.560	
37.743	19078	442	0.023	0.214	
37.930	40074	611	0.015	0.448	
38.206	3453	134	0.039	0.0386	
39.316	15152	148	0.010	0.170	
39.597	17626	484	0.027	0.197	
40.524	8195	166	0.020	0.0917	
40.886	24093	206	0.009	0.270	
42.419	15883	128	0.008	0.178	
42.934	895641	20045	0.022	10.0	Decachlorobiphenyl
47.411	6941	128	0.018	0.0777	
48.073	16967	162	0.010	0.190	
49.180	2209	160	0.072	0.0247	
49.480	13611	118	0.009	0.152	
50.223	6167	95	0.015	0.0690	
50.949	38838	257	0.007	0.435	
52.044	164811	1390	0.008	1.84	
52.839	5426	83	0.015	0.0607	
53.662	5070	91	0.018	0.0567	
54.196	27847	302	0.011	0.312	

Total area = 8934806

non-PCB area 3693704 (-)

Total PCB area 5241102

Data File: /chem/gc2.i/031398.b/022F0301.d

Date: 14-MAR-1998 12:53

Client ID: TK-104MS

Sample Info: 951tk104ms(1/40)

Volume Injected (uL): 1.0

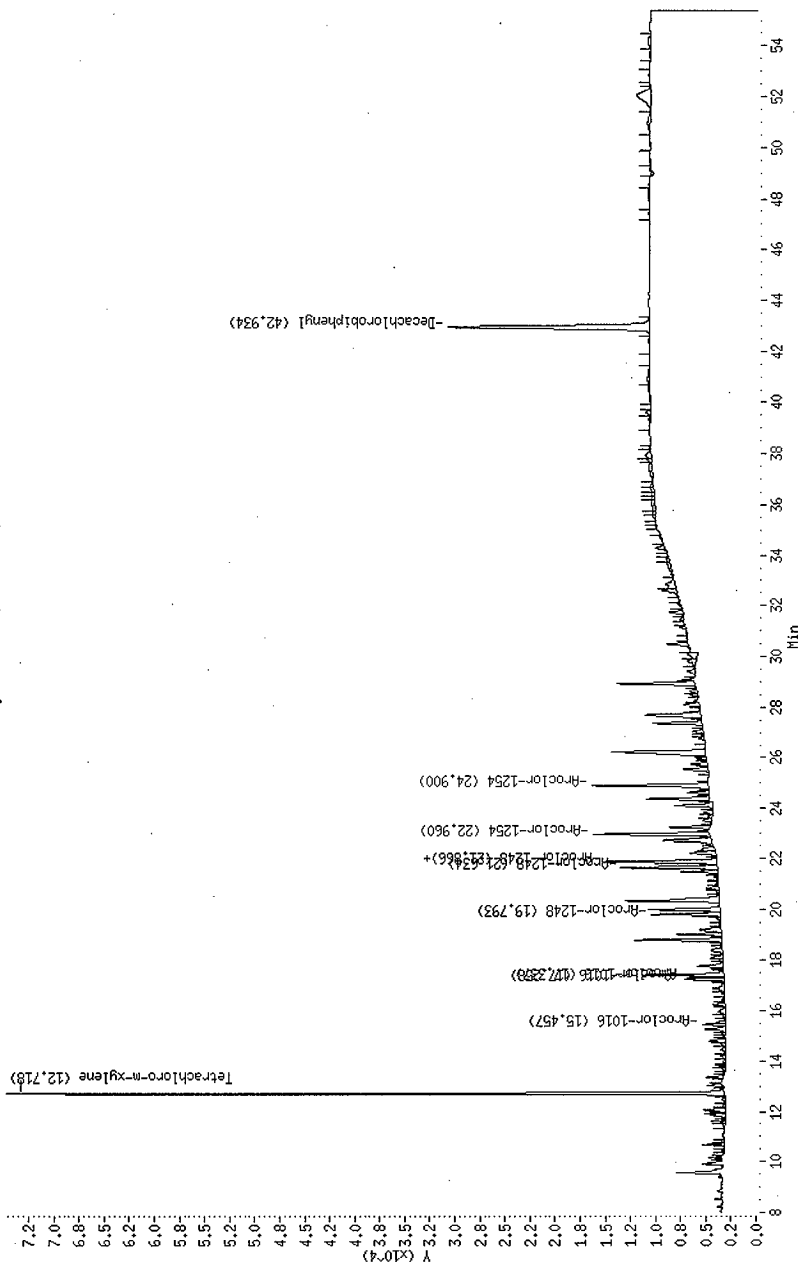
Column phase: Xti-5

Instrument: gc2.i

Operator: Gerald Ross

Column diameter: 0.25

/chem/gc2.i/031398.b/022F0301.d



Data File: /chem/gc2.i/031398.b/023f0301.d
 Report Date: 18-Mar-1998 13:24

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Data file : /chem/gc2.i/031398.b/023f0301.d

Lab Smp Id: TK-104MSD

Client Smp Id: TK-104MSD

Inj Date : 14-MAR-1998 13:56

Operator : Gerald Ross

Inst Id: gc2.i

Smp Info : 951tk104msd1/40)

Misc Info : TK-104MSD

Comment :

Method : /chem/gc2.i/031098.b/rcrapcb.m

Meth Date : 18-Mar-1998 06:44 gar

Quant Type: AREA%

Cal Date : 17-MAR-1998 03:24

Cal File: 003f0103.d

Als bottle: 1

QC Sample: MSD

Dil Factor: 40.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: SOIL

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
10.121	8008	598	0.075	0.0915	
10.195	10353	572	0.055	0.118	
10.438	4694	202	0.043	0.0536	
10.683	34969	2035	0.058	0.400	
10.810	6035	263	0.044	0.0690	
11.511	5806	174	0.030	0.0663	
11.595	6714	378	0.056	0.0767	
11.651	5962	321	0.054	0.0681	
11.871	31636	1417	0.045	0.361	
11.933	17785	976	0.055	0.203	
12.057	53046	1947	0.037	0.606	
12.224	8869	268	0.030	0.101	
12.482	10727	402	0.037	0.122	
12.718	1247315	70939	0.057	14.2	Tetrachloro-m-xylene
13.037	27499	1401	0.051	0.314	
13.352	39529	1587	0.040	0.452	
13.687	7619	346	0.045	0.0871	
13.767	9967	562	0.056	0.114	
13.996	7212	231	0.032	0.0824	
14.214	15502	438	0.028	0.177	
14.459	14545	395	0.027	0.166	
14.706	13818	455	0.033	0.158	
14.811	46467	1573	0.034	0.531	
15.110	7998	335	0.042	0.0914	
15.278	50246	1878	0.037	0.574	
15.457	51855	2132	0.041	0.592	Aroclor-1016
15.548	17406	841	0.048	0.199	
15.798	6648	234	0.035	0.0760	
15.964	28387	722	0.025	0.324	
16.247	29653	1187	0.040	0.339	
16.448	7894	285	0.036	0.0902	
16.701	8017	316	0.039	0.0916	

Data File: /chem/gc2.i/031398.b/023f0301.d
Report Date: 18-Mar-1998 13:24

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RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
16.892	43620	1104	0.025	0.498	
17.146	3608	193	0.053	0.0412	
17.260	79043	3747	0.047	0.903	Aroclor-1016
17.338	64221	3255	0.051	0.734	Aroclor-1016
17.437	179495 (-)	7665	0.043	2.05	
18.025	7160	340	0.047	0.0818	
18.121	26486	1099	0.041	0.303	
18.383	44406	1077	0.024	0.507	
18.641	3653	191	0.052	0.0417	
19.006	97433	4252	0.044	1.11	
19.206	73010	1997	0.027	0.834	
19.630	9211	348	0.038	0.105	
19.977	177524	6750	0.038	2.03	
20.674	8424	247	0.029	0.0963	
20.827	30743	1178	0.038	0.351	
20.997	5422	222	0.041	0.0620	
21.274	9874	331	0.034	0.113	
21.471	88162	3552	0.040	1.01	
22.203	76289	2458	0.032	0.872	
22.347	44275	1189	0.027	0.506	
22.719	191943	4708	0.025	2.19	
22.962	323564	11450	0.035	3.70	Aroclor-1254
23.242	95915	4035	0.042	1.10	
23.508	28834	929	0.032	0.329	
23.667	12807	428	0.033	0.146	
23.845	27815	893	0.032	0.318	
24.114	112666	3837	0.034	1.29	
24.380	167356	6199	0.037	1.91	
24.627	54596	2191	0.040	0.624	
24.901	330493	11536	0.035	3.78	Aroclor-1254
25.537	76055	2497	0.033	0.869	
25.749	44742	1589	0.036	0.511	
25.960	21179	922	0.044	0.242	
26.225	362635	9431	0.026	4.14	
26.760	16565	564	0.034	0.189	
26.878	5984	263	0.044	0.0684	
27.048	34605	1086	0.031	0.395	
27.375	134208	5038	0.038	1.53	
27.699	207264	5609	0.027	2.37	
27.908	2566	97	0.038	0.0293	
28.099	38398	1493	0.039	0.439	
28.241	6853	270	0.039	0.0783	
28.499	19987	773	0.039	0.228	
28.639	20979	785	0.037	0.240	
28.930	195775	7323	0.037	2.24	
29.078	8290	604	0.073	0.0947	
29.411	32998	823	0.025	0.377	
29.806	50137	931	0.019	0.573	
30.088	53084	959	0.018	0.606	
30.489	68074	2145	0.032	0.778	
30.725	3348	99	0.030	0.0382	
31.131	15139	580	0.038	0.173	

MCH

3-24-98

Data File: /chem/gc2.i/031398.b/023f0301.d
Report Date: 18-Mar-1998 13:24

RT	AREA	HEIGHT	HT/AREA	% AREA	Compounds
31.306	2046	103	0.050	0.0234	
31.449	11231	416	0.037	0.128	
31.730	37546	1328	0.035	0.429	
32.056	6843	257	0.038	0.0782	
32.235	2535	111	0.044	0.0290	
32.596	55514	1523	0.027	0.634	
32.859	90192	1153	0.013	1.03	
33.673	17446	242	0.014	0.199	
33.867	11972	217	0.018	0.137	
33.989	3625	109	0.030	0.0414	
34.285	29321	885	0.030	0.335	
34.711	4749	135	0.028	0.0543	
35.149	2994	86	0.029	0.0342	
35.538	8273	209	0.025	0.0945	
35.714	10147	218	0.021	0.116	
36.100	29763	281	0.009	0.340	
36.262	12145	268	0.022	0.139	
36.429	9337	232	0.025	0.107	
36.649	13414	264	0.020	0.153	
36.758	12552	261	0.021	0.143	
37.495	46018	323	0.007	0.526	
37.745	16580	443	0.027	0.189	
37.933	49236	654	0.013	0.563	
39.312	19593	171	0.009	0.224	
39.601	18531	486	0.026	0.212	
40.522	8014	195	0.024	0.0916	
40.897	23856	194	0.008	0.273	
42.936	936000	20971	0.022	10.7	Decachlorobiphenyl
43.904	7538	107	0.014	0.0861	
47.416	6791	127	0.019	0.0776	
48.088	16097	157	0.010	0.184	
49.539	16110	124	0.008	0.184	
50.234	10535	121	0.011	0.120	
50.995	49203	316	0.006	0.562	
52.046	173184	1419	0.008	1.98	
52.826	3371	66	0.020	0.0385	
53.660	579	72	0.124	0.00661	
54.197	28545	308	0.011	0.326	

Total area = 8751248 *pk Hansen 3-24-98*

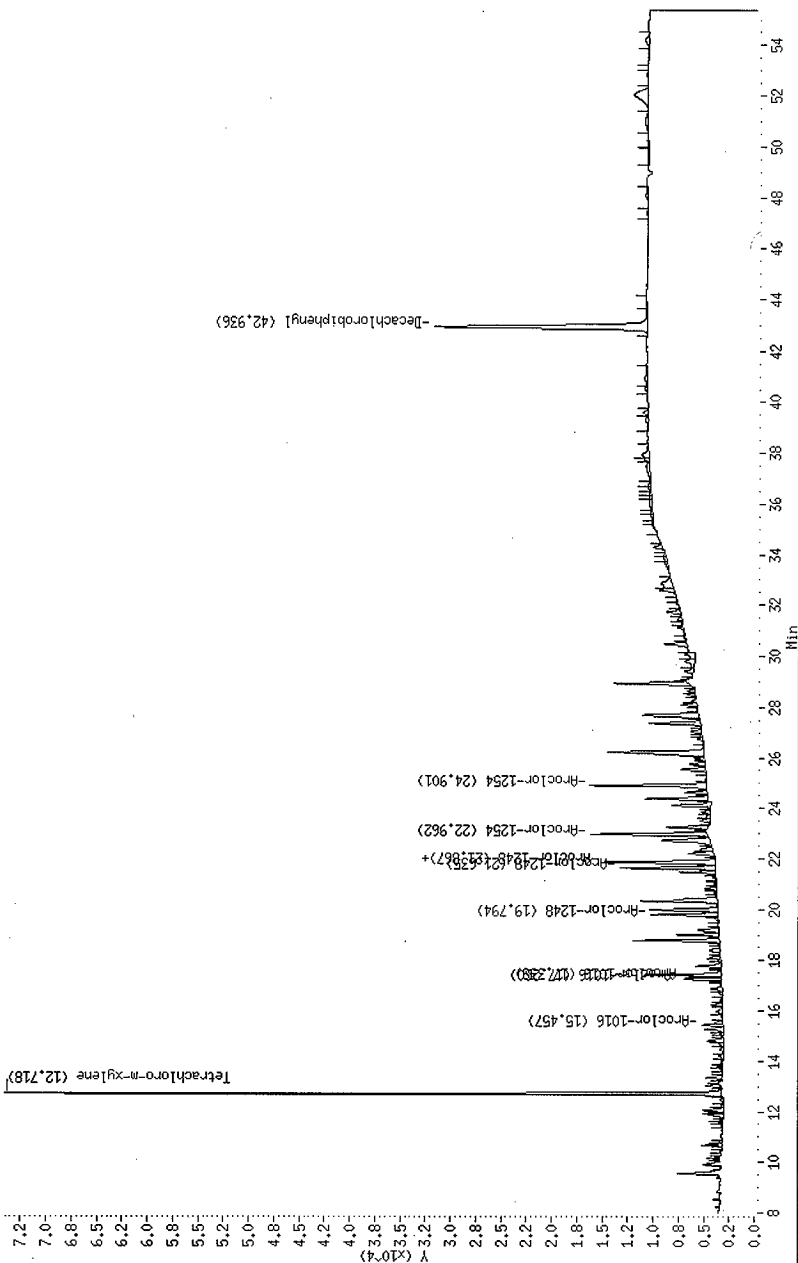
non-PCB area ~~5054551~~ 3696697 (-)

Total PCB area 5054551

Data File: /chem/gc2.i/031398.b/023F0301.d
Date: 14-MAR-1998 13:56
Client ID: TK-104HSD
Sample Info: 951tk104msd1/40
Volume Injected (uL): 1.0
Column Phase: Xti-5

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

/chem/gc2.i/031398.b/023F0301.d



Data File: /chem/gc2.i/021298.b/010f0201.d

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Report Date: 17-Feb-1998 15:33

222-S Laboratory

Data file: /chem/gc2.i/021298.b/010f0201.d

Lab Smp Id: (TK104)

Client Smp ID: (TK104)

Inj Date: 12-FEB-1998 10:48

Operator: Gerald Ross

Inst ID: gc2.i

Smp Info: 0951(TK104)

Misc Info: (TK104)

Comment:

Method: /chem/gc2.i/021298.b/rcrapcb.m

Meth Date: 17-Feb-1998 15:10 gar

Quant Type: ESTD

Cal Date: 24-JAN-1998 05:06

Cal File: 016f0201.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
22	Aroclor-1016				CAS #: 12674-11-2	
15.496	15.500	-0.004	683597	1.82	3520	100.00
17.309	17.311	-0.002	1180262	2.63	5080 114.00- 134.00	172.65
17.393	17.389	0.004	1154697	2.09	4040 134.00- 154.00	168.91
Average of Peak Concentrations =				4210		

23 Aroclor-1221

CAS #: 11104-28-2

Operator disabled compound identification.

24 Aroclor-1232

CAS #: 1114-16-5

Operator disabled compound identification.

25 Aroclor-1242

CAS #: 53469-21-9

Peaks not detected for Quant. or Qual. signal(s).

RT	EXP RT	DLT RT	RESPONSE (ng)	(ug/Kg)	TARGET RANGE	RATIO
26	Aroclor-1248				CAS #: 12672-29-6	
19.853	19.860	-0.007	1857654	4.98	9620	100.00
21.697	21.705	-0.008	3025912	6.94	13400 95.00- 135.00	162.89
21.917	21.922	-0.005	3467275	7.00	13500 108.00- 148.00	186.65
Average of Peak Concentrations =				12200		

27 Aroclor-1254

CAS #: 11097-69-1

RT	EXP RT	DLT RT	RESPONSE (ng)	(ug/Kg)	TARGET RANGE	RATIO
21.917	21.947	-0.030	3467275	7.90	15200	100.00
23.030	23.030	0.000	2779267	4.78	9240 112.00- 152.00	80.16
24.967	24.977	-0.010	3162313	6.02	11600 96.00- 136.00	91.20
Average of Peak Concentrations =				12000		

Data File: /chem/gc2.i/021298.b/010f0201.d
Report Date: 17-Feb-1998 15:33

		CONCENTRATIONS				
RT	EXP RT	DLT RT	ON-COL	FINAL	RESPONSE (ng)	TARGET RANGE
==	=====	=====	=====	=====	=====	=====

28 Aroclor-1260

CAS #: 11096-82-5

Peaks not detected for Quant. or Qual. signal(s).

\$ 29	Tetrachloro-m-xylene				CAS #: 877-09-8
12.745	12.750	-0.005	721656	0.0747	144
					100.00
\$ 30	Decachlorobiphenyl				CAS #: 2051-24-3
43.036	43.059	-0.023	568457	0.115	221
					100.00

Data File: /chem/gc2.i/021298.b/010f0201.d
Report Date: 17-Feb-1998 15:33

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RECOVERY REPORT

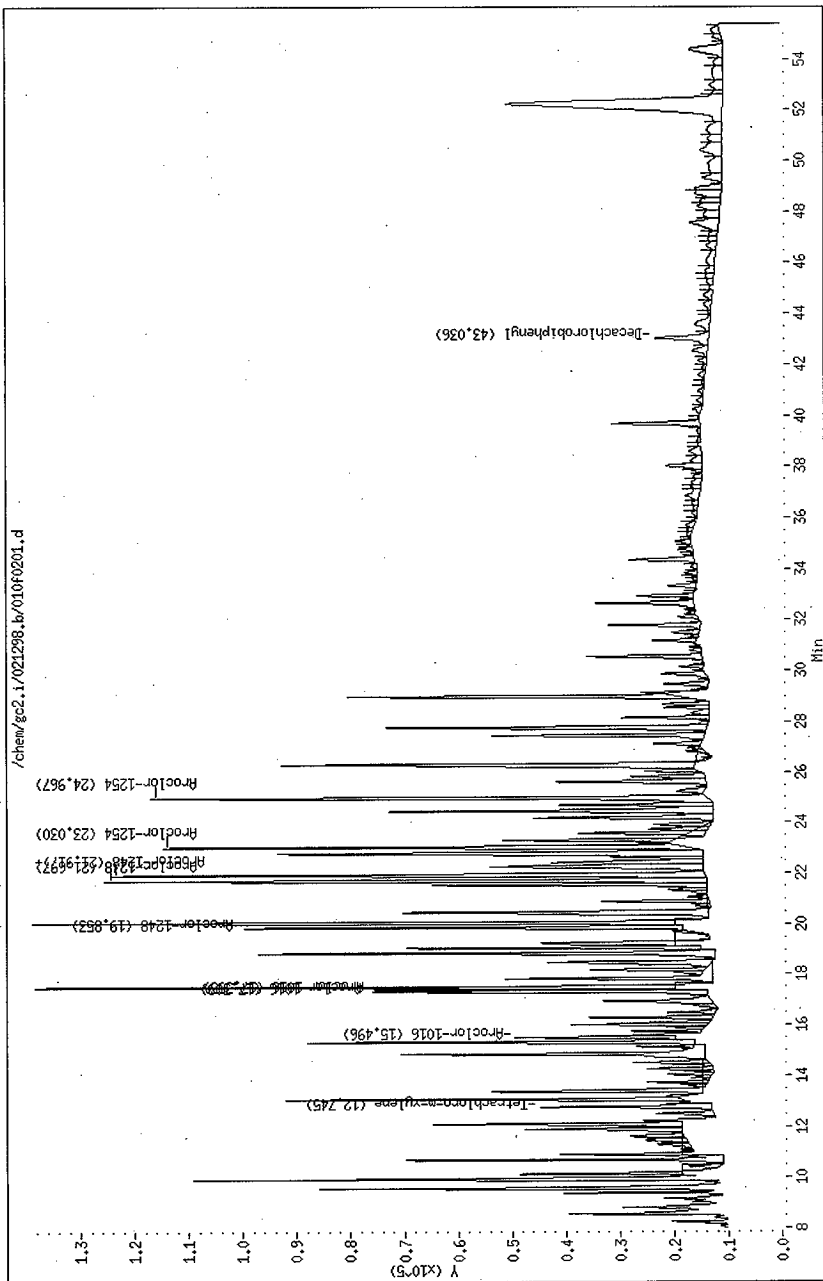
Client Name: Client SDG: 021298
Sample Matrix: SOLID Fraction: PEST
Lab Smp Id: (TK104) Client Smp ID: (TK104)
Level: LOW Operator: Gerald Ross
Data Type: GC MULTI COMP SampleType: SAMPLE
SpikeList File: Aroclor-1660.spk Quant Type: ESTD
Method File: /chem/gc2.i/021298.b/rcrapcb.m
Misc Info: (TK104)

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
\$ 29 Tetrachloro-m-xyle	193	144	74.72	50-150
\$ 30 Decachlorobiphenyl	193	221	114.72	50-150

Data File: /chem/gc2.i/021298.b/010f0201.d
 Date: 12-FEB-1998 10:48
 Client ID: (TK104)
 Sample Info: 0951(TK104)
 Volume Injected (uL): 1.0
 Column phase: Xti-5

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

/chem/gc2.i/021298.b/010f0201.d



Data File: /chem/gc2.i/021298.b/011f0201.d
 Report Date: 17-Feb-1998 15:11

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Data file : /chem/gc2.i/021298.b/011f0201.d
 Lab Smp Id: 0953(TK104D) Client Smp ID: 0953(TK104D)
 Inj Date : 12-FEB-98 11:50
 Operator : Gerald Ross Inst ID: gc2.i
 Smp Info : 0953(TK104D)
 Misc Info : 0953(TK104D)
 Comment :
 Method : /chem/gc2.i/021298.b/rcrapcb.m
 Meth Date : 17-Feb-1998 15:10 gar Quant Type: ESTD
 Cal Date : 24-JAN-1998 05:06 Cal File: 016f0201.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
==	=====	=====	=====	=====	=====	=====
22 Aroclor-1016					CAS #: 12674-11-2	
15.497	15.500	-0.003	772426	2.06	4080	100.00
17.310	17.311	-0.001	1259453	2.81	5570 114.00- 134.00	163.05
17.394	17.389	0.005	1205748	2.18	4340 134.00- 154.00	156.10
Average of Peak Concentrations =					4660	

23 Aroclor-1221 CAS #: 11104-28-2

Operator disabled compound identification.

24 Aroclor-1232 CAS #: 1114-16-5

Operator disabled compound identification.

25 Aroclor-1242 CAS #: 53469-21-9

Peaks not detected for Quant. or Qual. signal(s).

26 Aroclor-1248					CAS #: 12672-29-6	
19.855	19.860	-0.005	1893489	5.08	10100	100.00
21.700	21.705	-0.005	2857510	6.56	13000 95.00- 135.00	150.91
21.918	21.922	-0.004	3187884	6.43	12800 108.00- 148.00	168.36
Average of Peak Concentrations =					12000	

27 Aroclor-1254					CAS #: 11097-69-1	
21.918	21.947	-0.029	3187884	7.27	14400	100.00
23.033	23.030	0.003	2530423	4.36	8640 112.00- 152.00	79.38
24.969	24.977	-0.008	2747274	5.23	10400 96.00- 136.00	86.18
Average of Peak Concentrations =					11100	

Data File: /chem/gc2.i/021298.b/011f0201.d
Report Date: 17-Feb-1998 15:11

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT DLT RT	RESPONSE (ng)	(ug/Kg)	TARGET RANGE	RATIO		
==	=====	=====	=====	=====	=====		

28 Aroclor-1260

CAS #: 11096-82-5

Peaks not detected for Quant. or Qual. signal(s).

\$ 29 Tetrachloro-m-xylene				CAS #: 877-09-8	
12.745	12.750	-0.005	845109 0.0875	174	100.00
\$ 30 Decachlorobiphenyl				CAS #: 2051-24-3	
43.045	43.059	-0.014	645128 0.130	258	100.00

Data File: /chem/gc2.i/021298.b/011f0201.d
Report Date: 17-Feb-1998 15:11

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RECOVERY REPORT

Client Name: Client SDG: 021298
Sample Matrix: SOLID Fraction: PEST
Lab Smp Id: 0953(TK104D) Client Smp ID: 0953(TK104D)
Level: LOW Operator: Gerald Ross
Data Type: GC MULTI COMP SampleType: SAMPLE
SpikeList File: Aroclor-1660.spk Quant Type: ESTD
Method File: /chem/gc2.i/021298.b/rcrapcb.m
Misc Info: 0953(TK104D)

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
\$ 29 Tetrachloro-m-xyle	198	174	87.50	50-150
\$ 30 Decachlorobiphenyl	198	258	130.19	50-150

Data File: /chem/gc2.i/021298.b/011f0201.d

Date: 12-FEB-98 11:50

Client ID: 0953(TK104B)

Sample Info: 0953(TK104D)

Volume Injected (uL): 1.0

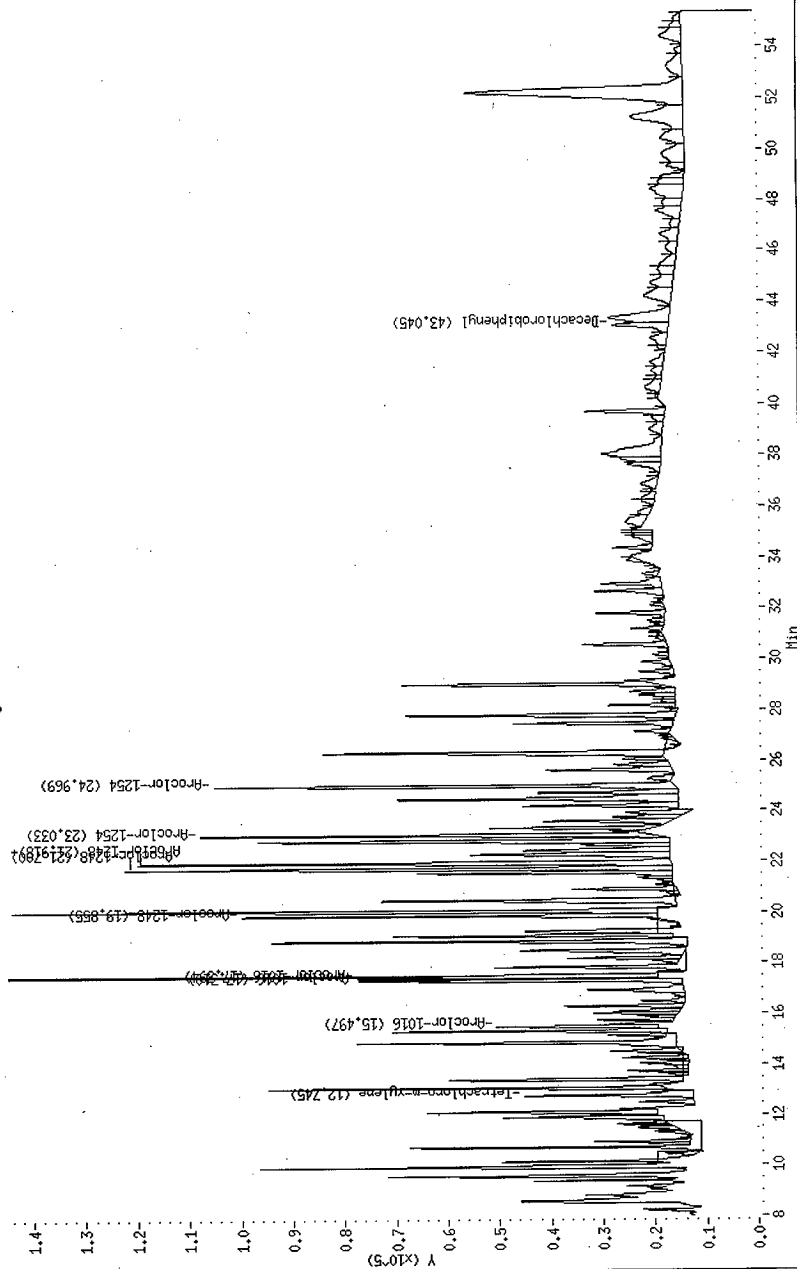
Column phase: Xti-5

Instrument: gc2.i

Operator: Gerald Ross

Column diameter: 0.25

/chem/gc2.i/021298.b/011f0201.d



Data File: /chem/gc2.i/021298.b/012f0201.d
Report Date: 17-Feb-1998 15:33

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Data file : /chem/gc2.i/021298.b/012f0201.d
Lab Smp Id: (TK104)MS Client Smp ID: (TK104)MS
Inj Date : 12-FEB-1998 12:53
Operator : Gerald Ross Inst ID: gc2.i
Smp Info : 0955MS(TK104)MS
Misc Info : (TK104)MS
Comment :
Method : /chem/gc2.i/021298.b/rcrapcb.m
Meth Date : 17-Feb-1998 15:10 gar Quant Type: ESTD
Cal Date : 24-JAN-1998 05:06 Cal File: 016f0201.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	
15.499	15.500	-0.001	661390	1.76	3420	100.00(R)
17.312	17.311	0.001	1283070	2.86	5550 114.00- 134.00	194.00
17.396	17.389	0.007	1244819	2.26	4380 134.00- 154.00	188.21
Average of Peak Concentrations =					4450	

23 Aroclor-1221 CAS #: 11104-28-2

Operator disabled compound identification.

24 Aroclor-1232 CAS #: 1114-16-5

Operator disabled compound identification.

25 Aroclor-1242 CAS #: 53469-21-9

Peaks not detected for Quant. or Qual. signal(s).

26 Aroclor-1248					CAS #: 12672-29-6	
19.856	19.860	-0.004	1967761	5.28	10200	100.00
21.702	21.705	-0.003	3044128	6.98	13600 95.00- 135.00	154.70
21.920	21.922	-0.002	3409304	6.88	13300 108.00- 148.00	173.26
Average of Peak Concentrations =					12400	

27 Aroclor-1254					CAS #: 11097-69-1	
21.920	21.947	-0.027	3409304	7.77	15100	100.00
23.036	23.030	0.006	2710524	4.67	9050 112.00- 152.00	79.50
24.971	24.977	-0.006	2961053	5.63	10900 96.00- 136.00	86.85
Average of Peak Concentrations =					11700	

Data File: /chem/gc2.i/021298.b/012f0201.d
Report Date: 17-Feb-1998 15:33

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				CONCENTRATIONS			
RT	EXP RT	DLT RT		ON-COL	FINAL	TARGET RANGE	RATIO
==	=====	=====		RESPONSE (	ng)	(ug/Kg)	=====
28	Aroclor-1260				CAS #: 11096-82-5		
Peaks not detected for Quant. or Qual. signal(s).							

\$ 29	Tetrachloro-m-xylene			CAS #: 877-09-8			
12.747	12.750	-0.003		803630	0.0832	161	100.00

\$ 30	Decachlorobiphenyl			CAS #: 2051-24-3			
43.043	43.059	-0.016		434312	0.0876	170	100.00(M)

QC Flag Legend

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

Data File: /chem/gc2.i/021298.b/012f0201.d
Report Date: 17-Feb-1998 15:33

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RECOVERY REPORT

Client Name: Client SDG: 021298
Sample Matrix: SOLID Fraction: PEST
Lab Smp Id: (TK104)MS Client Smp ID: (TK104)MS
Level: LOW Operator: Gerald Ross
Data Type: GC MULTI COMP SampleType: MS
SpikeList File: Aroclor-1660.spk Quant Type: ESTD
Method File: /chem/gc2.i/021298.b/rcrapcb.m
Misc Info: (TK104)MS

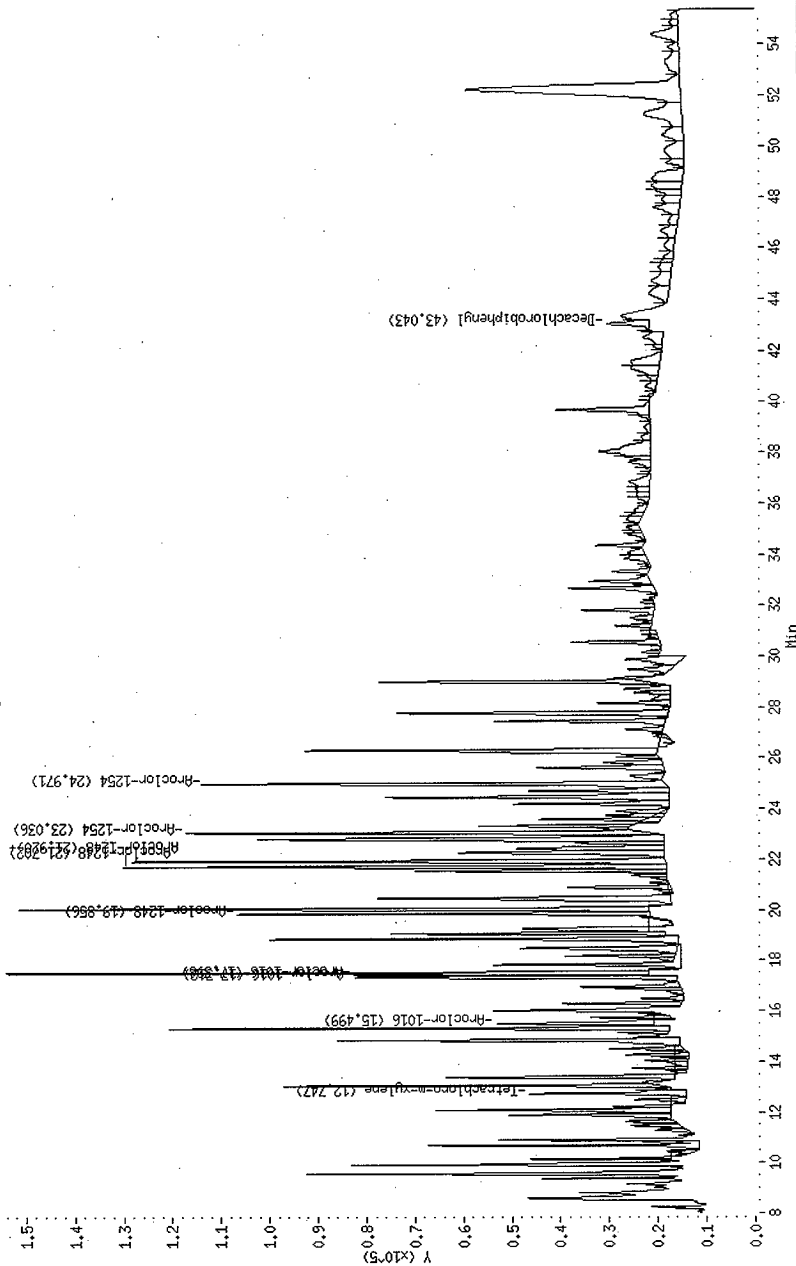
SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
22 Aroclor-1016	194	240	124*	50-150
28 Aroclor-1260	194	0.000	*	50-150

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
\$ 29 Tetrachloro-m-xyle	194	161	83.20	50-150
\$ 30 Decachlorobiphenyl	194	170	87.65	50-150

Data File: /chem/gc2.1/021298.b/012f0201.d
 Date : 12-FEB-1998 12:53
 Client ID: (TK104)HS
 Sample Info: 0958HS(TK104)HS
 Volume Injected (uL): 1.0
 Column phase: Xti-5

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

/chem/gc2.1/021298.b/012f0201.d



Data File: /chem/gc2.i/021298.b/013f0201.d

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Report Date: 17-Feb-1998 15:33

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Data file: /chem/gc2.i/021298.b/013f0201.d

Lab Smp Id: (TK104)MSD

Client Smp ID: (TK104)MSD

Inj Date: 12-FEB-1998 13:56

Operator: Gerald Ross

Inst ID: gc2.i

Smp Info: 0957MSD(TK104)MSD

Misc Info: (TK104)MSD

Comment:

Method: /chem/gc2.i/021298.b/rcrapcb.m

Meth Date: 17-Feb-1998 15:10 gar

Quant Type: ESTD

Cal Date: 24-JAN-1998 05:06

Cal File: 016f0201.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									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/Kg)	TARGET RANGE	RATIO		
==	=====	=====	=====	=====	=====	=====	=====		
22 Aroclor-1016					CAS #: 12674-11-2				
15.502	15.500	0.002	746118	1.99	3680			100.00(R)	
17.315	17.311	0.004	1353732	3.02	5590	114.00- 134.00		181.44	
17.399	17.389	0.010	1301878	2.36	4370	134.00- 154.00		174.49	
Average of Peak Concentrations =					4550				

23 Aroclor-1221

CAS #: 11104-28-2

Operator disabled compound identification.

24 Aroclor-1232

CAS #: 1114-16-5

Operator disabled compound identification.

25 Aroclor-1242

CAS #: 53469-21-9

Peaks not detected for Quant. or Qual. signal(s).

26 Aroclor-1248					CAS #: 12672-29-6				
19.859	19.860	-0.001	2131590	5.72	10600			100.00	
21.705	21.705	0.000	3204595	7.35	13600	95.00- 135.00		150.34	
21.923	21.922	0.001	3601516	7.27	13500	108.00- 148.00		168.96	
Average of Peak Concentrations =					12600				

27 Aroclor-1254

CAS #: 11097-69-1

21.923	21.947	-0.024	3601516	8.21	15200			100.00	
23.037	23.030	0.007	2954153	5.09	9420	112.00- 152.00		82.03	
24.973	24.977	-0.004	3308964	6.30	11600	96.00- 136.00		91.88	
Average of Peak Concentrations =					12100				

Data File: /chem/gc2.i/021298.b/013f0201.d
Report Date: 17-Feb-1998 15:33

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		CONCENTRATIONS							
		ON-COL	FINAL						
RT	EXP RT	DLT RT	RESPONSE (	ng)	(ug/Kg)	TARGET RANGE	RATIO		
==	=====	=====	=====	=====	=====	=====	=====		
28 Aroclor-1260			CAS #: 11096-82-5						
Peaks not detected for Quant. or Qual. signal(s).									

\$	29	Tetrachloro-m-xylene		CAS #: 877-09-8					
12.748	12.750	-0.002	727756	0.0753	140	100.00			

\$	30	Decachlorobiphenyl		CAS #: 2051-24-3					
43.053	43.059	-0.006	639795	0.129	239	100.00(M)			

QC Flag Legend .

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

Data File: /chem/gc2.i/021298.b/013f0201.d
Report Date: 17-Feb-1998 15:33

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RECOVERY REPORT

Client Name: Client SDG: 021298
Sample Matrix: SOLID Fraction: PEST
Lab Smp Id: (TK104)MSD Client Smp ID: (TK104)MSD
Level: LOW Operator: Gerald Ross
Data Type: GC MULTI COMP SampleType: MSD
SpikeList File: Aroclor-1660.spk Quant Type: ESTD
Method File: /chem/gc2.i/021298.b/rcrapcb.m
Misc Info: (TK104)MSD

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
22 Aroclor-1016	185	340	184*	50-150
28 Aroclor-1260	185	0.000	*	50-150

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
\$ 29 Tetrachloro-m-xyle	185	140	75.35	50-150
\$ 30 Decachlorobiphenyl	185	239	129.11	50-150

Data File: /chem/gc2.i/021298.b/013f0201.d

Date : 12-FEB-1998 13:56

Client ID: (TK104)MSD

Sample Info: 0957MSB(TK104)MSD

Volume Injected (ul): 1.0

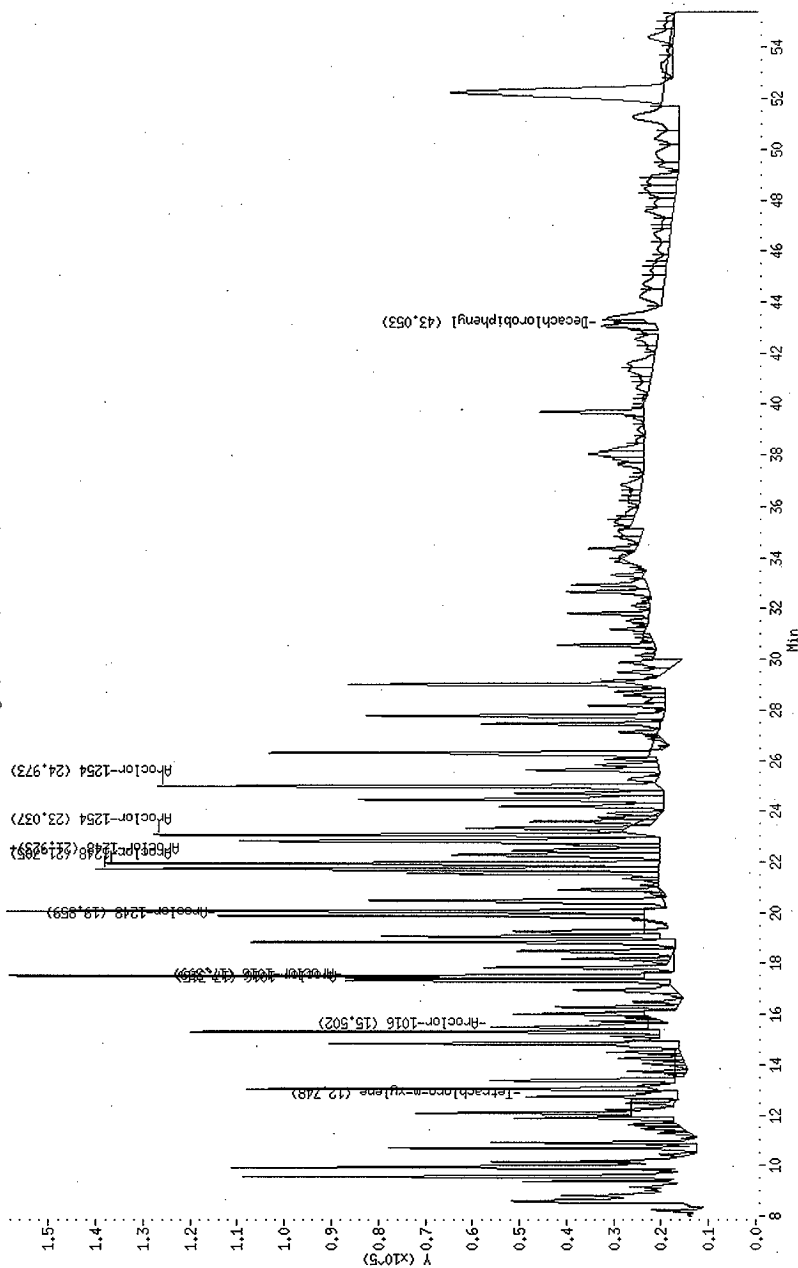
Column phase: Xti-5

Instrument: gc2.i

Operator: Gerald Ross

Column diameter: 0.25

/chem/gc2.i/021298.b/013f0201.d



Data File: /chem/gc2.i/021298.b/007f0201.d
Report Date: 12-Mar-1998 09:33

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Data file : /chem/gc2.i/021298.b/007f0201.d

Lab Smp Id:

Inj Date : 12-FEB-98 07:42

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : Inst. Blank

Misc Info :

Comment :

Method : /chem/gc2.i/021298.b/rcrapcb.m

Meth Date : 18-Feb-1998 14:26 gar

Quant Type: ESTD

Cal Date : 11-FEB-1998 21:12

Cal File: 004f0102.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: WATER

CONCENTRATIONS							
			ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE (	ng)	(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====
22 Aroclor-1016				CAS #: 12674-11-2			
Peaks not detected for Quant. or Qual. signal(s).							

23 Aroclor-1221				CAS #: 11104-28-2			
Peaks not detected for Quant. or Qual. signal(s).							

24 Aroclor-1232				CAS #: 1114-16-5			
Peaks not detected for Quant. or Qual. signal(s).							

25 Aroclor-1242				CAS #: 53469-21-9			
Peaks not detected for Quant. or Qual. signal(s).							

26 Aroclor-1248				CAS #: 12672-29-6			
Peaks not detected for Quant. or Qual. signal(s).							

27 Aroclor-1254				CAS #: 11097-69-1			
Peaks not detected for Quant. or Qual. signal(s).							

Data File: /chem/gc2.i/021298.b/007f0201.d
Report Date: 12-Mar-1998 09:33

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		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT	DLT RT	RESPONSE (	ng)	(ug/L)	TARGET RANGE	RATIO
==	=====	=====	=====	=====	=====	=====	=====

28 Aroclor-1260

CAS #: 11096-82-5

Peaks not detected for Quant. or Qual. signal(s).

\$	29	Tetrachloro-m-xylene				CAS #: 877-09-8	
12.757	12.750	0.007	1050852	0.109	2.18		100.00
\$	30	Decachlorobiphenyl				CAS #: 2051-24-3	
43.053	43.059	-0.006	688786	0.139	2.78		100.00

109%

139%

AMM
3-18-98

Data File: /chem/gc2.i/031398.b/009f0301.d
Report Date: 18-Mar-1998 13:32

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Data file : /chem/gc2.i/031398.b/009f0301.d

Lab Smp Id:

Inj Date : 13-MAR-98 23:18

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : inst blk

Misc Info :

Comment :

Method : /chem/gc2.i/031398.b/rcrapcb.m

Meth Date : 18-Mar-1998 13:01 drh

Quant Type: ESTD

Cal Date : 17-MAR-1998 20:06

Cal File: 019f0201.d

Als bottle: 1

Dil Factor: 1.000

Integrator: HP Genie

Compound Sublist: AroclorS.sub

Target Version: 3.10

Sample Matrix: WATER

CONCENTRATIONS

ON-COL FINAL

RT	EXP RT	DLT RT	RT	RESPONSE (ng)	(ug/L)	TARGET RANGE	RATIO
----	--------	--------	----	----------------	---------	--------------	-------

== =====

=====

=====

=====

=====

22 Aroclor-1016

CAS #: 12674-11-2

Peaks not detected for Quant. or Qual. signal(s).

23 Aroclor-1221

CAS #: 11104-28-2

Peaks not detected for Quant. or Qual. signal(s).

24 Aroclor-1232

CAS #: 1114-16-5

Peaks not detected for Quant. or Qual. signal(s).

25 Aroclor-1242

CAS #: 53469-21-9

Peaks not detected for Quant. or Qual. signal(s).

26 Aroclor-1248

CAS #: 12672-29-6

Peaks not detected for Quant. or Qual. signal(s).

27 Aroclor-1254

CAS #: 11097-69-1

Peaks not detected for Quant. or Qual. signal(s).

Data File: /chem/gc2.i/031398.b/009f0301.d
Report Date: 18-Mar-1998 13:32

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RT	EXP RT	DLT RT	CONCENTRATIONS		RESPONSE (ng)	(ug/L)	TARGET RANGE	RATIO
			ON-COL	FINAL				
==	=====	=====	=====	=====	=====	=====	=====	=====

28 Aroclor-1260

CAS #: 11096-82-5

Peaks not detected for Quant. or Qual. signal(s).

\$ 29	Tetrachloro-m-xylene				CAS #: 877-09-8		
12.720	12.733	-0.013	1133896	0.122	2.44	100.00	
\$ 30	Decachlorobiphenyl				CAS #: 2051-24-3		
42.937	42.953	-0.016	619259	0.110	2.20	100.00	

100%

McHannan

110%

3-18-98

Data File: /chem/gc2.i/031398.b/009f0301.d
Report Date: 18-Mar-1998 13:32

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RECOVERY REPORT

Client Name: Client SDG: 031398
Sample Matrix: LIQUID Fraction: PEST
Lab Smp Id:
Level: LOW Operator: Gerald Ross
Data Type: GC MULTI COMP SampleType: SAMPLE
SpikeList File: RESOLUTION.spk Quant Type: ESTD
Method File: /chem/gc2.i/031398.b/rcrapcb.m
Misc Info:

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
\$ 29 Tetrachloro-m-xyle	2.00	2.44	121.79	50-150
\$ 30 Decachlorobiphenyl	2.00	2.20	110.03	50-150

Data File: /chem/gc2.i/031398.b/009f0301.d
Report Date: 18-Mar-1998 13:32

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TARGET COMPOUNDS

Client Name:
Lab Smp Id:
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: PEST
Data Type: GC MULTI COMP
Misc Info:

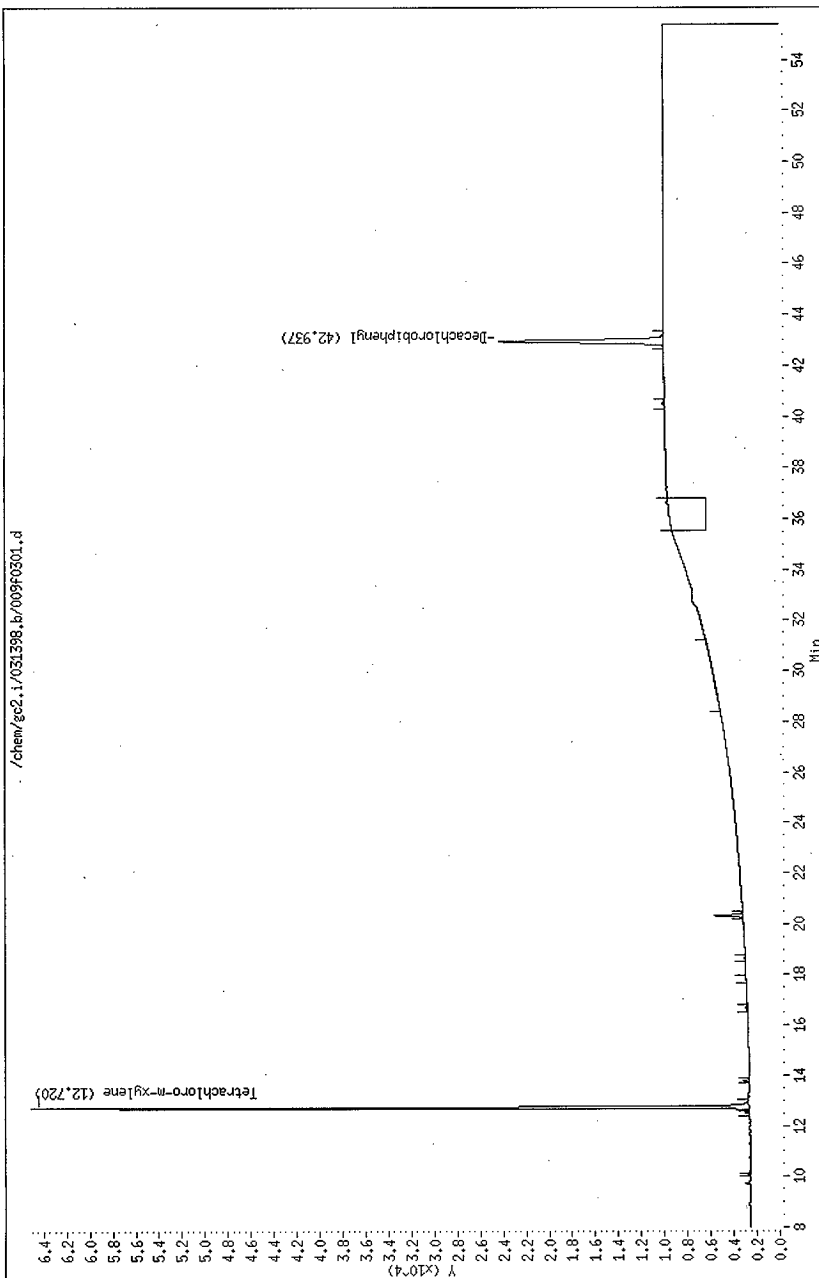
Client SDG: 031398
Sample Point:
Date Received:
Quant Type: ESTD
Level: LOW
Operator: Gerald Ross

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/KG)	ug/L
			Q
12674-11-2-----	Aroclor-1016	0.600	U
11104-28-2-----	Aroclor-1221	1.20	U
1114-16-5-----	Aroclor-1232	0.600	U
53469-21-9-----	Aroclor-1242	0.600	U
12672-29-6-----	Aroclor-1248	0.600	U
11097-69-1-----	Aroclor-1254	0.600	U
11096-82-5-----	Aroclor-1260	0.600	U
=====		=====	=====
877-09-8-----	Tetrachloro-m-xylene	2.44	
2051-24-3-----	Decachlorobiphenyl	2.20	

Data File: /chem/gc2.i/031398.b/009f0301.d
Date : 13-MAR-98 23:18
Client ID:
Sample Info: inst blank
Volume Injected (uL): 1.0
Column phase: Xti-5

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

/chem/gc2.i/031398.b/009f0301.d



Data File: /chem/gc2.i/021298.b/008f0201.d
 Report Date: 24-Mar-1998 15:16

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222-S Laboratory

Data file : /chem/gc2.i/021298.b/008f0201.d

Lab Smp Id: Methblnk

Inj Date : 12-FEB-1998 08:42

Operator : Gerald Ross

Inst ID: gc2.i

Smp Info : 0959Methblnk

Misc Info : 000000959

Comment :

Method : /chem/gc2.i/021298.b/rcrapcb.m

Meth Date : 18-Feb-1998 14:26 gar

Quant Type: ESTD

Cal Date : 11-FEB-1998 21:12

Cal File: 004f0102.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
==	=====	=====	=====	=====	=====	=====

22 Aroclor-1016

CAS #: 12674-11-2

Peaks not detected for Quant. or Qual. signal(s).

23 Aroclor-1221

CAS #: 11104-28-2

Operator disabled compound identification.

24 Aroclor-1232

CAS #: 1114-16-5

Peaks not detected for Quant. or Qual. signal(s).

25 Aroclor-1242

CAS #: 53469-21-9

Operator disabled compound identification.

26 Aroclor-1248

CAS #: 12672-29-6

Operator disabled compound identification.

27 Aroclor-1254

CAS #: 11097-69-1

Operator disabled compound identification.

Data File: /chem/gc2.i/021298.b/008f0201.d
Report Date: 24-Mar-1998 15:16

Page 2

RT	EXP RT	DLT RT	CONCENTRATIONS		TARGET RANGE	RATIO
			ON-COL	FINAL		
==	=====	=====	RESPONSE (	ng)	(ug/Kg)	=====

28 Aroclor-1260

CAS #: 11096-82-5

Operator disabled compound identification.

\$ 29	Tetrachloro-m-xylene				CAS #: 877-09-8	
12.737	12.750	-0.013	651386	0.0674	135	100.00
\$ 30	Decachlorobiphenyl				CAS #: 2051-24-3	
43.017	43.059	-0.042	470413	0.0949	190	100.00

Data File: /chem/gc2.i/021298.b/008f0201.d
Report Date: 24-Mar-1998 15:16

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222-S Laboratory

RECOVERY REPORT

Client Name: Client SDG: 021298
Sample Matrix: SOLID Fraction: PEST
Lab Smp Id: Methbink
Level: LOW Operator: Gerald Ross
Data Type: GC MULTI COMP SampleType: SAMPLE
SpikeList File: RESOLUTION.spk Quant Type: ESTD
Method File: /chem/gc2.i/021298.b/rcrapcb.m
Misc Info: 000000959

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
\$ 29 Tetrachloro-m-xyle	200	135	67.44	50-150
\$ 30 Decachlorobiphenyl	200	190	94.93	50-150

Data File: /chem/gc2.i/021298.b/008f0201.d
Report Date: 24-Mar-1998 15:16

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222-S Laboratory

TARGET COMPOUNDS

Client Name:
Lab Smp Id: Methblnk
Sample Location:
Sample Date:
Sample Matrix: SOIL
Analysis Type: PEST
Data Type: GC MULTI COMP
Misc Info: 000000959

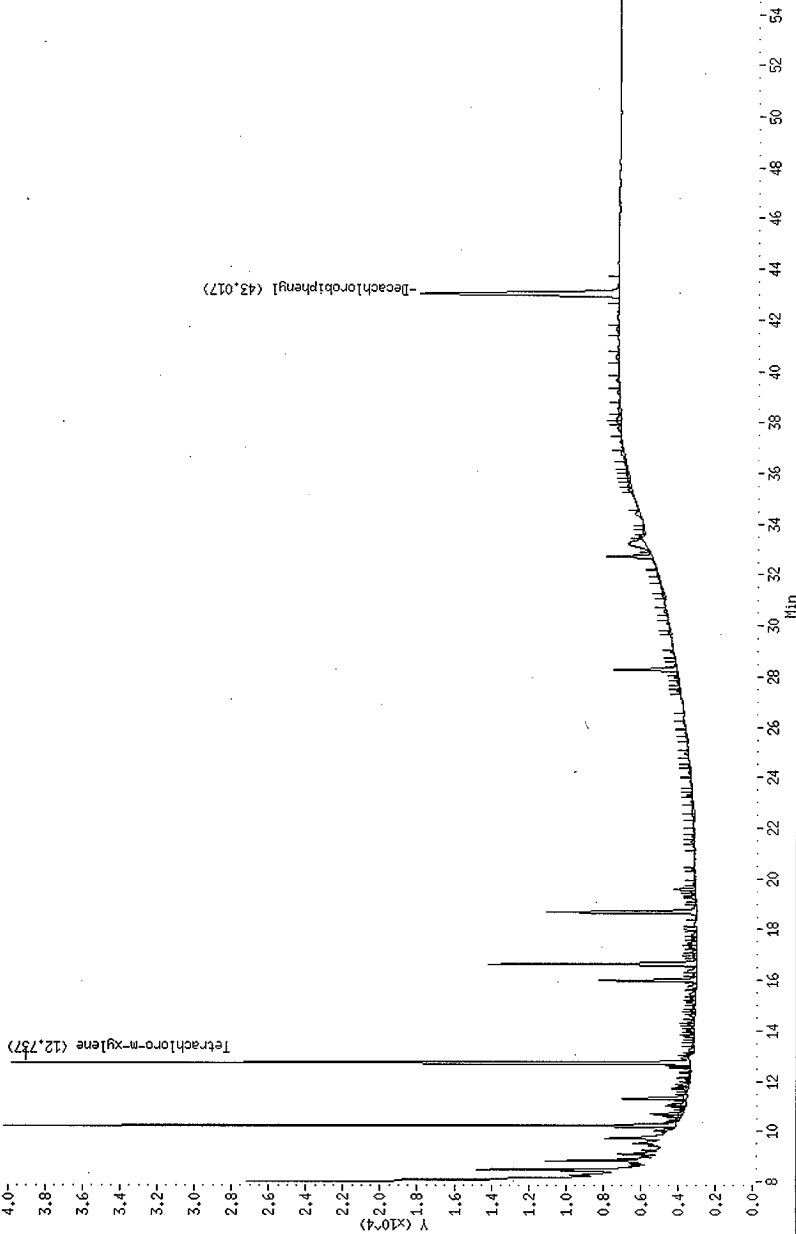
Client SDG: 021298
Sample Point:
Date Received:
Quant Type: ESTD
Level: LOW
Operator: Gerald Ross

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/KG)	ug/Kg
			Q
12674-11-2-----	Aroclor-1016	33.0	U
11104-28-2-----	Aroclor-1221	67.0	U
1114-16-5-----	Aroclor-1232	33.0	U
53469-21-9-----	Aroclor-1242	33.0	U
12672-29-6-----	Aroclor-1248	33.0	U
11097-69-1-----	Aroclor-1254	3.71	U
11096-82-5-----	Aroclor-1260	33.0	U
=====		=====	=====
877-09-8-----	Tetrachloro-m-xylene	135	
2051-24-3-----	Decachlorobiphenyl	190	

Data File: /chem/gc2.i/021298.b/008f0201.d
Date : 12-FEB-1998 08:42
Client ID:
Sample Info: 0959Methanol
Volume Injected (ul): 1.0
Column phase: Xti-5

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

/chem/gc2.i/021298.b/008f0201.d



Data File: /chem/gc2.i/021298.b/009f0201.d
 Report Date: 24-Mar-1998 15:16

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222-S Laboratory

Data file : /chem/gc2.i/021298.b/009f0201.d
 Lab Smp Id: LCS
 Inj Date : 12-FEB-1998 09:45
 Operator : Gerald Ross
 Smp Info : 0961LCS
 Misc Info : 000000961
 Comment :
 Method : /chem/gc2.i/021298.b/rcrapcb.m
 Meth Date : 18-Feb-1998 14:26 gar
 Cal Date : 11-FEB-1998 21:12
 Als bottle: 1
 Dil Factor: 1.000
 Integrator: HP Genie
 Target Version: 3.10

Inst ID: gc2.i
 Quant Type: ESTD
 Cal File: 004f0102.d
 Compound Sublist: AroclorS.sub
 Sample Matrix: SOIL

CONCENTRATIONS							
RT	EXP RT	DLT RT	ON-COL		FINAL	TARGET RANGE	RATIO
			RESPONSE (	ng)			
==	=====	=====	=====	=====	=====	=====	=====
22	Aroclor-1016				CAS #: 12674-11-2		
15.483	15.500	-0.017	30812	0.0821	164	100.00	
17.290	17.311	-0.021	34610	0.0772	154 114.00- 134.00	112.33	
17.367	17.389	-0.022	49669	0.0900	180 134.00- 154.00	161.20	
Average of Peak Concentrations =					166		

23 Aroclor-1221

CAS #: 11104-28-2

Operator disabled compound identification.

24 Aroclor-1232

CAS #: 1114-16-5

Operator disabled compound identification.

25 Aroclor-1242

CAS #: 53469-21-9

Operator disabled compound identification.

26 Aroclor-1248

CAS #: 12672-29-6

Operator disabled compound identification.

Data File: /chem/gc2.i/021298.b/009f0201.d
 Report Date: 24-Mar-1998 15:16

Page 2

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT DLT RT	RESPONSE (ng)	(ug/Kg)	TARGET RANGE	RATIO		
==	=====	=====	=====	=====	=====		=====
27 Aroclor-1254		CAS #: 11097-69-1					

Operator disabled compound identification.

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT DLT RT	RESPONSE (ng)	(ug/Kg)	TARGET RANGE	RATIO		
28 Aroclor-1260		CAS #: 11096-82-5					
26.183	26.212 -0.029	54526	0.100	200	100.00(M)		
27.417	27.448 -0.031	53342	0.0975	195	89.00-	109.00	75.16
28.976	29.007 -0.031	43451	0.0892	178	72.00-	92.00	61.22
Average of Peak Concentrations =		191					

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT DLT RT	RESPONSE (ng)	(ug/Kg)	TARGET RANGE	RATIO		
\$ 29 Tetrachloro-m-xylene		CAS #: 877-09-8					
12.735	12.750 -0.015	585446	0.0606	121	100.00		

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT DLT RT	RESPONSE (ng)	(ug/Kg)	TARGET RANGE	RATIO		
\$ 30 Decachlorobiphenyl		CAS #: 2051-24-3					
43.013	43.059 -0.046	374715	0.0756	151	100.00		

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/gc2.i/021298.b/009f0201.d
Report Date: 24-Mar-1998 15:16

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222-S Laboratory

RECOVERY REPORT

Client Name: Client SDG: 021298
Sample Matrix: SOLID Fraction: PEST
Lab Smp Id: LCS
Level: LOW Operator: Gerald Ross
Data Type: GC MULTI COMP SampleType: SAMPLE
SpikeList File: RESOLUTION.spk Quant Type: ESTD
Method File: /chem/gc2.i/021298.b/rcrapcb.m
Misc Info: 000000961

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
\$ 29 Tetrachloro-m-xyle	200	121	60.61	50-150
\$ 30 Decachlorobiphenyl	200	151	75.62	50-150

222-S Laboratory

TARGET COMPOUNDS

Client Name:
Lab Smp Id: LCS
Sample Location:
Sample Date:
Sample Matrix: SOIL
Analysis Type: PEST
Data Type: GC MULTI COMP
Misc Info: 000000961

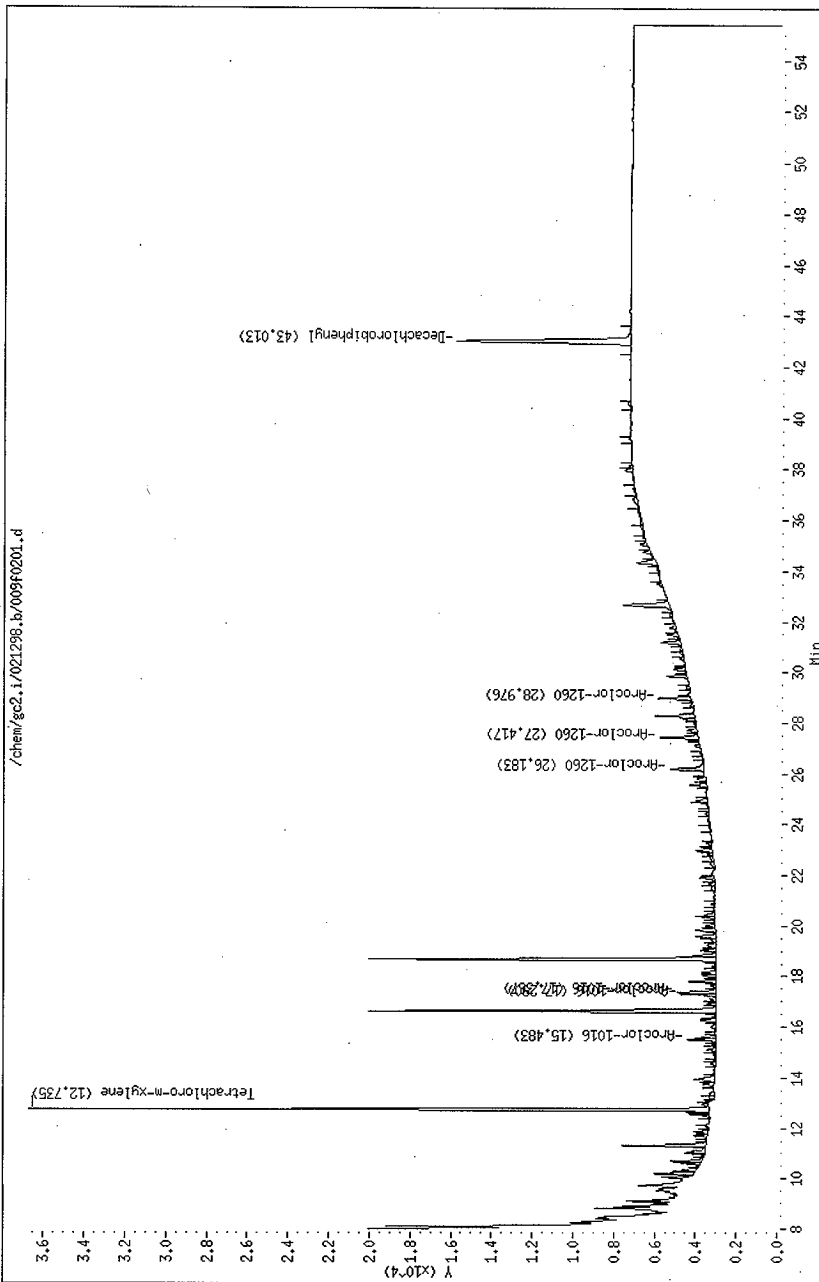
Client SDG: 021298
Sample Point:
Date Received:
Quant Type: ESTD
Level: LOW
Operator: Gerald Ross

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/KG)	ug/Kg
12674-11-2-----	Aroclor-1016	166	
11104-28-2-----	Aroclor-1221	67.0	U
1114-16-5-----	Aroclor-1232	33.0	U
53469-21-9-----	Aroclor-1242	33.0	U
12672-29-6-----	Aroclor-1248	33.0	U
11097-69-1-----	Aroclor-1254	3.71	U
11096-82-5-----	Aroclor-1260	191	
=====		=====	=====
877-09-8-----	Tetrachloro-m-xylene	121	
2051-24-3-----	Decachlorobiphenyl	151	

Data File: /chem/gc2.1/021298.b/009f0201.d
Date : 12-FEB-1998 09:45
Client ID:
Sample Info: 096ILCS
Volume Injected (ul): 1.0
Column phase: Xti-5

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

/chem/gc2.1/021298.b/009f0201.d



DISTRIBUTION SHEET

To Distribution	From Production Planning & Control	Page 1 of 1		
		Date: 03/26/98		
Project Title/Work Order HNF-SD-WM-DP-297, Rev. 0 "Polychlorinated Biphenyls (PCB) Analysis Report for Solid Sample from 219S Tank 104"		EDT NO.: EDT-623146		
		ECN NO.: N/A		
Name	MSIN	Text With all Attach	EDT/ECN ONLY	

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Los Alamos Technical Associates

M. T. Ellsworth	T6-06		X*
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