SDMS US EPA Region V

Imagery Insert Form

Document ID: 167796

Some images in this document may be illegible or unavailable in SDMS. Please see reason(s) indicated below:

[X] Illegible due to bad source documents. Image(s) in SDMS is equivalent to hard copy.

Specify Type of Document(s) / Comments:

FEDERAL EXPRESS DELIVERY RECEIPTS

[ ] Includes ____ COLOR or ____ RESOLUTION variations.
Unless otherwise noted, these pages are available in monochrome. The source document page(s) is more legible than the images. The original document is available for viewing at the Superfund Records Center.

Specify Type of Document(s) / Comments:

[ ] Confidential Business Information (CBI).
This document contains highly sensitive information. Due to confidentiality, materials with such information are not available in SDMS. You may contact the EPA Superfund Records Manager if you wish to view this document.

Specify Type of Document(s) / Comments:

[ ] Unscannable Material:
Oversized ____ or ____ Format.
Due to certain scanning equipment capability limitations, the document page(s) is not available in SDMS. The original document is available for viewing at the Superfund Records center.

Specify Type of Document(s) / Comments:

[ ] Document is available at the EPA Region 5 Records Center.

Specify Type of Document(s) / Comments:

Rev. 07/10/02

147796 KZ

REPORT

MAY 26 2000

Allied Paper, Inc. Operable Unit

Biota and Surface Water Investigations and Wetlands Assessment

Technical Memorandum 11

Volume 3 of 3

Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site
Remedial Investigation/Feasibility Study
Kalamazoo, MI

May 2000

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

TECHNICAL REPORT

Allied Paper, Inc. Operable Unit

Biota and Surface Water Investigations and Wetlands Assessment

Technical Memorandum 11

Volume 3 of 3

Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site
Remedial Investigation/Feasibility Study
Kalamazoo, MI

May 2000

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

6723 Towpath Road, P.O. Box 66
Syracuse, NY 13214-0066
(315) 446-9120

Appendix F

Data Review Reports and Laboratory Analytical Results

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

DATA REVIEW FOR

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE

SDG# 40667

PCB, PESTICIDE/PBB
AND MERCURY ANALYSES

BIOTA - PORTAGE CREEK

Analyses performed by:

Aquatec, Inc.
Colchester, Vermont

Review performed by:

Blasland, Bouck & Lee, Inc.
Syracuse, New York

Summary

The following is an assessment of the PCB data package for SDG # 40667 for the Portage Creek Biota sampling of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site. Included with this assessment are the data review check sheets used in the review of the package and sample results for PCB, Pesticide/PBB, and mercury analyses. Analyses were performed on the following samples:

Sample ID	Lab ID	Description	Sample Date	Analysis		
				PCB	Pest	Mercury
P40399F*	214010	Carp - Fillet	11/9/93	x	x	x
P40400F	214012	Carp - Fillet	11/9/93	x	x	x
P40400R	214013	Carp - Carcass	11/9/93	x	x	x
P40401F	214014	Carp - Fillet	11/9/93	x	x	x
P40401R	214015	Carp - Carcass	11/9/93	x	x	x
P40402F	214016	Carp - Fillet	11/9/93	x	x	x
P40403F	214018	Carp - Fillet	11/9/93	x	x	x
P40404F	214020	Carp - Fillet	11/9/93	x	x	x
P40404R	214021	Carp - Carcass	11/9/93	x	x	x
P40405F	214022	Carp - Fillet	11/9/93	x	x	x
P40405R	214023	Carp - Carcass	11/9/93	x	x	x
P40406F	214024	Carp - Fillet	11/9/93	x	x	x
P40406R	214025	Carp - Carcass	11/9/93	x	x	x
P40407F	214026	Carp - Fillet	11/9/93	x	x	x
P40408F	214028	Carp - Fillet	11/9/93	x	x	x
P40408R	214029	Carp - Carcass	11/9/93	x	x	x
P40409F	214030	Carp - Fillet	11/9/93	x	x	x
P40410*	203910	Sucker - Whole	11/9/93	x	x	x
P40411	203911	Sucker - Whole	11/9/93	x	x	x
P40412	203912	Sucker - Whole	11/9/93	x	x	x
P40413	203913	Sucker - Whole	11/9/93	x	x	x
P40414	203914	Sucker - Whole	11/9/93	x	x	x
P40415	203915	Sucker - Whole	11/9/93	x	x	x
P40416	203916	Sucker - Whole	11/9/93	x	x	x
P40417	203917	Sucker - Whole	11/9/93	x	x	x
P40418	203918	Sucker - Whole	11/9/93	x	x	x
P40419	203919	Sucker - Whole	11/9/93	x	x	x

* MS/MSD/DUP analysis performed on sample

PCB ANALYSES

Introduction

Analyses were performed according to the USEPA SW-846 method 8081, modified for PCB only analysis.

The data review process is intended to evaluate the data on a technical basis. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with National Functional Guidelines:

- U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
- J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
- B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
- JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
- E The compound was quantitated above the calibration range.
- D Concentration is based on a diluted sample analysis.
- UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
- R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC test, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

The data presented in the package has been derived using a procedure developed by Aquatec, Inc. in an attempt to improve the analytical process of calibration, identification, and quantitation of PCBs as Aroclors. Key components of this procedure include:

Calibration

The response function of the electron capture detector is inherently non-linear, and while significant linearization is achieved for this detector by electronic means, some non-linearity remains. Power function linearization is used to "straighten the curve" and allow the use of response factors for calibration purposes.

During the initial calibration a response factor is calculated for each peak in the individual Aroclors.

A weighted response factor calculation has been used to adjust for non-linearity at the low end of the calibration curve.

Identification

Peak retention times are relative. Retention times are in set windows relative to the time markers DCB and TCMX. Time markers adjust for minor variations in column flow or instrument condition and allow the use of very tight windows which minimizes the number of both false positive and false negative peak identifications.

The determination of "which Aroclor or mixture of Aroclors will produce a chromatogram most similar to that of the residue" is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The "most similar" Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors. This is similar to the procedure presented by L.E. Slivon, P.M. Schumacher and A. Alford-Stevens for the determination of Aroclor composition from GC/MS level of chlorination results.

Identification/quantitation of Aroclors in samples is based on the combined response of two columns, typically RTX-5 and RTX-35. The pooling of response combines the unique qualities of both columns to derive a more defined Aroclor pattern which less likely to be affected by interferents. Identification/quantitation data for the individual columns is provided in the package and can be used as a check on the combined column results.

Data Assessment

1. Holding Time

There is no specified holding times for PCB extraction on biota samples. The specified holding time for PCB analyses from extraction is 40 days. All samples were analyzed within the specified holding time.

2. Blank Contamination

Quality assurance blanks, i.e., method, field or rinse blanks, are prepared to identify any contamination which may have been introduced in to the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field and rinse blanks measure contamination of samples during field operations.

No target compounds were detected in the method or instrument blanks.

3. System Performance

The system performance was acceptable for both columns.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

4.1 Initial Calibration

The method allows a maximum RSD of 20%. The %RSD was within acceptable limits for all Aroclors.

4.2 Continuing Calibration

A maximum %D of 15 is allowed. All continuing calibrations were within the specified limits.

5. Surrogates / System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique.

Recoveries were below control limits for both surrogates in sample P40408F. All data for this sample have been qualified as estimated based on the recoveries. Recvoery for one surrogate was below control limits in samples P40399F, P40400F, P40400R, P40401F, P40401R, P40402F, P40403F, P40404F, P40404R, P40405F, P40405R, P40406F, P40406R, P40407F and P40408. Since recoveries for the remaining surrogate were within control limts, no data have been qualified based ont he deviations. All other surrogate recoveries were within control limits.

6. Compound Identification

The determination of Aroclor presence is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The most similar Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors.

Identification/quantitation of Aroclors is based on the combined response of the RTX-5 and RTX-35 columns. Identification/quantitation data for the individual columns is provided in the package and has been used as a check on the combined column results.

A review of the sample chromatograms indicate that the Aroclors have been correctly identified/quantitated.

7. Matrix Spike/Matrix Spike Duplicate/Matrix Spike Blank

Matrix spike and matrix spike duplicate data are used to assess the precision and accuracy of the analytical method.

All matrix spike recoveries and relative percent differences between recoveries were within control limits. All matrix spike blank recoveries were also within control limits.

8. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines listed in the analytical method.

DATA REVIEW CHECKLIST

PCB Data Review Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Are the outliers correctly marked with an asterisk?	X		
Were recoveries of TCMX or DCB outside of specified limits for any sample or blank?	X		
If yes, were the samples reanalyzed?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?	X		
Were matrix spikes analyzed at the required frequency?	X		
How many spike recoveries were outside of QC limits?			
0 out of 8			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
0 out of 4			
Blanks			
Is a Method Blank Summary Form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Is the chromatographic performance acceptable for each instrument?	X		
Do any method/reagent/instrument blanks have positive results?		X	

bio40667

PCB Data Review Checklist - Page 2

	YES	NO	NA
Do any field/rinse blanks have positive results?			X
Are there field/rinse/equipment blanks associated with every sample?		X	
Calibration and GC Performance			
Are the following chromatograms and data printouts present?			
Aroclor 1016/1260	X		
Aroclor 1221	X		
Aroclor 1232	X		
Aroclor 1242	X		
Aroclor 1248	X		
Aroclor 1254	X		
Are Initial Calibration Summary Forms present and complete for each column and analytical sequence?	X		
Are the linearity criteria for the initial analyses within limits for both columns (20% RSD)	X		
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a Calibration Verification Summary Form present and complete for each continuing standard analyzed?	X		
Are %D values for all compounds within limits (less than 15%)?	X		
Analytical Sequence Check			
Is a analytical sequence form present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
If GPC cleanup was performed, is Gel Permeation Chromatography Check Form present?	X		
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?	X		

PCB Data Review Checklist - Page 3

	YES	NO	NA
PCB Identification			
Is both a combined and single column Aroclor Identification Report present for every sample?	X		
Do the combined column and individual column Aroclor identifications agree?	X		
Were there any false negatives?		X	
Was GC/MS confirmation provided when required?			X
Compound Quantitation and Reported Detection Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?	X		
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Where field duplicates submitted with the samples?		X	

PCB Holding Time and Surrogate Recovery Summary

Sample ID	Holding Time	Surrogates - Column 1		Surrogates - Column 2	
		TCX	DCB	TCX	DCB
P40399F		↓ (48)		↓ (49)	
P40400F		↓ (45)		↓ (46)	
P40400R		↓ (48)		↓ (48)	
P40401F		↓ (49)		↓ (50)	
P40401R		↓ (41)		↓ (42)	
P40402F		↓ (54)		↓ (54)	
P40403F		↓ (48)		↓ (49)	
P40404F		↓ (44)		↓ (44)	
P40404R		↓ (44)		↓ (43)	
P40405F		↓ (43)		↓ (43)	
P40405R		↓ (41)		↓ (42)	
P40406F		↓ (44)		↓ (44)	
P40406R		↓ (39)		↓ (40)	
P40407F		↓ (50)		↓ (50)	
P40408F		↓ (37)	↓ (55)	↓ (38)	↓ (55)
P40408R		↓ (48)		↓ (49)	
P40409F		↓ (50)		↓ (50)	
P40410					
P40411					
P40412					
P40413					
P40414					
P40415					
P40416					
P40417					
P40418					
P40419					
P40420					

Surrogate Standards
TCX Tetrachloro-m-xylene
DCB Decachlorobiphenyl

Qualifiers:
D Surrogates diluted out
↑ Recovery high
↓ Recovery low

Unless otherwise noted, all parameters are within specified limits.

bio40667

PCB Calibration Summary

Instrument: HP2618
Column: RTX-35 / RTX-5

Date:	3/23/94 to 3/24/94	3/24	3/24	3/25	3/25	3/25	3/25
Time:		1951	2026	0317	0352	1043	1118
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
Aroclor 1016	4.0 / 4.2		1.0				
Aroclor 1221	4.2 / 4.7						
Aroclor 1232	5.6 / 5.3						
Aroclor 1242	3.3 / 3.6				3.0		
Aroclor 1248	3.0 / 2.3	1.0		0.5		0.5	
Aroclor 1254	2.9 / 2.7						0.0
Aroclor 1260	3.9 / 2.6						
Tetrachloro-m-xylene	6.3 / 4.2						
Decachlorobiphenyl	7.7 / 8.5						
Affected Samples:							

bio40667

PCB Calibration Summary - Page 2

Instrument: HP2618
Column: RTX-35 / RTX-5

Date:		3/25	3/25	3/26	3/26	3/26	3/26
Time:		1810	1844	0135	0210	0900	0934
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
Aroclor 1016					2.5		
Aroclor 1221							
Aroclor 1232							
Aroclor 1242							2.0
Aroclor 1248		0.5		4.5		1.0	
Aroclor 1254							
Aroclor 1260			2.0				
Tetrachloro-m-xylene							
Decachlorobiphenyl							
Affected Samples:							

bio40667

PCB Calibration Summary - Page 3

Instrument: HP2618
Column: RTX-35 / RTX-5

Date:		3/27	3/27	3/27	3/27	3/29	3/29
Time:		1537	1611	2302	2336	1030	1105
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
Aroclor 1016							
Aroclor 1221							
Aroclor 1232							
Aroclor 1242			1.5				
Aroclor 1248		2.0		0.5		4.5	
Aroclor 1254					2.5		5.0
Aroclor 1260							
Tetrachloro-m-xylene							
Decachlorobiphenyl							

Affected Samples:

bio40667

PCB Calibration Summary - Page 4

Instrument: HP2618
Column: RTX-35 / RTX-5

Date:		3/29	3/29				
Time:		1356	1430				
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
Aroclor 1016							
Aroclor 1221							
Aroclor 1232							
Aroclor 1242							
Aroclor 1248		4.5					
Aroclor 1254			5.5				
Aroclor 1260							
Tetrachloro-m-xylene							
Decachlorobiphenyl							
Affected Samples:							

bio40667

PCB Calibration Summary - Page 5

Instrument: HP2618
Column: RTX-35 / RTX-5

Date:	3/29/94 to 3/30/94	3/30	3/30	3/31	3/31	3/31	3/31
Time:		1821	1855	0146	0220	1529	1603
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
Aroclor 1016	4.2 / 4.1		2.5				
Aroclor 1221	4.0 / 3.6						
Aroclor 1232	5.9 / 6.3						
Aroclor 1242	3.6 / 3.4				5.0		
Aroclor 1248	2.9 / 2.6	1.0		3.5		8.5	
Aroclor 1254	2.5 / 2.3						
Aroclor 1260	3.5 / 2.4						3.0
Tetrachloro-m-xylene	4.7 / 3.9						
Decachlorobiphenyl	8.8 / 8.8						
Affected Samples:							

PCB Calibration Summary - Page 6

Instrument: HP2618
Column: RTX-35 / RTX-5

Date:		4/1	4/1				
Time:		0021	0056				
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
Aroclor 1016			7.5				
Aroclor 1221							
Aroclor 1232							
Aroclor 1242							
Aroclor 1248		5.0					
Aroclor 1254							
Aroclor 1260							
Tetrachloro-m-xylene							
Decachlorobiphenyl							

Affected Samples:

bio40667

CORRECTED ANALYSIS SUMMARY FORMS

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40399F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

Lab Sample ID: 214010

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/24/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	3.8	
11097-69-1	Aroclor-1254	0.60	
11096-82-5	Aroclor-1260	0.50	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40400F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

Lab Sample ID: 214012

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	3.8	
11097-69-1	Aroclor-1254	0.50	U
11096-82-5	Aroclor-1260	0.51	

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40400R

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 20.0

Lab Sample ID: 214013

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	9.2	
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	0.98	J

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40401F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

Lab Sample ID: 214014

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.25	U
11104-28-2	Aroclor-1221	0.25	U
11141-16-5	Aroclor-1232	0.25	U
53469-21-9	Aroclor-1242	0.25	U
12672-29-6	Aroclor-1248	1.6	
11097-69-1	Aroclor-1254	0.39	
11096-82-5	Aroclor-1260	0.25	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40401R

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

Lab Sample ID: 214015

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.25	U
11104-28-2	Aroclor-1221	0.25	U
11141-16-5	Aroclor-1232	0.25	U
53469-21-9	Aroclor-1242	0.25	U
12672-29-6	Aroclor-1248	2.0	
11097-69-1	Aroclor-1254	0.44	
11096-82-5	Aroclor-1260	0.25	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40402F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 2.0

Lab Sample ID: 214016

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.10	U
11104-28-2	Aroclor-1221	0.10	U
11141-16-5	Aroclor-1232	0.10	U
53469-21-9	Aroclor-1242	0.10	U
12672-29-6	Aroclor-1248	1.4	
11097-69-1	Aroclor-1254	0.10	U
11096-82-5	Aroclor-1260	0.19	

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40403F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

Lab Sample ID: 214018

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.25	U
11104-28-2	Aroclor-1221	0.25	U
11141-16-5	Aroclor-1232	0.25	U
53469-21-9	Aroclor-1242	0.25	U
12672-29-6	Aroclor-1248	1.6	
11097-69-1	Aroclor-1254	0.53	
11096-82-5	Aroclor-1260	0.25	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40404F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

Lab Sample ID: 214020

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	4.4	
11097-69-1	Aroclor-1254	0.50	U
11096-82-5	Aroclor-1260	0.29	J

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40404R

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 30.0

Lab Sample ID: 214021

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/29/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	1.5	U
11104-28-2	Aroclor-1221	1.5	U
11141-16-5	Aroclor-1232	1.5	U
53469-21-9	Aroclor-1242	1.5	U
12672-29-6	Aroclor-1248	11	
11097-69-1	Aroclor-1254	1.5	U
11096-82-5	Aroclor-1260	1.0	J

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40405F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

Lab Sample ID: 214022

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.25	U
11104-28-2	Aroclor-1221	0.25	U
11141-16-5	Aroclor-1232	0.25	U
53469-21-9	Aroclor-1242	0.25	U
12672-29-6	Aroclor-1248	2.9	
11097-69-1	Aroclor-1254	0.25	U
11096-82-5	Aroclor-1260	0.24	J

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40405R

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

Lab Sample ID: 214023

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	6.4	
11097-69-1	Aroclor-1254	0.50	U
11096-82-5	Aroclor-1260	0.53	

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40406F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 15.0

Lab Sample ID: 214024

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.75	U
11104-28-2	Aroclor-1221	0.75	U
11141-16-5	Aroclor-1232	0.75	U
53469-21-9	Aroclor-1242	0.75	U
12672-29-6	Aroclor-1248	8.1	
11097-69-1	Aroclor-1254	0.75	U
11096-82-5	Aroclor-1260	0.69	J

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40406R

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 20.0

Lab Sample ID: 214025

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	11	
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	0.97	J

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40407F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

Lab Sample ID: 214026

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.25	U
11104-28-2	Aroclor-1221	0.25	U
11141-16-5	Aroclor-1232	0.25	U
53469-21-9	Aroclor-1242	0.25	U
12672-29-6	Aroclor-1248	2.6	
11097-69-1	Aroclor-1254	0.25	U
11096-82-5	Aroclor-1260	0.46	

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40408F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

Lab Sample ID: 214028

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.25	U J
11104-28-2	Aroclor-1221	0.25	U J
11141-16-5	Aroclor-1232	0.25	U J
53469-21-9	Aroclor-1242	0.25	U J
12672-29-6	Aroclor-1248	1.1	J
11097-69-1	Aroclor-1254	0.42	J
11096-82-5	Aroclor-1260	0.25	U J

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40408R

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

Lab Sample ID: 214029

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/31/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	4.7	
11097-69-1	Aroclor-1254	0.50	U
11096-82-5	Aroclor-1260	0.62	

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40409F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 2.0

Lab Sample ID: 214030

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/27/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.10	U
11104-28-2	Aroclor-1221	0.10	U
11141-16-5	Aroclor-1232	0.10	U
53469-21-9	Aroclor-1242	0.10	U
12672-29-6	Aroclor-1248	1.4	
11097-69-1	Aroclor-1254	0.33	
11096-82-5	Aroclor-1260	0.27	

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40410

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 203910

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.14	
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.23	
11096-82-5	Aroclor-1260	0.072	

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40411

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

Lab Sample ID: 203911

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	2.4	
11097-69-1	Aroclor-1254	0.50	U
11096-82-5	Aroclor-1260	0.50	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40412

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

Lab Sample ID: 203912

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.25	U
11104-28-2	Aroclor-1221	0.25	U
11141-16-5	Aroclor-1232	0.25	U
53469-21-9	Aroclor-1242	0.25	U
12672-29-6	Aroclor-1248	2.1	
11097-69-1	Aroclor-1254	0.25	U
11096-82-5	Aroclor-1260	0.19	J

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40413

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA
Phase Weight: 10.0 (g)
Injection Volume: 1.0 (uL)
Dilution Factor: 5.0

Lab Sample ID: 203913
Date Received: 11/10/93
Date Extracted: 03/20/94
Date Analyzed: 03/25/94
Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.25	U
11104-28-2	Aroclor-1221	0.25	U
11141-16-5	Aroclor-1232	0.25	U
53469-21-9	Aroclor-1242	0.25	U
12672-29-6	Aroclor-1248	1.0	
11097-69-1	Aroclor-1254	0.31	
11096-82-5	Aroclor-1260	0.25	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40414

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA
Phase Weight: 10.0 (g)
Injection Volume: 1.0 (uL)
Dilution Factor: 2.0

Lab Sample ID: 203914
Date Received: 11/10/93
Date Extracted: 03/20/94
Date Analyzed: 03/27/94
Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.10	U
11104-28-2	Aroclor-1221	0.10	U
11141-16-5	Aroclor-1232	0.10	U
53469-21-9	Aroclor-1242	0.10	U
12672-29-6	Aroclor-1248	1.2	
11097-69-1	Aroclor-1254	0.15	
11096-82-5	Aroclor-1260	0.10	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40415

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 2.0

Lab Sample ID: 203915

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/26/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.10	U
11104-28-2	Aroclor-1221	0.10	U
11141-16-5	Aroclor-1232	0.10	U
53469-21-9	Aroclor-1242	0.10	U
12672-29-6	Aroclor-1248	0.86	
11097-69-1	Aroclor-1254	0.10	U
11096-82-5	Aroclor-1260	0.11	

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40416

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 203916

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/27/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.34	
11097-69-1	Aroclor-1254	0.36	
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40417

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 203917

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/27/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.17	
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.25	
11096-82-5	Aroclor-1260	0.022	J

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40418

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 2.0

Lab Sample ID: 203918

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/27/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.10	U
11104-28-2	Aroclor-1221	0.10	U
11141-16-5	Aroclor-1232	0.10	U
53469-21-9	Aroclor-1242	0.50	
12672-29-6	Aroclor-1248	1.4	
11097-69-1	Aroclor-1254	0.10	U
11096-82-5	Aroclor-1260	0.18	

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40419

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

Lab Sample ID: 203919

Date Received: 11/10/93

Date Extracted: 03/20/94

Date Analyzed: 03/26/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.25	U
11104-28-2	Aroclor-1221	0.25	U
11141-16-5	Aroclor-1232	0.25	U
53469-21-9	Aroclor-1242	2.4	
12672-29-6	Aroclor-1248	0.25	U
11097-69-1	Aroclor-1254	0.25	U
11096-82-5	Aroclor-1260	0.25	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

P40420

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA
Phase Weight: 10.0 (g)
Injection Volume: 1.0 (uL)
Dilution Factor: 2.0

Lab Sample ID: 203920
Date Received: 11/10/93
Date Extracted: 03/20/94
Date Analyzed: 03/27/94
Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.10	U
11104-28-2	Aroclor-1221	0.10	U
11141-16-5	Aroclor-1232	0.10	U
53469-21-9	Aroclor-1242	0.10	U
12672-29-6	Aroclor-1248	0.86	
11097-69-1	Aroclor-1254	0.21	
11096-82-5	Aroclor-1260	0.13	

PESTICIDE ANALYSES

Introduction

Analyses were performed according to the USEPA SW-846 Method 8081.

The data review process is intended to evaluate the data on a technical basis. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with National Functional Guidelines:

- U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
- J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
- B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
- JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
- E The compound was quantitated above the calibration range.
- D Concentration is based on a diluted sample analysis.
- C Identification confirmed by GC/MS.
- UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
- R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC test, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Data Assessment

1. Holding Time

The holding time for pesticide extracts is 40 days from extraction to analysis. No deviations from this holding time were noted.

2. Blank Contamination

Quality assurance blanks, i.e., method, field, or rinse blanks are prepared to identify any contamination which may have been introduced in to the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field and rinse blanks measure cross contamination of samples during field operations.

No target compounds were detected in either the method blanks or instrument blanks.

3. System Performance

Resolution and compound breakdown were acceptable for both columns.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

4.1 Initial Calibration

A maximum RSD of 20% is allowed. All initial calibrations were within the specified limit.

4.2 Continuing Calibration

A maximum RPD of 25% is allowed. All continuing calibrations were within the specified limit.

5. Surrogates / System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique.

Recovery for one surrogate was below control limits in samples P40399F, P40399FMS, P40399FMSD, P40400F, P40400R, P40401F, P40401R, P40403F, P40404F, P40404R, P40405F, P40405R, P40406R, P40408R, P40410MSD, and P40415. Since recoveries

for the remaining surrogate were withi control limits, no data have been qualified based on the deviations. Recoveries for both surrogates were below control limits in sample P40408F. All data for this sample have been qualified as estimated based ont he recoveries. All other surrogate recoveries were within control limits.

6. Compound Identification

The retention times of pesticide/PCB compounds must fall within the calculated retention time windows for both the primary and confirmation columns.

The quantitated concentrations between the two columns exceeded 25% difference for the following samples and compounds:

P40399F	Aldrin	29.2%
	Heptaclor epoxide	40.0%
	gamma-Chlordane	64.5%
	4,4'-DDE	48.7%
P40400F	Aldrin	27.6%
	Heptachlor epoxide	38.3%
	gamma-Chlordane	86.4%
	trans-Nonachlor	107.7%
	4,4'-DDE	63.5%
P40400R	Aldrin	26.3%
	Heptachlor epoxide	42.2%
	gamma-Chlordane	102.1%
	trans-Nonachlor	96.7%
	4,4'-DDE	60.0%
	cis-Nonachlor	86.4%
P40401F	Aldrin	55.7%
	Heptachlor epoxide	36.0%
	gamma-Chlordane	27.8%
	4,4'-DDE	32.7%
P40401R	Aldrin	50.6%
	Heptachlor epoxide	45.2%
	gamma-Chlordane	43.5%
	4,4'-DDE	32.0%
	cis-Nonachlor	46.2%
P40402F	Aldrin	37.8%
	Heptachlor epoxide	46.7%
	gamma-Chlordane	41.2%
	trans-Nonachlor	56.2%
	4,4'-DDE	47.6%

P40403F	Aldrin	35.2%
	Heptachlor epoxide	32.1%
	gamma-Chlordane	50.0%
	4,4'-DDE	30.1%
	cis-Nonachlor	63.6%
P40404F	Aldrin	27.0%
	Heptachlor epoxide	38.6%
	gamma-Chlordane	95.6%
	trans-Nonachlor	62.5%
	4,4'-DDE	49.0%
	cis-Nonachlor	60.0%
P40404R	Heptachlor epoxide	38.9%
	gamma-Chlordane	118.4%
	trans-Nonachlor	31.2%
	4,4'-DDE	53.3%
P40405F	Heptachlor epoxide	43.2%
	gamma-Chlordane	78.9%
	cis-Nonachlor	30.4%
P40406F	Aldrin	33.6%
	Heptachlor epoxide	46.4%
	gamma-Chlordane	77.3%
	trans-Nonachlor	84.6%
	4,4'-DDE	47.8%
	Dieldrin	68.5%
P40406R	Aldrin	36.2%
	Heptachlor epoxide	40.7%
	gamma-Chlordane	89.7%
	trans-Nonachlor	86.5%
	cis-Nonachlor	76.9%
P40407F	Aldrin	35.5%
	Heptachlor epoxide	44.0%
	gamma-Chlordane	56.2%
	trans-Nonachlor	31.2%
	4,4'-DDE	35.3%
	cis-Nonachlor	60.9%
P40408F	Aldrin	40.9%
	Heptachlor epoxide	33.3%
	gamma-Chlordane	63.6%
	trans-Nonachlor	41.7%
	4,4'-DDE	35.0%
	cis-Nonachlor	69.2%

P40408R	Aldrin	42.3%
	Heptachlor epoxide	47.5%
	gamma-Chlordane	74.1%
	trans-Nonachlor	30.3%
	4,4'-DDE	30.2%
	cis-Nonachlor	64.7%
P40409F	Aldrin	57.9%
	Heptachlor epoxide	58.3%
	gamma-Chlordane	30.8%
	trans-Nonachlor	46.2%
	4,4'-DDE	28.8%
	Dieldrin	205.0%
	cis-Nonachlor	84.2%
P40411	Aldrin	60.6%
P40412	gamma-Chlordane	166.7%
	4,4'-DDT	214.3%
P40413	Aldrin	52.9%
	Heptachlor epoxide	35.5%
	4,4'-DDE	26.5%
P40414	Aldrin	62.0%
	Heptachlor epoxide	34.8%
	gamma-Chlordane	31.2%
	trans-Nonachlor	26.3%
	4,4'-DDE	28.3%
	cis-Nonachlor	52.9%
P40415	Aldrin	55.4%
	Heptachlor epoxide	51.8%
	gamma-Chlordane	42.9%
	cis-Nonachlor	54.5%
P40416	Aldrin	66.7%
	4,4'-DDE	34.8%
P40417	Aldrin	52.9%
	Heptachlor epoxide	102.4%
P40418	gamma-Chlordane	182.0%
	4,4'-DDE	48.0%
P40420	gamma-Chlordane	78.1%
	trans-Nonachlor	42.4%
	4,4'-DDE	26.9%

All data for the compounds listed has been qualified. Data with %D values between 25 and 50% has been qualified as estimated, J. All data with %D values between 50 and 90% has been qualified as estimated with presumptive evidence of presence, JN. All data with %D values greater than 90% has been rejected.

7. Matrix Spike/Matrix Spike Duplicate

Matrix spike and matrix spike duplicate data are used to assess the precision and accuracy of the analytical method.

Recoveries for Dieldrin were above control limits in both the carp matrix spike and matrix spike duplicate. Recovery for Aldrin was also above control limits in the carp matrix spike duplicate. The elevated recoveries were most likely due to positive interference from PCBs present in the samples and, as such, no data have been qualified based on the recoveries. The blank spike associated with the MS/MSD was not spiked with pesticide compounds.

Recoveries for Aldrin, Dieldrin and 4,4'-DDT were above control limits in both the sucker matrix spike and matrix spike duplicate. The elevated recoveries were, again, most likely due to positive interference from PCBs present in the samples. The blank spike associated with the MS/MSD had acceptable recoveries for all compounds except Aldrin which was slightly high.

8. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines listed in the analytical method.

Data Validation Checksheets

Pesticide Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Is there a narrative or cover letter present?	X		
Are the samples numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are the surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Are the outliers correctly marked with an asterisk?	X		
Were recoveries of TCMX or DCB outside of specified limits for any sample or blank?	X		
If yes, were the samples reanalyzed?		X	
Were the method blanks reanalyzed?			X
Matrix Spikes			
Is there a matrix spike recovery form present?	X		
Were matrix spikes analyzed at the required frequency?	X		
How many spike recoveries were outside of QC limits? 9 out of 16			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits? 1 out of 4			
Blanks			
Is the method blank summary form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Is the chromatographic performance acceptable for each instrument?	X		

	YES	NO	NA
Do any method/reagent/instrument blanks have positive results?		X	
Do any trip/field/rinse blanks have positive results?			X
Are there field/rinse/equipment blanks associated with every sample?		X	
Calibration and GC Performance			
Are the following chromatograms and data printouts present for all samples, blanks, and MS/MSD?			
peak resolution check	X		
performance evaluation mixtures (BCS)	X		
Toxaphene multipoint calibration	X		
Pesticide/PBB multipoint calibration	X		
Pesticide/PBB mid-point standard	X		
Are Forms VI 1-4 present and complete for each column and analytical sequence?	X		
Are the linearity criteria for the initial analyses if INDA and INDB within limits for both columns?	X		
Is the resolution between any two adjacent peaks in the resolution check mixture > 60% for both columns?	X		
Is Form VII-1 present for each BCS analyzed for both columns?	X		
Has the individual % breakdown exceeded 20% on either column for 4,4'-DDT		X	
Are all the relative percent difference (RPD) values for all PEM analytes < 25%?	X		
Is Form VII-2 present and complete for each mid-point standard analyzed?	X		
Are RPD values for all compounds < 25%?	X		
Analytical Sequence Check			
Is Form VIII present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
Is Form IX-1 present for each lot of Florisil cartridges used?	X		

	YES	NO	NA
Are all samples listed on the form?	X		
If GPC cleanup was performed, is Form IX-2 present?			X
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits for:			
Florisil cartridge check (80-120%)	X		
GPC calibration (80-110%)			X
Pesticide/PBB Identification			
Is a Form X present for every sample in which a pesticide or PCB was detected?	X		
Was GC/MS confirmation provided when required?			X
Is the percent difference (%D) calculated for the positive sample results on the two columns less than 25%?		X	
Were there any false negatives?		X	
Compound Quantitation and Reported Detection Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?	X		
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Where field duplicates submitted with the samples?		X	

Pesticide/PBB Qualifier Summary
Holding Time and Surrogates

Sample ID	Holding Time	Surrogates - Column 1		Surrogates - Column 2	
		TCX	DCB	TCX	DCB
P40399F		↓ (49)			
P40399FMS		↓ (48)			
P40399FMSD		↓ (52)			
P40400F		↓ (51)			
P40400R		↓ (55)			
P40401F		↓ (57)			
P40401R		↓ (52)			
P40402F					
P40403F		↓ (56)			
P40404F		↓ (55)			
P40404R		↓ (44)			
P40405F		↓ (51)			
P40405R		↓ (48)			
P40406F		↓ (48)			
P40406R		↓ (47)			
P40407F					
P40408F		↓ (44)	↓ (55)	↓ (50)	↓ (54)
P40408R		↓ (57)			
P40409F					
P40410					
P40410MS					
P40410MSD		↓ (57)			
P40411					
P40412					
P40413					
P40414					
P40415		↓ (58)			
P40416					
P40417					
P40418					
P40419					
P40420					

Surrogates:
TCX Tetrachloro-m-xylene
DCB Decachlorobiphenyl

Qualifiers:
D Surrogate diluted out
↑ Recovery high
↓ Recovery low

Unless otherwise noted, all samples are within specified limits.

Pesticide/PBB Calibration Summary

Instrument: HP2404
Column: RTX-5

Date:	3/27/94	3/28	3/29	3/29	3/30	3/30	3/30
Time:		2147	0606	1616	0036	0522	1610
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
2-Bromobiphenyl							
3-Bromobiphenyl							
4-Bromobiphenyl							
Hexachlorobenzene							
gamma-BHC (Lindane)							
Aldrin							
Heptaclor epoxide							
gamma-Chlordane							
alpha-Chlordane							
trans-Nonachlor							
4,4'-DDE							
Dieldrin							
4,4'-DDD							
cis-Nonachlor							
4,4'-DDT							
Hexabromobiphenyl (BP-6)							
Toxaphene							
Tetrachloro-m-xylene							
Decachlorobiphenyl							
Affected Samples:							

bio40667

Pesticide/PBB Calibration Summary - Page 2

Instrument: HP2404
Column: RTX-5

Date:		3/30					
Time:		1945					
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
2-Bromobiphenyl							
3-Bromobiphenyl							
4-Bromobiphenyl							
Hexachlorobenzene							
gamma-BHC (Lindane)							
Aldrin							
Heptaclor epoxide							
gamma-Chlordane							
alpha-Chlordane							
trans-Nonachlor							
4,4'-DDE							
Dieldrin							
4,4'-DDD							
cis-Nonachlor							
4,4'-DDT							
Hexabromobiphenyl (BP-6)							
Toxaphene							
Tetrachloro-m-xylene							
Decachlorobiphenyl							
Affected Samples:							

Pesticide/PBB Calibration Summary - Page 3

Instrument: HP2404
Column: RTX-35

Date:	3/27/94	3/28	3/29	3/29	3/30	3/30	3/30
Time:		2147	0606	1616	0036	0522	1610
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
2-Bromobiphenyl							
3-Bromobiphenyl							
4-Bromobiphenyl							
Hexachlorobenzene							
gamma-BHC (Lindane)							
Aldrin							
Heptaclor epoxide							
gamma-Chlordane							
alpha-Chlordane							
trans-Nonachlor							
4,4'-DDE							
Dieldrin							
4,4'-DDD							
cis-Nonachlor							
4,4'-DDT							
Hexabromobiphenyl (BP-6)							
Toxaphene							
Tetrachloro-m-xylene							
Decachlorobiphenyl							
Affected Samples:							

Pesticide/PBB Calibration Summary - Page 4

Instrument: HP2404
Column: RTX-35

Date:		3/30					
Time:		1945					
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
2-Bromobiphenyl							
3-Bromobiphenyl							
4-Bromobiphenyl							
Hexachlorobenzene							
gamma-BHC (Lindane)							
Aldrin							
Heptaclor epoxide							
gamma-Chlordane							
alpha-Chlordane							
trans-Nonachlor							
4,4'-DDE							
Dieldrin							
4,4'-DDD							
cis-Nonachlor							
4,4'-DDT							
Hexabromobiphenyl (BP-6)							
Toxaphene							
Tetrachloro-m-xylene							
Decachlorobiphenyl							
Affected Samples:							

bio40667

Corrected Sample Analysis Data Sheets

1

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40399F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214010
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	5.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.050	U
2113-57-7	3-Bromobiphenyl	0.050	U
92-66-0	4-Bromobiphenyl	0.050	U
118-74-1	Hexachlorobenzene	0.025	U
58-89-9	gamma-BHC	0.025	U
309-00-2	Aldrin	0.14	
1024-57-3	Heptachlor Epoxide	0.047	
5103-74-2	gamma-Chlordane	0.031	
5103-71-9	alpha-Chlordane	0.025	U
39765-80-5	trans-Nonachlor	0.032	
72-55-9	4,4'-DDE	0.072	
60-57-1	Dieldrin	0.050	U
72-54-8	4,4'-DDD	0.050	U
5103-73-1	cis-Nonachlor	0.025	U
50-29-3	4,4'-DDT	0.050	U
36355-01-8	Hexabromobiphenyl	0.10	U
8001-35-2	Toxaphene	1.0	U

1

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40400F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214012
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.10	J
1024-57-3	Heptachlor Epoxide	0.047	J
5103-74-2	gamma-Chlordane	0.022	JN
5103-71-9	alpha-Chlordane	0.010	U
~~39765-80-5~~	~~trans-Nonachlor~~	~~0.013~~	R
72-55-9	4,4'-DDE	0.052	JN
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.020	U
5103-73-1	cis-Nonachlor	0.10	U
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

1

PESTICIDE, PBB ANALYSIS DATA SHEET

		Client ID No.	
Lab Name:	Aquatec, Inc.		P40400R
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214013
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	5.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.050	U
2113-57-7	3-Bromobiphenyl	0.050	U
92-66-0	4-Bromobiphenyl	0.050	U
118-74-1	Hexachlorobenzene	0.025	U
58-89-9	gamma-BHC	0.025	U
309-00-2	Aldrin	0.24	44
1024-57-3	Heptachlor Epoxide	0.10	44
~~5103-74-2~~	~~gamma-Chlordane~~	~~0.048~~	R
5103-71-9	alpha-Chlordane	0.025	U
~~39765-80-5~~	~~trans-Nonachlor~~	~~0.030~~	R
72-55-9	4,4'-DDE	0.12	JN!
60-57-1	Dieldrin	0.050	U
72-54-8	4,4'-DDD	0.050	U
5103-73-1	cis-Nonachlor	0.025	U
50-29-3	4,4'-DDT	0.050	U
36355-01-8	Hexabromobiphenyl	0.10	U
8001-35-2	Toxaphene	1.0	U

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40401F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214014
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.061	JN
1024-57-3	Heptachlor Epoxide	0.025	JN
5103-74-2	gamma-Chlordane	0.018	JN
5103-71-9	alpha-Chlordane	0.015	
39765-80-5	trans-Nonachlor	0.020	
72-55-9	4,4'-DDE	0.055	J
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.020	U
5103-73-1	cis-Nonachlor	0.010	U
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40401R
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214015
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.079	U
1024-57-3	Heptachlor Epoxide	0.031	U
5103-74-2	gamma-Chlordane	0.023	U
5103-71-9	alpha-Chlordane	0.021	
39765-80-5	trans-Nonachlor	0.027	
72-55-9	4,4'-DDE	0.075	U
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.023	
5103-73-1	cis-Nonachlor	0.013	U
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40402F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214016
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.037	
1024-57-3	Heptachlor Epoxide	0.015	
5103-74-2	gamma-Chlordane	0.0085	
5103-71-9	alpha-Chlordane	0.0057	
39765-80-5	trans-Nonachlor	0.0064	
72-55-9	4,4'-DDE	0.021	
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.010	U
5103-73-1	cis-Nonachlor	0.0050	U
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40403F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214018
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.071	H
1024-57-3	Heptachlor Epoxide	0.028	H
5103-74-2	gamma-Chlordane	0.018	H
5103-71-9	alpha-Chlordane	0.019	
39765-80-5	trans-Nonachlor	0.024	
72-55-9	4,4'-DDE	0.073	H
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.020	U
5103-73-1	cis-Nonachlor	0.011	H
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40404F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214020
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.11	UJ
1024-57-3	Heptachlor Epoxide	0.044	UJ
~~5103-74-2~~	~~gamma-Chlordane~~	~~0.023~~	R
5103-71-9	alpha-Chlordane	0.016	
39765-80-5	trans-Nonachlor	0.016	UJ
72-55-9	4,4'-DDE	0.053	UJ
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.020	U
5103-73-1	cis-Nonachlor	0.010	UJ
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

1

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40404R
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214021
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	10.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.10	U
2113-57-7	3-Bromobiphenyl	0.10	U
92-66-0	4-Bromobiphenyl	0.10	U
118-74-1	Hexachlorobenzene	0.050	U
58-89-9	gamma-BHC	0.050	U
309-00-2	Aldrin	0.42	
1024-57-3	Heptachlor Epoxide	0.16	
~~5103-74-2~~	~~gamma-Chlordane~~	~~0.076~~	R
5103-71-9	alpha-Chlordane	0.056	
39765-80-5	trans-Nonachlor	0.069	
72-55-9	4,4'-DDE	0.18	
60-57-1	Dieldrin	0.10	U
72-54-8	4,4'-DDD	0.11	U
5103-73-1	cis-Nonachlor	0.050	U
50-29-3	4,4'-DDT	0.10	U
36355-01-8	Hexabromobiphenyl	0.20	U
8001-35-2	Toxaphene	2.0	U

PESTICIDE, PBB ANALYSIS DATA SHEET

		Client ID No.	
Lab Name:	Aquatec, Inc.		P40405F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214022
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.087	
1024-57-3	Heptachlor Epoxide	0.039	
5103-74-2	gamma-Chlordane	0.018	
5103-71-9	alpha-Chlordane	0.019	
39765-80-5	trans-Nonachlor	0.024	
72-55-9	4,4'-DDE	0.020	U
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.020	U
5103-73-1	cis-Nonachlor	0.011	
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40405R
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214023
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.16	
1024-57-3	Heptachlor Epoxide	0.074	
5103-74-2	gamma-Chlordane	0.038	
5103-71-9	alpha-Chlordane	0.041	
39765-80-5	trans-Nonachlor	0.055	
72-55-9	4,4'-DDE	0.13	
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.039	
5103-73-1	cis-Nonachlor	0.023	
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40406F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214024
Phase Type:	Biota	Date Received:	11/10/94
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/30/94
Dilution Factor:	5.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.050	U
2113-57-7	3-Bromobiphenyl	0.050	U
92-66-0	4-Bromobiphenyl	0.050	U
118-74-1	Hexachlorobenzene	0.025	U
58-89-9	gamma-BHC	0.025	U
309-00-2	Aldrin	0.22	J
1024-57-3	Heptachlor Epoxide	0.097	J
5103-74-2	gamma-Chlordane	0.044	JN
5103-71-9	alpha-Chlordane	0.025	U
39765-80-5	trans-Nonachlor	0.026	JN
72-55-9	4,4'-DDE	0.090	J
60-57-1	Dieldrin	0.064	JN
72-54-8	4,4'-DDD	0.050	U
5103-73-1	cis-Nonachlor	0.025	U
50-29-3	4,4'-DDT	0.050	U
36355-01-8	Hexabromobiphenyl	0.10	U
8001-35-2	Toxaphene	1.0	U

PESTICIDE, PBB ANALYSIS DATA SHEET

		Client ID No.	P40406R
Lab Name:	Aquatec, Inc.		
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214025
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	5.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.050	U
2113-57-7	3-Bromobiphenyl	0.050	U
92-66-0	4-Bromobiphenyl	0.050	U
118-74-1	Hexachlorobenzene	0.025	U
58-89-9	gamma-BHC	0.025	U
309-00-2	Aldrin	0.28	NJ
1024-57-3	Heptachlor Epoxide	0.14	NJ
5103-74-2	gamma-Chlordane	0.058	NJ
5103-71-9	alpha-Chlordane	0.029	
39765-80-5	trans-Nonachlor	0.037	NJ
72-55-9	4,4'-DDE	0.12	NJ
60-57-1	Dieldrin	0.050	U
72-54-8	4,4'-DDD	0.050	U
5103-73-1	cis-Nonachlor	0.026	NJ
50-29-3	4,4'-DDT	0.050	U
36355-01-8	Hexabromobiphenyl	0.10	U
8001-35-2	Toxaphene	1.0	U

1

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40407F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214026
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.062	U
1024-57-3	Heptachlor Epoxide	0.025	U
5103-74-2	gamma-Chlordane	0.016	NJ
5103-71-9	alpha-Chlordane	0.012	
39765-80-5	trans-Nonachlor	0.016	U
72-55-9	4,4'-DDE	0.051	U
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.015	
5103-73-1	cis-Nonachlor	0.0087	NJ
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40408F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214028
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.044	J
1024-57-3	Heptachlor Epoxide	0.019	J
5103-74-2	gamma-Chlordane	0.011	J
5103-71-9	alpha-Chlordane	0.010	J
39765-80-5	trans-Nonachlor	0.012	J
72-55-9	4,4'-DDE	0.040	J
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.010	U
5103-73-1	cis-Nonachlor	0.0065	J
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

		Client ID No.	
Lab Name:	Aquatec, Inc.		P40408R
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214029
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.10	U
1024-57-3	Heptachlor Epoxide	0.040	U
5103-74-2	gamma-Chlordane	0.027	U
5103-71-9	alpha-Chlordane	0.025	
39765-80-5	trans-Nonachlor	0.033	U
72-55-9	4,4'-DDE	0.11	U
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.027	
5103-73-1	cis-Nonachlor	0.017	U
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

1

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40409F
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	214030
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.038	JN
1024-57-3	Heptachlor Epoxide	0.012	JN
5103-74-2	gamma-Chlordane	0.013	J
5103-71-9	alpha-Chlordane	0.0089	
39765-80-5	trans-Nonachlor	0.013	J
72-55-9	4,4'-DDE	0.052	J
~~60-57-1~~	~~Dieldrin~~	~~0.020~~	R
72-54-8	4,4'-DDD	0.011	
5103-73-1	cis-Nonachlor	0.0076	JN
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40410
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203910
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/30/94
Dilution Factor:	10.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.10	U
2113-57-7	3-Bromobiphenyl	0.10	U
92-66-0	4-Bromobiphenyl	0.10	U
118-74-1	Hexachlorobenzene	0.050	U
58-89-9	gamma-BHC	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
5103-71-9	alpha-Chlordane	0.050	U
39765-80-5	trans-Nonachlor	0.050	U
72-55-9	4,4'-DDE	0.11	
60-57-1	Dieldrin	0.10	U
72-54-8	4,4'-DDD	0.10	U
5103-73-1	cis-Nonachlor	0.050	U
50-29-3	4,4'-DDT	0.10	U
36355-01-8	Hexabromobiphenyl	0.20	U
8001-35-2	Toxaphene	2.0	U

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40411
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203911
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/28/94
Dilution Factor:	10.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.10	U
2113-57-7	3-Bromobiphenyl	0.10	U
92-66-0	4-Bromobiphenyl	0.10	U
118-74-1	Hexachlorobenzene	0.050	U
58-89-9	gamma-BHC	0.050	U
309-00-2	Aldrin	0.10	JN
1024-57-3	Heptachlor Epoxide	0.10	
5103-74-2	gamma-Chlordane	0.050	U
5103-71-9	alpha-Chlordane	0.050	U
39765-80-5	trans-Nonachlor	0.050	U
72-55-9	4,4'-DDE	0.11	
60-57-1	Dieldrin	0.10	U
72-54-8	4,4'-DDD	0.10	U
5103-73-1	cis-Nonachlor	0.050	U
50-29-3	4,4'-DDT	0.10	U
36355-01-8	Hexabromobiphenyl	0.20	U
8001-35-2	Toxaphene	2.0	U

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40412
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203912
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/30/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.056	
1024-57-3	Heptachlor Epoxide	0.058	
~~5103-74-2~~	~~gamma-Chlordane~~	~~0.012~~	R
5103-71-9	alpha-Chlordane	0.022	
39765-80-5	trans-Nonachlor	0.028	
72-55-9	4,4'-DDE	0.12	
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.021	
5103-73-1	cis-Nonachlor	0.013	
~~50-29-3~~	~~4,4'-DDT~~	~~0.014~~	R
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

		Client ID No.	
Lab Name:	Aquatec, Inc.		P40413
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203913
Phase Type:	Biota	Date Received:	11/10/94
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/30/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.034	JN
1024-57-3	Heptachlor Epoxide	0.031	J
5103-74-2	gamma-Chlordane	0.010	U
5103-71-9	alpha-Chlordane	0.010	U
39765-80-5	trans-Nonachlor	0.010	U
72-55-9	4,4'-DDE	0.049	J
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.020	U
5103-73-1	cis-Nonachlor	0.020	U
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40414
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203914
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.050	NJ
1024-57-3	Heptachlor Epoxide	0.023	NJ
5103-74-2	gamma-Chlordane	0.016	NJ
5103-71-9	alpha-Chlordane	0.014	
39765-80-5	trans-Nonachlor	0.019	NJ
72-55-9	4,4'-DDE	0.053	NJ
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.014	
5103-73-1	cis-Nonachlor	0.0085	NJ
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

		Client ID No.	
Lab Name:	Aquatec, Inc.		P40415
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203915
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/29/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.065	JN
1024-57-3	Heptachlor Epoxide	0.027	JN
5103-74-2	gamma-Chlordane	0.021	J
5103-71-9	alpha-Chlordane	0.020	
39765-80-5	trans-Nonachlor	0.026	
72-55-9	4,4'-DDE	0.073	
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.023	
5103-73-1	cis-Nonachlor	0.011	JN
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40416
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203916
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/28/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.012	JN
1024-57-3	Heptachlor Epoxide	0.014	
5103-74-2	gamma-Chlordane	0.0050	U
5103-71-9	alpha-Chlordane	0.0050	U
39765-80-5	trans-Nonachlor	0.0050	U
72-55-9	4,4'-DDE	0.023	J
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.010	U
5103-73-1	cis-Nonachlor	0.0050	U
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

		Client ID No.	
Lab Name:	Aquatec, Inc.		P40417
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203917
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/30/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.0085	JN
~~1024-57-3~~	~~Heptachlor Epoxide~~	~~0.0084~~	R
5103-74-2	gamma-Chlordane	0.0050	U
5103-71-9	alpha-Chlordane	0.0050	U
39765-80-5	trans-Nonachlor	0.0054	
72-55-9	4,4'-DDE	0.040	
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.010	U
5103-73-1	cis-Nonachlor	0.0050	U
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

Lab Name:	Aquatec, Inc.	Client ID No.	P40418
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203918
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/30/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.039	
1024-57-3	Heptachlor Epoxide	0.034	
~~5103-74-2~~	~~gamma-Chlordane~~	~~0.0078~~	R
5103-71-9	alpha-Chlordane	0.0050	U
39765-80-5	trans-Nonachlor	0.0050	U
72-55-9	4,4'-DDE	0.025	
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.010	U
5103-73-1	cis-Nonachlor	0.0050	U
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

PESTICIDE, PBB ANALYSIS DATA SHEET

			Client ID No.
Lab Name:	Aquatec, Inc.		P40419
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203919
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/28/94
Dilution Factor:	2.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.020	U
2113-57-7	3-Bromobiphenyl	0.020	U
92-66-0	4-Bromobiphenyl	0.020	U
118-74-1	Hexachlorobenzene	0.010	U
58-89-9	gamma-BHC	0.010	U
309-00-2	Aldrin	0.048	
1024-57-3	Heptachlor Epoxide	0.052	
5103-74-2	gamma-Chlordane	0.010	U
5103-71-9	alpha-Chlordane	0.010	U
39765-80-5	trans-Nonachlor	0.010	U
72-55-9	4,4'-DDE	0.027	
60-57-1	Dieldrin	0.020	U
72-54-8	4,4'-DDD	0.020	U
5103-73-1	cis-Nonachlor	0.010	U
50-29-3	4,4'-DDT	0.020	U
36355-01-8	Hexabromobiphenyl	0.040	U
8001-35-2	Toxaphene	0.40	U

PESTICIDE, PBB ANALYSIS DATA SHEET

		Client ID No.	
Lab Name:	Aquatec, Inc.		P40420
Lab Code:	AQUAI		
Contract:	91082		
Case:	BIO	SDG:	40667
		Lab Sample Id:	203920
Phase Type:	Biota	Date Received:	11/10/93
Phase Weight:	10.0 mg	Date Extracted:	3/20/94
Extraction:	Soxhlet	Date Analyzed:	3/30/94
Dilution Factor:	1.0	Sulfur Clean-up:	N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.024	
1024-57-3	Heptachlor Epoxide	0.020	
5103-74-2	gamma-Chlordane	0.0073	NN
5103-71-9	alpha-Chlordane	0.0058	
39765-80-5	trans-Nonachlor	0.0059	NJ
72-55-9	4,4'-DDE	0.020	NJ
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.010	U
5103-73-1	cis-Nonachlor	0.0050	U
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

INORGANIC ANALYSES

Introduction

Analyses were performed according to USEPA CLP SOW ILM03.0.

The data validation process is intended to evaluate the data on a technical basis rather than a contract compliance basis. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission for validation. During the validation process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this valuation, qualifier codes may be added, deleted, or modified by the data validator. Validator qualified results are annotated with the following codes in accordance with National Functional Guidelines:

Concentration (C) qualifiers:

- U The analyte was analyzed for but not detected. The associated value is the instrument detection limit.
- B The reported value was obtained from a reading less than the contract required detection limit (CRDL) but greater than or equal to the instrument detection limit (IDL).

Quantitation (Q) qualifiers:

- E The reported value is estimated due to the presence of interference.
- M Duplicate injection precision not met.
- N Spiked sample recovery not within control limits.
- S Reported value was determined by the method of standard additions (MSA).
- W Post-digestion spike for Furnace-AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- * Duplicate analysis not within control limits.
- + Correlation coefficient for MSA is less than 0.995.

Method (M) qualifiers:

- CV Cold vapor AA
- NR Not reported

Validation qualifiers:

J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC test, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Data Assessment

1. Holding Time

The recommended holding times for mercury analyses is 28 days from tissue homogenization. All samples were analyzed within this holding time.

2. Blank Contamination

Quality assurance blanks, i.e., method, field, or rinse blanks are prepared to identify any contamination which may have been introduced in to the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks and preparation blanks) measure laboratory contamination. Field and rinse blanks measure cross contamination of samples during field operations.

All calibration and preparation blanks were found to be acceptable, with no analytes detected above the CRQL.

3. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

3.1 Initial Calibration

The correlation coefficient of the initial calibration was greater than the minimum required 0.995.

3.2 Continuing Calibration

All continuing calibration verification standards were acceptable.

3.3 CRDL Standard

All CRDL standard recoveries were within acceptable limits.

4. Matrix Spike/Laboratory Duplicate

Matrix spike and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

4.1 Matrix spike

Recovery for the sucker matrix spike was within control limits. Recovery for the carp matrix spike was, however, below control limits. All carp data have been qualified as estimated based on the recovery.

4.2 Laboratory Duplicate

The carp laboratory duplicate results were acceptable. The sucker results were, however, outside specified limits. No qualifiers have been added to the samples based on the results.

5. Laboratory Control Sample (LCS)

All recoveries were within control limits.

6. Serial Dilution

No serial dilutions were performed.

7. Furnace QC

No furnace analyses were performed.

8. Method of Standard Additions (MSA)

No MSA were performed.

9. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviation specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Data Validation Checksheets

Inorganic Data Validation Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Form I to IX			
Are all the Form I through Form IX labeled with:			
Laboratory name?	X		
Sample No.?	X		
SDG No.?	X		
Correct units?	X		
Matrix?	X		
Raw Data			
Is the digestion log for flame AA/ICP present?			X
Is the digestion log for furnace AA present?			X
Is the distillation log for mercury present?	X		
Are preparation dates present on sample preparation logs/bench sheets?	X		
Are the measurement read out records present for:			
ICP			X
Flame AA			X
Furnace AA			X
Mercury	X		
Is the data legible?	X		
Is the data properly labeled?	X		
Holding Times			
Were mercury analyses performed within 28 days?	X		
Were other metal analysis performed within 6 months?			X

Inorganic Data Validation Checklist - Page 2

	YES	NO	NA
Form I (Final Data)			
Are all forms complete?	X		
Are correct units indicated on Form I's?	X		
Are all "less than IDL" values properly coded with "U"?	X		
Are the correct concentration qualifiers used with final data?	X		
Was a brief physical description of samples given on Form I's?		X	
Calibration			
Is a record of at least 2 point calibration present for ICP analysis?			X
Is a record of 5 point calibration present for Hg analysis?	X		
Is a record of 4 point calibration present for:			
Flame AA?			X
Furnace AA?			X
Is correlation coefficient less than .995 for:			
Mercury Analysis?	X		
Atomic Absorption Analysis?			X
Form II A (Initial and Continuing Calibration Verification)			
Present and complete for every metal and cyanide?	X		
Are all calibration standards (initial and continuing) within control limits for:			
Metals (90-110 %R)?			X
Hg (80-120 %R)?	X		
Was continuing calibration performed every 10 samples or every 2 hours?	X		
Form II B (CRDL Standards for AA and ICP)			
Was a CRDL standard (CRA) analyzed after initial calibration for all AA metals (except Hg)?			X
Was a 2xCRDL (or 2xIDL when IDL>CRDL) analyzed (CRI) for each ICP run?			X
Was CRI analyzed after ICV/ICB and before the final CCV/CCB, and twice every eight hours of ICP run?			X

	YES	NO	NA
Are CRA and CRI standards within control limits for metals (60-120 %R)?	X		
Form III (Initial and Continuing Calibration Blanks)			
Present and complete?	X		
Was an initial calibration blank analyzed?	X		
Was a continuing calibration blank analyzed after every 10 samples or every 2 hours (which ever is more frequent)?	X		
Are all calibration blanks (when IDL<CRDL) less than or equal to the Contract Required Detection Limits (CRDLs)?	X		
Are all calibration blanks less than two times Instrument Detection Limit (when IDL>CRDL)?			X
Form III (Preparation Blank)			
Was one prep. blank analyzed for:			
each Sample Delivery Group SDG)?	X		
each batch of digested samples?	X		
each matrix type?	X		
Is concentration of prep. blank value greater than the CRDL when IDL is less than or equal to CRDL?		X	
If yes, is the concentration of the sample with the least concentrated analyte less than 10 times the prep. blank?			X
Is concentration of prep. blank value less than two times IDL, when IDL is greater than CRDL?			X
Is concentration of prep. blank below the negative CRDL?		X	
Form IV (ICP Interference Check Sample)			
Present and complete?			X
Was ICS analyzed at beginning and end of run (or at least twice every 8 hours)?			X
Are all Interference Check Sample results inside the control limits (±20%)?			X
If no, is concentration of Al, Ca, Fe, or Mg lower than the respective concentration in ICS?			X

	YES	NO	NA
Form V A (Spiked Sample Recovery - Pre-Digestion/Pre-Distillation)			
Present and complete for:			
each SDG?	X		
each matrix type?	X		
Was field blank used for spiked sample?		X	
Are all recoveries within control limits (75-125)?		X	
If no, is sample concentration greater than or equal to four times spike concentration?		X	
Are results outside the control limits (75-125%) flagged with "N" on Form I's and Form VA?	X		
Are any spike recoveries:			
less than 10%?		X	
between 10-74%?	X		
between 126-200%?		X	
greater than 200%?		X	
Form VI (Lab Duplicates)			
Present and complete for:			
each SDG?	X		
each matrix type?	X		
Was field blank used for duplicate analysis?		X	
Are all values within control limits (RPD 20% or difference ≤ ±CRDL)?		X	
If no, are all results outside the control limits flagged with an * on Form I's and VI?	X		
Is any RPD (where sample and duplicate are both greater than or equal to 5 times CRDL) > 100%?		X	
Is any difference between sample and duplicate (where sample and/or duplicate is less than 5xCRDL) > 2xCRDL?			X
Form VII (Laboratory Control Sample)			
Was one LCS prepared and analyzed for:			
each SDG?	X		
each batch samples digested/distilled?	X		

	YES	NO	NA
Is LLCS "Found" value higher than the control limits on Form VII?		X	
Is LCS "Found" lower than the control limits on Form VII?		X	
Form IX (ICP Serial Dilution)			
Was Serial Dilution analysis performed for:			
each SDG?			X
each matrix type?			X
Was field blank(s) used for Serial Dilution Analysis?			X
Are results outside control limit flagged with an "E"" on Form I's and Form IX when initial concentration on Form IX is equal to 50 times IDL or greater.			X
Are any % difference values:			
> 10%?			X
≥100%?			X
Furnace Atomic Absorbtion (AA) QC Analysis			
Are duplicate injections present in furnace raw data (except during full Method of Standard Addition) for each sample analyzed be GFAA?			X
Do the duplicate injection readings agree within 20% Relative Standard Deviation (RSD) or coefficient of Variation (CV) for concentration greater than CRDL?			X
Was a dilution analyzed for sample with analytical spike recovery less than 40%?			X
Is analytical spike recovery outside the control limits (85-115%) for any sample?			X
Form VIII (Method of Standard Addition Results)			
Present?		X	
If no, is any Form I result coded with "S" or a "+"?		X	
Is coefficient of correlation for MSA less than 0.990 for any sample?			X
Was MSA required for any sample but not performed?		X	
Is coefficient of correlation for MSA less than 0.995?			X

	YES	NO	NA
Are MSA calculations outside the linear range of the calibration curve generated at the beginning of the analytical run?			X
Was proper quantitation procedure followed as outlined in the SOW on page E-23?			X
Field Blank			
Is field blank concentration less than CRDL (or 2 x IDL when IDL > CRDL) for all parameters of associated aqueous and soil samples?			X
If no, was field blank value already rejected due to other QC criteria?			X
Form X, XI, XII (Verification of Instrumental Parameters)			
Is verification report present for :			
Instrument Detection Limits (quarterly)?	X		
ICP Interelement Correlation Factors (annually)?			X
ICP Linear Ranges (quarterly)?			X
Form X (Instrument Detection Limits)			
Are IDLs present for:			
all the analytes?	X		
all the instruments used?	X		
Is IDL greater than CRDL for any analyte?		X	
If yes, is the concentration of Form I of the sample analyzed on the instrument whose IDL exceeds CRDL, greater than 5 x IDL.			X
Was any sample result higher linear range of ICP.			X
Was any sample result higher than the highest calibration standard for non-ICP parameters?		X	
If yes for any of the above, was the sample diluted to obtain the result on Form I?			X

Corrected Sample Analysis Data Sheets

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40399F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214010

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.08		J N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40400F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214012

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.04		J N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40400R

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214013

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20		J N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40401F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214014

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.05		J N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40401R

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214015

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.07		J N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40402F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214016

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.11		N	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40403F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214018

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.05		N	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40404F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214020

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.13		N	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40404R

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214021

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.06		N	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40405F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214022

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.06		N	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40405R

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214023

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.04		~~N~~	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40406F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214024

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.11		~~SN~~	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40406R

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214025

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.06		~~JN~~	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40407F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214026

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.11		N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40408F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214028

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.06		J N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40408R

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214029

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.06		J N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40409F

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 214030

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.09		N	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40410

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 203910

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.07		N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40411

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 203911

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.04		N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

P40412

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Matrix (soil/water): FISH Lab Sample ID: 203912

Level (low/med): LOW Date Received: 11/10/93

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.04		N*	CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SUPPLEMENTAL DATA

SUPPLEMENTAL DATA

Sample ID	Description	Sex	Fillet Weight	% Lipids	
				Fillet	Body
P40399	Carp	female	771g	2.31	2.84
P40400	Carp	female	395g	1.41	2.63
P40401	Carp	female	394g	2.24	3.33
P40402	Carp	male	492g	0.75	1.89
P40403	Carp	male	575g	1.51	2.08
P40404	Carp	female	451g	1.62	4.08
P40405	Carp	male	477g	1.65	3.21
P40406	Carp	male	439g	1.44	2.31
P40407	Carp	female	476g	1.26	2.32
P40408	Carp	male	472g	1.30	2.19
P40409	Carp	female	380g	1.07	1.51
P40410	Sucker	female	--	--	1.12
P40411	Sucker	female	--	--	1.67
P40412	Sucker	female	--	--	2.44
P40413	Sucker	male	--	--	1.02
P40414	Sucker	male	--	--	1.02
P40415	Sucker	male	--	--	1.11
P40416	Sucker	male	--	--	0.70
P40417	Sucker	male	--	--	0.87
P40418	Sucker	male	--	--	0.83
P40419	Sucker	female	--	--	1.78
P40420	Sucker	female	--	--	1.53

CHAIN OF CUSTODY

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000007

page 1/2

PROJ. NO.: 6455112
PROJECT NAME: Allied OU / Portage Creek Biota
SAMPLERS: (Signature)

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish	Number of Containers	PCBs	Organics	PCDDs/PCDFs	Total Mercury	REMARKS
Xp	40399	11/9/93	17:00		X	Portage Creek Carp	1						Held for analysis (freeze) to be noted at a later date
Xp	40400												
Xp	40401												
Xp	40402												
Xp	40403												Overnight shipment via Federal Express to Aquatec Labs
Xp	40404												
Xp	40405												
Xp	40406												
Xp	40407												
Xp	40408												
Xp	40409												
P	40410	11/9/93	17:00		X	Portage Creek W. Suckers							
P	40411												
P	40412												
P	40413												

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
				11/10/93	1000		

Sub Resched 2/2/94 JLB

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

KB54502719

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

800000

page 1/2

PROJ. NO.: 6455112
PROJECT NAME: Allied OU / Portage Creek Rista
SAMPLERS: (Signature) [signature]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish	Number of Containers	PCBs / Pesticides	% Lipids	PCDDs / PCDFs	Total Mercury		REMARKS
P	40399	11/9/93	17:00		X	Portage Creek Carp	1		F	FR		F		Hold for analysis (freeze) to be noted at a
P	40400								FR	FR		FR		~~later date~~ pilot study fish
P	40401								FR	FR		FR		pilot study fish
P	40402								F	FR		F		
P	40403								F	FR		F		Overnight shipment via Federal Express
P	40404								FR	FR		FR		to Aquatec Labs pilot study fish
P	40405								FR	FR		FR		pilot study fish
P	40406								FR	FR		FR		pilot study fish Additions 1/24/94 KDS
P	40407								F	FR		F		
P	40408								FR	FR		FR		pilot study fish
P	40409								F	FR		F		
P	40410	11/9/93	17:00		X	Portage Creek W. Suckers			W	W		W		
P	40411								W	W		W		
P	40412								W	W		W		
P	40413								W	W		W		

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks: Reinsede of C. Rec'd 2/6/94 JB	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

KB54502720

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

Copy - original w/ETR: 40667 SDG: 40208

CHAIN OF CUSTODY RECORD

page 2/2

PROJ. NO.	PROJECT NAME
6455712	Allied OU / Portage Creek Biota

SAMPLERS: (Signature) [signature]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole fish	Number of Containers	PCBS	% lipids	PCDDs/PCDFs	Total Mercury		REMARKS
P	40414	11/9/93	17:00		X	Portage Creek W. Sucker	/							Hold for analysis (freeze) to be noted at a later date
P	40415	/	/		/	/	/							
P	40416	/	/		/	/	/							
P	40417	/	/		/	/	/							
P	40418	/	/		/	/	/							overnight shipment via Federal Express to Aquatic Labs.
P	40419	/	/		/	/	/							
P	40420	/	/		/	/	/							

See Revised C-OFC mid 2/6/94. JLB

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
			Pat Poundstone	11/10/93	1000		

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000005

KB54502717

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

900000

PROJ. NO.: 645512
PROJECT NAME: Allied OU / Portage Creek Biota
SAMPLERS: (Signature) [signature]

Page 2/2

P	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish	Number of Containers	PCBs/Pesticides	% lipids	PCDDs/PCDFs	Total Mercury		REMARKS
P	40414	11/9/93	17:00		X	Portage Creek W. Sucker	1		W	W		W		Hold for analysis (freeze) to be noted at a
P	40415								W	W		W		later date
P	40416								W	W		W		
P	40417								W	W		W		
P	40418								W	W		W		overnight shipment via Federal Express
P	40419								W	W		W		to Agitron Labs
P	40420								W	W		W		
														Addition 1/24/94 KDS

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
						Revised C-o-f-c. rec'd 2/4/94

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

KB5450271 8

DATA REVIEW FOR

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE

SDG# 41814

PCB ANALYSES

SURFACE WATER INVESTIGATION
MDL STUDY

Analyses performed by:

Aquatec, Inc.
Colchester, Vermont

Review performed by:

Blasland, Bouck & Lee, Inc.
Syracuse, New York

Summary

The following is an assessment of the PCB data package for SDG# 41814 for the Surface Water Investigation sampling of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site. Included with this assessment are the data review check sheets used in the review of the package and sample results for PCB and total suspended solids analyses. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analyses	
				PCB	TSS
Rep 1	208651	surface water	1/13/97	x	
Rep 2	208652	surface water	1/13/97	x	
Rep 3	208653	surface water	1/13/97	x	
Rep 4	208654	surface water	1/13/97	x	
Rep 5	208655	surface water	1/13/97	x	
Rep 6	208656	surface water	1/13/97	x	
Rep 7	208657	surface water	1/13/97	x	
Rep 8	208658	surface water	1/13/97	x	
Rep 9	208659	surface water	1/13/97	x	
Rep 10	208660	surface water	1/13/97	x	
Rep 11	208661	surface water	1/13/97	x	
Rep 12	208662	surface water	1/13/97	x	
Rep 13	208663	surface water	1/13/97	x	
Rep 14	208664	surface water	1/13/97	x	

PCB ANALYSES

Introduction

Analyses were performed according to the USEPA SW-846 method 8081, modified for PCB only analysis.

The data review process is intended to evaluate the data on a technical basis. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with National Functional Guidelines:

- U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
- J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
- B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
- JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
- E The compound was quantitated above the calibration range.
- D Concentration is based on a diluted sample analysis.
- UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
- R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

The data presented in the package has been derived using a procedure developed by Aquatec, Inc. in an attempt to improve the analytical process of calibration, identification, and quantitation of PCBs as Aroclors. Key components of this procedure include:

Calibration

The response function of the electron capture detector is inherently non-linear, and while significant linearization is achieved for this detector by electronic means, some non-linearity remains. Power function linearization is used to "straighten the curve" and allow the use of response factors for calibration purposes.

During the initial calibration a response factor is calculated for each peak in the individual Aroclors.

A weighted response factor calculation has been used to adjust for non-linearity at the low end of the calibration curve.

Identification

Peak retention times are relative. Retention times are in set windows relative to the time markers DCB and TCMX. Time markers adjust for minor variations in column flow or instrument condition and allow the use of very tight windows which minimizes the number of both false positive and false negative peak identifications.

The determination of "which Aroclor or mixture of Aroclors will produce a chromatogram most similar to that of the residue" is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The "most similar" Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors. This is similar to the procedure presented by L.E. Slivon, P.M. Schumacher and A. Alford-Stevens for the determination of Aroclor composition from GC/MS level of chlorination results.

Identification/quantitation of Aroclors in samples is based on the combined response of two columns, typically RTX-5 and RTX-35. The pooling of response combines the unique qualities of both columns to derive a more defined Aroclor pattern which less likely to be affected by interferents. Identification/quantitation data for the individual columns is provided in the package and can be used as a check on the combined column results.

Data Assessment

1. Holding Time

The contract specified holding times for PCB analyses on water samples is 5 days from date of sample receipt to extraction and 40 days from extraction to analysis. The technical holding time is 7 days from date of sample collection to extraction and 40 days from extraction to analysis. All samples were extracted and analyzed within the specified holding times.

2. Blank Contamination

Quality assurance blanks, i.e., method, field or rinse blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field and rinse blanks measure contamination of samples during field operations.

No target compounds were detected in the method blank.

3. System Performance

The system performance was acceptable for both columns.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method allows a maximum RSD of 20%. The %RSD was within acceptable limits for all Aroclors.

4.2 Continuing Calibration

A maximum %D of 15 is allowed. All continuing calibrations were within the specified limits.

5. Surrogates / System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique.

Recovery for one surrogate was below control limit in sample Rep 1, Rep 2, Rep 3, Rep 4, Rep 5, Rep 9 and Rep 11. Since recoveries for the remaining surrogate were within control limits, no data have been qualified based on the deviations.

6. Compound Identification

The determination of Aroclor presence is made by expressing the unknown sample chromatogram as a linear combination of the Aroclors. The most similar Aroclor or mixture of Aroclors is determined by using a least squares minimization of the difference between the unknown chromatogram and the linear combination of Aroclors.

Identification/quantitation of Aroclors is based on the combined response of the RTX-5 and RTX-35 columns. Identification/quantitation data for the individual columns is provided in the package and has been used as a check on the combined column results.

A review of the sample chromatograms indicate that the Aroclors have been correctly identified/quantitated.

7. Matrix Spike/Matrix Spike Duplicate/Matrix Spike Blank

Matrix spike and matrix spike duplicate data are used to assess the precision and accuracy of the analytical method.

No matrix spike/matrix spike duplicate analyses were performed.

8. Field Duplicates

The relative percent standard deviation of the replicates were 12.6% for Aroclor 1242 and 7.0% for Aroclor 1248.

9. System Performance and Overall Assessment

Overall system performance was acceptable. Other than those deviations specifically mentioned in this review, the overall data quality is within the guidelines listed in the analytical method.

DATA REVIEW CHECKLIST

PCB Data Review Checklist

	YES	NO	NA
Data Completeness and Deliverables			
Is there a narrative or cover letter present?	X		
Are the sample numbers included in the narrative?	X		
Are the sample chain-of-custodies present?	X		
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?		X	
Holding Times			
Have any holding times been exceeded?		X	
Surrogate Recovery			
Are surrogate recovery forms present?	X		
Are all the samples listed on the appropriate surrogate recovery form?	X		
Are the outliers correctly marked with an asterisk?	X		
Were recoveries of TCMX or DCB outside of specified limits for any sample or blank?	X		
If yes, were the samples reanalyzed?		X	
Matrix Spikes			
Is there a matrix spike recovery form present?		X	
Were matrix spikes analyzed at the required frequency?		X	

How many spike recoveries were outside of QC limits?

NA out of NA

How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?

NA out of NA

	YES	NO	NA
Blanks			
Is a Method Blank Summary Form present?	X		
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	X		
Is the chromatographic performance acceptable for each instrument?	X		
Do any method/reagent/instrument blanks have positive results?		X	

sw41814

PCB Data Review Checklist - Page 2

	YES	NO	NA
Do any field/rinse blanks have positive results?			X
Are there field/rinse/equipment blanks associated with every sample?		X	
Calibration and GC Performance			
Are the following chromatograms and data printouts present?			
Aroclor 1016/1260	X		
Aroclor 1221	X		
Aroclor 1232	X		
Aroclor 1242	X		
Aroclor 1248	X		
Aroclor 1254	X		
Are Initial Calibration Summary Forms present and complete for each column and analytical sequence?	X		
Are the linearity criteria for the initial analyses within limits for both columns (20% RSD)	X		
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	X		
Is a Calibration Verification Summary Form present and complete for each continuing standard analyzed?	X		
Are %D values for all compounds within limits (less than 15%)?	X		
Analytical Sequence Check			
Is a analytical sequence form present and complete for each column and each period of analyses?	X		
Was the proper analytical sequence followed?	X		
Cleanup Efficiency Verification			
If GPC cleanup was performed, is Gel Permeation Chromatography Check Form present?			X
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?			X
PCB Identification			
Is both a combined and single column Aroclor Identification Report present for every sample?	X		

PCB Data Review Checklist - Page 3

	YES	NO	NA
Do the combined column and individual column Aroclor identifications agree?	X		
Were there any false negatives?		X	
Was GC/MS confirmation provided when required?			X
Compound Quantitation and Reported Detection Limits			
Are the reporting limits adjusted to reflect sample dilutions, and for soils, sample moisture?			X
Chromatogram Quality			
Were the baselines stable?	X		
Were any electronegative displacement (negative peaks) or unusual peaks detected?		X	
Field Duplicates			
Were field duplicates submitted with the samples?	X		

PCB Holding Time and Surrogate Recovery Summary

Sample ID	Holding Time	Surrogates	
		TCX	DCB
Rep 1	ok for all samples	↓ (58)	ok
Rep 2		↓ (57)	
Rep 3		↓ (59)	
Rep 4		↓ (47)	
Rep 5		↓ (56)	
Rep 6			
Rep 7			
Rep 8			
Rep 9		↓ (54)	
Rep 10			
Rep 11		↓ (56)	
Rep 12			
Rep 13			
Rep 14			

Surrogate Standards
TCX Tetrachloro-m-xylene
DCB Decachlorobiphenyl

Qualifiers:
D Surrogates diluted out
↑ Recovery high
↓ Recovery low

Unless otherwise noted, all parameters are within specified limits.

PCB Calibration Summary

Instrument: HP2087
Column: RTX-35 / RTX-5

Date:	2/24/94	2/25/94	2/25/94	2/25/94	2/25/94	2/26/94	2/26/94
Time:		1503	1539	2249	2325	0525	0601
	Initial Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
	%RSD	%D	%D	%D	%D	%D	%D
Aroclor 1016	ok		ok				
Aroclor 1221	ok						
Aroclor 1232	ok						
Aroclor 1242	ok				ok		
Aroclor 1248	ok	ok		ok		ok	
Aroclor 1254	ok						ok
Aroclor 1260	ok						
Tetrachloro-m-xylene	ok						
Decachlorobiphenyl	ok						
Affected Samples:							

sw41814

CORRECTED ANALYSIS SUMMARY FORMS

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 1

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 946 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208651

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.053	U
11104-28-2	Aroclor-1221	0.053	U
11141-16-5	Aroclor-1232	0.053	U
53469-21-9	Aroclor-1242	0.057	
12672-29-6	Aroclor-1248	0.053	U
11097-69-1	Aroclor-1254	0.053	U
11096-82-5	Aroclor-1260	0.053	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 2

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 971 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208652

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.052	U
11104-28-2	Aroclor-1221	0.052	U
11141-16-5	Aroclor-1232	0.052	U
53469-21-9	Aroclor-1242	0.062	
12672-29-6	Aroclor-1248	0.052	U
11097-69-1	Aroclor-1254	0.052	U
11096-82-5	Aroclor-1260	0.052	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 3

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1004 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208653

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.059	
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 4

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 974 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208654

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/25/94

Sulfur Clean-up: Y (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.052	U
11104-28-2	Aroclor-1221	0.052	U
11141-16-5	Aroclor-1232	0.052	U
53469-21-9	Aroclor-1242	0.055	
12672-29-6	Aroclor-1248	0.052	U
11097-69-1	Aroclor-1254	0.052	U
11096-82-5	Aroclor-1260	0.052	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 5

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 991 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208655

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.051	U
11104-28-2	Aroclor-1221	0.051	U
11141-16-5	Aroclor-1232	0.051	U
53469-21-9	Aroclor-1242	0.045	J
12672-29-6	Aroclor-1248	0.051	U
11097-69-1	Aroclor-1254	0.051	U
11096-82-5	Aroclor-1260	0.051	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 6

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208656

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.069	
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 7

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1004 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208657

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/26/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.060	
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 8

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1001 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208658

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/26/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.044	J
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 9

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1003 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208659

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/26/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.043	J
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 10

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208660

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/26/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.046	J
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 11

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1004 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208661

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/26/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.048	J
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 12

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1004 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208662

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/26/94

Sulfur Clean-up: Y (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.044	J
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 13

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1003 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208663

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/26/94

Sulfur Clean-up: Y (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.040	J
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

REP 14

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 995 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 208664

Date Received: 01/15/94

Date Extracted: 01/19/94

Date Analyzed: 02/26/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.051	U
11104-28-2	Aroclor-1221	0.051	U
11141-16-5	Aroclor-1232	0.051	U
53469-21-9	Aroclor-1242	0.051	U
12672-29-6	Aroclor-1248	0.049	J
11097-69-1	Aroclor-1254	0.051	U
11096-82-5	Aroclor-1260	0.051	U

CHAIN OF CUSTODY

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

MDL Study

PROJ. NO.: 645.24
PROJECT NAME: Kalamazoo River - MDL STUDY
SAMPLERS: (Signature) Todd P. Menell

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs		Temperature				REMARKS
AMDL-2	1/13/94	1700		X	AMDL-2	12	X						Contact Polly for details on study
—	1/14/94	—		X	Temp. Blank	1			X				

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Todd P. Menell	1/14/94	1300					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature) Maureen [illegible]	DATE 1/15/94	TIME 1145	Remarks:	

7/12/93
1393788HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

KB0006958

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

MDL Study

PROJ. NO.: 645.24
PROJECT NAME: Kalamazoo River - MDL STUDY
SAMPLERS: (Signature) Todd C. Mesell

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's			Temperature			REMARKS
AMDL-2	1/13/94	1700		x	AMDL-2	12	X						Contact Polly for details on Study
—	1/14/94	—		X	Temp Blank	1				X			
													* Two coolers, 24 bottles total

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Todd C. Mesell	1/14/94	1300					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**
Relinquished by: (Signature)	**DATE**	**TIME**	**Received for Laboratory by: (Signature)**	**DATE**	**TIME**	**Remarks:**	
			[illegible]	1/15/94	1145		

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

KB0006959

Supporting Documentation

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

aquatec INC.
Inchcape Environmental

CORPORATE OFFICES
55 SOUTH PARK DRIVE
COLCHESTER, VT 05446

LABORATORY LOCATIONS
55 SOUTH PARK DRIVE
COLCHESTER, VT 05446

75 GREEN MOUNTAIN DRIVE
SOUTH BURLINGTON, VT 05403

150 HERMAN MELVILLE BOULEVARD
NEW BEDFORD, MA 02740

October 21, 1993

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. PCB; SDG No. 39025

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on August 26, 1993. The analyses associated with these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on August 26, 1993 ETR No. 39025		
~~A66000~~ A64000	195074	Water
A66000MS	195074MS	Water
A66000MSD	195074MD	Water
A66000REP	195074DP	Water
~~A66001~~ A64001	195075	Water
~~A66002~~ A64002	195076	Water
MSB	195077	Water

Low surrogate recoveries were observed for tetrachloro-m-xylene in these samples.

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise

000001

identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

KRC/jg

Enclosure

91082B14SEP93

MEMORANDUM

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

To: Doug Cowin **Date:** 7/16/99

From: Laurie Indick **cc:** MPB, AEG, file

Re: KRSG - Allied OU Sampling

Several surface water samples collected at the Allied-OU in 1993 and 1994 were assigned identification numbers which had been reserved for groundwater samples. In addition, two surface water samples collected in September 1994 were assigned non-standard identification numbers. To eliminate any confusion regarding the nature of the samples and to comply with database storage requirements, the numbers have been revised, as follows:

Sample Date	Original Identification Number (list on COC)	Revised Number
8/24/99	A66000	A64000
	A66001	A64001
	A66002	A64002
12/15/93	A66003	A64003
	A66004	A64004
	A66005	A64005
	A66006	A64006
	A66007	A64007
6/9/94	A66008	A64008
	A66009	A64009
9/8/94	A66010	A64010
	A66011	A64011
9/22/94	SWP-1	A64014
	SWP-2	A64013

lai/

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 39025

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLK7F	55	*	83	
2	A66000	58	*	71	
3	A66000MS	62		77	
4	A66000MSD	57	*	70	
5	A66001	55	*	75	
6	A66002	57	*	77	
7	MSB	48	*	75	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

WATER AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 39025

Client Sample No.: A66000

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % RECOVERY
AROCLOR 1242	0.5976	0.2310	0.6306	67
AROCLOR 1254	0.5976	0.0	0.4970	83

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % RECOVERY	RPD
AROCLOR 1242	0.5988	0.5847	59	13
AROCLOR 1254	0.5988	0.4633	77	8

Comments:

3

WATER AROCLOR MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 39025

COMPOUND	SPIKE ADDED (UG/L)	MSB CONCENTRATION (UG/L)	MSB % RECOVERY
AROCLOR 1242	0.6000	0.3742	62
AROCLOR 1254	0.6000	0.3989	66

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 196258(PBLK7F) -
Matrix:(soil/water) water -
Date Extracted: 09/30/93 -
Date Analyzed(1): 10/02/93 -
Time Analyzed(1): 1242 -
GC ID(1): HP2618 -
GC Column(1): RTX-35 -

Contract: 91082 -
Case: PCB -
SDG No: 39025 -
Level(L/M): Low -
Date Analyzed(2): 10/02/93 -
Time Analyzed(2): 1242 -
GC ID(2): HP2618 -
GC Column(2): RTX-5 -

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	195074 -	A66000 -	10/02/93 -	10/02/93 -
2	195074MS -	A66000MS -	10/02/93 -	10/02/93 -
3	195074MD -	A66000MSD -	10/02/93 -	10/02/93 -
4	195075 -	A66001 -	10/02/93 -	10/02/93 -
5	195076 -	A66002 -	10/02/93 -	10/02/93 -
6	195077 -	MSB -	10/02/93 -	10/02/93 -
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK7F

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 39025

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 186258

Date Received:

Date Extracted: 08/30/93

Date Analyzed: 10/02/93

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Aroclor Calibration Summary

RTx-35

Calibration of 25-Sep-1993 02:55 through 25-Sep-1993 22:54.
MCD1:[B080] 05,06 24SEP931955
METHOD: 8080_PCB:AN

SJF - HP2618

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	7.241	74.450	11.0%	42.165	9.7%	3.456	48.	3.407	51.	2.152		1.726		2.014	
2	8.133	21.260	3.1%	13.149	2.2%										
3	8.853	9.457	5.0%	5.980	7.4%	3.427	10.6%	2.891	8.0%	0.145					
4	8.921	19.753	3.7%	16.175	2.2%	15.162	3.2%	12.513	2.7%	0.877		0.084		0.103	
5	9.271									5.871	3.0%	5.444	4.6%	5.816	4.6%
6	9.290	55.532	0.9%	39.530	1.9%	21.787	1.5%	17.780	2.3%						
7	9.697	40.753	1.6%	32.730	1.9%	25.523	3.0%	20.394	3.3%	1.269		0.198		0.214	
8	9.883	139.664	3.7%	135.514	2.7%	130.071	4.4%	103.394	3.1%	11.262	4.7%	1.013		1.425	
9	10.762	1.996		7.213	7.8%	17.041	2.3%	13.753	3.4%	3.633	7.2%	0.101		0.094	
10	10.950	7.316	6.4%	5.878	10.7%	2.204		1.775							
11	11.152	43.353	2.5%	122.036	3.7%	253.204	6.2%	204.236	5.3%	101.080	5.9%	3.266		2.603	
12	11.473	2.000	4.3%	7.811	3.8%	17.457	3.3%	14.218	3.2%	3.866	4.9%	0.136			
13	11.778	7.279	3.9%	31.665	2.1%	72.284	1.3%	57.206	0.9%	28.280	0.6%	0.608		0.529	
14	11.864	3.942	7.9%	4.627	4.7%					4.438	2.6%	4.119	7.7%	3.039	4.3%
15	11.940	11.296		44.919	0.5%	99.079	2.4%	79.892	1.6%	29.144	1.4%				
16	12.047	4.069		17.941	3.1%	41.160	2.1%	32.449	1.8%	10.805	2.6%				
17	12.135	2.734	2.5%	9.938	3.5%	22.840	2.7%	17.716	2.8%	3.012	1.2%	0.167		0.183	
18	12.383	32.153		157.324		374.137	2.3%	293.164	3.2%	178.356					
19	12.825	15.341	1.1%	73.356	0.9%	166.815	1.9%	132.391	0.8%	62.054	1.0%	1.436	3.5%	1.252	6.2%
20	12.960	2.174		10.656	1.0%	26.416	4.0%	21.419	2.5%	30.635	3.4%	4.077	3.9%	0.201	
21	13.090	0.830		3.881		10.179	5.9%	8.117	2.4%	10.146	2.0%	0.432			
22	13.194	8.739	2.1%	47.081	4.0%	110.898	3.6%	86.872	4.3%	41.895	2.2%	0.904		0.753	
23	13.432	9.750	1.7%	55.050	2.2%	132.818	4.6%	107.942	3.6%	198.438	6.2%	158.145	4.8%	9.571	3.0%
24	13.563	14.894		52.793	15.	126.397	8.8%	104.276	13.2%	159.212	10.3%	54.883	28.	3.065	
25	13.636	3.311		19.029	2.2%	49.190	1.6%	39.507	1.7%	62.725	2.1%	8.270			
26	13.721	3.292	10.3%	18.949	0.5%	50.657	2.8%	40.831	2.3%	55.449	3.6%	4.057	10.5%	0.367	
27	13.814	1.070		6.040	1.2%	14.893	1.2%	12.201	0.6%	16.052	2.1%	0.939		0.143	
28	14.330	10.403	2.1%	68.326	1.5%	161.352	1.3%	133.057	0.5%	220.174	1.7%	87.735	1.4%	2.080	
29	14.441	4.014	16.	24.502	2.0%	59.634	1.0%	48.993	1.6%	71.271	1.7%	8.042	10.3%	1.610	
30	14.645	2.958	11.0%	19.924	3.1%	46.774	1.8%	39.480	1.8%	64.270	1.7%	7.640	6.5%	0.708	
31	14.725	5.218	9.4%	36.315	3.3%	90.784	3.0%	78.038	3.0%	134.677	2.0%	31.342	1.6%	0.953	
32	14.813	1.904	11.5%	13.174	3.1%	34.030	2.4%	28.776	2.4%	34.661	1.4%			0.298	
33	15.035	1.750		7.565		2.692	16.	6.004	5.3%	9.630	5.3%	4.539		2.985	
34	15.142	5.026	1.8%	31.095	1.8%	16.091	3.2%	69.899	1.3%	119.887	0.4%	34.522	1.1%	0.760	
35	15.225	2.032		15.818	2.1%	32.461	1.5%	31.129	1.0%	49.514	0.7%	7.611	2.4%	0.280	
36	15.317	9.131	1.8%	60.265	1.3%	23.013	1.6%	126.512	1.1%	242.280	0.4%	125.677	1.5%	1.835	5.4%
37	15.476	7.915	4.4%	56.370	2.0%	14.767	2.2%	120.572	2.1%	210.452	2.1%	45.349	0.9%	1.211	
38	15.641	2.135	10.5%	11.025	1.5%	16.704	1.9%	26.383	1.5%	74.349	3.5%	229.300	3.7%	101.324	2.7%
39	15.820	0.365		2.040				5.825	6.2%	16.857	2.3%	59.481	1.3%	16.000	2.4%
40	15.880	0.957	33.	4.854	3.5%	3.882	7.7%	12.359	1.4%	27.877	1.3%	44.517	0.8%		
41	16.017	2.442	4.5%	11.550	1.9%	0.904		30.039	1.1%	82.752	3.0%	298.148	3.5%	131.687	2.8%
42	16.219											131.477	1.8%	1.357	
43	16.261	6.646	3.0%	51.770	4.2%	1.880	3.6%	113.658	4.4%	199.207	5.2%				
44	16.416			0.196				0.785		2.221	5.7%	5.030	6.4%		
45	16.573	1.125		6.170	4.7%	1.909		16.401	2.0%	46.047	1.9%	93.433	1.6%	5.336	4.5%
46	16.793			1.245				3.451		9.527	1.3%	19.137	1.1%	0.438	
47	16.986	1.366		6.824	4.1%			19.122	4.2%	52.245	2.1%	107.729	2.1%	4.662	6.3%
48	17.102			1.085				3.372		7.811	7.0%				
49	17.195	2.855	6.7%	9.765	2.2%			25.172	3.3%	69.658	1.4%	195.957	2.5%	23.260	8.5%

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.2100 and decachlorobiphenyl at 27.7520.
2) Peaks chosen within window of +/- 0.01274 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07744.

Aroclc Calibration Summary

Calibratio 25-Sep-1993 02:55 through 25-Sep-1993 22:54.
MCD1:[8080] 05,06 24SEP931955
METHOD: 8080_PCB:AN

RTx-35

SJF - HP2618

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
50	17.377	1.275		5.487	8.4%			16.539	3.5%	45.289	1.6%	65.991	2.2%	0.806	
51	17.537	3.016	11.0%	15.515	1.6%	0.630		43.724	0.8%	128.168	1.1%	405.847	2.0%	67.595	2.6%
52	17.620			0.908								44.392		153.296	1.3%
53	17.836			0.215				0.597		1.801		30.882	0.7%	58.644	1.1%
54	17.907	0.093		0.568				2.643	11.6%	7.337	11.7%	19.422	2.9%		
55	17.978											8.698	4.7%	0.311	
56	18.071	1.790	2.5%	8.570	3.2%			32.340	2.2%	86.590	1.7%	279.400	2.2%		
57	18.145	0.838		6.459	4.6%			14.947	3.3%	43.838	2.1%	199.626	1.7%	347.223	2.8%
58	18.374			0.411				0.672		2.030	6.6%	34.405	0.6%	57.320	0.9%
59	18.585	0.361		3.448	4.9%			5.379	2.5%	13.690	1.9%	191.669	1.7%	414.459	1.9%
60	18.745			0.214				0.838		2.365	8.4%				
61	18.768											8.195	5.7%	2.428	
62	19.161			2.224				2.452		5.273		60.911	6.0%	153.720	3.9%
63	19.286	1.622		7.351	9.4%			24.227	2.1%	67.976	3.1%	136.152	4.4%		
64	19.338											129.156	1.7%	128.629	1.6%
65	19.432			0.829										85.587	3.3%
66	19.474							0.988		1.840		26.240	2.9%		
67	19.624			0.147				0.442		1.110		23.890	1.8%	13.671	5.0%
68	19.706			1.377				1.400	4.4%	4.378	9.0%	85.823	1.4%	219.491	2.2%
69	19.823	0.459		2.668	5.3%			7.584	2.8%	17.553	3.2%	312.194	2.4%	353.312	4.2%
70	20.038			1.577	9.7%			0.172		1.235		17.373	1.3%	248.180	1.3%
71	20.210	0.837		1.607	76.	0.421		1.794		3.229	36.	34.965	2.9%	135.910	2.3%
72	20.360							0.344		0.714		14.025	3.6%	9.852	5.7%
73	20.631			0.144						0.097		1.782	11.1%	34.017	4.1%
74	21.054	0.117		2.048				2.521	13.3%	6.268	4.4%	99.631	3.7%	293.305	2.3%
75	21.308			0.731								13.674		135.799	1.4%
76	21.370			0.397				1.233		2.475	10.9%	44.335	4.2%		
77	21.384			0.353										65.785	4.1%
78	21.475			0.301						0.285		10.193	6.0%	64.587	3.2%
79	21.649			3.618	8.9%			0.725		3.239	7.6%	57.254	2.6%	604.938	4.8%
80	21.845											1.207		8.915	5.2%
81	22.325											0.256		14.582	4.3%
82	22.611													6.886	4.1%
83	22.816											12.245		185.397	5.8%
84	22.954			2.890				1.170		2.877		39.066	5.6%	330.158	5.3%
85	23.044			0.827										66.382	2.3%
86	23.478											1.494		7.506	11.7%
87	24.430			0.239								1.197		45.899	5.7%
88	24.780			0.790						0.409		1.884	9.8%	113.021	4.9%
89	26.266	1.741		2.089		1.850		1.952		2.133		2.249		33.499	2.6%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	616.8	3.7%	1495.3	2.8%	2296.9	3.3%	2532.1	3.1%	3218.4	2.8%	4202.4	2.7%	4789.3	3.3%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	8.2100	-.0145 to .0144	Passes...	7323.599	72.8 to 114.1%	** Fails *
decachlorobiphenyl	27.7520	-.0142 to .0124	Passes...	4255.878	90.9 to 112.3%	Passes...

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.2100 and decachlorobiphenyl at 27.7520.
2) Peaks chosen within window of +/- 0.01274 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07744.

Arocl Calibration Summary

RTx-5

Calibratio.. of 25-Sep-1993 02:55 through 25-Sep-1993 22:54.
MCD1:[8080] 05,06 24SEP931955
METHOD: 8080_PCB:AN

SJF - HP2618

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	6.395	1.505	3.6%	1.501	4.7%	1.438	2.7%	1.532	3.7%	1.530	2.0%	1.559	4.4%	1.615	4.5%
2	7.533	39.806	3.9%	21.492	1.3%	0.754		0.632							
3	8.551	10.395	5.0%	6.185	7.6%	0.931		0.905		0.990		0.799		0.850	
4	9.761	28.587	3.2%	19.462	4.3%	10.153	3.4%	7.727	3.2%	0.413					
5	10.010									2.910	4.2%	2.910	5.5%	3.076	6.1%
6	10.058	23.199	3.5%	18.374	4.3%	14.409	4.0%	11.147	5.5%						
7	10.230	77.414	1.0%	73.871	0.7%	70.361	3.0%	54.527	0.8%	5.426	14.7%	0.992		1.153	55.
8	11.459	14.869	4.6%	52.302	1.5%	114.237	4.9%	92.181	3.6%	50.044	4.1%	1.334	7.6%	0.887	
9	11.525	9.210		31.688	5.1%	70.467	1.3%	55.219	0.8%	21.324		0.570		0.417	
10	11.778	1.935	7.1%	5.616	7.1%	12.527	3.8%	9.994	4.2%	2.317	4.6%			0.100	
11	12.036	10.697	1.9%	43.463	0.8%	97.845	1.6%	77.852	0.7%	32.257	1.0%	0.945		0.840	
12	12.314	2.365	6.8%	2.545	7.1%	2.239	9.4%	2.823	8.2%	2.492	4.2%	2.481	5.0%	1.769	6.1%
13	12.565	2.899	43.	9.970	5.8%	23.258	2.5%	18.143	3.2%	6.172	13.4%	0.952	76.	1.168	97.
14	12.646	1.448		5.445	6.6%	12.965	3.6%	9.990	5.0%	1.734					
15	12.825									73.140	2.8%	2.632	4.8%		
16	12.864	14.148	5.0%	72.584	5.9%	180.190	5.1%	136.948	6.1%	76.672	4.7%			1.048	
17	13.167	9.822		47.640		111.967	1.9%	87.714	1.6%	47.179					
18	13.334	0.675		3.194		7.828		6.526		7.292	4.7%				
19	13.404	4.558	3.6%	25.124	5.0%	60.714	6.0%	46.836	5.7%	22.442	4.6%	0.467		0.407	
20	13.561	1.573	6.9%	8.742	2.7%	23.273	2.8%	18.947	1.1%	23.334	1.9%	1.020		0.141	
21	13.805	0.435		2.931		7.824	13.5%	6.371	21.	9.020	3.6%	0.322			
22	13.912	5.446	0.9%	31.555	1.7%	76.169	3.7%	62.142	2.6%	116.436	5.3%	94.572	4.6%	5.682	4.5%
23	14.052	6.599		29.878	14.6%	71.662	7.9%	59.274	11.8%	91.501	9.3%	30.603		1.845	
24	14.169	2.758		16.081	0.8%	43.648	1.2%	35.031	0.6%	51.003	1.6%			0.427	
25	14.566	5.314	5.6%	36.714	1.9%	88.840	2.0%	72.577	0.7%	127.155	1.6%	51.692	0.6%	0.842	
26	14.682	2.413	12.2%	18.242	6.6%	43.180	3.6%	37.245	5.2%	46.424	1.1%	4.762	5.8%	0.243	
27	14.957	4.419	3.2%	30.680	2.3%	78.697	2.3%	66.019	2.1%	106.013	1.8%	19.475	2.4%	0.603	
28	15.217	1.169		9.467	4.2%	20.080	3.1%	18.746	2.6%	29.420	1.6%	4.089	5.7%	0.172	
29	15.379	0.156		1.255		1.555	8.2%	2.886	6.7%	2.588	6.5%	0.358			
30	15.557	0.252		1.416		1.347		3.316	2.0%	5.228	2.6%	0.929			
31	15.681	2.501	10.7%	17.299	3.3%	8.505	5.0%	39.151	2.3%	67.165	2.4%	18.106	3.5%	0.342	
32	15.791	4.678	12.0%	33.945	3.8%	12.702	6.6%	72.130	1.9%	138.628	2.1%	69.709	2.6%	0.827	
33	15.922	5.186	8.5%	36.291	2.4%	17.136	3.0%	78.001	1.3%	149.580	0.6%	163.530	3.2%	64.734	2.1%
34	16.134	1.158		3.222	9.6%	2.201	5.7%	7.104	2.8%	18.264	2.2%	26.973	0.4%	0.162	
35	16.456	3.369	6.2%	26.775	4.6%	1.161		58.634	4.1%	103.938	5.1%	48.050	0.5%	10.355	2.9%
36	16.635	1.950		9.652	2.8%			24.936	3.1%	67.786	2.7%	211.776	3.0%	82.158	2.2%
37	16.813	1.306		5.247				14.672	8.1%	37.746	2.2%	79.915	5.3%	0.749	
38	17.015			0.223				0.821		1.614	3.7%	3.039	8.7%		
39	17.163	0.126		0.756				2.362	23.	5.897	1.7%	11.621	2.3%	0.224	
40	17.330	0.502		3.305				10.215	8.4%	28.265	3.2%	63.133	1.9%	2.011	
41	17.489	0.886		5.273	6.2%			15.649	3.7%	43.716	1.7%	122.136	2.7%	13.201	3.6%
42	17.632	0.563		3.076	8.9%			9.749	4.1%	27.160	2.4%	39.902	2.5%	0.232	
43	17.724			0.358								19.856	0.7%	37.808	1.5%
44	17.803	1.574		9.289	4.9%			26.642	2.3%	77.558	2.0%	242.550	2.3%	40.966	3.2%
45	18.174	0.485		3.214	2.7%			7.764	1.6%	22.455	2.0%	49.514	1.3%	93.755	1.3%
46	18.453							2.804		5.925		16.973	14.0%		

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 9.1415 and decachlorobiphenyl at 28.7632.
2) Peaks chosen within window of +/- 0.01274 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.06356.

Aroclor Calibration Summary

Calibrat. / 25-Sep-1993 02:55 through 25-Sep-1993 22:54.
MCD1:[8080] 05,06 24SEP931955
METHOD: 8080_PCB:AN

RTx-5

SJF - HP2618

000060

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
47	18.557			4.324								109.141		215.895	4.2%
48	18.615	1.213		6.006	18.			18.879	5.2%	49.905	1.2%	169.426	3.3%		
49	18.906							0.180		0.590		14.358	6.5%	14.002	2.8%
50	18.978			0.185				1.008		2.737	9.9%	6.121			
51	19.040							0.568		1.603		6.710	10.7%	2.052	
52	19.120			0.222				0.393		1.199		21.734	2.6%	35.763	1.2%
53	19.309	0.170		1.877	5.4%			2.418	5.6%	6.210	3.2%	112.688	2.1%	249.576	2.5%
54	19.420													83.499	0.8%
55	19.458	0.554		3.525	7.5%			13.159	4.4%	37.909	5.0%	99.908			
56	19.712			0.544				0.730		2.267	7.4%	35.738	2.6%	89.976	3.8%
57	19.786			0.379										58.435	1.4%
58	19.938							0.639		1.312		14.826	1.4%	1.331	
59	20.015			0.214				0.402		1.070		16.456	2.8%	26.773	1.8%
60	20.187	0.315		2.038	6.6%			4.682	5.3%	11.093	2.3%	196.402	2.5%	258.373	3.2%
61	20.446			0.263				0.434		1.254		16.431	2.9%	33.824	0.8%
62	20.617													6.873	6.4%
63	20.705			1.081						0.701		10.609	1.6%	154.656	2.5%
64	20.863			0.569				0.103		0.453		8.589	2.3%	80.639	0.7%
65	21.056							1.908		3.907		55.044	2.4%	23.648	3.1%
66	21.202			0.124						0.118		1.585		21.822	4.0%
67	21.438			0.923				0.095		0.684		13.370	2.5%	154.168	1.6%
68	21.613			0.540						0.420		8.526	3.1%	85.001	1.1%
69	21.755			0.448										50.467	4.4%
70	21.777			1.063				0.962		1.713	12.1%	27.782	2.7%		
71	21.954									0.326		6.079	10.7%	13.025	3.2%
72	22.078			0.187						0.107		3.050	10.5%	25.836	4.3%
73	22.279			1.932				0.158		1.314		28.817	3.9%	342.476	3.6%
74	23.206			0.859				0.192		0.805		21.284	3.7%	148.029	4.8%
75	23.365													2.295	3.2%
76	23.471			0.470						0.294		1.147		70.309	1.3%
77	23.650			0.522						0.325		1.545		76.223	2.7%
78	24.147											0.936		4.198	5.8%
79	24.729											0.701		29.166	2.9%
80	25.482	1.942		2.575		1.925		1.953		2.233		3.259	78.	70.523	3.2%
81	25.714													3.803	4.9%
82	27.161	1.169		1.392		1.441		1.338		1.542		1.484		21.802	2.7%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	313.7	3.4%	817.6	3.6%	1293.6	3.6%	1424.1	3.3%	1890.2	3.0%	2424.0	2.6%	2825.3	2.8%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	9.1415	-.0170 to .0074	Passes...	3932.478	79.8 to 113.5%	** Fails *
decachlorobiphenyl	28.7632	-.0299 to .0235	Passes...	2683.374	92.8 to 113.0%	Passes...

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 9.1415 and decachlorobiphenyl at 28.7632.
2) Peaks chosen within window of +/- 0.01274 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.06356.

CH050924.XLS

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 25-SEP-93 02:55 to 25-SEP-93 22:54

File: 05, 06 24SEP931955

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb
Aroclor 1016	51.4	99.0	202	406	791
% Diff	-3	1	-1	-2	1
Aroclor 1221	53.2	105	209	403	780
% Diff	-6	-5	-5	-1	3
Aroclor 1232	52.1	88.2	195	392	778
% Diff	-4	12	3	2	3
Aroclor 1242	50.7	99.4	199	398	803
% Diff	-1	1	1	1	0
Aroclor 1248	52.0	99.9	200	401	797
% Diff	-4	0	0	0	0
Aroclor 1254	51.9	100	198	397	803
% Diff	-4	0	1	1	0
Aroclor 1260	49.5	99.2	194	393	814
% Diff	1	1	3	2	-2

%DIFF = (NOMINAL AMT-CALC AMT)/NOMINAL AMT*100

000050

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2618
Col. 1: RTX-35
Col. 2: RTX-5

Initial Calib.
date/time: 09/25/93 0255 to 09/25/93 2254

Check Standard File: 010CT931532,21
Date: 10/02/93
Time: 0410

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	194	3.0

Check Standard File: 010CT931532,22
Date: 10/02/93
Time: 0445

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	193	3.5

Check Standard File: 020CT931054,07
Date: 10/02/93
Time: 1428

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	188	6.0

Check Standard File: 020CT931054,08
Date: 10/02/93
Time: 1503

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1254	200	185	7.5

Check Standard File: 020CT931054,20
Date: 10/02/93
Time: 2205

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	187	6.5

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2618
Col. 1: RTX-35
Col. 2: RTX-5

Initial Calib.
date/time: 09/25/93 0255 to
09/25/93 2254

Check Standard File: 020CT931054.21
Date: 10/02/93
Time: 2243

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1260	200	186	7.0

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

000052

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000003

PROJ. NO. 645.51
PROJECT NAME: Kalamazoo River - Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS	~~Pb~~		Temp		REMARKS
SWP-2	8-24	16:00		✓	A66000	7	6	1					Do MS/MSD on PCBs
	8-24			✓	A66001	3	2	1					
SWP-1	8-24	17:40		✓	A66002	3	2	1					
—	8-24				Temp Blank						1		Cooler 251

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	8-25-93	13:00					

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
				8/26/93	1000	Temp Blank = 4°C

7/12/93
1393788HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER 5896238644

5896238644

RECIPIENT'S COPY

Date 10/7

From (Your Name) Please Print | Your Phone Number (Very Important) 315-446-9120 | 2 To (Recipient's Name) Please Print Polly MACEK | Recipient's Phone Number (Very Important) 802-655-1203

Company: Blasland & Bouck Engineers, P.C. | Department/Floor No.

Company: AQUATEC Inc | Department/Floor No.

Street Address: 6723 Towpath Rd

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 55 SOUTH PARK Drive

City: Syracuse | State: NY | ZIP Required: 13214

City: COLCHESTER | State: VT | ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 645 S1

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address: SHIPMENT APPLY
City | State | ZIP Required

PAYMENT: 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

SERVICES (Check only one box) 5 | DELIVERY AND SPECIAL HANDLING (Check services required) 6

Priority Overnight: [X] OTHER PACKAGING; [ ] FEDEX LETTER; [ ] FEDEX PAK; [ ] FEDEX BOX; [ ] FEDEX TUBE

Standard Overnight: 51 [ ] OTHER PACKAGING; 56 [ ] FEDEX LETTER; 52 [ ] FEDEX PAK; 53 [ ] FEDEX BOX; 54 [ ] FEDEX TUBE

Economy Two-Day: [ ] ECONOMY

Government Overnight: 46 [ ] GOV'T LETTER; 41 [ ] GOV'T PACKAGE

Freight Service: [ ] OVERNIGHT FREIGHT; 80 [ ] TWO-DAY FREIGHT

HOLD FOR PICK-UP (Fill in Box H): 1 [X] WEEKDAY or 31 [ ] SATURDAY

DELIVER: 2 [X] WEEKDAY or 3 [ ] SATURDAY (Extra charge) (Not available to all locations)

4 [ ] DANGEROUS GOODS
5 [ ]
6 [ ] DRY ICE (Dangerous Goods Shipper's Declaration not required)
7 [ ] OTHER SPECIAL SERVICE
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

PACKAGES	WEIGHT in Pounds Only	YOUR DECLARED VALUE (See right)
1		100
Total 1	Total	Total 100

DIM SHIPMENT (Chargeable Weight) [ ] lbs.
L x W x H

Received At: 1 [ ] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] B.S.O. 5 [X] Station

Emp. No. | Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City | State | Zip
Received By: x Janine L. Banks
Date/Time Received: 8/20/93 1000 | FedEx Employee Number

7 Release Signature:

000570

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 6/92
PART #187205 GBFE
FORMAT #136
136
© 1991-92 FEDEX
PRINTED IN U.S.A.

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Janine L. Banks Log-in Date: 8/27/93

Received By (Signature): Janine L. Banks

Case Number: PCB

Sample Delivery Group No: 39025

ETR Number: 39025

REMARKS:

1. Custody Seal(s) Present/~~Absent*~~ Intact/~~Broken~~
2. Custody Seal Nos.: no #
3. Chain-of-Custody Records ~~Present~~/Absent* JLB 8/27/93
4. Sample Information Sheets ~~Present~~/Absent*
5. Airbill ~~Airbill/Sticker~~ Present/~~Absent*~~
6. Airbill No.: 5896238044
7. Sample Tags ~~Present~~/Absent*
   Sample Tag Numbers ~~Listed~~/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/~~Broken*~~/~~Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? ~~Yes~~/No* see *
10. Date Received at Lab: 8/26/93
11. Time Received: 1000

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
Ald000	no tag	195074	Samples rec'd
Ald001	1	195075	intact, inside
Ald002	1	195076	cooler with ice.
			Custody seals
			were intact on
Discrepancies			outside of cooler
1) Date on C-of-C is 8/24			& on each sample
but all bottles, except			container. Temp
those of Ald001 which have			blank was 7° JLB 8/27/93
no date or time, say			4°C
8/24/93.			
2) Grab noted on C-of-C but TSS &			
1 L of Ald000 & Ald001			do not have
grab checked off.			

Sample Transfer

Fraction: all

Area #: lvl 4 fridge

By: JLB

On: 8/30/93

JLB 8/28/93

* Contact Project Director.

Reviewed by: GM

Date: 9/7/93

Logbook No:

Logbook Page No:

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 39025

Project Number: 91082

Case No.: PCB

SDG Number: 39025

000504

Memo: 195074-6 Placed in fridge 8/26/93 @ 1500hr. JLBanks)

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND RETURNE
195074-76	PNM	8/30/93 1000	TSS	8/30/93

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 39025

Project Number: 91082

Case No.: PCB

SDG Number: 39025

000005

Memo: 195074-6 Placed in fridge 8/26/93 @ 1500hr. J.H.Banks)

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND RETURNED
195074-195076	JEH	0630 8/30/93	Extraction	0931 8/30/9

Sample Management Aquatec, Inc.

ETR: 39025 Date: 8/30/93

Laboratory I.D.	Fraction/Analysis
PBIK 7F	
195074	
195074MS	
195074MD	
195075	
195076	
195077MOB	

Relinquished @ GMD by JFH Time: 1300

Transported by BED

000006

Received @ FCD by FCD Time: 1540

Laboratory Transfer Record

Sample Management

Aquatec, Inc.

ETR: 39025

Date: 8/27

Laboratory I.D.	Fraction/Analysis
195074-6	6 1 l of 74
	7 1 l of others

Relinquished @ CP by JLB Time: 1600

Transported by BED

Received @ GMD by FVB Time: 1630

Figure 9: F-0047

(Nov '91)

M. .OD:8080 PCB:EXW MATRIX: WATER ..SE: PCB ..G: 39025 LEVEL: LOW B. H ID: 1YU

CLIENT(s): B1AB02 39025
CASE: PCB
SDG: 39025
DATE: 8/30/93
ANALYST: JEH
SPIKED BY: JEH
WITNESSED BY: DWH

Lab sample id RTR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE071482	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# GE070682	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# G25297	5. Hex exchange Hexane lot# G21266	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# F42821	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 7166330	10.# Conc to 1.0ml
186258	PBIK7F	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
195074	A66000	998	✓	✓		✓	✓	✓	✓	✓	✓	✓
195074MS	A66000MS	1004	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
195074MD	A66000MSD	1002	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
195075	A66001	999	✓	✓		✓	✓	✓	✓	✓	✓	✓
195076	A66002	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
195077	MWB	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

JEH 8/30/93

JEH 8/30/93

Aquatec, Inc. -- Extraction worksheet -- printed by: JEH on 08-30-93 07:04:13

Quality Control Summary

Project No 91082 ETR No 39025

SDG 39025

Duplicate Analysis

Sample Number 195074 Units: mg/L

Parameter	Sample Result	Duplicate Result	% RPD
TSS	20	21	4.9

aquatec INC.
Inchcape Environmental

CORPORATE OFFICES
55 SOUTH PARK DRIVE
COLCHESTER, VT 05446

LABORATORY LOCATIONS
55 SOUTH PARK DRIVE
COLCHESTER, VT 05446

75 GREEN MOUNTAIN DRIVE
SOUTH BURLINGTON, VT 05403

150 HERMAN MELVILLE BOULEVARD
NEW BEDFORD, MA 02740

November 12, 1993

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. PCB; SDG No. 39499

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on September 17, 18 and 21, 1993. The analyses for these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on September 17, 1993 ETR No. 39499		
A66500	197630	Water
A66501	197631	Water
A66502	197632	Water
A66503	197633	Water
A66504	197634	Water
A66504MS	197634MS	Water
A66504MSD	197634MD	Water
A66504REP	197634DP	Water
A66505	197635	Water
A66506	197636	Water
Samples Received on September 18, 1993 ETR No. 39549		
A66507	197807	Water
A66508	197808	Water
A66509	197809	Water
A66510	197810	Water
A66511	197811	Water
A66512	197812	Water
A66513	197813	Water
A66514	197814	Water

000001

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on September 21, 1993 ETR No. 39578		
A66515	197967	Water
A66516	197968	Water

The original Aroclor extracts of sample A66507 and the MSB evaporated prior to analysis. These samples were re-extracted and analyzed beyond the specified holding times.

The original Aroclor extract of sample A66514 was compromised during the extraction procedure. This sample was re-extracted and analyzed beyond the specified holding time.

Please note the use of the following additional qualifier when reporting Aroclor results:

J = The compound is detected below the CRQL.

Low surrogate recoveries were observed for tetrachloro-m-xylene in samples.

Aroclor 1248 was detected below the reporting limit in PBLK7G. Aroclor 1248 was not detected in any of the associated samples.

The Aroclor 1016 result for sample A66504 is reported as Aroclor 1242 on the Form 3 in order to calculate matrix spike and matrix spike duplicate recoveries.

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

KRC/jg

Enclosure

91082B5OCT93

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 39499

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLK26	41	*	82	
2	A66500	57	*	79	
3	A66501	55	*	77	
4	A66502	52	*	78	
5	A66503	45	*	76	
6	A66504	49	*	83	
7	A66504MS	51	*	84	
8	A66504MSD	54	*	78	
9	A66505	59	*	86	
10	A66506	45	*	79	
11	PBLK3G	69		94	
12	A66508	120		122	
13	A66509	65		79	
14	A66510	60		80	
15	A66511	56	*	77	
16	A66512	56	*	82	
17	A66513	58	*	82	
18	A66515	66		78	
19	A66516	67		76	
20					

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 39499

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLK7G	61		84	
2	A66507	59	*	89	
3	A66514	51	*	81	
4	MSB	48	*	84	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

			PROJECT SPECIFIC QC LIMITS
S1 (TCX)	=	Tetrachloro-meta-Xylene	(60-150)
S2 (DEC)	=	Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

WATER AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 39499

Client Sample No.: A66504

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % RECOVERY
AROCLOR 1242	0.5994	~~0.0~~ 0.03357 LTS 11/10/93	0.4476	~~75~~ 69 LTS 11/10/93
AROCLOR 1254	0.5994	0.0	0.6333	106

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % RECOVERY	RPD
AROCLOR 1242	0.5994	0.5098	~~85~~ 79	~~12~~ 14
AROCLOR 1254	0.5994	~~0.5153~~ 0.5154 LTS 11/10/93	86	21

LTS 11/10/93

Comments: AR1016 reported as AR1242 in sample For ms/msd recovery calculations

WATER AROCLOR MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 39499

COMPOUND	SPIKE ADDED (UG/L)	MSB CONCENTRATION (UG/L)	MSB % RECOVERY
AROCLOR 1242	0.6000	0.4223	70
AROCLOR 1254	0.6000	0.4582	76

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 186262(PBLK26) -
Matrix:(soil/water) Water -
Date Extracted: 09/21/93 -
Date Analyzed(1): 10/14/93 -
Time Analyzed(1): 1152 -
GC ID(1): HP2618 -
GC Column(1): RTx-35 -

Contract: 91082 -
Case: PCB -
SDG No: 39499 -
Level(L/M): Low -
Date Analyzed(2): 10/14/93 -
Time Analyzed(2): 1152 -
GC ID(2): HP2618 -
GC Column(2): RTx-5 -

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	197630 -	A66500 -	10/14/93 -	10/14/93 -
2	197631 -	A66501 -	10/14/93 -	10/14/93 -
3	197632 -	A66502 -	10/14/93 -	10/14/93 -
4	197633 -	A66503 -	10/14/93 -	10/14/93 -
5	197634 -	A66504 -	10/14/93 -	10/14/93 -
6	197634MS -	A66504MS -	10/14/93 -	10/14/93 -
7	197634MD -	A66504MSD -	10/14/93 -	10/14/93 -
8	197636 -	A66505 -	10/14/93 -	10/14/93 -
9	197637 -	A66506 -	10/14/93 -	10/14/93 -
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK2G

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 39499

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 186262

Date Received:

Date Extracted: 09/21/93

Date Analyzed: 10/14/93

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 186263 (PBLK36) -
Matrix:(soil/water) Water -
Date Extracted: 09/23/93 -
Date Analyzed(1): 10/14/93 -
Time Analyzed(1): 1932 -
GC ID(1): HP2618 -
GC Column(1): RTx-35 -

Contract: 91082 -
Case: PCB -
SDG No: 39499
Level(L/M): Low -
Date Analyzed(2): 10/14/93 -
Time Analyzed(2): 1932 -
GC ID(2): HP2618 -
GC Column(2): RTx-5 -

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	197808 -	A66508 -	10/14/93 -	10/14/93 -
2	197809 -	A66509 -	10/14/93 -	10/14/93 -
3	197810 -	A66510 -	10/14/93 -	10/14/93 -
4	197811 -	A66511 -	10/14/93 -	10/14/93 -
5	197812 -	A66512 -	10/15/93 -	10/15/93 -
6	197813 -	A66513 -	10/15/93 -	10/15/93 -
7	197967 -	A66515 -	10/15/93 -	10/15/93 -
8	197968 -	A66516 -	10/15/93 -	10/15/93 -
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK3G

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 39499

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 186263

Date Received:

Date Extracted: 09/23/93

Date Analyzed: 10/14/93

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: PBLK76
Matrix:(soil/water) Water
Date Extracted: 10/15/93
Date Analyzed(1): 10/19/93
Time Analyzed(1): 0656
GC ID(1): HP2618
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 39499
Level(L/M): Low
Date Analyzed(2): 10/19/93
Time Analyzed(2): 0656
GC ID(2): HP2618
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	197807	A66507	10/19/93	10/19/93
2	197814	A66514	10/19/93	10/19/93
3	197635	MSB	10/19/93	10/19/93
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK7G

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 39499

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: PBLK7G

Date Received:

Date Extracted: 10/15/93

Date Analyzed: 10/19/93

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.021	J
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Aroclor Calibration Summary

RTx-35

Calibration -Oct-1993 19:32 through 8-Oct-1993 15:32.
MCD1:(8080) 070CT931740
METHOD: 8080_PCB:AN

SJF 2618

000242

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	7.237	82.709	11.8%	48.748	12.4%	3.300		2.794		16.678					
2	8.130	22.348	3.7%	13.738	2.2%										
3	8.847	10.965	4.8%	7.054	4.7%	4.338	1.0%	3.305	2.1%	0.191					
4	8.915	22.742	4.8%	18.851	4.2%	18.084	3.7%	14.254	2.8%	1.081		0.099		0.137	
5	9.265									6.674	3.5%	6.251	3.9%	6.671	3.0%
6	9.286	60.437	0.6%	42.945	0.9%	24.014	1.5%	19.087	1.8%						
7	9.692	45.576	2.0%	36.618	2.4%	28.877	3.5%	22.315	4.1%	1.327					
8	9.879	152.662	2.9%	148.356	2.4%	143.759	2.5%	111.497	2.0%	11.709	2.4%	1.158		1.455	
9	10.757	2.429	8.9%	8.734	1.5%	20.654	2.9%	15.972	0.8%	4.535	3.3%	0.165		0.154	
10	10.952	7.267	9.2%	5.803	8.3%	2.102		1.583		0.087					
11	11.145	44.894	1.0%	134.153	4.5%	287.484	5.4%	226.686	5.0%	114.478	5.9%	3.845	6.3%	2.930	11.8%
12	11.468	2.338		8.906	3.9%	20.323	2.7%	15.866	2.2%	4.364	6.2%	0.112		0.126	
13	11.773	8.333	2.4%	35.592	0.8%	82.896	0.6%	63.995	0.3%	32.095	1.2%	0.702		0.586	
14	11.859	4.975	1.5%	5.660	1.6%					5.499	1.5%	5.028	5.3%	3.654	3.4%
15	11.934	12.960	0.9%	51.614	2.5%	114.599	2.7%	89.656	2.3%	33.734		1.207		1.076	
16	12.043	4.361	4.5%	19.677	2.8%	45.570	1.7%	35.126	2.0%	12.077		0.354		0.331	
17	12.132	2.803	4.3%	10.530	2.9%	25.082	2.4%	19.279	3.9%	3.374	3.0%	0.166		0.177	
18	12.383	32.797	1.0%	169.432	3.8%	411.668	4.7%	312.626	4.4%	192.715				2.980	
19	12.821	15.985	2.2%	78.153	0.2%	184.298	0.7%	142.046	0.6%	66.993	1.1%	1.480	8.5%	1.263	
20	12.953	2.393	5.2%	12.445	2.6%	31.597	4.1%	25.473	1.5%	35.611	3.5%	4.738	5.3%	0.202	
21	13.085	0.726		4.143	3.8%	11.674	2.4%	9.450	3.6%	11.740	2.6%	0.405			
22	13.191	9.044	3.7%	50.280	4.0%	122.181	5.3%	93.156	5.0%	45.560	3.4%	0.897		0.742	
23	13.426	11.126	1.3%	62.099	3.9%	151.672	5.5%	121.141	4.4%	227.157	5.6%	180.472	4.2%	10.904	1.6%
24	13.558	11.824	23.	60.047	7.6%	140.381	5.9%	110.242	5.6%	177.438	7.2%	54.821	5.7%	3.271	
25	13.631	3.629		21.673	1.7%	57.197	1.6%	44.516	1.1%	71.932	2.7%	9.635			
26	13.716	3.711	2.2%	21.702	1.7%	58.865	3.5%	46.270	2.5%	64.195	4.3%	4.837	3.9%	0.414	
27	13.808	1.133		7.093	2.1%	18.123	2.1%	14.323	0.9%	19.190	2.5%	1.032		0.138	
28	14.323	11.263	1.0%	74.323	1.0%	181.560	1.3%	145.464	0.7%	251.105	1.5%	100.222	0.8%	1.987	5.6%
29	14.435	4.446	9.1%	28.699	2.2%	69.911	1.9%	56.216	2.1%	82.212	1.7%	9.012	8.4%	0.972	
30	14.643	7.407		26.760		58.932	11.1%	47.335	11.4%	76.461	6.0%	14.383			
31	14.718	6.665		41.348	1.7%	104.961	0.8%	87.304	0.8%	154.367	1.3%	36.199	0.8%		
32	14.808	2.200	5.5%	15.158	3.1%	40.460	1.6%	32.559	1.6%	41.136	1.9%			0.257	
33	15.139	5.089	2.6%	33.373	2.0%	17.713	3.5%	74.474	1.0%	132.040	1.5%	37.489	2.3%	0.713	
34	15.219	2.530	3.3%	19.046	1.6%	38.564	1.6%	36.637	1.6%	58.983	1.9%	9.590	3.5%	0.331	
35	15.312	9.577	2.7%	65.142	0.8%	25.521	1.9%	135.768	1.0%	267.704	1.2%	139.112	2.5%	1.792	6.3%
36	15.473	8.370	2.7%	60.407	2.0%	16.753	1.6%	127.276	1.8%	229.496	3.0%	50.232	1.3%	1.217	4.7%
37	15.634	2.538	5.4%	13.413	2.5%	20.602	1.7%	30.893	3.9%	87.401	5.0%	267.078	3.1%	118.105	3.9%
38	15.814	0.442		2.552				6.990	5.0%	20.249	2.4%	69.402	1.8%	18.606	1.2%
39	15.873	0.850		5.404	6.1%	4.390	6.0%	13.936	3.1%	32.892	2.4%	52.068	1.7%		
40	16.010	2.765	2.3%	13.328	1.7%	0.998		34.012	2.5%	94.773	3.9%	342.112	3.0%	150.709	3.9%
41	16.212											150.809	1.0%	1.360	
42	16.257	7.110	3.7%	55.646	3.1%	2.081	4.0%	121.629	4.4%	216.592	5.0%				
43	16.409			0.174				0.766		2.294	3.0%	6.376	4.7%		
44	16.567	1.357		7.531	3.9%	2.403	4.7%	19.044	2.0%	54.133	3.0%	109.427	2.0%	6.323	3.2%
45	16.786	0.215		1.346				3.891	6.1%	11.282	3.4%	22.701	2.2%	0.394	
46	16.980	1.390		7.500	3.8%			21.104	1.5%	59.149	2.0%	125.328	0.5%	4.992	2.4%
47	17.095			1.047				3.618		8.867	4.3%				
48	17.189	3.309	3.9%	11.116	0.8%			28.253	1.8%	79.330	1.0%	227.892	3.6%	25.612	0.8%
49	17.370	1.257	20.	6.055	4.3%			18.479	1.7%	51.660	1.1%	75.916	2.0%	0.369	

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.2036 and decachlorobiphenyl at 27.7359.
2) Peaks chosen within window of +/- 0.01266 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.09094.

Aroclor Calibration Summary

RTx-35

Calibration . /-Oct-1993 19:32 through 8-Oct-1993 15:32.
MCD1:[8080] 05,06 07OCT931740
METHOD: 8080_PCB:AN

SJF - nP2618

000243

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
50	17.530	3.177	3.3%	17.906	0.7%			49.640	1.0%	147.109	1.0%	469.090	2.8%	76.640	1.4%
51	17.613											55.420		179.305	2.3%
52	17.829			0.244				0.260		2.278		36.637	1.9%	68.617	2.9%
53	17.901	0.109		0.624				2.972	12.3%	8.562	7.7%	22.590	4.4%		
54	17.968											10.802	4.4%	0.373	
55	18.066	1.873	5.7%	9.317	3.5%			34.574	1.8%	94.063	1.5%	310.691	2.9%		
56	18.138	1.043		7.814	2.3%			17.825	1.9%	52.333	1.3%	237.109	1.9%	407.130	3.7%
57	18.367			0.477				0.776		2.576		40.903	0.8%	66.734	1.8%
58	18.578	0.401		4.037	4.8%			6.061	3.9%	15.653	1.4%	223.178	1.1%	477.582	2.8%
59	18.740			0.249				1.015		2.852	7.0%				
60	18.760											10.474	4.9%	4.113	24.
61	19.154			1.488				1.725		4.693		68.937	1.6%	176.311	3.5%
62	19.281	1.329		7.071	5.0%			25.128	3.0%	72.565	2.3%	151.933	6.7%		
63	19.330											155.079	0.9%	149.528	2.2%
64	19.424			0.925										102.110	4.3%
65	19.466							1.101		2.670		30.763	1.1%		
66	19.616							0.558		1.793		27.860	1.8%	16.136	
67	19.698	0.094		1.608				1.663	8.4%	5.229	7.2%	99.715	1.4%	255.525	1.2%
68	19.816	0.531		3.262	2.9%			8.961	1.3%	20.661	1.4%	367.334	3.2%	407.388	2.4%
69	20.029			2.031	8.1%			0.207		1.529		21.038	0.8%	293.411	3.2%
70	20.202	0.481		1.662	42.	0.809		1.472	48.	3.531	18.	41.041	1.0%	159.834	1.5%
71	20.352							0.457		0.834		16.294	2.8%	11.678	4.4%
72	20.622			0.217						0.137		2.216	10.5%	41.235	2.8%
73	21.048			3.080						8.641		121.649	3.3%	354.627	1.0%
74	21.300			0.962								16.864	3.9%	162.213	2.0%
75	21.368			0.528				1.472		2.946	12.3%	51.921	3.4%	79.649	2.0%
76	21.466			0.436						0.426		13.181	5.4%	78.053	1.6%
77	21.641			4.622	4.8%			0.922		4.063	7.3%	68.459	1.8%	713.886	4.0%
78	21.836											1.439		10.591	4.0%
79	22.316											0.317		18.035	0.9%
80	22.601											0.182		8.619	3.0%
81	22.807											15.767		220.908	8.3%
82	22.945			4.700				1.683		4.162		48.044	6.2%	391.951	3.3%
83	23.034			1.448										81.633	3.3%
84	23.470											1.654		8.398	7.9%
85	23.901	1.035	70.	1.036	29.	1.053	37.	1.111	54.	1.091		1.334	54.	11.216	9.0%
86	24.280	0.183		0.325		0.278		0.176		0.201		0.860		5.028	11.3%
87	24.420			0.436						0.232		1.410		56.173	2.1%
88	24.769			1.044						0.581		2.521	5.6%	134.714	1.7%
89	26.254	2.501		2.855		2.730		2.586		2.871		3.037		41.479	1.9%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	671.7	4.1%	1653.8	3.0%	2598.5	3.5%	2768.7	2.9%	3636.8	2.8%	4870.5	2.8%	5641.8	3.0%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	8.2036	-.0169 to .0120	Passes...	8429.918	71.7 to 115.1%	** Fails *
decachlorobiphenyl	27.7359	-.0159 to .0130	Passes...	5116.154	94.7 to 115.2%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.2036 and decachlorobiphenyl at 27.7359.
2) Peaks chosen within window of +/- 0.01266 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.09094.

Aroclor Calibration Summary

RTx-5

Calibration 7-Oct-1993 19:32 through 8-Oct-1993 15:32.
MCD1:[8080] 05,06 07OCT931740
METHOD: 8080_PCB:AN

SJF ..P2618

000244

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	6.391	1.332	5.0%	1.326		1.217	3.2%	1.270	4.4%	1.308		1.321	5.1%	1.368	3.7%
2	7.530	35.211	2.4%	18.609	3.3%	0.606		0.480							
3	9.763	21.580	7.7%	14.760	8.9%	7.168	9.0%	5.407	8.6%	0.256					
4	10.003									2.455	6.8%	2.516	8.3%	2.677	6.0%
5	10.059	18.185	9.7%	14.451	10.4%	10.797	13.5%	8.128	15.						
6	10.232	59.797	5.6%	56.937	5.3%	51.904	7.6%	39.115	7.2%	3.429	10.0%	0.425		0.596	
7	11.452	13.368	5.8%	47.396	2.7%	104.899	3.8%	82.491	3.4%	45.063	3.3%	1.188		0.843	
8	11.514	8.024	11.3%	27.925	2.0%	63.944	1.6%	49.665	0.9%					0.468	
9	11.772	2.138		5.770	10.1%	12.344	6.0%	9.503	5.9%	2.159	14.2%	0.094		0.390	
10	12.029	9.321	3.2%	38.785	1.6%	88.027	0.8%	68.542	1.1%	28.687	3.3%	0.770		0.676	
11	12.309	2.153	5.9%	2.489	8.9%	1.984	7.8%	2.728	13.1%	2.399	8.0%	2.257	5.4%	1.594	
12	12.566	1.519		9.355	23.	17.462	8.3%	13.231	9.3%	6.139	74.	0.358		0.373	
13	12.651	0.951		4.399		10.373	10.4%	7.846	11.3%	1.601					
14	12.869	9.796		53.811	9.3%	126.521		95.391		57.802	8.3%				
15	13.167	7.204		38.331		93.307	4.8%	71.899	4.8%	42.384		2.997			
16	13.323	0.796		4.166		9.543	9.8%	7.588	9.0%	7.770		0.229			
17	13.407	2.862		18.268	11.5%	46.394	10.7%	34.967	10.7%	16.924	9.4%	0.258			
18	13.551	1.666		9.173	3.9%	24.533	3.5%	19.175	3.1%	23.123	2.4%	0.983		0.167	
19	13.796	0.491		3.385	7.1%	9.097	4.0%	7.144	4.9%	9.313	4.4%	0.378			
20	13.905	4.731	4.8%	28.451	2.3%	70.958	3.1%	56.272	2.4%	107.105	4.2%	85.484	2.9%	4.752	4.9%
21	14.046	4.714	15.	26.339	4.8%	63.813	3.0%	49.757	2.5%	80.888	5.2%	25.124	2.8%	1.140	
22	14.162	2.547		15.313	1.3%	42.029	1.2%	32.688	0.8%	48.422	1.8%			0.329	
23	14.559	4.562	4.2%	32.631	1.8%	81.625	1.2%	64.275	1.6%	115.893	1.5%	46.148	1.4%	0.749	
24	14.672	1.603		13.479	6.4%	35.234	3.2%	27.739	6.6%	41.483	1.8%	4.718	5.5%	0.233	
25	14.952	3.705	4.0%	27.684	3.8%	71.892	3.2%	58.672	4.1%	95.498	3.4%	16.967	4.5%	0.482	
26	15.210	0.996		8.526	4.7%	18.880	4.3%	17.007	5.9%	26.873	3.3%	3.689	8.1%	0.144	
27	15.684	1.599		12.489	10.2%	6.056	13.2%	29.486	9.0%	52.519	7.6%	13.182	11.0%	0.218	
28	15.792	7.196	37.	28.763	9.7%	13.845	23.	58.307	2.1%	112.914	3.3%	55.668	2.7%	4.363	83.
29	15.920	4.024	8.1%	28.967	4.6%	16.296	2.1%	63.725	4.2%	129.328	2.2%	153.316	2.4%	60.404	4.0%
30	16.125	0.850		3.298	5.9%	2.427	7.0%	7.769	1.4%	19.110	2.6%	26.236	1.5%	0.111	
31	16.454	2.271		19.613	9.3%	0.867		44.339	8.8%	82.154	8.3%	42.893	2.4%	9.383	1.5%
32	16.626	1.782		9.137	2.7%			23.307	1.2%	63.503	2.2%	194.566	1.0%	73.671	3.3%
33	16.803	0.962		4.351				14.512		34.864	2.6%	72.612		0.384	
34	17.155	0.118		0.649				2.095	13.7%	5.940	8.2%	11.391	5.6%	0.205	
35	17.323	0.521		3.021	12.3%			9.201	8.5%	26.792	2.4%	58.838	2.4%	2.027	
36	17.482	0.794		4.646	6.4%			13.645	3.7%	39.546	2.6%	111.083	3.7%	11.673	2.9%
37	17.624	0.469		2.660	11.3%			8.637	5.7%	24.781	3.5%	36.837	3.5%		
38	17.711											20.724	2.2%	36.767	4.1%
39	17.795	1.284		7.528	5.9%			21.568	3.2%	66.801	2.1%	217.726	3.5%	35.601	1.3%
40	18.165	0.384		2.909	2.8%			7.093	5.2%	20.858	3.4%	47.289	1.4%	89.268	3.0%
41	18.312											28.456	4.1%	50.591	2.5%
42	18.449			0.206				1.632		4.335	22.	13.157	10.1%		
43	18.545	0.131		1.668				2.353		7.527		100.247	2.2%	204.091	4.6%

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 9.1319 and decachlorobiphenyl at 28.7355.
2) Peaks chosen within window of +/- 0.01266 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.06599.

Aroclor Calibration Summary

RTx-5

Calibration 7-Oct-1993 19:32 through 8-Oct-1993 15:32.
MCD1:[8080] 05,06 07OCT931740
METHOD: 8080_PCB:AN

SJF nP2618

000245

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
44	18.618	0.553		3.392	14.9%			13.495	9.6%	38.495	5.9%	126.283			
45	18.894			0.088				0.534		1.543		14.365	14.2%	13.387	2.6%
46	19.110			0.223				0.598		1.716		20.926	7.4%	33.380	1.1%
47	19.299	0.175		1.803				2.275	5.5%	6.019	5.0%	105.819	1.7%	232.483	2.9%
48	19.407											75.644		81.821	2.0%
49	19.466	0.323		2.419	18.			9.372	8.8%	28.291	7.1%				
50	19.701			0.542				0.794		2.544	10.4%	34.340	2.3%	84.333	3.5%
51	19.771			0.430										58.967	3.8%
52	19.927			0.156				0.547		1.327	9.0%	14.245	3.8%		
53	20.004			0.214				0.368		1.123		16.365	4.0%	25.967	2.5%
54	20.178	0.231		1.828	3.9%			4.241	4.3%	10.229	3.1%	181.893	2.4%	237.762	2.7%
55	20.434			0.256				0.376		1.171		16.503	3.5%	33.547	2.1%
56	20.603													7.028	6.5%
57	20.691			1.074						0.711		10.991	3.8%	150.690	3.9%
58	20.850			0.585						0.400		8.710	2.2%	78.823	1.8%
59	21.047			0.349				1.694		3.596		50.306	1.8%	21.734	
60	21.188			0.118								2.090		21.792	1.2%
61	21.424			0.986				0.105		0.701		13.501	1.8%	150.259	1.7%
62	21.600			0.583						0.461		8.696	1.0%	82.959	2.4%
63	21.740													45.199	1.2%
64	21.776							0.798		1.423		22.839	3.8%		
65	21.945							0.151		0.392		5.463	6.6%	13.253	4.1%
66	22.065			0.116								3.155	4.9%	24.909	2.5%
67	22.267			2.069				0.187		1.512		28.013	2.0%	321.440	2.9%
68	23.194			0.889				0.209		0.820		20.969	2.2%	138.136	4.1%
69	23.346													6.455	3.0%
70	23.454			0.505						0.311		1.189		70.336	4.0%
71	23.634			0.564						0.249		1.808		75.315	4.2%
72	24.137											0.906		3.766	4.9%
73	24.712											0.693		28.067	5.0%
74	25.465	1.555		2.093		1.616		1.564		1.884		2.852	72.	63.352	6.6%
75	25.697													3.858	5.4%
76	27.137	1.254		1.364		1.654		1.291		1.452		1.500		20.345	2.1%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	245.7	4.9%	674.3	5.1%	1107.3	3.5%	1177.2	4.0%	1564.3	3.8%	2190.2	2.5%	2725.1	3.2%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	9.1319	-.0164 to .0103	Passes...	3563.131	76.8 to 114.3%	** Fails *
decachlorobiphenyl	28.7355	-.0155 to .0178	Passes...	2546.391	93.9 to 114.8%	Passes...

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 9.1319 and decachlorobiphenyl at 28.7355.
2) Peaks chosen within window of +/- 0.01266 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.06599.

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 07-OCT-93 19:32 to 08-OCT-93 15:32

File: 05, 06 07OCT931740

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	49.5	98.0	202	401	800	
Cal Fact	0.990	0.980	1.010	1.003	1.000	1.2
% Diff	1	2	-1	0	0	
Aroclor 1221	52.5	105	204	404	784	
Cal Fact	1.050	1.050	1.020	1.010	0.980	2.9
% Diff	-5	-5	-2	-1	2	
Aroclor 1232	50.2	99.6	204	394	799	
Cal Fact	1.004	0.996	1.020	0.985	0.999	1.3
% Diff	0	0	-2	2	0	
Aroclor 1242	49.7	97.9	199	401	803	
Cal Fact	0.994	0.979	0.995	1.003	1.004	1.0
% Diff	1	2	1	0	0	
Aroclor 1248	49.1	100	201	396	800	
Cal Fact	0.982	1.000	1.005	0.990	1.000	0.9
% Diff	2	0	-1	1	0	
Aroclor 1254	49.2	99.2	197	400	804	
Cal Fact	0.984	0.992	0.985	1.000	1.005	0.9
% Diff	2	1	2	0	-1	
Aroclor 1260	50.3	102	198	394	806	
Cal Fact	1.006	1.020	0.990	0.985	1.008	1.4
% Diff	-1	-2	1	2	-1	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 10/07/93 1932 to
10/08/93 1532

Check Standard File: 05,06 13OCT931545,11
Date: 10/14/93
Time: 0820

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1248	200	200	0

Check Standard File: 05,06 13OCT931545,12
Date: 10/14/93
Time: 0856

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1254	200	190	5.0

Check Standard File: 05,06 13OCT931545,23
Date: 10/14/93
Time: 1524

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1248	200	200	0

Check Standard File: 05,06 13OCT931545,24
Date: 10/14/93
Time: 1600

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1260	200	187	6.5

Check Standard File: 05,06 13OCT931546,36
Date: 10/14/93
Time: 2303

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1248	200	207	3.5

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 10/07/93 1732 to
10/08/93 1532

Check Standard File: 05,06 13OCT931545,37
Date: 10/14/93
Time: 2338

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	206	3.0

Check Standard File: 05,06 13OCT931545,49
Date: 10/15/93
Time: 0641

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	200	0

Check Standard File: 05,06 13OCT931545,50
Date: 10/15/93
Time: 0716

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	199	0.5

Check Standard File: 05,06 18OCT931904,15
Date: 10/19/93
Time: 0324

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	194	3.0

Check Standard File: 05,06 18OCT931904,16
Date: 10/19/93
Time: 0400

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	197	1.5

000236

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 10/07/93 1932 to
10/08/93 1532

Check Standard File: 05,06 18OCT93190426
Date: 10/19/93
Time: 0952

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	197	1.5

Check Standard File: 05,06 18OCT93190427
Date: 10/19/93
Time: 1028

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	179	10,5

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: KALAMAZOO RIVER-PORTAGE CREEK
SAMPLERS: (Signature) John T. Peterson, Brian R. Tard

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB'S	TSS				TEMP	REMARKS
SWP-2	9-15	14:45		✓	A66500	3	2	1					
SWP-1	9-15	16:10		✓	A66501	3	2	1					
SWP-2	9-16	10:00		✓	A66502	3	2	1					
SWP-1	9-16	10:40		✓	A66503	3	2	1					
—	9-15				TEMP BLANK	1						1	Cooler # 249
—	9-16				TEMP BLANK	1						1	

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
John T. Peterson	9-16-93	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
			[signature]	9/17/93	1000		

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000003

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO. 645.51 PROJECT NAME KALAMAZOO RIVER-PORTAGE CREEK

SAMPLERS: (Signature) John T. Peters Brian D. Lord

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				TEMP	REMARKS
✓ SWP-2	9-16			✓	A66504	7	6	1					Do MS/MSD ON PCB's
✓				✓	A66505	3	2	1					
✓ SWP-1	9-16			✓	A66506	3	2	1					
—	9-16				TEMP BLANK	1						1	Cooler #236

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
John T. Peters	9-16-93	16:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature) Sheila M Wynkoop	DATE 9/17/93	TIME 1000	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000005

PROJ. NO.: 64551
PROJECT NAME: Kalamazoo River Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWP-2	9-17	12:10		✓	A66511 ✓	3	2	1					
SWP-1	9-17	12:40		✓	A66512 ✓	3	2	1					
SWP-2	9-17	15:35		✓	A66513 ✓	3	2	1					
SWP-1	9-17	16:05		✓	A66514 ✓	3	2	1					
—	9-17				Temp Blank	1						1	Cooler # No Number

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	9-17	17:30					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**
Relinquished by: (Signature)	**DATE**	**TIME**	**Received for Laboratory by: (Signature)**	**DATE**	**TIME**	**Remarks:**	
				9/18/93	1100	Temp Blank temp = 4°C	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000006

PROJ. NO.: 64551
PROJECT NAME: KALAMAZOO RIVER - PORTAGE CREEK
SAMPLERS: (Signature) [signature] / [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				Temp	REMARKS
SWP-2	9-16	17:25		✓	A66507 ✓	3	2	1					
SWP-1	9-16	17:50		✓	A66508 ✓	3	2	1					
SWP-2	9-17	8:50		✓	A66509 ✓	3	2	1					
SW-P-1	9-17	9:15		✓	A66510 ✓	3	2	1					
—	9-16				TEMP BLANK	1						1	Cooler #234
—	9-17				TEMP BLANK	1						1	

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	9-17	17:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature) [signature]	DATE 9/18/93	TIME 1100	Remarks: temp. Blank temps = 1°C + 4°C	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000007

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River-Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWP-2	9-18			✓	A66515	3	2	1					
SWP-1	9-18			✓	A66516	3	2	1					
~~SWP-2~~	~~9-18~~			~~✓~~									
~~SWP-1~~	~~9-18~~			~~✓~~									
—	9-17				TEMP BLANK	1						1	Cooler # 98

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	9-20	16:00					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**
Relinquished by: (Signature)	**DATE**	**TIME**	**Received for Laboratory by: (Signature)**	**DATE**	**TIME**	**Remarks:**	
				9/21/93	1000	temp = 6°C	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE

AIRBILL PACKAGE TRACKING NUMBER 7296618921

7296618921

3298M

Date 9-17-93

RECIPIENT'S COPY

From (Your Name) Please Print	Your Phone Number (Very Important)	To (Recipient's Name) Please Print	Recipient's Phone Number (Very Important)
JOHN T. PETERSON	(313)973-8300	POLLY MALIK	208 655-1203

Company	Department/Floor No.	Company	Department/Floor No.
LIMNO-TECH INC.		AQUATEC, INC.	

Street Address	Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)
2395 HURON PKWY	55 SOUTH PARK DRIVE

City	State	ZIP Required	City	State	ZIP Required
ANN ARBOR	MI	48104	COLCHESTER, VT		05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)
KZRIV-1

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

PAYMENT 1 ☑ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card 5 ☐ Cash/Check

SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
11 ☑ OTHER PACKAGING
16 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*
13 ☐ FEDEX BOX
☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery)
51 ☐ OTHER PACKAGING
56 ☐ FEDEX LETTER*
52 ☐ FEDEX PAK*
53 ☐ FEDEX BOX
54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day)
30 ☐ ECONOMY*
*Economy Letter rate not available. Minimum charge: One pound economy rate.

Government Overnight (Restricted for authorized users only)
40 ☐ GOV'T LETTER
41 ☐ GOV'T PACKAGE

Freight Service

DELIVERY AND SPECIAL HANDLING (Check services required)

1 ☐ HOLD FOR PICK-UP (Fill in Box H)
2 ☐ DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) ☑
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 ____ X ____ kg. 904 III
7 ☐ OTHER SPECIAL SERVICE
8 ☐
9 ☐ SATURDAY PICK-UP (Extra charge)

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	90	100
Total 1	Total 90	Total 100

DIM SHIPMENT (Chargeable Weight) ____ lbs.
L x W x H

Received At
1 ☐ Regular Stop 3 ☐ Drop Box
4 ☐ B.S.C.

7 Release

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip
Received By: X [signature]
Date Received 9/18/93 FedEx Employee Number

000866

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155
195
©1992-93 FEDEX
PRINTED IN U.S.A.

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL-FREE

AIRBILL PACKAGE TRACKING NUMBER 7296618932

3098M 7296618932

Date 9-17-93

RECIPIENT'S COPY

From (Your Name) Please Print: JOHN T. PETERSON

Your Phone Number (Very Important): (313)973-8300

To (Recipient's Name) Please Print: POLLY MALIK

Recipient's Phone Number (Very Important): 802 655-1203

Company: LIMNO-TECH INC

Department/Floor No.:

Company: AQUATEC INC

Department/Floor No.:

Street Address: 2395 HURON PKWY

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 55 SOUTH PARK DRIVE

City: ANN ARBOR State: MI ZIP Required: 48105

City: COLCHESTER, VT State: ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): RIV-1

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address 2:
City: State: ZIP Required:

PAYMENT 1 [✓] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

SERVICES* (Check only one box)

Priority Overnight (Delivery by next business morning)
1 [✓] OTHER PACKAGING
16 [ ] FEDEX LETTER
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day ††)
30 [ ] ECONOMY*

Government Overnight (Restricted to authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service. (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Continued examination required)
80 [ ] TWO-DAY FREIGHT**

†Delivery commitment may be later in some areas.
*Declared Value Limit $500.
**Call for delivery schedule.

DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [ ] DELIVER WEEKDAY
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations) [✓]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE (Dangerous Goods Shipper's Declaration not required)
Dry Ice, 2, UN 1845 ____ x ____ kg. Box of ____
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	9.2	100
Total	Total	Total
1	9.2	100

DIM SHIPMENT (Chargeable Weight)
[ ] ____ lbs.
L x W x H

Received At
1 [ ] Regular Stop 3 [✓] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

Emp. No.: Date:
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address:
City: State: Zip:
Received By: X Maureen Henry
Delivered Received: FedEx Employee Number: 6 18 Bellon 000867

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92 PART #137204 FXEM 3/93 FORMAT #155

155

© 1992-93 FEDEX PRINTED IN U.S.A.

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7296618162

3098M 7296618162

Date 9-20-93

RECIPIENT'S COPY

From (Your Name) Please Print	Your Phone Number (Very Important)	To (Recipient's Name) Please Print	Recipient's Phone Number (Very Important)
JOHN T. PETERSON	(313)973-8300	POLLY MALIK	(802) 655-1203

Company	Department/Floor No.	Company	Department/Floor No.
LIMNO-TECH INC		AQUATEC INC	

Street Address	Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)
2395 HURON PKWY	55 SOUTH PARK DR

City	State	ZIP Required	City	State	ZIP Required
ANN ARBOR	MI	48104	COLCHESTER, VT		05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)
KZRIV-1

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

PAYMENT 1 ☒ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card 5 ☐ Cash/Check

SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 ☒ OTHER PACKAGING
16 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*
13 ☐ FEDEX BOX
14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon, No Saturday delivery†)
51 ☐ OTHER PACKAGING
56 ☐ FEDEX LETTER*
52 ☐ FEDEX PAK*
53 ☐ FEDEX BOX
54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
☐ ECONOMY*
Economy Letter rate not available. Minimum charge: One pound economy rate.

Government Overnight (Restricted for authorized users only)
46 ☐ GOV'T LETTER
41 ☐ GOV'T PACKAGE

Freight Service (for packages over 100 lbs.)
70 ☐ OVERNIGHT FREIGHT** (Confirmed reservation required)
80 ☐ TWO-DAY FREIGHT**

† Delivery commitment may ... *Declared Value Limit $500.

DELIVERY AND SPECIAL HANDLING (Check services required)
1 ☐ HOLD FOR PICK-UP (Fill in Box H)
2 ☒ DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) ☐
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE (Dangerous Goods Shipper's Declaration not required)
Dry Ice ... X ... kg. 904 III
7 ☐ OTHER SPECIAL SERVICE
8 ☐
9 ☐ SATURDAY PICK-UP (Extra charge)
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

PACKAGES	WEIGHT in Pounds Only	YOUR DECLARED VALUE (Box right)
1	58	100
Total 1	Total 58	Total 100

DIM SHIPMENT (Chargeable Weight) ☐ 000.868 lbs.
L x W x H

Received At
1 ☐ Regular Stop 3 ☐ Drop Box 4 ☐ B.S.C. 5 ☐ Station

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip
Received By: X [signature]
Date/Time Received 9/21/93 Fedex Employee Number 1000

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92 PART #137204 FORM

7 Release Sign

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: KALAMAZOO RIVER-PORTAGE CREEK
SAMPLERS: (Signature) John T. Peterson, Brian C. Ford

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				TEMP	REMARKS
SWP-2	9-15	14:45		✓	A66500	3	2	1					
SWP-1	9-15	16:10		✓	A66501	3	2	1					
SWP-2	9-16	10:00		✓	A66502	3	2	1					
SWP-1	9-16	10:40		✓	A66503	3	2	1					
—	9-15				TEMP BLANK	1						1	Cooler # 249
—	9-16				TEMP BLANK	1						1	

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
John T. Peterson	9-16-93	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
			[illegible]	9/17/93	1000		

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

69800

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: KALAMAZOO RIVER-PORTAGE CREEK
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				TEMP	REMARKS
SWP-2	9-16			✓	A66504	7	6	1					Do MS/MSD on PCB's
				✓	A66505	3	2	1					
SWP-1	9-16			✓	A66506	3	2	1					
—	9-16				TEMP BLANK	1						1	Cooler #236

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	9-16-93	16:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
				9/17/93	1000		

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 6455
PROJECT NAME: Kalamazoo River-Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWP-2	9-17	12:10		✓	A66511 ✓	3	2	1					
SWP-1	9-17	12:40		✓	A66512 ✓	3	2	1					
SWP-2	9-17	15:35		✓	A66513 ✓	3	2	1					
SWP-1	9-17	16:05		✓	A66514 ✓	3	2	1					
—	9-17				Temp Blank	1						1	Cooler # No Number

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	9-17	17:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
				9/18/93	1100	Temp Blank temp = 4°C	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 64551
PROJECT NAME: KALAMAZOO RIVER - PORTAGE CREEK
SAMPLERS: (Signature) [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	BOD5	TSS			Temp	REMARKS
SWP-2	9-16	17:25		✓	A66507	3	2	1				
SWP-1	9-16	17:50		✓	A66508	3	2	1				
SWP-2	9-17	8:50		✓	A66509	3	2	1				
SWP-1	9-17	9:15		✓	A66510	3	2	1				
—	9-16				TEMP BLANK	1					1	Cooler #234
—	9-17				TEMP BLANK	1					1	

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[illegible]	9-17	17:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature) Maureen [illegible]	DATE 9/18/93	TIME 1100	Remarks: Temp. Blank temps = 1°C + 4°C	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000873

PROJ. NO. 645.51 PROJECT NAME KALAMAZOO RIVER-PORTAGE CREEK

SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				TEMP	REMARKS
SWP-2	9-18			✓	A66515	3	2	1					
SWP-1	9-18			✓	A66516	3	2	1					
~~SWP-2~~	~~9-18~~			~~✓~~									
~~SWP-1~~	~~9-18~~			~~✓~~									
—	9-17				TEMP BLANK	1						1	Cooler # 98

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	9-20	16:00					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**
Relinquished by: (Signature)	**DATE**	**TIME**	**Received for Laboratory by: (Signature)**	**DATE**	**TIME**	**Remarks:**	
			Sheila M Wallop	9/21/93	1000	temp = 6°C	

4/12/93
1383786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Sheila M. Wynkoop Log-in Date: 9/17/93

Received By (Signature): Sheila M. Wynkoop

Case Number: PCB

Sample Delivery Group No: 39499

ETR Number: 39499

REMARKS:

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos.: N/A
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 7296618943 7296618954
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? See # Yes/No*
10. Date Received at Lab: 9/17/93
11. Time Received: 1020

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66500	N/A	197630	All samples
A66501		197631	rec'd intact
A66502		197632	inside coolers
A66503		197633	with ice. Coolers
A66504		197634	were intact as
MSB.		197635	were custody
A66505		197636	seals on the
A66506		197637	outsides of
			coolers. C-of-C
			was present.
			Temperature
			Blank temp-
			erature was
			4°C & 5°C.

* Discrepancies:

(1) C-of-C has "9-15" or "9-16" as a date for all samples; all samples have "9-15/93" or "9-16-93" as a date.

(2) Most samples show station no. on labels, some do not.

(3) Some samples show "4°C" as a preservative, others show nothing. C-of-C shows nothing for preservatives.

Sample Transfer

Fraction: all

Area #: Level 4

By: SMW

On: 9/17/93

* Contact Project Director.

Reviewed by: [illegible]

Date:

Logbook No:

Logbook Page No:

Case: YLD
SDG: 39499
ETR: 39499

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

Discrepancies between sample bottles/labels and C-of-C

(4) C-of-C does not show a time for A66504; this sample has "1340" as a time on all containers.

(5) C-of-C does not show a date or time or A66505; sample does not either.

(6) same as #4 above for sample A66506; this sample has "1425" as a time on all containers.

SMW
9/17/93

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Maureen R Henry Log-in Date: 9/20/93

Received By (Signature): Maureen Henry

Case Number: PCB

Sample Delivery Group No: 39499

ETR Number: 39549

REMARKS:

1. Custody Seal(s) ~~Present/Absent*~~ Intact/Broken
2. Custody Seal Nos.: no #'s
3. Chain-of-Custody Records Present/~~Absent*~~
4. Sample Information Sheets ~~Present/~~Absent*
5. Airbill ~~Airbill/Sticker~~ ~~Present/Absent*~~
6. Airbill No.: 7296618932, 7296618921
7. Sample Tags ~~Present/~~Absent*
   Sample Tag Numbers ~~Listed/~~Not Listed on Chain-of-Custody
8. Sample Condition: Intact/~~Broken*/ Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No* see attached
10. Date Received at Lab: 9.18.93
11. Time Received: 1105

CORRESPONDING CLIENT SAMPLE #	SAMPLE TAG #	ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66507	N/A	197807	All rec'd
A66508	"	197808	intact in
A66509	"	197809	coolers w/ice.
A66510	"	197810	Coolers were
A66511	"	197811	intact and
A66512	"	197812	there were cust.
A66513	"	197813	Seals on
A66514	"	197814	coolers.
			Cust. Seals
			present and
			intact on
			all sample
			containers.
			Cooler temp.
			Blanks:
			1e 1°C, 1e 4°C
			~~1e 4°c~~

MRH 9.20.93

Sample Transfer

Fraction: All

Area #: Lab 4 Fridge

By: MRH

On: 9/18/93

* Contact Project Director.

Reviewed by: GM Logbook No:

Date: Logbook Page No:

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

ETR: 39549
Case: PCB
SDG: 39499

Discrepancies between sample bottles/labels and C-of-C

MRM 9.20.93

~~(1) A66509: Time on c-of-c and TSS bottles~~

(1) A66509: Time on c-of-c is 8:50, as well as on TSS bottle and one PCB jar; the other PCB jar has time of 9:15.

(2) A66510: Time on c-of-c is 9:15, time on TSS is 9:15 and also one PCB jar, time on second PCB jar is 8:58.

(3) A66513: Time on c-of-c is 15:35, as well as both PCB's jars, time on TSS bottle is 16:05.

(4) A66514: Time on c-of-c is 16:05, time on both PCB's jars is 16:05, time on TSS bottle is 15:35.

MRM 9.20.93

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc.

Page 1 of 1

Received By (Print Name): Sheila M. Wynkoop

Log-in Date: 9/21/93

Received By (Signature): Sheila M. Wynkoop

Case Number: PCB

Sample Delivery Group No: 39499

ETR Number: 39578

REMARKS:

1. Custody Seal(s) — Present/Absent* — Intact/Broken
2. Custody Seal Nos.: N/A
3. Chain-of-Custody Records — Present/Absent*
4. Sample Information Sheets — Present/Absent*
5. Airbill — Airbill/Sticker Present/Absent*
6. Airbill No.: 7296618162
7. Sample Tags — Present/Absent*
   Sample Tag Numbers — Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No* — * see attached
10. Date Received at Lab: 9/21/93
11. Time Received: 1000

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66515	N/A	197967	All samples
A66516	1	197968	rec'd intact
			inside cooler
			with ice.
			Cooler was
			intact as
			were custody
			seals on
			the outsides
			of coolers.
			0°C was
			present.
			Temp. Blank
			temp. was
			0°C.

Sample Transfer

Fraction: all

Area #: Level 4

By: SMW

On: 9/21/93

SMW 9/21/93

* Contact Project Director.

Reviewed by: _____

Logbook No: _____

Date: _____

Logbook Page No: _____

Case: [illegible]
SDG: 39499
ETR: 39578

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

Discrepancies between sample bottles/labels and C-of-C

(1) C-of-C has "9-18" as a date for both samples; Both samples have "9-18-93" as a date.

(2) C-of-C does not show a time for these samples; sample A66515 has "9:05" as a time & sample A66516 has "9:50" as a time.

SMW
9/21/93

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 39499

Project Number: 91082

Case No.: PCB

SDG Number: 39499

000008

Memo: Samples 197630 → 37 placed in fridge on 9/17/93 by SMW at 163

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
197630—37	PNT	9/20/93 1610	TSS	9/20/93 172

F-0169

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 39549

Project Number: 91082

Case No.: PCB

SDG Number: 39499

600000

Memo: Samples # 197807-14 placed in fridge on 9/18/93 @ 1130 by MR

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
197807-13	PNM	9/27/93 1015	TSS	9/27/93 1[illegible]

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 39578

Project Number: 91082

Case No.: PCB

SDG Number: 39499

000010

Memo: Samples 197967→8 were placed in fridge on 9/21/93 by SMU at 1430

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
197967-68	PNM	9/27/93 1015	TSS	9/27/93 151

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

R Number: 39499

oject Number: 91082

Case No.: PCB

SDG Number: 39499

00001

mo: Samples 197630 → 37 placed in fridge on 9/17/93 by SMW at 1630

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
Samples	MTP	9/21/93 0930	Extraction	9/21/93 1630

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 39578

Project Number: 91082

Case No.: PCB

SDG Number: 39499

000012

Memo: Samples 197967→8 were placed in fridge on 9/21/93 by SMU at 1430

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
197967-968	MSB	9/23/93 @ 0800	EXTRACTION	9/23/93 @ 9:30

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 39549

Project Number: 91082

Case No.: PCB

SDG Number: 39499

000013

Memo: Samples # 197807-14 placed in fridge on 9/18/93 @ 1130 by MLH

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
197807-814	MSG	9/23/93 @ 0800	EXTRACTION	9/23/93 @ 9:30

Laboratory Transfer Record

Sample Management — Aquatec, Inc.

ETR: 39549 | Date: 9/23/93

Laboratory ID.	Fraction/Analysis
197807	PBLK 3G
197808	
197809	
197810	
197811	
197812	
197813	
197814	

Relinquished by: GMD by: BDH Time: 16:00

Transported by: BED

Received by: _____ by: _____ Time: _____

000014

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 39578 | Date: 9/21/93

Laboratory I.D.	Fraction/Analysis
197967	2x1L Amber PCB
8	"

Relinquished @ CP by SMW Time: 1400

Transported by BED

Received @ _____ by _____ Time: _____

(Nov '91)

Figure 9: F-0047

Laboratory Transfer Record

Sample Management — Aquatec, Inc.

ETR: 39578 | Date: 9/23/93

Laboratory ID.	Fraction/Analysis
PBLK 36	
197967	
197968	

Relinquished ⊙ LMD by BDH Time: 1600

Transported by BeD

000016

Received ⊙ _____ by _____ Time: _____

Laboratory Transfer Record

Sample Management | Aquatec, Inc. MR 9.20.93

ETR: 39549 | Date: 9/~~20~~ 21/93

Laboratory I.D.	Fraction/Analysis
197807-1c	2-1l. per-PCB's

Relinquished @ CP by MRA Time: 0900

Transported by BFD

Received @ GMD by FNB Time: 1000

(Nov '91)

Figure 9: F-0047

Laboratory Transfer Record

Sample Management — Aquatec, Inc.

ETR: 39499	Date: 9/21/93

Laboratory ID.	Fraction/Analysis
PBLK 26	
197630	
631	
632	
633	
634	
634 MD	
634 MS	
635 MSB	
636	
637	

Relinquished @ _____ by _____ Time: _____

Transported by _____

Received @ _____ by _____ Time: _____

000018

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 39499 | Date: 9/17/93

Laboratory I.D.	Fraction/Analysis
197630	2x1L Amber PCB
1	"
2	"
3	"
4	6x1L Amber PCB
5	
6	2x1L Amber PCB
7	"

Relinquished @ CP by SMW Time: 1600

Transported by BGD

Received @ GMD by FNB Time: 1000

(Nov '91)

Figure 9: F-0047

METHOD:8080_PCB:EXW MATRIX: WATER LEVEL: LOW CH ID: 2DH

CLIENT(s): BLAB02 39499

CASE: PCB

SDG: 39499

DATE: 9/21/93

ANALYST: MTP

SPIKED BY: MTP

WITNESSED BY: JEH

Case: PCB
SDG: 39499

000857

Lab sample id ETR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE083093301	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# GE070693302	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# G23297	5. Hex exchange Hexane lot# G21266	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# F42821	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 926305D	10.# Conc to 1.0ml
186262	PBIK2G	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
197630	A66500	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
197631	A66501	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
197632	A66502	1003	✓	✓		✓	✓	✓	✓	✓	✓	✓
197633	A66503	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
197634	A66504	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
197634	MS A66504 MS	1001	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
197634	MD A66504 MSD	1001	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
197635	MSB	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
197636	A66505	1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
197637	A66506	1002	✓	✓		✓	✓	✓	✓	✓	✓	✓

MTP
9/21/93

MTP 9/21/9

METHOD: 8080_PCB:EXW MATRIX: WATER SDG: 39499 LEVEL: LOW BATCH ID: 2DN

CLIENT(s): BLAB02 39549, 39578
CASE: PCB
SDG: 39499
DATE: 9/23/93
ANALYST: MJG/BDH
SPIKED BY: BDH
WITNESSED BY: MJG

Lab sample id[FTR]	Client id	Sample Volume (1000ml) MJG	1. pH between 5 and 9 MJG	2. 100 ul 0.2 ppm TCMX/DCB surr. Surr lot 2108 39521	3. 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot G-23277 MJG	5. Hex exchange Hexane lot G-21266 MJG	6. Conc to 2-3 ml MJG	7. Sulfuric Acid Clean-up H2SO4 Lot F-42821	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot 92-3050D	10. Conc to 1.0ml
186263	PBLK36	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197807	A66507	1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197808	A66508	1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197809	A66509	1004	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197810	A66510	1061	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197811	A66511	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197812	A66512	1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197813	A66513	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197814	A66514	997	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197967	A66515	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
197968	A66516	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓

MJG 9/23/93

BDH 9/23/93

000858

METHOD:8080_PCB:EXW **MATRIX: WATER** Re-extract **LEVEL: LOW** Case: PCB SDG: 39499 **BATCH ID: 2IM**

CLIENT(s): BLAB02 39499/39549
CASE: PCB
SDG: 39499
DATE: 10/15/93
ANALYST: MTP
SPIKED BY: MTP
WITNESSED BY: BDH

000859

Lab sample id ETR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE10139301	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# GE07069302	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# G28240	5. Hex exchange Hexane lot# G21266	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# F4282	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 926305D	10.# Conc to 1.0ml
PBUK7G	PBIK 7G	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
197807RT	A66507	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
197814RT	A66514	1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
197635RT	MSB	1000	✓	✓	✓	MTP ✓	✓	✓	✓	✓	✓	> ✓

LTS 11/11/93

MTP 10/15/93

TP 10/15

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

November 23, 1993

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. PCB; SDG No. 40199

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on October 19, 20, 21 and 22, 1993. The analyses for these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers were assigned to the field and laboratory associated quality control samples.

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on October 19, 1993 ETR No. 40199		
A66521	201530	Water
A66522	201531	Water
A66523	201532	Water
A66524	201533	Water
A66525	201534	Water
A66526	201535	Water
A66527	201536	Water
A66528	201537	Water
Samples Received on October 20, 1993 ETR No. 40217		
A66531	201629	Water
A66532	201630	Water
Samples Received on October 21, 1993 ETR No. 40272		
A66533	201786	Water
A66533MS	201786MS	Water
A66533MSD	201786MD	Water
A66534	201787	Water
A66535	201788	Water
MSB	201794	Liquid

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on October 22, 1993 ETR No. 40296		
A66538	201899	Water
A66539	201900	Water
A66540	201901	Water
A66541	201902	Water

Samples labeled A66525 and A66526 were not analyzed for Aroclors per the request of Mr. Richard Difiori of Blasland, Bouck and Lee.

Low surrogate recoveries were observed in the method blanks and some of the associated samples.

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

Enclosure

91082B28OCT93

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 40199

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PB1K1H	54	*	84	
2	A66521	81		79	
3	A66522	78		75	
4	A66523	57	*	74	
5	A66524	59	*	72	
6	A66527	68		77	
7	A66528	74		91	
8	PB1K2H	49	*	85	
9	A66531	63		92	
10	A66532	44	*	79	
11	PB1K3H	42	*	96	
12	A66534	55	*	96	
13					
14					
15					
16					
17					
18					
19					
20					

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 40199

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	A66533MS	48	*	79	
2	A66533MSD	50	*	83	
3	A66535	47	*	74	
4	MSB	40	*	80	
5	A66538	50	*	82	
6	A66539	48	*	69	
7	A66540	50	*	76	
8	A66541	48	*	73	
9	A66533	47	*	73	
10	PBLK3HI2	42	*	82	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

WATER AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 40199

Client Sample No.: A66533

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % RECOVERY
AROCLOR 1242	0.5976	0.0295	0.4502	70
AROCLOR 1254	0.5976	0	0.5043	84

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % RECOVERY	RPD
AROCLOR 1242	0.6018	0.4582	71	1
AROCLOR 1254	0.6018	0.4700	78	7

Comments: AR1016 in sample reported as AR1242 for MS/MSD AR1242 spike recovery calculations.

3

WATER AROCLOR MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 40199

COMPOUND	SPIKE ADDED (UG/L)	MSB CONCENTRATION (UG/L)	MSB % RECOVERY
AROCLOR 1242	0.6000	0.3930	66
AROCLOR 1254	0.6000	0.4099	68

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: PB1K1H -
Matrix:(soil/water) Water -
Date Extracted: 10/22/93 -
Date Analyzed(1): 11/02/93 -
Time Analyzed(1): 1453 -
GC ID(1): HP XXXX -
GC Column(1): RTX-5 -

Contract: 91082-
Case: PCB -
SDG No: 40199 -
Level(L/M): Low-
Date Analyzed(2): 11/02/93 -
Time Analyzed(2): 1453 -
GC ID(2): HP XXXX -
GC Column(2): RTX-35.

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	201530 -	A66521 -	11/02/93 -	11/02/93 -
2	201531 -	A66522 -	11/02/93 -	11/02/93 -
3	201532 -	A66523 -	11/02/93 -	11/02/93 -
4	201533 -	A66524 -	11/02/93 -	11/02/93 -
5	201536 -	A66527 -	11/02/93 -	11/02/93 -
6	201537 -	A66528 -	11/02/93 -	11/02/93 -
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1H

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 40199

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: PBLK1H

Date Received:

Date Extracted: 10/22/93

Date Analyzed: 11/02/93

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: PBLK2H
Matrix:(soil/water) Water
Date Extracted: 10/25/93
Date Analyzed(1): 11/02/93
Time Analyzed(1): 2047
GC ID(1): HPXXXX
GC Column(1): RTX-5

Contract: 91082
Case: PCB
SDG No: 40199
Level(L/M): LOW
Date Analyzed(2): 11/02/93
Time Analyzed(2): 2047
GC ID(2): HPXXXX
GC Column(2): RTX-35

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	201629	A66531	11/02/93	11/02/93
2	201630	A66532	11/02/93	11/02/93
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK2H

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 40199

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: PBLK2H

Date Received:

Date Extracted: 10/25/93

Date Analyzed: 11/02/93

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202107(PBLK3H)
Matrix:(soil/water) water
Date Extracted: 10/26/93
Date Analyzed(1): 11/02/93
Time Analyzed(1): 2233
GC ID(1): HPXXXX
GC Column(1): RTX-5

Contract: 91082
Case: PCB
SDG No: 40199
Level(L/M): LOW
Date Analyzed(2): 11/02/93
Time Analyzed(2): 2233
GC ID(2): HPXXXX
GC Column(2): RTX-35

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	201787	A66534	11/03/93	11/03/93
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK3H

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 40199

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 202107

Date Received:

Date Extracted: 10/26/93

Date Analyzed: 11/02/93

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202107I2 (PBLK3HI2)
Matrix:(soil/water) Water
Date Extracted: 10/26/93
Date Analyzed(1): 11/15/93
Time Analyzed(1): 2010
GC ID(1): HP2618
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 40199
Level(L/M): Low
Date Analyzed(2): 11/15/93
Time Analyzed(2): 2010
GC ID(2): HP2618
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	201786MS	A66533MS	11/08/93	11/08/93
2	201786MD	A66533MSD	11/08/93	11/08/93
3	201788	A66535	11/08/93	11/08/93
4	201794	MSB	11/08/93	11/08/93
5	201899	A66538	11/08/93	11/08/93
6	201900	A66539	11/08/93	11/08/93
7	201901	A66540	11/08/93	11/08/93
8	201902	A66541	11/08/93	11/08/93
9	201786	A66533	11/10/93	11/10/93
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK3HI2

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 40199

Phase Type: Water Lab Sample ID: 20210712

Phase Volume: 1000 (mL) Date Received:

Injection Volume: 1.0 (uL) Date Extracted: 10/26/93

Dilution Factor: 1.0 Date Analyzed: 11/15/93

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Aroclor Calibration Summary

RTX-5

Calibration of 29-Oct-1993 21:35 through 30-Oct-1993 18:27.
MCD1:[8080] 25,26 29OCT931944
METHOD: 8080_PCB:AN

JDS - HPxxxx

000208

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	8.587	14.285	7.5%	10.709	6.1%	5.141	1.6%	4.191	7.4%	0.274					
2	8.834									1.147		1.062		1.113	13.4%
3	8.854	12.184	5.8%	10.711	4.6%	7.901	1.6%	6.662	4.6%	1.278					
4	9.012	38.747	5.4%	40.453	3.4%	35.218	1.5%	29.263	5.8%	2.813	21.	0.284		0.522	
5	10.056	2.731	6.8%	2.330		0.867		0.698							
6	10.138	6.846		26.754	3.1%	55.921	4.3%	46.169	5.4%	23.587		0.686			
7	10.199	8.607	7.7%	19.584	7.1%	37.274	6.9%	31.328	23.	58.640		0.910	84.	2.251	38.
8	10.432	0.742		2.647	5.3%	5.899	2.1%	4.708	6.1%	1.162	21.				
9	10.669	5.100	6.0%	22.436	4.8%	48.595	0.9%	39.470	3.3%	15.421	4.2%	0.490		0.580	
10	10.939	1.224	31.	1.306	3.1%	1.040		1.323	11.7%	1.142		1.180		0.839	
11	11.142	1.298	12.7%	5.361	7.5%	11.463	2.2%	9.354	6.0%	3.085		0.223		0.907	
12	11.220	0.739		2.820	4.8%	6.219	2.1%	5.043	3.2%	0.828					
13	11.386			31.441		70.011		58.515		38.571	4.3%	1.528			
14	11.421	7.258	2.9%	37.636	5.6%	86.697	3.5%	70.900	4.5%	38.059	4.2%			0.519	
15	11.924	2.370	8.0%	13.643	6.5%	31.222	5.7%	25.230	6.0%	11.746	4.2%	0.231		0.205	
16	12.084	0.735		4.167	3.2%	11.045	1.1%	8.914	1.0%	10.779	2.4%	0.474		0.066	
17	12.312	0.279		1.696	4.7%	4.210	1.7%	3.412	1.3%	4.335	2.2%				
18	12.397	2.695		15.944		37.752	3.9%	31.501	3.2%	57.427	4.2%	46.298		2.738	
19	12.531	2.314	3.5%	13.868	2.4%	34.502	2.2%	28.562	2.3%	43.469	3.1%	13.074	5.0%	0.322	
20	12.645	1.404		7.957	1.7%	21.158	2.5%	17.168	2.2%	24.203	3.2%			0.303	
21	13.013	2.651	3.4%	18.548	3.3%	44.863	1.6%	37.069	1.7%	63.829	2.5%	25.391	3.9%	0.438	
22	13.122	1.860	4.6%	12.128	2.0%	24.449	1.1%	23.576	1.3%	24.637	3.0%	2.230	4.3%	0.232	
23	13.384	2.108	5.6%	14.961	3.8%	37.957	3.0%	32.632	3.2%	51.598	5.1%	9.278	4.2%	0.308	
24	13.631	0.575		4.621	3.8%	9.658	2.6%	9.170	2.8%	13.896	5.0%	1.872	6.8%	0.080	
25	13.775	0.087		0.677		0.815		1.519	4.0%	1.301		0.153			
26	13.943	0.112		0.710		0.580		1.649	1.8%	2.518	3.8%	0.461			
27	14.060	1.290	5.5%	8.653	3.3%	4.099	2.0%	19.871	2.5%	33.587	4.6%	8.938	4.3%	0.183	
28	14.161	2.552	3.6%	17.573	3.3%	6.445	1.6%	37.684	2.4%	70.821	3.9%	35.442	3.8%	0.502	
29	14.291	2.477	2.9%	17.492	3.4%	7.553	2.0%	38.162	2.8%	69.594	3.5%	75.192	4.1%	31.737	
30	14.501			1.227		1.057		3.013	3.8%	7.781	2.7%	12.096	3.8%	0.075	
31	14.799	1.901	8.7%	13.706	2.8%	0.711		30.338	3.8%	52.118	6.7%	23.230	4.0%	5.075	2.0%
32	14.969	1.044		5.136	0.6%	0.806		13.339	1.6%	36.153	3.0%	108.810	4.7%	40.742	2.1%
33	15.140	0.732		2.304		0.088		6.823		18.079	5.0%	37.815	4.5%	0.296	
34	15.337			0.088				0.302		0.792		1.324	10.8%		
35	15.482			0.355				1.044	4.7%	2.841	3.1%	5.420	5.0%	0.106	
36	15.640	0.359		1.824				5.186	1.0%	14.354	3.0%	31.030	3.6%	1.311	
37	15.793	0.485		2.670	3.7%			7.707	2.6%	21.318	5.0%	59.726	4.7%	6.345	3.6%
38	15.933	0.270		1.470	6.8%			4.622	4.0%	12.813	5.3%	18.407	5.5%		
39	16.029													18.140	1.6%
40	16.095	0.874		5.152	2.1%			14.428	2.7%	39.709	4.8%	118.312	3.3%	20.673	3.6%
41	16.459	0.214		1.595				3.764	3.1%	10.680	5.8%	24.203	2.8%	45.465	2.0%
42	16.719			0.540				1.373		2.920		8.011	12.5%		
43	16.825													104.749	3.3%

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.0361 and decachlorobiphenyl at 27.5104.
2) Peaks chosen within window of +/- 0.01347 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.04178.

Aroclor Calibration Summary

RTX-5

JDS - HPxxxx

Calibration of 29-Oct-1993 21:35 through 30-Oct-1993 18:27.
MCD1:[8080] 25,26 29OCT931944
METHOD: 8080_PCB:AN

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
44	16.874	0.541		2.927	18.			9.524	2.0%	24.753	3.2%	81.474	3.1%		
45	17.170											6.675	4.2%	6.779	4.3%
46	17.237			0.089				0.470		1.115	6.4%				
47	17.367							0.206		0.533		10.010	3.1%	16.910	2.3%
48	17.552	0.102		0.968				1.231	2.0%	2.968	3.4%	52.804	3.7%	120.096	2.4%
49	17.668													39.374	1.9%
50	17.685											54.733	4.3%		
51	17.701	0.321		1.940	3.7%			6.893	3.2%	19.317	6.6%				
52	17.948			0.283				0.415		0.990	6.9%	16.610	3.8%	44.637	6.3%
53	18.030			0.209										27.021	2.4%
54	18.168							0.198		0.453		6.611	5.9%	0.515	
55	18.247			0.089				0.176		0.480		7.660	4.0%	12.813	3.8%
56	18.412	0.134		0.999				2.355	2.6%	5.358	5.4%	92.702	2.9%	125.393	3.4%
57	18.668			0.165				0.261		0.695		7.746	3.8%	16.018	2.3%
58	18.920			0.589						0.424		5.293	2.4%	75.081	2.0%
59	19.075			0.209						0.181		4.075	6.0%	38.796	2.7%
60	19.265			0.130				0.782		1.695	7.4%	25.665	4.8%	10.984	4.3%
61	19.415											0.501		10.321	4.3%
62	19.641			0.503						0.364		6.489	3.4%	75.917	2.0%
63	19.815			0.269						0.203		4.120	3.8%	41.373	1.7%
64	19.962			0.201				0.416		0.830		13.780	4.5%	26.894	2.9%
65	20.151							0.103		0.209		2.798	7.1%	6.436	2.5%
66	20.268											1.408		12.420	3.3%
67	20.465			1.116				0.189		0.848		13.534	4.5%	160.635	2.9%
68	20.685					0.320		0.670		0.116		0.571		2.645	6.3%
69	20.891									0.544		0.265		4.914	10.3%
70	21.445			0.448				0.112		0.418		9.517	3.5%	65.771	4.3%
71	21.626													2.232	3.4%
72	21.737			0.255						0.126		0.508		31.855	1.5%
73	21.933			0.267						0.155		0.722		34.043	1.5%
74	23.106											0.370		13.102	1.4%
75	23.917			0.263						0.135		0.572		29.369	2.2%
76	25.757	0.542		0.629		0.585		0.597		0.636		0.645		9.121	1.9%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	130.8	5.1%	415.4	3.6%	652.1	8.0%	740.3	7.0%	952.8	6.8%	1101.6	3.8%	1348.3	4.0%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	8.0361	-.0117 to .0194	Passes...	1656.090	63.0 to 125.9%	** Fails *
decachlorobiphenyl	27.5104	-.0171 to .0318	Passes...	1055.727	90.5 to 120.0%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.0361 and decachlorobiphenyl at 27.5104.
2) Peaks chosen within window of +/- 0.01347 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.04178.

000209

Aroclor Calibration Summary

RTX-35

Calibration of 29-Oct-1993 21:35 through 30-Oct-1993 18:27.
MCD1:[8080] 25,26 29OCT931944
METHOD: 8080_PCB:AN

JDS - HPxxxx

000210

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	6.847	19.331	8.8%	11.832	12.5%	0.603		0.430							
2	7.725	4.698	6.7%	3.168	9.9%										
3	8.433	2.602	8.9%	1.863		0.987		0.793							
4	8.498	5.727	4.2%	5.069	5.0%	4.263	4.9%	3.541	3.7%						
5	8.840	17.195	7.5%	13.426	6.8%	6.951	2.8%	6.028	5.0%	1.470		1.317		1.444	
6	9.228	12.020	5.1%	10.421	4.4%	7.450	2.7%	6.200	2.8%	0.351					
7	9.409	41.291	7.2%	44.236	3.9%	37.108	8.1%	32.512	19.	4.319	68.	3.018		1.740	
8	9.527	4.934	6.3%	3.671	6.9%	1.869		1.481							
9	10.258	0.639		2.411	7.8%	5.455	1.9%	4.492	9.3%	1.206					
10	10.408	2.263	3.9%	1.846	5.7%	0.640		0.555							
11	10.604	12.552	3.5%	38.197	5.7%	76.422	4.3%	64.682	6.2%	31.151	6.3%	1.512		1.620	
12	10.909	0.579		2.359	6.1%	5.145	2.6%	4.216	3.1%	1.106					
13	11.205	2.265	5.4%	10.265	4.2%	22.646	2.0%	18.650	2.5%	8.544	3.1%	0.188		0.131	
14	11.290	1.226	7.0%	1.588				5.681		1.836	38.	1.504	75.	1.459	81.
15	11.367	3.554	4.9%	15.049	3.0%	32.228	1.0%	26.823	1.7%	9.126	2.0%				
16	11.426	1.538		6.542		14.213	0.9%	11.822	1.1%	3.917					
17	11.523	0.741		2.927	6.8%	6.459	3.4%	5.303	3.6%	0.820					
18	11.771	8.027	2.3%	40.585	4.1%	90.597	2.5%	76.734	3.3%	43.136	3.6%			0.756	
19	12.190	4.386	3.7%	22.177	2.0%	47.910	1.1%	40.594	1.5%	18.295	2.6%	0.402		0.345	
20	12.319	0.669		3.667	3.6%	9.096	1.7%	7.435	1.1%	10.143	1.8%	1.312	6.6%	0.144	
21	12.453	0.200		1.164		3.183	4.3%	2.537	4.0%	3.227	4.5%	0.107			
22	12.551	2.496	5.0%	14.184	5.6%	31.560	4.4%	26.297	4.9%	12.291	5.0%	0.246		0.217	
23	12.739	3.262	21.	18.230	16.	41.413	4.8%	36.327	11.8%	64.930	5.2%	53.644	19.	6.704	92.
24	12.818	0.969		5.229		13.735	1.9%	11.437	7.3%	14.585	4.1%				
25	12.877	2.539	5.1%	15.322	2.0%	37.853	1.9%	31.826	2.1%	49.065	3.1%	14.306	3.8%	0.413	
26	12.957	0.960		5.969	2.0%	15.367	1.4%	12.640	1.7%	19.759	3.5%	2.532			
27	13.039	1.077	6.5%	6.245	1.6%	16.543	1.5%	13.666	2.5%	18.250	3.0%	1.297		0.137	
28	13.158	0.313		1.887	4.2%	4.857	4.0%	3.840	1.5%	5.152	5.3%	0.257			
29	13.622	3.291	3.7%	22.594	2.4%	52.035	1.4%	45.216	1.4%	73.971	3.0%	28.275	3.4%	0.555	
30	13.740	1.085		7.827	4.6%	19.061	2.5%	16.135	2.8%	23.094	3.7%	2.388	7.1%	0.130	
31	13.932	0.846		6.463	4.6%	15.136	2.4%	13.070	2.7%	20.948	2.9%	2.305	5.7%	0.141	
32	14.012	1.705	7.7%	12.276	4.0%	29.463	2.9%	26.954	3.4%	44.897	5.1%	9.762	4.3%	0.235	
33	14.110	0.820		4.584	15.	11.508	5.4%	9.679		11.809	6.1%			0.201	
34	14.286	0.107		0.753		0.698		1.805	6.8%	2.853	5.6%	0.487			
35	14.393	1.335		8.886	2.5%	4.159	4.5%	20.272	1.7%	33.996	3.8%	9.276	3.2%	0.201	
36	14.512					10.936	3.5%								
37	14.550	2.724	5.7%	18.785	1.9%			39.876	1.1%	74.038	3.6%	36.596	4.1%	0.528	
38	14.720	2.218	6.7%	16.196	2.9%	4.206	5.7%	34.943	2.1%	59.875	4.7%	12.775	3.5%	0.363	
39	14.882	0.649		3.776	3.5%	5.706	2.6%	9.147	1.3%	25.728	2.8%	79.456	3.1%	35.226	2.0%
40	15.024	0.113		0.713				1.944	6.4%	5.517	5.2%	19.171	3.4%	5.180	4.6%
41	15.125	0.242		1.562	7.2%	1.202		4.064	2.6%	9.040	3.5%	13.552	3.1%		
42	15.217	0.726		3.675	3.7%	0.283		9.734	1.2%	26.514	2.8%	95.596	3.8%	42.863	1.9%
43	15.427	0.527		2.279				6.986	2.1%	18.723	4.3%	39.974	3.3%	0.337	
44	15.499	1.660	8.1%	13.438	4.6%	0.443		29.610	3.7%	49.015	6.8%			0.251	
45	15.813	0.370		2.072	5.9%	0.642		5.551	2.4%	15.535	3.7%	31.449	3.2%	1.710	7.0%
46	15.996			0.361				1.078		3.022	5.9%	6.100	3.7%	0.104	
47	16.189	0.357		1.906				5.783	3.7%	15.629	4.8%	32.881	2.8%	1.245	
48	16.394	0.668		2.740	3.2%			7.835	4.0%	21.520	4.7%	61.200	4.7%	6.835	3.5%

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.8036 and decachlorobiphenyl at 28.3849.
2) Peaks chosen within window of +/- 0.01347 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07538.

Aroclor Calibration Summary

RTX-35

Calibration of 29-Oct-1993 21:35 through 30-Oct-1993 18:27.
MCD1:[8080] 25,26 29OCT931944
METHOD: 8080_PCB:AN

JDS - HPxxxx

000211

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
49	16.585	0.297		1.606	2.8%			5.092	3.1%	13.695	4.3%	19.890	4.4%	0.218	
50	16.728	0.774		4.674	4.5%			13.590	2.7%	39.622	4.6%	125.030	3.6%	20.839	4.2%
51	16.793													52.079	2.8%
52	16.876			0.157				0.617		1.700	3.7%	14.093	3.1%	21.531	1.3%
53	17.011											10.493	2.9%	20.332	1.7%
54	17.068			0.135				0.729		1.898	8.1%				
55	17.231	0.470		2.397	8.9%			9.056	1.6%	23.434	3.1%	73.126	3.4%	6.488	
56	17.305			1.121						4.476		55.223	4.1%	118.741	1.6%
57	17.362	0.214		1.442				4.095	3.7%	11.439	3.9%				
58	17.510			0.126				0.184		0.611		10.986	3.2%	18.403	2.9%
59	17.719	0.128		1.133	12.9%			1.463	14.3%	3.266	4.0%	56.320	3.7%	129.294	1.9%
60	17.956			2.004						3.383		2.513	4.6%	0.926	
61	18.299									1.859		19.843	11.0%	50.027	4.2%
62	18.455	0.397		1.898	6.6%			6.708	1.9%	17.962	4.4%	34.017	4.8%		
63	18.519											39.961	3.3%	42.667	2.6%
64	18.603			0.256										31.097	1.4%
65	18.623							0.337		0.873		9.410	3.3%		
66	18.770							0.170		0.531		7.389	4.9%		
67	18.849			0.373				0.469		1.374	13.4%	25.974	4.0%	63.879	4.0%
68	18.971	0.130		0.820				2.406	4.0%	5.413	5.6%	93.147	4.4%	107.865	4.5%
69	19.165			0.647		1.621		0.121		0.468		5.800	4.5%	85.312	1.6%
70	19.349			0.265				0.224		0.746		10.972	4.1%	45.369	4.2%
71	19.470							0.114		0.259		4.315	3.0%	2.995	13.2%
72	19.770											0.601		11.322	4.5%
73	20.211			0.694				0.816		1.940	8.0%	30.171	4.8%	99.471	3.5%
74	20.457			0.301										46.953	2.4%
75	20.494							0.398		0.853		14.091	4.0%		
76	20.629			0.115						0.188		3.396	14.9%	20.620	3.5%
77	20.766			1.207	33.					1.050		15.484	3.3%	177.178	4.6%
78	20.979											0.324		2.406	3.8%
79	21.563													4.670	5.2%
80	21.850													2.024	8.0%
81	22.104			0.333						0.214		2.112		46.281	3.3%
82	22.288			0.548				0.107		0.479		9.830	3.5%	87.093	5.2%
83	22.388													19.863	4.6%
84	24.157											0.305		12.726	3.0%
85	24.544			0.238								0.556		29.121	3.0%
86	26.451	0.496		0.593		0.531		0.553		0.607		0.596		8.939	1.5%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	180.4	5.7%	463.5	4.1%	692.2	3.1%	793.5	3.5%	996.7	4.5%	1258.9	3.8%	1497.9	3.5%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	7.8036	-.0191 to .0098	Passes...	1887.397	60.2 to 130.4%	** Fails *
decachlorobiphenyl	28.3849	-.0227 to .0284	Passes...	1091.476	89.3 to 114.2%	Passes...

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.8036 and decachlorobiphenyl at 28.3849.
2) Peaks chosen within window of +/- 0.01347 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07538.

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HPxxxx
Col. 1: RTX-5
Col. 2: RTX-35

Calib date(s): 29-OCT-93 21:35 to 30-OCT-93 18:27

File: 25, 26 29OCT931944

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	48.7	97.6	203	400	798	
Cal Fact	0.974	0.976	1.015	1.000	0.998	1.7
% Diff	3	2	-2	0	0	
Aroclor 1221	56.9	108	196	368	815	
Cal Fact	1.138	1.080	0.980	0.920	1.019	8.3
% Diff	-14	-8	2	8	-2	
Aroclor 1232	52.2	98.2	192	390	790	
Cal Fact	1.044	0.982	0.960	0.975	0.988	3.2
% Diff	-4	2	4	3	1	
Aroclor 1242	54.3	98.2	180	395	804	
Cal Fact	1.086	0.982	0.900	0.988	1.005	6.7
% Diff	-9	2	10	1	-1	
Aroclor 1248	51.7	99.6	187	394	817	
Cal Fact	1.034	0.996	0.935	0.985	1.021	3.9
% Diff	-3	0	7	2	-2	
Aroclor 1254	50.0	104	206	382	809	
Cal Fact	1.000	1.040	1.030	0.955	1.011	3.3
% Diff	0	-4	-3	5	-1	
Aroclor 1260	49.0	97.2	190	407	807	
Cal Fact	0.980	0.972	0.950	1.018	1.009	2.8
% Diff	2	3	5	-2	-1	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

000193

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2759 (HPXXXX)
Col. 1: RTX-5
Col. 2: RTX-35

Initial Calib.
date/time: 10/29/93 2135 to
10/30/93 1827

Check Standard File: 01NOV931956, 26
Date: 11/02/93
Time: 1045

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
Aroclor 1248	200	218	9.0

Check Standard File: 01NOV931956,27
Date: 11/02/93
Time: 1120

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
Aroclor 1254	200	217	8.5

Check Standard File: 01NOV931956, 39
Date: 11/02/93
Time: 1825

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
Aroclor 1248	200	211	5.5

Check Standard File: 01NOV931956,40
Date: 11/02/93
Time: 1901

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
Aroclor 1260	200	208	4.0

Check Standard File: 01NOV931956, 52
Date: 11/03/93
Time: 0205

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
Aroclor 1248	200	206	3.0

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2759 (HPXXXX)
Col. 1: RTX-5
Col. 2: RTX-35

Initial Calib.
date/time: 10/29/93 2135 to
10/30/93 1827

Check Standard File: 01NOV93/956,53
Date: 11/03/93
Time: 0241

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
Aroclor 1016	200	234	17.0

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

ɔclor Caɪɪɔration Summary

RTx-35

ɪration of 6-Nov-1993 01:47 through 6-Nov-1993 21:47.
[8080] 05,06 05NOV931846
ɔD: 8080_PCB:AN

JDS - HP2ɔ.ɔ

000294

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	5.576	3.900	6.3%	4.224	17.	3.982	33.	4.296	18.	4.331	8.7%	4.215	21.	4.530	38.
2	7.239	96.949	11.6%	54.827	10.6%	4.457		3.971	75.	2.533		2.865		2.742	
3	8.134	26.538	4.0%	16.376	4.3%	4.390		2.891		5.686		3.975		4.785	
4	8.850	13.209	1.5%	8.287	5.3%	5.083	3.2%	3.853	5.9%	0.237					
5	8.918	26.812	5.3%	21.898	2.8%	20.969	5.4%	16.561	3.2%	1.214		0.093		0.128	
6	9.270									7.712	5.0%	7.123	3.0%	7.485	4.0%
7	9.290	72.043	1.4%	50.912	2.1%	28.158	1.9%	22.506	1.9%						
8	9.696	55.930	4.6%	44.970	1.4%	35.476	5.7%	27.942	4.1%	2.991	41.	1.069		1.666	
9	9.882	179.736	3.4%	172.477	2.4%	166.761	4.5%	129.795	2.5%	13.325	5.3%	0.984		1.371	
10	10.760	3.026	7.3%	10.371	1.6%	24.077	5.5%	18.702	1.2%	5.361	1.3%	0.318		0.284	
11	10.958	8.354	8.3%	6.596	12.9%	2.232		1.720							
12	11.150	52.183	3.2%	155.235	3.4%	329.378	7.3%	262.864	5.8%	131.763	4.8%	5.187	38.	4.401	39.
13	11.473	2.897	8.2%	10.388	4.3%	23.575	3.1%	18.534	3.6%	5.032	8.6%	0.128		0.124	
14	11.777	9.774	3.4%	41.321	1.2%	94.826	2.8%	74.801	1.4%	36.915	3.1%	0.750		0.582	
15	11.864	5.793	2.9%	6.665	2.4%					6.263	3.7%	5.638	3.0%	3.962	2.6%
16	11.939	15.245	1.5%	59.333	2.0%	131.380	4.9%	104.177	2.8%	38.506	1.5%	1.409		1.180	
17	12.048	5.088	4.4%	22.440	3.4%	51.981	1.8%	40.884	2.9%	13.543	5.1%	0.372		0.336	
18	12.138	3.370	3.9%	12.607	4.0%	28.675	2.2%	22.549	3.6%	3.990	2.0%	0.252		0.264	
19	12.387	41.285		198.822		474.066	1.6%	370.011		226.398					
20	12.827	18.290	2.7%	91.228	2.6%	210.899	1.7%	165.706	1.6%	76.198	3.2%	1.576		1.468	
21	12.958	2.806	6.9%	15.192	2.8%	36.635	5.7%	29.855	4.1%	40.636	2.6%	5.272	4.2%	0.246	
22	13.089	0.803		5.218	9.2%	13.240	3.2%	11.081	3.5%	13.388	3.8%	0.432		0.081	
23	13.196	10.368	4.3%	59.002	5.9%	139.955	3.9%	108.560	4.6%	51.949	6.3%	0.923		0.783	
24	13.431	12.836	1.5%	71.727	3.0%	173.278	6.7%	140.447	4.8%	259.108	3.2%	202.110	5.2%	11.921	3.0%
25	13.563	14.212	61.	66.338	9.5%	159.813	6.6%	131.096	4.6%	200.249	3.5%	63.448	11.0%	5.463	
26	13.637	4.085		25.084	1.6%	65.433	3.2%	52.109	1.7%	82.865	1.6%				
27	13.721	4.292	3.7%	25.078	2.0%	67.236	4.8%	53.538	3.1%	73.302	1.8%	5.559	2.9%	0.517	
28	13.813	1.321		8.363	4.8%	20.951	3.6%	16.684	2.2%	22.212	3.0%	1.242		0.142	
29	14.329	13.360	8.7%	84.996	1.5%	203.953	3.0%	166.372	1.5%	281.938	1.4%	111.475	2.1%	2.400	
30	14.440	5.244	10.6%	33.593	2.8%	80.430	3.3%	66.261	2.0%	94.103	1.5%	10.210	2.5%	0.833	
31	14.646	3.563	6.2%	26.097	3.5%	62.725	1.9%	51.499	2.4%	84.695	2.6%	9.357	4.2%	0.468	
32	14.725	6.799	5.8%	47.106	2.8%	119.624	1.8%	100.745	2.1%	177.538	4.6%	39.773	1.7%	0.899	
33	14.813	2.555		17.965	4.1%	46.641	2.6%	38.865	1.9%	47.583	3.3%			0.250	
34	15.145	5.829		38.098	3.1%	20.227	2.8%	86.216	2.6%	150.301	4.4%	41.613	1.6%	0.775	
35	15.225	3.021		22.188	2.0%	44.322	2.8%	43.318	1.4%	69.116	2.3%	11.058	3.1%	0.359	
36	15.320	10.905	2.6%	74.469	2.7%	29.033	1.8%	157.092	2.2%	306.928	4.5%	154.252	1.9%	1.913	6.9%
37	15.480	9.577	4.1%	69.602	3.9%	19.094	2.3%	148.361	3.0%	262.485	5.3%	55.678	0.6%	1.258	6.0%
38	15.640	2.879	2.0%	15.430	1.7%	23.278	4.0%	36.045	2.8%	100.185	2.7%	301.202	4.3%	131.741	4.6%
39	15.820	0.507		2.929				8.175	5.7%	23.198	4.6%	77.915	2.5%	20.574	2.5%
40	15.878	0.969		6.202	6.3%	5.011	4.9%	16.201	3.5%	37.611	2.9%	59.787	2.7%		
41	16.017	3.142	3.6%	15.119	2.2%	1.117		39.312	2.4%	107.796	1.8%	388.936	3.1%	168.140	4.0%
42	16.218											169.379	2.1%	1.354	
43	16.265	8.117	4.4%	64.331	5.1%	2.345	5.2%	141.976	5.2%	250.005	8.4%				
44	16.415							0.739		2.319	9.5%	7.275	3.8%		
45	16.573	1.563		8.456	3.6%	2.734	2.9%	22.115	2.7%	62.087	2.6%	122.626	3.3%	6.961	3.9%
46	16.791	0.320		1.673	7.2%			4.653	3.2%	12.979	2.9%	25.566	1.7%	0.615	
47	16.987	1.517		8.478	4.4%			24.312	1.3%	67.251	1.6%	140.411	1.1%	5.477	4.5%
48	17.102			1.141				4.209		10.199	7.1%				
49	17.197	4.325	52.	13.115	4.0%	0.706		32.783	1.5%	91.802	3.3%	257.676	2.1%	28.787	9.0%
50	17.377	1.312	4.3%	6.819	2.3%			21.208	2.0%	59.389	4.3%	85.732	1.7%	0.390	

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.2080 and decachlorobiphenyl at 27.7474.
2) Peaks chosen within window of +/- 0.01407 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.09857.

oclor C. ɔration Summary

RTx-35

bration of 6-Nov-1993 01:47 through 6-Nov-1993 21:47.
:[8080] 05,06 05NOV931846
DD: 8080_PCB:AN

JDS - H 3

000395

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
51	17.536	3.625	4.4%	20.798	2.6%			57.811	1.8%	168.984	3.6%	532.347	2.2%	85.485	2.1%
52	17.620											68.373		202.313	2.7%
53	17.835			0.470				1.046		3.194		41.701	3.7%	77.655	3.5%
54	17.908	0.121		0.732				3.490	11.7%	9.708	11.4%	25.365	2.6%		
55	17.971											12.283	2.3%	0.344	
56	18.074	2.145	4.7%	10.715	4.1%			39.759	3.3%	107.252	3.5%	352.035	2.3%		
57	18.144	1.245		9.205	3.5%			21.050	3.1%	60.648	3.7%	273.498	3.0%	458.548	3.7%
58	18.375			0.509				0.922		2.905	14.1%	45.464	2.0%	74.867	2.4%
59	18.586	0.456		4.599	5.7%			6.946	4.7%	18.009	4.5%	250.474	2.2%	544.045	3.3%
60	18.747			0.282				1.172		3.301	10.4%				
61	18.768											11.876	3.0%	2.783	8.0%
62	19.161			1.307				1.615		4.741	4.1%	76.125	1.4%	199.272	4.3%
63	19.289	1.285		8.003	5.6%			29.001	3.0%	83.226	5.3%	173.041			
64	19.335											179.150	1.8%	168.898	2.7%
65	19.431			0.894										113.693	4.3%
66	19.472							1.199		2.336	30.	34.417	1.1%		
67	19.622			0.113				0.797		1.745	22.	31.058	1.0%	18.374	
68	19.705	0.103		1.858				1.963	11.6%	6.013	8.6%	113.249	1.1%	289.486	2.7%
69	19.823	0.574		3.691	6.7%			10.302	4.0%	23.515	3.8%	415.870	2.9%	467.300	3.8%
70	20.036			2.305	7.2%			0.262		1.762		23.350	1.6%	330.951	3.1%
71	20.206	0.431		1.567	32.	0.844		1.666	49.	3.607	5.4%	45.762	1.7%	181.198	2.3%
72	20.360							0.436		0.920		18.201	2.1%	13.182	4.3%
73	20.629			0.264						0.156		2.482	8.0%	46.050	2.8%
74	21.053	0.159		2.908				3.361	5.9%	8.508	5.7%	133.540	2.8%	395.705	2.4%
75	21.306			1.147						0.849		18.654	0.9%	183.144	2.2%
76	21.370							1.629	12.3%	3.255	16.	59.136	3.0%		
77	21.385			0.600										90.496	1.9%
78	21.472			0.447						0.471		14.692	2.5%	88.001	2.2%
79	21.649			5.267	6.9%			1.045		4.604	7.9%	77.048	1.0%	824.945	4.3%
80	21.845											1.562		11.581	3.5%
81	22.324			0.175								0.617		20.486	2.3%
82	22.609											0.165		9.543	4.9%
83	22.815											13.702		238.732	2.9%
84	22.952			3.490				0.832		2.839		50.991	1.6%	449.841	4.7%
85	23.042			0.778						0.525				90.817	2.5%
86	23.479											2.195		9.760	3.5%
87	23.910	0.744		0.871		0.808	26.	0.869		0.957	22.	1.073	21.	11.975	2.2%
88	24.290	0.310		0.316		0.284		0.565		0.373		0.602		5.331	10.7%
89	24.428			0.471						0.241		1.437		62.724	2.6%
90	24.777			1.228						0.654		2.847	5.5%	156.159	3.0%
91	26.263	2.682		3.043		2.842		2.753		2.988		3.088	3.7%	46.731	2.0%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	790.5	6.9%	1910.8	3.2%	2982.9	3.9%	3236.1	2.8%	4153.5	3.7%	5492.3	2.5%	6398.1	3.5%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	8.2080	-.0102 to .0120	Passes...	9884.780	74.9 to 111.9%	** Fails *
decachlorobiphenyl	27.7474	-.0096 to .0126	Passes...	5956.835	93.9 to 118.0%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.2080 and decachlorobiphenyl at 27.7474.
2) Peaks chosen within window of +/- 0.01407 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.09857.

oclor C ɔration Summary

RTx-5

bration of 6-Nov-1993 01:47 through 6-Nov-1993 21:47.
:[8080] 05,06 05NOV931846
IOD: 8080_PCB:AN

JDS - HP_ 3

962000

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	6.389	1.632	8.3%	1.639	3.7%	1.487	11.8%	1.640	16.	1.617	7.0%	1.588	10.2%	1.733	18.
2	7.529	38.722	6.4%	21.262	6.0%	1.836		2.044	98.	1.495	98.	1.246		1.659	
3	9.759	23.826	6.4%	16.193	8.1%	7.939	5.5%	5.986	7.6%	0.319					
4	10.002									2.571	10.6%	2.606	6.0%	2.754	5.2%
5	10.056	19.974	7.3%	15.849	10.7%	11.849	7.9%	9.013	14.1%						
6	10.228	64.282	4.1%	60.968	6.0%	55.498	4.0%	42.609	6.0%	3.429		0.204		0.281	
7	11.450	14.285	4.5%	49.799	2.1%	108.214	6.4%	86.234	5.1%	46.851	2.2%	1.244		0.810	
8	11.513	8.692	10.5%	29.680	1.0%	66.862	3.9%	52.541	3.1%	21.150		0.680		0.543	
9	11.769	2.121		6.097	11.1%	12.961	3.5%	9.577	7.8%	2.279					
10	12.027	10.202	4.5%	41.021	1.5%	91.745	2.3%	72.354	2.0%	29.955	1.5%	1.035		0.995	
11	12.564	1.835	21.	7.960	7.1%	18.803	4.6%	14.502	6.0%	4.812	5.5%	0.580	97.	0.601	72.
12	12.647	1.053		4.653		11.164	7.4%	8.407	7.6%	1.679					
13	12.866	10.814	7.9%	58.518	9.2%	146.854	8.2%	112.242	9.4%	61.759	9.4%			0.629	
14	13.406	3.379	12.6%	20.188	9.0%	49.354	7.1%	38.116	7.8%	18.204	9.4%	0.177		0.139	
15	13.549	1.859	7.0%	9.732	3.2%	25.440	5.9%	20.084	4.8%	24.010	1.9%	1.036		0.135	
16	13.794	0.528		3.597	6.8%	9.421	4.0%	7.391	4.3%	9.658	6.6%	0.389			
17	13.904	5.131	3.3%	29.594	2.8%	73.218	5.2%	58.714	3.9%	109.924	3.0%	87.868	4.3%	4.945	6.5%
18	14.044	4.754		26.950	7.8%	66.115	5.5%	54.138	3.5%	83.440	2.3%	26.922	7.9%		
19	14.162	2.788	6.1%	16.148	1.8%	43.667	3.4%	34.671	2.4%	50.550	1.6%	5.710			
20	14.558	4.885	3.1%	34.240	2.2%	84.696	2.1%	67.911	1.7%	119.928	2.1%	47.751	1.3%	0.773	
21	14.670	1.663		14.213	9.1%	37.006	1.2%	29.838	2.7%	43.526	3.4%	5.035	4.6%	0.218	
22	14.950	3.933	2.4%	28.613	4.7%	74.122	1.7%	61.690	2.3%	98.664	4.6%	17.562	2.9%	0.526	
23	15.208	1.055		8.931	6.6%	19.436	2.1%	17.732	3.6%	27.791	4.4%	3.820	7.2%	0.149	
24	15.683	1.793		13.532	10.3%	6.501	10.2%	31.492	8.0%	54.741	8.4%	13.869	8.1%	0.198	
25	15.794	3.705	8.5%	27.829	7.5%	10.526	5.9%	59.878	5.7%	116.800	6.7%	55.875	5.5%	0.562	
26	15.919	4.389	7.0%	31.239	5.5%	16.930	2.6%	67.859	4.0%	135.140	3.6%	156.044	3.9%	61.487	4.6%
27	16.124	0.859		3.454	7.9%	2.488	6.6%	7.966	2.6%	19.670	2.7%	27.167	2.7%		
28	16.454	2.604		21.829	7.0%	1.102		47.784	6.5%	86.102	8.6%	44.711	0.7%	9.931	5.1%
29	16.626	1.879		9.698	2.9%			24.337	2.4%	65.078	1.1%	197.862	2.6%	75.014	4.1%
30	17.006			0.160				0.924		2.573		4.002	14.7%		
31	17.153	0.125		0.672				2.161	9.3%	6.340	10.9%	11.955	4.6%	0.196	
32	17.322	0.596		3.345	7.4%			9.881	3.7%	28.279	3.4%	60.954	1.4%	2.175	6.1%
33	17.481	0.865		4.941	6.8%			14.353	3.6%	40.901	3.6%	114.771	2.8%	11.883	2.9%
34	17.624	0.510		2.853	12.0%			9.147	5.4%	25.758	4.9%	38.268	2.5%		
35	17.710											21.523	3.6%	37.037	5.3%
36	17.795	1.345	6.5%	7.953	6.5%			22.776	3.3%	68.675	3.4%	223.123	2.6%	36.578	2.3%
37	18.165	0.409		3.135	6.2%			7.423	5.9%	21.731	4.3%	48.995	0.8%	90.604	3.5%
38	18.311			0.489								29.346	2.9%	51.193	3.8%
39	18.450			0.353				1.411		4.357	15.	13.382	10.4%		
40	18.547	0.176		1.953	10.6%			1.983		8.092		101.844	3.4%	206.463	5.3%
41	18.617	0.653		4.003	12.2%			14.614	7.9%	40.336	5.2%	139.871	6.4%		
42	18.894			0.098				0.126		1.281		15.337	9.9%	13.464	3.9%

Notes:

1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 9.1307 and decachlorobiphenyl at 28.7337.
2) Peaks chosen within window of +/- 0.01407 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.06543.

oclor C ɔration Summary

RTx-5

bration of 6-Nov-1993 01:47 through 6-Nov-1993 21:47.
:[8080] 05,06 05NOV931846
OD: 8080_PCB:AN

JDS - H

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
43	19.111			0.256				0.523		1.845		21.977	5.1%	34.103	3.1%
44	19.300	0.173		1.882	7.0%			2.290	7.1%	6.216	7.3%	107.553	2.2%	236.735	3.9%
45	19.408											77.094		83.560	3.1%
46	19.466	0.398		2.782	12.4%			10.036	9.2%	29.941	7.4%	58.018			
47	19.701			0.564				0.765		2.654		35.266	3.3%	97.195	13.6%
48	19.772			0.432										61.159	3.6%
49	19.929							0.587		1.319		14.891	6.7%		
50	20.004			0.151				0.366		1.166		16.847	5.9%	26.601	3.8%
51	20.178	0.233		1.927	5.5%			4.381	5.0%	10.440	4.5%	186.014	3.6%	245.683	3.3%
52	20.435			0.264				0.385		1.197		17.116	5.5%	34.321	3.1%
53	20.605													7.397	7.9%
54	20.692			1.065						0.675		11.362	5.5%	153.490	4.3%
55	20.850			0.714				0.108		0.504		9.213	2.9%	80.080	3.8%
56	21.047			0.297				1.384		3.164	10.8%	51.074	3.6%	21.627	4.9%
57	21.189			0.140								2.216		22.324	3.0%
58	21.425			0.985				0.099		0.702		13.732	3.0%	152.216	2.5%
59	21.600			0.516						0.394		8.709	4.6%	84.913	3.2%
60	21.741			0.268										46.773	2.0%
61	21.774							0.644		1.250		23.958	5.9%		
62	21.945			0.074				0.137		0.333		5.735	8.9%	13.719	3.1%
63	22.065			0.130						0.124		3.291	9.7%	26.125	2.6%
64	22.168			0.117		4.179		0.367		0.315		0.717		3.596	8.6%
65	22.269			2.136	9.4%			0.208		1.530		28.668	3.0%	336.506	2.7%
66	22.665							2.370				0.461		10.062	7.2%
67	23.194			0.906				0.196		0.812		21.553	3.8%	145.849	3.3%
68	23.349													6.340	14.1%
69	23.455			0.538						0.302		1.241		72.342	3.8%
70	23.635			0.569						0.326		1.696		78.607	2.4%
71	24.139											0.857		3.864	3.6%
72	24.713			0.446								0.709		28.876	5.9%
73	25.465	0.562		1.153	64.	0.622		0.578		0.834		1.783	33.	65.692	5.8%
74	25.698													3.997	2.7%
75	27.138	1.310		1.521		1.595		1.345		1.439		1.547		21.644	5.9%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	250.0	5.4%	663.2	5.7%	1061.6	4.8%	1158.3	5.0%	1556.9	4.9%	2247.7	4.8%	2819.1	4.1%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	9.1307	-.0174 to .0093	Passes...	3751.073	79.6 to 111.5%	** Fails *
decachlorobiphenyl	28.7337	-.0270 to .0130	Passes...	2642.555	92.0 to 120.2%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 9.1307 and decachlorobiphenyl at 28.7337.
2) Peaks chosen within window of +/- 0.01407 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.06543.

CH051105.XLS

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 06-NOV-93 01:47 to 06-NOV-93 21:47

File: 05, 06 05NOV931846

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	52.8	99.4	206	405	787	
Cal Fact	1.056	0.994	1.030	1.013	0.984	2.8
% Diff	-6	1	-3	-1	2	
Aroclor 1221	55.1	106	210	395	784	
Cal Fact	1.102	1.060	1.050	0.988	0.980	5.0
% Diff	-10	-6	-5	1	2	
:lor 1232	49.1	97.6	167	398	776	
Cal Fact	0.982	0.976	0.835	0.995	0.970	6.9
% Diff	2	2	17	1	3	
Aroclor 1242	46.3	91.0	204	396	802	
Cal Fact	0.926	0.910	1.020	0.990	1.003	5.0
% Diff	7	9	-2	1	0	
Aroclor 1248	46.1	90.4	195	398	813	
Cal Fact	0.922	0.904	0.975	0.995	1.016	5.0
% Diff	8	10	3	1	-2	
Aroclor 1254	50.4	100	197	402	800	
Cal Fact	1.008	1.000	0.985	1.005	1.000	0.9
% Diff	-1	0	2	-1	0	
Aroclor 1260	51.7	92.5	200	402	803	
Cal Fact	1.034	0.925	1.000	1.005	1.004	4.1
% Diff	-3	8	0	-1	0	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

000194

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 11/06/93 - 0147 - to
11/06/93 - 2147 -

Check Standard File: 05,06 08NOV931633,02 -
Date: 11/08/93 -
Time: 1714 -

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1248 -	200 -	170 -	15.0 -

Check Standard File: 05,06 08NOV931633,03 -
Date: 11/08/93 -
Time: 1749 -

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016 -	200 -	178 -	11.0 -

Check Standard File: 05,06 08NOV931633,13 -
Date: 11/08/93 -
Time: 2343 -

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248 -	200 -	177 -	11.5 -

Check Standard File: 05,06 08NOV931633,14 -
Date: 11/09/93 -
Time: 0018 -

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242 -	200 -	178 -	11.0 -

Check Standard File: 05,06 10NOV931644,02 -
Date: 11/10/93 -
Time: 1723 -

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248 -	200 -	171 -	14.5 -

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 11/06/93 0147 to
11/06/93 2147

Check Standard File: 05,06 10NOV931644,03
Date: 11/10/93
Time: 1759

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	172	14.0

Check Standard File: 05,06 10NOV931644,15
Date: 11/11/93
Time: 0101

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	186	7.0

Check Standard File: 05,06 10NOV931644,16
Date: 11/11/93
Time: 0136

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	186	7.0

Check Standard File: 05,06 15NOV931819,02
Date: 11/15/93
Time: 1900

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	174	13.0

Check Standard File: 05,06 15NOV931819,03
Date: 11/15/93
Time: 1935

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1260	200	170	15.0

000198

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 11/06/93 0147 to
11/06/93 2147

Check Standard File: 05,06 15NOV931819,15
Date: 11/16/93
Time: 0238

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	172	14.0

Check Standard File: 05,06 15NOV931819,16
Date: 11/16/93
Time: 0314

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	183	8.5

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

000199

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000003

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWP-2	10-17	14:20		✓	A66521	3	2	1					
SWP-1	10-17	14:45		✓	A66522	3	2	1					
SWP-2	10-17	17:20		✓	A66523	3	2	1					
SWP-1	10-17	17:45		✓	A66524	3	2	1					
—	10-17				Temp Blank							1	Cooler # 249

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	10-18-93	17:15					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**
Relinquished by: (Signature)	**DATE**	**TIME**	**Received for Laboratory by: (Signature)**	**DATE**	**TIME**	**Remarks:**	
			Sheila M Wimbrop	10/19/93	1000	4°C	

7/12/93
1393788HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000004

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				Temp	REMARKS
✓ SWP-2	10-18	9:25		✓	A66525	3	2	1					Disposed of these per R. Difiore telcon.
✓ SWP-1	10-18	10:10		✓	A66526	3	2	1					Disposed of these per R. Difiore telcon JCB 10/[illegible]
✓ SWP-2	10-18	14:15		✓	A66527	3	2	1					
✓ SWP-1	10-18	14:55		✓	A66528	3	2	1					
—	10-18				Temp Blank	1						1	Cooler # 261

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	10-18-93	17:15					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature) [signature]	DATE 10/19/93	TIME 1000	Remarks: 5°C	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

000005

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature) John T. Peters / Brian L. Lowe

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWP-2	10-18	18:10		✓	A66529	3	2	1					Disposed of this per R. Difiore 10/20/93
SWP-1	10-18	18:35		✓	A66530	3	2	1					Disposed of this per R. Difiore 10/20/93
SWP-2	10-19	11:45		✓	A66531	3	2	1					
SWP-1	10-19	12:40		✓	A66532	3	2	1					
	10-18				TEMP BLANK	1						1	Cooler #151
	10-19				TEMP BLANK	1						1	

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
John T. Peters	10-19-93	16:20					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
			Pat Poundstone	10/20/93	1000	Temp = 10°C

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

900000

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River/Portage Creek
SAMPLERS: (Signature) John J. Peterson, Brian D. Lord

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				TEMP	REMARKS
SWP-2	10-19	17:20		✓	A66533	7	6	1					Do MS/MSD on PCB's
SWP-1	10-19	17:45		✓	A66534	3	2	1					
—	—	—		✓	A66535	3	2	1					
—	10-19	—			Temp Blank	1						1	Cooler #77

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
John J. Peterson	10-20-93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
			Pat Poundstone	10/21/93	1000	temp blank = 0°C	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000007

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature) [illegible], Brian R. [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWP-2	10-20	14:00		✓	A66538	3	2	1					
SWP-1	10-20	14:30		✓	A66539	3	2	1					
SWP-2	10-21	11:10		✓	A66540	3	2	1					
SWP-1	10-21	11:40		✓	A66541	3	2	1					
—	10-20	—			Temp Blank	1						1	Cooler #224
—	10-21	—			Temp Blank	1						1	

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[illegible]	10-21-93	14:00					

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
			Pat Poundstone	10/22/93	1000	Temp blanks = 1°C & 0°C

7/12/93
1363786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

AIRBILL
PACKAGE TRACKING NUMBER 7296618906

QUESTIONS? CALL 800-238-5355 TOLL FREE

7296618906

RECIPIENT'S COPY

Date

Your Phone Number (Very Important)

To (Recipient's Name) Please Print

Recipient's Phone Number (Very Important)

Department/Floor No.

Company

Department/Floor No.

Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

SOUTH PARK DRIVE

ZIP Required

City

State

ZIP Required

IF HOLD FOR PICK-UP, Print FEDEX Address Here

Street Address

City

State

ZIP Required

SERVICES (Check only one box)

DELIVERY AND SPECIAL HANDLING (Check services required)

Emp. No.

Date

Federal Express Use

Cash Received

Return Shipment

Third Party

Chg. To Del.

Chg. To Hold

Base Charges

Declared Value Charge

Street Address

City

State

Zip

Other 1

Other 2

Total Charges

Received By

Date/Time Received

FedEx Employee Number

10/19/93 1000

001240

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155

165

Freight Service

Government Overnight

Standard Overnight

Priority Overnight

OTHER PACKAGING

FEDEX LETTER

FEDEX PAK

FEDEX BOX

FEDEX TUBE

ECONOMY

OTHER SPECIAL SERVICE

SATURDAY PICK-UP

HOLIDAY DELIVERY

Release Signature:

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7296618910

7296618910

3098K

Date 10-19-93

RECIPIENT'S COPY

Di
Dis

1 From (Your Name) Please Print: OHN T. PETERSON

Your Phone Number (Very Important): (313)973-8300

Department/Floor No.

Company: LIMNO-TECH INC.

Street Address: 3639 HURON PKWY

City: ANN ARBOR State: MI ZIP Required: 48104

2 To (Recipient's Name) Please Print: ATTN: POLLY MALIK

Recipient's Phone Number (Very Important): (802)655-1203

Department/Floor No.

Company: AQUATEC INC

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 55 SOUTH PARK DRIVE

City: COLCHESTER State: VT ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): KERIVS

3 PAYMENT: 1 Sender 2 Bill Recipient's FedEx Acct. No. 3 Bill 3rd Party FedEx Acct. No. 4 Bill Other Carrier 5 Cash/Check

4 IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address: SHIPMENT APPLY HERE MPS COP

City: State: ZIP Required:

5 SERVICES (Check only one box)

Priority Overnight: 11 [✓] OTHER PACKAGING; 16 FEDEX LETTER; 12 FEDEX PAK; 13 FEDEX BOX; 14 FEDEX TUBE

Standard Overnight: 51 OTHER PACKAGING; 56 FEDEX LETTER; 52 FEDEX PAK; 53 FEDEX BOX; 54 FEDEX TUBE

Economy Two-Day: 30 ECONOMY

Government Overnight: 46 GOVT LETTER; 41 GOVT PACKAGE

Freight Service: 70 OVERNIGHT FREIGHT; 80 TWO-DAY FREIGHT

6 DELIVERY AND SPECIAL HANDLING (Check services required)

1 HOLD FOR PICK-UP (Fill in Box 4)
2 [✓] DELIVER WEEKDAY
3 DELIVER SATURDAY
4 DANGEROUS GOODS
5
6 DRY ICE
7 OTHER SPECIAL SERVICE
8 Saturday Delivery
9 SATURDAY PICK-UP
12 HOLIDAY DELIVERY

Total 1.92 Total 1.00

L x W x H

2 On-Call Stop

7 Release Signature:

Date

Federal Express Use: Base Charges; Declared Value Charge; Other 1; Other 2; Total Charges

Street Address

City State Zip

Received By: X Paul Boundstone

Date/Time Received: 10/20/93 Employee Number: 4000

GIF 001241

REVISION DATE 9/92 PART #137204 FXEM 3/93 FORMAT #155

155

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7296618895

3098M 7296618895

RECIPIENT'S COPY

Date 10-20-92

(Your Name) Please Print: JOHN T. PETERSON
Your Phone Number (Very Important): (313) 973-8300
Company: LIMNO-TECH INC
Department/Floor No.:
Street Address: 2395 HURON PKWY
City: ANN ARBOR State: MI ZIP Required: 48104

To (Recipient's Name) Please Print: ATTN: POLLY MALIK
Recipient's Phone Number (Very Important): (802) 655-7803
Company: AQUATEC INC
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): 55 SOUTHPARK DRIVE
City: COLCHESTER State: VT ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice): KZRIV

PAYMENT 1 [✓] Bill Sender 2 [ ] Bill Recipient FedEx REG. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address: SHIPMENT ARRIVES HERE City: State: ZIP Required: MPS COP

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning*)
- 11 [✓] OTHER PACKAGING
- 16 [ ] FEDEX LETTER
- 12 [ ] FEDEX PAK
- 13 [ ] FEDEX BOX
- 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon, No Saturday delivery)
- 51 [ ] OTHER PACKAGING
- 56 [ ] FEDEX LETTER
- 52 [ ] FEDEX PAK
- 53 [ ] FEDEX BOX
- 54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day)
- 30 [ ] ECONOMY

Government Overnight (Available for authorized users only)
- 46 [ ] GOVT LETTER
- 41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
- 70 [ ] OVERNIGHT FREIGHT**
- 80 [ ] TWO-DAY FREIGHT**

*Overnight may be some areas. **Declared Value Limit $500. Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)
- 1 [ ] HOLD FOR PICK-UP (Fill in Box H)
- 2 [✓] DELIVER WEEKDAY
- 3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
- 4 [ ] DANGEROUS GOODS (Extra charge)
- 5 [ ]
- 6 [ ] DRY ICE (Dangerous Goods Shipper's Declaration not required)
- 7 [ ] OTHER SPECIAL SERVICE
- 8 [ ]
- 9 [ ] SATURDAY PICK-UP (Extra charge)
- 10 [ ]
- 12 [ ] HOLIDAY DELIVERY (Extra charge)

6

Packages	Weight (lb. or Kilos)	Your Declared Value
1	76	$100.00
1	95	100.00
1	82	100.00
Total 3	Total 253	Total 300.00

DIM SHIPMENT (Charge for the Weight)

L x W x H

1 [ ] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] Station

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: XARIU RODRIGUEZ
Date/Time Received: 10/21/93 1000 FedEx Employee Number: 001242

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92 PART #137204 FXEM 3/93 FORMAT #155

155

© 1992-93 FEDEX PRINTED IN U.S.A.

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE

AIRBILL
PACKAGE
TRACKING NUMBER 7296618862

3098M 7296618862

RECIPIENT'S COPY

Date 10-21-93

From (Your Name) Please Print: JOHN PETERSON

Your Phone Number (Very important): (313)973-8201

Company: ENG-TECH INC

Department/Floor No.

Street Address: 23993 HURON RIVER PKWY

City: ANN ARBOR State: MI ZIP Required: 48105

To (Recipient's Name) Please Print: ATTN: ROY MAUK

Recipient's Phone Number (Very important): (802)655-1203

Company: VERMONT ENG

Department/Floor No.

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): 55 SOUTH PARK DRIVE

City: COLCHESTER State: VT ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice): K2103

PAYMENT: 1 Bill Sender 2 Bill Recipient 3 Bill 3rd Party FedEx Acct No. 4 Bill Credit Card Cash/Check

If HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address / City / State HI ZIP Required

SERVICES (Check only one box): Priority Overnight, Standard Overnight, OTHER PACKAGING, FEDEX LETTER, FEDEX PAK, FEDEX TUBE, Economy Two-Day, Standard Overnight, GOVT LETTER, GOVT PACKAGE, Freight Services, OVERNIGHT FREIGHT, TWO-DAY FREIGHT

DELIVERY AND SPECIAL HANDLING (Check services required): HOLD FOR PICK-UP, DELIVER WEEKDAY, DELIVER SATURDAY, DANGEROUS GOODS, DRY ICE, OTHER SPECIAL SERVICE, SATURDAY PICK-UP, HOLIDAY DELIVERY

Total 94.00

L W H

Drop Box, B.S.C., On-Call Pickup

Emp. No. Date

Cash Received, Return Shipment, Third Party, Chg. To Del., Chg. To Hold

Street Address, City, State, Zip

Received By: Oxford Foundstone

Date/Time Received: 10/22/93 1000 FedEx Employee Number

Release Signature

For Federal Express Use: Base Charges, Declared Value Charge, Other 1, Other 2, Total Charges

REVISION DATE 11/92 PART #132204 FXEN 4/93 FORMAT #155

155

0012

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Sheila M. Wynkoop Log-in Date: 10/19/93

Received By (Signature): Sheila M Wynkoop

Case Number: PCB

Sample Delivery Group No: 40199

ETR Number: 40199

REMARKS:

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos.: N/A
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 7296618906
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? See # Yes/No*
10. Date Received at Lab: 10/19/93
11. Time Received: 1000

	CORRESPONDING		
CLIENT SAMPLE #	SAMPLE TAG #	ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66521	N/A	201530	All samples
A66522		201531	were intact
A66523		201532	inside coolers
A66524		201533	with ice. coolers
A66525		201534	were intact as
A66526		201535	were custody
A66527		201536	seals on the
A66528		201537	outsides of
			coolers. C-of-C
			was present.
discrepancies:			
(1) C-of-C shows		"10-17"	Temperature
or "10-18" as a		date for	Blank Temper-
sample; samples		show	atures were
"10-17-93" or "10-18-93"			5°C & 4°C
as a date.			
(2) All samples were "order" checked			
off as a matrix on labels; C-of-C			
does not show a matrix for			
samples.			

Sample Transfer

Fraction: all

Area #: Level 4

By: SMW

On: 10/19/93

Pertelson from P. Difiore 10/20/93, dispose of A66525 & 26.

JLB

SMW 10/19/

* Contact Project Director.

Reviewed by: Logbook No:

Date: Logbook Page No:

001244

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Pat Poundstone Log-in Date: 10/20/93

Received By (Signature): Pat Poundstone

Case Number: PCB

Sample Delivery Group No: 40199

ETR Number: 40217

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66531	no tag	201629	Samples were
A66532	no tag	201630	received intact
			inside a cooler
			packed with ice.
			a chain-of-
			custody record
			was included
			with the samples.
			Cooler was intact
			as were custody
			seals on outside
			of the cooler.
			Temperature of
			cooler temp.
			blank = 10°C.
			PKP
			10/20/93

REMARKS:

1. Custody Seal(s): (Present)/~~Absent~~* (Intact)/~~Broken~~
2. Custody Seal Nos.: No #5
3. Chain-of-Custody Records: (Present)/~~Absent~~*
4. Sample Information Sheets: ~~Present~~/(Absent*)
5. Airbill: (Airbill)/~~Sticker~~ (Present)/~~Absent~~*
6. Airbill No.: 7296618910
7. Sample Tags: ~~Present~~/(Absent*)
   Sample Tag Numbers: ~~Listed~~/(Not Listed on Chain-of-Custody)
8. Sample Condition: (Intact)/~~Broken~~*/~~Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? (Yes)/~~No~~*
10. Date Received at Lab: 10/20/93
11. Time Received: 1000

Sample Transfer

Fraction: all

Area #: Cal 4 fridge

By: PKP

On: 10/20/93

* Contact Project Director.

Reviewed by: JNG

Date: 11/9/93

Logbook No:

Logbook Page No:

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Pat Poundstone Log-in Date: 10/21/93

Received By (Signature): Pat Poundstone

Case Number: PCB

Sample Delivery Group No: 40199

ETR Number: 40272

REMARKS:

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos.: No #s
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 7296618895
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No*
10. Date Received at Lab: 10/21/93
11. Time Received: 1000

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66533	no tag	201786	Samples were
A66534		201787	received intact
A66535		201788	inside a cooler
MSB		201794	packed with ice.
			A chain-of-
			custody record
			was included
			with the samples.
			Cooler was intact
			as were custody
			seals on outside
			of cooler. Temp.
			of cooler temp-
			erature blank
			was 0°C.

Sample Transfer

Fraction: all

Area #: Lvl 4 fridge

By: PKP

On: 10/21/93

PKP 10/21/93

* Contact Project Director.

Reviewed by: Logbook No:

Date: Logbook Page No:

001246

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page ___ of ___

Received By (Print Name): Pat Poundstone Log-in Date: 10/22/93

Received By (Signature): Pat Poundstone

Case Number: PCB

Sample Delivery Group No: 40199

ETR Number: 40296

REMARKS:

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos.: No #s
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 7296618862
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample tags, information sheets, and sample tags agree? Yes/No* see #
10. Date Received at Lab: 10/22/93
11. Time Received: 1000

Sample Transfer

Fraction: all

Area #: L-14 fridge

By: PKP

On: 10/22/93

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66538	no tag	201899	Samples were
A66539		201900	received intact
A66540		201901	inside a cooler
A66541		201902	packed with ice.
			A chain-of-
			custody record
			was included
			with the samples.
			Cooler was intact
			as were custody
			seals on the
			outside of the
			cooler. Two cooler
			temp. blanks
			were included
			with the samples
			and their temps.
			were 1°C and 0°C.
			PKP 10/21/93
*Collection date written on all labels for			
sample A66540 and A66541 is 10-20-93.			
Chain-of-custody has			a collection
date of 10-21 for both			of those samples.
			PKP 10/21/93

* Contact Project Director.

Reviewed by: ___ Logbook No: ___

Date: ___ Logbook Page No: ___

001247

METHOD: 8080_PCB:EXW **MATRIX:** WATER Case: PCB SDG: 40199 **LEVEL:** LOW **BATCH ID:** 2KM

CLIENT(s): B/A002 40199
CASE: PCB
SDG: 40199
DATE: 10/22/93
ANALYST: JEH
SPIKED BY: JEH
WITNESSED BY: KWB

Lab sample id STR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# G21012130	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot#	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# G23270	5. Hex exchange Hexane lot# G21264	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# F42821	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 9263050	10.# Conc to 1.0ml
PBLK1H	PBLK1H	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
201530	A66521	989	✓	✓		✓	✓	✓	✓	✓	✓	✓
201531	A66522	999	✓	✓		✓	✓	✓	✓	✓	✓	✓
201532	A66523	996	✓	✓		✓	✓	✓	✓	✓	✓	✓
201533	A66524	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
201536	A66527	1005	✓	✓		✓	✓	✓	✓	✓	✓	✓
201537	A66528	1003	✓	✓		✓	✓	✓	✓	✓	✓	✓

JEH
KWB

JEH 10/25/93

JEH 10/25/93

001232

Aquatec, Inc. – Extraction worksheet – printed by: JEH on 10-22-93 13:06:59

M...HOD:8080_PCB:EXW MATRIX: WATER LEVEL: LOW B...CH ID: 2KR

CLIENT(s): BIABO2 40217/40261/40263

CASE: PCB

SDG: 40199/40261/40263

DATE: 10/25/93

ANALYST: JEH

SPIKED BY: JEH

WITNESSED BY: MTP

Case: PCB
SDG: 40199

Lab sample id[RTR]	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE1012936	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot#	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# G2825C	5. Hex exchange Hexane lot# G21266	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# F82121	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 226305D	10.# Conc to 1.0ml
PBLK2H	PBLK2H	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
201629	A66531	1004	✓	✓		✓	✓	✓	✓	✓	✓	✓
201630	A66532	999	✓	✓		✓	✓	✓	✓	✓	✓	✓
201752	A63006	1004	✓	✓		✓	✓	✓	✓	✓	✓	✓
201770	H97600	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓

JEH 10/25/93

JEH 10/25/93

001233

Aquatec, Inc. -- Extraction worksheet -- printed by: JEH on 10-25-93 10:27:52

METHC .080_PCB:EXW MATRIX: WATER LEVEL: LOW I CH ID: 2LC

CLIENT(s): ~~BH~~ 40272/40296

CASE: PCB

SDG: 40199 SITE Kalamazoo

DATE: 10/26/93

ANALYST: BDH

SPIKED BY: BDH

WITNESSED BY: MTP

case: PCB
SDG: 40199

		Sample Volume (1000ml)	1. pH between 5 and 9	2. 100 ul 0.2 ppm TCX/DCB surr. Surr lot# 12150	3. 100 ul 6.0 ppm AR1242/1254 matrix Mix lot# 6794527	4. Extract 3x with 60 ml CH_2Cl_2 CH_2Cl_2 lot# 6712290	5. Hex exchange Hexane lot# 6212466	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H_2SO_4 Lot#	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot#	10. Conc to 1.0ml
~~186247~~	~~PBLK5E~~	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
201786	A6653 3	1003	✓	✓		✓	✓	✓	✓	✓	✓	✓
201786MS	A6653 3MS	1004	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
201786MD	A6653 3MSD	997	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
201787	A6653 4	1005	✓	✓		✓	✓	✓	✓	✓	✓	✓
201788	A6653 5	1004	✓	✓		✓	✓	✓	✓	✓	✓	✓
201794	MSB	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
201899	A6653 8	1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
201900	A6653 9	1004	✓	✓		✓	✓	✓	✓	✓	✓	✓
201901	A6654 0	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
201902	A6654 1	989	✓	✓		✓	✓	✓	✓	✓	✓	✓

BDH

10/27/93

BDH 10/26/93

001234

F-0169A

000408

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

Number: 40199

Case No.: PCB

ject Number: 91082

SDG Number: 40199

mo: Samples 201530-7 placed in fridge on 10/19/93 by SMW at 1900

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
201530-37	PHN	10/25/93 0950	TSS	10/25/93

F-0169A

000009

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

Number: 40296

Case No.: PCB

ject Number: 91082

SDG Number: 40199

: Samples 201899 - 201902 placed in fridge on 10/22/93 @ 1200 hrs. PKP

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
01899 - 902	PKP	10/25/93 0950	TSS	10/25/93

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

Number: 40272

Case No.: PCB

ject Number: 91082

SDG Number: 40199

000010

o: Samples 201786 - 788 placed in fridge on 10/21/93 @ 1400 hrs.
PKP

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
[redacted]				
201786-788	PNP	10/25/93 0950	TSS	10/25/93

F-0149A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

R Number: 40199

oject Number: 91082

Case No.: PCB

SDG Number: 40199

00001

mo: Samples 20,530-7 placed in fridge on 10/19/93 by SMW at 1900

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
26,530,31,32,33,34,37	JCH	10/22/93 1300	Extraction	10/22/93 1330

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

Number: 40272

ject Number: 91082

Case No.: PCB

SDG Number: 40199

000012

o: Samples 201786 - 788 placed in fridge on 10/21/93 @ 1400 hrs.
PKP

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
1786,87,8894	BDH	10/26/93 010:0	Extraction	10/26/93 010:30

F-0169A

000013

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

Number: 40296

Case No.: PCB

ject Number: 91082

SDG Number: 40199

o: Samples 201899 - 201902 placed in fridge on 10/22/93 @ 1200 hrs. PKP

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
01899, 900, 901, 902	BDH	10/20/93 10:00	Rx Metals	10/22/93 10:30

Sample Management — Aquatec, Inc.

ETR: 40199	Date: 10/25/93

Laboratory I.D.	Fraction/Analysis
FBLK1H	
201530	
201531	
~~201532~~	
201533	
201536	
~~201537~~	

JEA
10/25/93

Relinquished by GMD by JEA Time: 10/25/93

Transported by B&D

Received by _____ by _____ Time: _____

Sample Management Aquatec, Inc.

ETR: 40217/40261/40263	Date: 10/20/93.

Laboratory ID.	Fraction/Analysis
PBWC2A	
201629	
201680	
201762	
201770	
	JEH 10/20/93

Relinquished by GMD by JEH Time: 1354

Transported by BED

Received by CP by FED Time: 1520

Sample Management

Aquatec, Inc.

ETR: 40272

Date: 10/27/93

Laboratory ID.	Fraction/Analysis
201786	(PBLK) 311
201786 ms	
201786 msD	
~~201787~~	
201788	
201794 msB	

Relinquished @ _____ by _____ Time: _____

Transported by _____

Received @ _____ by _____ Time: _____

000016

Sample Management

Aquatec, Inc.

ETR: 40296

Date: 10/27/93

Laboratory I.D.	Fraction/Analysis
PBLKBH	
701899	
701906	
~~701901~~	
701902	

Relinquished @ _____ by _____ Time: _____

Transported by _____

Received @ _____ by _____ Time: _____

000017

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

December 7, 1993

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. OLM; SDG No. 40278

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on October 21, 1993. These samples were analyzed in accordance with methodologies specified in the OLM01 and ILM02 Statement of Works. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on October 21, 1993 ETR No. 40278		
A66536	201814	Water
A66537	201815	Water
HB	201841	Water

Peak height was used for quantitation of all analytes and standards on both analytical columns.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

KRC/jg

Enclosure

91082B28OCT93

000001

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLKR3	93	93	93		0
02	A66536	91	92	89		0
03	A66537	93	94	91		0
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKR3

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Lab File ID: MBGB001HV.D Lab Sample ID: VBLKR3

Date Analyzed: 10/28/93 Time Analyzed: 1530

GC Column:CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: M

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	A66536	201814	M201814V.D	2129
02	A66537	201815	M201815V.D	2209
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKR3

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Matrix: (soil/water) WATER Lab Sample ID: VBLKR3

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: MBGB001HV.D

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

% Moisture: not dec. _____ Data Analyzed: 10/28/93

GC Column:CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKR3

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Matrix: (soil/water) WATER Lab Sample ID: VBLKR3

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: MBGB001HV.D

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

% Moisture: not dec. _____ Data Analyzed: 10/28/93

GC Column:CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: M Calibration Date(s): 10/21/93

Heated Purge: (Y/N) N Calibration Times: 1127 1407

GC Column:CAP ID: 0.53 (mm)

LAB FILE ID: RRF10 =MBG010HV.D RRF20 =MBG020HV.D
RRF50 =MBG050HV.D RRF100=MBG100HV.D RRF200=MBG200HV.D

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	$\overline{RRF}$	% RSD
Chloromethane	1.175	1.207	1.148	1.119	1.075	1.145	4.4
* Bromomethane	1.319	1.318	1.281	1.265	1.211	1.279	3.5*
* Vinyl Chloride	1.221	1.268	1.220	1.188	1.133	1.206	4.1*
Chloroethane	0.855	0.852	0.822	0.826	0.788	0.829	3.3
Methylene Chloride	1.403	1.376	1.331	1.328	1.289	1.345	3.3
Acetone	0.282	0.327	0.299	0.254	0.234	0.279	13.0
Carbon Disulfide	3.920	3.999	4.009	4.032	3.948	3.981	1.2
* 1,1-Dichloroethene	1.267	1.259	1.229	1.209	1.185	1.230	2.8*
* 1,1-Dichloroethane	2.497	2.491	2.410	2.411	2.328	2.427	2.8*
1,2-Dichloroethene (total)	1.396	1.368	1.342	1.335	1.296	1.347	2.8
* Chloroform	2.506	2.512	2.459	2.462	2.402	2.468	1.8*
* 1,2-Dichloroethane	1.202	1.153	1.123	1.099	1.038	1.123	5.5*
2-Butanone	0.497	0.568	0.544	0.461	0.441	0.502	10.7
* 1,1,1-Trichloroethane	0.478	0.475	0.468	0.468	0.463	0.470	1.2*
* Carbon Tetrachloride	0.508	0.510	0.509	0.504	0.507	0.508	0.5*
* Bromodichloromethane	0.622	0.622	0.631	0.632	0.626	0.626	0.8*
1,2-Dichloropropane	0.436	0.431	0.423	0.418	0.410	0.424	2.4
* cis-1,3-Dichloropropene	0.555	0.550	0.548	0.547	0.545	0.549	0.7*
* Trichloroethene	0.474	0.467	0.469	0.469	0.468	0.470	0.6*
* Dibromochloromethane	0.599	0.610	0.639	0.639	0.653	0.628	3.6*
* 1,1,2-Trichloroethane	0.341	0.327	0.328	0.324	0.325	0.329	2.1*
* Benzene	0.901	0.883	0.885	0.884	0.870	0.885	1.2*
* trans-1,3-Dichloropropene	0.440	0.433	0.441	0.436	0.436	0.437	0.7*
* Bromoform	0.358	0.377	0.409	0.421	0.434	0.400	7.9*
4-Methyl-2-Pentanone	0.298	0.331	0.359	0.339	0.340	0.333	6.8
2-Hexanone	0.227	0.279	0.277	0.242	0.234	0.252	9.7
* Tetrachloroethene	0.453	0.450	0.453	0.448	0.444	0.449	0.9*
* 1,1,2,2-Tetrachloroethane	0.655	0.630	0.640	0.618	0.625	0.634	2.3*
* Toluene	1.010	1.015	0.998	0.993	0.974	0.998	1.6*
* Chlorobenzene	0.911	0.900	0.905	0.905	0.900	0.904	0.5*
* Ethylbenzene	0.396	0.395	0.389	0.390	0.391	0.392	0.8*
* Styrene	0.823	0.818	0.836	0.837	0.839	0.831	1.2*
* Xylene (total)	0.482	0.477	0.477	0.476	0.471	0.476	0.8*
Toluene-d8	0.960	0.944	0.930	0.923	0.909	0.933	2.1
* Bromofluorobenzene	0.775	0.699	0.704	0.704	0.699	0.716	4.6*
1,2-Dichloroethane-d4	1.019	0.951	0.923	0.903	0.862	0.932	6.3

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: M Calibration Date: 10/28/93 Time: 1259

Lab File ID: MBG050HHV.D Init. Calibration Date(s): 10/21/93

Heated Purge: (Y/N) N Init. Calibration Times: 1127 1407

GC Column:CAP ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Chloromethane	1.145	1.113		2.8	
Bromomethane	1.279	1.245	0.100	2.7	25.0
Vinyl Chloride	1.206	1.245	0.100	-3.3	25.0
Chloroethane	0.829	0.797		3.9	
Methylene Chloride	1.345	1.294		3.8	
Acetone	0.279	0.143		48.9	
Carbon Disulfide	3.981	3.848		3.4	
1,1-Dichloroethene	1.230	1.180	0.100	4.1	25.0
1,1-Dichloroethane	2.427	2.379	0.200	2.0	25.0
1,2-Dichloroethene (total)	1.347	1.313		2.5	
Chloroform	2.468	2.412	0.200	2.3	25.0
1,2-Dichloroethane	1.123	1.121	0.100	0.2	25.0
2-Butanone	0.502	0.307		38.9	
1,1,1-Trichloroethane	0.470	0.466	0.100	1.0	25.0
Carbon Tetrachloride	0.508	0.498	0.100	1.8	25.0
Bromodichloromethane	0.626	0.630	0.200	-0.6	25.0
1,2-Dichloropropane	0.424	0.418		1.3	
cis-1,3-Dichloropropene	0.549	0.536	0.200	2.3	25.0
Trichloroethene	0.470	0.468	0.300	0.4	25.0
Dibromochloromethane	0.628	0.623	0.100	0.8	25.0
1,1,2-Trichloroethane	0.329	0.326	0.100	0.9	25.0
Benzene	0.885	0.877	0.500	0.9	25.0
trans-1,3-Dichloropropene	0.437	0.433	0.100	1.0	25.0
Bromoform	0.400	0.389	0.100	2.7	25.0
4-Methyl-2-Pentanone	0.333	0.306		8.2	
2-Hexanone	0.252	0.204		19.1	
Tetrachloroethene	0.449	0.464	0.200	-3.2	25.0
1,1,2,2-Tetrachloroethane	0.634	0.639	0.500	-0.9	25.0
Toluene	0.998	1.017	0.400	-1.9	25.0
Chlorobenzene	0.904	0.917	0.500	-1.4	25.0
Ethylbenzene	0.392	0.400	0.100	-1.9	25.0
Styrene	0.831	0.854	0.300	-2.8	25.0
Xylene (total)	0.476	0.486	0.300	-1.9	25.0
Toluene-d8	0.933	1.039		-11.4	
Bromofluorobenzene	0.716	0.779	0.200	-8.7	25.0
1,2-Dichloroethane-d4	0.932	1.015		-8.9	

All other compounds must meet a minimum RRF of 0.010.

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	SBLK4Q	78	98	110	100	91	112	106	92	0
02	A66536	92	87	98	105	94	103	97	81	0
03	A66537	89	86	100	101	89	100	94	79	0
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(35-114)	
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)	
S3 (TPH)	= Terphenyl-d14	(33-141)	
S4 (PHL)	= Phenol-d5	(10-110)	
S5 (2FP)	= 2-Fluorophenol	(21-110)	
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)	
S7 (2CP)	= 2-Chlorophenol-d4	(33-110)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(16-110)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK4Q

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Lab File ID: QB10254QS.D Lab Sample ID: SBLK4Q

Instrument ID: Q Date Extracted: 10/25/93

Matrix: (soil/water) WATER Date Analyzed: 11/01/93

Level: (low/med) LOW Time Analyzed: 1321

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	A66536	201814	Q201814S.D	11/03/93
02	A66537	201815	Q201815S.D	11/03/93
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK4Q

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Matrix: (soil/water) WATER Lab Sample ID: SBLK4Q

Sample wt/vol: 1000 (g/mL) ML Lab File ID: QB10254QS.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 10/25/93

Concentrated Extract Volume: 1000(UL) Date Analyzed: 11/01/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(-2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK4Q

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Matrix: (soil/water) WATER Lab Sample ID: SBLK4Q

Sample wt/vol: 1000 (g/mL) ML Lab File ID: QB10254QS.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:10/25/93

Concentrated Extract Volume: 1000(UL) Date Analyzed: 11/01/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK4Q

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Matrix: (soil/water) WATER Lab Sample ID: SBLK4Q

Sample wt/vol: 1000 (g/mL) ML Lab File ID: QB10254QS.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:10/25/93

Concentrated Extract Volume: 1000(uL) Date Analyzed: 11/01/93

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:_____

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	6.546	19	NJA
2.	Unknown	30.686	3	J
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: Q Calibration Date(s): 10/29/93

Calibration Times: 1109 1542

LAB FILE ID: RRF20 =QBX020BS.D RRF50 =QBW050F2BS.D
RRF80 =QBX080BS.D RRF120=QBX120BS.D RRF160=QBX160BS.D

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
Phenol *	3.115	2.984	2.639	2.423	2.341	2.700	12.6*
bis(-2-Chloroethyl)Ether *	2.559	2.411	2.135	1.959	1.858	2.184	13.6*
2-Chlorophenol *	1.414	1.323	1.287	1.274	1.238	1.307	5.1*
1,3-Dichlorobenzene *	1.652	1.529	1.503	1.476	1.457	1.524	5.0*
1,4-Dichlorobenzene *	1.770	1.606	1.580	1.569	1.547	1.614	5.6*
1,2-Dichlorobenzene *	1.574	1.464	1.455	1.460	1.431	1.477	3.8*
2-Methylphenol *	1.859	1.677	1.557	1.498	1.419	1.602	10.7*
2,2'-oxybis(1-Chloropropane)	2.785	2.471	2.157	2.071	2.007	2.298	14.2
4-Methylphenol *	1.968	1.738	1.622	1.536	1.454	1.664	12.0*
N-Nitroso-di-n-propylamine *	1.665	1.457	1.286	1.253	1.191	1.370	14.0*
Hexachloroethane *	1.296	1.137	1.123	1.056	1.013	1.125	9.6*
Nitrobenzene *	0.951	0.865	0.775	0.751	0.760	0.820	10.5*
Isophorone *	1.762	1.633	1.455	1.373	1.358	1.516	11.6*
2-Nitrophenol *	0.240	0.219	0.212	0.211	0.215	0.219	5.5*
2,4-Dimethylphenol *	0.707	0.607	0.580	0.552	0.553	0.600	10.6*
bis(2-Chloroethoxy)methane *	1.028	0.964	0.847	0.813	0.815	0.893	10.9*
2,4-Dichlorophenol *	0.442	0.407	0.405	0.412	0.419	0.417	3.6*
1,2,4-Trichlorobenzene *	0.566	0.534	0.535	0.542	0.555	0.546	2.5*
Naphthalene *	1.234	1.130	1.114	1.139	1.161	1.156	4.1*
4-Chloroaniline	0.524	0.463	0.483	0.440	0.444	0.471	7.3
Hexachlorobutadiene	0.414	0.393	0.388	0.388	0.391	0.395	2.8
4-Chloro-3-Methylphenol *	0.651	0.580	0.582	0.536	0.534	0.577	8.2*
2-Methylnaphthalene *	0.857	0.767	0.782	0.797	0.796	0.800	4.3*
Hexachlorocyclopentadiene	0.734	0.676	0.655	0.673	0.652	0.678	4.9
2,4,6-Trichlorophenol *	0.626	0.592	0.571	0.566	0.576	0.586	4.2*
2,4,5-Trichlorophenol *	0.000	0.603	0.607	0.585	0.599	0.599	1.6*
2-Chloronaphthalene *	1.499	1.368	1.325	1.332	1.339	1.373	5.3*
2-Nitroaniline	0.000	0.663	0.653	0.596	0.591	0.626	6.0
Dimethylphthalate	1.826	1.656	1.742	1.617	1.611	1.690	5.4
Acenaphthylene *	2.329	2.144	2.092	2.029	2.043	2.127	5.7*
2,6-Dinitrotoluene *	0.461	0.426	0.464	0.436	0.443	0.446	3.6*
3-Nitroaniline	0.000	0.299	0.327	0.298	0.307	0.308	4.5
Acenaphthene *	1.313	1.225	1.213	1.210	1.227	1.238	3.4*
2,4-Dinitrophenol	0.000	0.276	0.273	0.264	0.262	0.269	2.5
4-Nitrophenol	0.000	0.458	0.490	0.432	0.437	0.454	5.7
Dibenzofuran *	2.169	2.010	2.084	2.024	2.048	2.067	3.1*
2,4-Dinitrotoluene *	0.610	0.546	0.581	0.521	0.527	0.557	6.8*

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

6C
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: Q Calibration Date(s): 10/29/93

Calibration Times: 1109 1542

LAB FILE ID: RRF20 =QBX020BS.D RRF50 =QBW050F2BS.D
RRF80 =QBX080BS.D RRF120=QBX120BS.D RRF160=QBX160BS.D

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
Diethylphthalate	2.054	1.829	1.965	1.758	1.764	1.874	7.0
4-Chlorophenyl-phenylether *	1.007	0.964	1.007	0.987	0.987	0.991	1.8*
Fluorene *	1.782	1.687	1.773	1.675	1.683	1.720	3.1*
4-Nitroaniline	0.000	0.261	0.290	0.251	0.255	0.264	6.8
4,6-Dinitro-2-methylphenol	0.000	0.193	0.179	0.190	0.193	0.189	3.6
N-nitrosodiphenylamine (1)	0.566	0.524	0.539	0.568	0.571	0.553	3.8
4-Bromophenyl-phenylether *	0.307	0.282	0.276	0.287	0.288	0.288	4.0*
Hexachlorobenzene *	0.385	0.360	0.352	0.368	0.379	0.369	3.6*
Pentachlorophenol *	0.000	0.219	0.217	0.227	0.240	0.226	4.5*
Phenanthrene *	1.282	1.230	1.174	1.235	1.291	1.242	3.8*
Anthracene *	1.192	1.106	1.103	1.166	1.209	1.155	4.2*
Carbazole	0.889	0.929	0.824	0.840	0.903	0.877	5.0
Di-n-butylphthalate	1.760	1.632	1.636	1.619	1.660	1.661	3.4
Fluoranthene *	1.501	1.445	1.504	1.516	1.614	1.516	4.0*
Pyrene *	1.501	1.288	1.230	1.205	1.151	1.275	10.6*
Butylbenzylphthalate	0.768	0.652	0.614	0.572	0.550	0.631	13.6
3,3'-Dichlorobenzidine	0.215	0.143	0.207	0.209	0.220	0.199	15.8
Benzo(a)anthracene *	1.338	1.222	1.129	1.105	1.088	1.176	8.8*
Chrysene *	1.223	1.154	1.041	1.014	0.999	1.086	9.0*
bis(2-Ethylhexyl)phthalate	1.181	1.062	0.956	0.888	0.858	0.989	13.4
Di-n-octylphthalate	2.236	2.324	2.119	2.093	2.081	2.171	4.8
Benzo(b)fluoranthene *	1.588	1.661	1.532	1.588	1.771	1.628	5.6*
Benzo(k)fluoranthene *	1.686	1.729	1.632	1.590	1.491	1.626	5.6*
Benzo(a)pyrene *	1.504	1.485	1.399	1.426	1.464	1.456	3.0*
Indeno(1,2,3-cd)pyrene *	1.579	1.595	1.537	1.565	1.586	1.572	1.4*
Dibenz(a,h)anthracene *	1.297	1.354	1.316	1.347	1.372	1.337	2.3*
Benzo(g,h,i)perylene *	1.382	1.315	1.260	1.281	1.308	1.309	3.6*
Nitrobenzene-d5 *	1.051	0.981	0.872	0.811	0.805	0.904	12.0*
2-Fluorobiphenyl *	1.968	1.849	1.782	1.800	1.819	1.844	4.0*
Terphenyl-d14 *	1.087	0.948	0.909	0.879	0.841	0.933	10.2*
Phenol-d5 *	2.734	2.525	2.300	2.176	2.098	2.367	11.0*
2-Fluorophenol *	2.163	1.971	1.863	1.771	1.744	1.902	9.0*
2,4,6-Tribromophenol	0.337	0.306	0.333	0.313	0.318	0.321	4.1
2-Chlorophenol-d4 *	1.269	1.161	1.120	1.087	1.066	1.140	7.0*
1,2-Dichlorobenzene-d4 *	1.099	1.028	1.010	1.023	1.013	1.034	3.6*

(1) - Cannot be separated from Diphenylamine
* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: Q Calibration Date: 11/01/93 Time: 0842

Lab File ID: QBX050C1BS.D Init. Calibration Date(s): 10/29/93

Init. Calibration Times: 1109 1542

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.700	2.781	0.800	-3.0	25.0
bis(-2-Chloroethyl)Ether	2.184	2.268	0.700	-3.9	25.0
2-Chlorophenol	1.307	1.244	0.800	4.9	25.0
1,3-Dichlorobenzene	1.524	1.508	0.600	1.0	25.0
1,4-Dichlorobenzene	1.614	1.568	0.500	2.9	25.0
1,2-Dichlorobenzene	1.477	1.447	0.400	2.0	25.0
2-Methylphenol	1.602	1.697	0.700	-5.9	25.0
2,2'-oxybis(1-Chloropropane)	2.298	1.914		16.7	
4-Methylphenol	1.664	1.824	0.600	-9.6	25.0
N-Nitroso-di-n-propylamine	1.370	1.216	0.500	11.2	25.0
Hexachloroethane	1.125	1.166	0.300	-3.6	25.0
Nitrobenzene	0.820	0.710	0.200	13.5	25.0
Isophorone	1.516	1.505	0.400	0.7	25.0
2-Nitrophenol	0.219	0.218	0.100	0.4	25.0
2,4-Dimethylphenol	0.600	0.639	0.200	-6.6	25.0
bis(2-Chloroethoxy)methane	0.893	0.939	0.300	-5.1	25.0
2,4-Dichlorophenol	0.417	0.415	0.200	0.4	25.0
1,2,4-Trichlorobenzene	0.546	0.532	0.200	2.6	25.0
Naphthalene	1.156	1.180	0.700	-2.1	25.0
4-Chloroaniline	0.471	0.458		2.7	
Hexachlorobutadiene	0.395	0.398		-0.9	
4-Chloro-3-Methylphenol	0.577	0.622	0.200	-7.8	25.0
2-Methylnaphthalene	0.800	0.814	0.400	-1.8	25.0
Hexachlorocyclopentadiene	0.678	0.660		2.7	
2,4,6-Trichlorophenol	0.586	0.580	0.200	1.0	25.0
2,4,5-Trichlorophenol	0.599	0.583	0.200	2.6	25.0
2-Chloronaphthalene	1.373	1.392	0.800	-1.4	25.0
2-Nitroaniline	0.626	0.482		23.0	
Dimethylphthalate	1.690	1.738		-2.8	
Acenaphthylene	2.127	2.174	1.300	-2.2	25.0
2,6-Dinitrotoluene	0.446	0.442	0.200	1.0	25.0
3-Nitroaniline	0.308	0.226		26.6	
Acenaphthene	1.238	1.246	0.800	-0.7	25.0
2,4-Dinitrophenol	0.269	0.211		21.5	
4-Nitrophenol	0.454	0.429		5.6	
Dibenzofuran	2.067	1.914	0.800	7.4	25.0
2,4-Dinitrotoluene	0.557	0.549	0.200	1.4	25.0

All other compounds must meet a minimum RRF of 0.010.

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: Q Calibration Date: 11/01/93 Time: 0842

Lab File ID: QBX050C1BS.D Init. Calibration Date(s): 10/29/93

Init. Calibration Times: 1109 1542

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.874	1.835		2.1	
4-Chlorophenyl-phenylether	0.991	0.918	0.400	7.4	25.0
Fluorene	1.720	1.625	0.900	5.5	25.0
4-Nitroaniline	0.264	0.189		28.5	
4,6-Dinitro-2-methylphenol	0.189	0.172		8.6	
N-nitrosodiphenylamine (1)	0.553	0.522		5.7	
4-Bromophenyl-phenylether	0.288	0.293	0.100	-1.8	25.0
Hexachlorobenzene	0.369	0.371	0.100	-0.6	25.0
Pentachlorophenol	0.226	0.179	0.050	20.8	25.0
Phenanthrene	1.242	1.256	0.700	-1.1	25.0
Anthracene	1.155	1.183	0.700	-2.4	25.0
Carbazole	0.877	0.717		18.3	
Di-n-butylphthalate	1.661	1.652		0.6	
Fluoranthene	1.516	1.510	0.600	0.4	25.0
Pyrene	1.275	1.423	0.600	-11.6	25.0
Butylbenzylphthalate	0.631	0.689		-9.2	
3,3'-Dichlorobenzidine	0.199	0.240		-20.9	
Benzo(a)anthracene	1.176	1.286	0.800	-9.3	25.0
Chrysene	1.086	1.209	0.700	-11.2	25.0
bis(2-Ethylhexyl)phthalate	0.989	1.054		-6.5	
Di-n-octylphthalate	2.171	2.130		1.9	
Benzo(b)fluoranthene	1.628	1.631	0.700	-0.2	25.0
Benzo(k)fluoranthene	1.626	1.723	0.700	-6.0	25.0
Benzo(a)pyrene	1.456	1.504	0.700	-3.4	25.0
Indeno(1,2,3-cd)pyrene	1.572	1.423	0.500	9.5	25.0
Dibenz(a,h)anthracene	1.337	1.191	0.400	10.9	25.0
Benzo(g,h,i)perylene	1.309	1.162	0.500	11.3	25.0
Nitrobenzene-d5	0.904	0.847	0.200	6.3	25.0
2-Fluorobiphenyl	1.844	1.774	0.700	3.8	25.0
Terphenyl-d14	0.933	1.041	0.500	-11.6	25.0
Phenol-d5	2.367	2.419	0.800	-2.2	25.0
2-Fluorophenol	1.902	1.922	0.600	-1.0	25.0
2,4,6-Tribromophenol	0.321	0.307		4.4	
2-Chlorophenol-d4	1.140	1.159	0.800	-1.6	25.0
1,2-Dichlorobenzene-d4	1.034	1.029	0.400	0.6	25.0

(1) Cannot be separated from Diphenylamine
All other compounds must meet a minimum RRF of 0.010.

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: Q Calibration Date: 11/03/93 Time: 0034

Lab File ID: QBX050E1BS.D Init. Calibration Date(s): 10/29/93

Init. Calibration Times: 1109 1542

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.700	2.336	0.800	13.5	25.0
bis(-2-Chloroethyl)Ether	2.184	1.892	0.700	13.4	25.0
2-Chlorophenol	1.307	1.388	0.800	-6.2	25.0
1,3-Dichlorobenzene	1.524	1.583	0.600	-3.9	25.0
1,4-Dichlorobenzene	1.614	1.680	0.500	-4.1	25.0
1,2-Dichlorobenzene	1.477	1.506	0.400	-1.9	25.0
2-Methylphenol	1.602	1.465	0.700	8.5	25.0
2,2'-oxybis(1-Chloropropane)	2.298	1.664		27.6	
4-Methylphenol	1.664	1.574	0.600	5.4	25.0
N-Nitroso-di-n-propylamine	1.370	0.949	0.500	30.8	25.0
Hexachloroethane	1.125	1.044	0.300	7.2	25.0
Nitrobenzene	0.820	0.550	0.200	33.0	25.0
Isophorone	1.516	1.079	0.400	28.8	25.0
2-Nitrophenol	0.219	0.225	0.100	-2.4	25.0
2,4-Dimethylphenol	0.600	0.541	0.200	9.8	25.0
bis(2-Chloroethoxy)methane	0.893	0.727	0.300	18.6	25.0
2,4-Dichlorophenol	0.417	0.388	0.200	6.9	25.0
1,2,4-Trichlorobenzene	0.546	0.487	0.200	10.9	25.0
Naphthalene	1.156	1.145	0.700	0.9	25.0
4-Chloroaniline	0.471	0.454		3.5	
Hexachlorobutadiene	0.395	0.344		12.8	
4-Chloro-3-Methylphenol	0.577	0.477	0.200	17.2	25.0
2-Methylnaphthalene	0.800	0.739	0.400	7.7	25.0
Hexachlorocyclopentadiene	0.678	0.656		3.2	
2,4,6-Trichlorophenol	0.586	0.565	0.200	3.6	25.0
2,4,5-Trichlorophenol	0.599	0.578	0.200	3.5	25.0
2-Chloronaphthalene	1.373	1.402	0.800	-2.1	25.0
2-Nitroaniline	0.626	0.411		34.3	
Dimethylphthalate	1.690	1.703		-0.7	
Acenaphthylene	2.127	2.183	1.300	-2.6	25.0
2,6-Dinitrotoluene	0.446	0.420	0.200	5.9	25.0
3-Nitroaniline	0.308	0.320		-3.8	
Acenaphthene	1.238	1.241	0.800	-0.3	25.0
2,4-Dinitrophenol	0.269	0.258		4.1	
4-Nitrophenol	0.454	0.382		15.8	
Dibenzofuran	2.067	1.915	0.800	7.4	25.0
2,4-Dinitrotoluene	0.557	0.537	0.200	3.5	25.0

All other compounds must meet a minimum RRF of 0.010.

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: Q Calibration Date: 11/03/93 Time: 0034

Lab File ID: QBX050E1BS.D Init. Calibration Date(s): 10/29/93

Init. Calibration Times: 1109 1542

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.874	1.775		5.3	
4-Chlorophenyl-phenylether	0.991	0.849	0.400	14.3	25.0
Fluorene	1.720	1.549	0.900	9.9	25.0
4-Nitroaniline	0.264	0.271		-2.5	
4,6-Dinitro-2-methylphenol	0.189	0.195		-3.3	
N-nitrosodiphenylamine (1)	0.553	0.524		5.3	
4-Bromophenyl-phenylether	0.288	0.269	0.100	6.7	25.0
Hexachlorobenzene	0.369	0.346	0.100	6.1	25.0
Pentachlorophenol	0.226	0.194	0.050	14.0	25.0
Phenanthrene	1.242	1.213	0.700	2.3	25.0
Anthracene	1.155	1.146	0.700	0.8	25.0
Carbazole	0.877	0.888		-1.3	
Di-n-butylphthalate	1.661	1.640		1.3	
Fluoranthene	1.516	1.365	0.600	9.9	25.0
Pyrene	1.275	1.531	0.600	-20.1	25.0
Butylbenzylphthalate	0.631	0.754		-19.4	
3,3'-Dichlorobenzidine	0.199	0.098		50.6	
Benzo(a)anthracene	1.176	1.307	0.800	-11.1	25.0
Chrysene	1.086	1.241	0.700	-14.3	25.0
bis(2-Ethylhexyl)phthalate	0.989	1.142		-15.4	
Di-n-octylphthalate	2.171	2.582		-18.9	
Benzo(b)fluoranthene	1.628	1.749	0.700	-7.4	25.0
Benzo(k)fluoranthene	1.626	1.736	0.700	-6.8	25.0
Benzo(a)pyrene	1.456	1.512	0.700	-3.9	25.0
Indeno(1,2,3-cd)pyrene	1.572	1.612	0.500	-2.5	25.0
Dibenz(a,h)anthracene	1.337	1.376	0.400	-2.9	25.0
Benzo(g,h,i)perylene	1.309	1.346	0.500	-2.8	25.0
Nitrobenzene-d5	0.904	0.657	0.200	27.4	25.0
2-Fluorobiphenyl	1.844	1.771	0.700	4.0	25.0
Terphenyl-d14	0.933	1.079	0.500	-15.7	25.0
Phenol-d5	2.367	2.084	0.800	12.0	25.0
2-Fluorophenol	1.902	1.709	0.600	10.2	25.0
2,4,6-Tribromophenol	0.321	0.288		10.3	
2-Chlorophenol-d4	1.140	1.273	0.800	-11.6	25.0
1,2-Dichlorobenzene-d4	1.034	1.035	0.400	-0.1	25.0

(1) Cannot be separated from Diphenylamine
All other compounds must meet a minimum RRF of 0.010.

2E
WATER PESTICIDE SURROGATE RECOVERY

Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

GC Column(1): RTX-35 ID: 0.53(mm) GC Column(2): RTX-1701 ID: 0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK8J	84	85	98	99			0
02	A66536	81	82	92	96			0
03	A66537	77	82	85	88			0

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK8J

Name: AQUATEC INC Contract: 91082

ab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

ab Sample ID: 180296 Lab File ID:

atrix:(soil/water) WATER Extraction:(SepF/Cont/Sonc) SEPF

ulfur Cleanup: (Y/N) N Date Extracted: 10/25/93

ate Analyzed (1): 11/04/93 Date Analyzed (2): 11/04/93

ime Analyzed (1): 0401 Time Analyzed (2): 0401

nstrument ID (1): 1319-1 Instrument ID (2): 1319-2

C Column (1): RTX-35 ID: 0.53 (mm) GC Column (2): RTX-1701 ID: 0.53 (mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	A66536	201814	11/04/93	11/04/93
02	A66537	201815	11/04/93	11/04/93

OMMENTS:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK8J

Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Matrix: (soil/water) WATER Lab Sample ID: 180296

Sample wt/vol: 1000 (g/mL) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received:

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/25/93

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/04/93

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

6D

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: 1319-1 Level (x low): low 1.0 mid 4.0 high 16.0

GC Column: RTX-35 ID: 0.53(mm) Date(s) Analyzed: 11/03/93 11/04/93

COMPOUND	RT OF STANDARDS LOW	MID	HIGH	MEAN RT	RT WINDOW FROM	TO
alpha-BHC	9.64	9.65	9.65	9.65	9.60	9.70
beta-BHC	10.77	10.78	10.80	10.78	10.73	10.83
delta-BHC	11.66	11.66	11.68	11.67	11.62	11.72
gamma-BHC (Lindane)	10.60	10.61	10.62	10.61	10.56	10.66
Heptachlor	11.60	11.61	11.61	11.61	11.56	11.66
Aldrin	12.42	12.42	12.44	12.43	12.38	12.48
Heptachlor epoxide	13.71	13.72	13.73	13.72	13.65	13.79
Endosulfan I	14.58	14.59	14.60	14.59	14.52	14.66
Dieldrin	15.27	15.28	15.29	15.28	15.21	15.35
4,4'-DDE	15.01	15.02	15.03	15.02	14.95	15.09
Endrin	16.06	16.08	16.08	16.07	16.00	16.14
Endosulfan II	16.49	16.49	16.51	16.50	16.43	16.57
4,4'-DDD	16.27	16.28	16.29	16.28	16.21	16.35
Endosulfan sulfate	17.70	17.70	17.72	17.71	17.64	17.78
4,4'-DDT	17.06	17.07	17.08	17.07	17.00	17.14
Methoxychlor	19.48	19.50	19.50	19.49	19.42	19.56
Endrin ketone	20.04	20.05	20.07	20.05	19.98	20.12
Endrin aldehyde	17.24	17.25	17.26	17.25	17.18	17.32
alpha Chlordane	14.52	14.53	14.55	14.53	14.46	14.60
gamma Chlordane	14.17	14.18	14.19	14.18	14.11	14.25
Tetrachloro-m-xylene	7.97	7.97	7.98	7.97	7.92	8.02
Decachlorobiphenyl	26.97	26.98	27.00	26.98	26.88	27.08

* Surrogate retention times are measured from Standard Mix A analyses

Retention time windows are +/- 0.05 minutes for all compounds that elute before Heptachlor epoxide, +/- 0.07 minutes for all other compounds, except +/- 0.10 minutes for Decachlorobiphenyl.

6D

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: 1319-2 Level (x low): low 1.0 mid 4.0 high 16.0

GC Column: RTX-1701 ID: 0.53(mm) Date(s) Analyzed: 11/03/93 11/04/93

COMPOUND	RT OF STANDARDS LOW	MID	HIGH	MEAN RT	RT WINDOW FROM	TO
alpha-BHC	9.45	9.46	9.46	9.46	9.41	9.51
beta-BHC	12.22	12.22	12.21	12.22	12.17	12.27
delta-BHC	12.74	12.74	12.74	12.74	12.69	12.79
gamma-BHC (Lindane)	10.42	10.43	10.43	10.43	10.38	10.48
Heptachlor	10.87	10.88	10.89	10.88	10.83	10.93
Aldrin	11.50	11.51	11.50	11.50	11.45	11.55
Heptachlor epoxide	13.12	13.13	13.12	13.12	13.05	13.19
Endosulfan I	13.75	13.76	13.77	13.76	13.69	13.83
Dieldrin	14.56	14.57	14.57	14.57	14.50	14.64
4,4'-DDE	14.18	14.18	14.17	14.18	14.11	14.25
Endrin	15.04	15.05	15.06	15.05	14.98	15.12
Endosulfan II	16.13	16.13	16.12	16.13	16.06	16.20
4,4'-DDD	15.95	15.96	15.97	15.96	15.89	16.03
Endosulfan sulfate	18.05	18.06	18.05	18.05	17.98	18.12
4,4'-DDT	16.30	16.31	16.32	16.31	16.24	16.38
Methoxychlor	17.88	17.89	17.90	17.89	17.82	17.96
Endrin ketone	19.30	19.31	19.30	19.30	19.23	19.37
Endrin aldehyde	17.17	17.18	17.17	17.17	17.10	17.24
alpha Chlordane	14.01	14.02	14.01	14.01	13.94	14.08
gamma Chlordane	13.87	13.88	13.86	13.87	13.80	13.94
Tetrachloro-m-xylene	7.22	7.22	7.23	7.22	7.17	7.27
Decachlorobiphenyl	22.79	22.80	22.81	22.80	22.70	22.90

* Surrogate retention times are measured from Standard Mix A analyses

Retention time windows are +/- 0.05 minutes for all compounds that elute before Heptachlor epoxide, +/- 0.07 minutes for all other compounds, except +/- 0.10 minutes for Decachlorobiphenyl.

6E

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: 1319-1 Level (x low): low 1.0 mid 4.0 high 16.0

GC Column: RTX-35 ID: 0.53(mm) Date(s) Analyzed: 11/03/93 11/04/93

COMPOUND	CALIBRATION FACTORS LOW	MID	HIGH	MEAN	%RSD
alpha-BHC	4160000	5470000	4860000	4830000	13.6
beta-BHC	2220000	2160000	1900000	2090000	8.1
delta-BHC	4340000	4910000	4630000	4630000	6.2
gamma-BHC (Lindane)	4220000	5240000	4550000	4670000	11.2
Heptachlor	3580000	4070000	3620000	3760000	7.2
Aldrin	4490000	4250000	4150000	4300000	4.1
Heptachlor epoxide	4010000	4180000	3930000	4040000	3.2
Endosulfan I	3450000	4100000	3670000	3740000	8.8
Dieldrin	3740000	4490000	3880000	4040000	9.9
4,4'-DDE	3780000	4100000	3710000	3860000	5.4
Endrin	2930000	3240000	2770000	2980000	8.0
Endosulfan II	3460000	3410000	3060000	3310000	6.6
4,4'-DDD	3090000	3690000	3160000	3310000	9.9
Endosulfan sulfate	2660000	2750000	2530000	2650000	4.2
4,4'-DDT	2380000	2770000	2550000	2570000	7.6
Methoxychlor	1000000	1030000	881000	970000	8.1
Endrin ketone	2620000	2620000	2360000	2530000	5.9
Endrin aldehyde	2310000	2370000	2090000	2260000	6.5
alpha Chlordane	4100000	4170000	3830000	4030000	4.5
gamma Chlordane	4180000	4310000	4030000	4170000	3.4
Tetrachloro-m-xylene	3130000	3380000	2810000	3110000	9.2
Decachlorobiphenyl	1810000	1720000	1360000	1630000	14.6

* Surrogate calibration factors are measured from Standard Mix A analyses

%RSD must be less than or equal 20.0% for all compounds except the surrogates, where %RSD must be less than or equal to 30.0%. Up to two target compounds, but not surrogates, may have %RSD greater than 20.0% but less than or equal to 30.0%.

6E

PESTICIDE INITIAL CALIBRATION OF SINGLE COMPONENT ANALYTES

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: 1319-2 Level (x low): low 1.0 mid 4.0 high 16.0

GC Column: RTX-1701 ID: 0.53(mm) Date(s) Analyzed: 11/03/93 11/04/93

COMPOUND	CALIBRATION FACTORS LOW	MID	HIGH	MEAN	%RSD
alpha-BHC	2050000	2590000	2330000	2320000	11.6
beta-BHC	1300000	1090000	977000	1120000	14.6
delta-BHC	2050000	2260000	2160000	2160000	4.9
gamma-BHC (Lindane)	2200000	2650000	2320000	2390000	9.8
Heptachlor	2110000	2340000	2090000	2180000	6.4
Aldrin	2180000	2340000	2220000	2250000	3.7
Heptachlor epoxide	2270000	2250000	2100000	2210000	4.2
Endosulfan I	1910000	2200000	1950000	2020000	7.8
Dieldrin	2010000	2380000	2080000	2160000	9.1
4,4'-DDE	1960000	2070000	1900000	1980000	4.4
Endrin	1660000	1830000	1600000	1700000	7.0
Endosulfan II	1780000	1790000	1660000	1740000	4.2
4,4'-DDD	1590000	1900000	1630000	1710000	9.9
Endosulfan sulfate	1300000	1300000	1220000	1270000	3.6
4,4'-DDT	1100000	1360000	1310000	1260000	11.0
Methoxychlor	559000	589000	532000	560000	5.1
Endrin ketone	1040000	1060000	990000	1030000	3.5
Endrin aldehyde	766000	759000	682000	736000	6.3
alpha Chlordane	2290000	2250000	2060000	2200000	5.6
gamma Chlordane	2260000	2270000	2110000	2210000	4.0
Tetrachloro-m-xylene	1660000	1650000	1360000	1560000	11.0
Decachlorobiphenyl	1180000	1120000	898000	1070000	13.9

* Surrogate calibration factors are measured from Standard Mix A analyses

%RSD must be less than or equal 20.0% for all compounds except the surrogates, where %RSD must be less than or equal to 30.0%. Up to two target compounds, but not surrogates, may have %RSD greater than 20.0% but less than or equal to 30.0%.

6F

PESTICIDE INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: 1319-1 Date(s) Analyzed: 11/03/93 11/03/93

GC Column: RTX-35 ID: 0.53(mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	0.500	*1	16.67	16.60	16.74	74400
		*2	17.28	17.21	17.35	59600
		*3	17.58	17.51	17.65	58300
		4	17.93	17.86	18.00	63400
		5	18.98	18.91	19.05	70500
Aroclor 1016	0.100	*1	9.45	9.38	9.52	78000
		*2	10.51	10.44	10.58	146000
		*3	11.50	11.43	11.57	226000
		4	11.86	11.79	11.93	107000
		5	13.01	12.94	13.08	107000
Aroclor 1221	0.200	*1	8.58	8.51	8.65	9840
		*2	8.91	8.84	8.98	38900
		*3	9.27	9.20	9.34	26200
		4	9.44	9.37	9.51	84300
		5	9.55	9.48	9.62	12000
Aroclor 1232	0.100	*1	9.44	9.37	9.51	85300
		*2	10.52	10.45	10.59	76500
		*3	11.50	11.43	11.57	108000
		4	13.01	12.94	13.08	49500
		5	13.73	13.66	13.80	50800
Aroclor 1242	0.100	*1	9.45	9.38	9.52	70800
		*2	10.51	10.44	10.58	133000
		*3	11.51	11.44	11.58	203000
		4	13.01	12.94	13.08	100000
		5	13.73	13.66	13.80	109000
Aroclor 1248	0.100	*1	11.49	11.42	11.56	131000
		*2	13.00	12.93	13.07	156000
		*3	13.72	13.65	13.79	195000
		4	13.86	13.79	13.93	155000
		5	14.46	14.39	14.53	139000
Aroclor 1254	0.100	*1	13.99	13.92	14.06	159000
		*2	14.24	14.17	14.31	208000
		*3	15.39	15.32	15.46	292000
		4	15.76	15.69	15.83	212000
		5	17.12	17.05	17.19	209000
Aroclor 1260	0.100	*1	15.82	15.75	15.89	202000
		*2	16.11	16.04	16.18	242000
		*3	17.12	17.05	17.19	201000
		4	18.81	18.74	18.88	274000
		5	20.40	20.33	20.47	140000

* Denotes required peaks

6F

PESTICIDE INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Instrument ID: 1319-2 Date(s) Analyzed: 11/03/93 11/03/93

GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	0.500	*1	16.10	16.03	16.17	29700
		*2	16.71	16.64	16.78	40400
		*3	16.75	16.68	16.82	38200
		4	16.98	16.91	17.05	42900
		5	17.89	17.82	17.96	41000
Aroclor 1016	0.100	*1	8.60	8.53	8.67	38400
		*2	9.57	9.50	9.64	79700
		*3	10.17	10.10	10.24	31800
		4	10.64	10.57	10.71	139000
		5	10.97	10.90	11.04	56800
Aroclor 1221	0.200	*1	8.06	7.99	8.13	17900
		*2	8.45	8.38	8.52	13100
		*3	8.59	8.52	8.66	42300
		4	9.39	9.32	9.46	5840
		5	9.56	9.49	9.63	11200
Aroclor 1232	0.100	*1	8.60	8.53	8.67	42000
		*2	9.57	9.50	9.64	39000
		*3	10.64	10.57	10.71	66500
		4	10.97	10.90	11.04	27000
		5	12.99	12.92	13.06	23500
Aroclor 1242	0.100	*1	8.60	8.53	8.67	34900
		*2	9.57	9.50	9.64	72100
		*3	10.64	10.57	10.71	125000
		4	10.97	10.90	11.04	51100
		5	12.99	12.92	13.06	53400
Aroclor 1248	0.100	*1	10.63	10.56	10.70	81100
		*2	11.43	11.36	11.50	70400
		*3	11.48	11.41	11.55	65100
		4	12.92	12.85	12.99	86700
		5	12.98	12.91	13.05	97300
Aroclor 1254	0.100	*1	12.98	12.91	13.05	98300
		*2	13.37	13.30	13.44	103000
		*3	14.42	14.35	14.49	147000
		4	14.94	14.87	15.01	97800
		5	16.03	15.96	16.10	127000
Aroclor 1260	0.100	*1	14.76	14.69	14.83	98600
		*2	15.24	15.17	15.31	118000
		*3	15.64	15.57	15.71	56600
		4	17.58	17.51	17.65	147000
		5	18.66	18.59	18.73	109000

* Denotes required peaks

6G

PESTICIDE ANALYTE RESOLUTION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

GC Column (1): RTX-35 ID: 0.53(mm) Instrument ID (1): 1319-1

EPA Sample No. (Standard 1): RESCF1 Lab Sample ID (1): RESCF1

Date Analyzed (1): 11/03/93 Time Analyzed (1): 1651

	ANALYTE	RT	RESOLUTION (%)
01	Tetrachloro-m-xylene	7.96	100.0
02	gamma-Chlordane	14.17	100.0
03	Endosulfan I	14.58	100.0
04	4,4'-DDE	15.01	100.0
05	Dieldrin	15.28	100.0
06	Endosulfan sulfate	17.70	100.0
07	Methoxychlor	19.49	100.0
08	Endrin ketone	20.05	100.0
09	Decachlorobiphenyl	26.98	

GC Column (2): RTX-1701 ID: 0.53(mm) Instrument ID (2): 1319-2

EPA Sample No. (Standard 2): RESCFA Lab Sample ID (2): RESCFA

Date Analyzed (2): 11/03/93 Time Analyzed (2): 1651

	ANALYTE	RT	RESOLUTION (%)
01	Tetrachloro-m-xylene	7.22	100.0
02	Endosulfan I	13.75	93.9
03	gamma-Chlordane	13.87	100.0
04	4,4'-DDE	14.18	100.0
05	Dieldrin	14.56	100.0
06	Methoxychlor	17.88	95.2
07	Endosulfan sulfate	18.05	100.0
08	Endrin ketone	19.30	100.0
09	Decachlorobiphenyl	22.80	

Resolution of two adjacent peaks must be calculated as a percentage of the height of the smaller peak, and must be greater than or equal to 60.0%.

7D
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

GC Column: RTX-35 ID: 0.53(mm) Init. Calib. Date(s): 11/03/93 11/04/93

EPA Sample No. (PIBLK): PIBLKF2 Date Analyzed : 11/03/93

Lab Sample ID (PIBLK): PIBLKF2 Time Analyzed : 1616

EPA Sample No. (PEM): PEMF1 Date Analyzed : 11/03/93

Lab Sample ID (PEM): PEMF1 Time Analyzed : 1726

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.64	9.60	9.70	0.008	0.010	20.0
beta-BHC	10.78	10.73	10.83	0.010	0.010	0.0
gamma-BHC (Lindane)	10.60	10.56	10.66	0.008	0.010	20.0
Endrin	16.07	16.00	16.14	0.045	0.050	10.0
4,4'-DDT	17.06	17.00	17.14	0.090	0.100	10.0
Methoxychlor	19.49	19.42	19.56	0.223	0.250	10.8

4,4'-DDT % breakdown (1): 2.9 Endrin % breakdown (1): 5.2

Combined % breakdown (1): 8.1

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

GC Column: RTX-35 ID: 0.53(mm) Init. Calib. Date(s): 11/03/93 11/04/93

EPA Sample No. (PIBLK): PIBLKF3 Date Analyzed : 11/04/93

Lab Sample ID (PIBLK): PIBLKF3 Time Analyzed : 0140

EPA Sample No. (PEM): PEMF2 Date Analyzed : 11/04/93

Lab Sample ID (PEM): PEMF2 Time Analyzed : 0215

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.65	9.60	9.70	0.008	0.010	20.0
beta-BHC	10.79	10.73	10.83	0.010	0.010	0.0
gamma-BHC (Lindane)	10.62	10.56	10.66	0.008	0.010	20.0
Endrin	16.08	16.00	16.14	0.044	0.050	12.0
4,4'-DDT	17.08	17.00	17.14	0.086	0.100	14.0
Methoxychlor	19.50	19.42	19.56	0.209	0.250	16.4

4,4'-DDT % breakdown (1): 3.7 Endrin % breakdown (1): 10.4

Combined % breakdown (1): 14.1

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

GC Column: RTX-1701 ID: 0.53(mm) Init. Calib. Date(s): 11/03/93 11/04/93

EPA Sample No. (PIBLK): PIBLKFB Date Analyzed : 11/03/93

Lab Sample ID (PIBLK): PIBLKFB Time Analyzed : 1616

EPA Sample No. (PEM): PEMFA Date Analyzed : 11/03/93

Lab Sample ID (PEM): PEMFA Time Analyzed : 1726

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.45	9.41	9.51	0.008	0.010	20.0
beta-BHC	12.22	12.17	12.27	0.010	0.010	0.0
gamma-BHC (Lindane)	10.42	10.38	10.48	0.008	0.010	20.0
Endrin	15.04	14.98	15.12	0.046	0.050	8.0
4,4'-DDT	16.31	16.24	16.38	0.093	0.100	7.0
Methoxychlor	17.88	17.82	17.96	0.238	0.250	4.8

4,4'-DDT % breakdown (1): 2.5 Endrin % breakdown (1): 4.8

Combined % breakdown (1): 7.3

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

GC Column: RTX-1701 ID: 0.53(mm) Init. Calib. Date(s): 11/03/93 11/04/93

EPA Sample No. (PIBLK): PIBLKFC Date Analyzed : 11/04/93

Lab Sample ID (PIBLK): PIBLKFC Time Analyzed : 0140

EPA Sample No. (PEM): PEMFB Date Analyzed : 11/04/93

Lab Sample ID (PEM): PEMFB Time Analyzed : 0215

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.46	9.41	9.51	0.008	0.010	20.0
beta-BHC	12.23	12.17	12.27	0.011	0.010	10.0
gamma-BHC (Lindane)	10.43	10.38	10.48	0.008	0.010	20.0
Endrin	15.06	14.98	15.12	0.044	0.050	12.0
4,4'-DDT	16.32	16.24	16.38	0.088	0.100	12.0
Methoxychlor	17.90	17.82	17.96	0.212	0.250	15.2

4,4'-DDT % breakdown (1): 4.0 Endrin % breakdown (1): 9.4

Combined % breakdown (1): 13.4

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7E
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

GC Column: RTX-35 ID: 0.53(mm) Init. Calib. Date(s): 11/03/93 11/04/93

EPA Sample No. (PIBLK): PIBLKF6 Date Analyzed : 11/04/93

Lab Sample ID (PIBLK): PIBLKF6 Time Analyzed : 1138

EPA Sample No. (INDA): INDAMF2 Date Analyzed : 11/04/93

Lab Sample ID (INDA): INDAMF2 Time Analyzed : 1213

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.65	9.60	9.70	0.0175	0.0200	12.5
gamma-BHC (Lindane)	10.62	10.56	10.66	0.0176	0.0200	12.0
Heptachlor	11.61	11.56	11.66	0.0178	0.0200	11.0
Endosulfan I	14.59	14.52	14.66	0.0178	0.0200	11.0
Dieldrin	15.28	15.21	15.35	0.0365	0.0400	8.8
Endrin	16.07	16.00	16.14	0.0360	0.0400	10.0
4,4'-DDD	16.28	16.21	16.35	0.0351	0.0400	12.2
4,4'-DDT	17.07	17.00	17.14	0.0331	0.0400	17.2
Methoxychlor	19.50	19.42	19.56	0.162	0.200	19.0
Tetrachloro-m-xylene	7.98	7.92	8.02	0.0175	0.0200	12.5
Decachlorobiphenyl	26.97	26.88	27.08	0.0369	0.0400	7.8

EPA Sample No. (INDB): INDBMF2 Date Analyzed : 11/04/93

Lab Sample ID (INDB): INDBMF2 Time Analyzed : 1248

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
beta-BHC	10.78	10.73	10.83	0.0192	0.0200	4.0
delta-BHC	11.66	11.62	11.72	0.0192	0.0200	4.0
Aldrin	12.42	12.38	12.48	0.0206	0.0200	3.0
Heptachlor epoxide	13.71	13.65	13.79	0.0199	0.0200	0.5
4,4'-DDE	15.01	14.95	15.09	0.0381	0.0400	4.8
Endosulfan II	16.49	16.43	16.57	0.0392	0.0400	2.0
Endosulfan sulfate	17.70	17.64	17.78	0.0389	0.0400	2.8
Endrin ketone	20.04	19.98	20.12	0.0388	0.0400	3.0
Endrin aldehyde	17.24	17.18	17.32	0.0388	0.0400	3.0
alpha-Chlordane	14.53	14.46	14.60	0.0198	0.0200	1.0
gamma-Chlordane	14.17	14.11	14.25	0.0198	0.0200	1.0
Tetrachloro-m-xylene	7.97	7.92	8.02	0.0171	0.0200	14.5
Decachlorobiphenyl	26.97	26.88	27.08	0.0359	0.0400	10.2

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%

7E
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

GC Column: RTX-1701 ID: 0.53(mm) Init. Calib. Date(s): 11/03/93 11/04/93

EPA Sample No. (PIBLK): PIBLKFF Date Analyzed : 11/04/93

Lab Sample ID (PIBLK): PIBLKFF Time Analyzed : 1138

EPA Sample No. (INDA): INDAMFB Date Analyzed : 11/04/93

Lab Sample ID (INDA): INDAMFB Time Analyzed : 1213

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.46	9.41	9.51	0.0178	0.0200	11.0
gamma-BHC (Lindane)	10.43	10.38	10.48	0.0179	0.0200	10.5
Heptachlor	10.88	10.83	10.93	0.0178	0.0200	11.0
Endosulfan I	13.76	13.69	13.83	0.0181	0.0200	9.5
Dieldrin	14.56	14.50	14.64	0.0369	0.0400	7.8
Endrin	15.05	14.98	15.12	0.0362	0.0400	9.5
4,4'-DDD	15.96	15.89	16.03	0.0346	0.0400	13.5
4,4'-DDT	16.31	16.24	16.38	0.0337	0.0400	15.8
Methoxychlor	17.89	17.82	17.96	0.164	0.200	18.0
Tetrachloro-m-xylene	7.22	7.17	7.27	0.0178	0.0200	11.0
Decachlorobiphenyl	22.79	22.70	22.90	0.0367	0.0400	8.2

EPA Sample No. (INDB): INDBMFB Date Analyzed : 11/04/93

Lab Sample ID (INDB): INDBMFB Time Analyzed : 1248

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
beta-BHC	12.22	12.17	12.27	0.0193	0.0200	3.5
delta-BHC	12.74	12.69	12.79	0.0197	0.0200	1.5
Aldrin	11.50	11.45	11.55	0.0202	0.0200	1.0
Heptachlor epoxide	13.12	13.05	13.19	0.0202	0.0200	1.0
4,4'-DDE	14.18	14.11	14.25	0.0378	0.0400	5.5
Endosulfan II	16.12	16.06	16.20	0.0396	0.0400	1.0
Endosulfan sulfate	18.05	17.98	18.12	0.0397	0.0400	0.8
Endrin ketone	19.30	19.23	19.37	0.0399	0.0400	0.2
Endrin aldehyde	17.17	17.10	17.24	0.0395	0.0400	1.2
alpha-Chlordane	14.01	13.94	14.08	0.0201	0.0200	0.5
gamma-Chlordane	13.87	13.80	13.94	0.0200	0.0200	0.0
Tetrachloro-m-xylene	7.22	7.17	7.27	0.0172	0.0200	14.0
Decachlorobiphenyl	22.79	22.70	22.90	0.0355	0.0400	11.2

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%

METHOD M01.PPCB:EXW MATRIX: WATER LEVEL: LOW BA ID: 2KY

CLIENT(s): DLABO2 40278

DATE: 10/25/93

ANALYST: BDH MTP

Project: 91082

Case: OLM

SDG: 40278

Site Kalamazoo

Case: OLM
SDG: 40278

000566

Lab sample id BTR	Client id	ml Sample	pH 5-9 1.	1.0ml Pest Surr (0.2ppm DEC/TMX) Lot # 1.0/29301 2.#	1.0ml Pest MTX (0.5/1.0ppm) Lot# 3.#	Add 60ml MeCl2 (2 min. shake) 4.	Drain through granular NaSO4 5.	60ml MeCl2, shake, drain (2x) MeCl2 Lot # 6.#	Solvent exchange to hexane Hex Lot# 5217.66 7.	Conc to 10ml 8.#	Add 1.0ml to pre-washed florisil cartridge Florisil Lot# 9427.76 9.#	Elute with 8.0ml 9:1 Hexane:Acetone Ace Lot# 6.7430 10.	Conc to 1.0ml 11.#
180296	PBLK8J	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
201814	A66536	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
201815	A66537	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
									✓	✓	✓	✓	

Sample prep

MTP
10/25/93

10/25/93 BDH

01

U.S. EPA - CLP

3
BLANKS

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	44.9	U	44.9	U	44.9	U	44.9	U	44.851	U	P
Antimony	52.8	U	52.8	U	52.8	U	52.8	U	52.742	U	P
Arsenic	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	F
Barium	0.9	U	0.9	U	0.9	U	0.9	U	0.899	U	P
Beryllium	0.3	U	0.3	U	0.3	U	0.3	U	0.300	U	P
dmium	3.3	U	3.3	U	3.3	U	3.3	U	3.296	U	P
alcium	15.4	U	15.4	U	15.4	U	15.4	U	15.383	U	P
Chromium	2.5	U	2.5	U	2.5	U	2.5	U	2.497	U	P
Cobalt	4.9	U	4.9	U	4.9	U	4.9	U	4.895	U	P
Copper	3.7	U	3.7	U	3.7	U	3.7	U	3.696	U	P
Iron	9.8	B	9.4	U	9.4	U	9.4	U	9.390	U	P
Lead	0.6	U	0.6	U	0.6	U			0.600	U	F
Magnesium	27.5	U	27.5	U	27.5	U	27.5	U	27.470	U	P
Manganese	0.6	U	0.6	U	0.6	U	0.6	U	0.599	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.070	U	CV
Nickel	4.1	U	4.1	U	4.1	U	4.1	U	4.095	U	P
Potassium	728.2	U	728.2	U	728.2	U	728.2	U	727.400	U	P
Selenium	1.1	U	1.1	U	1.1	U	1.1	U	1.100	U	F
Silver	6.7	U	6.7	U	6.7	U	6.7	U	6.693	U	P
Sodium	66.0	U	-98.5	B	-271.4	B	-261.5	B	65.927	U	P
Thallium	1.8	U	1.8	U	1.8	U	1.8	U	1.799	U	F
Vanadium	3.3	U	3.3	U	3.3	U	3.3	U	3.296	U	P
Zinc	3.1	U	3.1	U	3.1	U	3.1	U	3.097	U	P
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	C

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Solid LCS Source:

Aqueous LCS Source: VENTURES

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	51000.0	49620.00	97.3						
Antimony	2000.0	1955.00	97.8						
Arsenic	50.0	57.47	114.9						
Barium	500.0	496.60	99.3						
Beryllium	500.0	496.60	99.3						
Cadmium	500.0	495.00	99.0						
Calcium	50000.0	49980.00	100.0						
Chromium	500.0	494.90	99.0						
balt	500.0	474.50	94.9						
pper	500.0	495.90	99.2						
Iron	50500.0	50040.00	99.1						
Lead	15.0	14.18	94.5						
Magnesium	50000.0	49170.00	98.3						
Manganese	500.0	472.20	94.4						
Mercury									
Nickel	500.0	473.60	94.7						
Potassium	50000.0	49500.00	99.0						
Selenium	25.0	26.59	106.4						
Silver	500.0	499.00	99.8						
Sodium	50000.0	49320.00	98.6						
Thallium	50.0	48.96	97.9						
Vanadium	500.0	484.10	96.8						
Zinc	500.0	482.40	96.5						
Cyanide									

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Initial Calibration Source: VENTURES/BAK

Continuing Calibration Source: VENTURES/BAK

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	51000.0	49860.00	97.8	51000.0	49010.00	96.1	48580.00	95.3	P
Antimony	2000.0	1997.00	99.8	2000.0	1973.00	98.6	1990.00	99.5	P
Arsenic	50.0	50.23	100.5	50.0	53.80	107.6	49.92	99.8	F
Barium	500.0	506.90	101.4	500.0	495.30	99.1	490.00	98.0	P
Beryllium	500.0	506.10	101.2	500.0	502.70	100.5	500.40	100.1	P
Cadmium	500.0	508.50	101.7	500.0	504.90	101.0	506.30	101.3	P
Calcium	50000.0	50050.00	100.1	50000.0	50100.00	100.2	50250.00	100.5	P
Chromium	500.0	505.70	101.1	500.0	506.60	101.3	504.20	100.8	P
Cobalt	500.0	486.00	97.2	500.0	486.70	97.3	486.40	97.3	P
Copper	500.0	504.40	100.9	500.0	496.80	99.4	490.40	98.1	P
Iron	50500.0	49840.00	98.7	50500.0	49610.00	98.2	49480.00	98.0	P
Lead	35.0	33.75	96.4	35.0	36.23	103.5	37.89	108.3	F
Magnesium	50000.0	49400.00	98.8	50000.0	49190.00	98.4	49300.00	98.6	P
Manganese	500.0	482.50	96.5	500.0	480.50	96.1	479.30	95.9	P
Mercury	1.8	2.02	112.2	1.8	2.03	112.8	1.98	110.0	CV
Nickel	500.0	482.10	96.4	500.0	484.00	96.8	485.60	97.1	P
Potassium	50000.0	48920.00	97.8	50000.0	49370.00	98.7	49000.00	98.0	P
Selenium	25.0	23.80	95.2	25.0	24.01	96.0	24.41	97.6	F
Silver	500.0	501.50	100.3	500.0	497.30	99.5	494.30	98.9	P
Sodium	50000.0	49240.00	98.5	50000.0	48030.00	96.1	47560.00	95.1	P
Thallium	35.0	34.44	98.4	35.0	37.83	108.1	34.44	98.4	F
Vanadium	500.0	506.90	101.4	500.0	503.70	100.7	500.50	100.1	P
Zinc	500.0	491.80	98.4	500.0	495.00	99.0	495.50	99.1	P
Cyanide	100.0	107.72	107.7	100.0	107.72	107.7	104.23	104.2	C

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Initial Calibration Source: VENTURES/BAK

Continuing Calibration Source: VENTURES/BAK

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				51000.0	48120.00	94.4			P
Antimony				2000.0	1994.00	99.7			P
Arsenic				50.0	52.59	105.2	49.66	99.3	F
Barium				500.0	486.50	97.3			P
Beryllium				500.0	497.30	99.5			P
Cadmium				500.0	504.90	101.0			P
Calcium				50000.0	49850.00	99.7			P
Chromium				500.0	500.30	100.1			P
Cobalt				500.0	485.80	97.2			P
Copper				500.0	488.80	97.8			P
Iron				50500.0	49220.00	97.5			P
Lead	35.0	33.60	96.0	35.0	35.63	101.8			F
Magnesium				50000.0	48800.00	97.6			P
Manganese				500.0	476.60	95.3			P
Mercury				1.8	1.94	107.8			CV
Nickel				500.0	482.00	96.4			P
Potassium				50000.0	49480.00	99.0			P
Selenium				25.0	23.17	92.7	24.49	98.0	F
Silver				500.0	493.40	98.7			P
Sodium				50000.0	47410.00	94.8			P
Thallium				35.0	38.43	109.8	37.57	107.3	F
Vanadium				500.0	497.40	99.5			P
Zinc				500.0	493.20	98.6			P
Cyanide				100.0	103.84	103.8			C

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Initial Calibration Source: VENTURES/BAK

Continuing Calibration Source: VENTURES/BAK

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic				50.0	47.88	95.8	48.94	97.9	F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium				25.0	25.52	102.1	25.35	101.4	F
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Initial Calibration Source: VENTURES/BAK

Continuing Calibration Source: VENTURES/BAK

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium				25.0	25.49	102.0	25.24	101.0	F
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

13
PREPARATION LOG

Lab Name: AQUATEC_____ Contract: 91082_____

Lab Code: AQUAI_ Case No.:_OLM___ SAS No.: _____ SDG No.:40278_

Method: P_

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
A66536	11/17/93		100
A66537	11/17/93		100
LCSW1	11/17/93		100
PBW1	11/17/93		100

FORM XIII - IN ILM02.1

U.S. EPA - CLP

13
PREPARATION LOG

Lab Name: AQUATEC_____ Contract: 91082_____

Lab Code: AQUAI_ Case No.:_OLM___ SAS No.: _____ SDG No.:40278_

Method: F_

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
A66536	11/17/93		100
A66537	11/17/93		100
LCSW1	11/17/93		100
PBW1	11/17/93		100

FORM XIII - IN ILM02.1

U.S. EPA - CLP

13
PREPARATION LOG

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
A66536	11/02/93		100
A66537	11/02/93		100
PBW1	11/02/93		100

FORM XIII - IN ILM02.1

U.S. EPA - CLP

13
PREPARATION LOG

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 40278

Method: C

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
A66536	10/27/93		300
A66537	10/27/93		300
ICV	10/27/93		300
PBW1	10/27/93		300

FORM XIII - IN ILM02.1

F-0106

METALS VISUAL INSPECTION FORM

-ep Method: ILM01-FW & IW Prep Date: 11/17/93

Solid/Water: W Batch: VL, VN Analyst: FR

PH'D JEW 10/21/93

	PRE-DIGESTION					POST-DIGESTION	
Lab I.D.	pH*	Color	Clarity	Texture	Artifacts	Color	Clarity
201814	<2	YELLOW	CLOUDY			COLORLESS	CLEAR
201815	↓	"	"			"	"

Client: BLABO2 ETR: 40278

Client: _____ ETR: _____

* Upon Arrival

Aquatec, Inc. --- PREP BENCHSHEET --- 16-NOV-1993 13:19:45 --- FPC

Prep Method: ILM01:IW Prep 1 Analyst: FC Batch: VL

Solid/Water (S/W): W Prep Date (mm-dd-yy): 11/17/93

SDG #'s 40085, 40156, 40278

Lab ID	Digested Mass (g)	Digestate Volume (ml)	Spike Fraction	Spike ID
PB289	100.11	100		
LCSWI	100.00			
200778	100.43			
200779	100.50			
200780	100.15			
200781	100.86			
201177	100.25			
201177MS	100.82		1	PW (AA)
201177DP	100.24			
201178	100.36			
201179	100.44			
201180	100.52			
201814	100.02			
201815	100.51	✓		

GLABO2 40085 MS spike: 1.0 ml → 100 mls
" " 40156 New EPA ICP/FL Water Spiking Sol. ✓
" " 40278 &
0.5 ml → 100 mls. ✓
10 ppm Ag

Date - 11/17/93
Witness: [signature]

000147

ENTERED

Aquatec, Inc. --- PREP BENCHSHEET --- 16-NOV-1993 13:20:47 --- FPC

Prep Method: ILM01:FW (Prep 2) Analyst: EPC Batch: VN

Solid/Water (S/W): W Prep Date (mm-dd-yy): 11/17/93

SDG's 40085, 40156, 40278

Lab ID	Digested Mass (g)	Digestate Volume (ml)	Spike Fraction	Spike ID
PB291	100.03	100		
LCSW F	100.00			
200778	100.83			
200779	100.03			
200780	100.22			
200781	100.96			
201177	100.16			
201177 MS	100.01		1	FW (AA)
201177 DP	100.99			
201178	100.57			
201179	100.79			
201180	100.79			
201814	100.31			
201815	100.18			

BLAB02 40085 MS Spike: 60 ml → 100 ml
" " 40156 New EPA Furnace water Spiking Sol. ✓
" " 40278

Date - 111793
witness: CPM

00[illegible]RED

Prep 3

Aquatec, Inc. --- PREP BENCHSHEET ---

Prep Method: Cold Vapor Analysis Analyst: [illegible] Rack ID: 110293

Solid/Water (S/W): ___ Prep Date (mm-dd-yy): 110293

	Lab ID	Digested Mass (g)	Digestate Volume (ml)	Bottle Number	Spike ID
1	ICV				
2	ICB				
3	CRA				
4	PB110293 PBW	100	100	224	
5	200996	100.67		81N	
6	200996MS	101.85		41	
7	200996DP	100.53		113N	
8	200999	1046		284	
9	CCM110193 ~~200~~201000	99.79		27	
10	201001	100.34		223	
11	201002	100.22		225	
12	CCV 1				
13	CCB 1				
	201160	100.63	100	391	
15	201161	100.85		44	
16	201162	99.17		219	
17	201163	101.19		60C	
18	201164	99.60		226	
19	201165	99.39		66	
20	201166	101.10		93	
21	201167	101.12		20	
22	201177	100.40		215	

Matrix Spiker Initials: [illegible] Witness Initials: [illegible] Date: 11/2/93

1.0 ml of 100 ppb Hg into bottle number 41 for sample 200996MS

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

P Ref 3

Aquatec, Inc. --- PREP BENCHSHEET ---

Prep Method: Cold Vapor Analysis Analyst: _____ Rack ID: _____

Solid/Water (S/W): ___ Prep Date (mm-dd-yy): _____

	Lab ID	Digested Mass (g)	Digestate Volume (ml)	Bottle Number	Spike ID
1	CCV2				
2	CCB2				
3	201177MS	99.89	100	34	
4	201177DP	101.07		17	
5	201178	101.72		39A	
6	201179	99.96		7FN	
7	201180	100.62		74	
8	201329	100.16		65	
9	201814 /	100.39	100	51	
10	201815 /	100.42	100	237	
11					
12	CCV 3				
13	CCB 3				
15					
16					
17					
18					
19					
20					
21					
22					

Matrix Spiker Initials: CPM Witness Initials: AR Date: 11/2/93

1.0 ml of 100 ppb Hg into bottle number 34 for sample 201177MS

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

BB

F-0104

CYANIDE PREPARATION BENCHSHEET

Page 1 of 1

Distillation Start: 1400

Date: 10/27/93 Analyst: LKB/SGB

	Lab ID	pH	Chlor-inated (Y/N)	Matrix (S/W)	Sample Amount (g or ml)	Spike Added (mg)	Distillate Volume (ml)	Sulfide Check
1	ICV (2 ml of 10ppm CK)		N	W	300ml	0.03	250	✓
	ICB		N	W	—	—	—	
2	PBS		N	S	2.57		250	✓
3	201885		N	S	5.30			✓
4	201886		N	S	5.46			✓
5	201889		N	S	5.78			✓
6	201890		N	S	5.17			✓
7	201891		N	S	5.37			✓
8	201892		N	S	5.15			✓
9	201893		N	S	5.07			✓
10	LCS 216 ~~201894~~ LKB 10/27/93		N	S	1.02			✓

Entered By: _____ Date: _____ Batch: GZ

CYANIDE PREPARATION BENCHSHEET

Distillation Start: 1415

Date: 10/27/93 Analyst: EICB

	Lab ID	pH	Chlor-inated (Y/N)	Matrix (S/W)	Sample Amount (g or ml)	Spike Added (mg)	Distillate Volume (ml)	Sulfide Check
1	ICV		N	W	300	0.03	250	✓
	ICB		N	-	-	-	-	
2	PBW11	12	N	W	300		250	✓
3	201814	12	N	W	↓		↓	✓
4	201815	12	N	W	↓		↓	✓
5	PBS		N	S	2.58		↓	✓
6	201880		N	S	5.02		↓	✓
7	201881		N	S	5.08		↓	✓
8	201882		N	S	5.48		↓	✓
9	201883		N	S	5.40		↓	✓
10	201884		N	S	5.49		↓	✓
11	LCS 216		N	S	1.10		↓	✓

Entered By: _____ Date: _____ Batch: 67

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000003

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River/Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's & Pesticides	Semivolatiles	TAL - Metals	CN-	TSS	Volatiles	Temp	REMARKS
SWP-2	10-20	10:05		✓	A66536	9	2	2	1	1	1	2		Do CLP TCL/TAL
—	10-20	—			Temp Blank	1							1	Cooler # 61

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	10-20-93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
			Pat Poundstone	10/21/93	1000	Temp blank = 0°C	

7/12/93
1393786HCOR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO. 645.51 PROJECT NAME Kalamazoo River/Portage Creek

SAMPLERS: (Signature) John [signature], Brian D Lord

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's, Pesticides	Semivolatiles	TAL-Metals	CN-	TSS	Volatiles	TEMP	REMARKS
SWP-1	10-20	10:45		✓	A66537	9	2	2	1	1	1	2		Do CLP TCL/TAL
—	10-20				Temp Blank	1							1	Cooler #BBL-100

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
John [signature]	10-20-93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
			Pat Poundstone	10/21/93	1000	Temp. blank = 0°C

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000004

000568

Copy original w/ETR 90272

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 7296618895

3098M 7296618895

RECIPIENT'S COPY

1 Date 10-20-92

From (Your Name) Please Print: JOHN T. PETERSON
Your Phone Number (Very Important): (313) 277-8300
Company: LIMNO-TECH INC
Department/Floor No.:
Street Address: 2395 HURON PKWY
City: ANN ARBOR State: MI ZIP Required: 48104

2 To (Recipient's Name) Please Print: ATTN: POLLY MALIK
Recipient's Phone Number (Very Important): (802) 655-1202
Company: AQUATEC INC
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 55 SOUTH PARK DRIVE
City: COLCHESTER State: VT ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): KZRIV-3

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [✓] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
11 [✓] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX**
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon, by Saturday delivery)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*

Government Overnight (Restricted to authorized users only)
40 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT**
80 [ ] TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas.
* Declared value limit $500. ** Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [✓] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) [ ]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
lb. x ____ x ____ kg. ___
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (Plus cents)
1	16	$100.00
1	95	100.00
1	82	100.00
Total 3	Total 253	Total 300.00

DIM SHIPMENT (Chargeable Weight)
[ ] ____ lbs.
L x W x H

Received At:
1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] Station

7 Release Signature:

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X Pat Pounidotone
Date/Time Received: 10/21/93 1000
FedEx Employee Number

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #156
155
© 1992-93 FEDEX
PRINTED IN U.S.A.

-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

TR Number: 40278

roject Number: 91082

Case No.: OUM

SDG Number: 40278

emo: Samples placed in fridge on 10/21/93 by PKP at 1400
201814-815

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
201814+815	MTP	10/25/93 1100	Extraction	10/25/93 1400

000005

-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

TR Number: 40278

roject Number: 91082

Case No.: OUM

SDG Number: 40278

emo: Samples placed in fridge on 10/21/93 by PKP at 1400
↳ 2018147815

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED

000006

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

TR Number: 40278

roject Number: 91082

Case No.: OUM

SDG Number: 40278

000007

emo: Samples placed in fridge on 10/21/93 by PKP at 1400
→ 201814-815

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
201814,815	BDH	10/25/93 1510	Extraction	10/25/93 15:30

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

TR Number: 40278

roject Number: 91082

Case No.: OUM

SDG Number: 40278

000039

emo: Samples placed in fridge on 10/21/93 by PKP at 1400
↳ 201814-815

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
201814-15	PMM	10/25/93 0950	TSS	10/25/93

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 40278

Project Number: 91082

Case No.: OUM

SDG Number: 40278

000010

Memo: Samples placed in fridge on 10/21/93 by PKP at 1400
201814-815

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
201814, 201815	DAG	10-22-93 : 1400	VOA Screens	10-22-93 : 1430

0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

TR Number: 40278

roject Number: 91082

Case No.: OUM

SDG Number: 40278

emo: Samples placed in fridge on 10/21/93 by PKP at 1400
201814-815

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
201814, 815	CMP	10/28/93 1930	VOA Analysis	10/29/93 700

BLA402

-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 40278

Project Number: 91082

Case No.: OLM

SDG Number: 40278

000012

Memo: Samples placed in fridge on 10/21/93 by PKP at 1400
↳ 201814-7815

Digestions placed on shelf by FPC 11/17/93 @ 1030

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
201814-15	FPC	11/17/93 @ 0430	Metals Digestion	11/17/93 @ 0730
"	[illegible]	11/19/93 1600	ICP Analysis	
	BH	11/18/93 900	fresh Analysis	

-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 40278

Project Number: 91082

Case No.: OLM

SDG Number: 40278

000013

Memo: Samples placed in fridge on 10/21/93 by PKP at 1400
↳ 201814-7815

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
201814-15	EKB	10/28/93 0800	Cyanide	10/28/93 1600

BLA

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 40278

Project Number: 91082

Case No.: OLM

SDG Number: 40278

000014

Memo: Samples placed in fridge on 10/21/93 by PKP at 1400
201814-815

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
201814,815	CPM	11-2-93 0800	Hg	11-2-93 12:00

Laboratory Transfer Record

Sample Management — Aquatec, Inc.

ETR: 40278	Date: 10/23/93

Laboratory ID.	Fraction/Analysis
PBLK83	
201814	
201815	

Relinquished by GMD by BDH Time 17:50

Transported by KWB

Received by _____ by _____ Time _____

000015

Laboratory Transfer Record

Sample Management — Aquatec, Inc.

ETR: 39869 / 40278 | Date: 10/26/93

Laboratory ID.	Fraction/Analysis
SBIK 4Q	
201814	
201815	
~~199319 RI~~	
199318 RI	
199320 RI	

Relinquished @ GMD by MTP Time: 1000

Transported by BEP

Received @ CP by FLD Time: 10:55

000016

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

February 17, 1994

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. PCB; SDG No. 41106

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on December 12, 1993. The analyses for these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on December 12, 1993 ETR No. 41106		
A66542	205986	Water
A66542RE	205986R1	Water
A66543	205987	Water
A66543RE	205987R1	Water
A66544	205988	Water
A66544RE	205988R1	Water
A66545	205989	Water
A66545RE	205989R1	Water
A66546	205990	Water
A66546RE	205990R1	Water
A66547	205991	Water
A66547RE	205991R1	Water
A66548	205992	Water
A66548RE	205992R1	Water
A66549	205993	Water
A66549RE	205993R1	Water
A66550	205994	Water
A66550RE	205994R1	Water
A66550MS	205994MS	Water
A66550MSRE	205994MSR1	Water
A66550MSD	205994MD	Water
A66550MSDRE	205994MDR1	Water

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on December 12, 1993 ETR No. 41106 (continued)		
A66550REP	205994DP	Water
MSB	205995	Liquid
MSBRE	205995R1	Liquid
A66551	205996	Water
A66551RE	205996R1	Water
A66552	205997	Water
A66552RE	205997R1	Water

Low surrogate recoveries for tetrachloro-m-xylene were observed for all samples in this delivery group. The samples were re-extracted outside the prescribed holding time and analyzed yielding similar results. Both sets of data have been presented with this case submittal.

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

KRC/jg

Enclosure

91082B15DEC93

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 41106

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	A66547	4	*	68	
2	A66548	54	*	91	
3	A66549	58	*	101	
4	A66550	58	*	99	
5	A66550MS	58	*	95	
6	A66550MSD	59	*	101	
7	MSB	49	*	102	
8	A66551	54	*	109	
9	A66552	57	*	101	
10	PBLKII	25	*	61	
11	A66542	58	*	102	
12	A66543	54	*	103	
13	A66544	5	*	81	
14	A66545	57	*	99	
15	A66546	48	*	85	
16					
17					
18					
19					
20					

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 41106

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLK2J	37 *		75	
2	A66542RE	43 *		72	
3	A66543RE	44 *		76	
4	A66544RE	41 *		74	
5	A66545RE	48 *		78	
6	A66546RE	44 *		74	
7	A66547RE	47 *		77	
8	A66548RE	44 *		77	
9	A66549RE	45 *		73	
10	A66550RE	46 *		75	
11	A66550MSRE	48 *		76	
12	A66550MSDRE	48 *		78	
13	MSBRE	42 *		82	
14	A66551RE	42 *		75	
15	A66552RE	45 *		79	
16					
17					
18					
19					
20					

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

WATER AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 41106

Client Sample No.: A66550

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % RECOVERY
AROCLOR 1242	0.6030	0.0304	0.4793	~~75~~ 74
AROCLOR 1254	0.6030	0.0	0.5476	91

LTS 2/7/94

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % RECOVERY	RPD
AROCLOR 1242	0.6000	0.5283	83	~~10~~ 11
AROCLOR 1254	0.6000	0.5855	98	7

LTS 2/7/94

Comments: In sample, AROCLOR 1016 reported as AROCLOR 1242.

WATER AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 41106

Client Sample No.: A66550 RE

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % RECOVERY
AROCLOR 1242	0.9091	0.0	0.6900	76
AROCLOR 1254	0.9091	0.0	0.6848	75

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % RECOVERY	RPD
AROCLOR 1242	0.8584	0.6601	77	1
AROCLOR 1254	0.8584	0.6661	78	4

Comments:

3

WATER AROCLOR MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 41106

MSB

COMPOUND	SPIKE ADDED (UG/L)	MSB CONCENTRATION (UG/L)	MSB % RECOVERY
AROCLOR 1242	0.6000	0.3911	65
AROCLOR 1254	0.6000	0.5091	85

3

WATER AROCLOR MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 41106

MSBRE

COMPOUND	SPIKE ADDED (UG/L)	MSB CONCENTRATION (UG/L)	MSB % RECOVERY
AROCLOR 1242	0.6000	0.4496	75
AROCLOR 1254	0.6000	0.4876	81

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202114 (PBLK II)
Matrix:(soil/water) Water
Date Extracted: 12/09/93
Date Analyzed(1): 01/13/94
Time Analyzed(1): 1040
GC ID(1): HP2087
GC Column(1): RTx-5

Contract: 91082
Case: PCB
SDG No: 41106
Level(L/M): Low
Date Analyzed(2): 01/13/94
Time Analyzed(2): 1040
GC ID(2): HP2087
GC Column(2): RTx-35

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	205991	A66547	01/12/94	01/12/94
2	205992	A66548	01/12/94	01/12/94
3	205993	A66549	01/12/94	01/12/94
4	205994	A66550	01/12/94	01/12/94
5	205994MS	A66550MS	01/12/94	01/12/94
6	205994MD	A66550MSD	01/12/94	01/12/94
7	205995	MSB	01/12/94	01/12/94
8	205996	A66551	01/12/94	01/12/94
9	205997	A66552	01/12/94	01/12/94
10	205986	A66542	01/13/94	01/13/94
11	205987	A66543	01/13/94	01/13/94
12	205988	A66544	01/13/94	01/13/94
13	205989	A66545	01/13/94	01/13/94
14	205990	A66546	01/13/94	01/13/94
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1I

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41106

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 202114

Date Received:

Date Extracted: 12/09/93

Date Analyzed: 01/13/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202124 (PBLK2J)
Matrix:(soil/water) Water
Date Extracted: 01/20/94
Date Analyzed(1): 01/31/94
Time Analyzed(1): 2340
GC ID(1): HP2404
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 41106
Level(L/M): Low
Date Analyzed(2): 01/31/94
Time Analyzed(2): 2340
GC ID(2): HP2404
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	205986RI	A66542RE	02/01/94	02/01/94
2	205987RI	A66543RE	02/01/94	02/01/94
3	205988RI	A66544RE	02/01/94	02/01/94
4	205989RI	A66545RE	02/01/94	02/01/94
5	205990RI	A66546RE	02/01/94	02/01/94
6	205991RI	A66547RE	02/01/94	02/01/94
7	205992RI	A66548RE	02/01/94	02/01/94
8	205993RI	A66549RE	02/01/94	02/01/94
9	205994RI	A66550RE	02/01/94	02/01/94
10	205994MSRI	A66550MSRE	02/01/94	02/01/94
11	205994MDRI	A66550MSDRE	02/01/94	02/01/94
12	205995RI	MSBRE	02/01/94	02/01/94
13	205996RI	A66551RE	02/01/94	02/01/94
14	205997RI	A66552RE	02/01/94	02/01/94
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK2J

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41106

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 202124

Date Received:

Date Extracted: 01/20/94

Date Analyzed: 01/31/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Aroclor C ɔration Summary

RTX-5

Calibration of ɔ ɔan-1994 03:54 through 9-Jan-1994 01:22.
MCD1:[8080] 03,04 07JAN941940
METHOD: 8080_PCB:AN

JDS - h. _087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	7.234	23.954	5.0%	13.000	4.5%	0.621		0.524		0.140		0.098		0.251	
2	8.260	6.445	6.9%	4.013											
3	9.532	15.955	3.0%	10.827	2.6%	5.744	1.7%	4.305	3.1%	0.234					
4	9.811									1.555	7.9%	1.444	6.6%	1.482	5.8%
5	9.845	13.090	2.4%	10.425	2.8%	8.459	3.2%	6.450	4.1%						
6	10.027	41.889	0.9%	39.813	2.4%	38.544	0.4%	29.297	3.0%	2.781	7.9%	0.182		0.211	
7	10.654	0.743		2.256		5.350	2.8%	4.361		1.211					
8	11.332	7.011	17.	25.906	3.6%	58.231	4.4%	45.710	5.5%	25.435	2.3%	0.663		0.373	
9	11.399			16.345	5.7%	34.868	4.3%	27.310	4.8%	10.740				0.473	
10	11.676	0.820		2.538	12.1%	5.991	2.8%	4.758	7.7%	1.139					
11	11.954	5.519	5.0%	21.109	5.4%	47.889	1.7%	37.128	3.6%	15.922	4.1%	0.681		0.876	
12	12.514	0.962		4.313	3.7%	10.486	4.4%	7.927	5.3%	2.635	7.8%				
13	12.603	0.658		2.604	7.4%	6.312	5.5%	4.799	6.7%	0.871					
14	12.837	6.780	4.8%	33.300	1.9%	82.380	3.9%	61.037	3.8%	36.883	5.1%			0.520	
15	13.428	2.389		11.608	5.0%	27.752	4.4%	20.709	4.4%	10.788	5.8%	0.121			
16	13.603	0.830		4.394	3.8%	11.719	2.2%	9.154	1.8%	11.369	2.4%	0.441			
17	13.872	0.234		1.483	8.0%	4.130	6.2%	3.237	8.9%	4.367	6.1%	0.179			
18	13.975	2.209		13.764	5.4%	34.802	2.7%	27.318	2.8%	53.138	4.8%	40.791	1.7%	2.321	
19	14.127	2.093		12.189	8.5%	31.937	3.4%	24.768	4.1%	40.561	3.9%	12.130	6.8%		
20	14.259	1.188		7.191	7.8%	19.740	2.6%	15.382	3.0%	23.219	3.0%				
21	14.694	2.235	9.4%	15.620	1.8%	39.034	2.1%	30.143	2.2%	55.348	5.0%	21.673	4.5%	0.315	
22	14.818	1.131		8.350	6.7%	19.850	3.5%	16.371	3.6%	22.013	4.0%	2.640			
23	15.121	1.882		13.234	2.8%	33.565	2.5%	27.179	2.2%	45.000	6.3%	8.049	5.5%	0.252	
24	15.412	0.465		3.905	7.2%	8.662	6.0%	7.744	5.3%	12.412	7.4%	1.547			
25	15.908	0.874		6.262	7.7%	3.118	11.1%	14.131	5.7%	24.891	8.5%	6.604	11.0%		
26	16.033	1.735		12.614	4.5%	4.952	7.8%	26.284	4.7%	51.134	6.3%	24.884	6.2%	0.278	
27	16.179	2.006		13.931	3.2%	7.327	3.2%	28.910	4.4%	56.744	4.8%	67.479	4.0%	27.157	4.1%
28	16.408	0.354		1.325		1.040		3.311		8.668	1.1%	11.661	1.3%		
29	16.765	1.205		9.801	7.0%	0.438		21.247	4.3%	37.657	9.5%	18.775	5.0%	4.038	5.9%
30	16.957	0.811		4.503	4.7%	0.646		11.561	2.6%	31.111	3.3%	86.830	3.0%	31.888	4.4%
31	17.148	3.928		1.951		3.650		5.827	7.3%	18.587	22.	32.132	2.5%	4.645	
32	17.546			0.298				0.937		2.423		4.862	11.0%		
33	17.729	0.288		1.427				4.102	7.4%	11.249	5.6%	24.421	4.4%	1.296	
34	17.908	0.359		2.050				6.066	6.2%	16.970	5.6%	45.581	3.7%	5.247	13.4%
35	18.061	0.205		1.158				3.864	7.6%	10.681	6.4%	16.172	4.2%		
36	18.166											9.922	5.5%	16.327	1.3%
37	18.256	0.532		3.235				9.346	5.4%	27.653	6.6%	85.149	3.9%	15.355	6.9%
38	18.667	0.123		1.140				2.695		8.101	8.7%	19.434	5.3%	37.461	2.9%
39	19.086			1.944								45.869		83.032	4.7%
40	19.149			2.656				6.295		16.760	13.0%	54.193	6.2%		

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.8937 and decachlorobiphenyl at 29.1350.
2) Peaks chosen within window of +/- 0.01337 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07443.

Aroclor C( )ration Summary

RTX-5

Calibration of 8-Jan-1994 03:54 through 9-Jan-1994 01:22.
MCD1:[8080] 03,04 07JAN941940
METHOD: 8080_PCB:AN

JDS - HP2087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
41	19.473									0.861		7.036	13.7%	5.772	11.3%
42	19.708									0.861		8.588	7.4%	12.488	8.6%
43	19.917			0.642				0.777		2.150		38.335	1.5%	83.688	2.5%
44	20.045													34.679	3.6%
45	20.062											35.726	2.8%		
46	20.097			1.086				3.831		11.147	10.2%				
47	20.371							0.282		0.955		13.063	5.2%	30.776	5.9%
48	20.443			0.179										27.542	5.0%
49	20.617							0.212		0.362		5.362	8.8%		
50	20.702									0.383		6.469	6.3%	10.492	9.2%
51	20.898			0.605				1.242		3.407	12.6%	60.180	1.9%	82.487	5.9%
52	21.182							0.135		0.419		6.370	8.6%	13.896	4.9%
53	21.468			0.403						0.277		4.092	9.8%	58.291	2.5%
54	21.643			0.177								3.214		30.500	2.2%
55	21.869							0.496		1.137		17.251	5.1%	7.852	7.1%
56	22.026													8.771	6.2%
57	22.290			0.373						0.279		5.031	3.6%	57.514	1.8%
58	22.482			0.182						0.140		3.201	8.2%	32.153	1.6%
59	22.640													18.276	3.4%
60	22.675									0.448		8.172	7.6%		
61	22.857											2.126		5.623	8.8%
62	23.003											1.266		9.348	8.1%
63	23.228			0.810						0.608		9.888	2.1%	110.290	3.0%
64	23.668													4.391	5.7%
65	24.260			0.352						0.331		7.809	3.7%	50.511	2.1%
66	24.532			0.216						0.137		0.568		29.838	2.3%
67	24.718			0.248								0.687		32.585	1.6%
68	25.745											0.327		13.307	2.1%
69	26.399			0.245								0.542		28.289	2.2%
70	27.811	0.598		0.713		0.657		0.586		0.699		0.690		10.318	0.8%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	151.5	3.0%	348.7	4.5%	557.9	3.2%	567.8	4.0%	725.0	5.5%	890.6	3.9%	1043.5	3.9%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	8.8937	-.0137 to .0108	Passes...	2132.442	82.5 to 109.8%	** Fails *
decachlorobiphenyl	29.1350	-.0150 to .0117	Passes...	1319.215	91.1 to 131.2%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.8937 and decachlorobiphenyl at 29.1350.
2) Peaks chosen within window of +/- 0.01337 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07443.

Aroclor Ca ration Summary

Calibration of 8 -1994 03:54 through 9-Jan-1994 01:22.
MCD1:[8080] 03,04 07JAN941940
METHOD: 8080_PCB:AN

RTX-35

JDS - HP

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	6.701	19.246	7.1%	10.896	8.4%	0.565		0.645							
2	8.368	5.130	5.8%	4.202	6.7%	4.016	6.0%	3.174	7.0%	0.179					
3	8.706									1.106	6.7%	1.046	2.7%	1.068	
4	8.741	12.496	4.4%	8.718	4.3%	4.671	3.7%	3.599	3.2%						
5	9.158	9.868	2.5%	7.971	2.2%	6.156	4.3%	4.849	6.5%	0.375					
6	9.349	31.837	1.3%	30.982	0.7%	29.477	3.2%	22.753	2.0%	2.072	10.4%	0.150		0.211	
7	10.261	0.476		1.708	4.4%	4.138	3.4%	3.175	3.2%	0.878					
8	10.661	8.881	4.4%	27.448	3.3%	59.051	5.5%	46.574	6.3%	23.174	5.8%	0.888		0.643	
9	11.005	0.584		1.804		4.100	5.6%	3.170	4.2%	0.743					
10	11.323	1.466		6.554	4.0%	15.399	4.2%	11.766	1.8%	5.725	5.5%				
11	11.497	2.331	11.3%	9.804	3.0%	22.326	2.8%	17.294	1.9%	6.172	6.0%	0.108		0.091	
12	11.606	0.868		3.592	6.6%	8.525	4.6%	6.522	3.4%	2.076	14.7%				
13	11.701	0.543		2.056		4.893	5.5%	3.620	2.3%	0.758					
14	12.440	2.398	11.7%	12.771	7.4%	30.790	5.3%	23.272	3.9%	10.847	8.7%	0.182		0.139	
15	12.577	0.618		3.076		7.678	2.6%	5.827	5.3%	7.124	1.9%	0.792			
16	12.718	0.130		0.753		2.318	11.0%	1.630	7.4%	2.157	7.3%				
17	12.839	1.338		7.825	8.9%	19.365	9.4%	14.392	6.5%	6.963	10.7%	0.120		0.103	
18	13.085	1.801		10.908	1.2%	27.138	3.1%	21.424	4.1%	40.449	3.1%	30.824	3.1%	1.675	26.
19	13.228	1.621		9.660	2.0%	24.777	3.3%	19.498	4.2%	31.393	2.3%	9.701	7.2%		
20	13.295			5.258		13.240		10.528		16.548	5.3%				
21	13.393	0.772		4.541	7.3%	11.832	5.9%	9.322	7.5%	13.134	4.5%	1.457			
22	13.497	0.303		1.757		4.247	7.3%	3.336		4.678	7.7%				
23	14.055	1.761		12.427	3.8%	30.836	3.0%	24.514	2.6%	43.083	4.2%	16.436	3.5%	0.278	
24	14.173	0.925		6.098	1.9%	14.108	2.5%	11.737	3.5%	16.420	3.1%	2.154			
25	14.399	0.472		3.879	8.0%	9.548	3.9%	7.644	6.1%	12.765	5.7%	1.339			
26	14.482	0.970		7.093	5.5%	18.077	4.1%	15.004	4.0%	26.570	6.4%	5.547	10.3%	0.106	
27	14.574	0.471		3.382	4.3%	8.580	2.6%	7.123	3.6%	9.546	1.4%				
28	14.940	1.100		4.659	9.3%	3.065		10.682	5.1%	20.760	12.7%	5.480	10.3%		
29	15.028	0.693		3.763	5.7%	6.923	5.6%	7.591	4.1%	13.161	5.3%				
30	15.131	1.319		9.284	6.6%	4.050	6.8%	19.738	4.4%	39.389	7.4%	18.990	7.9%	0.201	
31	15.305	1.144		8.777	7.8%	2.516		18.570	4.0%	34.187	7.9%	7.990	4.8%	0.126	
32	15.477	0.493		2.887	5.8%	3.482	5.9%	6.645	4.8%	17.786	2.6%	47.039	3.4%	19.785	4.3%
33	15.674											11.815	4.8%	3.029	5.7%
34	15.731	0.098		0.830		0.645		2.488		6.366	9.7%	11.067	5.8%		
35	15.890	0.390		1.962		0.125		5.315	4.9%	15.254	4.2%	53.837	3.9%	22.338	4.4%
36	16.108											23.768	4.3%		
37	16.166	0.952		7.578	7.8%	0.269		16.911	5.4%	31.228	10.5%				
38	16.500	0.215		1.273		0.396		3.321	5.8%	9.583	4.1%	18.659	3.6%	1.004	27.

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.6321 and decachlorobiphenyl at 27.7071.
2) Peaks chosen within window of +/- 0.01337 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.02960.

Aroclor Ca ·ation Summary

RTX-35

Calibration of 8-..-1994 03:54 through 9-Jan-1994 01:22.
MCD1:[8080] 03,04 07JAN941940
METHOD: 8080_PCB:AN

JDS - HP2087

000275

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
39	16.742			0.226				0.575		1.770		3.491	8.8%		
40	16.957	0.191		1.104				3.204	4.9%	9.142	6.7%	19.034	5.7%	0.739	
41	17.188	0.411		1.569				4.243	13.0%	11.841	8.0%	33.489	7.1%	3.933	20.
42	17.385			0.658				2.127		6.971	12.8%	9.906	12.5%		
43	17.562	0.428		2.507				7.156	6.7%	21.589	8.2%	67.349	7.9%	10.857	
44	17.645													30.970	5.5%
45	17.884									0.088		6.631	22.	12.735	7.7%
46	18.216											48.664	4.5%	65.342	3.7%
47	18.235			1.589				3.752		10.942	13.3%				
48	18.488									0.545		6.653	9.9%	10.097	5.5%
49	18.717			0.551				0.856		2.347		33.015	6.3%	67.555	2.5%
50	19.545											32.453	6.4%	25.005	8.4%
51	19.641													20.112	10.3%
52	19.953			0.201				0.158		0.780		14.595	13.8%	35.798	3.7%
53	20.091			0.395				1.115		2.759		49.507	7.3%	54.941	4.7%
54	20.318			0.290						0.270		4.364	15.0%	45.782	1.9%
55	20.514									0.345		6.361	12.0%	24.408	4.7%
56	20.971											0.421		6.164	4.9%
57	21.458			1.225				2.033		2.627	53.	19.508	23.	56.259	8.3%
58	21.731			0.283								2.351		25.362	2.5%
59	21.911													14.144	3.0%
60	22.122			0.681				0.147		0.591		9.404	4.6%	95.585	3.5%
61	22.853													2.965	3.2%
62	23.410			0.244						0.173		1.484		30.762	2.0%
63	23.570			0.408						0.333		6.329	3.5%	54.953	3.0%
64	24.547	0.112		0.133		0.126		0.090		0.127		0.132		1.891	4.5%
65	25.043											0.231		9.876	1.3%
66	25.370			0.218								0.466		23.457	1.9%
67	26.563	0.517		0.596		0.562		0.526		0.600		0.617		8.740	1.6%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	115.4	3.9%	259.1	4.2%	408.0	4.4%	419.6	4.3%	546.5	6.2%	645.8	6.2%	789.2	4.1%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	7.6321	-.0165 to .0146	Passes...	1669.987	74.8 to 108.3%	** Fails *
decachlorobiphenyl	27.7071	-.0182 to .0129	Passes...	1153.447	90.2 to 127.9%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.6321 and decachlorobiphenyl at 27.7071.
2) Peaks chosen within window of +/- 0.01337 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.02960.

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTX-5
Col. 2: RTX-35

Calib date(s): 01/08/94 03:54 to 01/09/94 01:22

File: 03, 04 07JAN941940

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	50.3	97.7	206	396	801	
Cal Fact	1.006	0.977	1.030	0.990	1.001	2.0
% Diff	-1	2	-3	1	0	
Aroclor 1221	54.7	99.0	199	402	792	
Cal Fact	1.094	0.990	0.995	1.005	0.990	4.4
% Diff	-9	1	1	-1	1	
Aroclor 1232	39.1	87.9	184	407	788	
Cal Fact	0.782	0.879	0.920	1.018	0.985	10.1
% Diff	22	12	8	-2	2	
Aroclor 1242	43.6	98.6	211	394	797	
Cal Fact	0.872	0.986	1.055	0.985	0.996	6.8
% Diff	13	1	-6	2	0	
Aroclor 1248	50.5	95.6	205	372	824	
Cal Fact	1.010	0.956	1.025	0.930	1.030	4.5
% Diff	-1	4	-3	7	-3	
Aroclor 1254	47.3	96.9	197	412	797	
Cal Fact	0.946	0.969	0.985	1.030	0.996	3.2
% Diff	5	3	2	-3	0	
Aroclor 1260	50.6	99.9	202	387	811	
Cal Fact	1.012	0.999	1.010	0.968	1.014	1.9
% Diff	-1	0	-1	3	-1	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTx-5
Col. 2: RTx-35

Initial Calib.
date/time: 01/08/94 0354 to
01/09/94 0122

Check Standard File: 03,04 12JAN941121,05
Date: 01/12/94
Time: 1504

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1248	200	186	7.0

Check Standard File: 03,04 12JAN941121,06
Date: 01/12/94
Time: 1542

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	185	7.5

Check Standard File: 03,04 12JAN941121,17
Date: 01/12/94
Time: 2239

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	174	13.0

Check Standard File: 03,04 12JAN941121,18
Date: 01/12/94
Time: 2317

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	179	10.5

Check Standard File: 03,04 12JAN941542,12
Date: 01/13/94
Time: 0652

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	175	12.5

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTx-5
Col. 2: RTx-35

Initial Calib.
date/time: 01/08/94 0354 to
01/09/94 0122

Check Standard File: 03,04 12JAN941842,13
Date: 01/13/94
Time: 0730

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1260	200	186	7.0

Check Standard File: 03,04 12JAN941542,25
Date: 01/13/94
Time: 1505

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	170	15.0

Check Standard File: 03,04 12JAN941842,26
Date: 01/13/94
Time: 1543

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	180	10.0

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2404
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 28-JAN-94 18:01 to 29-JAN-94 14:57

File: 07, 08 27JAN941605

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	44.7	95.1	199	400	811	
Cal Fact	0.894	0.951	0.995	1.000	1.014	5.0
% Diff	11	5	1	0	-1	
Aroclor 1221	54.5	104	208	401	784	
Cal Fact	1.090	1.040	1.040	1.003	0.980	4.1
% Diff	-9	-4	-4	0	2	
Aroclor 1232	51.0	96.5	198	400	774	
Cal Fact	1.020	0.965	0.990	1.000	0.968	2.3
% Diff	-2	4	1	0	3	
Aroclor 1242	48.2	97.8	197	402	805	
Cal Fact	0.964	0.978	0.985	1.005	1.006	1.8
% Diff	4	2	2	-1	-1	
Aroclor 1248	51.4	96.0	201	396	806	
Cal Fact	1.028	0.960	1.005	0.990	1.008	2.5
% Diff	-3	4	-1	1	-1	
Aroclor 1254	47.8	97.1	245	396	764	
Cal Fact	0.956	0.971	1.225	0.990	0.955	11.4
% Diff	4	3	-23	1	5	
Aroclor 1260	47.0	97.3	197	400	809	
Cal Fact	0.940	0.973	0.985	1.000	1.011	2.8
% Diff	6	3	2	0	-1	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2404
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 01/28/94 1801 to
01/29/94 1457

Check Standard File: 07,08 31JAN941726,02
Date: 01/31/94
Time: 1507

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1248	200	182	9.0

Check Standard File: 07,08 31JAN941726,03
Date: 01/31/94
Time: 1844

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	179	10.5

Check Standard File: 07,08 31JAN941726,15
Date: 02/01/94
Time: 0207

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	190	5.0

Check Standard File: 07,08 31JAN941726,16
Date: 02/01/94
Time: 0244

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1242	200	187	6.5

Check Standard File: 07,08 31JAN941726,28
Date: 02/01/94
Time: 1007

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	194	3.0

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2404
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 01/28/94 1801 to
01/29/94 1457

Check Standard File: 07,08 31JAN94 1726,29
Date: 02/01/94
Time: 1044

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	208	4.0

Check Standard File: 07,08 31JAN94 1726,38
Date: 02/01/94
Time: 1618

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1248	200	193	3.5

Check Standard File: 07,08 31JAN94 1726,39
Date: 02/01/94
Time: 1655

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR1260	200	184	8.0

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

LTI–Limno-Tech, Inc.
Environmental Engineering
2395 Huron Parkway, Ann Arbor, MI 48104

CHAIN OF CUSTODY RECORD

PROJ. NO. 645.51

PROJECT NAME: KALAMAZOO RIVER-PORTAGE CREEK

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB	TSS					Temp	REMARKS
A66542	12-2	14:00		✓	SWP-2	3	2	1						
A66543	12-2	14:40		✓	SWP-1	3	2	1						
A66544	12-2	17:45		✓	SWP-2	3	2	1						
A66545	12-2	18:20		✓	SWP-1	3	2	1						
					Temp BLANK	1							1	Cooler # LTI-1

Please Return Cooler To

LIMNO-TECH INC.
1804 NAZARETH Rd
KALAMAZOO MI 49001
(616) 388-2038

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	12-3-93 18:20	[signature] 12/4/93 1200			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

COMMENTS: Sampled for Blasland + Bouck ENGINEERS P.C.

LTI–Limno-Tech, Inc.
Environmental Engineering
2395 Huron Parkway, Ann Arbor, MI 48104

CHAIN OF CUSTODY RECORD

000001

PROJ. NO.: 645.51
PROJECT NAME: KALAMAZOO RIVER-PORTAGE CREEK
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PUSH	PUSH					TEMP	REMARKS
A66546	12-2	21:15		✓	SWP-2	3	2	1						
A66547	12-2	21:45		✓	SWP-1	3	2	1						
A66548	12-3	9:15		✓	SWP-2	3	2	1						
A66549	12-3	9:40		✓	SWP-1	3	2	1						
					Temp Blank	2							2	Cooler # LTI-2

Please Return Coolers To

LIMNO TECH INC.
1804 NAZARETH RD
KALAMAZOO MI 49001
(616) 388-2038

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	12-3-93 18:20	12/4/93 1200			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

COMMENTS: SAMPLED FOR BLASLAND & BOUCK ENGINEERS P.C.

LTI–Limno-Tech, Inc.
Environmental Engineering
2395 Huron Parkway, Ann Arbor, MI 48104

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: KALAMAZOO RIVER-PORTAGE CREEK
SAMPLERS: (Signature) [signature], [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCBs	TSS					Temp	REMARKS
A66550	12-3	14:50		✓	SWP-2	7	6	1						Do PCB's as (MS/MSD)
A66551	12-3	15:40		✓	SWP-1	3	2	1						
A66552	—	—		✓	Duplicate	3	2	1						
—					Temp Blank	1							1	Cooler #LTI-3

Please Return Cooler To.
Limno Tech Inc.
1804 Nazareth Rd
Kalamazoo MI 49001
(616) 388-2038

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	12-3-93 18:20	[signature] 12/4/93 1200			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

COMMENTS: Sampled for Blasland & Bouck Engineers P.C.

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

7296618184

AIRBILL PACKAGE TRACKING NUMBER 7296618184

RECIPIENT'S COPY

Date 12-2-93

From (Your Name) Please Print: CHU T. PETERSON

Your Phone Number (Very Important): (313) 973-5300

Company: [illegible]

Department/Floor No.:

Street Address: [illegible]

City: [illegible] State: [illegible] ZIP Required: [illegible]

2 To (Recipient's Name) Please Print: Polly Malik

Recipient's Phone Number (Very Important): 802 [illegible]

Company: AQUATEC INC

Department/Floor No.:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 55 SOUTH PARK DRIVE

City: COLCHESTER State: VT ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): KZRIV-5

H IF HOLD FOR PICK-UP, Print FEDEX Address Here

Street Address:

City: State: ZIP Required:

PAYMENT 1 [✓] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

SERVICES (Check only one box)

Priority Overnight (Delivery AM next business morning)
11 [✓] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery!)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (* exceed business day 1!)
[ ] ECONOMY*

Government Overnight (Restricted for authorized users only)
46 [ ] GOV'T LETTER
41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Combined Reservation required)
80 [ ] TWO-DAY FREIGHT**

†Delivery commitment may be later in some areas. *Declared Value Limit $500. **Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [ ] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [✓]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [✓] DRY ICE (Dangerous Goods Shipper's Declaration not required) Dry Ice 9 LBS MAX. Kg-604.3B
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (Box right)
1	98	100.00
1	98	100.00
1	[illegible]	100.00
Total 3	Total 296	Total 300.00

DIM SHIPMENT (Chargeable Weight) [ ] _____ lbs.

L x W x H

Received At: 1 [ ] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] B.S.C. 5 [ ] Station

Emp. No. Date

[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address

City State Zip

Received By: X O. Gillis

Date/Time Received: 12/4/93 1200 FedEx Employee Number

7 Release Signature: 001300

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

REVISION DATE 11/92 PART #137204 FXEM 3/93 FORMAT #155

155

© 1992-93 FEDEX PRINTED IN U.S.A.

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): A Gibbons Log-in Date: 12-4-93

Received By (Signature): A. Gibbons

Case Number: PCB

Sample Delivery Group No: 411106

ETR Number: 411106

REMARKS:

1. Custody Seal(s) Present/~~Absent~~* Intact/~~Broken~~
2. Custody Seal Nos.: N/A
3. Chain-of-Custody Records Present/~~Absent~~*
4. Contract Lab Sample Information Sheets (CLSIS) ~~Present~~/Absent*
5. Airbill ~~Airbill/Sticker Present/Absent~~*
6. Airbill No.: 7296618184
7. Sample Tags ~~Present~~/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/~~Broken~~*/~~Leaking~~
9. Does information on custody records, CLSIS and sample tags agree? ~~Yes~~/No* see attached.
10. Date Received at Lab: Dec 4 93
11. Time Received: 1200
12. Cooler Temperature 0°

NYSDEC SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66542	N/A	205986	All coolers
A66543	"	205987	intact all
A66544	"	205988	seals on
A66545	"	205989	cooler intact
A66546	"	205990	all samples
A66547	"	205991	intact as
A66548	"	205992	were sample
A66549	"	205993	seals all
A66550	"	205994	packed with
MSB	"	205995	ice
A66551	"	205996	
A66552	"	205997	

Sample Transfer AEG

Fraction: all ~~[illegible]~~

Area #: 1 of 4 fridge

By: AEG

On: 12-4-93

AEG 12-4-93

* Contact BTSR and attach record of resolution.

Reviewed by: [illegible]

Date:

Logbook No:

Logbook Page No:

Form DC - 1

001301

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

SBG: 4/1/06
ETR: 4/1/06

Discrepancies between sample bottles/labels and C-of-C

(1) Both the C-O-C and bottles are not in correct military time.

(2) One of A66543 (205937) PCB Bottles says the time of collection was 1400 while the C-O-C says 1440 as do the other bottles

(3) A66542 (205936) one of its PCB bottles says 1440 while C-O-C and other bottles say 1400

(4) No year of collection on C-of-C. JLB 3/16

F-0169A0

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 41106

Project Number: 91032

Case No.: PCB

SDG Number: 41106

Placed in lvl 4 fridge AEG 12-4-93

Memo:

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
205986-97	AM	12/13/93 0945	TSS	12/13/93 1610

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 41106

Project Number: 91082

Case No.: PCB

SDG Number: 41106

Placed in level 4 Frdg. AEG 12-4-96

Memo:

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED

Laboratory Transfer Record

Sample Management

Aquatec, Inc.

ETR: 41106	Date: 12/13/93

Laboratory I.D.	Fraction/Analysis
2059906 → 205997	

Relinquished @ _____ by _____ Time: _____

Transported by _____

Received @ CP by FLD Time: 14:00

Sample Management

Aquatec, Inc.

ETR: 41106

Date: 1/21/94

Laboratory I.D.	Fraction/Analysis
PBLK2J	
205986R1	
205987R1	
205988R1	
205989R1	
205990R1	
205991R1	
205992R1	
205993R1	
205994R1	
205994MSR1	
205994MDR1	
205995R1	
205996R1	
205997R1	

Relinquished @ GMD by BDH Time: 14:45

Transported by BED

Received @ _____ by _____ Time: _____

000009

METHOD: 8 PCB:EXW MATRIX: WATER LEVEL: LOW Case: PCB SDG: 41106 BATCH ID: 3BN

CLIENT(s): BLAB02, 41106
CASE: PCB
SDG: 41106
DATE: 12/9/93
ANALYST: MTP
SPIKED BY: MTP
WITNESSED BY: SDW

001295

Lab sample id ETR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE1111930	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# GE0706930	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# G302162	5. Hex exchange Hexane lot# G30313	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# F42821	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 926305D	10.# Conc to 1.0ml
202114	PBLK1I	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
205986	A66542	1003	✓	✓		✓	✓	✓	✓	✓	✓	✓
205987	A66543	1005	✓	✓		✓	✓	✓	✓	✓	✓	✓
205988	A66544	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
205989	A66545	990	✓	✓		✓	✓	✓	✓	✓	✓	✓
205990	A66546	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
205991	A66547	999	✓	✓		✓	✓	✓	✓	✓	✓	✓
205992	A66548	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
205993	A66549	991	✓	✓		✓	✓	✓	✓	✓	✓	✓
205994	A66550	999	✓	✓		✓	✓	✓	✓	✓	✓	✓
205994MS	A66550MS	995	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
205994MD	A66550MSD	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
205995	MSB	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
205996	A66551	998	✓	✓		✓	✓	✓	✓	✓	✓	✓
205997	A66552	999	✓	✓		✓	✓	✓	✓	✓	✓	✓

12/13/93

12/13/93

29

Aquatec, Inc. – Extraction worksheet – printed by: MTP on 12-09-93 07:51:57

#Indicates numer...

METHOD: 8[illegible] PCB:EXW MATRIX: WATER RE-EXTRACT LEVEL: LOW case: PCB SDG: 41106 BATCH ID: 3KX

CLIENT(s): BLAB02/41106
CASE: PCB
SDG: 41106
DATE: 01/20/94
ANALYST: BDH JNW
SPIKED BY: JNW
WITNESSED BY: BDH

Lab sample id BTR	Client id	Sample Volume (1000ml)	pH between 5 and 9 1.	100 ul 0.2 ppm TCX/DCB surr. Surr lot# GR1227450 3 2.#	100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# GR0706950 2 3.#	Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# 638762 4.	Hex exchange Hexane lot# 621766 5.	Conc to 2-3 ml 6.	Sulfuric Acid Clean-up H2SO4 Lot# F42037 7.	Conc to 1.0ml 8.	3 gm silica gel clean-up Silica gel Lot# 926305D 9.	Conc to 1.0ml 10.#
202124	PBLK2J	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205986R1	A66542RE	1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205987R1	A66543RE	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205988R1	A66544RE	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205989R1	A66545RE	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205990R1	A66546RE	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205991R1	A66547RE	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205992R1	A66548RE	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205993R1	A66549RE	965	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205994R1	A66550RE	653	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205994MSR1	A66550MSRE	660	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
205994MSDR1	A66550MSDRE	649	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
205995R1	MSB RE	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
205996R1	A66551RE	1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
205997R1	A66552RE	1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓

JNW 1-21-94

BDH 1/21/94

001296

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

January 26, 1994

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. PCB; SDG No. 41311

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on December 16 and 29, 1993. The analyses for these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID		Aquatec Lab No.	Sample Matrix
Samples Received on December 16, 1993 ETR No. 41311			
~~A66003~~	A64003	206891	Water
~~A66004~~	A64004	206892	Water
Samples Received on December 29, 1993 ETR No. 41459			
~~A66005~~	A64005	207546	Water
~~A66006~~	A64006	207547	Water
~~A66007~~	A64007	207548	Water

Low surrogate recoveries for tetrachloro-m-xylene were observed in the method blanks associated with these samples.

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

KRC/jg

Enclosure

91082B15DEC93

MEMORANDUM

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

To: Doug Cowin **Date:** 7/16/99

From: Laurie Indick **cc:** MPB, AEG, file

Re: KRSG - Allied OU Sampling

Several surface water samples collected at the Allied-OU in 1993 and 1994 were assigned identification numbers which had been reserved for groundwater samples. In addition, two surface water samples collected in September 1994 were assigned non-standard identification numbers. To eliminate any confusion regarding the nature of the samples and to comply with database storage requirements, the numbers have been revised, as follows:

Sample Date	Original Identification Number (list on COC)	Revised Number
8/24/99	A66000	A64000
	A66001	A64001
	A66002	A64002
12/15/93	A66003	A64003
	A66004	A64004
	A66005	A64005
	A66006	A64006
	A66007	A64007
6/9/94	A66008	A64008
	A66009	A64009
9/8/94	A66010	A64010
	A66011	A64011
9/22/94	SWP-1	A64014
	SWP-2	A64013

lai/

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 41311

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLK3I	39	*	87	
2	A66003	60		95	
3	A66004	61		101	
4	PBLK5I	52	*	81	
5	A66005	65		77	
6	A66006	62		73	
7	A66007	64		78	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

		PROJECT SPECIFIC QC LIMITS
S1 (TCX) =	Tetrachloro-meta-Xylene	(60-150)
S2 (DEC) =	Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202116 (PBLK31)
Matrix:(soil/water) Water
Date Extracted: 12/20/93
Date Analyzed(1): 01/13/94
Time Analyzed(1): 2009
GC ID(1): HP2087
GC Column(1): RTx-5

Contract: 91082
Case: PCB
SDG No: 41311
Level(L/M): Low
Date Analyzed(2): 01/13/94
Time Analyzed(2): 2009
GC ID(2): HP2087
GC Column(2): RTx-35

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	206891	A66003	01/13/94	01/13/94
2	206892	A66004	01/13/94	01/13/94
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK3I

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41311

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 202116

Date Received:

Date Extracted: 12/20/93

Date Analyzed: 01/13/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202118(PBLK5I)
Matrix:(soil/water) Water
Date Extracted: 12/30/93
Date Analyzed(1): 01/18/94
Time Analyzed(1): 0842
GC ID(1): HP2618
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 41311
Level(L/M): Low
Date Analyzed(2): 01/18/94
Time Analyzed(2): 0842
GC ID(2): HP2618
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	207546	A66005	01/18/94	01/18/94
2	207547	A66006	01/18/94	01/18/94
3	207548	A66007	01/18/94	01/18/94
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK5I

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41311

Phase Type: Water
Phase Volume: 1000 (mL)
Injection Volume: 1.0 (uL)
Dilution Factor: 1.0

Lab Sample ID: 202118
Date Received:
Date Extracted: 12/30/93
Date Analyzed: 01/18/94
Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Aroclor C bration Summary

RTX-5

Calibration of 8-Jan-1994 03:54 through 9-Jan-1994 01:22.
MCD1:[8080] 03,04 07JAN941940
METHOD: 8080_PCB:AN

JDS - HP2087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	7.234	23.954	5.0%	13.000	4.5%	0.621		0.524		0.140		0.098		0.251	
2	8.260	6.445	6.9%	4.013											
3	9.532	15.955	3.0%	10.827	2.6%	5.744	1.7%	4.305	3.1%	0.234					
4	9.811									1.555	7.9%	1.444	6.6%	1.482	5.8%
5	9.845	13.090	2.4%	10.425	2.8%	8.459	3.2%	6.450	4.1%						
6	10.027	41.889	0.9%	39.813	2.4%	38.544	0.4%	29.297	3.0%	2.781	7.9%	0.182		0.211	
7	10.654	0.743		2.256		5.350	2.8%	4.361		1.211					
8	11.332	7.011	17.	25.906	3.6%	58.231	4.4%	45.710	5.5%	25.435	2.3%	0.663		0.373	
9	11.399			16.345	5.7%	34.868	4.3%	27.310	4.8%	10.740				0.473	
10	11.676	0.820		2.538	12.1%	5.991	2.8%	4.758	7.7%	1.139					
11	11.954	5.519	5.0%	21.109	5.4%	47.889	1.7%	37.128	3.6%	15.922	4.1%	0.681		0.876	
12	12.514	0.962		4.313	3.7%	10.486	4.4%	7.927	5.3%	2.635	7.8%				
13	12.603	0.658		2.604	7.4%	6.312	5.5%	4.799	6.7%	0.871					
14	12.837	6.780	4.8%	33.300	1.9%	82.380	3.9%	61.037	3.8%	36.883	5.1%			0.520	
15	13.428	2.389		11.608	5.0%	27.752	4.4%	20.709	4.4%	10.788	5.8%	0.121			
16	13.603	0.830		4.394	3.8%	11.719	2.2%	9.154	1.8%	11.369	2.4%	0.441			
17	13.872	0.234		1.483	8.0%	4.130	6.2%	3.237	8.9%	4.367	6.1%	0.179			
18	13.975	2.209		13.764	5.4%	34.802	2.7%	27.318	2.8%	53.138	4.8%	40.791	1.7%	2.321	
19	14.127	2.093		12.189	8.5%	31.937	3.4%	24.768	4.1%	40.561	3.9%	12.130	6.8%		
20	14.259	1.188		7.191	7.8%	19.740	2.6%	15.382	3.0%	23.219	3.0%				
21	14.694	2.235	9.4%	15.620	1.8%	39.034	2.1%	30.143	2.2%	55.348	5.0%	21.673	4.5%	0.315	
22	14.818	1.131		8.350	6.7%	19.850	3.5%	16.371	3.6%	22.013	4.0%	2.640			
23	15.121	1.882		13.234	2.8%	33.565	2.5%	27.179	2.2%	45.000	6.3%	8.049	5.5%	0.252	
24	15.412	0.465		3.905	7.2%	8.662	6.0%	7.744	5.3%	12.412	7.4%	1.547			
25	15.908	0.874		6.262	7.7%	3.118	11.1%	14.131	5.7%	24.891	8.5%	6.604	11.0%		
26	16.033	1.735		12.614	4.5%	4.952	7.8%	26.284	4.7%	51.134	6.3%	24.884	6.2%	0.278	
27	16.179	2.006		13.931	3.2%	7.327	3.2%	28.910	4.4%	56.744	4.8%	67.479	4.0%	27.157	4.1%
28	16.408	0.354		1.325		1.040		3.311		8.668	1.1%	11.661	1.3%		
29	16.765	1.205		9.801	7.0%	0.438		21.247	4.3%	37.657	9.5%	18.775	5.0%	4.038	5.9%
30	16.957	0.811		4.503	4.7%	0.646		11.561	2.6%	31.111	3.3%	86.830	3.0%	31.888	4.4%
31	17.148	3.928		1.951		3.650		5.827	7.3%	18.587	22.	32.132	2.5%	4.645	
32	17.546			0.298				0.937		2.423		4.862	11.0%		
33	17.729	0.288		1.427				4.102	7.4%	11.249	5.6%	24.421	4.4%	1.296	
34	17.908	0.359		2.050				6.066	6.2%	16.970	5.6%	45.581	3.7%	5.247	13.4%
35	18.061	0.205		1.158				3.864	7.6%	10.681	6.4%	16.172	4.2%		
36	18.166											9.922	5.5%	16.327	1.3%
37	18.256	0.532		3.235				9.346	5.4%	27.653	6.6%	85.149	3.9%	15.355	6.9%
38	18.667	0.123		1.140				2.695		8.101	8.7%	19.434	5.3%	37.461	2.9%
39	19.086			1.944								45.869		83.032	4.7%
40	19.149			2.656				6.295		16.760	13.0%	54.193	6.2%		

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.8937 and decachlorobiphenyl at 29.1350.
2) Peaks chosen within window of +/- 0.01337 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07443.

Aroclor C oration Summary

RTX-5

Calibration of 8-Jan-1994 03:54 through 9-Jan-1994 01:22.
MCD1:[8080] 03,04 07JAN941940
METHOD: 8080_PCB:AN

JDS - HP2087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
41	19.473									0.861		7.036	13.7%	5.772	11.3%
42	19.708									0.861		8.588	7.4%	12.488	8.6%
43	19.917			0.642				0.777		2.150		38.335	1.5%	83.688	2.5%
44	20.045													34.679	3.6%
45	20.062											35.726	2.8%		
46	20.097			1.086				3.831		11.147	10.2%				
47	20.371							0.282		0.955		13.063	5.2%	30.776	5.9%
48	20.443			0.179										27.542	5.0%
49	20.617							0.212		0.362		5.362	8.8%		
50	20.702									0.383		6.469	6.3%	10.492	9.2%
51	20.898			0.605				1.242		3.407	12.6%	60.180	1.9%	82.487	5.9%
52	21.182							0.135		0.419		6.370	8.6%	13.896	4.9%
53	21.468			0.403						0.277		4.092	9.8%	58.291	2.5%
54	21.643			0.177								3.214		30.500	2.2%
55	21.869							0.496		1.137		17.251	5.1%	7.852	7.1%
56	22.026													8.771	6.2%
57	22.290			0.373						0.279		5.031	3.6%	57.514	1.8%
58	22.482			0.182						0.140		3.201	8.2%	32.153	1.6%
59	22.640													18.276	3.4%
60	22.675									0.448		8.172	7.6%		
61	22.857											2.126		5.623	8.8%
62	23.003											1.266		9.348	8.1%
63	23.228			0.810						0.608		9.888	2.1%	110.290	3.0%
64	23.668													4.391	5.7%
65	24.260			0.352						0.331		7.809	3.7%	50.511	2.1%
66	24.532			0.216						0.137		0.568		29.838	2.3%
67	24.718			0.248								0.687		32.585	1.6%
68	25.745											0.327		13.307	2.1%
69	26.399			0.245								0.542		28.289	2.2%
70	27.811	0.598		0.713		0.657		0.586		0.699		0.690		10.318	0.8%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	151.5	3.0%	348.7	4.5%	557.9	3.2%	567.8	4.0%	725.0	5.5%	890.6	3.9%	1043.5	3.9%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	8.8937	-.0137 to .0108	Passes...	2132.442	82.5 to 109.8%	** Fails *
decachlorobiphenyl	29.1350	-.0150 to .0117	Passes...	1319.215	91.1 to 131.2%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.8937 and decachlorobiphenyl at 29.1350.
2) Peaks chosen within window of +/- 0.01337 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07443.

Aroclor C ɔration Summary

RTX-35

Calibration of 6 Jan-1994 03:54 through 9-Jan-1994 01:22.
MCD1:(8080) 03,04 07JAN941940
METHOD: 8080_PCB:AN

JDS - HP2087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	6.701	19.246	7.1%	10.896	8.4%	0.565		0.645							
2	8.368	5.130	5.8%	4.202	6.7%	4.016	6.0%	3.174	7.0%	0.179					
3	8.706									1.106	6.7%	1.046	2.7%	1.068	
4	8.741	12.496	4.4%	8.718	4.3%	4.671	3.7%	3.599	3.2%						
5	9.158	9.868	2.5%	7.971	2.2%	6.156	4.3%	4.849	6.5%	0.375					
6	9.349	31.837	1.3%	30.982	0.7%	29.477	3.2%	22.753	2.0%	2.072	10.4%	0.150		0.211	
7	10.261	0.476		1.708	4.4%	4.138	3.4%	3.175	3.2%	0.878					
8	10.661	8.881	4.4%	27.448	3.3%	59.051	5.5%	46.574	6.3%	23.174	5.8%	0.888		0.643	
9	11.005	0.584		1.804		4.100	5.6%	3.170	4.2%	0.743					
10	11.323	1.466		6.554	4.0%	15.399	4.2%	11.766	1.8%	5.725	5.5%				
11	11.497	2.331	11.3%	9.804	3.0%	22.326	2.8%	17.294	1.9%	6.172	6.0%	0.108		0.091	
12	11.606	0.868		3.592	6.6%	8.525	4.6%	6.522	3.4%	2.076	14.7%				
13	11.701	0.543		2.056		4.893	5.5%	3.620	2.3%	0.758					
14	12.440	2.398	11.7%	12.771	7.4%	30.790	5.3%	23.272	3.9%	10.847	8.7%	0.182		0.139	
15	12.577	0.618		3.076		7.678	2.6%	5.827	5.3%	7.124	1.9%	0.792			
16	12.718	0.130		0.753		2.318	11.0%	1.630	7.4%	2.157	7.3%				
17	12.839	1.338		7.825	8.9%	19.365	9.4%	14.392	6.5%	6.963	10.7%	0.120		0.103	
18	13.085	1.801		10.908	1.2%	27.138	3.1%	21.424	4.1%	40.449	3.1%	30.824	3.1%	1.675	26.
19	13.228	1.621		9.660	2.0%	24.777	3.3%	19.498	4.2%	31.393	2.3%	9.701	7.2%		
20	13.295			5.258		13.240		10.528		16.548	5.3%				
21	13.393	0.772		4.541	7.3%	11.832	5.9%	9.322	7.5%	13.134	4.5%	1.457			
22	13.497	0.303		1.757		4.247	7.3%	3.336		4.678	7.7%				
23	14.055	1.761		12.427	3.8%	30.836	3.0%	24.514	2.6%	43.083	4.2%	16.436	3.5%	0.278	
24	14.173	0.925		6.098	1.9%	14.108	2.5%	11.737	3.5%	16.420	3.1%	2.154			
25	14.399	0.472		3.879	8.0%	9.548	3.9%	7.644	6.1%	12.765	5.7%	1.339			
26	14.482	0.970		7.093	5.5%	18.077	4.1%	15.004	4.0%	26.570	6.4%	5.547	10.3%	0.106	
27	14.574	0.471		3.382	4.3%	8.580	2.6%	7.123	3.6%	9.546	1.4%				
28	14.940	1.100		4.659	9.3%	3.065		10.682	5.1%	20.760	12.7%	5.480	10.3%		
29	15.028	0.693		3.763	5.7%	6.923	5.6%	7.591	4.1%	13.161	5.3%				
30	15.131	1.319		9.284	6.6%	4.050	6.8%	19.738	4.4%	39.389	7.4%	18.990	7.9%	0.201	
31	15.305	1.144		8.777	7.8%	2.516		18.570	4.0%	34.187	7.9%	7.990	4.8%	0.126	
32	15.477	0.493		2.887	5.8%	3.482	5.9%	6.645	4.8%	17.786	2.6%	47.039	3.4%	19.785	4.3%
33	15.674											11.815	4.8%	3.029	5.7%
34	15.731	0.098		0.830		0.645		2.488		6.366	9.7%	11.067	5.8%		
35	15.890	0.390		1.962		0.125		5.315	4.9%	15.254	4.2%	53.837	3.9%	22.338	4.4%
36	16.108											23.768	4.3%		
37	16.166	0.952		7.578	7.8%	0.269		16.911	5.4%	31.228	10.5%				
38	16.500	0.215		1.273		0.396		3.321	5.8%	9.583	4.1%	18.659	3.6%	1.004	27.

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.6321 and decachlorobiphenyl at 27.7071.
2) Peaks chosen within window of +/- 0.01337 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.02960.

Aroclor Calibration Summary

RTX-35

Calibration of 8-Jan-1994 03:54 through 9-Jan-1994 01:22.
MCD1:[8080] 03,04 07JAN941940
METHOD: 8080_PCB:AN

JDS - HP2087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
39	16.742			0.226				0.575		1.770		3.491	8.8%		
40	16.957	0.191		1.104				3.204	4.9%	9.142	6.7%	19.034	5.7%	0.739	
41	17.188	0.411		1.569				4.243	13.0%	11.841	8.0%	33.489	7.1%	3.933	20.
42	17.385			0.658				2.127		6.971	12.8%	9.906	12.5%		
43	17.562	0.428		2.507				7.156	6.7%	21.589	8.2%	67.349	7.9%	10.857	
44	17.645													30.970	5.5%
45	17.884									0.088		6.631	22.	12.735	7.7%
46	18.216											48.664	4.5%	65.342	3.7%
47	18.235			1.589				3.752		10.942	13.3%				
48	18.488									0.545		6.653	9.9%	10.097	5.5%
49	18.717			0.551				0.856		2.347		33.015	6.3%	67.555	2.5%
50	19.545											32.453	6.4%	25.005	8.4%
51	19.641													20.112	10.3%
52	19.953			0.201				0.158		0.780		14.595	13.8%	35.798	3.7%
53	20.091			0.395				1.115		2.759		49.507	7.3%	54.941	4.7%
54	20.318			0.290						0.270		4.364	15.0%	45.782	1.9%
55	20.514									0.345		6.361	12.0%	24.408	4.7%
56	20.971											0.421		6.164	4.9%
57	21.458			1.225				2.033		2.627	53.	19.508	23.	56.259	8.3%
58	21.731			0.283								2.351		25.362	2.5%
59	21.911													14.144	3.0%
60	22.122			0.681				0.147		0.591		9.404	4.6%	95.585	3.5%
61	22.853													2.965	3.2%
62	23.410			0.244						0.173		1.484		30.762	2.0%
63	23.570			0.408						0.333		6.329	3.5%	54.953	3.0%
64	24.547	0.112		0.133		0.126		0.090		0.127		0.132		1.891	4.5%
65	25.043											0.231		9.876	1.3%
66	25.370			0.218								0.466		23.457	1.9%
67	26.563	0.517		0.596		0.562		0.526		0.600		0.617		8.740	1.6%
Total:		115.4	3.9%	259.1	4.2%	408.0	4.4%	419.6	4.3%	546.5	6.2%	645.8	6.2%	789.2	4.1%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	7.6321	-.0165 to .0146	Passes...	1669.987	74.8 to 108.3%	** Fails *
decachlorobiphenyl	27.7071	-.0182 to .0129	Passes...	1153.447	90.2 to 127.9%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.6321 and decachlorobiphenyl at 27.7071.
2) Peaks chosen within window of +/- 0.01337 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.02960.

CH030107.XLS

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTX-5
Col. 2: RTX-35

Calib date(s): 01/08/94 03:54 to 01/09/94 01:22

File: 03, 04 07JAN941940

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	50.3	97.7	206	396	801	
Cal Fact	1.006	0.977	1.030	0.990	1.001	2.0
% Diff	-1	2	-3	1	0	
Aroclor 1221	54.7	99.0	199	402	792	
Cal Fact	1.094	0.990	0.995	1.005	0.990	4.4
% Diff	-9	1	1	-1	1	
Aroclor 1232	39.1	87.9	184	407	788	
Cal Fact	0.782	0.879	0.920	1.018	0.985	10.1
% Diff	22	12	8	-2	2	
Aroclor 1242	43.6	98.6	211	394	797	
Cal Fact	0.872	0.986	1.055	0.985	0.996	6.8
% Diff	13	1	-6	2	0	
Aroclor 1248	50.5	95.6	205	372	824	
Cal Fact	1.010	0.956	1.025	0.930	1.030	4.5
% Diff	-1	4	-3	7	-3	
Aroclor 1254	47.3	96.9	197	412	797	
Cal Fact	0.946	0.969	0.985	1.030	0.996	3.2
% Diff	5	3	2	-3	0	
Aroclor 1260	50.6	99.9	202	387	811	
Cal Fact	1.012	0.999	1.010	0.968	1.014	1.9
% Diff	-1	0	-1	3	-1	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

000069

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2087
Col. 1: RTx-5
Col. 2: RTx-35

Initial Calib.
date/time: 01/08/94 - 0354 to
01/09/94 - 0122

Check Standard File: 03,04 12JAN941842,25
Date: 01/13/94
Time: 1505

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	170	15.0

Check Standard File: 03,04 12JAN941842,26
Date: 01/13/94
Time: 1543

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	180	10.0

Check Standard File: 03,04 12JAN941842,38
Date: 01/13/94
Time: 2319

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	152	24.0

Check Standard File: 03,04 12JAN941842,39
Date: 01/13/94
Time: 2357

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	177	11.5

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 14-JAN-94 16:07 to 15-JAN-94 12:07

File: 05, 06 14JAN941416

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	48.2	101	200	403	798	
Cal Fact	0.964	1.010	1.000	1.008	0.998	1.9
% Diff	4	-1	0	-1	0	
Aroclor 1221	61.2	106	207	411	792	
Cal Fact	1.224	1.060	1.035	1.028	0.990	8.5
% Diff	-22	-6	-4	-3	1	
Aroclor 1232	59.5	103	206	400	784	
Cal Fact	1.190	1.030	1.030	1.000	0.980	8.0
% Diff	-19	-3	-3	0	2	
Aroclor 1242	50.7	103	200	398	799	
Cal Fact	1.014	1.030	1.000	0.995	0.999	1.4
% Diff	-1	-3	0	1	0	
Aroclor 1248	58.8	94.9	201	396	801	
Cal Fact	1.176	0.949	1.005	0.990	1.001	8.6
% Diff	-18	5	-1	1	0	
Aroclor 1254	52.0	103	209	400	786	
Cal Fact	1.040	1.030	1.045	1.000	0.983	2.7
% Diff	-4	-3	-5	0	2	
Aroclor 1260	47.0	97.4	190	396	820	
Cal Fact	0.940	0.974	0.950	0.990	1.025	3.5
% Diff	6	3	5	1	-3	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 01/14/94 1607 to
01/15/94 1207

Check Standard File: 05,06 17JAN94 1941, 15
Date: 01/18/94
Time: 0400

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	183	8.5

Check Standard File: 05,06 17JAN94 1941, 16
Date: 01/18/94
Time: 0435

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	182	9.0

Check Standard File: 05,06 17JAN94 1941, 28
Date: 01/18/94
Time: 1139

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	184	8.0

Check Standard File: 05,06 17JAN94 1941, 29
Date: 01/18/94
Time: 1214

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	188	6.0

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 6455 1
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature) John J. Peterson, Brian D. Lord

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				TEMP	REMARKS
SWP-2	12-15-93	11:45		✓	A66003	3	2	1					
SWP-1	12-15-93	12:30		✓	A66004	3	2	1					
—	12-15	—			TEMP BLANK-	1						1	COOLER # LTI-6

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
John J. Peterson	12-15-93	15:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature) Janice Bond	DATE 12/16/93	TIME 1000	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000603

B-3

000001

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 64551
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature) John V. Peter, Brian D Lord

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				Temp	REMARKS
SWP-2	12-28	12:35		✓	A66005	3	2	1					
SWP-1	12-28	13:10		✓	A66006	3	2	1					
Dup	12-28	—		✓	A66007	3	2	1					
Temp	12-28				TEMP BLANK							1	Cooler # - LTI-6
													Please Return Cooler To
													Limno-Tech —
													1804 Nazareth Rd
													Kalamazoo MI 49001
													(616) 388-2038

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
John V. Peter	12-29-93	1530					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**
Relinquished by: (Signature)	**DATE**	**TIME**	**Received for Laboratory by: (Signature)**	**DATE**	**TIME**	**Remarks:**	
			Pat Poundstone	12/29/93	1000	Cooler temperature = 3°C	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

FEDERAL EXPRESS

[redacted]

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

7296618884

7296618884

RECIPIENT'S COPY

1 [redacted] Date

From (Your Name) Please Print | Your Phone Number (Very Important) ( )

Company | Department/Floor No.

Street Address

City | State | ZIP Required

2 To (Recipient's Name) Please Print | Recipient's Phone Number (Very Imoo ( )

Company | Department/Floor

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

City | State | ZIP Required

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address

City | State | ZIP Required

3 PAYMENT 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)	Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
11 [ ] OTHER PACKAGING	51 [ ] OTHER PACKAGING
16 [ ] FEDEX LETTER*	56 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*	52 [ ] FEDEX PAK*
13 [ ] FEDEX BOX	53 [ ] FEDEX BOX
14 [ ] FEDEX TUBE	54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)	Government Overnight (Restricted for authorized users only)
30 [ ] ECONOMY*	46 [ ] GOV'T LETTER
	41 [ ] GOV'T PACKAGE

*Economy Letter rate not available. Minimum charge. One pound economy rate

Freight Service (for packages over 150 lbs.)

70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required) 80 [ ] TWO-DAY FREIGHT**

†Delivery commitment may be later in some areas. *Declared Value Limit $500. **Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [x] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [ ]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice 9 UN 1845 X kg. 904 III
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See right)

Total | Total | Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

L x W x H

Received At
1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

Emp. No. | Date

[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address

City | State | Zip

Received By: x Jennie Banks

Date/Time Received: 12/16/93 1000 | FedEx Employee Number

000921

7 Release Signature:

Federal Express
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92
PART #137204 FXEM
FORMAT #155
155
© 1992-93 FEDEX
PRINTED IN U.S.A.

FEDERAL EXPRESS

[redacted]

QUESTIONS? CALL 800-238-5355 TOLL FREE.

7296618210

AIRBILL
PACKAGE
TRACKING NUMBER

7296618210

RECIPIENT'S COPY

1 [redacted] Date

From (Your Name) Please Print | Your Phone Number (Very Important) ( )

Company | Department/Floor No.

Street Address

City | State | ZIP Required

2 To (Recipient's Name) Please Print | Recipient's Phone Number (Very Impor ( )

Company | Department/Floor

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

City | State | ZIP Required

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address

City | State | ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card
5 ☐ Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)	Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
11 ☐ OTHER PACKAGING	51 ☐ OTHER PACKAGING
16 ☐ FEDEX LETTER*	56 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*	52 ☐ FEDEX PAK*
13 ☐ FEDEX BOX	53 ☐ FEDEX BOX
14 ☐ FEDEX TUBE	54 ☐ FEDEX TUBE
Economy Two-Day (Delivery by second business day †)	**Government Overnight** (Restricted for authorized users only)
30 ☐ ECONOMY*	46 ☐ GOV'T LETTER
	41 ☐ GOV'T PACKAGE

*Economy Letter rate not available. Minimum charge: One pound economy rate.

Freight Service. (for packages over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT** (Continued reservation required)
80 ☐ TWO-DAY FREIGHT**

†Delivery commitment may be later in some areas. *Declared Value Limit $500 **Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 ☐ HOLD FOR PICK-UP (Fill in Box H)
2 ☒ DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) ☐
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry ice, 9, UN 1845 x kg. 904 III
7 ☐ OTHER SPECIAL SERVICE
8 ☐
9 ☐ SATURDAY PICK-UP (Extra charge)
☐
12 ☐ HOLIDAY DELIVERY (Preferred) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
Total	Total	Total

DIM SHIPMENT (Chargeable Weight) ☐ lbs.
L x W x H

Received At
1 ☐ Regular Stop 3 ☐ Drop Box
4 ☐ B.S.C.
2 ☐ On-Call Stop 5 ☐ Station

Emp. No. | Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City | State | Zip

Received By: X Pat Poundstone

Date/Time Received 12/29/93 | FedEx Employee Number 1000

7 Release Signature:

000922

Federal Express
Base Charges
Declared Value C
Other 1
Other 2
Total Charges

REVISION DATE 11/92
PART #137204 FXEM
FORMAT #155

155

© 1992-93 FEDEX
PRINTED IN U.S.A.

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Janine L. Banks Log-in Date: 12/16/93

Received By (Signature): Janine L. Banks

Case Number: RCB

Sample Delivery Group No: 41311

ETR Number: 41311

REMARKS:

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos.: no #
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets Present/Absent*
5. Airbill Airbill Sticker Present/Absent*
6. Airbill No.: 729 6618884
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No*
10. Date Received at Lab: 12/16/93
11. Time Received: 1000
12. Cooler Temperature 3°C

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
AL6003	no tag	206891	Samples rec'd
AL6004	"	206892	intact, inside
			cooler with ice.
			Custody seals
Note: Mail lix not			were intact on
chicked off on bottles.			bottles & on
			outside of
(1) One bottle (TSS) for			cooler.
AL6004 has a date			
of 12:30 & no time			
listed. All other bottles			
& C-of-C say 12-15-93 @ 12:30.			
(2) No where does it clarify			
AM or PM.			

Sample Transfer

Fraction: All

Area #: Lab 4 fridge

By: JLB

On: 12/16/93

* Contact Project Director.

Reviewed by: [illegible]

Date:

Logbook No:

Logbook Page No:

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Pat Poundstone Log-in Date: 12/29/93

Received By (Signature): Pat Poundstone

Case Number: PCB

Sample Delivery Group No: 41311

ETR Number: 41459

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66005	no tag	207546	Samples were
A66006		207547	received intact
A66007		207548	inside a cooler
			packed with ice
			a chain-of-
			custody record
			was included
			with the samples.
			Cooler was intact
			as were custody
			seals on outside
			of cooler.

REMARKS:

1. Custody Seal(s) — Present/Absent* Intact/Broken
2. Custody Seal Nos.: No #s
3. Chain-of-Custody Records — Present/Absent*
4. Sample Information Sheets — Present/Absent*
5. Airbill — Airbill/Sticker Present/Absent*
6. Airbill No.: 7296618210
7. Sample Tags — Present/Absent*
   Sample Tag Numbers — Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No*
10. Date Received at Lab: 12/29/93
11. Time Received: 1000
12. Cooler Temperature 3°C

Sample Transfer

Fraction: all

Area #: Lvl 4 bridge

By: PKP

On: 12/29/93

PKP 12/29/93

* Contact Project Director.

Reviewed by: [illegible]

Date: 1/5/93

Logbook No:

Logbook Page No:

F-01691

000005

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 41459

Case No.: PCB

Project Number: 91082

SDG Number: 41311

Memo: Samples 207546 - 207548 placed in fridge on 12/29/93 @ 1300 hrs.
PKP

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
~~207546~~				
207546 ~~-48~~	PNM	1/3/94 1045	TSS	1/3/94 1510

F-0169

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 41311

Project Number: 91082

Case No.: RCB

SDG Number: 41311

000006

Memo: 206891,92 Placed in fridge 12/16/93 @1400. J. Banks

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
206891-92	PNM	12/20/93 1000	TSS	12/20/93

F-01691

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 41311

Project Number: 91082

Case No.: RCB

SDG Number: 41311

Memo: 206891,92 Placed in fridge 12/16/93 @1400. J.L.Banks

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
206891,92	JLB	12/20/93 1200	EXT	12/20/93 1230

Laboratory Transfer Record

Sample Management — Aquatec, Inc.

ETR: 41459 | Date: 12/30/93.

Laboratory ID.	Fraction/Analysis
207546 - 207548	8080 - PCB

Relinquished @ GMD by SDW Time: 1200

Transported by BED

Received @ _____ by _____ Time: _____

000008

METHOD: 8080 PCB:EXW **MATRIX: WATER** **LEVEL: LOW** case: PCB SDG: 41311 **BATCH ID: 3EN**

CLIENT(s): BLAB02

CASE:

SDG: 41311

DATE: 12.20.93

ANALYST: JSO

SPIKED BY: JSO

WITNESSED BY: MTP

Lab sample id BTR	Client id	Sample Volume (1000ml)	pH between 5 and 9 1.	100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE 1119301 2.#	100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# 3.#	Extract 3x with 60 ml CH_2Cl_2 CH_2Cl_2 lot# G30262 4.	Hex exchange Hexane lot# G30313 5.	Conc to 2-3 ml 6.	Sulfuric Acid Clean-up H_2SO_4 Lot# F42037 7.	Conc to 1.0ml 8.	3 gm silica gel clean-up Silica gel Lot# 926305D 9.	Conc to 1.0ml 10.#
202116	PBIK 3I	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
206891	A66003	995	✓	✓		✓	✓	✓	✓	✓	✓	✓
206892	A66004	993	✓	✓		✓	✓	✓	✓	✓	✓	✓

000916

JSO 12/21/93

JSO 12/21/93

Aquatec, Inc. -- Extraction worksheet printed by: MTP on 12.20.93 12:09:31

METHOD: 80' CB:EXW MATRIX: WATER LEVEL: LOW Case: PCB BATC ID: 3HI

CLIENT(s): BLMV-2, Y1459 SDG: 41311

CASE: PCB

SDG: 41311

DATE: 12/30/93

ANALYST: SDW

SPIKED BY: SDW

WITNESSED BY: BDH

Lab sample id BTR	Client id	Sample Volume (1000ml)	pH between 5 and 9 1.	100 ul 0.2 ppm TCX/DCB surr. Surr lot# GC1227303 2.#	100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# 3.#	Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# G35262 4.	Hex exchange Hexane lot# G36313 5.	Conc to 2-3 ml 6.	Sulfuric Acid Clean-up H2SO4 Lot# F42037 7.	Conc to 1.0ml 8.	3 gm silica gel clean-up Silica gel Lot# 94226 9.	Conc to 1.0ml 10.#
202118	PBLK 5I	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
207546	A66005	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
207547	A66006	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
207548	A66007	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓

SDW 12/30/93

SDW 12/30/93

000917

47

Aquatec, Inc. -- Extraction worksheet -- printed by: SDW on 12-30-93 07:50:33

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

May 20, 1994

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. PCB; SDG No. 43546

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on April.15 and 16, 1994. The analyses for these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on April 15, 1994 ETR No. 43546		
A66553	217792	Water
A66554	217793	Water
A66555	217794	Water
A66556	217795	Water
Samples Received on April 16, 1994 ETR No. 43565		
A66557	217883	Water
A66557MS	217883MS	Water
A66557MSD	217883MD	Water
A66557REP	217883DP	Water
MSB	217884	Water
A66558	217885	Water
A66559	217886	Water
A66560	217887	Water
A66561	217888	Water
A66562	217889	Water
A66563	217890	Water
A66568	217891	Water
A66569	217892	Water
A66580	217893	Water
A66581	217894	Water
A66582	217895	Water
A66583	217896	Water
A66584	217897	Water
A66585	217898	Water
A66586	217899	Water

Low surrogate recoveries for tetrachloro-m-xylene were observed for several samples in this delivery group.

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin
Laboratory Operations Director

KRC/jg

Enclosure

91082B26APR94

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 43546

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLK6K	48	*	91	
2	A66553	56	*	88	
3	A66554	59	*	83	
4	A66555	60		79	
5	A66556	55	*	76	
6	PBLK8K	45	*	86	
7	A66557	42	*	73	
8	A66557MS	60		89	
9	A66557MSD	65		90	
10	MSB	57	*	95	
11	A66558	69		97	
12	A66559	69		94	
13	A66560	56	*	91	
14	A66561	50	*	84	
15	A66562	61		94	
16	A66563	58	*	80	
17	A66568	68		90	
18	A66569	62		81	
19	A66580	56	*	83	
20	A66581	69		88	

		PROJECT SPECIFIC QC LIMITS
S1 (TCX) =	Tetrachloro-meta-Xylene	(60-150)
S2 (DEC) =	Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: B10
SDG No.: 43546

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	A66582	68		94	
2	A66583	62		84	
3	A66584	67		93	
4	A66585	56	*	79	
5	A66586	67		96	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

			PROJECT SPECIFIC QC LIMITS
S1 (TCX)	=	Tetrachloro-meta-Xylene	(60-150)
S2 (DEC)	=	Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

WATER AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 43546

Client Sample No.: A66557

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % RECOVERY
AROCLOR 1242	0.6012	0.102~~4~~2 mer 5/19/94	0.58~~04~~2 mer 5/19/94	80
AROCLOR 1254	0.6012	0.0	~~0.5064~~ 0.5074 mer 5/19/94	84

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % RECOVERY	RPD
AROCLOR 1242	0.5988	~~0.579~~ ~~0.5751~~ 0.574 mer 5/19/94	79	1
AROCLOR 1254	0.5988	~~0.5112~~ 0.510 mer 5/19/94	85	1

Comments:

WATER AROCLOR MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 43546

COMPOUND	SPIKE ADDED (UG/L)	MSB CONCENTRATION (UG/L)	MSB % RECOVERY
AROCLOR 1242	0.6000	0.4160	69
AROCLOR 1254	0.6000	0.4653	78

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202139 (PBLK8K)
Matrix:(soil/water) Water
Date Extracted: 04/21/94
Date Analyzed(1): 05/05/94
Time Analyzed(1): 2307
GC ID(1): HP2087
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 43546
Level(L/M): Low
Date Analyzed(2): 05/05/94
Time Analyzed(2): 2307
GC ID(2): HP2087
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	217883	A66557	05/05/94	05/05/94
2	217883MS	A66557MS	05/06/94	05/06/94
3	217883MD	A66557MSD	05/06/94	05/06/94
4	217884	MSB	05/06/94	05/06/94
5	217885	A66558	05/06/94	05/06/94
6	217886	A66559	05/06/94	05/06/94
7	217887	A66560	05/06/94	05/06/94
8	217888	A66561	05/06/94	05/06/94
9	217889	A66562	05/06/94	05/06/94
10	217890	A66563	05/06/94	05/06/94
11	217891	A66568	05/06/94	05/06/94
12	217892	A66569	05/06/94	05/06/94
13	217893	A66580	05/06/94	05/06/94
14	217894	A66581	05/06/94	05/06/94
15	217895	A66582	05/06/94	05/06/94
16	217896	A66583	05/06/94	05/06/94
17	217897	A66584	05/06/94	05/06/94
18	217898	A66585	05/06/94	05/06/94
19	217899	A66586	05/06/94	05/06/94
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK8K

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 43546

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 202139

Date Received:

Date Extracted: 04/21/94

Date Analyzed: 05/05/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202137 (PBLKGK)
Matrix:(soil/water) Water
Date Extracted: 04/20/94
Date Analyzed(1): 05/04/94
Time Analyzed(1): 1421
GC ID(1): HP2087
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 43546
Level(L/M): Low
Date Analyzed(2): 05/04/94
Time Analyzed(2): 1421
GC ID(2): HP2087
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	217792	A66553	05/04/94	05/04/94
2	217793	A66554	05/04/94	05/04/94
3	217794	A66555	05/04/94	05/04/94
4	217795	A66556	05/04/94	05/04/94
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK6K

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 43546

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 202137

Date Received:

Date Extracted: 04/20/94

Date Analyzed: 05/04/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

CH030501.XLS

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 01-MAY-1994 22:55 to 02-MAY-1994 19:16

File: 03, 04 01MAY942102

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	48.6	100	211	410	786	
Cal Fact	0.972	1.000	1.055	1.025	0.983	3.3
% Diff	3	0	-6	-3	2	
Aroclor 1221	53.9	111	210	414	773	
Cal Fact	1.078	1.110	1.050	1.035	0.966	5.1
% Diff	-8	-11	-5	-4	3	
Aroclor 1232	53.7	97.8	198	405	799	
Cal Fact	1.074	0.978	0.990	1.013	0.999	3.7
% Diff	-7	2	1	-1	0	
Aroclor 1242	44.8	96.5	201	407	801	
Cal Fact	0.896	0.965	1.005	1.018	1.001	5.0
% Diff	10	4	-1	-2	0	
Aroclor 1248	49.0	99.2	205	378	819	
Cal Fact	0.980	0.992	1.025	0.945	1.024	3.4
% Diff	2	1	-3	6	-2	
Aroclor 1254	47.0	99.3	202	384	817	
Cal Fact	0.940	0.993	1.010	0.960	1.021	3.5
% Diff	6	1	-1	4	-2	
Aroclor 1260	50.4	96.7	203	400	800	
Cal Fact	1.008	0.967	1.015	1.000	1.000	1.8
% Diff	-1	3	-2	0	0	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

000233

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 05/01/94 2255 to 05/02/94 1916

Check Standard File: 03,04 03MAY942020,25
Date: 05/04/94
Time: 1122

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	183	8.5

Check Standard File: 03,04 03MAY942020,26
Date: 05/04/94
Time: 1158

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	178	11.0

Check Standard File: 03,04 03MAY942020,37
Date: 05/04/94
Time: 1833

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1246	200	189	5.5

Check Standard File: 03,04 03MAY942020,38
Date: 05/04/94
Time: 1908

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	181	9.5

Check Standard File: 03,04 04MAY941837,38
Date: 05/05/94
Time: 1752

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	171	14.5

000234

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 05/01/94 2255 to 05/02/94 1916

Check Standard File: 03,04 04MAY941837,39
Date: 05/05/94
Time: 1828

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	170	15.0

Check Standard File: 03,04 05MAY942006,12
Date: 05/06/94
Time: 0243

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	173	13.5

Check Standard File: 03,04 05MAY942006,13
Date: 05/06/94
Time: 0319

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	177	11.5

Check Standard File: 03,04 05MAY942006,25
Date: 05/06/94
Time: 1031

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	185	7.5

Check Standard File: 03,04 05MAY942006,26
Date: 05/06/94
Time: 1107

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1260	200	185	7.5

000235

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 05/01/94 2255 to
05/02/94 1916

Check Standard File: 03,04 05MAY942006,33
Date: 05/06/94
Time: 1519

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	180	10.0

Check Standard File: 03,04 05MAY942006,34
Date: 05/06/94
Time: 1555

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	191	4.5

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

000236

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000003

PROJ. NO.: 64551
PROJECT NAME: Kalamazoo River - Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE (94)	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWP-1	4-11	21:45		✓	A66553	3	2	1					
SWP-2	4-11	22:15		✓	A66554	3	2	1					
SWP-1	4-12	8:30		✓	A66555	3	2	1					
SWP-2	4-12	9:00		✓	A66556	3	2	1					
Temp					Temp Blank	1						1	Cooler # 171

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-14-94	12:30					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**
Relinquished by: (Signature)	**DATE**	**TIME**	**Received for Laboratory by: (Signature)**	**DATE**	**TIME**	**Remarks:**	
				4/15/94	1030		

7/12/93
1363786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWP-2	4-14	23:30		✓	A66587	3	2	1					
SWP-2	4-14	23:50		✓	A66588	3	2	1					
Dup	—	—		✓	A66589	3	2	1					
													Cooler # - 8
—					Temp	1						1	
						/10							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	

7/12/93
1363798HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 545.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWP-2	4-14	23:30		✓	A66587	3	2	1					
SWP-2	4-14	23:50		✓	A66588	3	2	1					
Dup	—	—		✓	A66589	3	2	1					
													Cooler # - 8
—	—	—	—	—	Temp	1						1	
						/10							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:

7/12/93
1393756HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature) [signature]

ASH

STA. NO.	DATE (94)	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	PCB's As Ms/MSD	TSS			Temp	REMARKS
SWP-2	4-12	10:30		✓	A66557	7		6	1				PCB's As (Ms/MSD)
SWP-1	4-12	11:10		✓	A66558	3	2		1				
Dup	[redacted]	—		✓	A66559	3	2		1				
Temp	—	—	—	—	Temp	1						1	Cooler # – 200
						14							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	4-15-94	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 6H551
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TKN				Temp	REMARKS
SWP-7	4-12	12:30		✓	A66560	3	2	1					
SWP-12	4-12	13:00		✓	A66561	3	2	1					
SWP-7	4-12	14:30		✓	A66562	3	2	1					
SWP-12	4-12	15:00		✓	A66563	3	2	1					
					Temp	1						1	Cooler #LTI-2
						13							
													PLEASE RETURN COOLER TO:
													LIMNO-TECH, INC.
													1804 NAZARETH RD.
													KALAMAZOO, MI 49001
													(616) 388-2038

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	

7/12/93
1383786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO. 64551
PROJECT NAME Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE (94)	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				Temp	REMARKS
AVS SWP-2+	4-12	17:00		✓	A66564	3	2	1					
SWP-2	4-12	17:30		✓	A66565	3	2	1					
SWP-2+	4-12	19:00		✓	A66566	3	2	1					
SWP-2	4-12	19:30		✓	A66567	3	2	1					
					Temp	1						1	Cooler # – 249
						/13							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:

7/12/93
1393786HCOR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.5
PROJECT NAME: Kalamazoo River/Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				Temp	REMARKS
AES SWP2+	4-12	21:00		✓	A66568	3	2	1				1	
SWP2-2	4-12	21:30		✓	A66569	3	2	1				1	
SWP2+	4-12	23:30		✓	A66570	3	2	1				1	
SWP-2	4-12	23:55		✓	A66571	3	2	1				1	
					Temp	1						1	Cooler # - 261
						/13							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	12:00					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:

7/12/93
1363786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
Sup-2+	4-13	8:00		✓	A66574	3	2	1					
Sup-2	4-13	8:30		✓	A66575	3	2	1					
Sup-2+	4-13	12:30		✓	A66576	3	2	1					
					Temp	1						1	Cooler # - 19
						/10							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	12:00					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**
Relinquished by: (Signature)	**DATE**	**TIME**	**Received for Laboratory by: (Signature)**	**DATE**	**TIME**	**Remarks:**	

7/12/93
1383786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 64551
PROJECT NAME: Kalamazoo River/Portage Creek
SAMPLERS: (Signature) [signature]

STA. NO.	DATE (94)	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
swp-1-2	4-13	12:45		✓	A66577	3	2	1					
swp-2-1	4-13	17:00		✓	A66578	3	2	1					
swp-1-2	4-13	17:15		✓	A66579	3	2	1					
					Temp	1						1	Cooler # 1TI-3
													Please Return Cooler To:
													Lining Tech, Inc.
													1804 Nazareth RD.
													Kalamazoo, MI 49001

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	4-15-94	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature) [signature]

STA. NO.	94 DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	PCB's As As/MSD	TSS			Temp	REMARKS
AWD SWP-2	4-13	22:30		✓	A66580	7		6	1				PCB's As (MS/MSD)
SWP-1	4-13	23:00		✓	A66581	3	2		1				
Dup	—	—		✓	A66582	3	2		1				
													COOLER # LTI-1
—	—	—	—	—	Temp	1						1	PLEASE RETURN COOLER TO:
						/14							LIMNO-TECH, INC.
													1400 NAZARETH RD.
													KALAMAZOO, MI 49001
													(616) 348-2038

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	4-15-91	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE (-94)	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
Swp-2-1	4-14	12:30		✓	A66583	3	2	1					
Swp-2-2	4-14	12:45		✓	A66584	3	2	1					
Swp-2-3	4-14	16:45		✓	A66585	3	2	1					
Swp-2-4	4-14	17:00		✓	A66586	3	2	1					
													Cooler # 224
					Temp	1						1	
						13							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	12:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FR

PACKAGE TRACKING NUMBER

7296618280

RECIPIENT'S COPY

[redacted] Date 4-14-94

From (Your Name) Please Print	Your Phone Number (Very Important)	2 To (Recipient's Name) Please Print	Recipient's Phone Number (Very Important)
[illegible]	(313) 272-8300	Polly Mauk	[illegible]
Company	Department/Floor No.	Company	Department/Floor No.
[illegible]		[illegible] Quartec	
Street Address		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)	
[illegible]		[illegible] South [illegible]	
City / State	ZIP Required	City / State	ZIP Required
[illegible]	[illegible]	[illegible] VT	[illegible]

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

[illegible]

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City / State / ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card 5 ☐ Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)	Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
11 ☑ OTHER PACKAGING	51 ☐ OTHER PACKAGING
16 ☐ FEDEX LETTER*	56 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*	52 ☐ FEDEX PAK*
13 ☐ FEDEX BOX	53 ☐ FEDEX BOX
14 ☐ FEDEX TUBE	54 ☐ FEDEX TUBE
Economy Two-Day (Delivery by second business day †)	**Government Overnight** (Restricted for authorized users only)
30 ☐ ECONOMY*	46 ☐ GOV'T LETTER
	41 ☐ GOV'T PACKAGE

* Economy Letter rate not available. Minimum charge: One pound economy rate.

Freight Service (for packages over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT** (Confirmed reservation required) 80 ☐ TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas. *Declared Value Limit $500. **Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 ☐ HOLD FOR PICK-UP (Fill in Box H)
2 ☑ DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) ☐
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, ft. Mil 10/6, ... x ..... kg. 904 III
7 ☐ OTHER SPECIAL SERVICE
8 ☐
9 ☐ SATURDAY PICK-UP (Extra charge)
☐
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	11	[illegible]
Total 1	Total 11	Total [illegible]

DIM SHIPMENT (Chargeable Weight) ☐ lbs.
L x W x H

Received At
1 ☐ Regular Stop 3 ☐ Drop Box
2 ☐ On-Call Stop 4 ☐ B.S.C. 5 ☒ Station

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip
Received By: x [signature]
Date/Time Received FedEx Employee Number
4/15/94 1030

7 Release Signature:

000827

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155

155

© 1992-93 FEDEX
PRINTED IN U.S.A.

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

PALAAM TRACKING NUMBER

7296610271

RECIPIENT'S COPY

1 Date

From (Your Name) Please Print *

Your Phone Number (Very Important)

Company

Department/Floor No.

Street Address

City

State

ZIP Required

2 To (Recipient's Name) Please Print

Recipient's Phone Number (Very Important)

Company

Department/Floor No.

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

City

State

ZIP Required

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD FOR PICK-UP, Print FEDEX Address Here

Street Address

City

State

ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card

5 ☐ Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)

11 ☐ OTHER PACKAGING

10 ☐ FEDEX LETTER*

12 ☐ FEDEX PAK*

13 ☐ FEDEX BOX

14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon (or Saturday delivery))

51 ☐ OTHER PACKAGING

50 ☐ FEDEX LETTER*

52 ☐ FEDEX PAK*

53 ☐ FEDEX BOX

54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day †)

30 ☐ ECONOMY*

*Economy Letter rate not available. Minimum charge: One pound economy rate.

Government Overnight (Restricted for authorized users only)

46 ☐ GOVT LETTER

41 ☐ GOVT PACKAGE

Freight Service. (for packages over 150 lbs.)

70 ☐ OVERNIGHT FREIGHT** (Confirmed reservation required)

80 ☐ TWO-DAY FREIGHT**

†Delivery commitment may be later in some areas.

*Declared Value Limit $500.

**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 ☐ HOLD FOR PICK-UP (Fill in Box H)

2 ☐ DELIVER WEEKDAY

3 DELIVER SATURDAY (Extra charge) (Not available in all locations) ☑

4 ☐ DANGEROUS GOODS (Extra charge)

5 ☐

6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required

By Int. S.W.W. x ... kg. ☐

7 ☐ OTHER SPECIAL SERVICE

8 ☐

9 ☐ SATURDAY PICK-UP (Extra charge)

☐

12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
Total	Total	Total

DIM SHIPMENT (Chargeable Weight)

☐ lbs.

L x W x H

Received At

1 ☐ Regular Stop 3 ☐ Drop Box

2 ☐ On-Call Stop 4 ☐ B.S.C. 5 ☐ Station

7 Release Signature:

Emp. No. Date

☐ Cash Received

☐ Return Shipment

☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold

Street Address

City State Zip

Received By: x

Date/Time Received FedEx Employee Number

7/16/94 1045

000828

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT 6155

155

© 1992-93 FEDEX PRINTED IN U.S.A.

QUESTIONS? CALL 800-238-5355 TOLL FRE

PACKAGE TRACKING NUMBER

7296618302

RECIPIENT'S COPY

1 [redacted] Date 4-15-94

From (Your Name) Please Print: [illegible] | Your Phone Number (Very Important): (813) [illegible]

Company: [illegible] | Department/Floor No.:

Street Address: [illegible]

City: [illegible] | State: [illegible] | ZIP Required: [illegible]

2 To (Recipient's Name) Please Print: [illegible] | Recipient's Phone Number (Very Important): (803) [illegible]

Company: [illegible] | Department/Floor No.:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): [illegible]

City: [illegible] | State: VT | ZIP Required: [illegible]

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): [illegible]

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address:
City: | State: | ZIP Required:

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
- 11 [X] OTHER PACKAGING
- 16 [ ] FEDEX LETTER*
- 17 [X] FEDEX PAK*
- 13 [X] FEDEX BOX
- 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon for Saturday delivery)
- 51 [ ] OTHER PACKAGING
- 56 [ ] FEDEX LETTER*
- 52 [ ] FEDEX PAK*
- 53 [ ] FEDEX BOX
- 54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
- 30 [ ] ECONOMY*

* Economy Letter rate not available. Minimum charge: One pound economy rate.

Government Overnight (Restricted for authorized users only)
- 46 [ ] GOV'T LETTER
- 41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
- 70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
- 80 [ ] TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas. *Declared Value Limit $500 **Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)
- 1 [ ] HOLD FOR PICK-UP (Fill in Box H)
- 2 [ ] DELIVER WEEKDAY
- 3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [X]
- 4 [ ] DANGEROUS GOODS (Extra charge)
- 5 [ ]
- 6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
- Dry Ice 2 UN 1845 X kg. 904 lb
- 7 [ ] OTHER SPECIAL SERVICE
- 8 [ ]
- 9 [ ] SATURDAY PICK-UP (Extra charge)
- [ ]
- 12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	7	
1	7	
1	7	
Total 3	Total 17	Total 300

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

L x W x H

Received At
1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

Emp. No. | Date
- [ ] Cash Received
- [ ] Return Shipment
- [ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address:
City: | State: | Zip:

Received By: X [signature]

Date/Time Received: 4-16-94 1045 | FedEx Employee Number:

7 Release Signature:

000829

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92
PART #137204 FXEM 3/93
FORMAT #155

155

© 1992-93 FEDEX PRINTED IN USA

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): A Gibbons Log-in Date: 4/19/94

Received By (Signature): a Gibbons

Case Number: PCB

Sample Delivery Group No: ~~42738~~ 43546 aeg 4/19/94

ETR Number: 43546

REMARKS:

1. Custody Seal(s) ~~Present/Absent*~~ Intact/Broken
2. Custody Seal Nos.: N/A
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets ~~Present/Absent*~~
5. Airbill ~~Airbill/Sticker Present/Absent*~~
6. Airbill No.: 7226618280
7. Sample Tags ~~Present/Absent*~~
   Sample Tag Numbers ~~Listed/Not Listed~~ on Chain-of-Custody
8. Sample Condition: ~~Intact/Broken*/Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? ~~Yes/No*~~
10. Date Received at Lab: 4/15/94
11. Time Received: 1030
12. Cooler Temperature 6°C

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66553	N/A	217792	Cooler was
A66554	N/A	217793	Recv'd intacted
A66555	N/A	217794	custody seals
A66556	N/A	217794	on cooler were
			intacted. Samples
			were intacted
			packed with
			ice bags.
			JLB

Note: Samples collected on 4/11 & 4/12 were not rec'd at Aquatec till 4/15.

aeg 4/19/94

Sample Transfer

Fraction: all

Area #: 1 of 4 fridge

By: aeg

On: 4/15/94

* Contact Project Director.

Reviewed by: _____ Logbook No: _____

Date: _____ Logbook Page No: _____

000830

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

ETR: 04/19/94
43541

Discrepancies between sample bottles/labels and C-of-C

(1) Sample AG6555 both C-O-C and bottle labels have time as 8:30 which is not correct military time.

(2) Sample AG6556 sample time on C-O-C and bottle labels is not in military time (9:00)

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & GEOSCIENTISTS
6723 Towpath Road, Box 66, Syracuse, New York 13214 (315) 446-9120
FAX: (315) 446-0017

Confidentiality Notice

This facsimile transmission, including this Cover Sheet and any accompanying documents (individually and collectively, "the Transmission"), contains information from Blasland, Bouck & Lee, Inc. The Transmission is intended solely for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential, and/or otherwise exempt from disclosure under applicable law.

If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the Transmission to the intended recipient, you are hereby notified that any reading, copying, dissemination, distribution, taking of any action in reliance on the contents of the Transmission or other use of this Transmission or its substance is strictly prohibited. If you have received this Transmission in error, you are directed to call us collect to arrange for the return of the Transmission at our expense.

Thank you for your cooperation.

PANAFAX TRANSMISSION

TO: MAUREEN HENRY

FROM: LAURIE JOHNSTON

DATE: 4/14/94

PAGES: 3 **(including cover sheet)**

FAX NO.:

PROJECT NO.: 645.24

NOTES: OF THE SAMPLES LISTED, ONLY THOSE WHICH ARE CIRCLED SHOULD BE LOGGED IN AND ANALYZED – THE REST OF THE SAMPLES CAN BE TOSSED.

- [x] **Original will not follow**
- [ ] **Original will follow by:**
  - [ ] **Regular Mail**
  - [ ] **Overnight Courier** _____
  - [ ] **Courier**
  - [ ] **Other**

Environmental Engineering
2395 Huron Parkway, Ann Arbor, MI 48104

Time is approximate

DRAFT
SUBJECT TO REVISION

Subject	Page	By	Date	Project
Portage Creek - Event Sampling	1	JTP	4-12-94	SKZRV-1

4-12 - 7pm - Light Rain To 8pm - Sprinkles
8pm - Steady Light To Medium Rain - 10pm Rain Stopped 10:00 0.15

Samples - SWP-1 A66553 10:00 Gauge - 1.75 Light Stand 69
SWP-2 A66554 10:30

4-12 5:30am - Rain - steady Light - 7:30 0.3" TOTAL - 4.5"
7:30am - Rain - Light To Medium 1:30pm
3:30pm - 4:15pm - Medium To Hard 0.65 TOTAL - 1.1"
8:45pm - 9:15pm - Hard 0.2 TOTAL - 1.3"
11:30pm - Light Sprinkles + Fog - 12:00 - 0.0 TOTAL 1.3"

Approx Flow (cfs)

Samples SWP-1 A66555 8:30 Gauge 2.15 95
SWP-2 A66556 9:00

SWP-1 A66557 10:20 w/(MS/MSD) Gauge 2.3 105
SWP-2 A66558 11:00
Dup A66559 10:30 - SWP-1

SWP-1 A66560 12:30 Gauge - 2.5 118
SWP-2 A66561 13:00

SWP-1 A66562 14:30 Gauge - 2.65 128
SWP-2 A66563 15:00

SWP-1 A66564 17:00 Gauge - 2.65 128
SWP-2 A66565 17:30

SWP-1 A66566 19:00 Gauge - 2.55 121
SWP-2 A66567 19:30

SWP-1 A66568 21:00 Gauge - 2.5 From Load Bridge Angle North 118
SWP-2 A66569 21:30

SWP-1 A66570 23:30 Gauge 2.5 From Load Bridge 118
SWP-2 A66571 23:55 From Edge or Bank

4-13 SWP-1 A66572 04:00 Too Foggy - Too
SWP-2 A66573 04:30 Dangerous - Cancelled

12 midnight - Intermittent Light Rain 7am 0.15 TOTAL 1.45
7am - Intermittent Light Rain Sprinkles 12 - 0.05 TOTAL 1.50
SWP-1 A66574 8:00 Gauge - 2.3 105
SWP-2 A66575 8:30

DRAFT
SUBJECT TO REVISION

Environmental Engineering
2395 Huron Parkway, Ann Arbor, MI 48104

DRAFT
SUBJECT TO REVISION

Subject	Page	By	Date	Project
PORTAGE CREEK – EVENT SAMPLING	2	JTP	4-13-94	KZRIU-1

SWP-1	~~A665 76~~	12:30	Gauge – 2.2	98 cfs
SWP-2	~~A665 77~~	12:45		
SWP-1	~~A665 78~~	17:00	Gauge – 2.1	92
SWP-2	~~A665 79~~	17:15		
SWP-1	A665 80	22:30 (FIS/FSD)	Gauge – 2.0	85 Land Bridge
SWP-2	A665 81	23:00		Bank
Dup	A665 82	22:30 SWP-1		Lawn Bridge

DRAFT
SUBJECT TO REVISION

TOTAL P.003

000834

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 43546

Case No.: PCB

Project Number: 91082

SDG Number: 43546

Samples 217792-5 placed in lvl 4 fndg by Geog 4/19/94

000004

Memo:

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
~~SGB DEN~~				
217792-94	SGB-DEN	4/20/94 2145	TSS	4/20/94 214

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

TR Number: 43565

Case No.: PCB

roject Number: 91082

SDG Number: 43546

Samples 217883-899 placed in lv14 fridge by Aey on 4/19/94

MO:

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
217883-899	SLB-DBM	4/20/94 2145	TSS	4/20/94 2145

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 43546 | Date: 4.19.94

Laboratory I.D.	Fraction/Analysis
217792-5	2 1L Amber bottles per sample for PCB

Relinquished @ CP by [signature] Time: 1130

Transported by BED

Received @ [signature] by [signature] Time: 1200

Figure 9: F-0047

000006 (Nov '91)

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 43546 | Date: 4/29/94

Laboratory I.D.	Fraction/Analysis
217792-5	

Relinquished @ VSMD by VSC Time: 14.40

Transported by

Received @ CP by FLD Time: 1600

Figure 9: F-0047

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 43565 | Date: 4.20.94

Laboratory I.D.	Fraction/Analysis
217883, 893	6 1L amber for PCB
217885 - 892, 894-899	2 1L amber for PCB

Relinquished @ CP by [illegible] Time: 0900

Transported by BED

Received @ GMD by KNB Time: 0930

Figure 9: F-0047

(Nov '91)

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 43565	Date: 5-4-94

Laboratory I.D.	Fraction/Analysis
217883-899	

Relinquished @ GMD by VSC Time: 11.03

Transported by

Received @ CP by [illegible] Time: 14:00

Figure 9: F-0047

ETHOD: [redacted] PCB:EXW MATRIX: WATER LEVEL: LOW BA[redacted]H ID: 4SX

IENT(s): [redacted]02 ETR 43546

SE: [redacted]

G: [redacted]

TE: [redacted]1-94

IALYST: WMA

IKED BY:

ITNESSED BY: WMA

Lab sample id ETR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2. 100 ul 0.2 ppm TCX/DCB surr. Surr lot/ G GXUL 9402	3. 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot/ G G63 D5G2 02	4. Extract 3x with 60 ml CH_2Cl_2 CH_2Cl_2 lot/ G 6 2240	5. Hex exchange Hexane lot/ G 3033	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H_2SO_4 Lot/ G 3365	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot/ 9358 58	10. Conc to 1.0ml 000825
02139	PBLK8K	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
217883		1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
17883MS		998	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
217883MD		1002	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
17884	MSB	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
217885		1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
217886		1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
217887		1005	✓	✓		✓	✓	✓	✓	✓	✓	✓
217888		1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
217889		1005	✓	✓		✓	✓	✓	✓	✓	✓	✓
217890		1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
217891		987	✓	✓		✓	✓	✓	✓	✓	✓	✓
217892		997	✓	✓		✓	✓	✓	✓	✓	✓	✓
217893		997	✓	✓		✓	✓	✓	✓	✓	✓	✓
217894		988	✓	✓		✓	✓	✓	✓	✓	✓	✓
217895		1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
217896		994	✓	✓		✓	✓	✓	✓	✓	✓	✓
217897		996	✓	✓		✓	✓	✓	✓	✓	✓	✓
217898		1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
217899		1002	✓	✓		✓	✓	✓	✓	✓	✓	✓

VSC 5/4/94

VSC 5/4/94

Aquatec, Inc. -- Extraction worksheet -- printed by: WMA on 04-21-94 08:46:25

✓ Indicates

METHOD 8080_PCB:EXW MATRIX: WATER LEVEL: LOW BATCH ID: 4SR

CLIENT(s): LAB02 43546

CASE: PCB

SDG: 43546

DATE: 4/20/94

ANALYST: MTP

SPIKED BY: MTP

WITNESSED BY: [signature]

000826

Lab sample id STR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE04019402	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# GE07069302	4. Extract 3x with 60 ml CH_2Cl_2 CH_2Cl_2 lot#	5. Hex exchange Hexane lot#	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H_2SO_4 Lot#	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 934852	10.# Conc to 1.0ml
202137	PBIK 6K	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
217792		1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
217793		1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
217794		1003	✓	✓		✓	✓	✓	✓	✓	✓	✓
217795		990	✓	✓		✓	✓	✓	✓	✓	✓	✓
MSB		1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

VSC 4/29/94

VSC 4/29/94

Aquatec, Inc. -- Extraction worksheet -- printed by: MTP on 04-20-94 16:34:21

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

June 13, 1994

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. PCB; SDG No. 43567

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on April 16 and 19, 1994. The analyses for these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on April 16, 1994 ETR No. 43567		
A66587	217900	Water
A66588	217901	Water
A66589	217902	Water
K34000	217903	Water
K34001	217904	Water
K34002	217905	Water
K34002MS	217905MS	Water
K34002MSD	217905MD	Water
K34002REP	217905DP	Water
MSB	217906	Water
K34003	217907	Water
K34004	217908	Water
K34005	217909	Water
K34006	217910	Water
K34007	217911	Water
K34008	217912	Water
K34009	217913	Water
K34010	217914	Water
K34011	217915	Water
Samples Received on April 19, 1994 ETR No. 43608		
K34012	218241	Water
K34013	218242	Water
K34014	218243	Water
K34015	218244	Water
K34016	218245	Water

Low surrogate recoveries were observed for a few samples in this delivery group.

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

KRC/jg

Enclosure

91082B26APR94

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 43567

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLK9K	50	*	75	
2	A66587	62		86	
3	A66588	68		95	
4	A66589	67		90	
5	K34000	61		71	
6	K34001	67		87	
7	K34002	72		93	
8	K34002MS	72		90	
9	K34002MSD	66		86	
10	MSB	60		89	
11	K34003	71		95	
12	K34004	59	*	80	
13	K34005	70		97	
14	K34006	63		85	
15	K34007	63		90	
16	K34008	57	*	89	
17	K34009	71		102	
18	K34010	55	*	90	
19	K34011	25	*	43	*
20	~~PBLK30~~ PBLK7L	62		102	

ITS 06/06/94

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 43567

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#	
1	K34012	70		92		
2	K34013	76		91		
3	K34014	76		89		
4	K34015	72		87		
5	K34016	77		~~98~~ 99		LTS 04/08/94
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

WATER AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 43567

Client Sample No.: K34002

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % RECOVERY
AROCLOR 1242	0.5988	0.0388	0.4937	76
AROCLOR 1254	0.5988	0.0	0.4558	76

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % RECOVERY	RPD
AROCLOR 1242	0.5970	0.5256	82	8
AROCLOR 1254	0.5970	0.4485	75	1

Comments: AR1016 reported as AR1242 in sample.

WATER AROCLOR MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 43567

COMPOUND	SPIKE ADDED (UG/L)	MSB CONCENTRATION (UG/L)	MSB % RECOVERY
AROCLOR 1242	0.6000	0.4616	77
AROCLOR 1254	0.6000	0.4929	82

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202147 (PBLK7L)
Matrix:(soil/water) Water
Date Extracted: 04/22/94
Date Analyzed(1): 05/21/94
Time Analyzed(1): 0837
GC ID(1): HP2087
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 43567
Level(L/M): Low
Date Analyzed(2): 05/21/94
Time Analyzed(2): 0837
GC ID(2): HP2087
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	218241	K34012	05/21/94	05/21/94
2	218242	K34013	05/21/94	05/21/94
3	218243	K34014	05/21/94	05/21/94
4	218244	K34015	05/21/94	05/21/94
5	218245	K34016	05/21/94	05/21/94
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK7L

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 43567

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 202147

Date Received:

Date Extracted: 04/22/94

Date Analyzed: 05/21/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202140 (PBLK9K)
Matrix:(soil/water) Water
Date Extracted: 04/21/94
Date Analyzed(1): 05/20/94
Time Analyzed(1): 1842
GC ID(1): HP2087
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 43567
Level(L/M): LOW
Date Analyzed(2): ~~04/~~ 05/20/94 DPD 06/01/94
Time Analyzed(2): 1842
GC ID(2): HP2087
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	217900	A66587	05/20/94	05/20/94
2	217901	A66588	05/20/94	05/20/94
3	217902	A66589	05/20/94	05/20/94
4	217903	K34000	05/20/94	05/20/94
5	217904	K34001	05/20/94	05/20/94
6	217905	K34002	05/20/94	05/20/94
7	217905MS	K34002MS	05/21/94	05/21/94
8	217905MD	K34002MSD	05/21/94	05/21/94
9	217906	MSB	05/21/94	05/21/94
10	217907	K34003	05/21/94	05/21/94
11	217908	K34004	05/21/94	05/21/94
12	217909	K34005	05/21/94	05/21/94
13	217910	K34006	05/21/94	05/21/94
14	217911	K34007	05/21/94	05/21/94
15	217912	K34008	05/21/94	05/21/94
16	217913	K34009	05/21/94	05/21/94
17	217914	K34010	05/21/94	05/21/94
18	217915	K34011	05/21/94	05/21/94
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK9K

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 43567

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 202140

Date Received:

Date Extracted: 04/21/94

Date Analyzed: 05/20/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

CH030518.XLS

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 18-MAY-1994 18:00 to 19-MAY-1994 12:54

File: 03, 04 18MAY941615

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	45.4	98.3	212	408	785	
Cal Fact	0.908	0.983	1.060	1.020	0.981	5.7
% Diff	9	2	-6	-2	2	
Aroclor 1221	51.9	103	206	394	802	
Cal Fact	1.038	1.030	1.030	0.985	1.003	2.2
% Diff	-4	-3	-3	2	0	
Aroclor 1232	48.0	99.7	204	401	797	
Cal Fact	0.960	0.997	1.020	1.003	0.996	2.2
% Diff	4	0	-2	0	0	
Aroclor 1242	48.7	97.8	202	405	797	
Cal Fact	0.974	0.978	1.010	1.013	0.996	1.8
% Diff	3	2	-1	-1	0	
Aroclor 1248	48.8	98.6	207	398	797	
Cal Fact	0.976	0.986	1.035	0.995	0.996	2.2
% Diff	2	1	-4	1	0	
Aroclor 1254	49.2	98.3	201	403	799	
Cal Fact	0.984	0.983	1.005	1.008	0.999	1.2
% Diff	2	2	-1	-1	0	
Aroclor 1260	49.1	99.6	203	404	794	
Cal Fact	0.982	0.996	1.015	1.010	0.993	1.3
% Diff	2	0	-2	-1	1	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 05/18/94 1800 to
05/19/94 1254

Check Standard File: 03,04 19MAY941529,32
Date: 05/20/94
Time: 0848

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	206	3.0

Check Standard File: 03,04 19MAY941529,33
Date: 05/20/94
Time: 0922

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1260	200	208	4.0

Check Standard File: 03,04 20MAY941624,12
Date: 05/20/94
Time: 2236

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	205	2.5

Check Standard File: 03,04 20MAY941624,13
Date: 05/20/94
Time: 2310

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	223	11.5

Check Standard File: 03,04 20MAY941624,25
Date: 05/21/94
Time: 0551

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	213	6.5

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 05/18/94 1800 to
05/19/94 1254

Check Standard File: 03,04 20MAY94162426
Date: 05/21/94
Time: 0624

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	204	2.0

Check Standard File: 03,04 20MAY94162437
Date: 05/21/94
Time: 1231

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	211	5.5

Check Standard File: 03,04 20MAY94162438
Date: 05/21/94
Time: 1304

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	207	3.5

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

000250

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000003

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				Temp	REMARKS
SWP-1	4-14-94	23:30		✓	A66587	3	2	1					
SWP-2	4-14	23:50		✓	A66588	3	2	1					
Dup	—	—		✓	A66589	3	2	1					
													Cooler # - 8
—	—	—	—	—	Temp	1						1	
						/10							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	12:00					

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
				4/16/94	1215	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Turb	REMARKS
SWK-1	4-13	14:50	✓		K34000	3	2	1					
SWK-2	4-13	16:00	✓		K34001	3	2	1					
SWK-4	4-13	19:15	✓		K34003	3	2	1					
SWK-5	4-13	20:15	✓		K34004	3	2	1					
SWK-5	4-14	19:45	✓		K34011	3	2	1					
					Temp	1						1	Cooler # 208
						~~16~~ 16							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	17:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE: 4/16/94	TIME: 1245	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000094

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: KALAMAZOO River / Portage Creek
SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	PCB's AS (Ms/MSD)	TSS		Temp	REMARKS
SWP-3A	4-13	16:25		✓	K34002	7		6	1			
Duplicate	4-13	—		✓	K34005	3	2		1			
Rinse Blank	4-13	20:25	✓		K34006	2	2					
					Temp	1					1	Cooler # 220
						13						

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	4-15-94	17:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for laboratory by: (Signature) [signature]	DATE 4/16/94	TIME 1215	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000005

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO. 645.51
PROJECT NAME: Kalamazoo River/Portage Creek
SAMPLERS: (Signature)

STA. NO.	94 DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWK-1	4-14	14:00	✓		K34007	3	2	1					
SWK-2	4-14	15:45	✓		K34008	3	2	1					
SWP-3A	4-14	16:25		✓	K34009	3	2	1					
SWK-4	4-14	18:15	✓		K34010	3	2	1					
					Temp	1/13						1	Cooler # 259

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-15-94	17:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE: 4/16/94	TIME: 1045	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000006

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River/Portage Creek
SAMPLERS: (Signature)

STA. NO.	94 DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWK-5	4-15	19:45	✓		K 34016	3	2	1					
Duplicate	4-15	—	✓		K 34017	3	2	1					
RinseBlank	4-15	20:00	✓		K 34018	2	2	—					
SWK-1	4-16	12:25	✓		K 34019	3	2	1					
					Temp	1						1	Cooler # 120
						/12							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-18-94	10:00					
Relinquished by: (Signature)	**DATE**	**TIME**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**DATE**	**TIME**	**Relinquished by: (Signature)**
Relinquished by: (Signature)	**DATE**	**TIME**	**Received for Laboratory by: (Signature)**	**DATE**	**TIME**	**Remarks:**	
				4/19/94	1000		

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE (94)	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				Temp	REMARKS
SWK-1	4-15	16:10	✓		K 34012	3	2	1					
SWK-2	4-15	17:10	✓		K 34013	3	2	1					
SWP-3	4-15	17:25		✓	K 34014	3	2	1					
SWK-4	4-15	18:50	✓		K 34015	3	2	1					
					Temp	1						1	Cooler # 400
						13							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	4-18-94	10:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE: 4/19/94	TIME: 1000	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

4356 2

Copy original w/ etc 43565

QUESTIONS? CA[illegible]-238-5355 TOLL FREE.

TRACKING NUMBER

7296618302

RECIPIENT'S COPY

1 [redacted] Date

From (Your Name) Please Print | Your Phone Number (Very Important)

Company | Department/Floor No.

Street Address

City | State | ZIP Required

2 To (Recipient's Name) Please Print | Recipient's Phone Number (Very Im

Company | Department/Flo

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

55 [illegible] Drive

City | State | ZIP Required

VT

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD FOR PICK-UP, Print FEDEX Address Here

Street Address

City | State | ZIP Required

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
- 11 [X] OTHER PACKAGING
- 16 [ ] FEDEX LETTER*
- [X] FEDEX PAK*
- 13 [ ] FEDEX BOX
- 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon No Saturday delivery†)
- 51 [ ] OTHER PACKAGING
- 56 [ ] FEDEX LETTER*
- 52 [ ] FEDEX PAK*
- 53 [ ] FEDEX BOX
- 54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
- 30 [ ] ECONOMY*

* Economy Letter rate not available. Minimum charge: One pound economy rate

Government Overnight (Restricted for authorized users only)
- 46 [ ] GOV'T LETTER
- 41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
- 70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
- 80 [ ] TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas

*Declared Value Limit $500
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)
- 1 [ ] HOLD FOR PICK-UP (Fill in Box H)
- 2 [ ] DELIVER WEEKDAY
- 3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [X]
- 4 [ ] DANGEROUS GOODS (Extra charge)
- 5 [ ]
- 6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
- Dry Ice, 9, UN 1845, X kg. 904 III
- 7 [ ] OTHER SPECIAL SERVICE
- 8 [ ]
- 9 [ ] SATURDAY PICK-UP (Extra charge)
- [ ]
- 12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	67	
1	76	
Total 3	Total 174	Total 300

DIM SHIPMENT (Chargeable Weight) [ ] lbs x x

Received At
- 1 [ ] Regular Stop
- 2 [ ] On Call Stop
- 3 [ ] Drop Box
- 4 [ ] B.S.C.
- 5 [ ] Station

Emp. No. | Date

- [ ] Cash Received
- [ ] Return Shipment
- [ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address

City | State | Zip

Received By: X [signature]

Date/Time Received: 4-16-94 1045 | FedEx Employee Number

7 Release Signature:

Declared Value Ch

Other 1

Other 2

Total Charges

REVISION DATE 11/92
PART #137204 EXEM
FORMAT #155

155

© 1992 FEDEX
PRINTED IN U.S.A.

43567

Copy original w/etc. 43565

QUESTIONS? CALL [redacted] 238-5355 TOLL FREE.

TRACKING NUMBER

7296618291

RECIPIENT'S COPY

[redacted] Date [illegible]

1 From (Your Name) Please Print [illegible] Your Phone Number (Very Important) ( )

Company [illegible] Department/Floor No.

Street Address [illegible]

City [illegible] State [illegible] ZIP Required [illegible]

2 To (Recipient's Name) Please Print [illegible] Recipient's Phone Number (Very Important) ( )

Company [illegible] Department/Floor

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) [illegible] SOUTH PARK DRIVE

City COLCHESTER State VT ZIP Required 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.) [illegible]

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)	Standard Overnight (Delivery by next business afternoon No Saturday delivery†)
11 [X] OTHER PACKAGING	51 [ ] OTHER PACKAGING
16 [ ] FEDEX LETTER*	56 [ ] FEDEX LETTER*
12 [X] FEDEX PAK*	52 [ ] FEDEX PAK*
13 [ ] FEDEX BOX	53 [ ] FEDEX BOX
14 [ ] FEDEX TUBE	54 [ ] FEDEX TUBE
Economy Two-Day (Delivery by second business day †)	**Government Overnight** (Restricted for authorized users only)
30 [ ] ECONOMY*	46 [ ] GOV'T LETTER
	41 [ ] GOV'T PACKAGE

*Economy Letter rate not available. Minimum charge: One pound economy rate.

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required) 80 [ ] TWO-DAY FREIGHT**

†Delivery commitment may be later in some areas. *Declared Value Limit $500. **Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [ ] DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) [X]
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 X kg 904 III
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See right)

Total Total Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs x x

Received At
1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] On Call Stop 4 [ ] B.S.C. 5 [ ] Station

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip

Received By: X [signature]

Date/Time Received 4/10/94 FedEx Employee Number 1045

7 Release Signature:

Federal Express
Base Charge
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92
PART #137204 FXEM
FORMAT #155
155
© 1992 93 FEDEX
PRINTED IN U.S.A.

FEDERAL EXPRESS

[redacted]

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER 7296618335

7296618335

RECIPIENT'S COPY

1 [redacted] Date

From (Your Name) Please Print | Your Phone Number (Very Important)

Company | Department/Floor No.

Street Address

City | State | ZIP Required

2 To (Recipient's Name) Please Print | Recipient's Phone Number (Very Impor

Company | Department/Floor

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

City | State | ZIP Required

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address

City | State | ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card
5 ☐ Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
11 ☐ OTHER PACKAGING
16 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*
13 ☐ FEDEX BOX
14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery)
51 ☐ OTHER PACKAGING
56 ☐ FEDEX LETTER*
52 ☒ FEDEX PAK*
53 ☐ FEDEX BOX
54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 ☐ ECONOMY*
*Economy Letter rate not available. Minimum charge. One pound economy rate.

Government Overnight (Restricted for authorized users only)
46 ☐ GOV'T LETTER
41 ☐ GOV'T PACKAGE

Freight Service. (for packages over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT** (Confirmed reservation required)
80 ☐ TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas.
*Declared Value Limit $500.
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 ☐ HOLD FOR PICK-UP (Fill in Box H)
2 ☒ DELIVER WEEKDAY
3 DELIVER SATURDAY (Extra charge) (Not available to all locations) ☐
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 x kg. 904 III
7 ☐ OTHER SPECIAL SERVICE
8 ☐
9 ☐ SATURDAY PICK-UP (Extra charge)
☐
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE (See right)
1 | 900
1 | 40
1 | 73
Total | Total | Total
3 | 673

DIM SHIPMENT (Chargeable Weight)
☐ lbs.
L x W x H

Received At
1 ☐ Regular Stop | 3 ☐ Drop Box
2 ☐ On-Call Stop | 4 ☐ B.S.C. | 5 ☐ Station

Emp. No. | Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City | State | Zip
Received By: X Sheila M Wynkoop
Date/Time Received 4/19/94 | FedEx Employee Number 1000

7 Release Signature: 000782

Federal Express
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 11/92
PART #137204 FXEM
FORMAT #155
155
© 1992-93 FEDEX
PRINTED IN U.S.A.

FED EX PRIORITY OVERNIGHT AA

Emp# 44227 18APR94 11:04

Trk# 729 6618 335

MASTER TRACKING# 001/003

05446-VT-US

05BTV

908 2026 554

MPS

908 2026 563

000783

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): A Gibbons Log-in Date: 4.19.94

Received By (Signature): A Gibbons

Case Number: PCB

Sample Delivery Group No: 43567

ETR Number: 43567

REMARKS:

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos.: N/A
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 7296618291 7296618300
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No*
10. Date Received at Lab: 4.16.94
11. Time Received: 1045
12. Cooler Temperature 13, 8, 11, 8, 9, 10, 10, 13, 11, 12, 11, 9

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
a66587	N/A	217900	Coolers were
a66588		217901	Recvd intacted
a66589		217902	custody seals
K34000		217903	on the coolers
K34001		217904	were intacted
K34002		217905	Samples were
MSB		217906	intacted packed
K34003		217907	with bags of
K34004		217908	ice water
K34005		217909	
K34006		217910	
K34007		217911	
K34008		217912	
K34009		217913	
K34010		217914	
K34011		217915	

Sample Transfer

Fraction: all

Area #: 1v14 fridge

By: AEG

On: 4.19.94

AEG 4/19/94

* Contact Project Director.

Reviewed by: Logbook No:

Date: Logbook Page No:

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

SDG: 43527
ETR: 43527

Discrepancies between sample bottles/labels and C-of-C

1) Sample K34005 bottle label has no date or time C-O-C has a date of 4/13/94 and no time

Note: Samples collected 4/13/94 were not rec'd by Aquatec till 4/16/94.
JLB

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc.

Page 1 of 1

Received By (Print Name): Sheila M. Wynkoop

Log-in Date: 4/21/94

Received By (Signature): Sheila M Wynkoop

Case Number: PCB

Sample Delivery Group No: 43567

ETR Number: 43608

REMARKS:

1. Custody Seal(s) — Present/~~Absent*~~ Intact/~~Broken~~
2. Custody Seal Nos.: NO #'S
3. Chain-of-Custody Records — ~~Present/Absent*~~
4. Sample Information Sheets — ~~Present/Absent*~~ *
5. Airbill — Airbill — SMW 4/21/94 ~~Airbill/Sticker~~ ~~Present/Absent*~~
6. Airbill No.: 7291608335 9082026563 9082026564
7. Sample Tags — ~~Present/Absent*~~
   Sample Tag Numbers — ~~Listed~~/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/~~Broken*/Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? *see discrepancies — Yes/No*
10. Date Received at Lab: 4/19/94
11. Time Received: 1000
12. Cooler Temperature: NOT TAKEN

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
K34012	NO TAGS	218241	All samples
K34013		218242	rec'd intact
K34014		218243	inside coolers
K34015		218244	with ice.
K34016		218245	Coolers were
			intact as
Discrepancies			were custody
(1) C-of-C does not show			seals on the
a year in the date			outsides of
of collection for any			coolers. C-of-C
samples; samples			was present.
show a year in the			
date of collection.			

Sample Transfer

Fraction: all

Area #: level 4 fridge

By: SMW

On: 4/21/94

SMW 4/21/94

* Contact Project Director.

Reviewed by: _____ Logbook No: _____

Date: _____ Logbook Page No: _____

Case PCB
SDG: 43567
ETR: 43567

BLASLAND, BOUCK & LEE, INC.
ENGINEERS & GEOSCIENTISTS
6723 Towpath Road, Box 66, Syracuse, New York 13214 (315) 446-9120
FAX: (315) 449-0017

Confidentiality Notice

This facsimile transmission, including this Cover Sheet and any accompanying documents (individually and collectively, "the Transmission"), contains information from Blasland, Bouck & Lee, Inc. The Transmission is intended solely for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential, and/or otherwise exempt from disclosure under applicable law.

If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the Transmission to the intended recipient, you are hereby notified that any reading, copying, dissemination, distribution, taking of any action in reliance on the contents of the Transmission or other use of this Transmission or its substance is strictly prohibited. If you have received this Transmission in error, you are directed to call us collect to arrange for the return of the Transmission at our expense.

Thank you for your cooperation.

PANAFAX TRANSMISSION

TO: MAUREEN HENRY

FROM: LAURIE JOHNSTON

DATE: 4/14/94

PAGES: 3 **(including cover sheet)**

FAX NO.:

PROJECT NO.: 645.24

NOTES: OF THE SAMPLES LISTED, ONLY THOSE WHICH ARE CIRCLED SHOULD BE LOGGED IN AND ANALYZED – THE REST OF THE SAMPLES CAN BE TOSSED.

- [x] **Original will not follow**
- [ ] **Original will follow by:**
  - [ ] **Regular Mail**
  - [ ] **Overnight Courier** _____
  - [ ] **Courier**
  - [ ] **Other**

LTI-Limno-Tech, Inc.
Environmental Engineering
2395 Huron Parkway, Ann Arbor, MI 48104

Time is approximate

DRAFT
SUBJECT TO REVISION

Subject	Page	By	Date	Project
Portage Creek - Event Sampling	1	JTP	4-12-94	T-5 KZRV-1

4-12 - 7pm - Light Rain To 8pm - Sprinkles
8pm - Steady Light To Medium Rain - 10pm Rain Stopped 10:00 0.15

Samples - SWP-1 A66553 10:00 Gauge - 1.75 Light Stand 69
SWP-2 A66554 10:30

4-12 5:30am - Rain - steady Light - 7:30 0.3" Total - 4.5"
7:30am - Rain - Light To Medium 1:30pm
3:30pm - 4:15pm - Medium To Hard 0.65 Total - 1.1"
8:45pm - 9:15pm - Hard 0.2 Total - 1.3"
11:30pm - Light Sprinkles + Fog - 12:00 - 0.0 Total 1.3"

Approx Flow (cfs)

Samples SWP-1 A66555 8:30 Gauge 2.15 95
SWP-2 A66556 9:00

SWP-1 A66557 10:20 w/(MS/MSD) Gauge 2.3 105
SWP-2 A66558 11:00
Dup A66559 10:30 - SWP-1

SWP-1 A66560 12:30 Gauge - 2.5 118
SWP-2 A66561 13:00

SWP-1 A66562 14:30 Gauge - 2.65 128
SWP-2 A66563 15:00

SWP-1 A66564 17:00 Gauge - 2.65 128
SWP-2 A66565 17:30

SWP-1 A66566 19:00 Gauge - 2.55 121
SWP-2 A66567 19:30

SWP-1 A66568 21:00 Gauge - 2.5 From Land Bridge Moyko North 118
SWP-2 A66569 21:30

SWP-1 A66570 23:30 Gauge 2.5 From Land Bridge 118
SWP-2 A66571 23:55 → From Edge of Bank

4-13 SWP-1 A66572 04:00 Too Foggy - Too
SWP-2 A66573 04:30 Dangerous - Cancelled

12 midnight - intermittent Light Rain 7am 0.15 Total 1.45
7am - intermittent Light Rain Sprinkles 12m 0.05 Total 1.50
SWP-1 A66574 8:00 Gauge - 2.3 105
SWP-2 A66575 8:30

DRAFT
SUBJECT TO REVISION

LTI-Limno-Tech, Inc.
Environmental Engineering
2395 Huron Parkway, Ann Arbor, MI 48104

DRAFT
SUBJECT TO REVISION

Subject	Page	By	Date	Project
PORTAGE CREEK - EVENT SAMPLING	2	JTP	4-13-94	K2RIU-1

SWP-1	~~A665 76~~	12:30	Gauge - 2.2	98 cfs
SWP-2	~~A665 77~~	12:45		
SWP-1	~~A665 78~~	17:00	Gauge - 2.1	92
SWP-2	~~A665 79~~	17:15		
SWP-1	A665 80	22:30 (FS/FSD)	Gauge - 2.0	Land Bridge 85
SWP-2	A665 81	23:00		Bank
Dup	A665 82	22:30 SWP-1		Lawn Bridge

DRAFT
SUBJECT TO REVISION

TOTAL P.003

789

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

TR Number: 43567

Case No.: PCB

Project Number: 91082

SDG Number: 43567

217900-915 placed in lvl 4 fridge by Aeg 4/19/94

000019

emo:

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
217900-915	SGB-DEN	4/20/94 2145	TSS	4/20/94 214

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

:TR Number: 43608

'roject Number: 91082

Case No.: PCB

SDG Number: 43567

000010

lemo: Samples 218241-5 placed in fridge on 4/21/94 by SMW at 1000.

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
218241-45	PNT	4/22/94 1655	TSS	4/22/94 1730

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

TR Number: 43608

Project Number: 91082

Case No.: PCB

SDG Number: 43567

emo: Samples 218241-5 placed in fridge on 4/21/94 by SMW at 1000.

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
218241-218245	JEH	04/22/94 0655	Extraction	04/22/94 0730

Laboratory Transfer Record

Sample Management

Aquatec, Inc.

ETR: 43567	Date: 5/2/94

Laboratory I.D.	Fraction/Analysis
517900 - 905	

Relinquished @ GMD by VSC Time: 16.15

Transported by

Received @ CP by PLD Time: 0800

Figure 9: F-0047

(Nov '91)

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 43567 | Date: 4.20.94

Laboratory I.D.	Fraction/Analysis
217900-904, 907-15	2 1L Amber bottles/sample for PCB
217905	6 1L Amber bottles for PCB

Relinquished @ CP by ARG Time: 0900

Transported by BED.

Received @ GMD by FNB Time: 1000

Figure 9: F-0047

(Nov '91)

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 43608 | Date: 4/27/94

Laboratory I.D.	Fraction/Analysis
218241-5	

Relinquished @ GMD by VSC Time: 16.25

Transported by

Received @ CP by DKZ Time: 7:00

Figure 9: F-0047

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 43608 | Date: 4/21/94

Laboratory I.D.	Fraction/Analysis
218241-5	2x1L Amber PCB per

Relinquished @ CP by SMW Time: 1130

Transported by BeD

Received @ GRD by FMB Time: 1200

(Nov '91)

Figure 9: F-0047

METHOD: J_PCB:EXW MATRIX: WATER LEVEL: LOW BATCH ID: 4SU

CLIENT(s): BLAB02 ETR 43547

CASE: PCB

SDG: ~~43546~~ 43547

DATE: 4-21-94

ANALYST: WMA

SPIKED BY: JGA

WITNESSED BY: MTP

Lab sample id ETR	Client id	Sample Volume (1000ml)	pH between 5 and 9 1.	100 ul 0.2 ppm TCX/DCB surr. Surr lot# E040402 2.#	100 ul 6.0 ppm AR1242/1254 matrix Mix lot# E070403 3.#	Extract 3x with 60 ml CH_2Cl_2 CH_2Cl_2 lot# 648230 4.	Hex exchange Hexane lot# 630313 5.	Conc to 2-3 ml 6.	Sulfuric Acid Clean-up H_2SO_4 Lot# 630852 7.	Conc to 1.0ml 8.	3 gm silica gel clean-up Silica gel Lot# 613356 9.	Conc to 1.0ml 10.#
202140	PBLK9K	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217900	A66587	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217901	A66588	972	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217902	A66589	1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217903	K34000	1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217904	K34001	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217905	K34002	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217905MS	K34002MS	1002	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
217905MD	K34002MSD	1005	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
217906	MSB	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
217907	K34003	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217908	K34004	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217909	K34005	995	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217910	K34006	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217911	K34007	996	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217912	K34008	999	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217913	K34009	1005	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217914	K34010	1003	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
217915	K34011	1002	✓	✓	—	✓	✓	✓	✓	✓	✓	✓

VSC 5/2/94

5/2

METHOD: PCB:EXW **MATRIX: WATER** **LEVEL: LOW** **BA ID: 4TO**

CLIENT(s): BH BO 243608/43610

CASE: PCB Project: 91082

SDG: 43567/43610

DATE: 04/22/94

ANALYST: JEH

SPIKED BY: JEH

WITNESSED BY: FNB

JEH 06/08/94

Lab sample id	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# GC04019402	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# GE0206930	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# 045270	5. Hex exchange Hexane lot# G30315	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# ~~934~~ VSC 4/27/94 G30852	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 934852	10.# Conc to 1.0ml
~~214398~~	~~PB1K30~~	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
218241	K34012	996	✓	✓		✓	✓	✓	✓	✓	✓	✓
218242	K34013	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
218243	K34014	1005	✓	✓		✓	✓	✓	✓	✓	✓	✓
218244	K34015	1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
218245	K34016	1004	✓	✓		✓	✓	✓	✓	✓	✓	✓
218246	K34017	1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
218247	K34018	998	✓	✓		✓	✓	✓	✓	✓	✓	✓
218248	K34019	1005	✓	✓		✓	✓	✓	✓	✓	✓	✓
218249	K34020	999	✓	✓		✓	✓	✓	✓	✓	✓	✓
218250	K34021	1005	✓	✓		✓	✓	✓	✓	✓	✓	✓
218251	K34022	1003	✓	✓		✓	✓	✓	✓	✓	✓	✓
218252	K34023	999	✓	✓		✓	✓	✓	✓	✓	✓	✓
MSB		1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

VSC 4/27/94

VSC 4/27/94

Aquatec, Inc. -- Extraction worksheet -- printed by: JEH on 04-22-94 07:00:04

#Ir

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

October 4, 1994

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. PCB; SDG No. 46546

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on September 10, 1994. The analyses for these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on September 10, 1994 ETR No. 46546		
~~A66010~~ A64010	233760	Liquid
~~A66011~~ A64011	233761	Liquid

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

Enclosure

91082B31AUG94

MEMORANDUM

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

To: Doug Cowin **Date:** 7/16/99

From: Laurie Indick **cc:** MPB, AEG, file

Re: KRSG - Allied OU Sampling

Several surface water samples collected at the Allied-OU in 1993 and 1994 were assigned identification numbers which had been reserved for groundwater samples. In addition, two surface water samples collected in September 1994 were assigned non-standard identification numbers. To eliminate any confusion regarding the nature of the samples and to comply with database storage requirements, the numbers have been revised, as follows:

Sample Date	Original Identification Number (list on COC)	Revised Number
8/24/99	A66000	A64000
	A66001	A64001
	A66002	A64002
12/15/93	A66003	A64003
	A66004	A64004
	A66005	A64005
	A66006	A64006
	A66007	A64007
6/9/94	A66008	A64008
	A66009	A64009
9/8/94	A66010	A64010
	A66011	A64011
9/22/94	SWP-1	A64014
	SWP-2	A64013

lai/

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 46546

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PB1K4Q (224669)	69		98	
2	233760 (A66010)	93		86	
3	233761 (A66011)	85		78	
4	MSB	72		94	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

			PROJECT SPECIFIC QC LIMITS
S1 (TCX)	=	Tetrachloro-meta-Xylene	(60-150)
S2 (DEC)	=	Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

page 1 of 1

3E
AROCLOR
MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 46546

EPA Sample No.: MSB

Compound	SPIKE ADDED (ug/l)	MSB CONCENTRATION (ug/l)	MSB % REC #	QC LIMITS REC.
Aroclor 1242	0.600	0.560	93	39-150
Aroclor 1254	0.600	0.430	72	29-131

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

Comments:

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: PBW 4G(224669)
Matrix:(soil/water) WATER
Date Extracted: 09/15/94
Date Analyzed(1): 09/27/94
Time Analyzed(1): 1732
GC ID(1): HP-2057
GC Column(1): RTX-35

Contract: 9P082
Case: PCB
SDG No: 46546
Level(L/M): LOW
Date Analyzed(2): 09/27/94
Time Analyzed(2): 1732
GC ID(2): HP-2057
GC Column(2): RTX-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	933760	A66010	09/27/94	09/27/94
2	933761	A66011	09/27/94	09/27/94
3	MSB		09/27/94	09/27/94
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK4Q

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 46546

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 224669

Date Received:

Date Extracted: 09/15/94

Date Analyzed: 09/27/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Aroclor Calibration Summary

RTX-35

alibration of 23-Sep-1994 20:48 through 24-Sep-1994 15:54.
CD1:[8080] 03,04 23SEP941904
ETHOD: 8080_PCB:AN

DPD - HP2087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	3.747	18.268	11.8%	12.470		1.154		1.081				7.629		12.656	
2	4.668	5.686	10.8%	4.097	10.9%	3.921	7.3%	3.228	12.2%	0.282					
3	4.875	16.860	9.0%	10.804	6.5%	6.284	7.1%	5.285	9.4%	1.288		1.298		1.101	
4	5.118	12.052	6.6%	8.970	6.5%	7.394	5.2%	6.140	5.7%	0.557		0.139		0.103	
5	5.785	0.601		1.983		4.946	4.3%	4.129	5.1%	1.243					
6	6.035	14.562	5.0%	39.739	7.2%	87.193	5.0%	72.935	6.1%	36.858	5.4%	1.190		0.819	
7	6.255	0.609		2.214	9.4%	5.335	4.3%	4.396	4.2%	1.027					
8	6.461	1.848		8.184	4.6%	20.657	6.4%	16.883	4.3%	8.530	7.4%				
9	6.580	3.358		13.075	7.6%	30.570	5.5%	25.629	4.5%	9.988					
10	6.705	0.929		3.642		8.914		7.266	4.1%						
11	6.886	13.214		61.736	6.0%	150.817	2.9%	123.394	4.2%	91.705	11.0%				
12	7.218	4.141	18.	22.070	4.4%	55.035	3.9%	44.506	4.5%	21.833	6.6%	0.442			
13	7.319					10.431		8.766		11.193	5.8%	1.280			
14	7.417	0.184		1.121		3.132	10.1%	2.615	10.7%	3.603	9.2%	0.340		0.217	
15	7.499	2.495	7.9%	14.328	4.1%	36.789	6.7%	29.297	5.2%	15.277	8.3%	0.283		0.210	
16	7.681	2.962	7.5%	18.072	6.3%	47.500	4.1%	39.129	5.3%	76.832	5.6%	60.679	2.6%	2.981	3.1%
17	7.785	4.286		17.651	18.	43.339	5.8%	37.383	12.3%	60.147	6.6%	20.520	14.5%	2.487	
18	7.902	0.947		5.926		17.033	6.9%	14.022	5.3%	20.879	7.3%				
19	8.399	3.060	4.4%	21.610	3.6%	54.607	3.4%	46.100	3.4%	81.200	5.3%	31.854	8.0%	0.571	
20	8.484	1.270		8.649	4.0%	21.543	3.4%	18.766	2.9%	27.400	5.1%				
21	8.659	0.501		5.427		14.502	9.5%	12.048	8.3%	22.014	6.8%				
22	8.721	1.024		10.466	9.1%	28.910	9.3%	25.242	8.1%	47.820	7.2%	10.419	11.1%	0.300	
23	8.984			0.662		0.676		1.826		3.149	10.7%	0.578			
24	9.075	1.750	23.	12.050	42.	6.451	45.	24.544	8.6%	46.993	6.0%	33.374		10.711	
25	9.147			5.219		10.420	5.0%	11.936		20.995					
26	9.228	2.560	8.0%	18.564	4.4%	7.931	5.9%	42.838	4.7%	89.383	5.7%	48.140	7.1%	0.505	
27	9.366	2.239	9.5%	17.291	3.6%	4.859	6.1%	40.336	3.8%	77.064	6.1%	17.499	7.3%	0.326	
28	9.508	0.554		3.474	4.3%	5.378	5.0%	9.164	4.4%	28.007	4.8%	86.932	3.6%	33.877	2.4%
29	9.674											24.589	5.8%	5.080	3.1%
30	9.712	0.238		1.477		1.124		4.321	5.6%	11.230	6.2%				
31	9.844	0.652		3.299	4.0%	0.261		9.597	4.5%	29.811	5.3%	110.650	2.7%	43.259	3.0%
32	10.023											49.239	5.9%		
33	10.056	1.962		15.536	3.3%	0.586		37.807	4.5%	75.004	8.4%			0.290	
34	10.338	0.312		1.785		0.580		5.165	5.7%	16.302	5.5%	33.977	6.8%	1.525	
35	10.542			0.295				0.958		3.014	6.7%	6.458	9.9%		
36	10.722	0.452		1.961				5.744	4.8%	17.627	4.9%	38.439	7.0%	1.326	
37	10.917	0.735		2.562	5.8%			7.019	3.8%	22.431	6.2%	67.764	9.8%	6.447	2.3%

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 4.2577 and decachlorobiphenyl at 20.4997.
2) Peaks chosen within window of +/- 0.01538 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.05839.

000045

Aroclor Calibration Summary

RTX-35

Calibration of 23-Sep-1994 20:48 through 24-Sep-1994 15:54.
HCD1:[8080] 03,04 23SEP941904
METHOD: 8080_PCB:AN

DPD - HP2087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
38	11.080	0.240		1.240				4.318	5.6%	13.890	8.2%	21.921	11.5%		
39	11.233	0.726		4.348	3.5%			13.220	4.1%	42.918	7.0%	139.744	8.4%	20.398	
40	11.315													57.293	2.2%
41	11.517									0.740		11.500	12.2%	20.469	1.4%
42	11.752	0.502		2.424				9.666	4.8%	29.498	6.3%	104.237	7.7%		
43	11.801			2.390								92.444	3.7%	112.983	4.9%
44	12.050							0.181		0.533		12.445	8.9%	18.185	3.4%
45	12.250	0.130		1.033				1.858	5.6%	5.310	6.9%	74.832	5.4%	136.736	4.5%
46	12.403							0.320		0.868		3.771	5.1%		
47	12.927			2.599				7.360		20.953	4.8%				
48	12.963											58.096	6.4%	39.768	3.5%
49	13.059													29.629	4.2%
50	13.345			0.540				0.443		0.968		29.132	13.1%	67.893	3.9%
51	13.467			0.733				2.040		5.003	8.1%	104.181	9.9%	104.095	3:8%
52	13.683			0.475						0.383		6.410	12.9%	82.140	4.4%
53	13.852			0.183				0.170		0.633		10.876	11.3%	41.850	4.3%
54	14.266											0.667		10.386	5.7%
55	14.707			0.549						2.014		31.775	10.0%	86.430	3.5%
56	14.963													41.002	8.1%
57	15.047	1.391		1.368		0.807		1.383		1.733	58.	16.312	5.0%		
58	15.342			1.250				0.292		1.415		20.544	9.9%	187.690	5.5%
59	15.539											0.478		2.141	7.2%
60	16.001													4.140	8.7%
61	16.542			0.280						0.196		2.741		52.766	6.3%
62	16.688			0.483						0.501		12.116	11.7%	98.189	5.8%
63	18.078											0.455		15.818	4.3%
64	18.421			0.247								0.811		39.742	8.0%
65	19.544	0.667		0.692		0.825		0.857		0.842		0.966		12.792	9.0%
Total:		124.0	5.7%	397.2	4.5%	699.9	4.6%	791.6	5.3%	1109.1	6.5%	1410.2	8.3%	1407.3	5.3%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	4.2577	-.1133 to .0201	** Fails *	1809.290	64.1 to 130.5%	** Fails *
decachlorobiphenyl	20.4997	-.1130 to .0136	** Fails *	2037.661	78.4 to 131.1%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 4.2577 and decachlorobiphenyl at 20.4997.
2) Peaks chosen within window of +/- 0.01538 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.05839.

000046

Aroclor ibration Summary

RTX-5

:alibration of 23-Sep-1994 20:48 through 24-Sep-1994 15:54.
1CD1:[8080] 03,04 23SEP941904
1ETHOD: 8080_PCB:AN

DPD - nr2087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	4.055	22.108	2.2%	11.765		0.362		0.318							
2	5.366	22.270	5.4%	14.174	9.2%	7.860		6.526							
3	5.555	17.868	5.1%	13.676	8.9%	11.728		10.056	6.7%	2.352					
4	5.665	60.096	3.5%	54.197	11.2%	53.488	7.0%	45.145	8.0%	5.592					
5	6.493	9.935		33.523		77.989	6.9%	65.364	7.8%	38.179	5.9%	1.209			
6	6.544	13.625	9.3%	32.010								2.710		2.269	
7	6.720	1.117		3.388		8.336	5.2%	6.775	4.3%	1.822					
8	6.906	7.575	5.4%	28.597	8.6%	67.013	4.2%	56.069	5.9%	25.224	4.9%	1.336	83.	1.060	66.
9	7.116	1.830	7.5%	1.806	6.7%	1.659	8.2%	1.631	8.6%	2.140	8.4%	2.292	12.5%	1.413	6.0%
10	7.284	2.505		7.972	18.	17.956	4.8%	15.374	10.7%	6.192	24.				
11	7.345	1.213		4.565		11.004	4.2%	9.069	4.0%						
12	7.509	13.110	3.6%	64.136	5.3%	157.344	2.5%	128.573	3.3%	84.775	4.2%			1.212	
13	7.752	8.033		35.560		84.722	4.5%	70.123	6.1%	43.248					
14	7.935	4.048	7.4%	19.715	6.1%	47.880	4.0%	38.952	4.4%	21.387	5.5%	0.345		0.905	
15	8.068	0.892		5.132	5.9%	14.928	3.9%	12.245	4.3%	16.649	5.5%	0.740			
16	8.266	0.305		2.007		5.569	6.1%	4.560	5.1%	6.614	7.5%				
17	8.343	3.522		20.458	7.8%	52.495	5.6%	43.805	7.2%	88.212	6.7%	74.484	2.0%	3.802	
18	8.454	3.850		19.463	12.6%	49.256	6.1%	41.715	9.7%	69.241	6.9%	22.969	7.1%		
19	8.549	1.828		11.216	5.4%	32.192	3.1%	26.182	4.2%	41.816	4.5%	4.342		0.284	
20	8.885	3.456	7.0%	23.604	6.4%	61.110	3.6%	50.096	5.0%	95.682	4.9%	40.953	5.7%	0.561	
21	8.979	2.396		16.009	5.0%	35.861	3.2%	33.799	4.0%	39.654	5.1%	4.136		0.330	
22	9.213	2.928	7.3%	20.556	4.4%	55.683	3.4%	47.476	3.4%	83.225	5.4%	15.921	7.9%	0.439	
23	9.439	0.733		5.798	3.9%	13.339	4.4%	12.591	4.2%	21.255	6.3%	2.969	12.1%	0.102	
24	9.571	0.090		0.747		1.029		2.116	17.	2.050	14.4%	0.213			
25	9.735	0.179		0.973		0.861		4.022	42.	5.339	58.	0.989	12.2%	1.491	
26	9.834	1.803		12.062	6.3%	6.280	4.9%	29.448	5.0%	54.672	5.1%	16.305	8.1%	0.274	
27	9.935	3.352	11.2%	23.318	5.9%	9.496	5.1%	52.809	5.0%	108.588	5.0%	59.891	6.0%	0.645	
28	10.051	3.506	8.8%	24.555	5.5%	11.252	3.8%	56.328	4.9%	113.520	4.6%	117.146	1.8%	42.364	4.5%
29	10.245	0.610		1.762		1.417		4.136	3.1%	12.398	5.8%	19.312	5.1%		
30	10.530	2.453	7.0%	19.098	4.4%	0.852		44.616	4.0%	84.813	5.8%	36.489	4.7%	6.857	3.4%
31	10.697	1.166		6.018	5.1%	0.963		16.985	4.6%	50.530	5.1%	158.179	1.4%	54.765	5.6%
32	10.859	0.713		2.739				9.557	9.0%	27.837	4.1%	60.756			
33	11.186			0.406				1.309		4.098	7.6%	8.525	8.4%	0.202	
34	11.340	0.359		2.100				6.599	6.1%	20.820	5.5%	46.908	6.2%	1.217	
35	11.492	0.569		3.248	4.6%			10.298	4.7%	31.664	5.3%	90.535	8.0%	8.568	3.3%
36	11.621	0.329		1.763				6.212	5.2%	19.260	6.4%	29.499	8.2%		
37	11.713													23.184	4.5%
38	11.789	1.028		6.158	4.1%			18.249	4.2%	56.138	5.3%	176.711	6.9%	26.966	2.3%
39	12.143	0.298		1.924				4.832	8.0%	15.352	5.7%	34.696	6.4%	58.515	4.9%
40	12.516													134.921	7.2%

Notes:

1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 4.9939 and decachlorobiphenyl at 21.4430.
2) Peaks chosen within window of +/- 0.01538 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.08296.

000047

Aroclor Calibration Summary

RTX-5

Calibration of 23-Sep-1994 20:48 through 24-Sep-1994 15:54.
ICD1:[8080] 03,04 23SEP941904
METHOD: 8080_PCB:AN

DPD - HP2087

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
41	12.566	1.190		4.183				13.176	10.0%	37.131	4.8%	131.356	4.9%		
42	12.851											9.759	10.8%	8.245	6.0%
43	13.070			0.090				0.177		0.747		15.371	8.3%	22.331	4.8%
44	13.256	0.082		1.021				1.363		4.045	8.8%	79.436	3.3%	155.452	6.6%
45	13.358													52.400	3.1%
46	13.388	0.374		2.320				8.721	5.5%	27.903	6.2%	83.729	8.7%		
47	13.656			0.311				0.375		1.408		24.951	8.1%	55.841	3.7%
48	13.713													38.332	3.9%
49	13.877							0.758		1.045		11.015	6.0%		
50	13.951									0.731		11.907	7.0%	16.207	2.5%
51	14.126	0.155		1.157				2.848	5.1%	7.684	7.3%	139.360	6.6%	163.903	3.5%
52	14.388			0.147				0.261		0.893		11.604	9.2%	20.648	4.7%
53	14.654			0.597		1.051				0.463		7.348	9.9%	93.306	5.9%
54	14.814			0.236						0.217		5.998	12.8%	48.325	5.5%
55	14.999	4.481		8.680		2.746		4.915		6.596	71.	41.732	11.4%	18.667	29.
56	15.156											1.182		13.125	5.7%
57	15.401			0.524						0.469		9.163	8.9%	91.068	5.0%
58	15.575			0.266						0.257		5.783	10.1%	51.091	4.8%
59	15.721													30.655	3.7%
60	15.746							0.448		1.063		20.489	10.2%		
61	15.924									0.329		4.235	19.	7.688	6.3%
62	16.070											2.296		15.572	6.9%
63	16.281			1.217				0.140		1.006		20.380	8.9%	202.089	4.7%
64	17.234			0.564						0.622		15.923	10.6%	92.005	5.5%
65	17.505			0.419						0.276		0.915		44.397	7.0%
66	17.679			0.331						0.266		1.259		50.564	5.7%
67	18.149											0.765		2.959	7.4%
68	18.642											0.656		20.127	7.6%
69	19.281			0.345						0.260		1.080		48.988	8.1%
70	19.455													3.172	10.3%
71	20.477	0.668		0.850		1.009		1.089		0.864		1.201		16.220	13.2%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	228.6	3.9%	579.5	5.8%	904.7	4.3%	1028.2	5.4%	1394.6	5.1%	1689.5	5.7%	1755.7	5.3%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	4.9939	-.1272 to .0172	** Fails *	2478.035	71.7 to 128.8%	** Fails *
decachlorobiphenyl	21.4430	-.1297 to .0126	** Fails *	2327.512	78.6 to 140.9%	** Fails *

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 4.9939 and decachlorobiphenyl at 21.4430.
2) Peaks chosen within window of +/- 0.01538 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.08296.

000048

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP-2087
Col. 1: RTX-35
Col. 2: RTX-5

Initial Calib. date/time: 09/23/94 to 09/23/94

Check Standard File: 03,04 27SEP94 1441,02
Date: 09/27/94
Time: 1517

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	187.4	6.3

Check Standard File: 03,04 27SEP94 1441,03
Date: 09/27/94
Time: 1551

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	205.7	2.9

Check Standard File: 03,04 27SEP94 1441,15
Date: 09/27/94
Time: 2236

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	214.4	7.2

Check Standard File: 03,04 27SEP94 1441,16
Date: 09/27/94
Time: 2310

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR ~~1242~~ 1254	200	199.1	0.5
BR 9/29/94			

Check Standard File:
Date:
Time:

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

000044

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000003

PROJ. NO.: 645.51
PROJECT NAME: ALLIED O.U. / PORTAGE CREEK
SAMPLERS: (Signature) Brian R. Ford

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCBs	TSS				TEMP	REMARKS
SWP-1	9-8	16:40		✓	A66010	3	2	1					
SWP-2	9-8	15:55		✓	A66011	3	2	1					
					TEMP	1/7						1	COOLER # - LTI # 7
													PLEASE RETURN COOLER TO
													LIMNO-TECH, INC.
													1804 NAZARETH RD.
													KALAMAZOO, MI 49001
													616-388-2038

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Brian R. Ford	9-9-94	7:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature) Michael T. Hewlett	DATE 9/10/94	TIME 1100	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Michael T. Hewlett Log-in Date: 9/12/94

Received By (Signature): Michael T Hewlett

Case Number: PCB

Sample Delivery Group No: 46546

ETR Number: 46546

REMARKS:

1. Custody Seal(s) ~~Present~~/~~Absent*~~ Intact/~~Broken~~
2. Custody Seal Nos.: NA
3. Chain-of-Custody Records ~~Present~~/~~Absent*~~
4. Sample Information Sheets ~~Present~~/Absent*
5. Airbill ~~Airbill Sticker~~ Present/~~Absent*~~
6. Airbill No.: 7296618766
7. Sample Tags ~~Present~~/Absent*
   Sample Tag Numbers ~~Listed~~/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/~~Broken*~~/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? ~~Yes~~/No*
10. Date Received at Lab: 9/10/94
11. Time Received: 1100
12. Cooler Temperature 3°C

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66010	N.A	233760	All samples received
A66011	1	233761	intact inside cooler
			with ice. Cooler
			was intact as
			were custody seals
			on outside of
			cooler
— Collection times are not in 24hr format.			
— Year missing from dates on COC.			

Sample Transfer

Fraction: All

Area #: Lot 4

By: MTH

On: 9/10/94

MTH 9/12/94

* Contact Project Director.

Reviewed by: [signature]

Date: 9/26/94

Logbook No:

Logbook Page No:

F-01691

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 46546

Project Number: 91082

Case No.: PCB

SDG Number: 46546

000004

Memo: All samples put in level 4 refrigerator by MTH on 9/10/94 @ 1100.

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
R33760,61	MTP	08.15 9/15/94	EXT	9/15/94

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

:TR Number: 46546

'roject Number: 91082

Case No.: PCB

SDG Number: 46546

00005

emo: All samples put in level 4 refrigerator by MTH on 9/10/94 @ 1100.

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
233760-61	PNT	9/19/94 0945	TSS	9/19/94 13

Laboratory Transfer Record

Sample Management

Aquatec, Inc.

ETR: 16564	Date: 9/19/94

Laboratory I.D.	Fraction/Analysis
PBIK 4Q	
233760	
761	
MSB	

Relinquished @ GMD by MJP Time: 0900

Transported by BED

Received @ CP by DKZ Time: 11:00

300006

(Nov '91)

Figure 9: F-0047

Laboratory Transfer Record

Sample Management	Inchcape Testing Services
ETR: 46546	Date: 8/12/94

Laboratory I. D.	Fraction / Analysis
233760 - 61	2x 1L Amber per

Relinquished @ CP by MTH Time: 1400

Transported by BED

Received @ GMD by FNB Time: 1430

ETR# 46546

IENT(s): BLABC
SE: PCB
G: 46546
TE: 9/15/94
ALYST: VSC
IKED BY: VSC
ITNESSED BY: JD

ab sample id ETR	Client id	Sample Volume (1000ml)	pH between 5 and 9 1.	100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE09019401 2.#	100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# GE08229401 3.#	Extract 3x with 60 ml CH_2Cl_2 CH_2Cl_2 lot# H12302 4.	Hex exchange Hexane lot# 4159KPLZ 5.	Conc to 2-3 ml 6.	Sulfuric Acid Clean-up H_2SO_4 Lot# H10034 7.	Conc to 1.0ml 8.	3 gm silica gel clean-up Silica gel Lot# 94007 9.	Conc to 1.0ml 10.#
224669	PBIK 4Q	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
233760		1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
233761		1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
MSB		1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

VSC 9/16/94

VSC 9/16/94

000585

44

Aquatec, Inc. -- Extraction worksheet - printed by: MTP on 09-15-94 08:22:49

#Indicates

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

July 27, 1994

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. OLM; SDG No. 44723

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on June 11,1994. These samples were analyzed in accordance with methodologies specified in the OLM01 and ILM02 Statement of Works. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID		Aquatec Lab No.	Sample Matrix
Samples Received on June 11, 1994 ETR No. 44723			
~~A66008~~	AG4008	223719	Water
~~A66009~~	AG4009	223720	Water

Peak height was used for calibration and quantitation of all pesticide/PCB compounds on both analytical columns.

Sincerely,

Karen R. Chirgwin
Laboratory Operations Director

KRC/jg

Enclosure

91082B20JUN94

MEMORANDUM

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

To: Doug Cowin **Date:** 7/16/99

From: Laurie Indick **cc:** MPB, AEG, file

Re: KRSG - Allied OU Sampling

Several surface water samples collected at the Allied-OU in 1993 and 1994 were assigned identification numbers which had been reserved for groundwater samples. In addition, two surface water samples collected in September 1994 were assigned non-standard identification numbers. To eliminate any confusion regarding the nature of the samples and to comply with database storage requirements, the numbers have been revised, as follows:

Sample Date	Original Identification Number (list on COC)	Revised Number
8/24/99	A66000	A64000
	A66001	A64001
	A66002	A64002
12/15/93	A66003	A64003
	A66004	A64004
	A66005	A64005
	A66006	A64006
	A66007	A64007
6/9/94	A66008	A64008
	A66009	A64009
9/8/94	A66010	A64010
	A66011	A64011
9/22/94	SWP-1	A64014
	SWP-2	A64013

lai/

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLKJ4	102	94	100		0
02	A66008	102	95	101		0
03	A66009	103	94	102		0
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKJ4

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Lab File ID: LBXB001DV.D Lab Sample ID: VBLKJ4

Date Analyzed: 06/17/94 Time Analyzed: 1126

GC Column:CAP ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: L

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	A66008	223719	L223719V.D	1846
02	A66009	223720	L223720V.D	1923
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJ4

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Matrix: (soil/water) WATER Lab Sample ID: VBLKJ4

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LBXB001DV.D

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

% Moisture: not dec. _____ Date Analyzed: 06/17/94

GC Column:CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKJ4

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Matrix: (soil/water) WATER Lab Sample ID: VBLKJ4

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: LBXB001DV.D

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

% Moisture: not dec. _____ Date Analyzed: 06/17/94

GC Column:CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Instrument ID: L Calibration Date(s): 06/02/94

Heated Purge: (Y/N) N Calibration Times: 1342 1713

GC Column:CAP ID: 0.53 (mm)

LAB FILE ID: RRF10 =LBX010HV.D RRF20 =LBX020HV.D
RRF50 =LBX050H2V.D RRF100=LBX100HV.D RRF200=LBX200HV.D

COMPOUND	RRF10	RRF20	RRF50	RRF100	RRF200	$\overline{RRF}$	% RSD
Chloromethane	1.050	0.995	0.916	0.953	0.939	0.970	5.4
Bromomethane *	1.457	1.390	1.297	1.327	1.282	1.350	5.4*
Vinyl Chloride *	1.040	1.022	0.923	0.972	0.941	0.980	5.2*
Chloroethane	0.798	0.741	0.701	0.719	0.703	0.732	5.4
Methylene Chloride	1.350	1.248	1.213	1.227	1.214	1.250	4.6
Acetone	0.414	0.535	0.361	0.300	0.374	0.397	22.0
Carbon Disulfide	3.526	3.407	3.334	3.458	3.447	3.434	2.0
1,1-Dichloroethene *	1.398	1.337	1.302	1.326	1.320	1.336	2.8*
1,1-Dichloroethane *	2.633	2.544	2.436	2.510	2.476	2.520	3.0*
1,2-Dichloroethene (total)	1.551	1.474	1.454	1.496	1.484	1.492	2.4
Chloroform *	3.098	3.012	2.927	3.007	3.001	3.009	2.0*
1,2-Dichloroethane *	2.116	2.029	1.982	2.017	2.012	2.031	2.5*
2-Butanone	0.594	0.742	0.507	0.494	0.515	0.570	18.1
1,1,1-Trichloroethane *	0.722	0.710	0.698	0.713	0.718	0.712	1.3*
Carbon Tetrachloride *	0.662	0.655	0.646	0.659	0.667	0.658	1.2*
Bromodichloromethane *	0.669	0.668	0.670	0.687	0.701	0.679	2.2*
1,2-Dichloropropane	0.362	0.360	0.351	0.353	0.353	0.356	1.4
cis-1,3-Dichloropropene *	0.496	0.486	0.497	0.504	0.513	0.499	2.0*
Trichloroethene *	0.425	0.414	0.409	0.412	0.411	0.414	1.6*
Dibromochloromethane *	0.616	0.627	0.645	0.658	0.684	0.646	4.2*
1,1,2-Trichloroethane *	0.355	0.352	0.351	0.350	0.356	0.353	0.7*
Benzene *	0.806	0.792	0.770	0.778	0.779	0.785	1.8*
trans-1,3-Dichloropropene *	0.443	0.448	0.458	0.459	0.472	0.456	2.4*
Bromoform *	0.420	0.441	0.472	0.480	0.512	0.465	7.6*
4-Methyl-2-Pentanone	0.416	0.393	0.376	0.371	0.382	0.388	4.6
2-Hexanone	0.314	0.368	0.278	0.257	0.281	0.300	14.5
Tetrachloroethene *	0.521	0.520	0.506	0.504	0.502	0.511	1.8*
1,1,2,2-Tetrachloroethane *	0.662	0.664	0.669	0.666	0.684	0.669	1.3*
Toluene *	1.225	1.176	1.142	1.154	1.146	1.168	2.9*
Chlorobenzene *	1.041	1.016	0.992	1.001	1.000	1.010	1.9*
Ethylbenzene *	0.489	0.475	0.463	0.470	0.461	0.472	2.4*
Styrene *	0.982	0.962	0.965	0.966	0.964	0.968	0.8*
Xylene (total) *	0.596	0.577	0.558	0.560	0.548	0.568	3.3*
Toluene-d8	1.164	1.136	1.090	1.113	1.100	1.121	2.7
Bromofluorobenzene *	0.925	0.895	0.887	0.878	0.877	0.892	2.2*
1,2-Dichloroethane-d4	1.722	1.641	1.610	1.629	1.760	1.672	3.9

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Instrument ID: L Calibration Date: 06/17/94 Time: 1032

Lab File ID: LBX050DHV.D Init. Calibration Date(s): 06/02/94

Heated Purge: (Y/N) N Init. Calibration Times: 1342 1713

GC Column:CAP ID: 0.53 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.970	1.116		-15.0	
Bromomethane	1.350	1.370	0.100	-1.4	25.0
Vinyl Chloride	0.980	1.038	0.100	-6.0	25.0
Chloroethane	0.732	0.772		-5.4	
Methylene Chloride	1.250	1.314		-5.1	
Acetone	0.397	0.351		11.6	
Carbon Disulfide	3.434	3.588		-4.5	
1,1-Dichloroethene	1.336	1.396	0.100	-4.5	25.0
1,1-Dichloroethane	2.520	2.645	0.200	-5.0	25.0
1,2-Dichloroethene (total)	1.492	1.527		-2.3	
Chloroform	3.009	3.235	0.200	-7.5	25.0
1,2-Dichloroethane	2.031	2.276	0.100	-12.0	25.0
2-Butanone	0.570	0.503		11.9	
1,1,1-Trichloroethane	0.712	0.753	0.100	-5.7	25.0
Carbon Tetrachloride	0.658	0.727	0.100	-10.5	25.0
Bromodichloromethane	0.679	0.743	0.200	-9.3	25.0
1,2-Dichloropropane	0.356	0.368		-3.4	
cis-1,3-Dichloropropene	0.499	0.544	0.200	-8.9	25.0
Trichloroethene	0.414	0.452	0.300	-9.1	25.0
Dibromochloromethane	0.646	0.690	0.100	-6.8	25.0
1,1,2-Trichloroethane	0.353	0.371	0.100	-5.3	25.0
Benzene	0.785	0.800	0.500	-1.9	25.0
trans-1,3-Dichloropropene	0.456	0.517	0.100	-13.4	25.0
Bromoform	0.465	0.529	0.100	-13.7	25.0
4-Methyl-2-Pentanone	0.388	0.366		5.5	
2-Hexanone	0.300	0.270		9.9	
Tetrachloroethene	0.511	0.516	0.200	-1.1	25.0
1,1,2,2-Tetrachloroethane	0.669	0.710	0.500	-6.2	25.0
Toluene	1.168	1.199	0.400	-2.7	25.0
Chlorobenzene	1.010	1.009	0.500	0.1	25.0
Ethylbenzene	0.472	0.477	0.100	-1.0	25.0
Styrene	0.968	1.016	0.300	-4.9	25.0
Xylene (total)	0.568	0.575	0.300	-1.3	25.0
Toluene-d8	1.121	1.073		4.3	
Bromofluorobenzene	0.892	0.906	0.200	-1.6	25.0
1,2-Dichloroethane-d4	1.672	1.729		-3.4	

All other compounds must meet a minimum RRF of 0.010.

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	SBLK3C	102	96	101	112*	104	112	112*	95	2
02	A66009	90	89	95	106	107	113	109	82	0
03	A66008	96	91	89	86	89	96	95	83	0
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(35-114)	
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)	
S3 (TPH)	= Terphenyl-d14	(33-141)	
S4 (PHL)	= Phenol-d5	(10-110)	
S5 (2FP)	= 2-Fluorophenol	(21-110)	
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)	
S7 (2CP)	= 2-Chlorophenol-d4	(33-110)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(16-110)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK3C

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Lab File ID: PB06143C.D Lab Sample ID: SBLK3C

Instrument ID: P Date Extracted: 06/14/94

Matrix: (soil/water) WATER Date Analyzed: 07/01/94

Level:(low/med) LOW Time Analyzed: 1500

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	A66009	223720	P223720S.D	07/01/94
02	A66008	223719	P223719S.D	07/06/94
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK3C

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Matrix: (soil/water) WATER Lab Sample ID: SBLK3C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: PB06143C.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/14/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 07/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(-2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK3C

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Matrix: (soil/water) WATER Lab Sample ID: SBLK3C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: PB06143C.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/14/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 07/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK3C

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Matrix: (soil/water) WATER Lab Sample ID: SBLK3C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: PB06143C.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/14/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:_____

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

6B
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Instrument ID: P Calibration Date(s): 06/13/94

Calibration Times: 1753 2000

LAB FILE ID: RRF20 =PDZ020BS.D RRF50 =PDZ050BS.D
RRF80 =PDZ080BS.D RRF120=PDZ120BS.D RRF160=PDZ160BS.D

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
Phenol *	2.284	2.049	2.001	1.891	1.950	2.035	7.4*
bis(-2-Chloroethyl)Ether *	1.915	1.635	1.595	1.526	1.567	1.648	9.4*
2-Chlorophenol *	1.707	1.535	1.503	1.417	1.467	1.526	7.2*
1,3-Dichlorobenzene *	1.677	1.560	1.511	1.450	1.466	1.533	6.0*
1,4-Dichlorobenzene *	1.859	1.644	1.584	1.604	1.580	1.654	7.1*
1,2-Dichlorobenzene *	1.608	1.447	1.407	1.374	1.367	1.441	6.8*
2-Methylphenol *	1.491	1.279	1.286	1.228	1.272	1.311	7.8*
2,2'-oxybis(1-Chloropropane)	1.922	1.644	1.678	1.614	1.646	1.701	7.4
4-Methylphenol *	1.538	1.300	1.395	1.288	1.305	1.365	7.8*
N-Nitroso-di-n-propylamine *	1.323	1.073	1.223	1.170	1.186	1.195	7.5*
Hexachloroethane *	0.820	0.758	0.725	0.712	0.719	0.747	6.0*
Nitrobenzene *	0.571	0.511	0.493	0.475	0.465	0.503	8.4*
Isophorone *	1.036	0.866	0.928	0.907	0.886	0.925	7.2*
2-Nitrophenol *	0.236	0.212	0.215	0.210	0.209	0.216	5.2*
2,4-Dimethylphenol *	0.443	0.392	0.379	0.377	0.375	0.393	7.3*
bis(2-Chloroethoxy)methane *	0.576	0.490	0.493	0.474	0.463	0.499	8.9*
2,4-Dichlorophenol *	0.363	0.316	0.310	0.304	0.305	0.320	7.7*
1,2,4-Trichlorobenzene *	0.355	0.322	0.307	0.304	0.298	0.317	7.2*
Naphthalene *	1.185	1.045	1.007	0.979	0.968	1.037	8.5*
4-Chloroaniline	0.509	0.442	0.429	0.427	0.414	0.444	8.4
Hexachlorobutadiene	0.200	0.192	0.178	0.176	0.172	0.184	6.5
4-Chloro-3-Methylphenol *	0.421	0.377	0.397	0.411	0.396	0.400	4.2*
2-Methylnaphthalene *	0.783	0.674	0.690	0.687	0.655	0.698	7.1*
Hexachlorocyclopentadiene	0.364	0.352	0.328	0.306	0.333	0.337	6.7
2,4,6-Trichlorophenol *	0.408	0.387	0.365	0.357	0.364	0.376	5.5*
2,4,5-Trichlorophenol *		0.479	0.419	0.412	0.408	0.430	7.7*
2-Chloronaphthalene *	1.341	1.221	1.123	1.054	1.090	1.166	10.0*
2-Nitroaniline		0.506	0.509	0.505	0.505	0.506	0.4
Dimethylphthalate	1.603	1.484	1.499	1.480	1.452	1.504	3.8
Acenaphthylene *	2.082	1.913	1.807	1.722	1.737	1.852	8.0*
2,6-Dinitrotoluene *	0.362	0.368	0.374	0.378	0.374	0.371	1.7*
3-Nitroaniline		0.423	0.414	0.424	0.416	0.419	1.2
Acenaphthene *	1.328	1.235	1.155	1.121	1.118	1.191	7.5*
2,4-Dinitrophenol		0.189	0.232	0.253	0.245	0.230	12.5
4-Nitrophenol		0.258	0.284	0.288	0.272	0.275	4.9
Dibenzofuran *	1.897	1.770	1.681	1.656	1.635	1.728	6.2*
2,4-Dinitrotoluene *	0.531	0.546	0.567	0.590	0.559	0.559	3.9*

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Instrument ID: P Calibration Date(s): 06/13/94

Calibration Times: 1753 2000

LAB FILE ID: RRF20 =PDZ020BS.D RRF50 =PDZ050BS.D
RRF80 =PDZ080BS.D RRF120=PDZ120BS.D RRF160=PDZ160BS.D

COMPOUND		RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
Diethylphthalate		1.634	1.631	1.640	1.677	1.590	1.634	1.9
4-Chlorophenyl-phenylether	*	0.695	0.652	0.643	0.641	0.625	0.651	4.1*
Fluorene	*	1.414	1.354	1.296	1.303	1.271	1.328	4.3*
4-Nitroaniline			0.403	0.438	0.458	0.419	0.430	5.5
4,6-Dinitro-2-methylphenol			0.201	0.217	0.222	0.223	0.216	4.6
N-nitrosodiphenylamine (1)		0.794	0.709	0.637	0.618	0.649	0.681	10.5
4-Bromophenyl-phenylether	*	0.282	0.258	0.234	0.233	0.238	0.249	8.4*
Hexachlorobenzene	*	0.328	0.306	0.286	0.284	0.286	0.298	6.4*
Pentachlorophenol	*		0.177	0.185	0.177	0.177	0.179	2.1*
Phenanthrene	*	1.383	1.298	1.187	1.181	1.149	1.239	7.9*
Anthracene	*	1.340	1.282	1.197	1.185	1.149	1.231	6.4*
Carbazole		1.251	1.230	1.205	1.169	1.091	1.189	5.3
Di-n-butylphthalate		1.879	1.918	1.889	1.879	1.750	1.863	3.5
Fluoranthene	*	1.240	1.284	1.310	1.295	1.174	1.261	4.4*
Pyrene	*	1.419	1.267	1.218	1.256	1.327	1.297	6.0*
Butylbenzylphthalate		0.884	0.851	0.810	0.789	0.800	0.827	4.8
3,3'-Dichlorobenzidine		0.405	0.350	0.312	0.303	0.286	0.331	14.3
Benzo(a)anthracene	*	1.207	1.127	1.058	1.033	1.053	1.096	6.5*
Chrysene	*	1.137	1.032	0.961	0.958	0.966	1.011	7.6*
bis(2-Ethylhexyl)phthalate		1.205	1.141	1.061	1.033	1.040	1.096	6.8
Di-n-octylphthalate		2.330	2.272	2.457	2.383	2.273	2.343	3.4
Benzo(b)fluoranthene	*	1.500	1.447	1.565	1.419	1.365	1.459	5.3*
Benzo(k)fluoranthene	*	1.551	1.461	1.443	1.482	1.473	1.482	2.8*
Benzo(a)pyrene	*	1.293	1.253	1.246	1.222	1.207	1.244	2.6*
Indeno(1,2,3-cd)pyrene	*	1.139	1.305	1.232	1.123	1.341	1.228	7.9*
Dibenz(a,h)anthracene	*	1.093	1.025	0.983	0.999	1.062	1.032	4.4*
Benzo(g,h,i)perylene	*	1.163	1.076	1.017	1.010	1.104	1.074	5.9*
Nitrobenzene-d5	*	0.571	0.499	0.487	0.477	0.476	0.502	7.9*
2-Fluorobiphenyl	*	1.533	1.367	1.253	1.172	1.207	1.306	11.2*
Terphenyl-d14	*	1.026	0.935	0.908	0.924	0.977	0.954	5.0*
Phenol-d5	*	2.182	1.966	1.932	1.827	1.892	1.960	6.8*
2-Fluorophenol	*	1.597	1.543	1.422	1.380	1.429	1.474	6.2*
2,4,6-Tribromophenol		0.213	0.227	0.228	0.236	0.223	0.225	3.7
2-Chlorophenol-d4	*	1.617	1.450	1.399	1.348	1.384	1.439	7.3*
1,2-Dichlorobenzene-d4	*	1.057	0.961	0.907	0.905	0.898	0.946	7.1*

(1) - Cannot be separated from Diphenylamine
* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Instrument ID: P Calibration Date: 07/01/94 Time: 1018

Lab File ID: PDZ050NBS.D Init. Calibration Date(s): 06/13/94

Init. Calibration Times: 1753 2000

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.035	1.974	0.800	3.0	25.0
bis(-2-Chloroethyl)Ether	1.648	1.578	0.700	4.2	25.0
2-Chlorophenol	1.526	1.475	0.800	3.3	25.0
1,3-Dichlorobenzene	1.533	1.450	0.600	5.4	25.0
1,4-Dichlorobenzene	1.654	1.739	0.500	-5.1	25.0
1,2-Dichlorobenzene	1.441	1.450	0.400	-0.6	25.0
2-Methylphenol	1.311	1.234	0.700	5.9	25.0
2,2'-oxybis(1-Chloropropane)	1.701	1.511		11.2	
4-Methylphenol	1.365	1.331	0.600	2.5	25.0
N-Nitroso-di-n-propylamine	1.195	1.185	0.500	0.9	25.0
Hexachloroethane	0.747	0.762	0.300	-2.1	25.0
Nitrobenzene	0.503	0.498	0.200	1.0	25.0
Isophorone	0.925	0.913	0.400	1.2	25.0
2-Nitrophenol	0.216	0.206	0.100	4.5	25.0
2,4-Dimethylphenol	0.393	0.430	0.200	-9.4	25.0
bis(2-Chloroethoxy)methane	0.499	0.483	0.300	3.3	25.0
2,4-Dichlorophenol	0.320	0.312	0.200	2.5	25.0
1,2,4-Trichlorobenzene	0.317	0.321	0.200	-1.3	25.0
Naphthalene	1.037	0.996	0.700	4.0	25.0
4-Chloroaniline	0.444	0.419		5.7	
Hexachlorobutadiene	0.184	0.208		-13.1	
4-Chloro-3-Methylphenol	0.400	0.469	0.200	-17.1	25.0
2-Methylnaphthalene	0.698	0.728	0.400	-4.4	25.0
Hexachlorocyclopentadiene	0.337	0.188		44.3	
2,4,6-Trichlorophenol	0.376	0.370	0.200	1.6	25.0
2,4,5-Trichlorophenol	0.430	0.425	0.200	1.1	25.0
2-Chloronaphthalene	1.166	1.138	0.800	2.4	25.0
2-Nitroaniline	0.506	0.537		-6.0	
Dimethylphthalate	1.504	1.530		-1.8	
Acenaphthylene	1.852	1.771	1.300	4.4	25.0
2,6-Dinitrotoluene	0.371	0.371	0.200	0.2	25.0
3-Nitroaniline	0.419	0.397		5.4	
Acenaphthene	1.191	1.164	0.800	2.3	25.0
2,4-Dinitrophenol	0.230	0.164		28.5	
4-Nitrophenol	0.275	0.317		-15.3	
Dibenzofuran	1.728	1.697	0.800	1.8	25.0
2,4-Dinitrotoluene	0.559	0.550	0.200	1.6	25.0

All other compounds must meet a minimum RRF of 0.010.

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AQUATEC, INC. Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Instrument ID: P Calibration Date: 07/01/94 Time: 1018

Lab File ID: PDZ050NBS.D Init. Calibration Date(s): 06/13/94

Init. Calibration Times: 1753 2000

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.634	1.676		-2.6	
4-Chlorophenyl-phenylether	0.651	0.649	0.400	0.3	25.0
Fluorene	1.328	1.292	0.900	2.7	25.0
4-Nitroaniline	0.430	0.383		10.7	
4,6-Dinitro-2-methylphenol	0.216	0.194		10.1	
N-nitrosodiphenylamine (1)	0.681	0.695		-2.1	
4-Bromophenyl-phenylether	0.249	0.266	0.100	-6.8	25.0
Hexachlorobenzene	0.298	0.325	0.100	-9.1	25.0
Pentachlorophenol	0.179	0.162	0.050	9.7	25.0
Phenanthrene	1.239	1.200	0.700	3.2	25.0
Anthracene	1.231	1.217	0.700	1.1	25.0
Carbazole	1.189	1.121		5.8	
Di-n-butylphthalate	1.863	1.905		-2.3	
Fluoranthene	1.261	1.196	0.600	5.1	25.0
Pyrene	1.297	1.134	0.600	12.6	25.0
Butylbenzylphthalate	0.827	0.799		3.3	
3,3'-Dichlorobenzidine	0.331	0.397		-20.0	
Benzo(a)anthracene	1.096	1.078	0.800	1.6	25.0
Chrysene	1.011	0.986	0.700	2.4	25.0
bis(2-Ethylhexyl)phthalate	1.096	1.209		-10.4	
Di-n-octylphthalate	2.343	2.808		-19.9	
Benzo(b)fluoranthene	1.459	1.725	0.700	-18.2	25.0
Benzo(k)fluoranthene	1.482	1.890	0.700	-27.6	25.0
Benzo(a)pyrene	1.244	1.515	0.700	-21.7	25.0
Indeno(1,2,3-cd)pyrene	1.228	1.512	0.500	-23.2	25.0
Dibenz(a,h)anthracene	1.032	1.169	0.400	-13.3	25.0
Benzo(g,h,i)perylene	1.074	1.166	0.500	-8.6	25.0
Nitrobenzene-d5	0.502	0.504	0.200	-0.3	25.0
2-Fluorobiphenyl	1.306	1.266	0.700	3.1	25.0
Terphenyl-d14	0.954	0.866	0.500	9.2	25.0
Phenol-d5	1.960	1.745	0.800	11.0	25.0
2-Fluorophenol	1.474	1.229	0.600	16.6	25.0
2,4,6-Tribromophenol	0.225	0.254		-12.8	
2-Chlorophenol-d4	1.439	1.371	0.800	4.7	25.0
1,2-Dichlorobenzene-d4	0.946	0.934	0.400	1.2	25.0

(1) Cannot be separated from Diphenylamine
All other compounds must meet a minimum RRF of 0.010.

METHOD:OLM01.SEMI:EXW **MATRIX: WATER** **LEVEL: LOW** **BATCH ID: 5KJ**

CLIENT(s): BLAB02
DATE: 6/14/94
ANALYST: JD
STR: 44723

000532

Lab sample id STR	Client id	ml sample	500.0ul BN surr (100 ppm) Lot # 660613940 1.#	500.0ul Acid surr (150 ppm) Lot # 660613940 2.#	500.0ul BN MTX (100 ppm) Lot # ___ 3.#	500.0ul Acid MTX (150 ppm) Lot # ___ 4.#	pH < 2 5.	Add 500ml MeCl2 to bottom of Liq-Liq with stopcock closed Lot # H12302 6.	Add spiked, acidified sample 7.	Rinse sep funnel with 60ml MeCl2 and add to Liq-Liq 8.	Turn on hot water circulator 9.	Open stopcocks when water is hot 10.	Extract for 18 hours 11.	Close stopcocks to conc extract 12.	Adjust to 1.0ml 13.#
219025	SBLK 3C	1000	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
223719	A66008	1000	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
223720	A66009	1000	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
	KBW	7/14/94													

JD 6/15/94

JD 6/15/94

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column(1): RTX-35 ID: 0.53(mm) GC Column(2): RTX-1701 ID: 0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK9Z	80	78	103	100			0
02	A66008	88	88	89	82			0
03	A66009	84	82	90	86			0

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK9Z

Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Lab Sample ID: 222759 Lab File ID:

Matrix:(soil/water) WATER Extraction:(SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 06/14/94

Date Analyzed (1): 07/13/94 Date Analyzed (2): 07/13/94

Time Analyzed (1): 1734 Time Analyzed (2): 1734

Instrument ID (1): 0850-1 Instrument ID (2): 0850-2

GC Column (1): RTX-35 ID: 0.53 (mm) GC Column (2): RTX-1701 ID: 0.53 (mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	A66008	223719	07/13/94	07/13/94
02	A66009	223720	07/13/94	07/13/94

COMMENTS:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK9Z

Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Matrix: (soil/water) WATER Lab Sample ID: 222759

Sample wt/vol: 1000 (g/mL) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received:

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/14/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 07/13/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

6F

PESTICIDE INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Instrument ID: 0850-1 Date(s) Analyzed: 07/13/94 07/13/94

GC Column: RTX-35 ID: 0.53(mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	0.500	*1	14.79	14.72	14.86	12500
		*2	15.84	15.77	15.91	13900
		*3	16.33	16.26	16.40	24900
		4	16.97	16.90	17.04	18100
		5	17.63	17.56	17.70	17200
Aroclor 1016	0.100	*1	8.68	8.61	8.75	41500
		*2	9.80	9.73	9.87	71400
		*3	10.50	10.43	10.57	31000
		4	10.86	10.79	10.93	106000
		5	11.23	11.16	11.30	53100
Aroclor 1221	0.200	*1	7.79	7.72	7.86	3820
		*2	8.13	8.06	8.20	20200
		*3	8.51	8.44	8.58	12900
		4	8.68	8.61	8.75	39400
		5	9.81	9.74	9.88	13100
Aroclor 1232	0.100	*1	8.68	8.61	8.75	46200
		*2	9.80	9.73	9.87	38200
		*3	10.86	10.79	10.93	53300
		4	11.23	11.16	11.30	27000
		5	11.55	11.48	11.62	21700
Aroclor 1242	0.100	*1	9.80	9.73	9.87	63000
		*2	10.50	10.43	10.57	27400
		*3	10.86	10.79	10.93	92300
		4	11.23	11.16	11.30	45900
		5	11.55	11.48	11.62	36100
Aroclor 1248	0.100	*1	11.70	11.63	11.77	44100
		*2	12.45	12.38	12.52	57700
		*3	12.79	12.72	12.86	55700
		4	13.23	13.16	13.30	64800
		5	14.02	13.95	14.09	48500
Aroclor 1254	0.100	*1	13.78	13.71	13.85	64900
		*2	14.74	14.67	14.81	44800
		*3	15.01	14.94	15.08	83100
		4	15.41	15.34	15.48	57400
		5	16.83	16.76	16.90	51000
Aroclor 1260	0.100	*1	15.47	15.40	15.54	61300
		*2	15.80	15.73	15.87	72200
		*3	16.83	16.76	16.90	58400
		4	18.58	18.51	18.65	73900
		5	20.19	20.12	20.26	38500

* Denotes required peaks

6F

PESTICIDE INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

ab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Instrument ID: 0850-2 Date(s) Analyzed: 07/13/94 07/13/94

GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Toxaphene	0.500	*1	16.86	16.79	16.93	13200
		*2	17.58	17.51	17.65	16900
		*3	17.91	17.84	17.98	17200
		4	19.01	18.94	19.08	17300
		5	19.94	19.87	20.01	6520
Aroclor 1016	0.100	*1	8.74	8.67	8.81	25600
		*2	9.77	9.70	9.84	52400
		*3	10.93	10.86	11.00	85000
		4	11.29	11.22	11.36	37000
		5	12.45	12.38	12.52	49900
Aroclor 1221	0.200	*1	7.66	7.59	7.73	6860
		*2	8.18	8.11	8.25	11200
		*3	8.47	8.40	8.54	1180
		4	8.60	8.53	8.67	8420
		5	8.75	8.68	8.82	27700
Aroclor 1232	0.100	*1	9.77	9.70	9.84	25100
		*2	10.93	10.86	11.00	40400
		*3	11.28	11.21	11.35	17600
		4	12.45	12.38	12.52	39900
		5	12.69	12.62	12.76	11800
Aroclor 1242	0.100	*1	9.75	9.68	9.82	45600
		*2	10.39	10.32	10.46	17400
		*3	10.91	10.84	10.98	72200
		4	11.26	11.19	11.33	32200
		5	11.53	11.46	11.60	22200
Aroclor 1248	0.100	*1	10.92	10.85	10.99	40300
		*2	12.44	12.37	12.51	53000
		*3	13.40	13.33	13.47	43300
		4	13.46	13.39	13.53	41500
		5	15.00	14.93	15.07	19900
Aroclor 1254	0.100	*1	13.43	13.36	13.50	43400
		*2	13.87	13.80	13.94	46400
		*3	15.00	14.93	15.07	61600
		4	15.58	15.51	15.65	41700
		5	16.78	16.71	16.85	44800
Aroclor 1260	0.100	*1	15.90	15.83	15.97	58400
		*2	16.78	16.71	16.85	58200
		*3	18.65	18.58	18.72	69300
		4	19.95	19.88	20.02	50700
		5	22.62	22.55	22.69	15700

* Denotes required peaks

6G

PESTICIDE ANALYTE RESOLUTION SUMMARY

ab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column (1): RTX-35 ID: 0.53(mm) Instrument ID (1): 0850-1

EPA Sample No. (Standard 1): RESCW1 Lab Sample ID (1): RESCW1

Date Analyzed (1): 07/12/94 Time Analyzed (1): 2305

	ANALYTE	RT	RESOLUTION (%)
01	Tetrachloro-m-xylene	7.13	100.0
02	gamma-Chlordane	13.70	100.0
03	Endosulfan I	14.13	100.0
04	4,4'-DDE	14.64	100.0
05	Dieldrin	14.87	100.0
06	Endosulfan sulfate	17.42	100.0
07	Methoxychlor	19.31	100.0
08	Endrin ketone	19.81	100.0
09	Decachlorobiphenyl	26.88	

GC Column (2): RTX-1701 ID: 0.53(mm) Instrument ID (2): 0850-2

EPA Sample No. (Standard 2): RESCWA Lab Sample ID (2): RESCWA

Date Analyzed (2): 07/12/94 Time Analyzed (2): 2305

	ANALYTE	RT	RESOLUTION (%)
01	Tetrachloro-m-xylene	7.30	100.0
02	Endosulfan I	14.29	95.2
03	gamma-Chlordane	14.42	100.0
04	4,4'-DDE	14.75	100.0
05	Dieldrin	15.16	100.0
06	Methoxychlor	18.99	95.2
07	Endosulfan sulfate	19.20	100.0
08	Endrin ketone	20.71	100.0
09	Decachlorobiphenyl	24.98	

Resolution of two adjacent peaks must be calculated as a percentage of the height of the smaller peak, and must be greater than or equal to 60.0%.

7D
PESTICIDE CALIBRATION VERIFICATION SUMMARY

ab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column: RTX-35 ID: 0.53(mm) Init. Calib. Date(s): 07/12/94 07/13/94

EPA Sample No. (PIBLK): PIBLKW2 Date Analyzed : 07/12/94

Lab Sample ID (PIBLK): PIBLKW2 Time Analyzed : 2230

EPA Sample No. (PEM): PEMW1 Date Analyzed : 07/12/94

Lab Sample ID (PEM): PEMW1 Time Analyzed : 2339

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	8.89	8.82	8.92	0.010	0.010	0.0
beta-BHC	10.13	10.06	10.16	0.011	0.010	10.0
gamma-BHC (Lindane)	9.91	9.84	9.94	0.010	0.010	0.0
Endrin	15.72	15.64	15.78	0.047	0.050	6.0
4,4'-DDT	16.81	16.72	16.86	0.090	0.100	10.0
Methoxychlor	19.32	19.22	19.36	0.224	0.250	10.4

4,4'-DDT % breakdown (1): 1.0 Endrin % breakdown (1): 2.8

Combined % breakdown (1): 3.8

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

ab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column: RTX-35 ID: 0.53(mm) Init. Calib. Date(s): 07/12/94 07/13/94

EPA Sample No. (PIBLK): PIBLKW3 Date Analyzed : 07/13/94

Lab Sample ID (PIBLK): PIBLKW3 Time Analyzed : 0745

EPA Sample No. (PEM): PEMW2 Date Analyzed : 07/13/94

Lab Sample ID (PEM): PEMW2 Time Analyzed : 0819

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	8.88	8.82	8.92	0.009	0.010	10.0
beta-BHC	10.11	10.06	10.16	0.011	0.010	10.0
gamma-BHC (Lindane)	9.89	9.84	9.94	0.010	0.010	0.0
Endrin	15.71	15.64	15.78	0.048	0.050	4.0
4,4'-DDT	16.79	16.72	16.86	0.092	0.100	8.0
Methoxychlor	19.30	19.22	19.36	0.230	0.250	8.0

4,4'-DDT % breakdown (1): 0.3 Endrin % breakdown (1): 2.8

Combined % breakdown (1): 3.1

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

ab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column: RTX-35 ID: 0.53(mm) Init. Calib. Date(s): 07/12/94 07/13/94

EPA Sample No. (PIBLK): PIBLKW9 Date Analyzed : 07/13/94

Lab Sample ID (PIBLK): PIBLKW9 Time Analyzed : 2246

EPA Sample No. (PEM): PEMW3 Date Analyzed : 07/13/94

Lab Sample ID (PEM): PEMW3 Time Analyzed : 2320

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	8.87	8.82	8.92	0.010	0.010	0.0
beta-BHC	10.10	10.06	10.16	0.011	0.010	10.0
gamma-BHC (Lindane)	9.89	9.84	9.94	0.010	0.010	0.0
Endrin	15.70	15.64	15.78	0.050	0.050	0.0
4,4'-DDT	16.78	16.72	16.86	0.095	0.100	5.0
Methoxychlor	19.29	19.22	19.36	0.232	0.250	7.2

4,4'-DDT % breakdown (1): 1.4 Endrin % breakdown (1): 3.0

Combined % breakdown (1): 4.4

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column: RTX-1701 ID: 0.53(mm) Init. Calib. Date(s): 07/12/94 07/13/94

EPA Sample No. (PIBLK): PIBLKWB Date Analyzed : 07/12/94

Lab Sample ID (PIBLK): PIBLKWB Time Analyzed : 2230

EPA Sample No. (PEM): PEMWA Date Analyzed : 07/12/94

Lab Sample ID (PEM): PEMWA Time Analyzed : 2339

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.65	9.58	9.68	0.009	0.010	10.0
beta-BHC	12.64	12.57	12.67	0.010	0.010	0.0
gamma-BHC (Lindane)	10.70	10.62	10.72	0.009	0.010	10.0
Endrin	15.70	15.60	15.74	0.048	0.050	4.0
4,4'-DDT	17.12	17.03	17.17	0.099	0.100	1.0
Methoxychlor	19.00	18.90	19.04	0.229	0.250	8.4

4,4'-DDT % breakdown (1): 1.2 Endrin % breakdown (1): 0.8

Combined % breakdown (1): 2.0

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column: RTX-1701 ID: 0.53(mm) Init. Calib. Date(s): 07/12/94 07/13/94

EPA Sample No. (PIBLK): PIBLKWC Date Analyzed : 07/13/94

Lab Sample ID (PIBLK): PIBLKWC Time Analyzed : 0745

EPA Sample No. (PEM): PEMWB Date Analyzed : 07/13/94

Lab Sample ID (PEM): PEMWB Time Analyzed : 0819

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.64	9.58	9.68	0.009	0.010	10.0
beta-BHC	12.62	12.57	12.67	0.010	0.010	0.0
gamma-BHC (Lindane)	10.68	10.62	10.72	0.009	0.010	10.0
Endrin	15.68	15.60	15.74	0.049	0.050	2.0
4,4'-DDT	17.11	17.03	17.17	0.102	0.100	2.0
Methoxychlor	18.98	18.90	19.04	0.232	0.250	7.2

4,4'-DDT % breakdown (1): 1.2 Endrin % breakdown (1): 1.0

Combined % breakdown (1): 2.2

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7D

PESTICIDE CALIBRATION VERIFICATION SUMMARY

ab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column: RTX-1701 ID: 0.53(mm) Init. Calib. Date(s): 07/12/94 07/13/94

EPA Sample No. (PIBLK): PIBLKWI Date Analyzed : 07/13/94

Lab Sample ID (PIBLK): PIBLKWI Time Analyzed : 2246

EPA Sample No. (PEM): PEMWC Date Analyzed : 07/13/94

Lab Sample ID (PEM): PEMWC Time Analyzed : 2320

PEM COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.63	9.58	9.68	0.009	0.010	10.0
beta-BHC	12.62	12.57	12.67	0.010	0.010	0.0
gamma-BHC (Lindane)	10.68	10.62	10.72	0.009	0.010	10.0
Endrin	15.68	15.60	15.74	0.050	0.050	0.0
4,4'-DDT	17.10	17.03	17.17	0.103	0.100	3.0
Methoxychlor	18.97	18.90	19.04	0.235	0.250	6.0

4,4'-DDT % breakdown (1): 1.4 Endrin % breakdown (1): 1.2

Combined % breakdown (1): 2.6

QC LIMITS:

RPD of amounts in PEM must be less than or equal to 25.0%

4,4'-DDT breakdown must be less than or equal to 20.0%

Endrin breakdown must be less than or equal to 20.0%

Combined breakdown must be less than or equal to 30.0%

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column: RTX-35 ID: 0.53(mm) Init. Calib. Date(s): 07/12/94 07/13/94

EPA Sample No. (PIBLK): PIBLKW7 Date Analyzed : 07/13/94

Lab Sample ID (PIBLK): PIBLKW7 Time Analyzed : 1550

EPA Sample No. (INDA): INDAMW2 Date Analyzed : 07/13/94

Lab Sample ID (INDA): INDAMW2 Time Analyzed : 1625

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	8.89	8.82	8.92	0.0199	0.0200	0.5
gamma-BHC (Lindane)	9.91	9.84	9.94	0.0199	0.0200	0.5
Heptachlor	10.95	10.88	10.98	0.0200	0.0200	0.0
Endosulfan I	14.13	14.05	14.19	0.0201	0.0200	0.5
Dieldrin	14.88	14.79	14.93	0.0403	0.0400	0.8
Endrin	15.73	15.64	15.78	0.0404	0.0400	1.0
4,4'-DDD	16.00	15.91	16.05	0.0406	0.0400	1.5
4,4'-DDT	16.81	16.72	16.86	0.0406	0.0400	1.5
Methoxychlor	19.32	19.22	19.36	0.202	0.200	1.0
Tetrachloro-m-xylene	7.14	7.07	7.17	0.0206	0.0200	3.0
Decachlorobiphenyl	26.89	26.74	26.94	0.0405	0.0400	1.2

EPA Sample No. (INDB): INDBMW2 Date Analyzed : 07/13/94

Lab Sample ID (INDB): INDBMW2 Time Analyzed : 1659

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
beta-BHC	10.12	10.06	10.16	0.0214	0.0200	7.0
delta-BHC	11.05	10.98	11.08	0.0216	0.0200	8.0
Aldrin	11.81	11.74	11.84	0.0215	0.0200	7.5
Heptachlor epoxide	13.20	13.12	13.26	0.0216	0.0200	8.0
4,4'-DDE	14.63	14.55	14.69	0.0431	0.0400	7.8
Endosulfan II	16.16	16.08	16.22	0.0432	0.0400	8.0
Endosulfan sulfate	17.42	17.33	17.47	0.0441	0.0400	10.2
Endrin ketone	19.81	19.72	19.86	0.0436	0.0400	9.0
Endrin aldehyde	16.95	16.87	17.01	0.0435	0.0400	8.8
alpha-Chlordane	14.08	14.00	14.14	0.0215	0.0200	7.5
gamma-Chlordane	13.69	13.61	13.75	0.0220	0.0200	10.0
Tetrachloro-m-xylene	7.13	7.07	7.17	0.0219	0.0200	9.5
Decachlorobiphenyl	26.87	26.74	26.94	0.0426	0.0400	6.5

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%

7E
PESTICIDE CALIBRATION VERIFICATION SUMMARY

ab Name: AQUATEC INC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

GC Column: RTX-1701 ID: 0.53(mm) Init. Calib. Date(s): 07/12/94 07/13/94

EPA Sample No. (PIBLK): PIBLKWG Date Analyzed : 07/13/94

Lab Sample ID (PIBLK): PIBLKWG Time Analyzed : 1550

EPA Sample No. (INDA): INDAMWB Date Analyzed : 07/13/94

Lab Sample ID (INDA): INDAMWB Time Analyzed : 1625

INDIVIDUAL MIX A COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
alpha-BHC	9.63	9.58	9.68	0.0203	0.0200	1.5
gamma-BHC (Lindane)	10.67	10.62	10.72	0.0202	0.0200	1.0
Heptachlor	11.17	11.12	11.22	0.0198	0.0200	1.0
Endosulfan I	14.28	14.21	14.35	0.0199	0.0200	0.5
Dieldrin	15.15	15.07	15.21	0.0397	0.0400	0.8
Endrin	15.68	15.60	15.74	0.0394	0.0400	1.5
4,4'-DDD	16.68	16.60	16.74	0.0394	0.0400	1.5
4,4'-DDT	17.10	17.03	17.17	0.0391	0.0400	2.2
Methoxychlor	18.98	18.90	19.04	0.194	0.200	3.0
Tetrachloro-m-xylene	7.28	7.23	7.33	0.0208	0.0200	4.0
Decachlorobiphenyl	24.97	24.85	25.05	0.0385	0.0400	3.8

EPA Sample No. (INDB): INDBMWB Date Analyzed : 07/13/94

Lab Sample ID (INDB): INDBMWB Time Analyzed : 1659

INDIVIDUAL MIX B COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	RPD
beta-BHC	12.63	12.57	12.67	0.0214	0.0200	7.0
delta-BHC	13.19	13.13	13.23	0.0216	0.0200	8.0
Aldrin	11.86	11.80	11.90	0.0214	0.0200	7.0
Heptachlor epoxide	13.60	13.52	13.66	0.0213	0.0200	6.5
4,4'-DDE	14.74	14.66	14.80	0.0426	0.0400	6.5
Endosulfan II	16.90	16.82	16.96	0.0426	0.0400	6.5
Endosulfan sulfate	19.20	19.11	19.25	0.0423	0.0400	5.8
Endrin ketone	20.71	20.62	20.76	0.0426	0.0400	6.5
Endrin aldehyde	18.13	18.05	18.19	0.0424	0.0400	6.0
alpha-Chlordane	14.56	14.48	14.62	0.0215	0.0200	7.5
gamma-Chlordane	14.41	14.33	14.47	0.0216	0.0200	8.0
Tetrachloro-m-xylene	7.30	7.23	7.33	0.0221	0.0200	10.5
Decachlorobiphenyl	24.98	24.85	25.05	0.0411	0.0400	2.8

QC LIMITS: RPD of amounts in the Individual Mixes must be less than or equal to 25.0%

METHOD:OLM01.PPCB:EXW **MATRIX: WATER** **LEVEL: LOW** **BATCH ID: 5KI**

CLIENT(s): BLABO2 44723
DATE: 6/14/94
ANALYST: MTP

Lab sample id STR	Client id	ml Sample	pH 5-9 1.	1.0ml Pest Surr (0.2ppm DEC/TMX) Lot # GEOS319401 2.#	1.0ml Pest MTX (0.5/1.0ppm) Lot# 3.#	Add 60ml MeCl2 (2 min. shake) 4.	Drain through granular Na2SO4 5.	60ml MeCl2, shake, drain (2x) MeCl2 Lot # H12302 6.	Solvent exchange to hexane Hex Lot# 4159 KLPZ 7.	Conc to 10ml 8.#	Add 1.0ml to preweshed florisil cartridge Florisil Lot# 9410446 9.#	Elute with 8.0ml 9:1 Hexane:Acetone Ace Lot# 6408294 10.	Concentrate 11.#
222759	PBLK 9Z	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
223719		998	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
223720		1001	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓

MTP
JD

MTP 6/14/94

MTP 6/14/94

COPY ORIGINAL ON FILE AT INCHCAPE TESTING SERVICES AQUATEC LABORATORIES

000550

U.S. EPA - CLP

3
BLANKS

Lab Name: AQUATEC_____ Contract: 91082_____

Lab Code: AQUAI_ Case No.: OLM___ SAS No.: _____ SDG No.: 44723_

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	8.7	U	8.7	U	8.7	U	21.9	B	13.595	B	P
Antimony	1.3	U	1.3	U	1.3	U	1.3	U	1.299	U	P
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U	1.999	U	P
Barium	2.0	U	2.0	U	2.0	U	2.0	U	1.999	U	P
Beryllium	0.1	U	-0.1	B	0.1	U	-0.5	B	-0.231	B	P
Cadmium	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	P
Calcium	40.7	U	40.7	U	40.7	U	40.7	U	40.684	U	P
Chromium	0.4	U	0.4	U	0.4	U	0.4	U	0.400	U	P
Cobalt	0.5	U	0.5	U	0.5	U	0.5	U	0.500	U	P
Copper	0.5	U	0.5	U	0.5	U	-0.7	B	0.500	U	P
Iron	11.7	U	11.7	U	12.2	B	11.7	U	11.695	U	P
Lead	0.9	U	0.9	U	0.9	U	0.9	U	0.900	U	P
Magnesium	34.6	U	34.6	U	34.6	U	34.6	U	34.586	U	P
Manganese	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	P
Mercury	0.0	B	0.0	B	0.0	B	0.0	B	0.030	U	CV
Nickel	0.7	U	0.7	U	0.7	U	0.7	U	0.700	U	P
Potassium	47.5	U	47.5	U	49.0	B	47.5	U	47.481	U	P
Selenium	2.7	U	2.7	U	2.7	U	2.7	U	2.699	U	P
Silver	0.5	U	0.5	U	0.5	U	0.5	U	0.500	U	P
Sodium	99.4	U	99.4	U	99.4	U	99.4	U	99.360	U	P
Thallium	1.9	U	1.9	U	1.9	U	1.9	U	1.899	U	P
Vanadium	0.5	U	0.5	U	0.5	U	0.5	U	0.500	U	P
Zinc	2.2	U	2.2	U	2.2	U	2.2	U	2.199	U	P
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	5.000	U	AS

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Solid LCS Source:

Aqueous LCS Source: VENTURES

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	51000.0	50440.00	98.9						
Antimony	2000.0	1980.00	99.0						
Arsenic	1050.0	1041.00	99.1						
Barium	500.0	474.60	94.9						
Beryllium	500.0	492.30	98.5						
Cadmium	525.0	491.30	93.6						
Calcium	50000.0	50420.00	100.8						
Chromium	500.0	482.30	96.5						
Cobalt	500.0	466.20	93.2						
Copper	500.0	488.30	97.7						
Iron	50500.0	50060.00	99.1						
Lead	1015.0	980.30	96.6						
Magnesium	50000.0	50120.00	100.2						
Manganese	500.0	466.00	93.2						
Mercury									
Nickel	500.0	463.40	92.7						
Potassium	50000.0	49290.00	98.6						
Selenium	25.0	25.07	100.3						
Silver	500.0	473.90	94.8						
Sodium	50000.0	49740.00	99.5						
Thallium	50.0	50.76	101.5						
Vanadium	500.0	471.90	94.4						
Zinc	500.0	490.70	98.1						
Cyanide									

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Initial Calibration Source: VENTURES

Continuing Calibration Source: VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	26000.0	25510.00	98.1	26000.0	25200.00	96.9	25210.00	97.0	P
Antimony	250.0	243.70	97.5	250.0	241.60	96.6	240.50	96.2	P
Arsenic	250.0	241.80	96.7	250.0	241.00	96.4	242.20	96.9	P
Barium	500.0	497.40	99.5	500.0	492.20	98.4	488.90	97.8	P
Beryllium	500.0	509.90	102.0	500.0	506.50	101.3	505.90	101.2	P
Cadmium	500.0	490.70	98.1	500.0	487.30	97.5	485.40	97.1	P
Calcium	25000.0	25650.00	102.6	25000.0	25480.00	101.9	25620.00	102.5	P
Chromium	500.0	507.00	101.4	500.0	503.00	100.6	503.00	100.6	P
Cobalt	500.0	489.30	97.9	500.0	484.90	97.0	484.40	96.9	P
Copper	500.0	505.30	101.1	500.0	498.40	99.7	496.90	99.4	P
Iron	25500.0	25730.00	100.9	25500.0	25530.00	100.1	25530.00	100.1	P
Lead	1000.0	1007.00	100.7	1000.0	1001.00	100.1	997.50	99.8	P
Magnesium	25000.0	24980.00	99.9	25000.0	24750.00	99.0	24720.00	98.9	P
Manganese	500.0	488.40	97.7	500.0	484.50	96.9	484.20	96.8	P
Mercury	1.8	1.61	89.4	3.0	3.35	111.7	3.27	109.0	CV
Nickel	500.0	486.80	97.4	500.0	482.80	96.6	481.20	96.2	P
Potassium	25000.0	23890.00	95.6	25000.0	23620.00	94.5	23670.00	94.7	P
Selenium	250.0	247.00	98.8	250.0	243.60	97.4	240.50	96.2	P
Silver	500.0	494.80	99.0	500.0	489.00	97.8	490.00	98.0	P
Sodium	25000.0	23670.00	94.7	25000.0	23240.00	93.0	23370.00	93.5	P
Thallium	250.0	242.70	97.1	250.0	239.20	95.7	239.80	95.9	P
Vanadium	500.0	497.20	99.4	500.0	491.90	98.4	491.50	98.3	P
Zinc	500.0	505.00	101.0	500.0	501.40	100.3	501.90	100.4	P
Cyanide	120.0	102.00	85.0	150.0	153.00	102.0	154.00	102.7	AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Initial Calibration Source: VENTURES

Continuing Calibration Source: VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				26000.0	25020.00	96.2	24740.00	95.2	P
Antimony				250.0	242.30	96.9	239.50	95.8	P
Arsenic				250.0	244.10	97.6	240.10	96.0	P
Barium				500.0	497.50	99.5	487.20	97.4	P
Beryllium				500.0	508.10	101.6	502.80	100.6	P
Cadmium				500.0	490.30	98.1	482.70	96.5	P
Calcium				25000.0	25670.00	102.7	25460.00	101.8	P
Chromium				500.0	503.50	100.7	498.00	99.6	P
Cobalt				500.0	487.10	97.4	481.50	96.3	P
Copper				500.0	500.20	100.0	491.20	98.2	P
Iron				25500.0	25730.00	100.9	25430.00	99.7	P
Lead				1000.0	1009.00	100.9	991.80	99.2	P
Magnesium				25000.0	24750.00	99.0	24450.00	97.8	P
Manganese				500.0	485.40	97.1	480.10	96.0	P
Mercury				3.0	3.27	109.0	3.21	107.0	CV
Nickel				500.0	485.40	97.1	479.10	95.8	P
Potassium				25000.0	23950.00	95.8	23720.00	94.9	P
Selenium				250.0	244.00	97.6	241.90	96.8	P
Silver				500.0	488.00	97.6	483.60	96.7	P
Sodium				25000.0	23270.00	93.1	23040.00	92.2	P
Thallium				250.0	242.20	96.9	238.20	95.3	P
Vanadium				500.0	491.40	98.3	485.70	97.1	P
Zinc				500.0	504.40	100.9	498.60	99.7	P
Cyanide				150.0	154.00	102.7	152.00	101.3	AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Initial Calibration Source: VENTURES

Continuing Calibration Source: VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				26000.0	24640.00	94.8			P
Antimony				250.0	239.80	95.9			P
Arsenic				250.0	241.30	96.5			P
Barium				500.0	489.20	97.8			P
Beryllium				500.0	501.50	100.3			P
Cadmium				500.0	482.00	96.4			P
Calcium				25000.0	25130.00	100.5			P
Chromium				500.0	496.30	99.3			P
Cobalt				500.0	481.00	96.2			P
Copper				500.0	491.60	98.3			P
Iron				25500.0	25390.00	99.6			P
Lead				1000.0	992.30	99.2			P
Magnesium				25000.0	24340.00	97.4			P
Manganese				500.0	479.10	95.8			P
Mercury									NR
Nickel				500.0	478.80	95.8			P
Potassium				25000.0	23910.00	95.6			P
Selenium				250.0	240.90	96.4			P
Silver				500.0	482.10	96.4			P
Sodium				25000.0	22950.00	91.8			P
Thallium				250.0	238.80	95.5			P
Vanadium				500.0	484.50	96.9			P
Zinc				500.0	498.50	99.7			P
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

13
PREPARATION LOG

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Method: P

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
A66008	06/27/94		100
A66009	06/27/94		100
LCSW1	06/27/94		100
PBW1	06/27/94		100

U.S. EPA - CLP

13
PREPARATION LOG

Lab Name: AQUATEC_____ Contract: 91082_____

Lab Code: AQUAI_ Case No.:_OLM___ SAS No.: _____ SDG No.:44723_

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
A66008	06/27/94		100
A66009	06/27/94		100
PBW1	06/27/94		100

FORM XIII - IN ILM02.1

U.S. EPA - CLP

13
PREPARATION LOG

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: OLM SAS No.: SDG No.: 44723

Method: AS

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
A66008	06/22/94		250
A66009	06/22/94		250
ICV	06/22/94		250
PBW1	06/22/94		250

FORM XIII - IN ILM02.1

Aquatec, Inc. --- PREP BENCHSHEET --- 25-JUN-1994 20:02:36 --- FPC

Prep Method: ILM02:IW (prep1) Analyst: SGS Batch: FF

Solid/Water (S/W): W Prep Date (mm-dd-yy): 6/27/94

C282

	Lab ID	Digested Mass (g)	Digestate Volume (ml)	Spike Fraction	Spike ID
13	PB220	100.04	100		
	LCSWIF (224533)	100.00			
	LCSWIFD (224534)	100.00			
	224521	100.06			
	224522	100.35			
	224523	100.50			
	224526	100.06			
	224527	100.21			
	224528	100.19			
	224529	100.80			
	224530	100.67			
	BLAB02 223719	100.84			
	223720	100.45			

ANALAB 44850
BLAB02 44723

ENTERED

Cold Vapor Prep Sheet

Analyst: [illegible] Rack ID: 062994 Prep Date: 062994

#	Lab ID	Digested Mass(g)	Digestate Volume (ml)	Bottle Number	Spike ID
1	ICV				
2	ICB				
3	CRA				
4	CCV:1				
5	CCB:1				
6	PB062794 PBW11	100.56	100	32	
7	224229	99.86		231	
8	224230	100.00		240	
9	224230ms	99.51		192	1
10	224230DP	99.46		13	
11	224379	101.02		89	
12	224380	100.22		27	
13	224381	100.06		2	
14	224382	101.01		2A	
15	CCV:2				
16	CCB:2				
17	224383	101.68	100	27	
18	224384	100.18		74	
19	224553	100.35		1	
20	224554	101.00		22	
21	224555	100.63		190	
22	224556	100.53		12	
23	224556ms	1099.66		5	1
24	224556DP	100.27		35	
25	224557	100.11		7	
26	CCV:3				
27	CCB:3				
28	224558	100.71	100	28	
29	224559	101.86		81	
30	224730	5.98 ~~100.86~~ 062994		18	
31	PB062794A	101.22		47	
32	224731	100.75		224	
33	223719	101.87		227	
34	223720	100.52		218	
35					
36					
37	CCV:4				
38	CCB:4				
39	PB 062794B	0.2	100	47	
40	LCS062794B	1.03	200	21	6 of 219
41					
42					
43					
44					

224730 Murky Opaque Prepped as Soil.

BLABOZ 44723
HARLAW 44798, 44829, 44855, 44878

224230ms
224556ms

Matrix Spiker Initials: [illegible] Witness Initials: SGS Date: 6/27/94

1.0 ml of 100 ppb Hg into bottle # 192.5

F-0104

Cyanide Preparation Benchsheet
Method 335.2/9010/ILM02

Distillation Date: 6-22-94 Page 3
Distillation Time: 10:00
Analyst: HY

Analysis Date: 6-23-94
Analysis Time: 1:00
Batch: 1 MA

	Sample #	pH	Chlor-inated (Y/N)	Matrix (S/W)	Sample amount (g or ml)	Spike Added (mg)	Distillate Volume (ml)	Sulfide Check
1	ICV	—	N	W	500ml	.06	250ml	✓
	ICB	—	—	—	—	—	—	—
2	PBW /	—	N	W	500ml	—	250ml	✓
3	PBS	—	N	W	~~500ml~~ 2.67g HY 6-22-94			✓
4	LCS217	—	N	S	1.00g	—		✓
5	223903	—	N	S	5.44g	—		✓
6	223904	—	N	S	5.62g	—		✓
7	223905	—	N	S	5.70g	—		✓
8	224130	—	N	S	6.71g	—		✓
9	224131	—	N	S	5.84g	—		✓
10	224132	—	N	S	5.40g	—		✓
11	224132DP	—	N	S	5.43g	—		✓
12	224132MS	—	N	S	6.08	.125		✓
13	223719 /	10	N	W	500ml	—		✓
14	223720 /	10	N	W	500ml	—		✓
15	223105	10	N	W	500ml	—		✓
16	223814	10	N	W	500ml	—		✓
17	224080	10	N	W	500ml	—		✓
18	224081	10	N	W	500ml	—		✓
19	224123	10	N	W	500ml	—		✓
20	224124	10	N	W	500ml	—		✓
21	224159	10	N	W	500ml	—		✓
22	224160	10	N	W	500ml	—	↓	✓

Metals Visual Inspection Form

F-0106

Prep Method: ILM02:1W

Prep Date: 6/27/94

Solid/Water (circle)

Batch: FF

Analyst: SGS

			Pre-Digestion				Post-Digestion	
Lab ID	Client ID	pH*	Color	Clarity	Texture	Artifacts	Color	Clarity
223719	A66008	2	COLORLESS	CLEAR			COLORLESS	CLEAR
223720	A66009	1	"	"			"	"

Client: BLAB02 ETR: 44723

Client: ETR:

pH checked by Cleg on 6.11.94

* Any samples with pH >2 were preserved to pH <2 by

_____ on _____

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

000003

PROJ. NO.: 64551
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	Pesticides + PCBs	Semi Volatiles	TAL - METALS	CN-	TSS	Volatiles - VOAs	Temp	REMARKS
SWP-2	6-9	13:30		✓	A66008 ✓	9	2	2	1	1	1	2		Do CLP TCL/TAL
SWP-1	6-9	14:45		✓	A66009 ✓	9	2	2	1	1	1	2		
					Temp	1 / 19							1	Cooler # - LTI # - 3

Please Return Cooler
LIMNO-TECH
1804 NAZARETH Rd
KALAMAZOO MI 49001
(616) -388-2038

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	6-10-94	18:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
				6/11/94	1130		

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Maureen R. Henry Log-in Date: 6/13/94

Received By (Signature): Maureen R. Henry

Case Number: OLM

Sample Delivery Group No: 44723

ETR Number: 44723

REMARKS:

1. Custody Seal(s) Present/~~Absent*~~ ~~Intact/Broken~~
2. Custody Seal Nos.: no #'s
3. Chain-of-Custody Records Present/~~Absent*~~
4. Sample Information Sheets ~~Present~~/Absent*
5. Airbill Airbill/~~Sticker~~ ~~Present/Absent*~~
6. Airbill No.: 7296618792
7. Sample Tags ~~Present/Absent*~~
   Sample Tag Numbers ~~Listed~~/Not Listed on Chain-of-Custody
8. Sample Condition: ~~Intact/Broken*/Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? ~~Yes~~/No* See *
10. Date Received at Lab: 6-11-94
11. Time Received: 1130
12. Cooler Temperature 5°C, 5°C, 6°C

Sample Transfer

Fraction: All

Area #: Lvl. 4 Fridge

By: MRH

On: 6/11/94

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
A66008	N/A	223719	All recvd
A66009	"	223720	intact in
HB	"	223721	coolers w/ice.
			Coolers were
* "94" listed in			intact as
dates on			were custody
Sample			Seals on
containers			outside of
but Not			Cooler & Custody
in dates			Seals present
on c-of-c.			and intact
			on all
			containers
			Note: C-of-C
			refers to
			Kalamazoo River/
			Portage creek but
			sample IDs
			begin with A,
			indicating Allied
			site. Per John Peterson
			+ JLB tel con, these
			are on the Allied site.

JB 6/14

* Contact Project Director.

Reviewed by: _____ Logbook No: _____

Date: _____ Logbook Page No: _____

F-016

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 44723

Project Number: 91082

Case No.: OLM

SDG Number: 44723

Memo: Sample # 223719-21 placed in fridge on 6/14/94 @ 1200 by

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
22371920	PM	6/13/94 1450	TSS	6/13/94

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 44723

Project Number: 91082

Case No.: 044

SDG Number: 44723

Memo: Sample # 223719-21 placed in fridge on 6/11/94 @ 1200 by

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
223719-21	NJ	6-22-94 8:00	cyanide analysis	6-22-94 11:00

F-01(

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 44723

Project Number: 91082

Case No.: 044

SDG Number: 44723

Memo: Sample # 223719-21 placed in fridge on 6/11/94 @ 1200 by

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIM RETURNED
	[illegible]	062794 0700	[illegible]	062794 10(

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 44723

Project Number: 71082

Case No.: 044

SDG Number: 44723

Memo: Samples # 223719-21 placed in fridge on 6/14/94 @ 1200 by

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
223719, 20	JD	6/14/94 3:00pm	EXT	6/14/94 5:0

F-01(

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 44723

Project Number: 91082

Case No.: 044

SDG Number: 44723

Memo: Sampler # 223719-21 placed in fridge on 6/14/94 @ 1200 by

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIM RETURNED
223719-21	DD	06/14/94 @ 1100	VOA accum & pH	06/14/94 @ 1300

F-01(

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 44723

Project Number: 91082

Case No.: 044

SDG Number: 44723

Memo: Sample # 223719-21 placed in fridge on 6/14/94 @ 1200 by

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIM RETURNED
223719, 720	CMP	6/17/94 1600	VOA Analysis	6/17/94 2200

F-0169

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 44723

Project Number: 91082

Case No.: OLM

SDG Number: 44723

Memo: Sample # 223719-21 placed in fridge on 6/14/94 @ ~~1130~~ 1200 by MP

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
223719 +720	MTP	6/14/94 0900	Extraction	6/14/94 1340

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 44723	Date: 6/14/94

Laboratory I.D.	Fraction/Analysis
PBIK 92	
223719	
720	

Relinquished @ GMD by MTP Time: 1350

Transported by BED

Received @ CP by JKZ Time: 1530

Figure 9: F-0047

(Nov '91)

M004B

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

No.: 44723 | Date: 6/15/94

Laboratory I.D.	Fraction/Analysis
223719 & 20	

Relinquished @ GMD by JD Time: 11:10AM

Transported by

Received @ CP by JKZ Time: 14:00

Figure 9: F-0047

(Nov '91)

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 44723	Date: 6/14/94

Laboratory I.D.	Fraction/Analysis
PBIK 92	
223719	
720	

Relinquished @ GMD by MTP Time: 1350

Transported by BED

Received @ CP by JKZ Time: 1530

Figure 9: F-0047

(Nov '91)

M0043

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

No.: 44723 | Date: 6/15/94

Laboratory I.D.	Fraction/Analysis
223719 & 20	

Relinquished @ GMD by JD Time: 11:10AM

Transported by

Received @ CP by JKZ Time: 14:00

Figure 9: F-0047

(Nov '91)

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 44723	Date: 6/13/94
Laboratory I.D.	**Fraction/Analysis**
223719 +20	4-1l. per- Extbls

Relinquished @ CP by MRA Time: 1600

Transported by BFD

Received @ GMD by FNB Time: 1630

Figure 9: F-0047

(Nov '91)

METHOD: 101.PPCB:EXW MATRIX: WATER LEVEL: LOW BA H ID: 5KI

CLIENT(s): BLABO2 44723

DATE: 6/14/94

ANALYST: MTP

Lab sample id RTR	Client id	ml Sample	pH 5-9 1.	1.0ml Pest Surr (0.2ppm DEC/TMX) Lot # GEC531970 2.#	1.0ml Pest MTX (0.5/1.0ppm) Lot # 3.#	Add 60ml MeCl2 (2 min. shake) 4.	Drain through granular Na2SO4 5.	60ml MeCl2 shake, drain (2x) MeCl2 Lot # H123302 6.	Solvent exchange to hexane Hex Lot # 4159 KLPZ 7.	Conc to 10ml 8.#	Add 1.0ml to pre-washed florisil cartridge Florisil Lot # 941046 9.#	Elute with 8.0ml 9:1 Hexane:Acetone Ace Lot # 6402 94 10.	Comp 11.#
222759	PBIK 9Z	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
223719		998	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
223720		1001	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓

MTP
JD

COPY ORIGINAL ON FILE AT INCHCAPE TESTING SERVICES AQUATEC LABORATORIES

MTP 6/14/94

MTP 6/14/94

000550

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

October 31, 1994

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-BBL PCB MI
Aquatec Project No. 91082
Case No. PCB; SDG No. 46665

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on September 17, 23 and October 1, 1994. The analyses for these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on September 17, 1994 ETR No. 46665		
K30074	234418	Water
K30074MS	234418MS	Water
K30074MSD	234418MD	Water
K30074REP	234418DP	Water
MSB	234427	Water
K30075	234419	Water
K30076	234420	Water
K30077	234421	Water
K30078	234422	Water
K30079	234423	Water
K30080	234424	Water
K30081	234425	Water
K30082	234426	Water
Samples Received on September 23, 1994 ETR No. 46845		
A64014 ~~SWP1~~	235311	Water
A64013 ~~SWP2~~	235312	Water

00001

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on October 1, 1994 ETR No. 47024		
K30083	236148	Water
K30084	236149	Water
K30085	236150	Water
K30086	236151	Water
K30087	236152	Water
K30088	236153	Water
K30089	236154	Water

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

KRC/tal

Enclosure

91082B27SEP94

MEMORANDUM

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

To: Doug Cowin **Date:** 7/16/99

From: Laurie Indick **cc:** MPB, AEG, file

Re: KRSG - Allied OU Sampling

Several surface water samples collected at the Allied-OU in 1993 and 1994 were assigned identification numbers which had been reserved for groundwater samples. In addition, two surface water samples collected in September 1994 were assigned non-standard identification numbers. To eliminate any confusion regarding the nature of the samples and to comply with database storage requirements, the numbers have been revised, as follows:

Sample Date	Original Identification Number (list on COC)	Revised Number
8/24/99	A66000	A64000
	A66001	A64001
	A66002	A64002
12/15/93	A66003	A64003
	A66004	A64004
	A66005	A64005
	A66006	A64006
	A66007	A64007
6/9/94	A66008	A64008
	A66009	A64009
9/8/94	A66010	A64010
	A66011	A64011
9/22/94	SWP-1	A64014
	SWP-2	A64013

lai/

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 46665

	EPA SAMPLE NO.	S1 (TCX) #	S2 (DEC) #
1	224671 (PBLKCQ)	57*	83
2	234418 (K30074)	66	88
3	234418MS (K30074MS)	73	89
4	234418MSD (K30074MSD)	81	88
5	234427 (MSB)	59	89
6	234419 (K30075)	62	84
7	234420 (K30076)	78	87
8	234421 (K30077)	75	86
9	234422 (K30078)	68	84
10	234423 (K30079)	69	85
11	234424 (K30080)	64	75
12	234425 (K30081)	55*	66
13	234426 (K30082)	78	84
14	224672 (PBLK7Q)	68	98
15	235311 (SWP1)	81	89
16	235312 (SWP2)	84	80
17			
18			
19			
20			

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 466665

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLK1R	74		80	
2	K30083	69		72	
3	K30084	67		79	
4	K30085	53	*	52	*
5	K30086	72		65	
6	K30087	76		77	
7	K30088	70		78	
8	K30089	76		77	
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

		PROJECT SPECIFIC QC LIMITS
S1 (TCX) =	Tetrachloro-meta-Xylene	(60-150)
S2 (DEC) =	Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

WATER AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc. Contract: 91082

Lab Code: AQUAI Case No.: PCB SDG No.: 46665

Client Sample No.: 234418 (K30074)

COMPOUND	SPIKE ADDED (UG/L)	SAMPLE CONCENTRATION (UG/L)	MS CONCENTRATION (UG/L)	MS % RECOVERY
AROCLOR 1242	0.600	Ø.000	0.564	94
AROCLOR 1254	0.600	0.000 ~~0.005~~ 9/30/94	0.487	81 ~~80~~ KSN 10/4/94

COMPOUND	SPIKE ADDED (UG/L)	MSD CONCENTRATION (UG/L)	MSD % RECOVERY	RPD
AROCLOR 1242	0.600	0.552	92	2.2
AROCLOR 1254	0.600	0.469	78 ~~77~~ KSN 10/4/94	3.8

Comments:

MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 46665

EPA Sample No.: MSB

Compound	SPIKE ADDED	MSB CONCENTRATION	MSB % REC #	QC LIMITS REC.
Aroclor 1242	0.600	0.500	83	39-150
Aroclor 1254	0.600	0.440	73	29-131

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

Comments:

AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: PBIK6Q (224671)
Matrix:(soil/water) Water
Date Extracted: 09/21/94
Date Analyzed(1): 09/27/94
Time Analyzed(1): 1947
GC ID(1): HP-2057
GC Column(1): RTX-95

Contract: 91082
Case: PCB
SDG No: 46665
Level(L/M): LOW
Date Analyzed(2): 09/27/94
Time Analyzed(2): 1947
GC ID(2): HP-2057
GC Column(2): RTX-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	234418	K30074	09/27/94	09/27/94
2	234418MS	K30074MS	09/27/94	09/27/94
3	234418MD	K30074MSD	09/27/94	09/27/94
4	234427	MSB	09/27/94	09/27/94
5	234419	K30075	09/28/94	09/28/94
6	234420	K30076	09/28/94	09/28/94
7	234421	K30077	09/28/94	09/28/94
8	234422	K30078	09/28/94	09/28/94
9	234423	K30079	09/28/94	09/28/94
10	234424	K30080	09/28/94	09/28/94
11	234425	K30081	09/28/94	09/28/94
12	234426	K30082	09/28/94	09/28/94
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK6Q

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 46665

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 224671

Date Received:

Date Extracted: 09/21/94

Date Analyzed: 09/27/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

AROCLOR METHOD BLANK SUMMARY

91082 KSN 11/94

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 224672 (PBLK7Q)
Matrix:(soil/water) WATER
Date Extracted: 09/26/94
Date Analyzed(1): 10/01/94
Time Analyzed(1): 18:05
GC ID(1): HP2087
GC Column(1): RTX-35 (Cn3)

Contract: ~~92017~~
Case: PCB
SDG No: 46665
Level(L/M): L
Date Analyzed(2): 10/01/94
Time Analyzed(2): 18:05
GC ID(2): HP2087
GC Column(2): RTX-5 (Cn.4)

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	235311	SWP1	10/01/94	10/01/94
2	235312	SWP2	10/01/94	10/01/94
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK7Q

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 46665

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 224672

Date Received:

Date Extracted: 09/26/94

Date Analyzed: 10/01/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: PBLK1R
Matrix:(soil/water) Water
Date Extracted: 10/06/94
Date Analyzed(1): 10/15/94
Time Analyzed(1): 0154
GC ID(1): HP2087
GC Column(1): RTX 35

Contract: 91082
Case: PCB
SDG No: 466665
Level(L/M): Low
Date Analyzed(2): 10/15/94
Time Analyzed(2): 0154
GC ID(2): HP2087
GC Column(2): RTX-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	224675	PBLK1R	10/15/94	10/15/94
2	236148	K30083	↓	↓
3	236149	K30084		
4	236150	K30085		
5	236151	K30086		
6	236152	K30087		
7	236153	K30088		
8	236154	K30089		
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1R

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 46665

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 224675

Date Received:

Date Extracted: 10/06/94

Date Analyzed: 10/15/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

CH030923.XLS

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 23-SEP-94 20:48 to 24-SEP-94 15:54

File: 03, 04 23SEP941904

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	46.8	100	214	397	793	
Cal Fact	0.936	1.000	1.070	0.993	0.991	4.8
% Diff	6	0	-7	1	1	
Aroclor 1221	50.0	92.5	202	414	794	
Cal Fact	1.000	0.925	1.010	1.035	0.993	4.1
% Diff	0	8	-1	-4	1	
Aroclor 1232	51.4	108	212	421	755	
Cal Fact	1.028	1.080	1.060	1.053	0.944	5.1
% Diff	-3	-8	-6	-5	6	
Aroclor 1242	52.4	97.9	209	420	772	
Cal Fact	1.048	0.979	1.045	1.050	0.965	4.1
% Diff	-5	2	-5	-5	4	
Aroclor 1248	45.3	93.8	199	427	786	
Cal Fact	0.906	0.938	0.995	1.068	0.983	6.3
% Diff	9	6	1	-7	2	
Aroclor 1254	47.1	90.8	189	394	835	
Cal Fact	0.942	0.908	0.945	0.985	1.044	5.4
% Diff	6	9	6	2	-4	
Aroclor 1260	49.5	99.4	206	423	773	
Cal Fact	0.990	0.994	1.030	1.058	0.966	3.6
% Diff	1	1	-3	-6	3	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib. date/time: 09/23/94 2048 to 09/24/94 1554

Check Standard File: 03,04 27SEP941441, 02
Date: 09/27/94
Time: 1517

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	187	6.5

Check Standard File: 03,04 27SEP941441, 03
Date: 09/27/94
Time: 1551

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	206	3.0

Check Standard File: 03,04 27SEP941441, 15
Date: 09/27/94
Time: 2236

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	214	7.0

Check Standard File: 03,04 27SEP941441, 16
Date: 09/27/94
Time: 2310

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	199	0.5

Check Standard File: 03,04 27SEP941441, 28
Date: 09/28/94
Time: 0554

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1260	200	189	5.5

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib. date/time: 09/23/94 2048 to 09/24/94 1554

Check Standard File: 03,04 28SEP942145,02
Date: 09/28/94
Time: 2221

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	184	8.0

Check Standard File: 03,04 30SEP941758,38
Date: 10/1/94
Time: 1550

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	197	1.5

Check Standard File: 03,04 30SEP941758,39
Date: 10/01/94
Time: 1624

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	225	12.5

Check Standard File: 03,04 30SEP941758,46
Date: 10/01/94
Time: 2020

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	205	2.5

Check Standard File: 03,04 30SEP941758,47
Date: 10/01/94
Time: 2054

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	179	10.5

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2087.
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 10/04/94 1534 to 10/05/94 1041

Check Standard File: 03,04 140CT941618, 12
Date: 10/14/94
Time: 2232

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	205	2.5

Check Standard File: 03,04 140CT941618, 13
Date: 10/14/94
Time: 2306

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	214	7.0

Check Standard File: 03,04 140CT941618, 25
Date: 10/15/94
Time: 0551

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	200	0.0

Check Standard File: 03,04 140CT941618, 26
Date: 10/15/94
Time: 0624

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	218	9.0

Check Standard File: 03,04 140CT941618, 38
Date: 10/15/94
Time: 1309

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	196	2.0

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib. date/time: 10/04/94 1534 to 10/05/94 1041

Check Standard File: 03,04 14OCT94I618,39
Date: 10/15/94
Time: 1342

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	198	1.0

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

BLASLAND & BLACK ENGINEERS, P.C.

CHAIN OF CUSTODY RECORD

000003

PROJ. NO. 645.51

PROJECT NAME Kalamazoo River/Portage Creek

SAMPLERS: (Signature)

STA. NO.	DATE 94	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB's	TKN	Temp	REMARKS
SWK-6	9-16	14:45	✓		K30080	3	2	1		
Duplicate	9-16	—	✓		K30081	3	2	1		
Rinse Blk	9-16	14:55	✓		K30082	2	2	—		
					Temp	1			1	Cooler # 606
						9				Please Do Not Return Cooler

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	9-16-94 18:00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			9/17/94 1030		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BASLAND & BOUCK ENGINEERS, P.C.

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51

PROJECT NAME: Kalamazoo River / Portage Creek

SAMPLERS: (Signature)

STA. NO.	DATE 94	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCBs	PCBs w/ (MS/MSD)	TSS			Temp	REMARKS
SWK-1	9-16	10:30	✓		K30074	7	2	4	1				
SWK-2	9-16	11:15	✓		K30075	3	2		1				
					Temp	1						1	Cooler # 232
						11							Please Do Not Return Coolers

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	9-16-94 / 18:00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			9/17/94 / 1030		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000004

BLASLAND & [illegible]CK ENGINEERS, P.C.

000005

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51

PROJECT NAME: KALAMAZOO River / Portage Creek

SAMPLERS: (Signature) [signature]

STA. NO.	DATE 94	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB's	TSS				Temp	REMARKS
SWP-3A	9-16	11:35		✓	K30076	3	2	1					
SWK-3	9-16	12:10	✓		K30077	3	2	1					
SWK-4	9-16	13:05	✓		K30078	3	2	1					
SWK-5	9-16	13:55	✓		K30079	3	2	1					
						1						1	Cooler # - 183
						13							Please Do Not Return Cooler

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	9-16-94 18:00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	9/17/94 1030		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.

CHAIN OF CUSTODY RECORD

PROJ. NO. 645.51

PROJECT NAME: ALLIED O.U. / PORTAGE CREEK

SAMPLERS: (Signature) Brian R. Ford

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB'S	TSS						REMARKS
SWP1	9/21	13:00		✓	SWP1	3	✓	✓						
SWP2	9/21	12:25		✓	SWP2	3	✓	✓						
					TEMP. BLANK	1								
						—								COOLER # LTI #7
						7								PLEASE RETURN COOLER
														TO: JOHN PETERSON
														1804 NAZARETH RD.
														KALAMAZOO, MI 49001

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Brian R. Ford	9/22/94 13:45				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[illegible]	9/23/94 1000		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000006

BLASLAND, BOUCK ENGINEERS, P.C.

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
645.51	Kalamazoo River/Portage Creek

SAMPLERS: (Signature) [signature]

STA. NO.	DATE 94	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB's	TSS				Temp	REMARKS
SWK-1	9-29	12:00	✓		K30083	3	2	1					
SWK-2	9-29	12:40	✓		K30084	3	2	1					
SWP-3A	9-29	13:25		✓	K30085	3	2	1					
SWK-3	9-29	13:50		✓	K30086	3	2	1					
					Temp	1						1	Cooler #-LTI #-3
						/13							
													Please Return Cooler

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	9-30-94 12:00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 10/1/94 1115	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000002

BLASLAND, BOUCK ENGINEERS, P.C.

CHAIN OF CUSTODY RECORD

PROJ. NO.: 645.51

PROJECT NAME: KALAMAZOO River / Portage Creek

SAMPLERS: (Signature) [signature]

STA. NO.	DATE 94	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB's	TSS				Temp	REMARKS
SWK-4	9-29	15:30	✓		K30087	3	2	1					
SWK-5	9-29	16:15	✓		K30088	3	2	1					
SWK-6	9-29	16:55	✓		K30089	3	2	1					
					Temp	1						1	Cooler #- LTI #- 2
						10							
													Please Return Cooler

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	9-30-94 12:00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 10/1/94 1115	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

000008

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

8808825863

8808825863

RECIPIENT'S COPY

1 [redacted] Date

From (Your Name) Please Print — Your Phone Number (Very Important) ( )

Company — Department/Floor No.

Street Address

City — State — ZIP Required

2 To (Recipient's Name) Please Print — Recipient's Phone Number (Very Important) ( )

Company — Department/Floor No.

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

City — State — ZIP Required

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City — State — ZIP Required

3 PAYMENT 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card
5 [ ] Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [x] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [x] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
[ ] ECONOMY* Any Letter Rate not available from charge. Pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOV'T LETTER
41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas.
*Declared Value Limit $500.
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [ ] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [x] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice: 9 UN 1845 ___ x ___ kg. 904 III
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES — WEIGHT In Pounds Only — YOUR DECLARED VALUE (See right)
Total — Total — Total

DIM SHIPMENT (Chargeable Weight)
[ ] ___ lbs.
L x W x H

Received At
1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

Emp. No. — Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City — State — Zip
Received By
Delivery Received — FedEx Employee Number
9/17/99 1030

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #137204 FXEM 11/93
FORMAT #158
158
© 1992-93 FEDEX
PRINTED IN U.S.A.

001576

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER 8808825852

8808825852

RECIPIENT'S COPY

1 [redacted] Date

From (Your Name) Please Print — Your Phone Number (Very Important)
Company — Department/Floor No.
Street A
City — State — ZIP Required

2 To (Recipient's Name) Please Print — Recipient's Phone Number (Very Important)
Company — Department/Floor No
Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)
City — State — ZIP Required

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice)

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City — State — ZIP Required

3 PAYMENT 1 [✓] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [✓] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
*Economy Letter Rate not available. Minimum charge pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOV'T LETTER*
41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**
†Delivery commitment may be later in some areas
*Declared Value Limit $500.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [✓] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice: 5 Lb. 1915 ____ X ____ kg. 904 III
[ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES — WEIGHT In Pounds Only — YOUR DECLARED VALUE (See right)
Total — Total — Total

DIM SHIPMENT (Chargeable Weight)
[ ] ____ lbs.
L x W x H

Received At
1 [ ] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

Emp. No. — Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City — State — Zip
Received By
X
Date/Time Received — FedEx Employee Number
9/23/91 1100

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #137204 FXEM 11/93
FORMAT #158
158
© 1992-93 FEDEX PRINTED IN U.S.A.

001577

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS
QUESTIONS? CALL 800-238-5355 TOLL FREE

AIRBILL
PACKAGE
TRACKING NUMBER

8808825841

8808825841

RECIPIENT'S COPY

1 [redacted] Date

From (Your Name) Please Print — Your Phone Number (Very Important) ( )

Company — Department/Floor No.

Street Address

City — State — ZIP Required

2 To (Recipient's Name) Please Print — Recipient's Phone Number (Very Important) ( )

Company — Department/Floor No.

Exact Street A — Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

City — State — ZIP Required

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address

City — State — ZIP Required

3 PAYMENT 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [x] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
Only Letter Rate not available. Rate charge: round Economy rate

Government Overnight (Restricted for authorized users only)
46 [ ] GOV'T LETTER
41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Continued reservation required)
80 [ ] TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas
*Declared Value Limit $500
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [ ] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [x] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE* Dangerous Goods Shipper's Declaration not required
Dry Ice: 9 UN 1845 ____ X ____ lbs. ____
[ ] ____
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES — WEIGHT in Pounds Only — YOUR DECLARED VALUE (Spe right)

Total — Total — Total

DIM SHIPMENT (Chargeable Weight)
[ ] ____ lbs.
L x W x H

Received At
1 [ ] Regular Stop
2 [ ] On-Call Stop
3 [ ] Drop Box
4 [ ] B.S.C.
5 [ ] Station

7 Release Signature

Emp. No. — Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City — State — Zip
Received By: X [signature]
Date/Time Received: 10/1/94 c 1115
FedEx Employee Number

001578

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #137204 FXEM 11/93
FORMAT #158
158
© 1992-93 FEDEX PRINTED IN U.S.A.

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): A Gibbons Log-in Date: 9/17/94

Received By (Signature): [signature]

Case Number: PCB

Sample Delivery Group No: 46665

ETR Number: 46665

REMARKS:

1. Custody Seal(s) ~~Present~~/Absent* ~~Intact/Broken~~
2. Custody Seal Nos.: N/A
3. Chain-of-Custody Records ~~Present/Absent*~~
4. Sample Information Sheets ~~Present/Absent*~~
5. Airbill ~~Airbill/Sticker~~ ~~Present/Absent*~~
6. Airbill No.: 8808825863
7. Sample Tags ~~Present/Absent*~~
   Sample Tag Numbers ~~Listed/Not Listed on Chain-of-Custody~~
8. Sample Condition: ~~Intact/Broken*/Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No*
10. Date Received at Lab: 9.17.94
11. Time Received: 9/17 ~~6,5,5~~ 1030
12. Cooler Temperature 6,5,5°C

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
K30074	N/A	234418	Coolers were
K30075	↓	234419	Recvd intact
K30076	↓	234420	custody seals
K30077	↓	234421	on the coolers
K30078	↓	234422	were intact
K30079	↓	234423	samples
K30080	↓	234424	were intact
K30081	↓	234425	packed with
K30082	↓	234426	ice.
MSB	↓	234427	–

Sample Transfer

Fraction: all

Area #: 1 w/4 fridge

By: [signature]

On: 9.17.94

[signature] 9/17/94

* Contact Project Director

Reviewed by: [signature]

Date: 9/26/94

Logbook No:

Logbook Page No:

001579

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): H Gibbons Log-in Date: 9/23/94

Received By (Signature): [signature]

Case Number: PCB

Sample Delivery Group No: 46665

ETR Number: 46845

REMARKS:

1. Custody Seal(s) — Present/Absent* Intact/Broken
2. Custody Seal Nos.: N/A
3. Chain-of-Custody Records — Present/Absent*
4. Sample Information Sheets — Present/Absent*
5. Airbill — Airbill/Sticker Present/Absent*
6. Airbill No.: 8805825852
7. Sample Tags — Present/Absent*
   Sample Tag Numbers — Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No*
10. Date Received at Lab: 9-23-94
11. Time Received: 1000
12. Cooler Temperature: 4°C

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
SWP1	N/A	235311	Cooler was
SWP2	↓	235312	Recv'd intact
			custody seals
			on the cooler
			were intact
			samples were
			intact packed
			with ice
			- COC lists the
			date without
			the year bottle
			labels include
			the year
			- Times on the
			COC and bottle
			labels aren't
			in correct military
			time format.
			[signature] 9/23/94

Sample Transfer

Fraction: All

Area #: 1V14 fridge

By: Aej

On: 9/23/94

* Contact Project Director.

Reviewed by: [signature]

Date: 9/26/94

Logbook No:

Logbook Page No:

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Maureen R. [illegible] Log-in Date: 10/1/94

Received By (Signature): Maureen R. [illegible]

Case Number: PCB

Sample Delivery Group No: 46665

ETR Number: 47024

REMARKS:

1. Custody Seal(s) ~~Present~~/Absent* ~~Intact~~/Broken
2. Custody Seal Nos.: NoH's
3. Chain-of-Custody Records ~~Present~~/Absent*
4. Sample Information Sheets ~~Present~~/Absent*
5. Airbill ~~Airbill Sticker Present~~/Absent*
6. Airbill No.: 8805825 4
7. Sample Tags ~~Present~~/Absent*
   Sample Tag Numbers ~~Listed~~/Not Listed on Chain-of-Custody
8. Sample Condition: ~~Intact~~/Broken*/ ~~Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? ~~Yes~~/No* See Attached
10. Date Received at Lab: 10/1/94
11. Time Received: 1115
12. Cooler Temperature 3°c, 3°c

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
K30083	N/A	236148	All rec'd
K30084	"	236149	intact in
K30085	"	236150	Coolers w/ice.
K30086	"	236151	Coolers were
K30087	"	236152	intact as
K30088	"	236153	were custody
K30089	"	236154	Seals on
			outside of
			coolers.
			Custody Seals
			present and
			intact on
			all containers

Sample Transfer

Fraction: All

Area #: Lab Fridge

By: MRL

On: 10/1/94

MRL 10/3/94

* Contact Project Director.

Reviewed by: [illegible]

Date: 10/8/94

Logbook No:

Logbook Page No:

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

ETR: 4724
Case: PCB
SDG: 46665

Discrepancies between sample bottles/labels and C-of-C

(1) K30056: Listed as a Grab on C-of-C, however, TSS bottle labeled Grab, and, both PCB bottles labeled Composite.

Note: Noted in correction date on C-of-C. JCB 10/3/94

10/3/94

600000

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 47024

Project Number: 91082

Case No.: PCB

SDG Number: 46665

Memo: Samples # 236148-54 placed in fridge on 10/1/94 @ 11.
ME

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIM RETURNED
236148-54	PNM	10/3/94 1500	TSS	10/3/94 1

F-0169

000010

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

:TR Number: 47024

'roject Number: 91082

Case No.: PCB

SDG Number: 46665

lemo: Samples # 236148-54 placed in fridge on 10/1/94 @ 113. MRA

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
36148-54	JD	10/6/94 12:00pm	EXT	10/6/94 4:00pm

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 46665	Date: 9/27/94

Laboratory I.D.	Fraction/Analysis
234418-26	

Relinquished @ GMD by VSC Time: 15:00

Transported by

Received @ CP by DKR Time: 12:45

Figure 9: F-0047

(Nov '91)

Laboratory Transfer Record

Sample Management	Inchcape Testing Services
ETR: 46665	Date: 9/19/94

Laboratory I. D.	Fraction / Analysis
234418	6 1L Amber for PCB
23419-26	2 1L Amber for PCB

Relinquished @ CP by aeg Time: 0900

Transported by BeD

Received @ GMD by FrB Time: 1000

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 46845 | Date: 9/26/94

Laboratory I.D.	Fraction/Analysis
235311	
235312	

Relinquished @ [illegible] by JD Time: 4:40pm

Transported by BED

Received @ CP by SKZ Time: 11:30

Figure 9: F-0047

(Nov '91)

Laboratory Transfer Record

Sample Management	Inchcape Testing Services
ETR: 46845	Date: 9/26/94

Laboratory I. D.	Fraction / Analysis
235311-2	2 1Lamber / for PCB

Relinquished @ CP by Cey Time: 0900

Transported by BCD.

Received @ GND by FNB Time: 1000

Laboratory Transfer Record

Sample Management

Aquatec, Inc.

ETR: 47024

Date: 10/6/94

Laboratory I.D.	Fraction/Analysis
236148-54	

Relinquished @ GMD by JD Time: 4:25pM

Transported by

Received @ CP by JMW Time: 8:00Am 10-7-94

Figure 9: F-0047

(Nov '91)

Sample Management	Inchcape Testing Services
ETR: 47024	Date: 10/3/94
Laboratory I. D.	Fraction / Analysis
236148-54	2-1l. per - PCB.

Relinquished @ CT by MRA Time: 1600

Transported by BED

Received @ GMD by FNB Time: 1630

METHOD 0_PCB:EXW MATRIX: WATER LEVEL: LOW B/ I ID: 6RP

CLIENT(s): BLAB02 ETR# 46665

CASE: PCB

SDG: 46665

DATE: 9/21/1994

ANALYST: VSC

SPIKED BY: VSC

WITNESSED BY: MTP

Lab sample id BTR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE0901940 1	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot# ~~GE0722940~~ GE0823940 1 VSC 9/2	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# H20260	5. Hex exchange Hexane lot# 4159KLPZ	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# H10034	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 942007	10.# Conc to 1.0ml
234671 PBH	PBIK 6Q	1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
234418		999	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
234418	MS	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
234418	MD	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
234427	MSB	1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
234419		1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
234420		999	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
234421		999	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
234422		1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
234423		1000	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
234424		1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
234425		1001	✓	✓	—	✓	✓	✓	✓	✓	✓	✓
234426		999	✓	✓	—	✓	✓	✓	✓	✓	✓	✓

VSC

MTP

VSC 9/22/94

COPY ORIGINAL ON FILE AT INS ...

9/22/94

THOD:8080_PCB:EXW MATRIX: WATER LEVEL: LOW BATCH ID: 6SG

ENT(s): GEICO2/BLABO2

E: COMPO/PCB

: 46840/46665/46083/46844

TE: 9/26/94

ALYST: MTP

KED BY: MTP

TNESSED BY: VSC

R: 46840/46845/46083/46844

b sample id STR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCL surr Surr lot# CEO/M9401	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot#	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# 420[illegible]	5. Hex exchange Hexane lot# 4159 LPZ	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# 410034	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# ~~[illegible]~~ 942007	10.# Conc to 1.0ml
24672	PBIK 7Q	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
35260		1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
35262		1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
35311		1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
35312		1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
31177	RI	1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
35287		974	✓	✓		✓	✓	✓	✓	✓	✓	✓
35289		1000	✓	✓		✓	✓	✓	✓	✓	✓	✓

COPY ORIGINAL ON FILE
AT INCHCAPE TESTING SERVICES
AQUATEC LABORATORIES

JD 9/26/94

9/26/94

001574

15

:THOD:8(PCB:EXW . MATRIX: WATER LEVEL: LOW BAT(D: 6VV

IENT(s): BLAB02
SE: PCB
: 46665
TE: 10/6/94
ALYST: JD
KED BY: JD
TNESSED BY: MTP
TR: 47024

ab sample id STR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# ~~G-C0911901~~ G-E0901901 MTP 10/6/94	3.# 100 ul 6.0 ppm AR1242/1254 matrix Mtx lot#	4. Extract 3x with 60 ml CH2Cl2 CH2Cl2 lot# H20260	5. Hex exchange Hexane lot# 4159KLP2	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H2SO4 Lot# H10034	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 942007	10.# Conc to 1.0ml
24675	PBLK1R	1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
36148		1001	✓	✓		✓	✓	✓	✓	✓	✓	✓
36149		1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
36150		999	✓	✓		✓	✓	✓	✓	✓	✓	✓
36151		1002	✓	✓		✓	✓	✓	✓	✓	✓	✓
36152		999	✓	✓		✓	✓	✓	✓	✓	✓	✓
36153		1000	✓	✓		✓	✓	✓	✓	✓	✓	✓
36154		989	✓	✓		✓	✓	✓	✓	✓	✓	✓
JD 10/6/94												

JD MTP

COPY - ORIGINAL ON FILE
AT INCHCAPE TESTING SERVICES
AQUATEC LABORATORIES

JD 10/6/94

JD 10/6/94

48

Aquatec, Inc. -- Extraction worksheet -- printed by: JD on 10-06-94 12:27:44

Intertek Testing Services
Environmental Laboratories

KB80001873

June 2, 1997

Ms. Laurie Indick
Blasland & Bouck Engineers
6723 Towpath Road
Box 66
Syracuse, NY 13214

Re: Laboratory Project No. 91082
Case No. PCB; SDG 64982

Dear Ms. Indick:

Enclosed are the analytical results of samples received intact by ITS Environmental Laboratories on May 21, 1997. Laboratory numbers and quality control samples have been assigned and designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 05/21/97	ETR No: 64982	
330944	~~K34153~~ K34155	05/19/97	Liquid
330945	~~K34154~~ K34156	05/19/97	Liquid
330946	~~K34155~~ K34157	05/19/97	Liquid
330947	~~K34157~~ K34158	05/19/97	Liquid
330948	~~K34156~~ K35158	05/19/97	Liquid
330949	~~A66552~~ A66590	05/19/97	Liquid
330950	~~A66553~~ A66591	05/19/97	Liquid
330951	~~A66554~~ A66592	05/19/97	Liquid
330952	~~A66555~~ A66593	05/19/97	Liquid

Documentation of sample handling and preparation is included at the end of the "Sample Data Package." Colored sheets of paper entitled "Sample Preparation" and "Sample Handling" have been used to explicitly mark the location of these documents.

If there are any questions regarding this submittal, please contact James W. Madison at (802) 655-1203.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations director

KRC/cga

Intertek Testing Services NA Inc.
55 South Park Drive Colchester, VT 05446
Telephone (802) 655-1203 Fax (802) 655-1248

001

MEMORANDUM

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

To: Doug Cowin **Date:** 3/10/99

From: Laurie Indick **cc:** MPB, WTM, AEG, BTL, file

Re: KRSG - Allied OU Sampling

Based on a clarification of the nature of the sampling event, the sample identification numbers for the surface water samples collected at the Allied OU on 5/19/97 have been changed. These numbers had been previously changed due to a numbering conflict. The following table lists the original sample identification numbers, the revised numbers and the final numbers.

Sample Date	Original Identification Numbers (listed on the COC)	Revised Numbers	Final Numbers
5/19/97	A66552	A66590	A64590
	A66553	A66591	A64591
	A66554	A66592	A64592
	A66555	A66593	A64593

BLASLAND, BOUCK & LEE

SUBJECT	PROJ. NO.	BY	DATE	SHEET
	645.51	AEG	7/29/97	1 of 1

The following samples collected by LTI were renumbered because the IDs had been previously used:

SAMPLE DATE	ORIGINAL ID		CORRECTED ID
5-19-97	A66552	→	A66590
	A66553	→	A66591
	A66554	→	A66592
↓	A66555	→	A66593
5-[illegible]-97	K34153	→	K34155
	K34154	→	K34156
	K34155	→	K34157
	K34156	→	K34158
↓	K34157	→	K34159

FORM 2
WATER OTHER SURROGATE RECOVERY

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

GC Column(1): RTX-5 ID: 0.25 (mm) GC Column(2): RTX-35 ID: 0.25 (mm)

	CLIENT SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLKI3	83	85	90	105			0
02	I3LCS	84	85	89	103			0
03	K34153	81	84	88	100			0
04	K34154	80	81	91	101			0
05	K34155	84	87	94	104			0
06	K34157	84	86	108	119			0
07	K34156	92	94	100	112			0
08	A66552	75	80	99	110			0
09	A66553	93	95	101	113			0
10	A66554	89	91	103	114			0
11	A66555	77	80	95	104			0
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 (TCX) = Tetrachloro-m-xylene (60-140)
S2 (DCB) = Decachlorobiphenyl (60-140)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

FORM 3
WATER OTHER LAB CONTROL SAMPLE

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Matrix Spike - Sample No.: I3LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Aroclor-1242	0.50		0.29	58*	60-140
Aroclor-1254	0.50		0.45	90	60-140

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

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 1 out of 2 outside limits

COMMENTS:

FORM 3
WATER OTHER LAB CONTROL SAMPLE

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Matrix Spike - Sample No.: I3LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Aroclor-1242	5.0		2.9	58*	60-150
Aroclor-1254	5.0		4.5	90	60-150

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

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 1 out of 2 outside limits

COMMENTS:

FORM 4
OTHER METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

PBLKI3

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Lab Sample ID: PBLKI3 Lab File ID: _____

Matrix (soil/water) WATER Extraction:(SepF/Cont/Sonc) SEPF

Sulfur Cleanup (Y/N) N Date Extracted: 05/22/97

Date Analyzed (1): 05/28/97 Date Analyzed (2): 05/28/97

Time Analyzed (1): 1915 Time Analyzed (2): 1915

Instrument ID (1): 2404_2 Instrument ID (2): 2404_1

GC Column (1): RTX-35 ID: 0.25(mm) GC Column (2): RTX-5 ID: 0.25(mm)

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

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	I3LCS	I3LCS	05/28/97	05/28/97
02	K34153	330944	05/28/97	05/28/97
03	K34154	330945	05/28/97	05/28/97
04	K34155	330946	05/28/97	05/28/97
05	K34157	330947	05/28/97	05/28/97
06	K34156	330948	05/28/97	05/28/97
07	A66552	330949	05/28/97	05/28/97
08	A66553	330950	05/28/97	05/28/97
09	A66554	330951	05/28/97	05/28/97
10	A66555	330952	05/29/97	05/29/97
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS: _____

FORM IV OTHER

FORM 1
OTHER ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

PBLKI3

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Matrix: (soil/water) WATER Lab Sample ID: PBLKI3

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N)___ Date Received: _____

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:05/22/97

Concentrated Extract Volume: 1(mL) Date Analyzed: 05/28/97

Injection Volume: _____(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2------	Aroclor-1016	0.050	U
11104-28-2------	Aroclor-1221	0.050	U
11141-16-5------	Aroclor-1232	0.050	U
53469-21-9------	Aroclor-1242	0.050	U
12672-29-6------	Aroclor-1248	0.050	U
11097-69-1------	Aroclor-1254	0.050	U
11096-82-5------	Aroclor-1260	0.050	U

FORM 6
OTHER INITIAL CALIBRATION DATA

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_1 Calibration Date(s): 05/19/97 05/20/97

Column: RTX-5 ID: 0.25 (mm) Calibration Time(s): 1549 0521

LAB FILE ID: RF2: 19MAY971400-IRF4: 19MAY971400-IRF8: 19MAY971400-I
RF16: 19MAY971400-RF32: 19MAY971400-

COMPOUND	RF2	RF4	RF8	RF16	RF32
Aroclor-1016	458.420	441.450	405.680	372.290	344.922
(2)	344.980	329.500	299.455	274.888	253.548
(3)	197.180	192.500	179.070	165.362	151.496
(4)	272.640	257.680	236.160	215.038	196.692
(5)	271.200	255.670	234.295	213.180	195.011
Aroclor-1221					
(2)					
(3)					
(4)					
(5)					
Aroclor-1232					
(2)					
(3)					
(4)					
(5)					
Aroclor-1242	268.880	245.460	234.915	208.248	193.392
(2)	341.720	306.550	295.990	262.538	244.604
(3)	87.100	80.780	81.625	74.612	71.368
(4)	706.660	635.850	624.325	566.390	543.034
(5)	236.180	216.690	214.990	196.518	191.279
Aroclor-1248	214.780	195.050	184.365	161.135	148.561
(2)	427.640	387.050	364.590	320.728	301.240
(3)	337.700	310.630	294.340	259.398	243.715
(4)	447.100	413.670	393.775	351.030	334.898
(5)	118.520	113.900	109.520	97.905	92.976
Aroclor-1254	272.420	249.490	230.800	209.962	190.756
(2)	222.920	205.400	188.865	172.710	156.236
(3)	410.700	375.490	367.735	343.492	306.815
(4)	755.340	687.480	637.470	596.010	541.138
(5)	172.400	159.760	152.920	139.065	129.171
Aroclor-1260	412.880	396.440	364.450	336.218	308.141
(2)	238.380	228.620	210.000	193.988	176.318
(3)	801.640	779.680	727.915	680.860	635.999
(4)	214.360	202.870	190.050	173.928	161.611
(5)	201.940	194.740	182.035	168.618	152.658
Tetrachloro-m-xylene	16139.000	14880.100	14344.550	13203.925	12364.862

FORM 6
OTHER INITIAL CALIBRATION DATA

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_1 Calibration Date(s): 05/19/97 05/20/97

Column: RTX-5 ID: 0.25 (mm) Calibration Time(s): 1549 0521

LAB FILE ID: RF2: 19MAY971400-IRF4: 19MAY971400-IRF8: 19MAY971400-I
RF16: 19MAY971400-RF32: 19MAY971400-

COMPOUND	RF2	RF4	RF8	RF16	RF32
Decachlorobiphenyl	7458.200	6353.600	5984.850	5313.950	4989.188

FORM 6
OTHER INITIAL CALIBRATION DATA

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_1 Calibration Date(s): 05/19/97 05/20/97

Column: RTX-5 ID: 0.25 (mm) Calibration Time(s): 1549 0521

COMPOUND	CURVE	COEFFICENTS A0	A1	%RSD OR R^2
Aroclor-1016	LINR	-32.097023	335.025424	0.999
(2)	LINR	-34.127418	245.771175	0.998
(3)	LINR	-31.859316	147.584101	0.998
(4)	LINR	-36.656857	190.390580	0.998
(5)	LINR	-36.850775	188.707666	0.998
Aroclor-1221	LINR			
(2)	LINR			
(3)	LINR			
(4)	LINR			
(5)	LINR			
Aroclor-1232	LINR			
(2)	LINR			
(3)	LINR			
(4)	LINR			
(5)	LINR			
Aroclor-1242	LINR	-35.241729	187.107162	0.998
(2)	LINR	-34.333506	236.768710	0.998
(3)	LINR	-20.313155	70.0529169	0.999
(4)	LINR	-23.959945	529.863543	0.999
(5)	LINR	-18.713761	187.461577	1.000
Aroclor-1248	LINR	-40.214331	143.009567	0.998
(2)	LINR	-35.837085	290.476656	0.999
(3)	LINR	-34.432137	235.487317	0.999
(4)	LINR	-29.078829	324.884335	0.999
(5)	LINR	-27.588530	90.5024823	0.999
Aroclor-1254	LINR	-38.390824	184.459508	0.998
(2)	LINR	-38.740722	151.133483	0.998
(3)	LINR	-32.672018	300.275467	0.996
(4)	LINR	-34.214550	526.022506	0.998
(5)	LINR	-30.810785	125.666798	0.998
Aroclor-1260	LINR	-33.454660	299.415358	0.998
(2)	LINR	-34.961584	171.282841	0.998
(3)	LINR	-26.114546	621.678539	0.999
(4)	LINR	-30.902592	157.156329	0.999
(5)	LINR	-33.624132	148.738680	0.997
Tetrachloro-m-xylene	LINR	-2.7044744	12068.0298	0.999

FORM 6
OTHER INITIAL CALIBRATION DATA

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_1 Calibration Date(s): 05/19/97 05/20/97

Column: RTX-5 ID: 0.25 (mm) Calibration Time(s): 1549 0521

COMPOUND	CURVE	COEFFICENTS A0	A1	%RSD OR R^2
Decachlorobiphenyl	LINR	-3.6568074	4802.61779	0.999

FORM 6
OTHER INITIAL CALIBRATION DATA

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_2 Calibration Date(s): 05/19/97 05/20/97

Column: RTX-35 ID: 0.25 (mm) Calibration Time(s): 1549 0521

LAB FILE ID: RF2: 19MAY971400-IRF4: 19MAY971400-IRF8: 19MAY971400-I
RF16: 19MAY971400-RF32: 19MAY971400-

COMPOUND	RF2	RF4	RF8	RF16	RF32
Aroclor-1016	101.020	97.170	91.240	83.965	77.574
(2)	128.940	121.330	111.790	101.005	92.024
(3)	150.240	140.990	129.195	116.505	105.868
(4)	121.880	116.420	106.345	96.455	87.762
(5)	136.900	132.370	112.075	110.300	99.896
Aroclor-1221					
(2)					
(3)					
(4)					
(5)					
Aroclor-1232					
(2)					
(3)					
(4)					
(5)					
Aroclor-1242	149.160	134.900	128.835	115.215	106.182
(2)	352.180	321.390	316.040	286.652	273.615
(3)	159.020	142.930	139.975	126.188	118.851
(4)	114.920	105.480	106.855	98.755	95.246
(5)	125.640	112.120	108.205	95.705	88.309
Aroclor-1248	132.380	119.950	112.275	98.428	90.771
(2)	84.720	80.470	77.820	69.195	65.138
(3)	238.320	210.680	212.830	188.188	171.140
(4)	87.400	81.360	79.450	70.562	66.488
(5)	163.480	153.420	148.150	131.885	125.550
Aroclor-1254	188.760	167.460	176.170	165.952	139.538
(2)	384.920	351.610	335.330	305.872	277.914
(3)	265.680	244.720	236.075	215.950	197.972
(4)	180.120	165.840	156.015	141.368	125.280
(5)	285.240	263.040	253.250	232.108	210.764
Aroclor-1260	216.460	206.470	191.190	175.655	159.446
(2)	443.840	431.040	407.930	386.600	359.870
(3)	192.120	136.220	129.030	120.755	110.530
(4)	249.920	246.970	234.825	225.490	208.900
(5)	100.680	102.660	97.660	93.750	87.566
Tetrachloro-m-xylene	8468.800	7992.800	7863.650	7313.825	7040.850

FORM 6
OTHER INITIAL CALIBRATION DATA

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_2 Calibration Date(s): 05/19/97 05/20/97

Column: RTX-35 ID: 0.25 (mm) Calibration Time(s): 1549 0521

LAB FILE ID: RF2: 19MAY971400-IRF4: 19MAY971400-IRF8: 19MAY971400-I
RF16: 19MAY971400-RF32: 19MAY971400-

COMPOUND	RF2	RF4	RF8	RF16	RF32
Decachlorobiphenyl	4763.000	4101.800	3999.600	3632.100	3427.712

FORM 6
OTHER INITIAL CALIBRATION DATA

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_2 Calibration Date(s): 05/19/97 05/20/97

Column: RTX-35 ID: 0.25 (mm) Calibration Time(s): 1549 0521

COMPOUND	CURVE	COEFFICENTS A0	A1	%RSD OR R^2
Aroclor-1016	LINR	-30.469653	75.5785420	0.998
(2)	LINR	-38.345292	88.9686202	0.998
(3)	LINR	-39.761142	102.210325	0.998
(4)	LINR	-38.249063	84.8800560	0.998
(5)	LINR	-32.498192	97.2466446	0.998
Aroclor-1221	LINR			
(2)	LINR			
(3)	LINR			
(4)	LINR			
(5)	LINR			
Aroclor-1232	LINR			
(2)	LINR			
(3)	LINR			
(4)	LINR			
(5)	LINR			
Aroclor-1242	LINR	-35.888120	102.777164	0.998
(2)	LINR	-24.300204	267.130558	0.999
(3)	LINR	-28.524904	115.675389	0.999
(4)	LINR	-17.397396	93.6867562	0.999
(5)	LINR	-36.913908	85.3606595	0.998
Aroclor-1248	LINR	-40.641600	87.3011074	0.998
(2)	LINR	-29.969231	63.3204363	0.998
(3)	LINR	-36.151241	166.249295	0.997
(4)	LINR	-29.790640	64.6345056	0.999
(5)	LINR	-28.109484	122.055139	0.999
Aroclor-1254	LINR	-37.033284	137.986188	0.990
(2)	LINR	-35.371722	269.942772	0.998
(3)	LINR	-31.984097	192.832943	0.998
(4)	LINR	-42.206658	121.271983	0.996
(5)	LINR	-33.633124	205.259607	0.998
Aroclor-1260	LINR	-35.543152	154.844336	0.998
(2)	LINR	-23.865563	353.087030	0.999
(3)	LINR	-39.685299	106.244100	0.999
(4)	LINR	-22.036659	205.684517	0.998
(5)	LINR	-19.734716	86.3633661	0.999
Tetrachloro-m-xylene	LINR	-1.8222738	6918.26536	1.000

FORM 6
OTHER INITIAL CALIBRATION DATA

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_2 Calibration Date(s): 05/19/97 05/20/97

Column: RTX-35 ID: 0.25 (mm) Calibration Time(s): 1549 0521

COMPOUND	CURVE	COEFFICENTS A0	A1	%RSD OR R^2
Decachlorobiphenyl	LINR	-2.8768291	3331.63413	0.999

FORM 7
OTHER CONTINUING CALIBRATION CHECK

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_1 Calibration Date: 05/28/97 Time: 1847

Lab File ID: 28MAY971604-I0 Init. Calib. Date(s): 05/20/97 05/20/97

Heated Purge: (Y/N) N Init. Calib. Times: 0109 0301

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

COMPOUND	SAMPLE AMOUNT	CAL8 AMOUNT	CURVE	%D	MAX %d
Aroclor-1248	190	200	LINR	5.0	15.0
Tetrachloro-m-xylene	20	20	LINR	0.0	15.0
Decachlorobiphenyl	19	20	LINR	5.0	15.0

FORM 7
OTHER CONTINUING CALIBRATION CHECK

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_1 Calibration Date: 05/29/97 Time: 0050

Lab File ID: 28MAY971604-I1 Init. Calib. Date(s): 05/20/97 05/20/97

Heated Purge: (Y/N) N Init. Calib. Times: 0109 0301

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

COMPOUND	SAMPLE AMOUNT	CAL8 AMOUNT	CURVE	%D	MAX %d
Aroclor-1248	180	200	LINR	10.0	15.0
Tetrachloro-m-xylene	20	20	LINR	0.0	15.0
Decachlorobiphenyl	20	20	LINR	0.0	15.0

FORM 7
OTHER CONTINUING CALIBRATION CHECK

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_1 Calibration Date: 05/29/97 Time: 0118

Lab File ID: 28MAY971604-I1 Init. Calib. Date(s): 05/19/97 05/20/97

Heated Purge: (Y/N) N Init. Calib. Times: 2249 0041

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

COMPOUND	SAMPLE AMOUNT	CAL8 AMOUNT	CURVE	%D	MAX %d
Aroclor-1242	170	200	LINR	15.0	15.0
Tetrachloro-m-xylene	20	20	LINR	0.0	15.0
Decachlorobiphenyl	20	20	LINR	0.0	15.0

FORM 7
OTHER CONTINUING CALIBRATION CHECK

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_1 Calibration Date: 05/29/97 Time: 0310

Lab File ID: 28MAY971604-I1 Init. Calib. Date(s): 05/20/97 05/20/97

Heated Purge: (Y/N) N Init. Calib. Times: 0109 0301

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

COMPOUND	SAMPLE AMOUNT	CAL8 AMOUNT	CURVE	%D	MAX %d
Aroclor-1248	190	200	LINR	5.0	15.0
Tetrachloro-m-xylene	20	20	LINR	0.0	15.0
Decachlorobiphenyl	20	20	LINR	0.0	15.0

FORM 7
OTHER CONTINUING CALIBRATION CHECK

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_2 Calibration Date: 05/28/97 Time: 1847

Lab File ID: 28MAY971604-I0 Init. Calib. Date(s): 05/20/97 05/20/97

Heated Purge: (Y/N) N Init. Calib. Times: 0109 0301

GC Column: RTX-35 ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL8 AMOUNT	CURVE	%D	MAX %d
Aroclor-1248	200	200	LINR	0.0	15.0
Tetrachloro-m-xylene	20	20	LINR	0.0	15.0
Decachlorobiphenyl	22	20	LINR	10.0	15.0

FORM 7
OTHER CONTINUING CALIBRATION CHECK

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_2 Calibration Date: 05/29/97 Time: 0050

Lab File ID: 28MAY971604-I1 Init. Calib. Date(s): 05/20/97 05/20/97

Heated Purge: (Y/N) N Init. Calib. Times: 0109 0301

GC Column: RTX-35 ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL8 AMOUNT	CURVE	%D	MAX %d
Aroclor-1248	200	200	LINR	0.0	15.0
Tetrachloro-m-xylene	20	20	LINR	0.0	15.0
Decachlorobiphenyl	22	20	LINR	10.0	15.0

FORM 7
OTHER CONTINUING CALIBRATION CHECK

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_2 Calibration Date: 05/29/97 Time: 0118

Lab File ID: 28MAY971604-I1 Init. Calib. Date(s): 05/19/97 05/20/97

Heated Purge: (Y/N) N Init. Calib. Times: 2249 0041

GC Column: RTX-35 ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL8 AMOUNT	CURVE	%D	MAX %d
Aroclor-1242	180	200	LINR	10.0	15.0
Tetrachloro-m-xylene	20	20	LINR	0.0	15.0
Decachlorobiphenyl	22	20	LINR	10.0	15.0

FORM 7
OTHER CONTINUING CALIBRATION CHECK

Lab Name: ITS ENVIRONMENTAL Contract: 91082

Lab Code: INCHVT Case No.: PCB SAS No.: SDG No.: 64982

Instrument ID: 2404_2 Calibration Date: 05/29/97 Time: 0310

Lab File ID: 28MAY971604-I1 Init. Calib. Date(s): 05/20/97 05/20/97

Heated Purge: (Y/N) N Init. Calib. Times: 0109 0301

GC Column: RTX-35 ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL8 AMOUNT	CURVE	%D	MAX %d
Aroclor-1248	200	200	LINR	0.0	15.0
Tetrachloro-m-xylene	20	20	LINR	0.0	15.0
Decachlorobiphenyl	22	20	LINR	10.0	15.0

HBL
HARLAND, BOUCK & LEE, INC.
engineers & scientists
6723 Towpath Road, P.O. Box 66
Syracuse, New York 13214-0066
TEL: (315) 446-9120

CHAIN OF CUSTODY RECORD

000004

PROJ. NO.: 645.24
PROJECT NAME: Kalamazoo River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE 97	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				Temp	REMARKS
SWP-3A	5-19	13:50		✓	K34153	3	2	1					TAT - 7 Days
Plainwell	5-19	14:30		✓	K34154	3	2	1					
Otsego	5-19	15:00		✓	K34155	3	2	1					
Allegan	5-19	15:55		✓	K34157	3	2	1					
Trowbridge	5-19	15:20		✓	K34156	3	2	1					
					Temp Blank	1/16						1	Cooler # - LTI #3
													Please Return Cooler To
													LTI Kalamazoo Office
													2980 Business One Drive
													Kalamazoo MI 49001
													(616) - 226-0190

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	5-20-97	17:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
				5/21/97	0930	

10/23/95
5951186L.CDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

LBL
LAMBAND, BOUCK & LEE, INC.
engineers & scientists
6723 Towpath Road, P.O. Box 66
Syracuse, New York 13214-0066
TEL: (315) 446-9120

CHAIN OF CUSTODY RECORD

000005

PROJ. NO.: 645.24
PROJECT NAME: KALAMAZOO River / Portage Creek
SAMPLERS: (Signature)

STA. NO.	DATE 97	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's	TSS				Temp	REMARKS
SWP2	5-19	11:55		✓	A66552	3	2	1					TAT - 7 DAYS
SWP1	5-19	17:00		✓	A66553	3	2	1					
Duplicate	5-19	—		✓	A66554	3	2	1					
Bryant H.	5-19	12:20		✓	A66555	3	2	1					
—	—	—	—	—	Temp Blank	1						1	Cooler #-34M
						13							

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	5-20-97	17:30					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
			[signature]	5/21/97	0930		

10/23/95
5951186L.CDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

Ex. *USA Airbill* Tracking Number **1346300115**

Recipient's Copy

3 150 63875512 513

5/20/97 [redacted]

John Peterson Phone (616) 228-6190

Dept./Floor/Suite/Room

LIYNO-TECH INC

501 AVIS DR

ANN ARBOR State MI Zip 48108

Internal Billing Reference Information [illegible]

Polly Malik Phone (502) 655 2003

Dept./Floor/Suite/Room

Aquatec Inc.

South Park Drive

(FedEx location, print FedEx address here)

Colchester State VT Zip 05446

For HOLD at FedEx Location check here

☐ Hold Weekday (Not available with FedEx First Overnight)

☐ Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

☐ (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

1 3 4 6 3 0 0 1 1 5

5/21/97

0936

4a Express Package Service *Packages under 150 lbs.* Delivery commitment may be later in some areas

☑ FedEx Priority Overnight (Next business morning)

☐ FedEx Standard Overnight (Next business afternoon)

☐ FedEx 2Day* (Second business day)

☐ FedEx Government Overnight (Authorized use only)

☐ NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

* FedEx Letter Rate not available. Minimum charge. One pound FedEx 2Day rate

4b Express Freight Service *Packages over 150 lbs.* Delivery commitment may be later in some areas.

☐ FedEx Overnight Freight (Next business-day service for any distance)

☐ FedEx 2Day Freight (Second business-day service for any distance)

☐ FedEx Express Saver Freight (Up to 3 business-day service based upon distance)

(Call for delivery schedule. See back for detailed descriptions of freight products.)

5 Packaging ☐ FedEx Letter ☐ FedEx Pak (Declared value limit $500) ☐ FedEx Box ☐ FedEx Tube ☑ Other Pkg.

6 Special Handling

Does this shipment contain dangerous goods? ☐ Yes (As per attached Shipper's Declaration) ☐ Yes (Shipper's Declaration not required)

☐ Dry Ice — Dry Ice, 9, UN 1845 III _____ x _____ kg. 904 (Dangerous Goods Shipper's Declaration not required)

CA ☐ Cargo Aircraft Only

7 Payment ☐ Obtain Recipient FedEx Account No.

Bill to: ☐ Sender (Account no. in section 1 will be billed) ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check (Enter FedEx account no. or Credit Card no. below)

[redacted]

Total Packages	Total Weight	Total Declared Value	Total Charges
2	110	$ 200.00	

* When declaring a value higher than $100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

Credit Card Auth.

8 Release Signature

000152

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

238

Questions?
Call 1-800-Go-FedEx (1-800-463-3339)

WCSL 0898 Rev. Date 3/96 PART #147956 ©1994-96 FedEx PRINTED IN U.S.A.

INTERTEK TESTING SERVICES ENVIRONMENTAL LABORATORIES LOG-IN SHEET

Lab Name: Inchcape Testing Services Environmental Laboratories - Burlington, VT Page 1 of 1

Received By (Print Name): DONALD G. DAWICKI JR. Log-in Date: 5/21/97

Received By (Signature):

Case Number: PCB

Sample Delivery Group No: 64982

ETR Number: 64982

REMARKS:

1. Custody Seal Present/Absent* Intact/Broken
2. Custody Seal Nos.: N/A
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 1346300115
7. Sample Tags Present/Absent* Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken* Leaking
9. Does information on the custody records, sample information sheets, sample tags and labels agree? Yes/No*
10. Date Received at Lab: 5/21/97
11. Time Received: 0930
12. Cooler Temperature: 5°, 2°C

Sample Transfer

Fraction: ALL

Area #: LVL 4 FRIDGE

By: DD

On: 5/21/97

CORRESPONDING

CLIENT SAMPLE #	SAMPLE TAG #	ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
K34153	N/A	330944	Were air bubbles present
K34154	"	330945	in any VOA vials? N/A
K34155	"	330946	SAMPLES RECVD
K34157	"	330947	INTACT IN COOLERS
K34156	"	330948	W/ICE. COOLERS
A66552	"	330949	WERE INTACT AS
A66553	"	330950	WERE CUSTODY
A66554	"	330951	SEALS ON OUTSIDE
A66555	"	330952	OF COOLERS.

DD 5/21/97

* Contact Project Director

Reviewed by: _____ Logbook No.: _____

Date: _____ Logbook Page No.: 00453

INTERNAL CHAIN OF CUSTODY

IF-00001

ITS ENVIRONMENTAL - BURLINGTON, VERMONT

ETR Number: 64982 Case: PCB

Project Number: 91082 SDG Number: 64982

Memo: Samples #'s 330944-52

_____ placed in refrigerator

by _____ on 5/21/97 1430 (date/time).

Signature

Date	Time	Sample #	Relinquished By	Received By	Purpose of Change of Custody
5/21/97	1630	330944 52	PNT Signature	PNT Signature	TSS
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	000006

INTERNAL CHAIN OF CUSTODY

IF-00001

ITS ENVIRONMENTAL - BURLINGTON, VERMONT

ETR Number: 64982 Case: PCB

Project Number: 91082 SDG Number: 64982

Memo: Samples #'s 330944-52

_____ placed in refrigerator

by _____ on 5/21/97 1430 (date/time).

Signature

Date	Time	Sample #	Relinquished By	Received By	Purpose of Change of Custody
5/22/97	1500	330944-952	Signature	David Downing Signature	Extraction
5/22/97	1700	" "	David Downing Signature	Signature	STORAGE
5/22/97	2300	" "	David Downing Signature	John A Shultz Signature	Conc. - 1.0ml Column Cleanup sulfur Cleanup
5/25/97	1415	" "	John A Shultz Signature	Signature	GC
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	
			Signature	Signature	000007

CLIF	BLABO2	ANALYST	DPD	SURR LOT #	E051441
ETR	64982	SPIKER:	JD	MTX LOT #	E0310970
CASE:	PCB	WITNESS:	DPD	$CH2Cl_2$ LOT#:	L17252
SDG:	64982			HEXANE LOT #	L16318
DATE:	5.12.97			SILICA GEL LOT #	972352
				H_2SO_4 LOT #	K20028

334/37

ITS Sample ID	Client ID	Sample Volume (1000ml)	Rinse 1.0 L bottles w/$MeCl_2$	pH between 5 and 9	100 uL Pest TCX/DCB Surr. 200ppb	100 uL 1242/1254 matrix 6.0ppm	Extract 3X w/60ml $CH2Cl_2$	Hexane Exchange	Conc. to 2.0-3.0 ml	Sulfuric Acid cleanup	Conc. to 1.0ml	Conc. to approx. 1.0mL	Sulfur clean-up w/Hg	3 gram silica gel clean-up	Conc. to 1.0 mL
PBLK I3	PBLK	1000	✓	✓	✓	✓	✓	DPD	DPD	DPD	DPD	DPD	JAS	JAS	JAS
~~I3LCS I3MBS~~	~~LCS I3~~	1000			✓	✓									
330944	1000				✓										
330945	1000				✓										
330946	1000				✓										
330947	1030				✓										
330948	1000				✓										
330949	995				✓										
330950	1000				✓										
330951	990				✓										
330952	980				✓										

JAS 5/28/97

Reviewed By:_____

Intertek Testing Services
Environmental Laboratories

KB80001875

Quality Control Summary

Project No: 91082
SDG No: 64982
Units: mg/L

Parameter	Date Analyzed	Method Preparation Blank	Laboratory Control Sample		
			Reported Value	True Value	Percent Recovery
Total Suspended Solids	05/12/97	< 0.5	500	500	100.0

Reviewed By: BAS
Date: 5/27/97

Intertek Testing Services NA Inc.
55 South Park Drive Colchester, VT 05446
Telephone (802) 655-1203 Fax (802) 655-1248

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

April 4, 1994

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Revised Narrative
Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. BIO; SDG No. 40667

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on November 10, 1993. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix	Station Location
Samples Received on November 10, 1993 ETR No. 40667			
P40410	203910	Fish	Portage Creek W.Sucker
P40410MS	203910MS	Fish	Portage Creek W.Sucker
P40410MSD	203910MD	Fish	Portage Creek W.Sucker
P40410REP	203910DP	Fish	Portage Creek W.Sucker
P40411	203911	Fish	Portage Creek W.Sucker
P40412	203912	Fish	Portage Creek W.Sucker
P40413	203913	Fish	Portage Creek W.Sucker
P40414	203914	Fish	Portage Creek W.Sucker
P40415	203915	Fish	Portage Creek W.Sucker
P40416	203916	Fish	Portage Creek W.Sucker
P40417	203917	Fish	Portage Creek W.Sucker
P40418	203918	Fish	Portage Creek W.Sucker
P40419	203919	Fish	Portage Creek W.Sucker
MSB	214078	Sand	
Samples Received on November 10, 1993 ETR No. 40668			
P40399W	203939	Fish	Portage Creek Carp
P40399F	214010	Fish	Portage Creek Carp
P40399FMS	214010MS	Fish	Portage Creek Carp
P40399FMSD	214010MD	Fish	Portage Creek Carp
P40399FREP	214010DP	Fish	Portage Creek Carp
MSB	214032	Sand	
P40399R	214011	Fish	Portage Creek Carp
P40400W	203940	Fish*	Portage Creek Carp
P40400F	214012	Fish*	Portage Creek Carp

KB80436280

CCCCC/

Client Sample ID	Aquatec Lab No.	Sample Matrix	Station Location
	Samples Received on November 10, 1993 ETR No. 40668 (continued)		
P40400R	214013	Fish*	Portage Creek Carp
P40401W	203941	Fish*	Portage Creek Carp
P40401F	214014	Fish*	Portage Creek Carp
P40401R	214015	Fish*	Portage Creek Carp
P40402W	203942	Fish	Portage Creek Carp
P40402F	214016	Fish	Portage Creek Carp
P40402R	214017	Fish	Portage Creek Carp
P40403W	203943	Fish	Portage Creek Carp
P40403F	214018	Fish	Portage Creek Carp
P40403R	214019	Fish	Portage Creek Carp
P40404W	203944	Fish*	Portage Creek Carp
P40404F	214020	Fish*	Portage Creek Carp
P40404R	214021	Fish*	Portage Creek Carp
P40405W	203945	Fish*	Portage Creek Carp
P40405F	214022	Fish*	Portage Creek Carp
P40405R	214023	Fish*	Portage Creek Carp
P40406W	203946	Fish*	Portage Creek Carp
P40406F	214024	Fish*	Portage Creek Carp
P40406R	214025	Fish*	Portage Creek Carp
P40407W	203947	Fish	Portage Creek Carp
P40407F	214026	Fish	Portage Creek Carp
P40407R	214027	Fish	Portage Creek Carp
P40408W	203948	Fish*	Portage Creek Carp
P40408F	214028	Fish*	Portage Creek Carp
P40408R	214029	Fish*	Portage Creek Carp
P40409W	203949	Fish	Portage Creek Carp
P40409F	214030	Fish	Portage Creek Carp
P40409R	214031	Fish	Portage Creek Carp

* Pilot Study Fish

	Samples Received on November 10, 1993 ETR No. 40670		
P40420	203920	Fish	Portage Creek W.Sucker

Many samples in this delivery group exhibited tetrachloro-m-xylene surrogate recoveries which were below the prescribed quality control limits on both the pesticide and PCB analyses. These recoveries are based on samples which had been diluted to accommodate high contaminant concentrations, and have been flagged accordingly on Form 2.

During the pesticide/PCB extraction of samples labeled P40414, P40416, P40417, P40418, P40419, P40420 and MSB-2, the sample extracts were inadvertently solvent exchanged to hexane prior to GPC analysis. This error was detected and the extracts were concentrated to a low volume and reconstituted in the appropriate solvent (methylene chloride) before continuation of extract preparation.

Sample labeled MSB-1 was inadvertently spiked with ten times the appropriate amount of Aroclor 1242 during the pesticide/PCB extraction. This resulted in a PCB concentration in extract which was equal to that of the MS and MSD, rather than ten times lower than that value. It is suspected that this MSB was not spiked with pesticide matrix compounds. A Form 3E was carried to illustrate the possible pesticide recovery of the spike compounds, however the absence of Lindane and the low Dieldin and DDT recoveries suggest that those values are due to PCB peaks rather than the appropriate pesticide spike. This anomaly has been noted on Form 3E.

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between Aroclor 1016 and Aroclor 1242 become less precise. In all cases, quantitation remains highly reliable.

The matrix spike recovery on the metals analysis for sample labeled P40399 and the duplicate analysis for sample labeled P40410, were outside of the specified control limits for mercury. All data has been flagged according to contract specifications.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

KRCjg

Enclosure

91082B4APR94

BIOTA PESTICIDE SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

	EPA SAMPLE NO.	S1 (TCX) #	S2 (DEC) #
1	PBIKF3	98	110
2	P40410.	78 D	131 D
3	P40410MS	65 D	100 D
4	P40410MSD	57 * D	90 D
5	P40411	63 D	101 D
6	P40416	97	105
7	P40418	83 D	101 D
8	MSB-2(214078)	94	102
9	PBIKF2	68	76
10	P40399F	49 * D	71 D
11	P40399FMS	48 * D	72 D
12	P40399FMSD	52 * D	77 D
13	P40400F	51 * D	66 D
14	P40400R	55 * D	84 D
15	P40401F	57 * D	77 D
16	P40401R	52 * D	74 D
17	P40402F	63	75
18	P40403F	56 * D	75 D
19	P40404F	55 * D	71 D
20	P40404R	44 * D	76 D

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates diluted out

KB80436091

BIOTA PESTICIDE SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

	EPA SAMPLE NO.	S1 (TCX) #	S2 (DEC) #
1	P40405F	51 * D	69 D
2	P40405R	41 * D	66 D
3	P40406F	48 D	77 D
4	P40406R	47 * D	73 D
5	P40407F	65	75
6	P40408F	44 *	54 *
7	P40408R	57 * D	77 D
8	P40409F	62	74
9	P40413	75 D	96 D
10	P40414	61	69
11	P40415	58 *	67
12	MSB-1(214032)	60 D	77 D
13	P40417	94	104
14	P40420	88	97
15	P40412	110	117
16	P40418	76	86
17			
18			
19			
20			

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates diluted out

KB80436092

BIOTA PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
EPA Sample No.: P40399F

Contract: 91082
Case No.: BTO
SDG No.: 40667

Compound	SPIKE ADDED (MG/KG)	SAMPLE CONCENTRATION (MG/KG)	MS CONCENTRATION (MG/KG)	MS % REC #	QC LIMITS REC.
Lindane	0.050	0.0	0.035	70	43-116
Aldrin	0.050	0.144	0.188	88	54-112
Dieldrin	0.100	0.0	0.125	125*	57-124
4,4'-DDT	0.100	0.0	0.120	120	46-137

Compound	SPIKE ADDED (MG/KG)	MSD CONCENTRATION (MG/KG)	MSD % REC #	RPD #	QC LIMITS RPD	QC LIMITS REC.
Lindane	0.50	0.037	74	6	50	43-116
Aldrin	0.50	0.721	154*	55*	43	54-112
Dieldrin	0.100	0.140	140*	11	38	57-124
4,4'-DDT	0.100	0.131	131	9	50	46-137

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 4 outside limits
Spike Recovery: 3 out of 8 outside limits

Comments:

KB80436093

3E

BIOTA PESTICIDE MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
EPA Sample No.: MSB(214032) MSB-1

Contract: 91082
Case No.: BIO
SDG No.: 40667

Compound	SPIKE ADDED (MG/KG)	MSB CONCENTRATION (MG/KG)	MSB % REC #	QC LIMITS REC.
Lindane	0.050	0.00	0.09	43-116
Aldrin	0.050	0.0757	151*	54-112
Dieldrin	0.100	0.0573	57	57-124
4,4'-DDT	0.100	0.0307	31*	46-137

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 3 out of 4 outside limits

Comments: Aroclor matrix spiked in at ten times the desired concentration. Pesticide recoveries in this MSB are suspected to be aroclor peaks. It is believed that pesticide matrix spike was not added to this sample, NBR 07/01/94

BIOTA PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI

Contract: 91082
Case No.: BIO
SDG No.: 40667

EPA Sample No.: P40410

Compound	SPIKE ADDED (MG/KG)	SAMPLE CONCENTRATION (MG/KG)	MS CONCENTRATION (MG/KG)	MS % REC #	QC LIMITS REC.
Lindane	0.050	0.0	0.049	98	43-116
Aldrin	0.050	0.0	0.185	370*	54-112
Dieldrin	0.100	0.0	0.177	177*	57-124
4,4'-DDT	0.100	0.0	0.164	164*	46-137

Compound	SPIKE ADDED (MG/KG)	MSD CONCENTRATION (MG/KG)	MSD % REC #	RPD #	QC LIMITS RPD	QC LIMITS REC.
Lindane	0.050	0.044	88	11	50	43-116
Aldrin	0.050	0.176	352*	~~65~~	43	54-112
Dieldrin	0.100	0.159	159*	11	38	57-124
4,4'-DDT	0.100	0.132	132*	22	50	46-137

3/23/94

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 4 outside limits
Spike Recovery: 6 out of 8 outside limits

Comments:

KB80436095

3E

BIOTA PESTICIDE MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
EPA Sample No.: MSB (214678) MSB-2

Contract: 91082
Case No.: BIO
SDG No.: 40667

Compound	SPIKE ADDED (MG/KG)	MSB CONCENTRATION (MG/KG)	MSB % REC #	QC LIMITS REC.
Lindane	0.050	0.0491	98	43-116
Aldrin	0.050	0.0642	128*	54-112
Dieldrin	0.100	0.120	120	57-124
4,4'-DDT	0.100	0.117	117	46-137

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 1 out of 4 outside limits

Comments:

KB80436096

FORM 4
PESTICIDE METHOD BLANK SUMMARY

Lab Name:	Aquatec, Inc.	Contract:	91082
Lab Code:	AQUAI	Case:	BIO
Lab Sample ID:	PBIKF2	SDG No:	40667
Matrix:(soil/water)	Biota	Extraction: (SepF/Cont/Sonc)	Soxhlet
Date Extracted:	03/20/94	Level(L/M):	Low
Date Analyzed(1):	03/29/94	Date Analyzed(2):	03/29/94
Time Analyzed(1):	0234	Time Analyzed(2):	0234
GC ID(1):	HP 2404	GC ID(2):	HP 2404
GC Column(1):	RTX-5	GC Column(2):	RTX-35

	LAB ID	CLIENT ID (03/31/94)	DATE ANALYZED 1	DATE ANALYZED 2
1	214010	~~P40410~~ P40399F	03/29/94	03/29/94
2	214010MS	P40399FMS	03/29/94	03/29/94
3	214010MD	P40399FMSD	03/29/94	03/29/94
4	214032	MSB-1	03/29/94	03/29/94
5	214012	P40400F	03/29/94	03/29/94
6	214013	P40400R	03/29/94	03/29/94
7	214014	P40401F	03/29/94	03/29/94
8	214015	P40401R	03/29/94	03/29/94
9	214016	P40402F	03/29/94	03/29/94
10	214018	P40403F	03/29/94	03/29/94
11	214020	P40404F	03/29/94	03/29/94
12	214021	P40404R	03/29/94	03/29/94
13	214022	P40405F	03/29/94	03/29/94
14	214023	P40405R	03/29/94	03/29/94
15	214024	P40406F	03/30/94	03/30/94
16	214025	P40406R	03/29/94	03/29/94
17	214026	P40407F	03/29/94	03/29/94
18	214028	P40408F	03/29/94	03/29/94
19	214029	P40408R	03/29/94	03/29/94
20	214030	P40409F	03/29/94	03/29/94
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Comments:

KB80436098

PESTICIDE, PBB ANALYSIS DATA SHEET

Client ID No.: PBLKF2

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Contract: 91082
Case: BIO
SDG: 40667

Lab Sample Id: PBLKF2
Phase Type: Biota
Date Received:
Phase Weight: 10.0 mg
Date Extracted: 3/20/94
Extraction: Soxhlet
Date Analyzed: 3/29/94
Dilution Factor: 1.0
Sulfur Clean-up: N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.0050	U
1024-57-3	Heptachlor Epoxide	0.0050	U
5103-74-2	gamma-Chlordane	0.0050	U
5103-71-9	alpha-Chlordane	0.0050	U
39765-80-5	trans-Nonachlor	0.0050	U
72-55-9	4,4'-DDE	0.010	U
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.010	U
5103-73-1	cis-Nonachlor	0.0050	U
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

FORM 4
PESTICIDE METHOD BLANK SUMMARY

Lab Name:	Aquatec, Inc.	Contract:	91082
Lab Code:	AQUAI	Case:	BIO
Lab Sample ID:	PB1KF3	SDG No:	40667
Matrix:(soil/water)	Biota	Extraction: (SepF/Cont/Sonc)	Soxhlet
Date Extracted:	03/20/94	Level(L/M):	Low
Date Analyzed(1):	03/28/94	Date Analyzed(2):	03/28/94
Time Analyzed(1):	1402	Time Analyzed(2):	1402
GC ID(1):	HP 2404	GC ID(2):	HP 2404
GC Column(1):	RTX-5	GC Column(2):	RTX-35

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	203910	P40410	~~03/28/94~~ 03/30/94	03/30/94
2	203910MS	P40410MS	03/28/94	03/28/94
3	203910MD	P40410MSD	03/28/94	03/28/94
4	203911	P40411	03/28/94	03/28/94
5	203912	P40412	03/30/94	03/30/94
6	203913	P40413	03/30/94	03/30/94
7	203914	P40414	03/29/94	03/29/94
8	203915	P40415	03/29/94	03/29/94
9	203916	P40416	03/28/94	03/28/94
10	203917	P40417	~~03/30/94~~ 03/30/94	03/30/94
11	203918	P40418	03/30/94	03/30/94
12	203919	P40419	03/28/94	03/28/94
13	214078	MSB-2	03/29/94	03/29/94
14	203920	P40420	03/30/94	03/30/94
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Comments:

KB80436097

PESTICIDE, PBB ANALYSIS DATA SHEET

Client ID No.: PBLKF3

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Contract: 91082
Case: BIO
SDG: 40667

Lab Sample Id: PBLKF3
Phase Type: Biota
Date Received:
Phase Weight: 10.0 mg
Date Extracted: 3/20/94
Extraction: Soxhlet
Date Analyzed: 3/28/94
Dilution Factor: 1.0
Sulfur Clean-up: N

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
2052-07-5	2-Bromobiphenyl	0.010	U
2113-57-7	3-Bromobiphenyl	0.010	U
92-66-0	4-Bromobiphenyl	0.010	U
118-74-1	Hexachlorobenzene	0.0050	U
58-89-9	gamma-BHC	0.0050	U
309-00-2	Aldrin	0.0050	U
1024-57-3	Heptachlor Epoxide	0.0050	U
5103-74-2	gamma-Chlordane	0.0050	U
5103-71-9	alpha-Chlordane	0.0050	U
39765-80-5	trans-Nonachlor	0.0050	U
72-55-9	4,4'-DDE	0.010	U
60-57-1	Dieldrin	0.010	U
72-54-8	4,4'-DDD	0.010	U
5103-73-1	cis-Nonachlor	0.0050	U
50-29-3	4,4'-DDT	0.010	U
36355-01-8	Hexabromobiphenyl	0.020	U
8001-35-2	Toxaphene	0.20	U

FORM 8D
PESTICIDES EVALUATION STANDARDS SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:
Instrument ID: HP 2404

Contract: 91082
Case No.: BIO
SDG No: 46667
GC Column ID: RTX-5

Dates of Analyse 03/27/94 to _____

Evaluation Check for 4,4'-DDT Breakdown
(percent breakdown expressed as total degradation)

		DATE ANALYZED	TIME ANALYZED	4,4'-DDT
	INITIAL	03/27/94	2215	1.5
1	BCS	03/28/94	1736	1.5
2	BCS	03/29/94	0156	1.4
3	BCS	03/29/94	1206	1.5
4	BCS	03/29/94	2026	1.3
5	BCS	03/30/94	0446	1.6
6	BCS	03/30/94	1909	1.6
7	BCS			
8	BCS			
9	BCS			
10	BCS			
11	BCS			
12	BCS			
13	BCS			
14	BCS			

KB80436732

FORM 8D
PESTICIDES EVALUATION STANDARDS SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:
Instrument ID: HP 2404

Contract: 91082
Case No.: BIO
SDG No: 40667
GC Column ID: RTX-35

Dates of Analyse 03/27/94 to _____

Evaluation Check for 4,4'-DDT Breakdown
(percent breakdown expressed as total degradation)

		DATE ANALYZED	TIME ANALYZED	4,4'-DDT
	INITIAL	03/27/94	2215	2.3
1	BCS	03/28/94 -	1736 -	2.6 -
2	BCS	03/29/94 -	0156 -	2.8 -
3	BCS	03/29/94 -	1206 -	2.5 -
4	BCS	03/29/94 -	2026 -	2.0 -
5	BCS	03/30/94 -	0446 -	2.7 -
6	BCS	03/30/94 -	1909 -	2.6 -
7	BCS			
8	BCS			
9	BCS			
10	BCS			
11	BCS			
12	BCS			
13	BCS			
14	BCS			

KB80436733

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-5

Calibration Check Standard: PEST/PPB MIX C

Date: 3/28/94 Time: 21:47

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	38.0	5.0
3-Bromobiphenyl	40	38.6	3.5
4-Bromobiphenyl	40	40.1	0.3
Hexachlorobenzene	20	20.2	1.0
gamma-BHC	20	19.8	1.0
Aldrin	20	19.7	1.5
Heptachlor Epoxide	20	19.7	1.5
gamma-chlordane	20	19.7	1.5
alpha-chlordane	20	20.0	0.0
trans-Nonachlor	20	20.1	0.5
4,4'-DDE	40	42.0	5.0
Dieldrin	40	40.6	1.5
4,4'-DDD	40	41.4	3.5
cis-Nonachlor	20	20.1	0.5
4,4'-DDT	40	41.7	4.3
BP-6	80	82.6	3.2
TCX	20	17.6	12.0
DCB	20	20.7	3.5

KB80436734

000415

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-5

Calibration Check Standard: PEST/PPB MIX C

Date: 3/29/94 Time: 06:06

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	38.9	2.8
3-Bromobiphenyl	40	40.8	2.0
4-Bromobiphenyl	40	42.0	5.0
Hexachlorobenzene	20	20.9	4.5
gamma-BHC	20	20.6	3.0
Aldrin	20	20.1	0.5
Heptachlor Epoxide	20	20.2	1.0
gamma-chlordane	20	20.3	1.5
alpha-chlordane	20	20.3	1.5
trans-Nonachlor	20	20.6	3.0
4,4'-DDE	40	43.3	8.2
Dieldrin	40	41.4	3.5
4,4'-DDD	40	42.4	6.0
cis-Nonachlor	20	20.7	3.5
4,4'-DDT	40	43.0	7.5
BP-6	80	85.3	6.6
TCX	20	18.1	9.5
DCB	20	21.6	8.0

9

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-5

Calibration Check Standard: PEST/PPB MIX C

Date: 3/29/94 Time: 16:16

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	38.4	4.0
3-Bromobiphenyl	40	40.2	0.5
4-Bromobiphenyl	40	41.2	3.0
Hexachlorobenzene	20	20.4	2.0
gamma-BHC	20	19.9	0.5
Aldrin	20	19.4	3.0
Heptachlor Epoxide	20	19.5	2.5
gamma-chlordane	20	19.4	3.0
alpha-chlordane	20	19.7	1.5
trans-Nonachlor	20	20.0	0.0
4,4'-DDE	40	41.4	3.5
Dieldrin	40	39.5	1.3
4,4'-DDD	40	40.8	2.0
cis-Nonachlor	20	19.8	1.0
4,4'-DDT	40	40.8	2.0
BP-6	80	83.6	4.5
TCX	20	17.7	11.5
DCB	20	21.0	5.0

KB80436736

000417

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3//28/94

GC Column ID: RTX-5

Calibration Check Standard: PEST/PBB MIX C

Date: 3/30/94 Time: 0036

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	42.7	6.8
3-Bromobiphenyl	40	40.3	0.7
4-Bromobiphenyl	40	41.5	3.8
Hexachlorobenzene	20	20.4	2.0
gamma-BHC	20	19.7	1.5
Aldrin	20	19.3	3.5
Heptachlor Epoxide	20	19.2	4.0
gamma-chlordane	20	19.2	4.0
alpha-chlordane	20	19.3	3.5
trans-Nonachlor	20	19.7	1.5
4,4'-DDE	40	40.9	2.3
Dieldrin	40	39.2	2.0
4,4'-DDD	40	40.6	1.5
cis-Nonachlor	20	19.6	2.0
4,4'-DDT	40	40.3	0.7
BP-6	80	81.2	1.5
TCX	20	17.7	11.5
DCB	20	20.5	2.5

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-5

Calibration Check Standard: PEST/PPB MIX C

Date: 3/30/94 Time: 05:22

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	39.4	1.5
3-Bromobiphenyl	40	40.8	2.0
4-Bromobiphenyl	40	42.2	5.5
Hexachlorobenzene	20	20.7	3.5
gamma-BHC	20	20.3	1.5
Aldrin	20	19.9	0.5
Heptachlor Epoxide	20	20.0	0.0
gamma-chlordane	20	19.9	0.5
alpha-chlordane	20	20.1	0.5
trans-Nonachlor	20	20.1	0.5
4,4'-DDE	40	42.4	6.0
Dieldrin	40	40.8	2.0
4,4'-DDD	40	42.2	5.5
cis-Nonachlor	20	20.4	2.0
4,4'-DDT	40	41.9	4.8
BP-6	80	86.2	7.8
TCX	20	18.0	10.0
DCB	20	21.6	8.0

WBR 03/31/94

KB80436738

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-5

Calibration Check Standard: Pest/PBB Mix C

Date: 3/30/94 Time: 1610

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	40.2	0.5
3-Bromobiphenyl	40	39.4	1.5
4-Bromobiphenyl	40	40.8	2.0
Hexachlorobenzene	20	20.4	2.0
gamma-BHC	20	19.7	1.5
Aldrin	20	19.3	3.5
Heptachlor Epoxide	20	19.5	2.5
gamma-chlordane	20	19.2	4.0
alpha-chlordane	20	19.5	2.5
trans-Nonachlor	20	19.8	1.0
4,4'-DDE	40	40.8	2.0
Dieldrin	40	39.3	1.8
4,4'-DDD	40	39.8	0.5
cis-Nonachlor	20	19.7	1.5
4,4'-DDT	40	40.5	1.3
BP-6	80	78.9	1.4
TCX	20	17.5	12.5
DCB	20	20.6	3.0

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc. Contract: 91082
Lab Code: AQUAI Case No.: BIO
SAS No.: SDG No.: 40667

Instrument ID: HP2404 Initial Calibration Date: 3/28/94

GC Column ID: RTX-5 Calibration Check Standard: Pest/PBB Mix C

Date: 3/30/94 Time: 1945

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	38.3	4.3
3-Bromobiphenyl	40	39.2	2.0
4-Bromobiphenyl	40	40.5 ~~4.5~~	~~88.8~~ 1.2 WBR 05 [illegible] 94
Hexachlorobenzene	20	20.2	1.0
gamma-BHC	20	19.6	2.0
Aldrin	20	19.3	3.5
Heptachlor Epoxide	20	19.5	2.5
gamma-chlordane	20	19.3	3.5
alpha-chlordane	20	19.6	2.0
trans-Nonachlor	20	19.7	1.5
4,4'-DDE	40	40.5	1.3
Dieldrin	40	39.4	1.5
4,4'-DDD	40	39.7	0.7
cis-Nonachlor	20	19.7	1.5
4,4'-DDT	40	40	0.0
BP-6	80	79.9	0.1
TCX	20	17.4	13.0
DCB	20	20.9	4.5

KB80436740

000421

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-35

Calibration Check Standard: PEST/PPB MIX C

Date: 3/28/94 Time: 21:47

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	40.1	0.3
3-Bromobiphenyl	40	38.4	4.0
4-Bromo/Hexachlorobenzene	60	59.4	1.0
gamma-BHC	20	19.2	4.0
Aldrin	20	18.3	8.5
Heptachlor Epoxide	20	19.0	5.0
gamma-chlordane	20	19.1	4.5
alpha-chlordane	20	19.2	4.0
trans-Nonachlor	20	19.3	3.5
4,4'-DDE	40	38.9	2.8
Dieldrin	40	38.5	3.8
4,4'-DDD	40	38.6	3.5
cis-Nonachlor	20	19.3	3.5
4,4'-DDT	40	38.6	3.5
BP-6	80	78.6	1.8
TCX	20	19.7	1.5
DCB	20	19.9	0.5

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-35

Calibration Check Standard: PEST/PPB MIX C

Date: 3/29/94 Time: 06:06

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	42.7	6.8
3-Bromobiphenyl	40	39.7	0.7
4-Bromo/Hexachlorobenzene	60	60.7	1.2
gamma-BHC	20	19.7	1.5
Aldrin	20	18.4	8.0
Heptachlor Epoxide	20	19.2	4.0
gamma-chlordane	20	19.5	2.5
alpha-chlordane	20	19.6	2.0
trans-Nonachlor	20	19.8	1.0
4,4'-DDE	40	39.6	1.0
Dieldrin	40	39.5	1.3
4,4'-DDD	40	39.4	1.5
cis-Nonachlor	20	19.8	1.0
4,4'-DDT	40	40.0	0.0
BP-6	80	77.8	2.8
TCX	20	20.2	1.0
DCB	20	20.5	2.5

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-35

Calibration Check Standard: PEST/PPB MIX C

Date: 3/29/94 Time: 16:16

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	43.0	7.5
3-Bromobiphenyl	40	39.4 ~~39.5~~ OK SHR	3/31/94 1.3
4-Bromo/Hexachlorobenzene	60	60.4	0.7
gamma-BHC	20	19.6	2.0
Aldrin	20	18.5	7.5
Heptachlor Epoxide	20	19.3	3.5
gamma-chlordane	20	19.5	2.5
alpha-chlordane	20	19.4	3.0
trans-Nonachlor	20	19.6	2.0
4,4'-DDE	40	39.4	1.5
Dieldrin	40	39.3	1.8
4,4'-DDD	40	39.0	2.5
cis-Nonachlor	20	19.6	2.0
4,4'-DDT	40	39.0	2.5
BP-6	80	78.2	2.3
TCX	20	19.8	1.0
DCB	20	20.5	2.5

KB80436743

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-35

Calibration Check Standard: PEST/PPB MIX C

Date: 3/30/94 Time: 00:36

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	42.5	6.3
3-Bromobiphenyl	40	39.9	0.3
4-Bromo/Hexachlorobenzene	60	60.0	0.0
gamma-BHC	20	19.3	3.5
Aldrin	20	18.4	8.0
Heptachlor Epoxide	20	19.3	3.5
gamma-chlordane	20	19.2	4.0
alpha-chlordane	20	19.3	3.5
trans-Nonachlor	20	19.6	2.0
4,4'-DDE	40	39.3	1.8
Dieldrin	40	39.0	2.5
4,4'-DDD	40	39.2	2.0
cis-Nonachlor	20	19.4	3.0
4,4'-DDT	40	38.5	3.8
BP-6	80	74.9	6.4
TCX	20	19.7	1.5
DCB	20	20.5	2.5

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-35

Calibration Check Standard: PEST/PPB MIX C

Date: 3/30/94 Time: 07:45

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	43.4	8.5
3-Bromobiphenyl	40	40.6	1.5
4-Bromo/Hexachlorobenzene	60	61.5	2.5
gamma-BHC	20	19.8	1.0
Aldrin	20	18.9	5.5
Heptachlor Epoxide	20	19.7	1.5
gamma-chlordane	20	19.7	1.5
alpha-chlordane	20	19.8	1.0
trans-Nonachlor	20	20.0	0.0
4,4'-DDE	40	40.8	2.0
Dieldrin	40	40.4	1.0
4,4'-DDD	40	39.8	0.5
cis-Nonachlor	20	19.9	0.5
4,4'-DDT	40	40.0	0.0
BP-6	80	80.7	0.9
TCX	20	20.0	0.0
DCB	20	21.1	5.5

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-35

Calibration Check Standard: PEST/PPB MIX C

Date: 3/30/94 Time: 16:10

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	42.4	6.0
3-Bromobiphenyl	40	39.4	1.5
4-Bromo/Hexachlorobenzene	60	59.7	0.5
gamma-BHC	20	19.3	3.5
Aldrin	20	18.4	8.0
Heptachlor Epoxide	20	19.3	3.5
gamma-chlordane	20	19.2	4.0
alpha-chlordane	20	19.4	3.0
trans-Nonachlor	20	19.6	2.0
4,4'-DDE	40	39.0	2.5
Dieldrin	40	39.1	2.3
4,4'-DDD	40	38.3	4.3
cis-Nonachlor	20	19.4	3.0
4,4'-DDT	40	37.8	5.5
BP-6	80	69.9	12.6
TCX	20	19.8	1.0
DCB	20	20.3	1.5

9

PESTICIDE/PBB CONTINUING CALIBRATION CHECK

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: BIO
SDG No.: 40667

Instrument ID: HP 2404

Initial Calibration Date: 3/28/94

GC Column ID: RTX-35

Calibration Check Standard: PEST/PPB MIX C

Date: 3/30/94 Time: 19:45

COMPOUND	NOMINAL VALUE	CHECK STANDARD	%D
2-Bromobiphenyl	40	42.4	6.0
3-Bromobiphenyl	40	39.3	1.8
4-Bromo/Hexachlorobenzene	60	59.8	0.3
gamma-BHC	20	19.4	3.0
Aldrin	20	18.4	8.0
Heptachlor Epoxide	20	19.3	3.5
gamma-chlordane	20	19.3	3.5
alpha-chlordane	20	19.4	3.0
trans-Nonachlor	20	19.6	2.0
4,4'-DDE	40	39.4	1.5
Dieldrin	40	39.3	1.8
4,4'-DDD	40	38.6	3.5
cis-Nonachlor	20	19.6	2.0
4,4'-DDT	40	38.5	3.8
BP-6	80	75.9	5.1
TCX	20	19.8	1.0
DCB	20	20.2	1.0

KB80436747

000428

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: B10
SDG No.: 40667

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLKF2	65		70	
2	P40399F	48	D *	70	D
3	P40399FMS	45	D *	66	D
4	P40399FMSD	47	D *	68	D
5	MSB-1	53	D *	80	D
6	P40400F	45	D *	68	D
7	P40401F	49	D *	69	D
8	P40401R	41	D *	60	D
9	P40402F	53	D *	69	D
10	P40403F	48	D *	68	D
11	P40404F	44	D *	67	D
12	P40405F	43	D *	63	D
13	P40405R	41	D *	64	D
14	P40407F	50	D *	71	D
15	P40408F	37	D *	55	D *
16	PBLKF3	~~97~~ 102		~~107~~ ~~109~~ 111	DPD 03/30/94 CTS 03/31/94
17	P40410MSD	69	D	102	D
18	P40410MS	59	D *	87	D
19	P40410	89		97	
20	P40411	67	D	100	D

PROJECT SPECIFIC QC LIMITS

S1 (TCX) = Tetrachloro-meta-Xylene (60-150)
S2 (DEC) = Decachlorobiphenyl (60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

2

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: B10
SDG No.: 40667

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	P40412	74	D	102	D
2	P40406F	44	D *	68	D
3	P40406R	39	D *	63	D
4	P40400R	48	D *	76	D
5	P40413	69	D	94	D
6	P40415	76	D	91	D
7	P40419	68	D	95	D
8	P40409F	50	D *	65	D
9	P40414	73	D	88	D
10	P40416	94		102	
11	P40417	90		97	
12	P40418	68	D	85	D
13	P40420	84	D	100	D
14	P40404R	43	D *	70	D
15	MSB-2	85		91	
16	P40408R	48	D *	75	D
17					
18					
19					
20					

		PROJECT SPECIFIC QC LIMITS
S1 (TCX) =	Tetrachloro-meta-Xylene	(60-150)
S2 (DEC) =	Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

BIOTA AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: B10
SDG No.: 40667

EPA Sample No.: P40399F

Compound	SPIKE ADDED (MG/KG)	SAMPLE CONCENTRATION (MG/KG)	MS CONCENTRATION (MG/KG)	MS % REC #	QC LIMITS REC.
Aroclor 1242	6.000	0.0	2.625	44	39-150
Aroclor 1254	6.000	0.6050	3.812	53	29-131

Compound	SPIKE ADDED (MG/KG)	MSD CONCENTRATION (MG/KG)	MSD % REC #	RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor 1242	6.000	2.562	43	2	30	39-150
Aroclor 1254	6.000	4.029	57	7	30	29-131

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 2 outside limits
Spike Recovery: 0 out of 4 outside limits

Comments: In MS and MSD, Aroclor 1016 reported as Aroclor 1242.

3E
AROCLOR
MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: 810
SDG No.: 40667

EPA Sample No.: MSB-1

Compound	SPIKE ADDED (MG/KG)	MSB CONCENTRATION (MG/KG)	MSB % REC #	QC LIMITS REC.
Aroclor 1242	6.000	3.393	57	39-150
Aroclor 1254	6.000	3.706	62	29-131

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

Comments:

KB80436218

BIOTA AROCLOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: B10
SDG No.: 40667

EPA Sample No.: P40410

Compound	SPIKE ADDED (MG/KG)	SAMPLE CONCENTRATION (MG/KG)	MS CONCENTRATION (MG/KG)	MS % REC #	QC LIMITS REC.
Aroclor 1242	6.000	0.1408	4.564	74	39-150
Aroclor 1254	6.000	0.2283	4.567	72	29-131

Compound	SPIKE ADDED (MG/KG)	MSD CONCENTRATION (MG/KG)	MSD % REC #	RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor 1242	6.000	5.029	81	9	30	39-150
Aroclor 1254	6.000	5.064	81	12	30	29-131

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 2 outside limits
Spike Recovery: 0 out of 4 outside limits

Comments: Aroclor 1016 in sample reported as Aroclor 1242.

3E
AROCLOR
MATRIX SPIKE BLANK RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

EPA Sample No.: MSB-2

Contract: 91082
Case No.: B10
SDG No.: ~~2~~ 40667

DRD
03/31/94

Compound	SPIKE ADDED (MG/KG)	MSB CONCENTRATION (MG/KG)	MSB % REC #	QC LIMITS REC.
Aroclor 1242	0.6000	0.4491	75	39-150
Aroclor 1254	0.6000	0.5980	100	29-131

Column used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

Comments:

KB80436220

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: PBLKF2
Matrix:(soil/water) Biota
Date Extracted: 03/20/94
Date Analyzed(1): 03/24/94
Time Analyzed(1): 2134
GC ID(1): HP2618
GC Column(1): RTx-35

Contract: 91082
Case: BIO
SDG No: 40667
Level(L/M): LOW
Date Analyzed(2): 03/24/94
Time Analyzed(2): 2134
GC ID(2): HP2618
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	214010	P40399F	03/24/94	03/24/94
2	214010MS	P40399FMS	03/24/94	03/24/94
3	214010MD	P40399FMSD	03/24/94	03/24/94
4	214032	MSB-1	03/24/94	03/24/94
5	214012	P40400F	03/25/94	03/25/94
6	214014	P40401F	03/25/94	03/25/94
7	214015	P40401R	03/25/94	03/25/94
8	214016	P40402F	03/25/94	03/25/94
9	214018	P40403F	03/25/94	03/25/94
10	214020	P40404F	03/25/94	03/25/94
11	214022	P40405F	03/25/94	03/25/94
12	214023	P40405R	03/25/94	03/25/94
13	214026	P40407F	03/25/94	03/25/94
14	214028	P40408F	03/25/94	03/25/94
15	214024	P40406F	03/25/94	03/25/94
16	214025	P40406R	03/25/94	03/25/94
17	214013	P40400R	03/25/94	03/25/94
18	214030	P40409F	03/27/94	03/27/94
19	214021	P40404R	03/29/94	03/29/94
20	214029	P40408R	03/31/94	03/31/94
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

KB80436221

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKF2

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: PBLKF2

Date Received:

Date Extracted: 03/20/94

Date Analyzed: 03/24/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: PBLKF3
Matrix:(soil/water) Biota
Date Extracted: 03/20/94
Date Analyzed(1): 03/25/94
Time Analyzed(1): 1301
GC ID(1): HP2618
GC Column(1): RTx-35

Contract: 91082
Case: B10
SDG No: 40667
Level(L/M): Low
Date Analyzed(2): 03/25/94
Time Analyzed(2): 1301
GC ID(2): HP2618
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	203910MD	P40410MSD	03/25/94	03/25/94
2	203910MS	P40410MS	03/25/94	03/25/94
3	203910	P40410	03/25/94	03/25/94
4	203911	P40411	03/25/94	03/25/94
5	203912	P40412	03/25/94	03/25/94
6	203913	P40413	03/25/94	03/25/94
7	203915	P40415	03/26/94	03/26/94
8	203919	P40419	03/26/94	03/26/94
9	203914	P40414	03/27/94	03/27/94
10	203916	P40416	03/27/94	03/27/94
11	203917	P40417	03/27/94	03/27/94
12	203918	P40418	03/27/94	03/27/94
13	203920	P40420	03/27/94	03/27/94
14	214078	MSB-2	03/30/94	03/30/94
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

KB80436222

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKF3

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: BIO SDG: 40667

Phase Type: BIOTA

Phase Weight: 10.0 (g)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: PBLKF3

Date Received:

Date Extracted: 03/20/94

Date Analyzed: 03/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (mg/Kg)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

Aroclor Calibration Summary

RTx-35

Calibration of 23-Mar-1994 23:18 through 24-Mar-1994 18:43.
MCD1:[8080] 05,06 23MAR941848
METHOD: 8080_PCB:AN

SJF - HP2618

001124

KB80437448

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	8.303	9.268	3.6%	6.553		3.504		2.835							
2	8.370	19.223	2.5%	17.319	6.9%	15.150	4.9%	12.216	4.1%	0.760					
3	8.679									4.885	7.1%	5.027	3.4%	5.054	4.2%
4	8.718	50.097	1.9%	38.192	6.1%	19.079	3.8%	15.666	2.8%						
5	9.105	38.863	6.4%	33.656	6.2%	24.996	4.3%	21.446	7.7%	3.512		1.963		1.517	
6	9.284	125.538	5.7%	130.739	3.8%	119.331	4.7%	98.372	4.2%	11.406	11.0%	1.617		1.916	
7	9.396	19.700	17.	16.019	7.2%	8.481	11.3%	7.582	35.	3.792		2.038		2.907	
8	10.506	41.844	5.3%	124.968	2.6%	245.540	4.6%	201.762	4.1%	99.522	4.2%	3.493		2.640	
9	10.820	1.904		7.711	12.4%	16.509	6.5%	13.238	7.0%	3.209	8.2%				
10	11.114	6.103	3.4%	29.141	6.7%	63.690	3.4%	51.412	2.5%	25.908	3.3%	0.553		0.449	
11	11.183	3.897	5.0%									3.989	9.3%	2.633	12.5%
12	11.274	9.672	2.5%	43.084	5.4%	90.645	2.7%	74.250	1.7%	27.400	1.8%	0.918		0.733	
13	11.369	5.146		20.855	10.0%	41.354	2.9%	33.943	3.6%	12.317	9.8%			0.700	
14	11.457	2.523	2.7%	10.498	7.9%	22.541	4.1%	18.088	3.4%	3.250	3.7%	0.150		0.172	
15	12.131	13.761		68.684	4.1%	148.044	2.6%	120.691	2.5%	58.172	0.5%	0.844		1.239	
16	12.268	1.998		11.690	8.7%	28.371	4.0%	22.921	3.9%	30.816	1.4%	3.849	10.0%	0.174	
17	12.394	0.597		4.121	20.	11.060	5.0%	8.721	9.9%	10.312	6.5%	0.344			
18	12.494	7.397	5.3%	44.630	8.9%	98.244	3.9%	79.273	4.0%	39.826	4.5%	0.748		0.617	
19	12.727	8.488	3.6%	53.361	2.9%	124.584	4.7%	103.234	3.9%	192.761	3.6%	151.404	4.3%	8.413	5.4%
20	12.857	10.737		50.913	13.1%	112.811	5.3%	94.206	6.2%	148.644	4.1%	48.085	7.3%	2.772	
21	12.921			21.227		50.245		41.370		66.376	2.3%				
22	13.007	3.146	7.8%	18.740	3.4%	47.933	3.7%	39.000	3.4%	54.483	1.5%	4.842	2.4%	0.450	
23	13.104	0.937		6.427	10.2%	15.953	4.8%	12.828	5.3%	17.343	4.7%	1.353			
24	13.608	9.465	4.2%	68.289	4.5%	149.791	2.7%	129.160	1.2%	211.268	0.9%	83.114	0.9%	1.513	
25	13.715	3.072		23.893	7.0%	55.899	4.1%	46.704	2.4%	69.500	2.0%	8.273	3.8%	0.428	
26	13.917	2.015	9.4%	18.159	9.8%	42.125	5.9%	35.033	5.4%	59.563	3.6%	6.568	9.0%	0.260	
27	13.994	4.303	6.1%	34.064	7.6%	81.098	4.5%	71.369	3.7%	126.426	4.2%	28.659	3.8%	0.597	
28	14.080	1.538		12.946	11.4%	32.817	6.6%	27.442	6.3%	35.739	5.2%			0.191	
29	14.294			2.385		2.377		5.441		8.976	10.6%	1.483			
30	14.400	3.817	12.2%	28.276	5.0%	14.352	4.1%	61.204	2.5%	107.677	1.3%	31.582	3.0%	0.539	
31	14.488	1.774	11.3%	15.861	7.2%	30.160	4.1%	30.479	4.6%	50.443	3.1%	7.995	7.2%	0.311	
32	14.572	7.599	3.5%	55.964	4.6%	21.622	4.8%	113.563	1.6%	221.558	0.7%	116.809	1.8%	1.473	7.1%
33	14.730	6.669	3.1%	51.789	4.6%	13.616	7.0%	105.802	1.9%	188.927	1.7%	43.377	2.1%	0.954	
34	14.896	1.753	3.0%	11.745	7.6%	15.981	5.6%	27.106	3.3%	76.947	1.7%	227.841	2.3%	95.752	2.2%
35	15.071			2.587				6.471		18.486	4.8%	59.516	1.5%	15.005	2.8%
36	15.130	0.566		4.843	18.	3.351	10.6%	12.412	6.3%	29.003	3.4%	46.298	1.5%		
37	15.265	1.999	2.9%	10.954	7.2%	0.784		28.037	2.3%	79.486	0.9%	287.006	2.5%	120.053	2.5%
38	15.464											125.233	1.3%	0.824	
39	15.506	5.630	4.8%	47.171	6.4%	1.568		100.034	2.9%	180.585	4.5%			0.695	
40	15.654									7.188		6.340	9.2%		
41	15.818	0.964		6.165	11.1%	1.749		16.124	4.7%	46.277	2.1%	92.721	1.1%	4.772	6.2%
42	16.032	0.208		1.173				3.245	3.7%	9.581	5.1%	18.855	3.7%	0.394	
43	16.224	0.969		5.962	8.0%			16.862	2.8%	48.484	1.7%	102.846	1.6%	3.765	6.2%
44	16.430	2.414	6.7%	8.878	7.2%			22.503	3.3%	64.494	2.8%	184.471	3.7%	19.773	2.5%
45	16.610	0.900		4.652	6.0%			14.229	3.8%	41.145	3.0%	61.461	3.8%	0.202	
46	16.767	2.261	6.8%	13.730	6.6%			38.571	2.5%	117.296	2.7%	378.219	3.9%	59.298	1.7%

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.6707 and decachlorobiphenyl at 26.4142.
2) Peaks chosen within window of +/- 0.01143 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.09573.

Aroclor Calibration Summary

RTx-35

Calibration of 23-Mar-1994 23:18 through 24-Mar-1994 18:43.
MCD1:[8080] 05,06 23MAR941848
METHOD: 8080_PCB:AN

SJF - HP261B

001125

KB80437449

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
47	16.847													147.965	0.6%
48	17.062			0.228						2.481		32.296	5.7%	57.400	1.2%
49	17.128	0.078		0.500				2.186	21.	7.086	15.0%	20.640	10.6%		
50	17.292	1.552	11.3%	8.042	4.7%			28.030	1.9%	76.429	1.2%	245.916	2.3%		
51	17.361											208.250	1.5%	328.574	2.5%
52	17.377	0.736		6.407	8.2%			14.551	5.4%	43.993	3.9%				
53	17.595			0.344				0.670		2.494		35.559	3.6%	53.371	0.8%
54	17.804	0.279		3.257	12.2%			5.109	7.4%	13.772	5.2%	186.937	1.4%	378.732	1.4%
55	17.980											10.092	8.4%	1.211	
56	18.372									4.708		59.164	5.6%	140.934	2.2%
57	18.498	1.337		6.654	11.9%			21.179	1.7%	58.915	0.5%	120.331	4.0%		
58	18.552											131.753	1.8%	121.451	0.6%
59	18.644			0.921										87.888	2.6%
60	18.682							1.289		3.566		28.631	2.1%		
61	18.834							0.783		2.109		24.466	3.1%		
62	18.911			1.162				1.413		4.637	13.9%	83.891	2.4%	205.741	1.8%
63	19.033	0.328		2.368	11.3%			6.858	6.5%	16.521	5.1%	292.730	3.5%	313.500	3.3%
64	19.241			1.576				0.117		1.286		19.674	3.6%	243.170	0.5%
65	19.414							0.786		2.443		34.751	3.8%	130.459	3.1%
66	19.557											14.667	3.3%	10.952	
67	19.825			0.243						0.133		2.170	11.3%	33.866	3.7%
68	20.258									9.652		114.131		296.798	8.1%
69	20.507			0.694										132.600	0.9%
70	20.562							1.230		2.568	13.1%	43.653	3.0%	68.766	
71	20.672			0.262						0.365		11.909	6.4%	63.776	1.3%
72	20.844			3.776	7.7%			0.819		3.451	4.3%	57.764	2.4%	569.286	4.5%
73	21.515											0.175		14.697	3.5%
74	21.792											0.244		6.924	9.0%
75	22.000													182.859	9.3%
76	22.141			4.050				1.744		3.806		39.497	7.8%	314.552	3.5%
77	22.226													78.673	1.4%
78	22.636											1.629	13.6%	7.726	3.9%
79	23.028	0.553		0.759		0.662		0.576		0.677		4.812		9.591	4.1%
80	23.364			0.143								0.115		3.589	8.9%
81	23.491			0.367						0.196		1.194		49.556	2.3%
82	23.800			1.029						0.543		2.428		118.965	1.0%
83	25.106	1.970		2.534		2.485		2.376		2.402		2.591		37.712	2.6%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	445.6	4.2%	1233.3	5.6%	1778.5	4.0%	2074.6	3.3%	2878.0	3.0%	3981.9	2.9%	4570.5	3.9%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	7.6707	-.0129 to .0115	Passes...	7386.300	68.0 to 114.1%	** Fails *
decachlorobiphenyl	26.4142	-.0209 to .0214	Passes...	4778.362	90.4 to 111.0%	Passes...

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.6707 and decachlorobiphenyl at 26.4142.
2) Peaks chosen within window of +/- 0.01143 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.09573.

Aroclor Calibration Summary

RTx-5

Calibration of 23-Mar-1994 23:18 through 24-Mar-1994 18:43.
MCD1:[8080] 05,06 23MAR941848
METHOD: 8080_PCB:AN

SJF - HP2618

001126

KB80437450

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	9.504	51.246	4.2%	38.895	5.1%	19.016	3.9%	15.517	6.0%	1.239					
2	9.796	40.946	5.9%	36.086	3.3%	26.839	3.3%	22.462	4.4%						
3	9.965	131.726	6.1%	136.122	3.0%	123.251	5.1%	101.900	4.7%	11.635	7.0%			1.489	
4	10.552	1.867		7.252	16.	15.993	6.2%	13.194	5.2%	3.820					
5	11.183	21.250	3.1%	84.657	2.3%	177.624	5.3%	146.028	5.0%	81.067	2.5%	2.264		1.449	
6	11.496	2.370	23.	8.704	10.6%	18.994	5.8%	15.467	8.3%	3.648	12.0%			0.121	
7	11.754	16.412	4.6%	70.777	4.1%	150.397	2.8%	123.010	2.1%	52.320	1.1%	1.733		1.623	
8	12.041	3.654	7.2%	4.139	11.6%	3.335	10.4%	4.349	11.3%	4.028	6.7%	4.135	8.0%	2.784	10.2%
9	12.135	0.381		1.107		2.999	11.0%	2.361	16.						
10	12.267	4.972		19.696	11.5%	39.259	2.7%	32.386	3.4%	11.566	13.7%			0.713	
11	12.349	2.542	7.0%	9.835	7.4%	21.731	4.1%	17.622	3.6%	2.910		0.562		0.189	
12	12.524									136.481	0.9%	5.620	6.3%	1.820	
13	12.565	24.029	2.3%	131.280	7.7%	299.487	4.3%	240.346	3.5%	141.058	3.8%			1.919	
14	13.100	12.088		48.430	4.6%	104.900	2.4%	87.690	10.9%	44.534	2.9%	1.662		1.459	
15	13.266	2.097	6.6%	13.018	6.2%	34.100	3.5%	27.648	3.0%	35.553	1.7%	1.536		0.183	
16	13.511	0.665		5.180	11.2%	13.123	6.3%	10.672	6.4%	14.468	4.6%	0.516			
17	13.608	8.181		51.534	2.9%	120.102	4.7%	99.877	3.9%	190.812	4.4%	156.684	4.6%	8.863	7.3%
18	13.747	7.762		45.786	3.5%	108.746	3.8%	89.679	3.5%	144.999	2.7%	45.292	2.0%		
19	13.842											7.831	5.6%		
20	13.864	3.567		23.832	6.5%	63.278	3.6%	51.414	2.5%	76.499	0.9%			0.408	
21	14.260	7.942	3.7%	59.175	5.1%	137.788	3.2%	114.402	1.7%	207.029	0.8%	85.058	1.2%	1.324	
22	14.372	5.379	5.2%	38.721	5.4%	76.436	3.7%	73.454	2.1%	80.981	1.3%	7.371	5.9%	0.602	
23	14.648	6.128	6.0%	47.663	7.5%	117.722	3.8%	100.919	3.3%	168.571	3.8%	31.227	3.6%	0.773	
24	14.800			0.162		0.582		0.546		1.314	9.7%	1.575			
25	14.908	1.637	5.2%	14.744	8.6%	30.257	4.7%	28.699	4.0%	45.848	2.9%	6.100	5.9%	0.241	
26	15.058	0.301		2.222	7.1%	2.593	7.9%	5.074	8.5%	4.643	7.4%	0.552			
27	15.235	0.239		2.035	14.6%	1.606		5.235	12.3%	8.728	7.8%	1.499			
28	15.357	4.071	5.0%	29.580	6.0%	13.589	5.6%	65.509	2.3%	114.804	1.6%	32.814	3.5%	0.588	
29	15.469	8.069	4.1%	59.169	4.5%	21.228	4.5%	120.845	1.4%	236.282	0.8%	125.281	1.8%	1.542	6.3%
30	15.591	7.936	4.3%	59.683	5.3%			124.588	1.8%	236.480	1.4%				
31	15.611					23.889	4.3%					250.415	2.8%	97.271	2.4%
32	15.815	1.957	6.9%	4.902	9.5%	3.138	7.4%	10.268	7.9%	27.509	3.8%	41.308	1.7%	0.231	
33	16.130	5.546	4.1%	47.374	7.0%	1.852	7.2%	100.899	3.8%	180.643	4.3%	79.615	1.5%	15.801	2.8%
34	16.309	2.830	7.4%	15.803	6.9%	2.205		40.568	2.1%	114.559	1.3%	355.768	3.1%	127.345	2.7%
35	16.482	1.839		7.697				21.786	1.5%	59.362	1.0%	127.115	2.2%	0.896	
36	16.684			0.273				0.995		2.732	9.4%	4.917	10.2%		
37	16.837	0.209		1.160	6.7%			3.279	4.8%	9.315	4.2%	18.782	3.8%	0.351	
38	17.001	0.987		5.763	8.3%			16.267	3.0%	46.776	0.6%	104.054	1.3%	3.887	4.7%
39	17.161	1.392		8.658	8.8%			24.352	3.1%	69.936	2.5%	199.048	2.9%	20.421	3.3%
40	17.300	0.809		4.836	11.8%			14.898	5.0%	42.660	3.1%	63.793	2.9%	0.287	
41	17.397											30.425	1.3%	56.008	2.1%
42	17.473	2.532	2.8%	16.986	7.7%			45.099	2.5%	129.104	1.7%	396.478	2.4%	64.341	2.5%
43	17.842	0.700		5.161	6.4%			12.035	2.6%	35.606	2.1%	81.000	1.9%	142.488	1.5%
44	18.113			1.595				3.879		9.517	21.	27.224	6.3%		

Notes:

1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.9076 and decachlorobiphenyl at 28.1092.
2) Peaks chosen within window of +/- 0.01143 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.09145.

Aroclor Calibration Summary

RTx-5

Calibration of 23-Mar-1994 23:18 through 24-Mar-1994 18:43.
MCD1:[8080] 05,06 23MAR941848
METHOD: 8080_PCB:AN

SJF - HP2618

001127

KB8043745I

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
45	18.222													328.028	4.0%
46	18.272	2.026		9.796	6.3%			31.678	2.6%	84.368	1.5%	297.061	1.8%		
47	18.571							0.305		1.357		23.175	3.8%	21.299	2.3%
48	18.636			0.315				1.654		4.921	13.8%	10.856			
49	18.702			0.146				0.850		2.717		10.604	8.6%		
50	18.777			0.369				0.658		2.067	11.8%	35.126	2.0%	54.624	1.3%
51	18.965	0.237		2.970	11.9%			3.697	5.4%	9.799	4.6%	180.649	2.5%	386.793	2.7%
52	19.084													124.893	0.8%
53	19.113	0.891		6.431	11.2%			22.567	4.1%	65.942	3.2%	189.757	4.9%		
54	19.369			1.052				1.041		3.495	9.6%	57.593	3.8%	140.485	3.1%
55	19.445			0.577										86.749	1.7%
56	19.591							0.769		1.925		23.371	6.4%	1.727	
57	19.671			0.414				0.631		1.910		27.650	7.3%	40.702	2.0%
58	19.840	0.606		3.443	7.2%			7.572	2.1%	18.419	1.9%	323.183	1.9%	408.212	1.8%
59	20.101			0.494				0.748		2.158	5.0%	26.845	3.6%	51.541	1.6%
60	20.268													10.426	5.1%
61	20.354			1.608						1.093		17.465	3.5%	238.305	2.6%
62	20.512			0.789						0.623		14.115	3.2%	123.429	0.8%
63	20.706			0.444				2.537		5.699	5.5%	91.056	2.8%	36.637	2.8%
64	20.854			0.162						0.100		2.342		33.345	3.9%
65	21.087			1.509						1.032		21.510	2.8%	237.077	1.0%
66	21.261			0.734				0.070		0.546		13.496	4.2%	129.171	1.1%
67	21.406	0.479		0.981	60.	0.353								81.081	1.4%
68	21.418	0.744				1.163		1.815	31.	3.207	14.7%	50.118	2.1%		
69	21.598			0.163				0.353		0.666		10.428	5.1%	20.114	4.1%
70	21.720			0.211						0.160		4.858	7.8%	39.929	3.2%
71	21.921			4.006	6.9%			0.485		2.875		48.774	1.6%	542.797	3.3%
72	22.323													14.858	13.3%
73	22.839			1.594				0.329		1.439		37.257	2.5%	236.515	2.9%
74	23.089			0.945						0.576		2.130	6.9%	114.884	1.1%
75	23.262			0.891						0.570		2.808	11.5%	126.659	0.7%
76	24.292											1.186		47.878	1.3%
77	25.003	1.436		2.504	84.	1.481		1.481		2.058	95.	3.875	49.	116.816	7.0%
78	25.228													6.462	3.4%
79	26.596	1.838		2.301		2.304		1.921		2.225		2.396		34.917	1.4%
Total:		404.5	4.7%	1214.5	5.3%	1781.4	4.2%	2116.4	3.6%	3011.0	2.3%	3828.9	2.7%	4393.8	2.6%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	8.9076	-.0121 to .0102	Passes...	6556.915	71.7 to 112.1%	** Fails *
decachlorobiphenyl	28.1092	-.0159 to .0130	Passes...	4508.130	90.2 to 114.5%	Passes...

Notes:

1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.9076 and decachlorobiphenyl at 28.1092.
2) Peaks chosen within window of +/- 0.01143 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.09145.

CH050323.XLS

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 23-MAR-94 23:18 to 24-MAR-94 18:43

File: 05, 06 23MAR941848

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	46.8	98.8	208	409	788	
Cal Fact	0.936	0.988	1.040	1.023	0.985	4.0
% Diff	6	1	-4	-2	2	
Aroclor 1221	57.0	108	213	400	773	
Cal Fact	1.140	1.080	1.065	1.000	0.966	6.5
% Diff	-14	-8	-7	0	3	
Aroclor 1232	49.9	97.8	197	382	820	
Cal Fact	0.998	0.978	0.985	0.955	1.025	2.6
% Diff	0	2	2	5	-3	
Aroclor 1242	49.2	99.0	207	397	797	
Cal Fact	0.984	0.990	1.035	0.993	0.996	2.0
% Diff	2	1	-4	1	0	
Aroclor 1248	50.3	97.7	198	401	803	
Cal Fact	1.006	0.977	0.990	1.003	1.004	1.2
% Diff	-1	2	1	0	0	
Aroclor 1254	49.9	100	201	391	808	
Cal Fact	0.998	1.000	1.005	0.978	1.010	1.2
% Diff	0	0	-1	2	-1	
Aroclor 1260	51.2	97.9	199	396	806	
Cal Fact	1.024	0.979	0.995	0.990	1.008	1.7
% Diff	-2	2	1	1	-1	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

KB80437430

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 03/23/94 2318 to
03/24/94 1843

Check Standard File: 05,06 24MAR941731, 02
Date: 03/24/94
Time: 1951

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	198	1.0

Check Standard File: 05,06 24MAR941731, 03
Date: 03/24/94
Time: 2026

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	209	4.5

Check Standard File: 05,06 24MAR941731, 15
Date: 03/25/94
Time: 0317

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	201	0.5

Check Standard File: 05,06 24MAR941731, 16
Date: 03/25/94
Time: 0352

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	206	3.0

Check Standard File: 05,06 24MAR941731, 28
Date: 03/25/94
Time: 1043

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	201	0.5

KB80437432

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 03/23/94 2318 to
03/24/94 1843

Check Standard File: 05,06 24MAR941731,29
Date: 03/25/94
Time: 1118

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	200	0.0

Check Standard File: 05,06 24MAR941731,41
Date: 03/25/94
Time: 1810

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	201	0.5

Check Standard File: 05,06 24MAR941731,42
Date: 03/25/94
Time: 1844

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1260	200	196	2.0

Check Standard File: 05,06 25MAR941758,12
Date: 03/26/94
Time: 0135

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	191	4.5

Check Standard File: 05,06 25MAR94 1758,13
Date: 03/26/94
Time: 0210

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	205	2.5

KB80437433

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 03/23/94 2318 to
03/24/94 1843

Check Standard File: 05,06 25MAR941758,25
Date: 03/26/94
Time: 0903

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	198	1.0

Check Standard File: 05,06 25MAR941758,26
Date: 03/26/94
Time: 0934

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	204	2.0

Check Standard File: 05,06 27MAR941457,02
Date: 03/27/94
Time: 1537

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	196	2.0

Check Standard File: 05,06 27MAR941457,03
Date: 03/27/94
Time: 1611

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	203	1.5

Check Standard File: 05,06 27MAR941457,15
Date: 03/27/94
Time: 2302

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	199	0.5

KB80437434

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 03/23/94 2318 to
03/24/94 1843

Check Standard File: 05,06 27MAR941457,16
Date: 03/27/94
Time: 2336

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	195	2.5

Check Standard File: 05,06 29MAR940951,02
Date: 03/29/94
Time: 1030

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	191	4.5

Check Standard File: 05,06 29MAR940951,03
Date: 03/29/94
Time: 1105

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	190	5.0

Check Standard File: 05,06 29MAR940951,08
Date: 03/29/94
Time: 1356

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	191	4.5

Check Standard File: 05,06 29MAR940951,09
Date: 03/29/94
Time: 1430

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1260	200	189	5.5

KB80437435

Aroclor Calibration Summary

RTx-35

Calibration of 29-Mar-1994 20:29 through 30-Mar-1994 15:52.
MCD1:[8080] 05,06 29MAR941552
METHOD: 8080_PCB:AN

SJF - HP2618

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	8.302	8.086	3.4%	5.824	14.2%	3.103		2.513							
2	8.369	17.115	1.2%	15.499	6.0%	13.168	4.8%	10.808	3.4%	0.692					
3	8.677									4.398	8.0%	4.305	4.2%	4.449	9.1%
4	8.716	45.119	1.1%	34.861	7.6%	17.093	2.6%	13.733	2.2%						
5	9.104	35.230	3.9%	31.398	7.2%	23.137	8.0%	18.673	10.3%	3.040	50.	1.999		2.295	
6	9.283	113.614	4.8%	119.948	4.2%	107.416	4.7%	86.323	4.4%	9.773	9.6%	1.102		1.522	
7	10.505	39.358	9.7%	115.037	4.1%	220.887	5.7%	178.490	5.6%	88.246	5.9%	3.227		3.755	53.
8	10.819	1.750		7.280	12.2%	15.097	3.3%	12.060	5.7%	2.960	7.7%			0.069	
9	11.113	5.604	3.9%	26.971	8.0%	57.133	2.0%	45.602	2.2%	22.775	3.3%	0.505		0.405	
10	11.182	3.689	5.3%									3.522	10.4%	2.483	10.2%
11	11.273	9.034	3.4%	39.665	6.1%	81.694	2.5%	65.856	2.2%	24.187	1.2%	0.777		0.733	
12	11.368	4.892		20.289	20.	38.079	6.7%	30.831	7.4%	12.303	18.				
13	11.456	2.512	10.5%	9.911	7.4%	20.447	2.8%	16.348	2.9%	3.022	4.0%	0.173		0.210	
14	12.130	12.453		62.950	5.4%	132.482	2.8%	106.456	2.4%	50.992	1.5%	1.380			
15	12.266	1.866		11.000	9.0%	25.654	4.6%	20.763	3.9%	27.174	2.3%	3.410	5.3%	0.172	
16	12.393	0.566		3.882	17.	9.911	7.9%	7.967	5.0%	9.213	4.7%	0.302			
17	12.493	6.696	4.9%	40.612	9.3%	87.773	3.4%	69.506	2.9%	34.623	3.3%	0.670		0.560	
18	12.727	7.935	4.0%	49.334	3.8%	111.713	5.1%	91.407	4.6%	168.024	4.9%	131.019	4.6%	7.581	5.5%
19	12.857	13.760		52.443	31.	103.106	9.4%	86.172	10.6%	133.174	6.7%	43.927	16.	5.112	
20	13.007	3.080		17.867	4.3%	43.370	4.3%	35.272	4.5%	48.591	3.1%	4.371		0.427	
21	13.103	0.907		6.234	8.2%	14.486	6.8%	11.839	5.3%	15.852	3.2%	1.179			
22	13.608	8.719	3.8%	62.822	5.9%	134.013	2.2%	113.654	1.8%	182.770	0.9%	71.672	0.6%	1.306	
23	13.715	2.887	4.5%	22.290	6.9%	50.922	2.1%	41.801	1.2%	60.987	1.2%	7.465	3.0%	0.346	
24	13.916	1.890	7.5%	17.036	9.2%	37.989	2.3%	31.146	3.0%	51.922	2.7%	5.752	8.5%	0.231	
25	13.993	4.011	5.3%	31.835	8.5%	73.089	2.0%	62.937	2.3%	109.539	3.5%	25.028	3.5%	0.543	
26	14.080	1.426		12.267	10.4%	29.761	3.3%	24.352	4.8%	31.224	4.5%			0.168	
27	14.400	3.800		26.600	6.5%	13.270	5.3%	54.030	1.5%	94.570	1.7%	27.445	1.7%	0.382	
28	14.488	1.844		14.949	7.7%	27.411	2.3%	27.172	2.0%	44.103	1.8%	7.079	5.0%	0.217	
29	14.572	7.107	5.0%	51.688	6.0%	19.767	3.5%	99.640	1.4%	192.636	1.1%	100.380	1.1%	1.264	
30	14.730	6.275	4.4%	47.743	6.0%	12.492	4.2%	93.168	1.2%	164.891	1.4%	37.634	0.9%	0.888	
31	14.896	1.706		11.004	7.8%	14.741	3.8%	24.029	2.0%	67.215	2.0%	195.323	2.9%	83.681	2.3%
32	15.071			2.443				5.722		16.258	3.9%	51.654	1.4%	13.532	3.6%
33	15.129	0.562		4.536	19.	3.137	9.0%	10.909	9.6%	25.432	2.5%	40.640	0.9%		
34	15.265	1.885	3.9%	10.265	8.4%	0.744		24.889	2.7%	69.558	1.6%	245.966	2.9%	105.208	2.1%
35	15.464											107.593	1.7%	0.699	
36	15.506	5.243	4.7%	43.817	8.2%	1.492		88.892	2.6%	157.957	4.6%			0.558	
37	15.654									6.208		5.416	6.4%		
38	15.818	0.916		5.813	12.7%	1.666		14.281	4.4%	40.593	1.2%	79.529	1.1%	4.351	7.1%
39	16.032	0.176		1.058				2.878	4.4%	8.396	4.7%	16.226	2.5%	0.331	
40	16.224	0.932		5.632	9.6%			15.214	2.5%	42.891	0.8%	88.165	1.2%	3.400	6.3%
41	16.430	2.352	7.7%	8.440	9.7%			20.028	2.4%	56.598	1.7%	158.670	3.2%	17.598	3.3%
42	16.610	0.902		4.421				12.818	2.6%	36.365	2.9%	52.843	2.9%	0.189	
43	16.766	2.181	8.1%	12.933	8.8%			34.448	2.1%	102.348	2.4%	322.643	3.3%	52.095	2.3%
44	16.847													130.497	0.8%
45	17.063			0.165						2.125		27.875	5.2%	51.104	1.6%

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.6698 and decachlorobiphenyl at 26.4131.
2) Peaks chosen within window of +/- 0.01274 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.08596.

KB80437562

Aroclor Calibration Summary

RTx-35

Calibration of 29-Mar-1994 20:29 through 30-Mar-1994 15:52.
MCD1:[8080] 05,06 29MAR941552
METHOD: 8080_PCB:AN

SJF - HP2618

001238

KB80437563

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
46	17.129			0.454				2.036		6.353	12.9%	17.885	9.9%		
47	17.292	1.473	8.6%	7.527	8.0%			25.473	2.1%	67.456	0.6%	212.914	1.5%		
48	17.370	0.721		6.061	9.9%			13.228	4.6%	38.942	2.9%	179.848	0.8%	287.834	1.3%
49	17.596			0.345				0.620		2.063		30.632	2.7%	47.432	2.3%
50	17.804	0.270		3.074	14.0%			4.697	6.5%	12.277	4.5%	161.650	1.4%	332.541	1.1%
51	17.980											8.404	6.4%	1.042	
52	18.373									4.506		51.476	6.6%	124.316	2.4%
53	18.498	1.318		6.289	11.5%			19.312	3.1%	52.864	1.2%	104.245	2.8%		
54	18.553											114.425	1.5%	107.179	1.2%
55	18.644			0.808										77.830	3.4%
56	18.683							1.317		3.172		24.771	3.0%		
57	18.835							0.725		1.973		21.110	0.7%		
58	18.912			1.125				1.344		4.310	9.0%	72.713	1.6%	181.977	2.2%
59	19.033	0.331		2.289	11.3%			6.370	5.9%	14.962	3.5%	253.019	2.5%	275.204	3.6%
60	19.241			1.534						1.298		16.955	2.8%	214.512	0.8%
61	19.418									2.375		30.422		114.596	1.6%
62	19.558									0.815		13.357		9.762	6.4%
63	19.825			0.254						0.130		1.906	9.3%	30.199	4.0%
64	20.260											95.101		254.128	2.0%
65	20.508			0.741										117.384	1.2%
66	20.563							1.086		2.350		38.819	1.4%	62.489	
67	20.672			0.384						0.379		10.442	4.5%	56.325	2.1%
68	20.844			3.741	7.6%			0.791		3.274	4.3%	50.888	1.2%	499.119	5.0%
69	21.037	0.675		2.480		1.465		1.072		1.017		2.667	66.	6.832	4.1%
70	21.515											0.152		13.501	4.8%
71	21.794													6.392	9.2%
72	22.002											11.642		160.250	6.1%
73	22.142			3.564				1.202		3.225		35.411	7.7%	278.312	3.9%
74	22.227													68.924	2.8%
75	22.638											1.485		7.063	6.6%
76	23.029	0.533		0.713		0.687		0.526		0.695		4.541		8.955	5.0%
77	23.366			0.131								0.105		3.389	9.0%
78	23.492			0.353						0.200		1.110		45.049	2.2%
79	23.801			1.020						0.525		2.262		107.939	1.8%
80	25.106	1.897		2.459		2.450		1.988		2.327		2.395		34.329	1.7%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	395.3	4.0%	1114.1	5.9%	1550.8	4.2%	1794.4	3.6%	2451.1	2.9%	3449.6	2.5%	4033.2	3.5%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	7.6698	-.0120 to .0124	Passes...	6409.625	72.1 to 117.8%	** Fails *
decachlorobiphenyl	26.4131	-.0175 to .0136	Passes...	4291.076	91.0 to 110.2%	Passes...

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 7.6698 and decachlorobiphenyl at 26.4131.
2) Peaks chosen within window of +/- 0.01274 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.08596.

Aroclor Calibration Summary

RTx-5

Calibration of 29-Mar-1994 20:29 through 30-Mar-1994 15:52.
MCD1:[8080] 05,06 29MAR941552
METHOD: 8080_PCB:AN

SJF - HP2618

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
1	9.499	44.387	2.0%	33.818	6.9%	16.750	6.8%	13.124	5.4%	0.680					
2	9.792	35.432	2.5%	31.710	4.6%	23.861	4.6%	18.950							
3	9.962	113.874	5.8%	119.303	3.7%	106.972	5.0%	85.762	4.5%	9.655				1.401	
4	11.179	18.981		74.331	3.3%	151.675	6.5%	123.593	5.3%	67.995	3.7%	1.945		1.300	
5	11.492	2.426		7.850	11.6%	16.893	3.0%	13.401	5.8%	3.274	9.5%	0.157			
6	11.751	15.297	16.	63.068	5.2%	129.629	2.8%	104.217	2.6%	44.556	3.9%	1.299		2.328	
7	12.038	3.281	5.8%	3.829	11.6%	3.187	10.4%	3.933	8.1%	3.548	6.2%	3.615	6.7%	2.473	5.8%
8	12.132	0.301		0.977		2.668	14.3%	2.002							
9	12.263	4.455		17.789		34.995	6.4%	28.039	7.1%	11.112	20.				
10	12.344	2.574		9.071	7.3%	19.293	1.8%	15.109	1.1%	2.773	12.1%			0.441	
11	12.522									113.681	0.5%	4.732	5.6%		
12	12.561	21.199	2.5%	114.954	8.6%	256.518	3.1%	201.777	2.9%	117.788	3.6%			1.648	
13	13.096	9.066		43.903	6.0%	93.692	3.4%	74.117	7.2%	39.250	13.9%	2.021			
14	13.262	1.907	8.7%	11.796	8.2%	30.013	2.9%	23.925	2.0%	30.228	0.6%	1.361		0.189	
15	13.506	0.616		4.692	12.6%	11.592	5.2%	9.177	5.9%	12.299	4.4%	0.493			
16	13.605	7.266		45.595	3.9%	102.819	5.8%	83.943	4.7%	158.855	5.2%	129.407	4.8%	7.399	4.0%
17	13.742	7.489		41.685	8.4%	93.570	5.2%	76.342	5.0%	121.545	4.1%	38.575	4.8%		
18	13.839											6.965	3.5%		
19	13.860	3.304		21.500	6.5%	54.710	2.9%	43.636	2.5%	64.671	0.4%			0.421	
20	14.256	7.181	5.8%	52.085	5.7%	117.909	3.2%	96.327	1.7%	171.559	1.3%	70.109	0.7%	1.177	
21	14.369	4.800	5.0%	34.416	6.7%	66.367	2.9%	62.343	2.2%	68.047	0.9%	6.425	5.6%	0.544	
22	14.644	5.467	6.3%	42.102	8.0%	101.263	2.6%	85.194	2.3%	139.884	3.1%	25.867	3.0%	0.713	
23	14.797					0.552		0.426		1.143	14.1%	1.386			
24	14.905	1.470	7.4%	13.251	9.5%	26.192	3.4%	24.671	2.9%	38.585	1.9%	5.120	6.6%	0.207	
25	15.054	0.298		2.125		2.519		4.520	4.6%	4.238	6.8%	0.539			
26	15.230	0.231		1.898	14.6%	1.466		4.564	10.1%	7.564	7.4%	1.269			
27	15.354	3.608	5.5%	26.211	7.5%	11.893	4.1%	55.119	1.6%	95.466	0.7%	27.242	2.4%	0.483	
28	15.465	7.128	3.8%	51.815	5.7%	18.526	3.4%	101.347	2.1%	195.239	0.5%	102.487	1.0%	1.318	
29	15.596	7.041	4.8%	53.056	7.0%	21.005	3.4%	104.872	1.7%	197.590	0.9%	208.469			
30	15.812	1.693		4.431	12.5%	2.810	4.0%	8.979	6.1%	23.457	1.3%	34.919	0.9%	0.184	
31	16.126	4.938	5.1%	41.540	8.4%	1.663	6.3%	84.864	2.5%	150.515	3.7%	65.965	0.5%	13.509	3.9%
32	16.305	2.536	9.1%	14.037	7.4%	1.948		34.529	2.9%	95.478	2.2%	291.694	3.4%	106.962	2.3%
33	16.477	1.858		7.244				19.165	6.9%	50.827	6.7%	105.157	2.3%	0.560	
34	16.683			0.229				0.889		2.499	11.2%	4.368	8.5%		
35	16.834	0.182		1.015	11.0%			2.875	2.9%	8.062	4.3%	15.758	3.0%	0.292	
36	16.997	0.873		5.210	9.2%			14.007	2.4%	39.606	0.9%	86.468	0.9%	3.349	3.7%
37	17.157	1.243		7.684	9.8%			20.767	2.7%	58.678	2.8%	163.409	2.6%	17.302	3.7%
38	17.297	0.722		4.309	14.0%			12.823	4.3%	35.840	4.6%	53.031	2.2%	0.245	
39	17.395											25.870	0.8%	47.495	2.2%
40	17.470	2.225	4.5%	14.841	9.2%			38.089	2.5%	106.610	1.8%	325.105	2.4%	54.137	3.0%
41	17.839	0.607		4.620	8.0%			10.315	2.3%	30.209	2.2%	67.176	0.5%	119.582	1.8%
42	18.111			1.280				3.427		8.402	21.	23.129	7.8%		

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.9037 and decachlorobiphenyl at 28.1020.
2) Peaks chosen within window of +/- 0.01274 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07779.

KB80437564

Aroclor Calibration Summary

RTx-5

Calibration of 29-Mar-1994 20:29 through 30-Mar-1994 15:52.
MCD1:[8080] 05,06 29MAR941552
METHOD: 8080_PCB:AN

SJF - HP2618

Peak Response Factors and Relative Deviations

Peak #	RT	Aroclor 1221		Aroclor 1232		Aroclor 1016		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260	
43	18.220													274.013	3.4%
44	18.269	1.832		8.786	6.5%			27.477	3.0%	71.799	1.8%	244.991	1.1%		
45	18.567									1.349		19.648	4.0%	18.359	3.1%
46	18.699			0.140				0.768		2.446		9.084	8.2%		
47	18.775			0.337				0.588		1.902		29.718	1.2%	46.399	2.1%
48	18.962	0.197		2.699	13.3%			3.288	5.6%	8.552	4.5%	150.358	2.7%	324.753	2.0%
49	19.081													105.496	1.1%
50	19.110	0.832		5.857	11.7%			19.445	2.9%	55.903	2.5%	157.096	4.5%		
51	19.367	0.115		1.009	15.			0.974		3.223	8.4%	48.077	2.6%	117.743	3.5%
52	19.441			0.561										74.394	1.1%
53	19.668			0.507				0.657		1.702		23.705	7.7%	34.708	2.6%
54	19.837	0.528		3.256	18.			6.638	1.7%	15.774	1.4%	267.951	1.8%	341.672	2.7%
55	20.098			0.471				0.665		1.899	6.1%	22.645	2.3%	44.117	1.6%
56	20.265													9.109	5.7%
57	20.352			1.531						0.982		14.983	2.6%	202.978	2.2%
58	20.510			0.688						0.568		12.008	2.6%	105.116	1.4%
59	20.704			0.397				2.204	6.6%	4.950	5.4%	75.906	1.8%	31.393	3.0%
60	20.851			0.169						0.086		2.020		28.917	3.3%
61	21.084			1.429						0.907		18.230	1.1%	200.569	1.0%
62	21.258			0.726						0.521		11.602	3.4%	110.968	1.2%
63	21.402	0.245		0.885	50.	1.105								68.893	1.6%
64	21.417							1.591	26.	2.815	15.	42.194	0.9%		
65	21.596			0.168				0.333		0.650		8.998	2.1%	17.562	4.9%
66	21.718			0.170						0.153		4.229	6.3%	34.585	3.9%
67	21.918			3.673	13.5%			0.445		2.518		41.394	0.9%	459.260	3.0%
68	22.320											0.287		12.955	7.2%
69	22.836			1.491				0.385		1.357		32.023	1.1%	203.152	3.3%
70	23.087			0.899						0.521		1.771	6.4%	98.756	2.0%
71	23.260			0.912						0.524		2.457	6.8%	109.963	0.9%
72	24.288											0.966		41.780	2.2%
73	24.998	1.295		2.235	75.	1.367		1.255		1.763	97.	3.452	50.	98.762	1.8%
74	25.222													5.683	6.3%
75	26.590	1.704		2.180		2.148		1.785		2.061		2.152		31.150	1.6%
======	======	==========		==========		==========		==========		==========		==========		==========	
	Total:	352.7	3.6%	1070.4	6.3%	1527.6	4.1%	1779.7	3.4%	2516.3	2.6%	3149.5	2.3%	3638.9	2.4%

Retention Time Marker/Surrogate Standard Summary

Compound	Mean RT	RT Dev. Range	RT Crit.	Mean RF	Recovery Range	Surr Crit
tetrachloro-meta-xylene	8.9037	-.0081 to .0074	Passes...	5462.058	74.9 to 117.4%	** Fails *
decachlorobiphenyl	28.1020	-.0131 to .0091	Passes...	3926.447	91.9 to 112.5%	Passes...

Notes:
1) Retention times linearly adjusted to place tetrachloro-meta-xylene at 8.9037 and decachlorobiphenyl at 28.1020.
2) Peaks chosen within window of +/- 0.01274 of the mean RT of corresponding peaks in all mixtures.
3) Quantitation is based on HEIGHTS; instrument response is linearized by RESPONSE = HEIGHT^ 1.07779.

KB80437565

CH050329.XLS

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 29-MAR-94 20:29 to 30-MAR-94 15:52

File: 05, 06 29MAR941552

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	50.2	102	210	404	784	
Cal Fact	1.004	1.020	1.050	1.010	0.980	2.5
% Diff	0	-2	-5	-1	2	
Aroclor 1221	56.4	107	211	396	780	
Cal Fact	1.128	1.070	1.055	0.990	0.975	6.0
% Diff	-13	-7	-6	1	3	
Aroclor 1232	50.5	100	196	374	828	
Cal Fact	1.010	1.000	0.980	0.935	1.035	3.8
% Diff	-1	0	2	7	-4	
Aroclor 1242	50.5	101	206	406	787	
Cal Fact	1.010	1.010	1.030	1.015	0.984	1.7
% Diff	-1	-1	-3	-2	2	
Aroclor 1248	51.6	99.6	200	398	800	
Cal Fact	1.032	0.996	1.000	0.995	1.000	1.5
% Diff	-3	0	0	1	0	
Aroclor 1254	51.0	101	198	396	804	
Cal Fact	1.020	1.010	0.990	0.990	1.005	1.3
% Diff	-2	-1	1	1	-1	
Aroclor 1260	49.1	95.4	198	402	806	
Cal Fact	0.982	0.954	0.990	1.005	1.008	2.2
% Diff	2	5	1	-1	-1	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

KB80437431

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 03/29/94 2029 to
03/30/94 1552

Check Standard File: 05,06 30MAR941745,02
Date: 03/30/94
Time: 1821

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	202	1.0

Check Standard File: 05,06 30MAR941745,03
Date: 03/30/94
Time: 1855

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	205	2.5

Check Standard File: 05,06 30MAR941745,15
Date: 03/31/94
Time: 0146

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	207	3.5

Check Standard File: 05,06 30MAR941745,16
Date: 03/31/94
Time: 0220

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	210	5.0

Check Standard File: 05,06 30MAR941745,39
Date: 03/31/94
Time: 1529

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	217	8.5

KB80437436

PCBCHST.XLT

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2618
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib.
date/time: 03/29/94 2029 to
03/30/94 1552

Check Standard File: 05,06 30MAR941745,40
Date: 03/31/94
Time: 1603

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1260	200	206	3.0

Check Standard File: 05,06 31MAR941759,12
Date: 04/01/94
Time: 0021

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	210	5.0

Check Standard File: 05,06 31MAR941759,13
Date: 04/01/94
Time: 0056

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	215	7.5

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

KB80437437

221/92

METHOD:8080_PPCB:EXB **MATRIX: BIOTA** **LEVEL: LOW** **BATCH ID: 4GS**

CLIENT(s): BLAB02
DATE: 3/20/94
ANALYST: JD
SPIKED BY: JD
WITNESSED BY: CFO

ETR 40668
SDG 40667

Case: BIO
SDG: 40667

Lab sample id ETR	Client id	Sample weight (10g)	1. Add 40 g granular Na_2SO_4, mix	2. Transfer to soxhlet extractor	3.# 2.0 ml Surr (0.20 ppm TCX/DCB) Surr lot# E03049403	4.# 1.0 ml Pest Mtx (0.5/1.0 ppm) Pest Mtx lot# E12299302 CFO	5.# 1.0 ml PCB Mtx (60 ppm AR1242/1254) PCB Mtx lot# E03199301	6.# 0.1 ml PCB Mtx (to MSB only) E03199301	7. Extract 16 hours with CH_2Cl_2 CH_2Cl_2 lot# G48270	8. Elute extract through Na_2SO_4 funnel	9.# Conc to 10.0 ml	10.# Archive 1.0 ml	11.# 1.0 ml for %LIPID	12.# 5.0 of 10.0 ml extract through GPC	13. Solvent exchange to hexane	14.# Conc to 5.0 ml	15.# PCB fraction: ...Transfer 1.0 of 5.0 ml to a vial	16. ...Sulfuric Acid Clean-up ...H_2SO_4 lot# G38052	17. ...3g Silica Gel Cleanup ...SG lot# 936505D	18.# ...Conc to 1.0 ml for PCB analysis	19.# Pesticide fraction: ...Transfer 1.0 of 5.0 ml to florisil cartridge ...Florisil lot# 941046	20. ...Elute with 8 ml 9:1 Hexane/Acetone ...Hexane lot# 41.57KLP2 ...Acetone lot# G40294	21.# ...Conc to 1.0 ml for Pesticide analysis
PBLK F2	PBLK F2	10.0	JD	JD	✓				JD	MEN	MEN	CFO	CFO	DD	CFO	ERB	[illegible]	[illegible]	[illegible]	[illegible]	DJP	DJP	DJP
214010	P40399F	10.0	✓	✓	✓				✓														
214010MS	P40399FMS	10.0	✓	✓	✓	✓	✓		✓														
214010MD	P40399FMSD	10.0	✓	✓	✓	✓	✓		✓														
214032	* MSB-1	10.0	✓	✓	✓	✓	✓		✓														
214012	P40400F	10.0	✓	✓	✓				✓														
214013	P40400R	10.0	✓	✓	✓				✓														
214014	P40401F	10.0	✓	✓	✓				✓														
214015	P40401R	10.0	✓	✓	✓				✓														
214016	P40402F	10.0	✓	✓	✓				✓														
214018	P40403F	10.0	✓	✓	✓				✓														
214020	P40404F	10.0	✓	✓	✓				✓														
214021	P40404R	10.0	✓	✓	✓				✓														
214022	P40405F	10.0	✓	✓	✓				✓														
214023	P40405R	10.0	✓	✓	✓				✓														
214024	P40406F	10.0	✓	✓	✓				✓														
214025	P40406R	10.0	✓	✓	✓				✓														
214026	P40407F	10.0	✓	✓	✓				✓														
214028	P40408F	10.0	✓	✓	✓				✓														
214029	P40408R	10.0	✓	✓	✓				✓														
214030	P40409F	10.0	✓	✓	✓				✓														

KB80438671

TD 3/20/94

KI8043867 2

METHOD: 8080_PPCB:EXB MATRIX: BIOTA LEVEL: LOW BATCH ID: 4GR

CLIENT(s): BLABO2
DATE: 3/20/94
ANALYST: JD
SPIKED BY: JD
WITNESSED BY: CFO

ETR's 40667, 40670
SDG 40667

Case: BIO
SDG: 40667

Lab sample id (ETR)	Client id	Sample weight (10g)	1. Add 40 g granular Na_2SO_4, mix	2. Transfer to soxhlet extractor	3. 2.0 ml Surr (0.20 ppm TCX/DCB) Surr lot# E030494403	4. 1.0 ml Pest Mix (0.5/1.0 ppm) Pest Mix lot# E122993 02	5. 1.0 ml PCB Mix (60 ppm AR1242/1254) PCB Mix lot# E031993 01	6. 0.1 ml PCB Mix (to MSB only) E031993 01	7. Extract 16 hours with CH_2Cl_2: CH_2Cl_2 lot# G48270	8. Elute extract through Na_2SO_4 funnel	9. Conc to 10.0 ml	10. Archive 1.0 ml	11. 1.0 ml for %LIPID	12. 5.0 of 10.0 ml extract through GPC	13. Solvent exchange to hexane	14. Conc to 5.0 ml	15. PCB fraction: ...Transfer 1.0 of 5.0 ml to a vial	16. ...Sulfuric Acid Clean-up ...H_2SO_4 lot# 63052	17. ...3g Silica Gel Cleanup ...SG lot# 92635D	18. ...Conc to 1.0 ml for PCB analysis	19. Pesticide fraction: ...Transfer 1.0 of 5.0 ml to florisil cartrid ...Florisil lot# 041046	20. ...Elute with 8 ml 9:1 Hexane/Acetone ...Hexane lot# 41594 KD7 ...Acetone lot# G40294	21. ...Conc to 1.0 ml for Pesticide analysis
PBLK F3	PBLK F3	10.0	JD	JD	✓				JD	MN	CFO	CRB	ERB	DD	CFO	ERB	RGG/LG	RLG	CRB/LG	CRB/LG	DJP	DJP	DJP
203910	P40410	10.0	✓	✓	✓				✓														
203910MS	P40410MS	10.0	✓	✓	✓	✓	✓		✓														
203910MD	P40410MSD	10.0	✓	✓	✓	✓	✓		✓														
203911	P40411	10.0	✓	✓	✓				✓														
203912	P40412	10.0	✓	✓	✓				✓														
203913	P40413	10.0	✓	✓	✓				✓														
203914	* P40414	10.0	✓	✓	✓				✓														
203915	P40415	10.0	✓	✓	✓				✓														
203916	* P40416	10.0	✓	✓	✓				✓														
203917	* P40417	10.0	✓	✓	✓				✓														
203918	* P40418	10.0	✓	✓	✓				✓														
203919	* P40419	10.0	✓	✓	✓				✓														
214078	MSB2 *	10.0	✓	✓	✓	✓		✓	✓														
203920	* P40420	10.0	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* Samples were Hexane exchanged before GPC. They were boiled back down to 1.0 ml and adjusted to 10.0 ml with $MeCl_2$ before being loaded on GPC. JKZ 4-1-94

DJP 3/23/94

Reg 3/23/94

JD

43

U.S. EPA - CLP

3
BLANKS

Lab Name: AQUATEC_____ Contract: 91082_____

Lab Code: AQUAI_ Case No.: BIO___ SAS No.: _____ SDG No.: 40667_

Preparation Blank Matrix (soil/water): FISH_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury	0.0	U	0.0	U	0.0	U	0.0	U	0.005	B	CV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

FORM III - IN ILM02.1

KB80436380

U.S. EPA - CLP

3
BLANKS

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Preparation Blank Matrix (soil/water): FISH

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury			0.0	U	0.0	U			0.004	U	CV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

P40399FS

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

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

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	0.1311		0.0849		0.07	66.0	N	CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

FORM V (Part 1) - IN ILM02.1

KB80436382

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

P40410S

Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

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

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	0.1162		0.0709		0.06	75.5		CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

P40399FD

b Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

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

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead								NR
Magnesium								NR
Manganese								NR
Mercury	0.0	0.0849		0.0820		3.5		CV
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

P40410D

Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

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

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead								NR
Magnesium								NR
Manganese								NR
Mercury	0.0	0.0709		0.0962		30.3	*	CV
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Solid LCS Source: CLP

Aqueous LCS Source:

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury				0.1	0.1		0.1	0.1	100.0
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

KB80436386

000055

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: AQUATEC_____ Contract: 91082_____

Lab Code: AQUAI_ Case No.: BIO___ SAS No.: _____ SDG No.: 40667_

Solid LCS Source: CLP_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury				0.1	0.1		0.1	0.1	100.0
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Initial Calibration Source: VENTURES/BAK

Continuing Calibration Source: VENTURES/BAK

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	1.8	1.61	89.4	3.0	2.93	97.7	2.91	97.0	CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Initial Calibration Source: VENTURES/BAK

Continuing Calibration Source: VENTURES/BAK

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury				3.0	2.96	98.7	2.98	99.3	CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: AQUATEC_____ Contract: 91082_____

Lab Code: AQUAI_ Case No.: BIO___ SAS No.: _____ SDG No.: 40667_

Initial Calibration Source: VENTURES/BAK

Continuing Calibration Source: VENTURES/BAK

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury				3.0	3.00	100.0			CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

13
PREPARATION LOG

ıb Name: AQUATEC_____ Contract: 91082_____

Lab Code: AQUAI_ Case No.:_BIO___ SAS No.: _____ SDG No.:40667_

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSS1	03/21/94	0.41	50
LCSS2	03/21/94	0.42	50
P40399F	03/21/94	0.51	50
40399FD	03/21/94	0.97	50
40399FS	03/21/94	0.74	50
P40400F	03/21/94	0.54	50
P40400R	03/21/94	0.49	50
P40401F	03/21/94	1.12	50
P40401R	03/21/94	0.49	50
P40402F	03/21/94	0.78	50
P40403F	03/21/94	0.81	50
P40404F	03/21/94	0.83	50
P40404R	03/21/94	0.68	50
P40405F	03/21/94	0.66	50
P40405R	03/21/94	0.63	50
P40406F	03/21/94	0.54	50
P40406R	03/21/94	0.65	50
P40407F	03/21/94	0.49	50
P40408F	03/21/94	0.46	50
P40408R	03/21/94	0.58	50
P40409F	03/21/94	0.82	50
P40410	03/21/94	0.50	50
P40410D	03/21/94	0.51	50
P40410S	03/21/94	0.80	50
P40411	03/21/94	0.52	50
P40412	03/21/94	0.60	50
P40413	03/21/94	0.56	50
P40414	03/21/94	0.52	50
P40415	03/21/94	0.57	50
P40416	03/21/94	0.59	50
P40417	03/21/94	0.46	50
P40418	03/21/94	0.49	50

U.S. EPA - CLP

13

PREPARATION LOG

Name: AQUATEC Contract: 91082

Lab Code: AQUAI Case No.: BIO SAS No.: SDG No.: 40667

Method: CV

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
P40419	03/21/94	0.67	50
P40420	03/21/94	0.51	50
PBS1	03/21/94	0.50	50
PBS2	03/21/94	0.50	50

FORM XIII - IN ILM02.1

KB80436391

PREP 1

Aquatec, Inc. --- PREP BENCHSHEET ---

Prep Method: Cold Vapor Analysis Analyst: DPM Rack ID: 032194

Solid/Water (S/W): S "FISH" Prep Date (mm-dd-yy): 032194

	Lab ID	Digested Mass (g)	Digestate Volume (ml)	Bottle Number	Spike ID
1	ICV				
2	ICB				
3	CRA				
4	CCV 1				
5	CCB 1				
6	PB032194 PBS1	0.5	50	2	
7	LCS032194 FLCS11	0.4100		271	OYSTER TISSUE
8	203910 ✓	0.50		305	
9	203910MS ✓	0.80		20	
10	203910DP ✓	0.51		113	
11	203911 ✓	0.52		14	
12	203912 ✓	0.60		371	
13	203913 ✓	0.56		382	
14	203914 ✓	0.52		41	
15	CCV 2				
16	CCB 2				
17	203915 ✓	0.57	50	233	
18	203916 ✓	0.59		158	
19	203917 ✓	0.46		228	
20	203918 ✓	0.49		78	
21	203919 ✓	0.47		312	
22	203920 ✓	0.51		223	

Matrix Spiker Initials: DPM Witness Initials: AM Date: 3/21/94

0.5 ml of 100 ppb Hg into bottle number 20 for sample 203910MS

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

KB80436087

000072

(PREP1)

Aquatec, Inc. --- PREP BENCHSHEET ---

Prep Method: Cold Vapor Analysis Analyst: CDM Rack ID: 03219

Solid/Water (S/W): S "FISH" Prep Date (mm-dd-yy): 03219

	Lab ID	Digested Mass (g)	Digestate Volume (ml)	Bottle Number	Spike ID
1	214010	0.51	50	35	
2	214010MS	0.74		21	
3	CDM 03219 ~~CCV3~~ 214010DP	0.97		28	
4	CCV 3				
5	CCB3				
6	214012	0.54	50	8	
7	214013	0.49		1	
8	214014	1.12		236	
9	214015	0.49		75	
10	PB 032194A	PB321 0.50		7	
11	LCS 032194A	FLCS321 0.4191		232	
12	214016	0.78		237	
13	214018	0.81		31	
14	214020	0.83		22	
15	CCV 4				
16	CCB4				
17	214021	0.68	50	218	
18	214022	0.66		18	
19	214023	0.63		38	
20	214024	0.54		226	
21	214025	0.65		3	
22	214026	0.49		65	

Matrix Spiker Initials: CDM Witness Initials: RAC Date: 3/21/94

0.5 ml of 100 ppb Hg into bottle number 21 for sample 214010MS

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

KB80436088

PR081

Aquatec, Inc. --- PREP BENCHSHEET ---

Prep Method: Cold Vapor Analysis Analyst: CDM Rack ID: 0321

Solid/Water (S/W): S "FISH" Prep Date (mm-dd-yy): 03219

	Lab ID	Digested Mass (g)	Digestate Volume (ml)	Bottle Number	Spike ID
1	214028	0.46	50	65	
2	214029	0.58		89	
3	214030	0.82		63	
4	CCV 5				
5	CCB 5				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

Matrix Spiker Initials: _____ Witness Initials: _____ Date: _____

_____ ml of _____ ppb Hg into bottle number _____ for sample _____

KB80436089

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

Copy Original w/ETR 40068 ~~40202~~ SDG

CHAIN OF CUSTODY RECORD

KB80436283

000003

page 1/2

PROJ. NO.: 6455112
PROJECT NAME: Allied OU / Portage Creek Biota
SAMPLERS: (Signature) [signature]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish / Number of Containers	PCBs	% lipids	PCDDs/PCDFs	Total mercury			REMARKS
P	40399	11/9/93	17:00		X	Portage Creek Carp	1							Hold for analysis (freeze) to be noted at a later date
P	40400													
P	40401													
P	40402													
P	40403													Overnight shipment via Federal Express to Aquatec Labs
P	40404													
P	40405													
P	40406													
P	40407													
P	40408													
P	40409													
P	40410	11/9/93	17:00		X	Portage Creek W. Suckers								
P	40411													
P	40412													
P	40413													

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
			Pat Poundstone	11/10/93	1000	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

KB80436284

000004

page 2/2

PROJ. NO.: 645512
PROJECT NAME: Allied OU / Portage Creek Biota
SAMPLERS: (Signature)

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish	Number of Containers	PCBs	% lipids	PCDDs/PCDFs	Total Mercury		REMARKS
P	40414	11/9/93	17:00		X	Portage Creek W. Sucker	/							Hold for analysis (freeze) to be noted at a later date
P	40415													
P	40416													
P	40417													
P	40418													overnight shipment via Federal Express to Agistar Labs
P	40419													
P	40420													

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
			Pat Poundstone	11/10/93	1000	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

Copy original w/ETR: 40667 SDG: 40208

CHAIN OF CUSTODY RECORD

KB80436285

000005

page 2/2

PROJ. NO.: 6455712
PROJECT NAME: Allied OU / Portage Creek Biota
SAMPLERS: (Signature) [signature]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole fish	Number of Containers	PCBs	% lipids	PCDDs/PCDFs	Total Mercury		REMARKS
P	40414	11/9/93	17:00		X	Portage Creek W. Sucker	/							Hold for analysis (freeze) to be noted at a later date
P	40415	/	/		/	/	/							
P	40416	/	/		/	/	/							
P	40417	/	/		/	/	/							
P	40418	/	/		/	/	/							overnight shipment via Federal Express to Aquatic Labs
P	40419	/	/		/	/	/							
P	40420	/	/		/	/	/							

See Revised C-OFC rec'd 2/6/94 JLB

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
			Pat Poundstone	11/10/93	1000	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

KB80436286

000006

PROJ. NO.: 645512
PROJECT NAME: Allied OU / Portage Creek Biota
SAMPLERS: (Signature) [signature]

Page 2/2

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish	Number of Containers	PCBs/Pesticides % lipids	PCDDs/PCDFs	Total Mercury			REMARKS
P	40414	11/9/93	17:00		X	Portage Creek W. Sider	1		W	W		W		Hold for analysis (freeze) to be noted at a
P	40415								W	W		W		later date
P	40416								W	W		W		
P	40417								W	W		W		
P	40418								W	W		W		overnight shipment via Federal Express
P	40419								W	W		W		to Aquatec Labs
P	40420								W	W		W		
														Additions 1/24/94 KDS

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
						Revised C-of-C. rec'd 2/4/94

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

KB80436287

000007

page 1/2

PROJ. NO.: 6455112
PROJECT NAME: Allied OU / Portage Creek Biota
SAMPLERS: (Signature) [signature]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish	Number of Containers	PCBs	% Lipids	PCDDs/PCDFs	Total mercury		REMARKS
Xp	40399	11/9/93	17:00		X	Portage Creek Carp	1							Hold for analysis (freeze) to be noted at a later date
Xp	40400													
Xp	40401													
Xp	40402													
Xp	40403													Overnight shipment via Federal Express to Aquatec Labs
Xp	40404													
Xp	40405													
Xp	40406													
Xp	40407													
Xp	40408													
Xp	40409													
P	40410	11/9/93	17:00		X	Portage Creek W. Suckers								
P	40411													
P	40412													
P	40413													

See Revised copy rec'd 2/6/94 JLB

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature) [signature]	DATE 11/10/93	TIME 1000	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

KB80436288

000008

page 1/2

PROJ. NO.: 6455112
PROJECT NAME: Allied OU / Portage Creek Rista
SAMPLERS: (Signature) [signature]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish	Number of Containers	PCBs / Pesticides	8010 Inuds	PCDDs/PCDFs	Total Metals	REMARKS
P	40399	11/9/93	17:00		X	Portage Creek Corp	1	F	FR		F		Hold for analysis (freeze) to be noted at a
P	40400							FR	FR		FR		~~later date~~ pilot study fish
P	40401							FR	FR		FR		pilot study fish
P	40402							F	FR		F		
P	40403							F	FR		F		Overnight shipment via Federal Express
P	40404							FR	FR		FR		to Aquatec Labs pilot study fish
P	40405							FR	FR		FR		pilot study fish
P	40406							FR	FR		FR		pilot study fish Additions 1/24/94 KDS
P	40407							F	FR		F		
P	40408							FR	FR		FR		pilot study fish
P	40409							F	FR		F		
P	40410	11/9/93	17:00		X	Portage Creek W. Suckers		W	W		W		
P	40411							W	W		W		
P	40412							W	W		W		
P	40413							W	W		W		

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
						Rec'd 2/6/94. JB

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

KB80436289

000009

page 1/2

PROJ. NO.: 6455112
PROJECT NAME: Allied OU / Portage Creek Rista
SAMPLERS: (Signature) [signature]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish	Number of Containers	PCBs / Pesticides	90 Lipids	PCDDs / PCDFs	Total Mercury		REMARKS
P	40399	11/9/93	17:00		X	Portage Creek Carp	1		F	FR		F		Hold for analysis (freeze) to be noted at a
P	40400								FR	FR		FR		~~later date~~ pilot study fish
P	40401								FR	FR		FR		pilot study fish
P	40402								F	FR		F		
P	40403								F	FR		F		Overnight shipment via Federal Express
P	40404								FR	FR		FR		to Aquatec Labs pilot study fish
P	40405								FR	FR		FR		pilot study fish
P	40406								FR	FR		FR		pilot study fish Additions 1/24/94 KDS
P	40407								F	FR		F		
P	40408								FR	FR		FR		pilot study fish
P	40409								F	FR		F		
P	40410	11/9/93	17:00		X	Portage Creek W. Sucker			W	W		W		
P	40411								W	W		W		
P	40412								W	W		W		
P	40413								W	W		W		

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
						Revised C-of-C. Rec 1/6/94.

7/12/93
1393786HCOR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

JB

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

KB80436290

000010

page 2/2

PROJ. NO.: 645512
PROJECT NAME: Allied OU / Portage Creek Biota
SAMPLERS: (Signature) [signature]

	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Whole Fish	Number of Containers	PCBs/Pesticides	% Lipids	PCDDs/PCDFs	Total Mercury		REMARKS
P	40414	11/9/93	17:00		X	Portage Creek W. Sulker	1	W	W		W			Hold for analysis (freeze) to be noted at a
P	40415							W	W		W			later date
P	40416							W	W		W			
P	40417							W	W		W			
P	40418							W	W		W			overnight shipment via Federal Express
P	40419							W	W		W			to Aquatica Labs
P	40420							W	W		W			
														Additions 1/24/94 KDS

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
[signature]	11/9/93	17:00					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)

Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:
						Revised C-O-C. Rec'd 2/6/94 JB

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

KB80438685

002343

Comp - Original w/ETR 40663 SDG 40202

FEDERAL EXPRESS

[redacted]

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 6742727703

6742727703

RECIPIENT'S COPY

1 [redacted] Date 11/4/93

From (Your Name) Please Print: Karl Strause

Your Phone Number (Very Important): (616) 3853388

Company: Blanchard & Brock

Department/Floor No.:

Street Address: 3945 Business Oak Dr.

City: Kalamazoo State: NY ZIP Required: 49007-8714

2 To (Recipient's Name) Please Print: Polly Malik

Recipient's Phone Number (Very Important): (802) 6551203

Company: Aquatec Labs

Department/Floor No.:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 55 South Park Dr.

City: Colchester State: Vt. ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 645 51 12

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☒ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card 5 ☐ Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
11 ☒ OTHER PACKAGING
16 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*
13 ☐ FEDEX BOX
14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon, No Saturday delivery)
51 ☐ OTHER PACKAGING
56 ☐ FEDEX LETTER*
52 ☐ FEDEX PAK*
53 ☐ FEDEX BOX
54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day)
30 ☐ ECONOMY

Government Overnight (Restricted for authorized users only)
46 ☐ GOV'T LETTER
41 ☐ GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT** 80 ☐ TWO-DAY FREIGHT**

5 DELIVERY AND SPECIAL HANDLING (Check services required)

HOLD FOR PICK-UP (Fill in Box H) 1 ☐ WEEKDAY or 31 ☐ SATURDAY

DELIVER 2 ☒ WEEKDAY or 3 ☐ SATURDAY (Extra charge) (Not available to all locations)

4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 ..... x ..... kg ☐
7 ☐ OTHER SPECIAL SERVICE
9 ☐ SATURDAY PICK-UP (Extra charge)
☐

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	76	
1	12	
Total 2	Total 17.9	Total

DIM SHIPMENT (Chargeable Weight) ☐ lbs

Received At: 1 ☐ Regular Stop 31 ☐ Drop Box

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip
Pat Poundstone
Received By: x [signature]
Date/Time Received: 11/10/93 FedEx Employee Number: 21000

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 6/92
PART #137205 GREE
FORMAT #136

136

© 1991-92 FEDEX

Cam
Original
WFM, 40662
SAS 40202

KB80438686

0023411

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER 6742727703

6742727703

RECIPIENT'S COPY

1 Date 11/9/93

From (Your Name) Please Print: Karl Strouse
Your Phone Number (Very Important): (616) 3653358
Company: Rikal + Back
Department/Floor No.
Street Address: 3940 Business Park Dr.
City: Kalamazoo State: NY ZIP Required: 49008-8719

2 To (Recipient's Name) Please Print: Polly Malik
Recipient's Phone Number (Very Important): (802) 655 1203
Company: Aquatec Labs
Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 55 South Park Dr.
City: Colchester State: Vt. ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 645 51 12

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☒ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card
5 ☐ Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 ☒ OTHER PACKAGING
16 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*
13 ☐ FEDEX BOX
14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 ☐ OTHER PACKAGING
56 ☐ FEDEX LETTER*
52 ☐ FEDEX PAK*
53 ☐ FEDEX BOX
54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 ☐ ECONOMY

Government Overnight (Performed by authorized users only)
46 ☐ GOVT LETTER
41 ☐ GOVT PACKAGE

Freight Service (For packages over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT**
80 ☐ TWO-DAY FREIGHT**

5 DELIVERY AND SPECIAL HANDLING (Check services required)

HOLD FOR PICK-UP (Fill in Box H) { 1 ☐ WEEKDAY or 31 ☐ SATURDAY
DELIVER { 2 ☒ WEEKDAY or 3 ☐ SATURDAY (Extra charge) (Not available to all locations)
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 ..... X ..... kg. III
7 ☐ OTHER SPECIAL SERVICE
9 ☐ SATURDAY PICK-UP (Extra charge)
☐

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	76	
1	13	
Total 2	Total 17	Total

DIM SHIPMENT (Chargeable Weight) ☐ lbs.

Received At
11 ☐ Regular Stop 31 ☐ Drop Box

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip
Received By: X Maureen
Date/Time Received 11/10 9:32 FedEx Employee Number 11000

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 8/92
PART #137205 GBFE
FORMAT #136
136
©1991 92 FEDEX

KB80438687

002345

CC/17 Original 1-EPC 40663 SIG 40202

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 6742727703

6742727703

RECIPIENT'S COPY

1 Date 11/4/93

From (Your Name) Please Print: Karl Strause

Your Phone Number (Very Important): (616) 3653356

Company: Blodgett Bock

Department/Floor No.:

Street Address: 3940 Business Park Dr.

City: Kalamazoo State: MI ZIP Required: 49001-8719

2 To (Recipient's Name) Please Print: Polly Matik

Recipient's Phone Number (Very Important): (802) 655 1403

Company: Aquatec Labs

Department/Floor No.:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 55 South Park Dr.

City: Colchester State: Vt. ZIP Required: 05446

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 645 51 12

H IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address

City: State: ZIP Required:

3 PAYMENT 1 [ ] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [X] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)
- 11 [X] OTHER PACKAGING
- 16 [ ] FEDEX LETTER*
- 12 [ ] FEDEX PAK*
- 13 [ ] FEDEX BOX
- 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon; No Saturday delivery)
- 51 [ ] OTHER PACKAGING
- 56 [ ] FEDEX LETTER*
- 52 [ ] FEDEX PAK*
- 53 [ ] FEDEX BOX
- 54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day ?)
- 30 [ ] ECONOMY

Government Overnight (Permitted for authorized users only)
- 46 [ ] GOVT LETTER
- 41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
- 70 [ ] OVERNIGHT FREIGHT**
- 80 [ ] TWO-DAY FREIGHT**

5 DELIVERY AND SPECIAL HANDLING (Check services required)
- HOLD FOR PICK-UP (Fill in Box H) { 1 [ ] WEEKDAY or 31 [ ] SATURDAY
- DELIVER { 2 [X] WEEKDAY or 3 [ ] SATURDAY (Extra charge) (Not available to all locations)
- 4 [ ] DANGEROUS GOODS (Extra charge)
- 5 [ ]
- 6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required. Dry Ice, 9, UN 1845 ..... X ..... kg. ☒
- 7 [ ] OTHER SPECIAL SERVICE
- 9 [ ] SATURDAY PICK-UP (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	76	
1	12	
Total 2	Total 17 11	Total

DIM SHIPMENT (Chargeable Weight) [ ] lbs.

Emp. No. Date

[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address

City State Zip

Received By: Maureen Lundstrom

Date/Time Received: 11/10 9 3 2 11 00 FedEx Employee Number

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

REVISION DATE 6/92 PART #137205 GBFE FORMAT #136

136

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Pat Poundstone Log-in Date: 11/10/93

Received By (Signature): Pat Poundstone

Case Number: B10

Sample Delivery Group No: ~~40670~~ J6315 40667

ETR Number: 40670

REMARKS:

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos.: No #s
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 6742727703
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No* see *
10. Date Received at Lab: 11/10/93
11. Time Received: 1000

Sample Transfer

Fraction: all

Area #: freezer

By: PKP

On: 11/10/93

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
P40420	no tag	203920	Sample was received intact inside a cooler packed with ice. A chain-of-custody record was included with the sample. Cooler was intact as were custody seals on outside of cooler. PKP 11/10/93

*Client sample ID written on sample wrap starts with six characters which correspond to the client sample ID as it appears on the chain-of-custody. Client sample ID written on sample wrap however, has six additional characters. Specifically, ID written on sample wrap ends with "-12-WS". PKP 11/10/93

Note: Revised c-of-c rec'd 2/6/94 [illegible]

* Contact Project Director.

Reviewed by: Logbook No:

Date: Logbook Page No:

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Maureen R. Henry Log-in Date: 11/10/93

Received By (Signature):

Case Number: BIO JCB#4

Sample Delivery Group No: 406687

ETR Number: 40665

REMARKS:

1. Custody Seal(s) ~~Present/Absent*~~ ~~Intact/Broken~~
2. Custody Seal Nos.: NO#'S
3. Chain-of-Custody Records ~~Present/Absent*~~
4. Sample Information Sheets ~~Present/Absent*~~
5. Airbill ~~Airbill/Sticker Present/Absent*~~
6. Airbill No.: 6742227703
7. Sample Tags ~~Present/Absent*~~
   Sample Tag Numbers ~~Listed/Not Listed on Chain-of-Custody~~
8. Sample Condition: ~~Intact/Broken*/Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? See Attchd ~~Yes/No*~~
10. Date Received at Lab: 11.10.93
11. Time Received: 1000

JCB 3/4/94

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
K40427	N/A	203934	All recvd
K40428	"	203935	intact in
K40429	"	203936	coolers w/ice
K40430	"	203937	Coolers
K40431	"	203938	were intact
P40399	"	203939	as were
P40400	"	203940	Custody
P40401	"	203941	Seals on
P40402	"	203942	outside
P40403	"	203943	of coolers.
P40404	"	203944	
P40405	"	203945	
P40406	"	203946	
P40407	"	203947	
P40408	"	203948	
P40409	"	203949	
	"		

Sample Transfer

Fraction: All

Area #: Lab. Fridge

By: MLH

On: 11/10/93

MLH 11.10.93

* Contact Project Director.

Note: Revised C-of-C rec'd 2/6/94. JCB

Reviewed by: Logbook No:

Date: Logbook Page No:

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

ETR: 40668
Case: BIO
SDG: 40668 7

Page 1 of 1

Discrepancies between sample bottles/labels and C-of-C

(1) Only sample IA's are listed on Sampler.
(2) Only first six characters of sample ID's listed on C-of-C.
(3) Sample truncation: First six characters used, all other characters eliminated.

MRH
11.10.93

KB80438690

002345

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 2

Received By (Print Name): Pat Poundstone Log-in Date: 11/10/93

Received By (Signature): Pat Poundstone

Case Number: BIO

Sample Delivery Group No: ~~[illegible]~~ 40667

ETR Number: 40667

REMARKS:

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos.: No #s
3. Chain-of-Custody Records Present/Absent*
4. Sample Information Sheets Present/Absent*
5. Airbill Airbill/Sticker Present/Absent*
6. Airbill No.: 6742727703
7. Sample Tags Present/Absent*
   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, sample information sheets, and sample tags agree? Yes/No*
10. Date Received at Lab: 11/10/93
11. Time Received: 1000

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
P40410	no tag	203910	Samples were
P40411		203911	received intact
P40412		203912	inside coolers
P40413		203913	packed with ice.
P40414		203914	A chain-of-custody
P40415		203915	record was included
P40416		203916	with the samples.
P40417		203917	Coolers were
P40418		203918	intact as were
P40419		203919	custody seals
			on outside of
			cooler.
			PKP 11/10/93

* 1.) Sample labels consist of masking tape securing the aluminum foil which is wrapped around the sample. Client sample IDs are written on those labels. For samples P40412 through P40416, client IDs as they appear on C-o-C are written on one side of sample. On the other side of those samples, client IDs are written starting with a "K" instead of a "P".

(continued on attached Discrepancy Form)

Sample Transfer

Fraction: all

Area #: freezer ~~[illegible]~~ PKP 11/10/93

By: PKP

On: 11/10/93 ~~1000~~ PKP 11/10/93

* Contact Project Director.

Reviewed by: Logbook No:

Date: Logbook Page No:

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

Discrepancies between sample bottles/labels and C-of-C

2.) All sample labels have client IDs starting with six characters which correspond respectively to client IDs as they appear on C-o-C. However, sample labels have six additional characters at the end of all client IDs. Specifically all client IDs on labels end with "-12-WS".

PKP
11/10/93

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

Number: 406667

ject Number: 91082

Case No.: BIO

SDG Number: 406667

KB80436291

000018A

: 203910-919 Placed in freezer 11/10/93. JLBanks

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
03910-914	GRM	3-16-1600	Thaw for Homo. Work.	3-17- 12:45.
3916-919	↓	↓	Homogenized on 3-17-94	↓
203915(?)	GRM	3-18-94 - 1400	Thaw for Tissumization	3-18- 1500

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

Number: 40670

ject Number: 91082

Case No.: BIO

SDG Number: 40667

KB80436292

0000124

o: 203920 Placed in freezer 11/10/93. JLBanks

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
203920	GRM	3-16-94 - 1600	Homogenization -	
			Homogenization 11:40 on 3-17	12:45 - 3-17 GRM
			To	

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

Number: 406668

ect Number: 91082

Case No.: BIO

SDG Number: 406667

KB80436293

00600 12C

203939-49 Placed in freezer 11/10/93. JLBanks

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
203942	GRM	3-16-94 - 1600	Thaw for Homogenization	3-17-94 - 16:30
03945				
03948				
03940				
03949				
03939	GRM	3-17-94 1600		3-18-94
03941				12:45
03943				12:45
203944				14:30
203946				
203947				

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 42799

Project Number: 91082

Case No.: B10

SDG Number: 42799

KB80436294

000012

Memo: 213434-493 Placed in freezer upon arrival @ Aquatec. J. L. Barks

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
	CHM	032194 0800	Hg	032194 1100

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

R Number: 40667

oject Number: 91082

Case No.: BIO

SDG Number: 40667

KB80436295

000011

no: 203910-19 Placed in freezer upon arrival at Aquatec. JCB

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
	CMM	032194 0800	Hg	032194 1100

F-0169A

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

TR Number: 406070

roject Number: 91082

Case No.: 610

SDG Number: 406007

KB80436296

000013

emo: 203920 frozen upon arrival. JLB

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
	CPM	032194 0800	Hg	032194 1100

Inchcape Testing Services
Aquatec Laboratories

55 South Park Drive
Colchester, VT 05446
Tel. 802-655-1203
Fax. 802-655-1248

March 17, 1994

Ms. Laurie Johnston
Blasland & Bouck Engineers
6723 Towpath Road, Box 66
Syracuse, NY 13214

Re: Analytical Results-Kalamazoo Site
Aquatec Project No. 91082
Case No. PCB; SDG No. 41814

Dear Ms. Johnston:

Enclosed are the analytical results for samples received intact by Aquatec on January 15, 1994. The analyses for these samples were performed in accordance with the methodologies specified in the Quality Assurance Project Plan. Laboratory numbers and quality control samples were assigned as follows:

Client Sample ID	Aquatec Lab No.	Sample Matrix
Samples Received on January 15, 1994, 1993 ETR No. 41814		
Rep 1	208651	Liquid
Rep 2	208652	Liquid
Rep 3	208653	Liquid
Rep 4	208654	Liquid
Rep 5	208655	Liquid
Rep 6	208656	Liquid
Rep 7	208657	Liquid
Rep 8	208658	Liquid
Rep 9	208659	Liquid
Rep 10	208660	Liquid
Rep 11	208661	Liquid
Rep 12	208662	Liquid
Rep 13	208663	Liquid
Rep 14	208664	Liquid

Please note that samples labeled Rep4, Rep12, and Rep13 required sulfur clean-up prior to analysis. The associated method blank also received sulfur clean-up and is labeled as PBLK1JI2.

Several samples in this sample delivery group had recoveries for the surrogate compound tetrachloro-meta-xylene below the advisory quality control limits.

Samples in this delivery group were reported as the best match to combinations of the seven Aroclor standards. In general, the standard Aroclors are sufficiently unique to provide precise identifications and quantitations of complex mixtures with minimal weathering. For highly altered samples, certain subtle identification distinctions, such as the difference between 1016 and 1242 become less precise. In all cases, quantitation remains highly reliable.

Sincerely,

Karen R. Chirgwin

Karen R. Chirgwin
Laboratory Operations Director

KRC/jg

Enclosure

91082B19JAN94

KALAMAZOO SITE SPECIFIC
METHOD DETECTION LIMIT STUDY
METHOD 8080

GC ID: HP-2087
GC Column: RTX-5 & RTX-35
Date: 02/24/94

Client: BLABO2
Case: PCB
SDG: 41814

COMPOUND	CONCENTRATIONS (ug/L)						
	REP 1	REP 2	REP 3	REP 4	REP 5	REP 6	REP 7
AR1242	0.0573	0.0624	0.0593	0.0547	0.0453	0.0694	0.0597
	REP 8	REP 9	REP 10	REP 11	REP 12	REP 13	REP 14
AR1248	0.0437	0.0430	0.0462	0.0478	0.0439	0.0398	0.0490

Compound	Mean (ug/L)	Std. Dev. (ug/L)	TRUE (ug/L)	Rec. (%)	Perc RSD (%)	MDL (ug/L)
AR1242	0.058	0.0074	0.050	116.6	12.6	0.023
AR1248	0.045	0.0031	0.050	89.5	7.00	0.0098

MDL = 3.143 x STD DEV.

AROCLOR SURROGATE RECOVERY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
SAS No.:

Contract: 91082
Case No.: PCB
SDG No.: 41814

	EPA SAMPLE NO.	S1 (TCX)	#	S2 (DEC)	#
1	PBLKIJ	63		93	
2	PBLKIJI2	64		96	
3	Rep 1	58	*	91	
4	Rep 2	57	*	91	
5	Rep 3	59	*	94	
6	Rep 4	47	*	87	
7	Rep 5	56	*	89	
8	Rep 6	63		102	
9	Rep 7	62		97	
10	Rep 8	61		94	
11	Rep 9	54	*	90	
12	Rep 10	60		98	
13	Rep 11	56	*	90	
14	Rep 12	61		92	
15	Rep 13	60		86	
16	Rep 14	60		91	
17					
18					
19					
20					

			PROJECT SPECIFIC QC LIMITS
S1 (TCX)	=	Tetrachloro-meta-Xylene	(60-150)
S2 (DEC)	=	Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates calculated using diluted analysis.
A - Extracted surrogates diluted out, surrogates added to diluted extract as retention time markers.

page 1 of 1

KB0006964

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202123(PBLK13)
Matrix:(soil/water) Water
Date Extracted: 01/19/94
Date Analyzed(1): 02/25/94
Time Analyzed(1): 1726
GC ID(1): HP2087
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 41814
Level(L/M): Low
Date Analyzed(2): 02/25/94
Time Analyzed(2): 1726
GC ID(2): HP2087
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	208651	Rep 1	02/25/94	02/25/94
2	208652	Rep 2	02/25/94	02/25/94
3	208653	Rep 3	02/25/94	02/25/94
4	208655	Rep 5	02/25/94	02/25/94
5	208656	Rep 6	02/25/94	02/25/94
6	208657	Rep 7	02/26/94	02/26/94
7	208658	Rep 8	02/26/94	02/26/94
8	208659	Rep 9	02/26/94	02/26/94
9	208660	Rep 10	02/26/94	02/26/94
10	208661	Rep 11	02/26/94	02/26/94
11	208664	Rep 14	02/26/94	02/26/94
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1J

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 202123

Date Received:

Date Extracted: 01/19/94

Date Analyzed: 02/25/94

Sulfur Clean-up: N (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

FORM 4
AROCLOR METHOD BLANK SUMMARY

Lab Name: Aquatec, Inc.
Lab Code: AQUAI
Lab Sample ID: 202123I2 (PBLKJI2)
Matrix:(soil/water) Water
Date Extracted: 01/19/94
Date Analyzed(1): 02/25/94
Time Analyzed(1): 1802
GC ID(1): HP2087
GC Column(1): RTx-35

Contract: 91082
Case: PCB
SDG No: 41814
Level(L/M): Low
Date Analyzed(2): 02/25/94
Time Analyzed(2): 1802
GC ID(2): HP2087
GC Column(2): RTx-5

	LAB ID	CLIENT ID	DATE ANALYZED 1	DATE ANALYZED 2
1	208654	Rep 4	02/25/94	02/25/94
2	208662	Rep 12	02/26/94	02/26/94
3	208663	Rep 13	02/26/94	02/26/99
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

KB0006966

000010

FORM 1
AROCLOR ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK1JI2

Lab Name: Aquatec, Inc. Lab Code: AQUAI

Contract: 91082 Case: PCB SDG: 41814

Phase Type: Water

Phase Volume: 1000 (mL)

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

Lab Sample ID: 20212312

Date Received:

Date Extracted: 01/19/94

Date Analyzed: 02/25/94

Sulfur Clean-up: Y (Y/N)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
12674-11-2	Aroclor-1016	0.050	U
11104-28-2	Aroclor-1221	0.050	U
11141-16-5	Aroclor-1232	0.050	U
53469-21-9	Aroclor-1242	0.050	U
12672-29-6	Aroclor-1248	0.050	U
11097-69-1	Aroclor-1254	0.050	U
11096-82-5	Aroclor-1260	0.050	U

CALIBRATION SUMMARY
BACK CALCULATIONS

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTX-35
Col. 2: RTX-5

Calib date(s): 24-FEB-1994 16:35 to 24-FEB-1994 12:56

File: 03, 04 24FEB941442

Standards	50 ppb	100 ppb	200 ppb	400 ppb	800 ppb	%RSD
Aroclor 1016	47.5	100	203	402	799	
Cal Fact	0.950	1.000	1.015	1.005	0.999	2.5
% Diff	5	0	-2	-1	0	
Aroclor 1221	54.6	103	202	406	795	
Cal Fact	1.092	1.030	1.010	1.015	0.994	3.7
% Diff	-9	-3	-1	-2	1	
Aroclor 1232	50.7	101	184	394	810	
Cal Fact	1.014	1.010	0.920	0.985	1.013	4.0
% Diff	-1	-1	8	2	-1	
Aroclor 1242	49.5	97.7	198	399	809	
Cal Fact	0.990	0.977	0.990	0.998	1.011	1.3
% Diff	1	2	1	0	-1	
Aroclor 1248	49.5	97.9	203	400	800	
Cal Fact	0.990	0.979	1.015	1.000	1.000	1.3
% Diff	1	2	-2	0	0	
Aroclor 1254	51.1	100	196	392	810	
Cal Fact	1.022	1.000	0.980	0.980	1.013	1.9
% Diff	-2	0	2	2	-1	
Aroclor 1260	49.3	101	199	405	797	
Cal Fact	0.986	1.010	0.995	1.013	0.996	1.1
% Diff	1	-1	1	-1	0	

Cal Fact = Calc. Conc. / Nominal Conc.

%RSD = STD Dev / Mean of Cal Fact

% Diff = (Nominal Amt-Calc Amt) / Nominal Amt*100

KB0007124

000166

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib. date/time: 02/24/94 1635 to 02/25/94 1256

Check Standard File: 03,04 25FEB941425,02 — Date: 02/25/94 Time: 1503

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	184	8.0

Check Standard File: 03,04 25FEB941425,03 — Date: 02/25/94 Time: 1539

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1016	200	180	10.0

Check Standard File: 03,04 25FEB941425,15 — Date: 02/25/94 Time: 2249

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	180	10.0

Check Standard File: 03,04 25FEB941425,16 — Date: 02/25/94 Time: 2325

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1242	200	185	7.5

Check Standard File: 03,04 25FEB941425,26 — Date: 02/26/94 Time: 0525

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1248	200	181	9.5

AROCLOR CHECK STANDARD SUMMARY

Lab ID: AQUATEC, INC.
GC: HP 2087
Col. 1: RTx-35
Col. 2: RTx-5

Initial Calib. date/time: 02/24/94 1635 to 02/25/94 1256

Check Standard File: 03,04 25FEB941425,27
Date: 02/26/94
Time: 0601

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.
AR 1254	200	169	15.5

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

Check Standard File: _____
Date: _____
Time: _____

Compound	Nominal Amount (ppb)	Calc. Amount (ppb)	% Diff.

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

MDL Study

PROJ. NO.: 645.24
PROJECT NAME: Kalamazoo River - MDL STUDY
SAMPLERS: (Signature) Todd P. Menell

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's		Temperature				REMARKS
AMDL-2	1/13/94	1700		X	AMDL-2	12	X						Contact Polly for details on study
—	1/14/94	—		X	Temp. Blank	1			X				

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Todd P. Menell	1/14/94	1300					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature) Maureen Hem	DATE 1/15/94	TIME 1145	Remarks:	

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

KB0006958

BLASLAND & BOUCK ENGINEERS, P.C.
6723 Towpath Road, Box 66
Syracuse, New York 13214-0066
TEL: 315-446-9120
FAX: 315-449-0017

CHAIN OF CUSTODY RECORD

MDL Study

PROJ. NO.: 645.24
PROJECT NAME: Kalamazoo River - MDL STUDY
SAMPLERS: (Signature) Todd P. Merrell

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	Number of Containers	PCB's			Temperature			REMARKS
AMDL-2	1/13/94	1700		x	AMDL-2	12	X						Contact Polly for details on Study
—	1/14/94	—		X	Temp Blank	1				X			
													* Two coolers, 24 bottles total

Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Todd P. Merrell	1/14/94	1300					
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	Relinquished by: (Signature)	DATE	TIME	Relinquished by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received for Laboratory by: (Signature)	DATE	TIME	Remarks:	
			[illegible]	1/15/94	1145		

7/12/93
1393786HCDR

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

KB0006959

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 0460071684

RECIPIENT'S COPY

3201N 0460071684

Date 1/24/94

Your Phone Number (Very Important) 315 446 1120

Recipient's Phone Number (Very Important) 1 802 655 1203

1 From (Your Name) Please Print

Department/Floor No.

2 To (Recipient's Name) Please Print Malik

Department/Floor No.

Company BLASLAND & GOUCK ENG P.C.

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes) 55 5001 W Park Drive

State

ZIP Required

Street Address 6723 TOWPATH RD

City SYRACUSE

State

ZIP Required 13214

City

IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here

Street Address

State

ZIP Required

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

3 PAYMENT

Bill Credit Card

Emp. No.

Date

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

4 SERVICES (Check only one box)

5 DELIVERY AND SPECIAL HANDLING (Check services required)

6

Priority Overnight

Standard Overnight

Weekday Service

HOLD AT FEDEX LOCATION WEEKDAY

DELIVER WEEKDAY

Saturday Service

HOLD AT FEDEX LOCATION SATURDAY

DELIVER SATURDAY

Economy Two-Day

Government Overnight

Freight Service

OVERNIGHT FREIGHT

TWO-DAY FREIGHT

DESCRIPTION

HOLIDAY DELIVERY

Total

Total

Received By

Date/Time Received

Fedex Employee Number

7 Release Signature

REVISION DATE 12/92
PART #157204 NCREO 6/93
FORMAT #158

158

KB0007586

AQUATEC SAMPLE LOG-IN SHEET

Lab Name: Aquatec, Inc. Page 1 of 1

Received By (Print Name): Maureen R. Henry Log-in Date: 1/17/94

Received By (Signature): Maureen R. Henry

Case Number: PCB

Sample Delivery Group No: 41814

ETR Number: 41814

REMARKS:

1. Custody Seal(s) ~~Present/Absent*~~ ~~Intact/Broken~~
2. Custody Seal Nos.: No #'s
3. Chain-of-Custody Records ~~Present/Absent*~~
4. Sample Information Sheets ~~Present/Absent*~~ Fires
5. Airbill ~~Airbill/Sticker~~ ~~Present/Absent*~~
6. Airbill No.: 0460071684
7. Sample Tags ~~Present/Absent*~~
   Sample Tag Numbers ~~Listed/Not Listed on Chain-of-Custody~~
8. Sample Condition: ~~Intact/Broken*/Leaking~~
9. Does information on custody records, sample information sheets, and sample tags agree? ~~Yes/No*~~ See Attached
10. Date Received at Lab: 1-15-94
11. Time Received: 1145
12. Cooler Temperature 2°C, 0°C

CLIENT SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
Rep 1	N/A	208651	All recvd
Rep 2	"	208652	intact in
Rep 3	"	208653	coolers w/ice.
Rep 4	"	208654	Coolers were
Rep 5	"	208655	intact as
Rep 6	"	208656	were custody
Rep 7	"	208657	Seals on
Rep 8	"	208658	outsides of
Rep 9	"	208659	coolers.
Rep 10	"	208660	Custody Seals
Rep 11	"	208661	present and
Rep 12	"	208662	intact on
Rep 13	"	208663	all containers.
Rep 14	"	208664	Custody Seals
AMDL-2	"	208665	present and
			intact on
			all containers

Sample Transfer

Fraction: All

Area #: Ld. 4 Fridge

By: MRA

On: 1/15/94

MRA 1/18/94

* Contact Project Director.

Reviewed by: [signature]

Date: 1/19/94

Logbook No:

Logbook Page No:

KB0007587

000627

aquatec INC.
An Inchcape Company
55 SOUTH PARK DRIVE, COLCHESTER, VT 05446

ETR: 4/8/14

Discrepancies between sample bottles/labels and C-of-C

1) No time on one bottle

MRN 1.18.94

KB0007588

00062

F-01691

INTERNAL CHAIN OF CUSTODY
AQUATEC, INC.

ETR Number: 41814

Case No.: PCB

Project Number: 91092

SDG Number: 41814

Memo: Sample # ~~208622~~ 208651-65 placed in fridge on 1/15/94 @ 1200 by MRF. 1-18-94

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
208651,52	JNW	1-19-94 9:30 Am	Extracted	1-19 11:30
53,54,55,56,57,58	JNW	1-19-94 930 Am	extracted	1-19 11:30
59,60,61,62,63,64	JNW	1-19-94 930 Am	Extracted	1-19 11:30

KB0006960

Sample Management | Aquatec, Inc.

ETR: 41814 | Date: 1/21/94

Laboratory ID.	Fraction/Analysis
PBLKIJ	
208651	
208652	
208653	
208654	
208655	
208656	
208657	
208658	
208659	
208660	
208661	
208662	
208663	
208664	

Relinquished by _____ by _____ Time: _____

Transported by _____

Received by _____ by _____ Time: _____

KB0006961

Laboratory Transfer Record

Sample Management | Aquatec, Inc.

ETR: 4/8/4	Date: 1/18/94

Laboratory I.D.	Fraction/Analysis
208651-~~65~~ -64	1-1l per - Extbls.
208655	10-1l. - Extbls

Relinquished @ CP by MRH Time: ~~0900~~ 1130 Tm

Transported by BED

Received @ END by FNB Time: 1200

Figure 9: F-0047

(Nov '91)

KB0006962

IETHOD: [illegible]0 PCB:EXW MATRIX: WATER LEVEL: LOW

LIENT(s): [illegible]B02: 41814

ASE: PCB

DG: 41814

ATE: 1-19-94

NALYST: JNW BDH

PIKED BY: JNW

ITNESSED BY: BDH

Lab sample id ETR	Client id	Sample Volume (1000ml)	1. pH between 5 and 9	2.# 100 ul 0.2 ppm TCX/DCB surr. Surr lot# GE17279303	-50ul 1.0ppm 1242 GE01199401	-50ul 1.0ppm 1248 GE01199402	3.# 100 ul 6.0 ppm AR1242/1254 matr. Mtx lot#	4. Extract 3x with 60 ml CH_2Cl_2 CH_2Cl_2 lot# G-33262	5. Hex exchange Hexane lot# G-21266	6. Conc to 2-3 ml	7. Sulfuric Acid Clean-up H_2SO_4 Lot# F42032	8. Conc to 1.0ml	9. 3 gm silica gel clean-up Silica gel Lot# 9263052	10.# Conc to 1.0ml
202123	PBlk1J	1000	✓	✓	X	X	X	✓	✓	✓	✓	✓	✓	✓
208651	Rep1	946	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓
208652	Rep2	971	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓
208653	Rep3	1004	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓
208654	Rep4	974	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓
208655	Rep5	991	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓
208656	Rep6	1000	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓
208657	Rep7	1004	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓
208658	Rep8	1001	✓	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓
208659	Rep9	1003	✓	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓
208660	Rep10	1000	✓	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓
208661	Rep11	1004	✓	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓
208662	Rep12	1004	✓	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓
208663	Rep13	1003	✓	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓
208664	Rep14	995	✓	✓	X	✓	X	✓	✓	✓	✓	✓	✓	✓
~~208665~~ JNW														

JNW 1-21-94

JNW 1-19-94

Aquatec, Inc. -- Extraction worksheet -- printed by: MTP on 01-19-94 08:25:24

KB0007583