





# Hygienic Laboratory

*The University of Iowa*

Page 2  
Sample Number: 200619642

## Organophosphate Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Ethoprop	<0.1	0.1
Phorate	<0.1	0.1
Carbofuran	<0.1	0.1

Date Analyzed: 11-11-2006  
Method: EPA 507  
Date Prepared: 11-01-2006  
Preparation Method: EPA 507/3510

Analyst: PB  
Verified: SM  
Analyst: SE  
Verified: GJ

## Polychlorinated biphenyls

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aroclor 1016	<0.5	0.5
Aroclor 1221	<0.5	0.5
Aroclor 1232	<0.5	0.5
Aroclor 1242	<0.5	0.5
Aroclor 1248	<0.5	0.5
Aroclor 1254	<0.5	0.5
Aroclor 1260	<0.5	0.5

Date Analyzed: 11-03-2006  
Method: EPA 8082  
Date Prepared: 11-01-2006  
Preparation Method: EPA 508/3510

Analyst: VR  
Verified: SM  
Analyst: SE  
Verified: GJ

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aldrin	<0.05	0.05
alpha-BHC	<0.05	0.05
beta-BHC	<0.05	0.05
delta-BHC	<0.05	0.05
Lindane (gamma-BHC)	<0.05	0.05
DDD	<0.05	0.05
DDE	<0.05	0.05
DDT	<0.05	0.05
Methoxychlor	<0.05	0.05
Dieldrin	<0.05	0.05
Endosulfan I	<0.05	0.05
Endosulfan II	<0.05	0.05

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Sample Number 200619642

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Endosulfan sulfate	<0.05	0.05
Endrin	<0.05	0.05
Endrin aldehyde	<0.05	0.05
Endrin ketone	<0.05	0.05
Heptachlor	<0.05	0.05
Heptachlor epoxide	<0.05	0.05
Chlordane	<0.05	0.05
Toxaphene	<0.5	0.5

Date Analyzed: 11-03-2006

Method: EPA 508

Date Prepared: 11-01-2006

Preparation Method: EPA 508/3510

Analyst: VR

Verified: SM

Analyst: SE

Verified: GJ

### Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, NELAP, USEPA, NVLAP #101288-0 and other credentials available upon request.

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# Hygienic Laboratory

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Page 2  
Sample Number 200619643

## Organophosphate Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Carbofuran	<0.1	0.1

Date Analyzed: 11-11-2006  
Method: EPA 507  
Date Prepared: 11-01-2006  
Preparation Method: EPA 507/3510

Analyst: PB  
Verified: SM  
Analyst: SE  
Verified: GJ

## Polychlorinated biphenyls

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aroclor 1016	<0.5	0.5
Aroclor 1221	<0.5	0.5
Aroclor 1232	<0.5	0.5
Aroclor 1242	<0.5	0.5
Aroclor 1248	<0.5	0.5
Aroclor 1254	<0.5	0.5
Aroclor 1260	<0.5	0.5

Date Analyzed: 11-03-2006  
Method: EPA 8082  
Date Prepared: 11-01-2006  
Preparation Method: EPA 508/3510

Analyst: VR  
Verified: SM  
Analyst: SE  
Verified: GJ

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aldrin	<0.05	0.05
alpha-BHC	<0.05	0.05
beta-BHC	<0.05	0.05
delta-BHC	<0.05	0.05
Lindane (gamma-BHC)	<0.05	0.05
DDD	<0.05	0.05
DDE	<0.05	0.05
DDT	<0.05	0.05
Methoxychlor	<0.05	0.05
Dieldrin	<0.05	0.05
Endosulfan I	<0.05	0.05
Endosulfan II	<0.05	0.05
Endosulfan sulfate	<0.05	0.05
Endrin	<0.05	0.05

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# Hygienic Laboratory

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Sample Number: 200619643

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Endrin aldehyde	<0.05	0.05
Endrin ketone	<0.05	0.05
Heptachlor	<0.05	0.05
Heptachlor epoxide	<0.05	0.05
Chlordane	<0.05	0.05
Toxaphene	<0.5	0.5

Date Analyzed: 11-03-2006

Method: EPA 508

Date Prepared: 11-01-2006

Preparation Method: EPA 508/3510

Analyst: VR

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# Hygienic Laboratory

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Page 2  
Sample Number 200619644

## Organophosphate Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Carbofuran	<1	1

Date Analyzed: 11-11-2006  
Method: EPA 507  
Date Prepared: 11-01-2006  
Preparation Method: EPA 507/3510

Analyst: PB  
Verified: SM  
Analyst: SE  
Verified: GJ

## Polychlorinated biphenyls

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aroclor 1016	<0.5	0.5
Aroclor 1221	<0.5	0.5
Aroclor 1232	<0.5	0.5
Aroclor 1242	<0.5	0.5
Aroclor 1248	<0.5	0.5
Aroclor 1254	<0.5	0.5
Aroclor 1260	<0.5	0.5

Date Analyzed: 11-04-2006  
Method: EPA 8082  
Date Prepared: 11-01-2006  
Preparation Method: EPA 508/3510

Analyst: VR  
Verified: SM  
Analyst: SE  
Verified: GJ

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aldrin	<0.05	0.05
alpha-BHC	<0.05	0.05
beta-BHC	<0.05	0.05
delta-BHC	<0.05	0.05
Lindane (gamma-BHC)	<0.05	0.05
DDD	<0.05	0.05
DDE	<0.05	0.05
DDT	<0.05	0.05
Methoxychlor	<0.05	0.05
Dieldrin	<0.1	0.1
Endosulfan I	<0.1	0.1
Endosulfan II	<0.05	0.05
Endosulfan sulfate	<0.05	0.05
Endrin	<0.05	0.05

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Sample Number 200619644

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Endrin aldehyde	<0.05	0.05
Endrin ketone	<0.05	0.05
Heptachlor	<0.05	0.05
Heptachlor epoxide	<0.05	0.05
Chlordane	<0.05	0.05
Toxaphene	<0.5	0.5

Date Analyzed: 11-04-2006

Method: EPA 508

Date Prepared: 11-01-2006

Preparation Method: EPA 508/3510

Analyst: VR

Verified: SM

Analyst: SE

Verified: GJ

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Page 3 - End of Report



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Date of report: 12-01-2006

|||||.....||.....|||.....||.....||.....||.....||.....||  
 TAMI RICE  
 IDNR CONTAMINATED SITES  
 WALLACE STATE OFFICE BLDG  
 502 EAST NINTH STREET  
 DES MOINES IA 50319-0034

Sample Number 200619645  
 Date Received 10-31-2006  
 Project WMSF  
 Date Collected 10-30-2006 13:40  
 Collection Site mw-6  
 Collection Town West Union  
 Description water  
 Reference WEST UNION COOP  
 Collector RICE TAMI  
 Phone (515) 281-4420  
 Purchase Order

Comments Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

## Results of Analyses

### Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Atrazine	0.20	0.1
Cyanazine	<0.1	0.1
Metolachlor	1.7	0.1
Alachlor	0.82	0.1
Metribuzin	<0.2	0.2
Butylate	<0.1	0.1
Trifluralin	<0.1	0.1
Acetochlor	0.62	0.1
Desethyl Atrazine	0.10	0.1
Desisopropyl Atrazine	<0.1	0.1
Dimethenamid	0.32	0.1

Date Analyzed: 11-11-2006  
 Method: EPA 507  
 Date Prepared: 11-01-2006  
 Preparation Method: EPA 507/3510

Analyst: PB  
 Verified: SM  
 Analyst: SE  
 Verified: GJ

### Organophosphate Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Terbufos	<0.1	0.1
Fonofos	<0.1	0.1
Chlorpyrifos	<0.1	0.1
Ethoprop	<0.1	0.1
Phorate	<0.1	0.1



# Hygienic Laboratory

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Page 2  
Sample Number 200619645

## Organophosphate Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Carbofuran	<0.1	0.1

Date Analyzed: 11-11-2006

Method: EPA 507

Date Prepared: 11-01-2006

Preparation Method: EPA 507/3510

Analyst: PB

Verified: SM

Analyst: SE

Verified: GJ

## Polychlorinated biphenyls

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aroclor 1016	<0.5	0.5
Aroclor 1221	<0.5	0.5
Aroclor 1232	<0.5	0.5
Aroclor 1242	<0.5	0.5
Aroclor 1248	<0.5	0.5
Aroclor 1254	<0.5	0.5
Aroclor 1260	<0.5	0.5

Date Analyzed: 11-04-2006

Method: EPA 8082

Date Prepared: 11-01-2006

Preparation Method: EPA 508/3510

Analyst: VR

Verified: SM

Analyst: SE

Verified: GJ

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aldrin	<0.05	0.05
alpha-BHC	<0.05	0.05
beta-BHC	<0.05	0.05
delta-BHC	<0.05	0.05
Lindane (gamma-BHC)	<0.05	0.05
DDD	<0.1	0.1
DDE	<0.05	0.05
DDT	<0.05	0.05
Methoxychlor	<0.05	0.05
Dieldrin	<0.05	0.05
Endosulfan I	<0.05	0.05
Endosulfan II	<0.05	0.05
Endosulfan sulfate	<0.05	0.05
Endrin	<0.05	0.05

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Sample Number 200619645

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Endrin aldehyde	<0.05	0.05
Endrin ketone	<0.05	0.05
Heptachlor	<0.05	0.05
Heptachlor epoxide	<0.05	0.05
Chlordane	<0.05	0.05
Toxaphene	<0.5	0.5

Date Analyzed: 11-04-2006

Method: EPA 508

Date Prepared: 11-01-2006

Preparation Method: EPA 508/3510

Analyst: VR

Verified: SM

Analyst: SE

Verified: GJ

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ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

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*If you have any questions please call Sherri Marine at 800/421-IOWA (4692) or 319/335-4500. Thank you.*

Page 3 - End of Report

Michael D. Wichman, Ph.D.  
Associate Director

102 Oakdale Campus, #101 OH  
Iowa City, Iowa 52242-5002  
319/335-4500 Fax: 319/335-4555

<http://www.uhl.uiowa.edu>

Iowa Laboratories Complex  
2220 S. Ankeny Blvd, Ankeny, Iowa 50023  
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## Organophosphate Insecticides in Water

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Carbofuran	<0.1	0.1

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Aldrin	<0.05	0.05
alpha-BHC	<0.05	0.05
beta-BHC	<0.05	0.05
delta-BHC	<0.05	0.05
Lindane (gamma-BHC)	<0.05	0.05
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DDE	<0.05	0.05
DDT	<0.05	0.05
Methoxychlor	<0.05	0.05
Dieldrin	<0.05	0.05
Endosulfan I	<0.05	0.05
Endosulfan II	<0.05	0.05
Endosulfan sulfate	<0.05	0.05
Endrin	<0.05	0.05

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Sample Number 200619646

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Endrin aldehyde	<0.05	0.05
Endrin ketone	<0.05	0.05
Heptachlor	<0.05	0.05
Heptachlor epoxide	<0.05	0.05
Chlordane	<0.05	0.05
Toxaphene	<0.5	0.5

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Associate Director

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Iowa City, Iowa 52242-5002  
319/335-4500 Fax: 319/335-4555

<http://www.uhl.uiowa.edu>

Iowa Laboratories Complex  
2220 S. Ankeny Blvd, Ankeny, Iowa 50023  
319/725-1600 Fax: 319/725-1642





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Sample Number 200619647

## Organophosphate Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Ethoprop	<0.1	0.1
Phorate	<0.1	0.1
Carbofuran	<0.1	0.1

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Analyte	Concentration ug/L	Quantitation Limit ug/L
Aroclor 1016	<0.5	0.5
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## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aldrin	<0.05	0.05
alpha-BHC	<0.05	0.05
beta-BHC	<0.05	0.05
delta-BHC	<0.05	0.05
Lindane (gamma-BHC)	<0.05	0.05
DDD	<0.05	0.05
DDE	<0.05	0.05
DDT	<0.05	0.05
Methoxychlor	<0.05	0.05
Dieldrin	<0.05	0.05
Endosulfan I	<0.05	0.05
Endosulfan II	<0.05	0.05

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# Hygienic Laboratory

*The University of Iowa*

Page 3

Sample Number 200619647

## Chlorohydrocarbon Insecticides in Water

Analyte	Concentration ug/L	Quantitation Limit ug/L
Endosulfan sulfate	<0.05	0.05
Endrin	<0.05	0.05
Endrin aldehyde	<0.05	0.05
Endrin ketone	<0.05	0.05
Heptachlor	<0.05	0.05
Heptachlor epoxide	<0.05	0.05
Chlordane	<0.05	0.05
Toxaphene	<0.5	0.5

Date Analyzed: 11-04-2006

Method: EPA 508

Date Prepared: 11-01-2006

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515/725-1600 Fax: 515/725-1642





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Page 2  
Sample Number 200619648

## Polychlorinated biphenyls

Analyte	Concentration ug/L	Quantitation Limit ug/L
Aroclor 1016	<0.5	0.5
Aroclor 1221	<0.5	0.5
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Analyte	Concentration ug/L	Quantitation Limit ug/L
Aldrin	<0.05	0.05
alpha-BHC	<0.05	0.05
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DDT	<0.05	0.05
Methoxychlor	<0.05	0.05
Dieldrin	<0.05	0.05
Endosulfan I	<0.05	0.05
Endosulfan II	<0.05	0.05
Endosulfan sulfate	<0.05	0.05
Endrin	<0.05	0.05
Endrin aldehyde	<0.05	0.05
Endrin ketone	<0.05	0.05
Heptachlor	<0.05	0.05
Heptachlor epoxide	<0.05	0.05
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# Hygienic Laboratory

The University of Iowa

## CHAIN-OF-CUSTODY

WMSF

Purchase Order #
19745

Contact Name		Phone		Analysis Requested								Project Name and/or Number							
TAMI RICE		515-281-4420		Pesticides - SC3								West Union Coop West Union							
Company		Fax										Collector's Phone #							
IDNR - Contaminated Sites		515-281-8895										515-281-4420							
Address		Wallace Building, 502 E. 9th Street										Print Collector's Name							
City		State	Zip	Collector's Signature															
Des Moines		IA	50319	TAMI S RICE															
Sample ID/Description	Date	Time	Sample Matrix									Comments/UHL Sample Number							
			W	S	Other							Chlorinated Hydrocarbon Insecticides							
1. MW-7	10/31/06	1:15P	✓			✓													
2. MW-3		1:2P	✓			✓													
3. MW-2		1:34P	✓			✓													
4. MW-6		1:40P	✓			✓													
5. MW-8		1:49P	✓			✓													
6. MW-9		1:54P	✓			✓													
7. Creek-1		2:15P	✓			✓													
8.																			
Relinquished by		Date		Time		Comments													
TAMI S RICE		10/31/06		3:05P															
Relinquished by		Date		Time		Comments													
Sample receiving custodian		Date		Time		Sample Receipt Comments													