

Chemical Analysis Report

NW-DIST-2018-05-03-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **PENS/CANT RUN**
Request ID: **RQ-2018-04-30-50**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 11-JUN-2018 14:10

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: CARPENTERS CREEK UPSTREAM OF NINTH AVE **Collection Date/Time: 05/02/2018 10:40**

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989712	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P344608	
	EPA 300.0 Rev. 2.1	Chloride	8.4		mg Cl/L	P344995	
		Sulfate	5.1		mg SO4/L	P344999	
	SM 2120 B	Color (true)	6.9		PCU	P344578	
	SM 2320 B-97	Total Alkalinity	20		mg CaCO3/L	P345083	
	SM 2540 C-97	TDS	53		mg/L	P345216	
	SM 2540 D-97	TSS	2	U	mg/L	P344817	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P345086	
1989713	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P344952	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P344764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P344694	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P344701	
	SM 5310 B-00	Organic Carbon	1.1		mg C/L	P345107	
1989714	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P344633	
1989732	EPA 8321B	2,4-D	0.0020	U	ug/L	P344559	
		Bentazon	8.0E-04	U	ug/L	P344559	
		MCP	0.0020	U	ug/L	P344559	
		Triclopyr**	0.0040	U	ug/L	P344559	
		Imidacloprid	0.036		ug/L	P344559	
		Diuron	0.0021	I	ug/L	P344559	
		Pyraclostrobin**	0.0020	U	ug/L	P344559	
		Primidone**	0.0040	U	ug/L	P344559	
		Linuron	0.0040	U	ug/L	P344559	
		Acetaminophen**	0.0080	U	ug/L	P344559	
		Fenuron	0.016	U	ug/L	P344559	
		Imazapyr**	0.0072	I	ug/L	P344559	
		Carbamazepine**	0.0019		ug/L	P344559	
		Fluridone**	4.0E-04	U	ug/L	P344559	
		Hydrocodone**	8.0E-04	U	ug/L	P344559	
		Sucralose**	0.28	I	ug/L	P344561	
		Glyphosate**	0.10	U	ug/L	P344561	
		AMPA**	0.10	U	ug/L	P344561	
		Endothal**	0.10	U	ug/L	P344561	
		Glufosinate**	0.10	U	ug/L	P344561	MS

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: THOMPSON BAYOU 50M WEST EDWARD BALL TRAIL **Collection Date/Time: 05/02/2018 12:40**

Field ID: G4NW0424

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: G4NW0424

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989709	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P344608	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P344995	
		Sulfate	2.3		mg SO4/L	P344999	
	SM 2120 B	Color (true)	17		PCU	P344578	
	SM 2320 B-97	Total Alkalinity	8.3		mg CaCO3/L	P345083	
	SM 2540 C-97	TDS	33		mg/L	P345216	
	SM 2540 D-97	TSS	2	U	mg/L	P344817	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P345086	
1989710	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P344952	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.11	I	mg N/L	P344764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.62		mg N/L	P344694	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P344701	
	SM 5310 B-00	Organic Carbon	1.2		mg C/L	P345107	
1989711	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P344633	
1989730	EPA 8321B	Aldicarb	0.040	U	ug/L	P344559	
		Aldicarb Sulfone	0.0040	U	ug/L	P344559	
		Aldicarb Sulfoxide	0.0040	U	ug/L	P344559	
		Carbaryl	0.0040	U	ug/L	P344559	
		Carbofuran	0.0040	U	ug/L	P344559	
		3-Hydroxycarbofuran	0.0040	U	ug/L	P344559	
		Methiocarb	0.0040	U	ug/L	P344559	
		Methomyl	0.0040	U	ug/L	P344559	
		Oxamyl	0.0080	U	ug/L	P344559	
		Propoxur	0.0040	U	ug/L	P344559	
		2,4-D	0.0020	U	ug/L	P344559	
		Bentazon	0.016		ug/L	P344559	
		MCP	0.0020	U	ug/L	P344559	
		Triclopyr**	0.0040	U	ug/L	P344559	
1989731		Imidacloprid	0.018		ug/L	P344559	
		Diuron	0.0020	U	ug/L	P344559	
		Pyraclostrobin**	0.0020	U	ug/L	P344559	
		Primidone**	0.0040	U	ug/L	P344559	
		Linuron	0.0040	U	ug/L	P344559	
		Acetaminophen**	0.0080	U	ug/L	P344559	
		Fenuron	0.016	U	ug/L	P344559	
		Imazapyr**	0.0040	U	ug/L	P344559	
		Carbamazepine**	9.7E-04	I	ug/L	P344559	
		Fluridone**	4.0E-04	U	ug/L	P344559	
		Hydrocodone**	8.0E-04	U	ug/L	P344559	
		Sucralose**	0.17	I	ug/L	P344561	
		Glyphosate**	0.10	U	ug/L	P344561	
		AMPA**	0.10	U	ug/L	P344561	
		Endothall**	0.10	U	ug/L	P344561	
		Glufosinate**	0.10	UJ	ug/L	P344561	MS

Field ID: G4NW0424

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989733	EPA 8270D	Aldrin	4.6	U	ng/L	P344637	
		Alpha-BHC	2.3	U	ng/L	P344637	
		Beta-BHC	4.6	U	ng/L	P344637	
		Delta-BHC	4.6	U	ng/L	P344637	
		Gamma-BHC	4.6	U	ng/L	P344637	
		Carbophenothion	4.6	U	ng/L	P344637	
		Chlorothalonil	2.3	UJ	ng/L	P344637	RPD
		Cypermethrin	23	U	ng/L	P344637	
		DDD-p,p'	3.4	U	ng/L	P344637	
		DDE-p,p'	3.4	U	ng/L	P344637	
		DDT-p,p'	3.4	U	ng/L	P344637	
		Dieldrin	4.6	U	ng/L	P344637	
		Endosulfan I	4.6	U	ng/L	P344637	
		Endosulfan II	4.6	U	ng/L	P344637	
		Endosulfan Sulfate	2.3	U	ng/L	P344637	
		Endrin	2.3	U	ng/L	P344637	
		Endrin Aldehyde	2.3	U	ng/L	P344637	
		Heptachlor	1.7	U	ng/L	P344637	
		Heptachlor Epoxide	2.3	U	ng/L	P344637	
		Methoxychlor	4.6	U	ng/L	P344637	
		Mirex	2.3	U	ng/L	P344637	
		Permethrin	11	U	ng/L	P344637	
		Trifluralin	1.1	U	ng/L	P344637	
		Alpha-Chlordane	1.1	U	ng/L	P344637	
		Gamma-Chlordane	1.1	U	ng/L	P344637	
		Endrin Ketone	2.3	U	ng/L	P344637	
		Dicofol	34	U	ng/L	P344637	
	EPA 8276	Chlordane**	2.9	U	ng/L	P344637	
		Toxaphene**	34	U	ng/L	P344637	
1989734	EPA 8270D	Alachlor	0.25	U	ng/L	P344703	
		Ametryn	0.32	U	ng/L	P344703	
		Atrazine	8.8		ng/L	P344703	
		Atrazine Desethyl	5.5	IJ	ng/L	P344703	RPD
		Azinphos Methyl	2.2	UJ	ng/L	P344703	RPD
		Bromacil	4.0	J	ng/L	P344703	RPD
		Butylate	0.39	U	ng/L	P344703	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P344703	
		Chlorpyrifos Methyl	0.099	U	ng/L	P344703	
		Demeton	2.0	U	ng/L	P344703	RPD
		Diazinon	0.12	U	ng/L	P344703	
		Disulfoton	0.49	U	ng/L	P344703	RPD
		EPTC	1.2	U	ng/L	P344703	RPD
		Ethion	0.15	U	ng/L	P344703	
		Ethoprop	0.099	U	ng/L	P344703	
		Fenamiphos	0.25	UJ	ng/L	P344703	RPD

Field ID: G4NW0424

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989734	EPA 8270D	Fipronil	0.76	I	ng/L	P344703	
		Fipronil Sulfide	0.36	I	ng/L	P344703	
		Fipronil Sulfone	2.1		ng/L	P344703	RPD
		Hexazinone	0.49	UJ	ng/L	P344703	LCS, RPD
		Malathion	0.35	U	ng/L	P344703	
		Metribuzin	0.20	UJ	ng/L	P344703	RPD
		Mevinphos	0.49	U	ng/L	P344703	RPD
		Molinate	0.30	U	ng/L	P344703	
		Norflurazon	0.49	UJ	ng/L	P344703	LCS, RPD
		Pendimethalin	0.99	U	ng/L	P344703	
		Phorate	0.25	U	ng/L	P344703	RPD
		Prometon	0.89	U	ng/L	P344703	
		Prometryn	0.20	U	ng/L	P344703	
		Simazine	1.1	I	ng/L	P344703	
		Terbufos	0.099	U	ng/L	P344703	RPD
		Terbuthylazine	0.42	U	ng/L	P344703	
		Fonofos	0.20	U	ng/L	P344703	RPD
		Metalaxyl	0.25	UJ	ng/L	P344703	RPD
		Metolachlor	0.25	U	ng/L	P344703	
		Acetochlor	0.25	U	ng/L	P344703	
		Cyanazine	0.49	UJ	ng/L	P344703	RPD
		Parathion Ethyl	0.25	U	ng/L	P344703	
		Parathion Methyl	0.25	U	ng/L	P344703	
1989735	EPA 200.7 Rev. 4.4	Calcium	3.74		mg/L	P344756	
		Iron	620		ug/L	P344756	
		Magnesium	1.25		mg/L	P344756	
		Potassium	0.54	I	mg/L	P344756	
		Sodium	4.5		mg/L	P344756	
		Zinc	5.0	U	ug/L	P344756	
	EPA 200.8 Rev. 5.4	Arsenic	0.36		ug/L	P344756	
		Cadmium	0.020	U	ug/L	P344756	
		Chromium	0.40	U	ug/L	P344756	
		Copper	0.20	U	ug/L	P344756	
		Lead	0.13	I	ug/L	P344756	
		Nickel	0.34	I	ug/L	P345030	
		Silver	0.010	U	ug/L	P344756	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: Refer to the narrative for an explanation of QC Codes.

EPA 8270D: Refer to the narrative for an explanation of QC Codes.

EPA 8270D: MS accuracy for Atrazine not assessed due to high content of this parameter in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P344608

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344756

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344756

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	1.6		ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345030

Component	Result	Code	Units
Nickel	0.20	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344995

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344999

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344952

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344764

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344764

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344694

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344701

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344633

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8270D
Batch ID: P344637

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P344703

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.50	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.25	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8276
Batch ID: P344637

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P344559

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P344559

Component	Result	Code	Units
3-Hydroxycarbofuran	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Aldicarb	0.040	U	ug/L
Aldicarb Sulfone	0.0040	U	ug/L
Aldicarb Sulfoxide	0.0040	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Carbaryl	0.0040	U	ug/L
Carbofuran	0.0040	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Methiocarb	0.0040	U	ug/L
Methomyl	0.0040	U	ug/L
Oxamyl	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P344561

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Endothall	0.10	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.10	U	ug/L

Reference Method: SM 2120 B
Batch ID: P344578

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P345083

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97
Batch ID: P345216

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P344817

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P345086

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P345107

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344756

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	105		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	99.9		P	85 - 115
Sodium	103		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344756

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	96.8		P	85 - 115
Cadmium	95.4		P	85 - 115
Chromium	94.9		P	85 - 115
Copper	96.3		P	85 - 115
Lead	92.4		P	85 - 115
Silver	97.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345030

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Nickel	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344995

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.6		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344999

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344952

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	107		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344701

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	103		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.5		P	90 - 110

Reference Method: EPA 8270D
Batch ID: P344637

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	62.3	60.4	P/P	24 - 89.0
Alpha-BHC	75.6	74.9	P/P	58 - 117
Alpha-Chlordane	83.2	77.5	P/P	56 - 115
Beta-BHC	124	112	P/P	55 - 137
Carbophenothion	113	105	P/P	37 - 145
Chlorothalonil	27.9	63.8	P/P	26 - 163
Cypermethrin	99.4	91.9	P/P	42 - 156
DDD-p,p'	112	95.2	P/P	59 - 129
DDE-p,p'	88.6	78.7	P/P	52 - 117
DDT-p,p'	95.2	74.9	P/P	48 - 128
Delta-BHC	122	131	P/P	59 - 158
Dicofol	82.5	79.8	P/P	19 - 124
Dieldrin	88.0	76.8	P/P	57 - 126
Endosulfan I	94.0	92.2	P/P	59 - 133
Endosulfan II	105	86.8	P/P	58 - 148
Endosulfan Sulfate	101	116	P/P	56 - 135

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P344637

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endrin	93.3	80.3	P/P	50 - 140
Endrin Aldehyde	113	104	P/P	47 - 141
Endrin Ketone	102	99.7	P/P	63 - 123
Gamma-BHC	93.8	93.0	P/P	59 - 132
Gamma-Chlordane	81.9	75.9	P/P	55 - 112
Heptachlor	65.0	63.7	P/P	45 - 102
Heptachlor Epoxide	83.2	78.7	P/P	61 - 116
Methoxychlor	104	95.8	P/P	60 - 133
Mirex	75.9	67.9	P/P	40 - 98.0
Permethrin	84.8	83.4	P/P	45 - 131
Trifluralin	76.0	72.7	P/P	38 - 179

Reference Method: EPA 8270D
Batch ID: P344703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	90.6	85.5	P/P	74 - 119
Alachlor	93.4	88.1	P/P	75 - 118
Ametryn	88.7	88.3	P/P	59 - 137
Atrazine	106	94.9	P/P	73 - 120
Atrazine Desethyl	110	51.0	P/P	19 - 129
Azinphos Methyl	127	90.9	P/P	65 - 181
Bromacil	78.3	50.0	P/P	43 - 123
Butylate	41.9	46.5	P/P	28 - 85.0
Chlorpyrifos Ethyl	101	94.6	P/P	55 - 112
Chlorpyrifos Methyl	99.8	82.4	P/P	35 - 124
Cyanazine	188	93.7	P/P	26 - 262
Demeton	67.2	68.2	P/P	43 - 122
Diazinon	97.7	87.5	P/P	72 - 120
Disulfoton	92.6	93.3	P/P	45 - 137
EPTC	41.4	47.4	P/P	28 - 95.0
Ethion	97.5	88.6	P/P	63 - 127
Ethoprop	83.5	82.3	P/P	63 - 109
Fenamiphos	102	66.4	P/P	66 - 136
Fipronil	87.1	74.2	P/P	63 - 126
Fipronil Sulfide	84.3	81.2	P/P	59 - 123
Fipronil Sulfone	77.5	75.0	P/P	56 - 122
Fonofos	84.6	69.8	P/P	64 - 114
Hexazinone	101	31.3	P/F	49 - 144
Malathion	104	99.1	P/P	68 - 131
Metalaxyl	95.5	60.5	P/P	57 - 126
Metolachlor	92.7	92.1	P/P	75 - 118
Metribuzin	154	109	P/P	46 - 169
Mevinphos	71.3	59.2	P/P	34 - 126
Molinate	49.5	55.1	P/P	37 - 101
Norflurazon	86.8	46.7	P/F	63 - 127
Parathion Ethyl	93.9	82.9	P/P	78 - 109
Parathion Methyl	99.6	82.6	P/P	74 - 123
Pendimethalin	116	98.9	P/P	51 - 130
Phorate	77.7	65.7	P/P	53 - 116
Prometon	88.1	79.2	P/P	66 - 124
Prometryn	90.5	85.4	P/P	66 - 124

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P344703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Simazine	104	84.9	P/P	62 - 134
Terbufos	89.7	74.8	P/P	59 - 115
Terbutylazine	98.6	85.3	P/P	76 - 113

Reference Method: EPA 8276
Batch ID: P344637

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	76.3	68.3	P/P	47 - 125
Toxaphene	81.1	78.2	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P344559

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.1		P	40 - 150
3-Hydroxycarbofuran	93.6		P	40 - 150
Acetaminophen	91.8		P	30 - 150
Aldicarb	76.4		P	30 - 150
Aldicarb Sulfone	95.2		P	40 - 150
Aldicarb Sulfoxide	99.9		P	40 - 150
Bentazon	88.9		P	30 - 150
Carbamazepine	67.1		P	40 - 150
Carbaryl	62.7		P	40 - 150
Carbofuran	83.2		P	40 - 150
Diuron	71.2		P	40 - 150
Fenuron	99.9		P	40 - 150
Fluridone	102		P	40 - 150
Hydrocodone	98.2		P	40 - 150
Imazapyr	86.2		P	40 - 150
Imidacloprid	103		P	40 - 160
Linuron	84.1		P	40 - 150
MCPP	85.0		P	40 - 150
Methiocarb	82.7		P	40 - 150
Methomyl	94.7		P	40 - 150
Oxamyl	77.4		P	40 - 150
Primidone	83.3		P	40 - 150
Propoxur	70.7		P	40 - 150
Pyraclostrobin	71.1		P	40 - 150
Triclopyr	81.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P344561

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	108		P	40 - 140
Endothall	104		P	40 - 140
Glufosinate	125		P	40 - 140
Glyphosate	136		P	40 - 140
Sucralose	96.6		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P345083

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P345086

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P345107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	103		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344756

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989441	Calcium	101		P	80 - 120
1989441	Iron	103	103	P/P	80 - 120
1989441	Magnesium	101		P	80 - 120
1989441	Potassium	100	99.8	P/P	80 - 120
1989441	Sodium	101	101	P/P	80 - 120
1989441	Zinc	99.4	99.3	P/P	80 - 120
1990383	Calcium	101		P	80 - 120
1990383	Iron	103		P	80 - 120
1990383	Magnesium	104		P	80 - 120
1990383	Potassium	97.6		P	80 - 120
1990383	Sodium	97.7		P	80 - 120
1990383	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344756

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989441	Arsenic	97.6	99.1	P/P	80 - 120
1989441	Cadmium	96.3	100	P/P	80 - 120
1989441	Chromium	98.4	98.2	P/P	80 - 120
1989441	Copper	96.4	96.1	P/P	80 - 120
1989441	Lead	93.9	96.2	P/P	80 - 120
1989441	Silver	98.9	101	P/P	80 - 120
1990383	Arsenic	99.9		P	80 - 120
1990383	Cadmium	99.6		P	80 - 120
1990383	Chromium	101		P	80 - 120
1990383	Copper	102		P	80 - 120
1990383	Lead	97.8		P	80 - 120
1990383	Silver	100		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989735	Nickel	98.9	99.9	P/P	80 - 120
1989822	Nickel	98.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344995

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989709	Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989629	Sulfate	95.1		P	90 - 110
1989709	Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344952

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989710	Ammonia-N	104	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989743	Kjeldahl Nitrogen	99.0	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989685	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989490	O-Phosphate-P	98.0	98.6	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P344637

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989939	Aldrin	59.0	56.9	P/P	26 - 96.0
1989939	Alpha-BHC	73.4	71.3	P/P	51 - 123
1989939	Alpha-Chlordane	79.9	75.6	P/P	45 - 120
1989939	Beta-BHC	114	105	P/P	43 - 146
1989939	Carbophenothion	111	124	P/P	26 - 179
1989939	Chlorothalonil	125	95.5	P/P	10 - 215
1989939	Cypermethrin	98.4	99.1	P/P	35 - 169
1989939	DDD-p,p'	95.8	93.8	P/P	49 - 131

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P344637

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989939	DDE-p,p'	81.4	76.3	P/P	39 - 127
1989939	DDT-p,p'	80.5	78.2	P/P	49 - 120
1989939	Delta-BHC	130	122	P/P	49 - 187
1989939	Dicofol	74.7	73.7	P/P	10 - 129
1989939	Dieldrin	93.8	89.2	P/P	46 - 132
1989939	Endosulfan I	101	89.8	P/P	57 - 130
1989939	Endosulfan II	107	98.2	P/P	52 - 148
1989939	Endosulfan Sulfate	81.9	79.8	P/P	55 - 129
1989939	Endrin	84.8	63.0	P/P	45 - 133
1989939	Endrin Aldehyde	82.8	74.5	P/P	26 - 140
1989939	Endrin Ketone	95.1	95.9	P/P	60 - 125
1989939	Gamma-BHC	96.8	81.7	P/P	50 - 145
1989939	Gamma-Chlordane	78.5	74.2	P/P	44 - 118
1989939	Heptachlor	61.5	59.5	P/P	35 - 106
1989939	Heptachlor Epoxide	81.4	78.1	P/P	52 - 123
1989939	Methoxychlor	90.2	86.5	P/P	54 - 132
1989939	Mirex	69.1	71.6	P/P	36 - 107
1989939	Permethrin	82.6	84.3	P/P	47 - 135
1989939	Trifluralin	71.4	74.2	P/P	32 - 228

Reference Method: EPA 8270D
Batch ID: P344703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988813	Acetochlor	90.1	87.0	P/P	67 - 125
1988813	Alachlor	82.4	77.5	P/P	69 - 123
1988813	Ametryn	98.9	95.1	P/P	52 - 151
1988813	Atrazine Desethyl	57.9	103	P/P	10 - 129
1988813	Azinphos Methyl	106	123	P/P	48 - 200
1988813	Bromacil	64.3	78.7	P/P	46 - 130
1988813	Butylate	28.7	36.9	P/P	10 - 85.0
1988813	Chlorpyrifos Ethyl	101	102	P/P	54 - 115
1988813	Chlorpyrifos Methyl	94.2	105	P/P	44 - 117
1988813	Cyanazine	80.0	163	P/P	10 - 262
1988813	Demeton	56.5	82.8	P/P	24 - 145
1988813	Diazinon	93.0	102	P/P	66 - 129
1988813	Disulfoton	74.4	109	P/P	45 - 139
1988813	EPTC	27.6	37.5	P/P	10 - 86.0
1988813	Ethion	101	102	P/P	59 - 133
1988813	Ethoprop	78.1	100	P/P	54 - 116
1988813	Fenamiphos	77.2	95.9	P/P	55 - 140
1988813	Fipronil	64.4	71.9	P/P	37 - 142
1988813	Fipronil Sulfide	66.3	76.2	P/P	37 - 130
1988813	Fipronil Sulfone	30.3	65.0	P/P	18 - 143
1988813	Fonofos	78.7	108	P/P	55 - 118
1988813	Hexazinone	82.2	99.6	P/P	62 - 140
1988813	Malathion	110	109	P/P	64 - 132
1988813	Metalaxyl	88.9	91.0	P/P	55 - 129
1988813	Metolachlor	93.8	83.1	P/P	56 - 137
1988813	Metribuzin	153	190	P/P	16 - 218
1988813	Mevinphos	62.8	85.0	P/P	34 - 129
1988813	Molinate	39.9	48.7	P/P	16 - 99.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P344703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988813	Norflurazon	54.9	50.2	P/P	43 - 135
1988813	Parathion Ethyl	94.4	99.4	P/P	71 - 112
1988813	Parathion Methyl	99.7	111	P/P	65 - 127
1988813	Pendimethalin	118	116	P/P	35 - 159
1988813	Phorate	67.8	96.0	P/P	41 - 129
1988813	Prometon	90.7	90.3	P/P	56 - 140
1988813	Prometryn	91.6	88.4	P/P	65 - 130
1988813	Simazine	95.5	105	P/P	54 - 148
1988813	Terbufos	80.5	109	P/P	53 - 126
1988813	Terbuthylazine	94.4	94.6	P/P	73 - 114

Reference Method: EPA 8276
 Batch ID: P344637

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989309	Chlordane	54.4	75.6	P/P	41 - 134
1989309	Toxaphene	73.6	69.4	P/P	39 - 158

Reference Method: EPA 8321B
 Batch ID: P344559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989874	2,4-D	116	108	P/P	40 - 150
1989874	3-Hydroxycarbofuran	64.9	69.7	P/P	40 - 150
1989874	Acetaminophen	75.4	75.4	P/P	30 - 150
1989874	Aldicarb	50.8	54.8	P/P	30 - 150
1989874	Aldicarb Sulfone	76.0	77.3	P/P	40 - 150
1989874	Aldicarb Sulfoxide	69.3	72.2	P/P	40 - 150
1989874	Bentazon	58.2	53.7	P/P	30 - 150
1989874	Carbamazepine	49.8	48.5	P/P	40 - 150
1989874	Carbaryl	40.3	42.4	P/P	40 - 150
1989874	Carbofuran	54.8	56.4	P/P	40 - 150
1989874	Diuron	52.3	53.8	P/P	40 - 150
1989874	Fenuron	51.7	55.9	P/P	40 - 150
1989874	Fluridone	80.2	87.3	P/P	40 - 150
1989874	Hydrocodone	83.4	85.4	P/P	40 - 150
1989874	Imazapyr	77.4	78.7	P/P	40 - 150
1989874	Imidacloprid	136	137	P/P	40 - 160
1989874	Linuron	81.5	84.7	P/P	40 - 150
1989874	MCPP	113	106	P/P	40 - 150
1989874	Methiocarb	64.8	73.4	P/P	40 - 150
1989874	Methomyl	70.7	76.0	P/P	40 - 150
1989874	Oxamyl	64.3	66.5	P/P	40 - 150
1989874	Primidone	72.9	76.1	P/P	40 - 150
1989874	Propoxur	46.6	49.9	P/P	40 - 150
1989874	Pyraclostrobin	73.8	73.8	P/P	40 - 150
1989874	Triclopyr	103	95.1	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P344561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P344561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989731	AMPA	95.5	101	P/P	40 - 140
1989731	Endothall	102	109	P/P	40 - 140
1989731	Glufosinate	164	165	F/F	40 - 140
1989731	Glyphosate	120	113	P/P	40 - 140
1989731	Sucralose	114	99.2	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P345086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1990181	Fluoride	96.6	97.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P345107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989211	Organic Carbon	99.7	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P344608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989684	Turbidity	5.34	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989441	Calcium	0.751	Spike	P	0 - 20
1989441	Iron	0.0636	Spike	P	0 - 20
1989441	Magnesium	0.0807	Spike	P	0 - 20
1989441	Potassium	0.377	Spike	P	0 - 20
1989441	Sodium	0.225	Spike	P	0 - 20
1989441	Zinc	0.0369	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989441	Arsenic	1.51	Spike	P	0 - 20
1989441	Cadmium	3.80	Spike	P	0 - 20
1989441	Chromium	0.251	Spike	P	0 - 20
1989441	Copper	0.261	Spike	P	0 - 20
1989441	Lead	2.42	Spike	P	0 - 20
1989441	Silver	2.40	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989735	Nickel	0.957	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989629	Chloride	0.100	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989629	Sulfate	0.169	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344952

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989710	Ammonia-N	0.0326	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989743	Kjeldahl Nitrogen	2.41	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989685	NO2NO3-N	0.323	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989743	Total-P	0.344	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989490	O-Phosphate-P	0.543	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P344637

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989939	Aldrin	3.58	Spike	P	0 - 30
1989939	Alpha-BHC	2.98	Spike	P	0 - 30
1989939	Alpha-Chlordane	5.60	Spike	P	0 - 30
1989939	Beta-BHC	8.42	Spike	P	0 - 30
1989939	Carbophenothion	11.0	Spike	P	0 - 30
1989939	Chlorothalonil	26.8	Spike	P	0 - 30
1989939	Cypermethrin	0.749	Spike	P	0 - 30
1989939	DDD-p,p'	2.17	Spike	P	0 - 30
1989939	DDE-p,p'	6.48	Spike	P	0 - 30
1989939	DDT-p,p'	2.96	Spike	P	0 - 30
1989939	Delta-BHC	6.81	Spike	P	0 - 30
1989939	Dicofol	1.32	Spike	P	0 - 30
1989939	Dieldrin	4.99	Spike	P	0 - 30
1989939	Endosulfan I	11.4	Spike	P	0 - 30
1989939	Endosulfan II	8.70	Spike	P	0 - 30
1989939	Endosulfan Sulfate	2.58	Spike	P	0 - 30
1989939	Endrin	29.5	Spike	P	0 - 30
1989939	Endrin Aldehyde	10.6	Spike	P	0 - 30
1989939	Endrin Ketone	0.857	Spike	P	0 - 30
1989939	Gamma-BHC	16.8	Spike	P	0 - 30
1989939	Gamma-Chlordane	5.54	Spike	P	0 - 30
1989939	Heptachlor	3.30	Spike	P	0 - 30
1989939	Heptachlor Epoxide	4.14	Spike	P	0 - 30
1989939	Methoxychlor	4.16	Spike	P	0 - 30
1989939	Mirex	3.62	Spike	P	0 - 30
1989939	Permethrin	2.06	Spike	P	0 - 30
1989939	Trifluralin	3.80	Spike	P	0 - 30
LFB	Aldrin	2.99	LCS	P	0 - 30
LFB	Alpha-BHC	0.887	LCS	P	0 - 30
LFB	Alpha-Chlordane	7.05	LCS	P	0 - 30
LFB	Beta-BHC	9.90	LCS	P	0 - 30
LFB	Carbophenothion	7.27	LCS	P	0 - 30
LFB	Chlorothalonil	78.3	LCS	F	0 - 30
LFB	Cypermethrin	7.80	LCS	P	0 - 30
LFB	DDD-p,p'	16.0	LCS	P	0 - 30
LFB	DDE-p,p'	11.9	LCS	P	0 - 30
LFB	DDT-p,p'	23.9	LCS	P	0 - 30
LFB	Delta-BHC	7.22	LCS	P	0 - 30
LFB	Dicofol	3.29	LCS	P	0 - 30
LFB	Dieldrin	13.6	LCS	P	0 - 30
LFB	Endosulfan I	1.88	LCS	P	0 - 30
LFB	Endosulfan II	19.3	LCS	P	0 - 30
LFB	Endosulfan Sulfate	14.1	LCS	P	0 - 30
LFB	Endrin	15.0	LCS	P	0 - 30
LFB	Endrin Aldehyde	8.44	LCS	P	0 - 30
LFB	Endrin Ketone	1.97	LCS	P	0 - 30
LFB	Gamma-BHC	0.944	LCS	P	0 - 30
LFB	Gamma-Chlordane	7.55	LCS	P	0 - 30
LFB	Heptachlor	2.02	LCS	P	0 - 30
LFB	Heptachlor Epoxide	5.63	LCS	P	0 - 30
LFB	Methoxychlor	8.53	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P344637

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Mirex	11.2	LCS	P	0 - 30
LFB	Permethrin	1.64	LCS	P	0 - 30
LFB	Trifluralin	4.46	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P344703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988813	Acetochlor	3.49	Spike	P	0 - 30
1988813	Alachlor	6.09	Spike	P	0 - 30
1988813	Ametryn	2.95	Spike	P	0 - 30
1988813	Atrazine	8.28	Spike	P	0 - 30
1988813	Atrazine Desethyl	46.7	Spike	F	0 - 30
1988813	Azinphos Methyl	14.4	Spike	P	0 - 30
1988813	Bromacil	20.1	Spike	P	0 - 30
1988813	Butylate	25.0	Spike	P	0 - 30
1988813	Chlorpyrifos Ethyl	1.13	Spike	P	0 - 30
1988813	Chlorpyrifos Methyl	11.1	Spike	P	0 - 30
1988813	Cyanazine	68.6	Spike	F	0 - 30
1988813	Demeton	37.8	Spike	F	0 - 30
1988813	Diazinon	9.14	Spike	P	0 - 30
1988813	Disulfoton	37.4	Spike	F	0 - 30
1988813	EPTC	30.2	Spike	F	0 - 30
1988813	Ethion	0.494	Spike	P	0 - 30
1988813	Ethoprop	24.8	Spike	P	0 - 30
1988813	Fenamiphos	21.7	Spike	P	0 - 30
1988813	Fipronil	11.0	Spike	P	0 - 30
1988813	Fipronil Sulfide	13.9	Spike	P	0 - 30
1988813	Fipronil Sulfone	43.7	Spike	F	0 - 30
1988813	Fonofos	31.6	Spike	F	0 - 30
1988813	Hexazinone	19.2	Spike	P	0 - 30
1988813	Malathion	0.603	Spike	P	0 - 30
1988813	Metalaxyl	2.36	Spike	P	0 - 30
1988813	Metolachlor	11.8	Spike	P	0 - 30
1988813	Metribuzin	21.8	Spike	P	0 - 30
1988813	Mevinphos	30.1	Spike	F	0 - 30
1988813	Molinate	19.8	Spike	P	0 - 30
1988813	Norflurazon	8.91	Spike	P	0 - 30
1988813	Parathion Ethyl	5.12	Spike	P	0 - 30
1988813	Parathion Methyl	10.3	Spike	P	0 - 30
1988813	Pendimethalin	2.51	Spike	P	0 - 30
1988813	Phorate	34.4	Spike	F	0 - 30
1988813	Prometon	0.447	Spike	P	0 - 30
1988813	Prometryn	3.60	Spike	P	0 - 30
1988813	Simazine	9.03	Spike	P	0 - 30
1988813	Terbufos	30.1	Spike	F	0 - 30
1988813	Terbuthylazine	0.132	Spike	P	0 - 30
LFB	Acetochlor	5.74	LCS	P	0 - 30
LFB	Alachlor	5.80	LCS	P	0 - 30
LFB	Ametryn	0.383	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P344703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Atrazine	11.1	LCS	P	0 - 30
LFB	Atrazine Desethyl	73.3	LCS	F	0 - 30
LFB	Azinphos Methyl	32.7	LCS	F	0 - 30
LFB	Bromacil	44.1	LCS	F	0 - 30
LFB	Butylate	10.4	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	6.69	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	19.1	LCS	P	0 - 30
LFB	Cyanazine	66.9	LCS	F	0 - 30
LFB	Demeton	1.37	LCS	P	0 - 30
LFB	Diazinon	11.0	LCS	P	0 - 30
LFB	Disulfoton	0.789	LCS	P	0 - 30
LFB	EPTC	13.5	LCS	P	0 - 30
LFB	Ethion	9.60	LCS	P	0 - 30
LFB	Ethoprop	1.45	LCS	P	0 - 30
LFB	Fenamiphos	42.2	LCS	F	0 - 30
LFB	Fipronil	16.0	LCS	P	0 - 30
LFB	Fipronil Sulfide	3.77	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.24	LCS	P	0 - 30
LFB	Fonofos	19.1	LCS	P	0 - 30
LFB	Hexazinone	105	LCS	F	0 - 30
LFB	Malathion	4.91	LCS	P	0 - 30
LFB	Metalaxyl	44.8	LCS	F	0 - 30
LFB	Metolachlor	0.654	LCS	P	0 - 30
LFB	Metribuzin	34.4	LCS	F	0 - 30
LFB	Mevinphos	18.5	LCS	P	0 - 30
LFB	Molinate	10.7	LCS	P	0 - 30
LFB	Norflurazon	60.1	LCS	F	0 - 30
LFB	Parathion Ethyl	12.5	LCS	P	0 - 30
LFB	Parathion Methyl	18.6	LCS	P	0 - 30
LFB	Pendimethalin	15.8	LCS	P	0 - 30
LFB	Phorate	16.7	LCS	P	0 - 30
LFB	Prometon	10.7	LCS	P	0 - 30
LFB	Prometryn	5.75	LCS	P	0 - 30
LFB	Simazine	20.2	LCS	P	0 - 30
LFB	Terbufos	18.2	LCS	P	0 - 30
LFB	Terbuthylazine	14.4	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P344637

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989309	Chlordane	27.3	Spike	P	0 - 30
1989309	Toxaphene	5.88	Spike	P	0 - 30
LFB	Chlordane	11.1	LCS	P	0 - 30
LFB	Toxaphene	3.65	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P344559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989874	2,4-D	5.80	Spike	P	0 - 30
1989874	3-Hydroxycarbofuran	7.08	Spike	P	0 - 30
1989874	Acetaminophen	0.0207	Spike	P	0 - 30
1989874	Aldicarb	7.59	Spike	P	0 - 30
1989874	Aldicarb Sulfone	1.73	Spike	P	0 - 30
1989874	Aldicarb Sulfoxide	4.12	Spike	P	0 - 30
1989874	Bentazon	6.68	Spike	P	0 - 30
1989874	Carbamazepine	2.64	Spike	P	0 - 30
1989874	Carbaryl	5.10	Spike	P	0 - 30
1989874	Carbofuran	2.97	Spike	P	0 - 30
1989874	Diuron	1.87	Spike	P	0 - 30
1989874	Fenuron	6.10	Spike	P	0 - 30
1989874	Fluridone	7.88	Spike	P	0 - 30
1989874	Hydrocodone	2.33	Spike	P	0 - 30
1989874	Imazapyr	0.936	Spike	P	0 - 30
1989874	Imidacloprid	0.949	Spike	P	0 - 30
1989874	Linuron	3.88	Spike	P	0 - 30
1989874	MCPP	6.70	Spike	P	0 - 30
1989874	Methiocarb	12.5	Spike	P	0 - 30
1989874	Methomyl	7.16	Spike	P	0 - 30
1989874	Oxamyl	3.37	Spike	P	0 - 30
1989874	Primidone	4.31	Spike	P	0 - 30
1989874	Propoxur	6.73	Spike	P	0 - 30
1989874	Pyraclostrobin	0.0324	Spike	P	0 - 30
1989874	Triclopyr	7.71	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P344561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989731	AMPA	5.38	Spike	P	0 - 30
1989731	Endothall	6.59	Spike	P	0 - 30
1989731	Glufosinate	0.547	Spike	P	0 - 30
1989731	Glyphosate	5.74	Spike	P	0 - 30
1989731	Sucralose	12.9	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P344578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989684	Color (true)	0.623	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P345083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1990181	Total Alkalinity	0.836	Sample	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P345216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989753	TDS	1.59	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P345086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1990181	Fluoride	0.953	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P345107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989211	Organic Carbon	1.42	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 1989730
Field Sample ID: G4NW0424

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	69.6	P	30 - 160

Lab Sample ID: 1989731
Field Sample ID: G4NW0424

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	100	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.8	P	30 - 160
EPA 8321B	Diuron-d6	78.0	P	30 - 160
EPA 8321B	Endothall-d6	127	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	113	P	40 - 160
EPA 8321B	Primidone-d5	84.9	P	30 - 160
EPA 8321B	Sucralose-d6	99.9	P	40 - 160

Lab Sample ID: 1989732
Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	83.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	109	P	30 - 160
EPA 8321B	Carbamazepine-d10	98.3	P	30 - 160
EPA 8321B	Diuron-d6	84.0	P	30 - 160
EPA 8321B	Endothall-d6	144	P	50 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1989732
Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	91.2	P	40 - 160
EPA 8321B	Primidone-d5	91.3	P	30 - 160
EPA 8321B	Sucralose-d6	129	P	40 - 160

Lab Sample ID: 1989733
Field Sample ID: G4NW0424

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	41.4	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	40.6	P	34 - 101
EPA 8276	Decachlorobiphenyl	39.5	P	31 - 108
EPA 8276	PCNB	71.7	P	62 - 142

Lab Sample ID: 1989734
Field Sample ID: G4NW0424

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	97.4	P	71 - 126
EPA 8270D	Terbufos-d10	86.9	P	59 - 149

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A83634
Included Lab Sample IDs: 1989709, 1989712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.7	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83641
Included Lab Sample IDs: 1989709, 1989712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A83654
Included Lab Sample IDs: 1989711, 1989714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A83674
Included Lab Sample IDs: 1989710, 1989713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	98.5	P/P	90 - 110
NO2NO3-N	99.0	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A83732

Included Lab Sample IDs: 1989709, 1989712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	103	P/P	90 - 110
Chloride	103	103	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83735

Included Lab Sample IDs: 1989710, 1989713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83751

Included Lab Sample IDs: 1989710, 1989713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.3	94.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A83752

Included Lab Sample IDs: 1989735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	98.6	P/P	90 - 110
Iron	100	98.8	P/P	90 - 110
Magnesium	101	99.8	P/P	90 - 110
Potassium	98.5	97.3	P/P	90 - 110
Sodium	98.3	96.3	P/P	90 - 110
Zinc	101	98.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83755

Included Lab Sample IDs: 1989735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.8	98.4	P/P	90 - 110
Cadmium	97.7	98.3	P/P	90 - 110
Lead	97.5	97.8	P/P	90 - 110
Silver	100	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83769

Included Lab Sample IDs: 1989731, 1989732

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	96.1	P/P	50 - 150
Bentazon	109	111	P/P	50 - 160
MCPP	109	107	P/P	50 - 150
Triclopyr	101	98.2	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83773

Included Lab Sample IDs: 1989710, 1989713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	104	P/P	90 - 110
Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83783

Included Lab Sample IDs: 1989735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	98.2	100	P/P	90 - 110
Copper	99.3	102	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A83814

Included Lab Sample IDs: 1989709, 1989712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.7	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83814

Included Lab Sample IDs: 1989709, 1989712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83819

Included Lab Sample IDs: 1989710, 1989713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	98.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83870

Included Lab Sample IDs: 1989735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	98.4	96.8	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A83873

Included Lab Sample IDs: 1989733

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	97.3		P	80 - 120
Toxaphene	94.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A83883

Included Lab Sample IDs: 1989730

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	113	111	P/P	50 - 150
Acetaminophen	136	134	P/P	60 - 150
Aldicarb	97.8	105	P/P	60 - 150
Aldicarb Sulfone	107	109	P/P	50 - 150
Aldicarb Sulfoxide	110	106	P/P	50 - 150
Carbamazepine	113	132	P/P	60 - 150
Carbaryl	86.0	103	P/P	60 - 150
Carbofuran	108	133	P/P	50 - 150
Diuron	123	133	P/P	60 - 150
Fenuron	114	119	P/P	60 - 150
Fluridone	125	138	P/P	60 - 160
Hydrocodone	123	130	P/P	60 - 150
Imazapyr	112	104	P/P	50 - 150
Imidacloprid	115	110	P/P	60 - 150
Linuron	106	116	P/P	60 - 150
Methiocarb	110	106	P/P	50 - 150
Methomyl	115	108	P/P	50 - 150
Oxamyl	113	109	P/P	50 - 150
Primidone	101	99.4	P/P	60 - 150
Propoxur	113	119	P/P	50 - 150
Pyraclostrobin	105	108	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A83902

Included Lab Sample IDs: 1989731, 1989732

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	89.1	90.8	P/P	60 - 160
Endothall	109	107	P/P	60 - 160
Glufosinate	101	100	P/P	60 - 160
Glyphosate	104	108	P/P	60 - 160
Sucralose	105	109	P/P	60 - 160

Reference Method: EPA 8270D

Run ID: A83927

Included Lab Sample IDs: 1989733

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.2		P	80 - 120
Alpha-BHC	102		P	80 - 120
Alpha-Chlordane	97.2		P	80 - 120
Beta-BHC	93.1		P	80 - 120
Carbophenothion	100		P	80 - 120
Chlorothalonil	99.5		P	80 - 120
Cypermethrin	89.8		P	80 - 120
DDD-p,p'	99.7		P	80 - 120
DDE-p,p'	97.6		P	80 - 120
DDT-p,p'	105		P	80 - 120
Delta-BHC	93.7		P	80 - 120
Dicofol	106		P	80 - 120
Dieldrin	90.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A83927

Included Lab Sample IDs: 1989733

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endosulfan I	93.6		P	80 - 120
Endosulfan II	89.7		P	80 - 120
Endosulfan Sulfate	92.7		P	80 - 120
Endrin	91.2		P	80 - 120
Endrin Aldehyde	93.4		P	80 - 120
Endrin Ketone	96.9		P	80 - 120
Gamma-BHC	98.2		P	80 - 120
Gamma-Chlordane	98.6		P	80 - 120
Heptachlor	94.8		P	80 - 120
Heptachlor Epoxide	99.0		P	80 - 120
Methoxychlor	105		P	80 - 120
Mirex	97.7		P	80 - 120
Permethrin	93.3		P	80 - 120
Trifluralin	99.1		P	80 - 120

Reference Method: EPA 8270D

Run ID: A84167

Included Lab Sample IDs: 1989734

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	93.7		P	80 - 120
Alachlor	97.3		P	80 - 120
Ametryn	90.0		P	80 - 120
Atrazine	94.5		P	80 - 120
Atrazine Desethyl	101		P	80 - 120
Azinphos Methyl	95.1		P	80 - 120
Bromacil	94.4		P	80 - 120
Butylate	94.9		P	80 - 120
Chlorpyrifos Ethyl	105		P	80 - 120
Chlorpyrifos Methyl	96.7		P	80 - 120
Cyanazine	87.6		P	80 - 120
Demeton	95.5		P	80 - 120
Diazinon	94.5		P	80 - 120
Disulfoton	93.2		P	80 - 120
EPTC	95.2		P	80 - 120
Ethion	94.2		P	80 - 120
Ethoprop	96.7		P	80 - 120
Fenamiphos	98.2		P	80 - 120
Fipronil	92.9		P	80 - 120
Fipronil Sulfide	96.0		P	80 - 120
Fipronil Sulfone	96.1		P	80 - 120
Fonofos	96.1		P	80 - 120
Hexazinone	90.3		P	80 - 120
Malathion	98.5		P	80 - 120
Metalaxyl	98.9		P	80 - 120
Metolachlor	100		P	80 - 120
Metribuzin	99.0		P	80 - 120
Mevinphos	94.5		P	80 - 120
Molinate	94.9		P	80 - 120
Norflurazon	95.4		P	80 - 120
Parathion Ethyl	94.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A84167
Included Lab Sample IDs: 1989734

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Parathion Methyl	98.4		P	80 - 120
Pendimethalin	98.9		P	80 - 120
Phorate	91.9		P	80 - 120
Prometon	95.1		P	80 - 120
Prometryn	97.6		P	80 - 120
Simazine	91.7		P	80 - 120
Terbufos	93.6		P	80 - 120
Terbutylazine	95.1		P	80 - 120

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							5.34	
EPA 200.7 Rev. 4.4	Calcium	102		101	101				0.751
	Iron	105		103	103	103			0.0636
	Magnesium	102		101	104				0.0807
	Potassium	99.9		100	99.8	97.6			0.377
	Sodium	103		101	101	97.7			0.225
	Zinc	101		99.4	99.3	101			0.0369
EPA 200.8 Rev. 5.4	Arsenic	96.8		97.6	99.1	99.9			1.51
	Cadmium	95.4		96.3	100	99.6			3.80
	Chromium	94.9		98.4	98.2	101			0.251
	Copper	96.3		96.4	96.1	102			0.261
	Lead	92.4		93.9	96.2	97.8			2.42
	Nickel	102		98.9	99.9	98.6			0.957
	Silver	97.8		98.9	101	100			2.40
EPA 300.0 Rev. 2.1	Chloride	99.6		98.7				0.100	
	Sulfate	98.8		95.1	97.3			0.169	
EPA 350.1 Rev. 2.0	Ammonia-N	107		104	104				0.0326
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.6		99.0	102				2.41
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102		100	99.5				0.323
EPA 365.1 Rev. 2.0	Total-P	103							0.344
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5		98.0	98.6				0.543
EPA 8270D	Acetochlor	90.6	85.5	90.1	87.0		5.74		3.49
	Alachlor	93.4	88.1	82.4	77.5		5.80		6.09
	Aldrin	62.3	60.4	59.0	56.9		2.99		3.58
	Alpha-BHC	75.6	74.9	73.4	71.3		0.887		2.98
	Alpha-Chlordane	83.2	77.5	79.9	75.6		7.05		5.60
	Ametryn	88.7	88.3	98.9	95.1		0.383		2.95
	Atrazine	106	94.9				11.1		8.28
	Atrazine Desethyl	110	51.0	57.9	103		73.3		46.7
	Azinphos Methyl	127	90.9	106	123		32.7		14.4
	Beta-BHC	124	112	114	105		9.90		8.42
	Bromacil	78.3	50.0	64.3	78.7		44.1		20.1

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Butylate	41.9	46.5	28.7	36.9	10.4	25.0
	Carbophenothion	113	105	111	124	7.27	11.0
	Chlorothalonil	27.9	63.8	125	95.5	78.3	26.8
	Chlorpyrifos Ethyl	101	94.6	101	102	6.69	1.13
	Chlorpyrifos Methyl	99.8	82.4	94.2	105	19.1	11.1
	Cyanazine	188	93.7	80.0	163	66.9	68.6
	Cypermethrin	99.4	91.9	98.4	99.1	7.80	0.749
	DDD-p,p'	112	95.2	95.8	93.8	16.0	2.17
	DDE-p,p'	88.6	78.7	81.4	76.3	11.9	6.48
	DDT-p,p'	95.2	74.9	80.5	78.2	23.9	2.96
	Delta-BHC	122	131	130	122	7.22	6.81
	Demeton	67.2	68.2	56.5	82.8	1.37	37.8
	Diazinon	97.7	87.5	93.0	102	11.0	9.14
	Dicofol	82.5	79.8	74.7	73.7	3.29	1.32
	Dieldrin	88.0	76.8	93.8	89.2	13.6	4.99
	Disulfoton	92.6	93.3	74.4	109	0.789	37.4
	Endosulfan I	94.0	92.2	101	89.8	1.88	11.4
	Endosulfan II	105	86.8	107	98.2	19.3	8.70
	Endosulfan Sulfate	101	116	81.9	79.8	14.1	2.58
	Endrin	93.3	80.3	84.8	63.0	15.0	29.5
	Endrin Aldehyde	113	104	82.8	74.5	8.44	10.6
	Endrin Ketone	102	99.7	95.1	95.9	1.97	0.857
	EPTC	41.4	47.4	27.6	37.5	13.5	30.2
	Ethion	97.5	88.6	101	102	9.60	0.494
	Ethoprop	83.5	82.3	78.1	100	1.45	24.8
	Fenamiphos	102	66.4	77.2	95.9	42.2	21.7
	Fipronil	87.1	74.2	64.4	71.9	16.0	11.0
	Fipronil Sulfide	84.3	81.2	66.3	76.2	3.77	13.9
	Fipronil Sulfone	77.5	75.0	30.3	65.0	3.24	43.7
	Fonofos	84.6	69.8	78.7	108	19.1	31.6
	Gamma-BHC	93.8	93.0	96.8	81.7	0.944	16.8
	Gamma-Chlordane	81.9	75.9	78.5	74.2	7.55	5.54
	Heptachlor	65.0	63.7	61.5	59.5	2.02	3.30
	Heptachlor Epoxide	83.2	78.7	81.4	78.1	5.63	4.14
	Hexazinone	101	31.3	82.2	99.6	105	19.2
	Malathion	104	99.1	110	109	4.91	0.603
	Metalaxyl	95.5	60.5	88.9	91.0	44.8	2.36
	Methoxychlor	104	95.8	90.2	86.5	8.53	4.16
	Metolachlor	92.7	92.1	93.8	83.1	0.654	11.8
	Metribuzin	154	109	153	190	34.4	21.8
	Mevinphos	71.3	59.2	62.8	85.0	18.5	30.1
	Mirex	75.9	67.9	69.1	71.6	11.2	3.62
	Molinate	49.5	55.1	39.9	48.7	10.7	19.8
	Norflurazon	86.8	46.7	54.9	50.2	60.1	8.91
	Parathion Ethyl	93.9	82.9	94.4	99.4	12.5	5.12
	Parathion Methyl	99.6	82.6	99.7	111	18.6	10.3
	Pendimethalin	116	98.9	118	116	15.8	2.51
	Permethrin	84.8	83.4	82.6	84.3	1.64	2.06
	Phorate	77.7	65.7	67.8	96.0	16.7	34.4
	Prometon	88.1	79.2	90.7	90.3	10.7	0.447
	Prometryn	90.5	85.4	91.6	88.4	5.75	3.60
	Simazine	104	84.9	95.5	105	20.2	9.03
	Terbufos	89.7	74.8	80.5	109	18.2	30.1
	Terbutylazine	98.6	85.3	94.4	94.6	14.4	0.132

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270D	Trifluralin	76.0	72.7	71.4	74.2	4.46	3.80
EPA 8276	Chlordane	76.3	68.3	54.4	75.6	11.1	27.3
	Toxaphene	81.1	78.2	73.6	69.4	3.65	5.88
EPA 8321B	2,4-D	81.1		116	108		5.80
	3-Hydroxycarbofuran	93.6		64.9	69.7		7.08
	Acetaminophen	91.8		75.4	75.4		0.0207
	Aldicarb	76.4		50.8	54.8		7.59
	Aldicarb Sulfone	95.2		76.0	77.3		1.73
	Aldicarb Sulfoxide	99.9		69.3	72.2		4.12
	AMPA	108		95.5	101		5.38
	Bentazon	88.9		58.2	53.7		6.68
	Carbamazepine	67.1		49.8	48.5		2.64
	Carbaryl	62.7		40.3	42.4		5.10
	Carbofuran	83.2		54.8	56.4		2.97
	Diuron	71.2		52.3	53.8		1.87
	Endothall	104		102	109		6.59
	Fenuron	99.9		51.7	55.9		6.10
	Fluridone	102		80.2	87.3		7.88
	Glufosinate	125		164	165		0.547
	Glyphosate	136		120	113		5.74
	Hydrocodone	98.2		83.4	85.4		2.33
	Imazapyr	86.2		77.4	78.7		0.936
	Imidacloprid	103		136	137		0.949
	Linuron	84.1		81.5	84.7		3.88
	MCPP	85.0		113	106		6.70
	Methiocarb	82.7		64.8	73.4		12.5
	Methomyl	94.7		70.7	76.0		7.16
	Oxamyl	77.4		64.3	66.5		3.37
	Primidone	83.3		72.9	76.1		4.31
	Propoxur	70.7		46.6	49.9		6.73
	Pyraclostrobin	71.1		73.8	73.8		0.0324
	Sucralose	96.6		114	99.2		12.9
	Triclopyr	81.9		103	95.1		7.71
SM 2120 B	Color (true)					0.623	
SM 2320 B-97	Total Alkalinity	101				0.836	
SM 2540 C-97	TDS					1.59	
SM 4500 F-C-97	Fluoride	96.2		96.6	97.7		0.953
SM 5310 B-00	Organic Carbon	103		99.7	102		1.42

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1989709, 1989712
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1989735
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1989735
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1989709, 1989712
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1989709, 1989712
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1989710, 1989713

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1989710, 1989713
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1989710, 1989713
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1989710, 1989713
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1989711, 1989714
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1989733
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1989734
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1989733
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	1989730
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1989731, 1989732
SM 2120 B / E31780	True Color measured at 450 nm	1989709, 1989712
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1989709, 1989712
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1989709, 1989712
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1989709, 1989712
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1989709, 1989712
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1989710, 1989713

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	05/03/2018			05/03/2018 15:50	William L. Brown IV	1989709, 1989712
EPA 200.7 Rev. 4.4	05/03/2018	05/07/2018 13:19	Allison Taylor	05/08/2018 13:41	Betina Topolski	1989735
EPA 200.8 Rev. 5.4	05/03/2018	05/07/2018 13:19	Allison Taylor	05/08/2018 19:09	Robert K Palmer	1989735
	05/03/2018	05/07/2018 13:19	Allison Taylor	05/09/2018 17:55	Robert K Palmer	1989735
	05/03/2018	05/10/2018 16:00	Allison Taylor	05/14/2018 18:22	Nadine Brooks	1989735
EPA 300.0 Rev. 2.1	05/03/2018			05/09/2018 03:24	Lipi Saha	1989709
	05/03/2018			05/09/2018 06:11	Lipi Saha	1989712
EPA 350.1 Rev. 2.0	05/03/2018			05/09/2018 11:42	Ping Hua	1989710
	05/03/2018			05/09/2018 11:54	Ping Hua	1989713
EPA 351.2 Rev. 2.0	05/03/2018	05/07/2018 11:30	Adrian Shelby	05/08/2018 14:47	Joseph Suarez	1989710
	05/03/2018	05/07/2018 11:30	Adrian Shelby	05/08/2018 14:48	Joseph Suarez	1989713
EPA 353.2 Rev. 2.0	05/03/2018			05/04/2018 13:02	Lauren Bottorf	1989710
	05/03/2018			05/04/2018 13:48	Lauren Bottorf	1989713
EPA 365.1 Rev. 2.0	05/03/2018	05/04/2018 13:37	Sima Feizi	05/08/2018 11:31	Beverly Y. Sanders	1989710
	05/03/2018	05/04/2018 13:37	Sima Feizi	05/08/2018 11:32	Beverly Y. Sanders	1989713
EPA 365.1 Rev. 2.0 dissolved	05/03/2018			05/03/2018 15:06	Megan Treadwell	1989711
	05/03/2018			05/03/2018 15:07	Megan Treadwell	1989714
EPA 8270D	05/03/2018	05/04/2018 08:42	Dinesh Mishra	05/16/2018 21:50	Marek Topolski	1989734
	05/03/2018	05/04/2018 12:51	Rasheda Ghaffari	05/09/2018 00:13	Vandana T. Nagar	1989733
EPA 8276	05/03/2018	05/04/2018 12:51	Rasheda Ghaffari	05/09/2018 00:25	John P. Burgos	1989733
EPA 8321B	05/03/2018	05/03/2018 17:00	Hoor Shaik	05/04/2018 12:26	Juyoung Kim	1989731
	05/03/2018	05/03/2018 17:00	Hoor Shaik	05/04/2018 12:45	Juyoung Kim	1989732
	05/03/2018	05/08/2018 10:00	Hoor Shaik	05/08/2018 23:18	Juyoung Kim	1989731
	05/03/2018	05/08/2018 10:00	Hoor Shaik	05/08/2018 23:53	Juyoung Kim	1989732
	05/03/2018	05/08/2018 10:00	Hoor Shaik	05/09/2018 16:44	Juyoung Kim	1989730
	05/03/2018	05/08/2018 10:00	Hoor Shaik	05/09/2018 20:11	Juyoung Kim	1989731
	05/03/2018	05/08/2018 10:00	Hoor Shaik	05/09/2018 20:46	Juyoung Kim	1989732
SM 2120 B	05/03/2018			05/03/2018 15:11	Tanya Welborn	1989709
	05/03/2018			05/03/2018 15:12	Tanya Welborn	1989712
SM 2320 B-97	05/03/2018			05/11/2018 05:11	Dale L. Simmons	1989709
	05/03/2018			05/11/2018 05:21	Dale L. Simmons	1989712
SM 2540 C-97	05/03/2018			05/04/2018 15:30	William L. Brown IV	1989709, 1989712
SM 2540 D-97	05/03/2018			05/04/2018 15:30	William L. Brown IV	1989709, 1989712
SM 4500 F-C-97	05/03/2018			05/11/2018 05:11	Dale L. Simmons	1989709
	05/03/2018			05/11/2018 05:21	Dale L. Simmons	1989712
SM 5310 B-00	05/03/2018			05/10/2018 18:31	Julia Storbeck	1989710
	05/03/2018			05/10/2018 18:43	Julia Storbeck	1989713