

Chemical Analysis Report

NE-DIST-2018-06-28-01

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

Event Description: **Gville South**
Request ID: **RQ-2018-06-25-23**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 26-JUL-2018 14:21

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: CROSS CREEK 400M ABOVE CR325

Collection Date/Time: 06/27/2018 10:25

Field ID: G1NE0893

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2003735	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P347703	
	EPA 300.0 Rev. 2.1	Chloride	7.1		mg Cl/L	P347951	
		Sulfate	1.7		mg SO4/L	P347957	
	SM 2120 B	Color (true)	200		PCU	P347690	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P348098	
	SM 2540 C-97	TDS	81		mg/L	P347930	
	SM 2540 D-97	TSS	6	I	mg/L	P347874	
	SM 4500 F-C-97	Fluoride	0.080	I	mg F/L	P348102	
2003736	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P348265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P348186	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P347768	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P347884	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P348190	
2003737	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.041		mg P/L	P347707	
2003745	EPA 200.7 Rev. 4.4	Calcium	8.38		mg/L	P347853	
		Iron	520		ug/L	P347853	
		Magnesium	2.16		mg/L	P347853	
		Potassium	0.99	I	mg/L	P347853	
		Sodium	4.3		mg/L	P347853	
		Zinc	5.0	U	ug/L	P347853	
	EPA 200.8 Rev. 5.4	Arsenic	0.55		ug/L	P347853	
		Cadmium	0.020	U	ug/L	P347853	
		Chromium	0.40	U	ug/L	P347853	
		Copper	0.20	U	ug/L	P347853	
		Lead	0.20	I	ug/L	P347853	
		Nickel	0.20	U	ug/L	P347853	
		Silver	0.010	U	ug/L	P347853	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low 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 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: LOCHLOOSA SLOUGH AT SE 225

Collection Date/Time: 06/27/2018 13:25

Field ID: G1NE0860

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2003732	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P347703	
	EPA 300.0 Rev. 2.1	Chloride	7.0		mg Cl/L	P347951	
		Sulfate	1.1		mg SO4/L	P347957	
	SM 2120 B	Color (true)	560		PCU	P347690	
	SM 2320 B-97	Total Alkalinity	6.9		mg CaCO3/L	P348097	
	SM 2540 C-97	TDS	114		mg/L	P347930	
	SM 2540 D-97	TSS	2	U	mg/L	P347874	
	SM 4500 F-C-97	Fluoride	0.061	I	mg F/L	P348101	
2003733	EPA 350.1 Rev. 2.0	Ammonia-N	0.44		mg N/L	P348265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P348075	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P347768	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P347884	
	SM 5310 B-00	Organic Carbon	38		mg C/L	P348190	
2003734	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.18		mg P/L	P347707	
2003740	EPA 8321B	Aldicarb	0.020	U	ug/L	P347578	
		Aldicarb Sulfone	0.0020	U	ug/L	P347578	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P347578	MS
		Carbaryl	0.0020	U	ug/L	P347578	
		Carbofuran	0.0020	U	ug/L	P347578	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P347578	
		Methiocarb	0.0020	U	ug/L	P347578	
		Methomyl	0.0020	U	ug/L	P347578	
		Oxamyl	0.0020	U	ug/L	P347578	
		Propoxur	0.0020	U	ug/L	P347578	
2003741		2,4-D	0.0020	U	ug/L	P347578	
		Sucralose**	0.010	U	ug/L	P347494	
		Bentazon	8.0E-04	U	ug/L	P347578	
		MCP	0.0020	UJ	ug/L	P347578	MS
		Triclopyr**	0.0040	UJ	ug/L	P347578	MS
		Imidacloprid	0.0035	I	ug/L	P347578	
		Diuron	0.0020	U	ug/L	P347578	
		Pyraclostrobin**	0.0020	U	ug/L	P347578	
		Primidone**	0.0040	U	ug/L	P347578	
		Linuron	0.0040	U	ug/L	P347578	
		Acetaminophen**	0.0080	U	ug/L	P347578	
		Fenuron	0.016	U	ug/L	P347578	
		Imazapyr**	0.012	I	ug/L	P347578	
		Carbamazepine**	4.0E-04	U	ug/L	P347578	
		Fluridone**	0.0020		ug/L	P347578	
		Hydrocodone**	8.0E-04	U	ug/L	P347578	
		Glyphosate**	0.24	I	ug/L	P347494	
		AMPA**	0.20	I	ug/L	P347494	
		Endothall**	0.10	UJQ	ug/L	P347494	SUR

Field ID: G1NE0860

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2003741	EPA 8321B	Glufosinate**	0.10	U	ug/L	P347494	
		Acesulfame K**	0.10	UQ	ug/L	P347494	SUR
2003742	EPA 8270D	Aldrin	4.1	U	ng/L	P347710	
		Alpha-BHC	2.1	U	ng/L	P347710	
		Beta-BHC	4.1	UJ	ng/L	P347710	RPD
		Delta-BHC	4.1	U	ng/L	P347710	
		Gamma-BHC	4.1	U	ng/L	P347710	
		Carbophenothion	4.1	U	ng/L	P347710	
		Chlorothalonil	2.1	U	ng/L	P347710	
		Cypermethrin	21	U	ng/L	P347710	
		DDD-p,p'	3.1	U	ng/L	P347710	
		DDE-p,p'	3.1	U	ng/L	P347710	
		DDT-p,p'	3.1	U	ng/L	P347710	
		Dieldrin	4.1	U	ng/L	P347710	
		Endosulfan I	4.1	U	ng/L	P347710	
		Endosulfan II	4.1	U	ng/L	P347710	
		Endosulfan Sulfate	2.1	U	ng/L	P347710	
		Endrin	2.1	U	ng/L	P347710	
		Endrin Aldehyde	2.1	U	ng/L	P347710	
		Heptachlor	1.6	U	ng/L	P347710	
		Heptachlor Epoxide	2.1	U	ng/L	P347710	
		Methoxychlor	4.1	U	ng/L	P347710	
		Mirex	2.1	U	ng/L	P347710	
		Permethrin	10	U	ng/L	P347710	
		Trifluralin	1.0	U	ng/L	P347710	
		Alpha-Chlordane	1.0	U	ng/L	P347710	
		Gamma-Chlordane	1.0	U	ng/L	P347710	
		Endrin Ketone	2.1	U	ng/L	P347710	
		Dicofol	31	U	ng/L	P347710	
	EPA 8276	Chlordane	2.6	U	ng/L	P347710	
		Toxaphene	31	U	ng/L	P347710	
2003743	EPA 8270D	Alachlor	0.24	U	ng/L	P347893	
		Ametryn	0.31	U	ng/L	P347893	
		Atrazine	0.24	U	ng/L	P347893	
		Atrazine Desethyl	1.4	U	ng/L	P347893	
		Azinphos Methyl	2.2	U	ng/L	P347893	
		Bromacil	0.48	U	ng/L	P347893	
		Butylate	0.39	U	ng/L	P347893	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P347893	
		Chlorpyrifos Methyl	0.096	U	ng/L	P347893	
		Demeton	1.9	U	ng/L	P347893	
		Diazinon	0.12	U	ng/L	P347893	
		Disulfoton	0.48	U	ng/L	P347893	
		EPTC	1.2	U	ng/L	P347893	
		Ethion	0.14	U	ng/L	P347893	

Field ID: G1NE0860

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2003743	EPA 8270D	Ethoprop	0.096	U	ng/L	P347893	
		Fenamiphos	0.24	UJ	ng/L	P347893	RPD
		Fipronil	0.24	U	ng/L	P347893	
		Fipronil Sulfide	0.14	U	ng/L	P347893	
		Fipronil Sulfone	0.14	U	ng/L	P347893	
		Hexazinone	0.48	U	ng/L	P347893	
		Malathion	0.34	U	ng/L	P347893	
		Metribuzin	0.19	U	ng/L	P347893	
		Mevinphos	0.48	U	ng/L	P347893	
		Molinate	0.29	U	ng/L	P347893	
		Norflurazon	0.48	U	ng/L	P347893	
		Pendimethalin	0.96	U	ng/L	P347893	
		Phorate	0.24	U	ng/L	P347893	
		Prometon	0.87	U	ng/L	P347893	
		Prometryn	0.19	U	ng/L	P347893	
		Simazine	0.48	U	ng/L	P347893	
		Terbufos	0.096	U	ng/L	P347893	
		Terbuthylazine	0.41	U	ng/L	P347893	
		Fonofos	0.19	U	ng/L	P347893	
		Metalaxyl	0.24	U	ng/L	P347893	
		Metolachlor	0.42	I	ng/L	P347893	
		Acetochlor	0.24	U	ng/L	P347893	
		Cyanazine	0.48	U	ng/L	P347893	
		Parathion Ethyl	0.24	U	ng/L	P347893	
		Parathion Methyl	0.24	U	ng/L	P347893	
2003744	EPA 200.7 Rev. 4.4	Calcium	6.99		mg/L	P347853	
		Iron	1.01E+03		ug/L	P347853	
		Magnesium	1.48		mg/L	P347853	
		Potassium	1.1	I	mg/L	P347853	
		Sodium	3.6		mg/L	P347853	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P347853	
		Arsenic	0.64		ug/L	P347853	
		Cadmium	0.020	U	ug/L	P347853	
		Chromium	0.46	I	ug/L	P347853	
		Copper	0.20	U	ug/L	P347853	
		Lead	0.34		ug/L	P347853	
		Nickel	0.35	I	ug/L	P347853	
		Silver	0.010	U	ug/L	P347853	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low 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 dissolved: O-Phosphate-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 8321B: Q - Sample analysis for Acesulfame K and Endothall expired due to instrument technical difficulties. J - estimation due to Endothall-d6 surrogate recovery exceeding the control limits.

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P347703

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P347853

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: P347853

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347951

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347957

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348265

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348075

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348186

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347768

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: P347884

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P347707

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

Reference Method: EPA 8270D
Batch ID: P347710

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: P347893

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: P347710

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

Reference Method: EPA 8321B

Batch ID: P347494

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P347494

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	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P347578

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
3-Hydroxycarbofuran	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	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	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0020	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P347690

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P348097

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

Reference Method: SM 2320 B-97
Batch ID: P348098

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P348098

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

Reference Method: SM 2540 C-97
Batch ID: P347930

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P347874

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P348101

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P348102

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P348190

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: P347853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	104		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	102		P	85 - 115
Sodium	104		P	85 - 115
Zinc	99.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P347853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	96.3		P	85 - 115
Cadmium	95.8		P	85 - 115
Chromium	93.6		P	85 - 115
Copper	94.4		P	85 - 115
Lead	92.3		P	85 - 115
Nickel	96.1		P	85 - 115
Silver	92.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P347951

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P347957

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P348265

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P348075

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	92.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P348186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	104		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347768

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347884

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P347707

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.1		P	90 - 110

Reference Method: EPA 8270D
Batch ID: P347710

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	46.3	45.8	P/P	24 - 89.0
Alpha-BHC	89.9	84.5	P/P	58 - 117
Alpha-Chlordane	70.8	66.8	P/P	56 - 115
Beta-BHC	84.6	116	P/P	55 - 137
Carbophenothion	59.4	59.5	P/P	37 - 145
Chlorothalonil	49.5	66.4	P/P	26 - 163
Cypermethrin	75.2	76.1	P/P	42 - 156
DDD-p,p'	87.4	87.6	P/P	59 - 129
DDE-p,p'	74.9	72.2	P/P	52 - 117
DDT-p,p'	86.2	82.7	P/P	48 - 128
Delta-BHC	86.9	113	P/P	59 - 158
Dicofol	77.1	77.3	P/P	19 - 124
Diieldrin	79.8	78.9	P/P	57 - 126
Endosulfan I	79.1	72.9	P/P	59 - 133
Endosulfan II	80.1	81.9	P/P	58 - 148
Endosulfan Sulfate	83.2	81.6	P/P	56 - 135
Endrin	83.3	83.9	P/P	50 - 140
Endrin Aldehyde	79.5	80.4	P/P	47 - 141
Endrin Ketone	86.4	83.6	P/P	63 - 123
Gamma-BHC	96.6	106	P/P	59 - 132
Gamma-Chlordane	67.3	64.6	P/P	55 - 112
Heptachlor	61.4	56.1	P/P	45 - 102
Heptachlor Epoxide	76.6	72.6	P/P	61 - 116
Methoxychlor	92.0	84.2	P/P	60 - 133
Mirex	65.3	62.5	P/P	40 - 98.0
Permethrin	73.8	73.6	P/P	45 - 131
Trifluralin	77.0	70.3	P/P	38 - 179

Reference Method: EPA 8270D
Batch ID: P347893

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	91.7	92.8	P/P	74 - 119
Alachlor	92.1	92.6	P/P	75 - 118

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P347893

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ametryn	96.3	102	P/P	59 - 137
Atrazine	90.6	93.5	P/P	73 - 120
Atrazine Desethyl	88.2	87.1	P/P	19 - 129
Azinphos Methyl	106	103	P/P	65 - 181
Bromacil	85.5	83.4	P/P	43 - 123
Butylate	43.6	55.1	P/P	28 - 85.0
Chlorpyrifos Ethyl	79.1	90.6	P/P	55 - 112
Chlorpyrifos Methyl	83.4	91.7	P/P	35 - 124
Cyanazine	125	124	P/P	26 - 262
Demeton	69.0	76.7	P/P	43 - 122
Diazinon	99.4	101	P/P	72 - 120
Disulfoton	84.8	86.4	P/P	45 - 137
EPTC	42.5	47.4	P/P	28 - 95.0
Ethion	78.6	74.1	P/P	63 - 127
Ethoprop	76.2	78.9	P/P	63 - 109
Fenamiphos	91.3	91.4	P/P	66 - 136
Fipronil	88.7	84.9	P/P	63 - 126
Fipronil Sulfide	74.3	77.7	P/P	59 - 123
Fipronil Sulfone	73.4	70.7	P/P	56 - 122
Fonofos	82.6	89.6	P/P	64 - 114
Hexazinone	85.6	94.2	P/P	49 - 144
Malathion	78.2	86.5	P/P	68 - 131
Metaxyl	89.9	90.9	P/P	57 - 126
Metolachlor	90.0	90.8	P/P	75 - 118
Metribuzin	112	138	P/P	46 - 169
Mevinphos	65.9	77.1	P/P	34 - 126
Molinate	53.7	60.3	P/P	37 - 101
Norflurazon	87.7	81.7	P/P	63 - 127
Parathion Ethyl	81.6	87.0	P/P	78 - 109
Parathion Methyl	88.5	94.8	P/P	74 - 123
Pendimethalin	101	105	P/P	51 - 130
Phorate	81.3	74.3	P/P	53 - 116
Prometon	83.2	84.7	P/P	66 - 124
Prometryn	89.1	89.9	P/P	66 - 124
Simazine	90.9	97.6	P/P	62 - 134
Terbufos	81.1	89.0	P/P	59 - 115
Terbuthylazine	85.1	88.8	P/P	76 - 113

Reference Method: EPA 8276
Batch ID: P347710

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	75.3	83.1	P/P	47 - 125
Toxaphene	77.1	70.1	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P347494

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	133		P	40 - 140
AMPA	94.5		P	40 - 140
Endothall	66.7		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P347494

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glufosinate	102		P	40 - 140
Glyphosate	84.9		P	40 - 140
Sucralose	108		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P347578

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.9		P	40 - 150
3-Hydroxycarbofuran	84.0		P	40 - 150
Acetaminophen	87.7		P	30 - 150
Aldicarb	83.1		P	30 - 150
Aldicarb Sulfone	87.2		P	40 - 150
Aldicarb Sulfoxide	87.8		P	40 - 150
Bentazon	88.8		P	30 - 150
Carbamazepine	90.0		P	40 - 150
Carbaryl	74.9		P	40 - 150
Carbofuran	76.2		P	40 - 150
Diuron	80.7		P	40 - 150
Fenuron	94.6		P	40 - 150
Fluridone	93.7		P	40 - 150
Hydrocodone	94.4		P	40 - 150
Imazapyr	82.4		P	40 - 150
Imidacloprid	95.7		P	40 - 160
Linuron	71.0		P	40 - 150
MCPP	125		P	40 - 150
Methiocarb	64.5		P	40 - 150
Methomyl	91.5		P	40 - 150
Oxamyl	92.0		P	40 - 150
Primidone	86.0		P	40 - 150
Propoxur	79.4		P	40 - 150
Pyraclostrobin	77.2		P	40 - 150
Triclopyr	112		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P347690

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P348097

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P348098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P348101

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P348102

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P348190

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P347853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003929	Calcium	99.5		P	80 - 120
2003929	Iron	103		P	80 - 120
2003929	Magnesium	101		P	80 - 120
2003929	Potassium	101		P	80 - 120
2003929	Sodium	100		P	80 - 120
2003929	Zinc	99.2		P	80 - 120
2004004	Calcium	106	104	P/P	80 - 120
2004004	Iron	103	101	P/P	80 - 120
2004004	Magnesium	106	104	P/P	80 - 120
2004004	Potassium	105	103	P/P	80 - 120
2004004	Sodium	104	100	P/P	80 - 120
2004004	Zinc	101	99.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P347853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003929	Arsenic	97.0		P	80 - 120
2003929	Cadmium	100		P	80 - 120
2003929	Chromium	93.6		P	80 - 120
2003929	Copper	91.0		P	80 - 120
2003929	Lead	92.0		P	80 - 120
2003929	Nickel	94.5		P	80 - 120
2003929	Silver	94.4		P	80 - 120
2004004	Arsenic	94.4	95.5	P/P	80 - 120
2004004	Cadmium	95.8	96.2	P/P	80 - 120
2004004	Chromium	94.1	95.7	P/P	80 - 120
2004004	Copper	93.0	93.9	P/P	80 - 120
2004004	Lead	93.2	93.4	P/P	80 - 120
2004004	Nickel	94.9	96.4	P/P	80 - 120
2004004	Silver	92.6	92.4	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003710	Chloride	93.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347957

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003710	Sulfate	92.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003713	Ammonia-N	98.9	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348075

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003770	Kjeldahl Nitrogen	88.1	108	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003756	NO2NO3-N	95.5	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347884

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003756	Total-P	94.7	94.9	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P347710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2004495	Aldrin	61.0	54.5	P/P	26 - 96.0
2004495	Alpha-BHC	96.1	96.2	P/P	51 - 123
2004495	Alpha-Chlordane	81.4	68.2	P/P	45 - 120
2004495	Beta-BHC	116	103	P/P	43 - 146
2004495	Carbophenothion	75.1	63.5	P/P	26 - 179
2004495	Chlorothalonil	47.6	39.6	P/P	10 - 215
2004495	Cypermethrin	96.8	91.2	P/P	35 - 169
2004495	DDD-p,p'	96.0	85.2	P/P	49 - 131
2004495	DDE-p,p'	85.9	71.3	P/P	39 - 127
2004495	DDT-p,p'	98.0	95.9	P/P	49 - 120
2004495	Delta-BHC	112	99.4	P/P	49 - 187
2004495	Dicofol	87.9	84.6	P/P	10 - 129
2004495	Dieldrin	101	85.1	P/P	46 - 132
2004495	Endosulfan I	89.9	67.8	P/P	57 - 130
2004495	Endosulfan II	88.5	70.3	P/P	52 - 148
2004495	Endosulfan Sulfate	85.7	86.3	P/P	55 - 129
2004495	Endrin	87.5	79.0	P/P	45 - 133
2004495	Endrin Aldehyde	83.2	66.7	P/P	26 - 140
2004495	Endrin Ketone	99.4	97.5	P/P	60 - 125
2004495	Gamma-BHC	120	93.6	P/P	50 - 145
2004495	Gamma-Chlordane	78.4	66.1	P/P	44 - 118
2004495	Heptachlor	65.2	60.9	P/P	35 - 106
2004495	Heptachlor Epoxide	94.5	81.5	P/P	52 - 123
2004495	Methoxychlor	91.1	94.6	P/P	54 - 132
2004495	Mirex	79.4	76.7	P/P	36 - 107
2004495	Permethrin	98.1	90.3	P/P	47 - 135
2004495	Trifluralin	80.4	83.8	P/P	32 - 228

Reference Method: EPA 8270D
Batch ID: P347893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003743	Acetochlor	91.7	91.4	P/P	67 - 125
2003743	Alachlor	98.8	93.4	P/P	69 - 123

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P347893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003743	Ametryn	101	90.2	P/P	52 - 151
2003743	Atrazine	102	97.7	P/P	71 - 125
2003743	Atrazine Desethyl	73.9	63.1	P/P	10 - 129
2003743	Azinphos Methyl	111	110	P/P	48 - 200
2003743	Bromacil	80.3	68.8	P/P	46 - 130
2003743	Butylate	52.2	56.0	P/P	10 - 85.0
2003743	Chlorpyrifos Ethyl	89.0	89.3	P/P	54 - 115
2003743	Chlorpyrifos Methyl	83.6	83.7	P/P	44 - 117
2003743	Cyanazine	114	89.3	P/P	10 - 262
2003743	Demeton	75.8	77.4	P/P	24 - 145
2003743	Diazinon	107	101	P/P	66 - 129
2003743	Disulfoton	93.3	88.5	P/P	45 - 139
2003743	EPTC	47.3	52.0	P/P	10 - 86.0
2003743	Ethion	69.9	67.8	P/P	59 - 133
2003743	Ethoprop	90.2	82.8	P/P	54 - 116
2003743	Fenamiphos	86.8	123	P/P	55 - 140
2003743	Fipronil	84.3	76.7	P/P	37 - 142
2003743	Fipronil Sulfide	70.0	63.8	P/P	37 - 130
2003743	Fipronil Sulfone	62.2	52.3	P/P	18 - 143
2003743	Fonofos	97.0	95.3	P/P	55 - 118
2003743	Hexazinone	94.9	82.9	P/P	62 - 140
2003743	Malathion	75.7	73.4	P/P	64 - 132
2003743	Metalaxyl	89.5	85.7	P/P	55 - 129
2003743	Metolachlor	90.2	87.7	P/P	56 - 137
2003743	Metribuzin	144	139	P/P	16 - 218
2003743	Mevinphos	83.4	83.5	P/P	34 - 129
2003743	Molinate	66.5	67.2	P/P	16 - 99.0
2003743	Norflurazon	66.7	53.1	P/P	43 - 135
2003743	Parathion Ethyl	85.5	79.6	P/P	71 - 112
2003743	Parathion Methyl	91.9	89.3	P/P	65 - 127
2003743	Pendimethalin	112	106	P/P	35 - 159
2003743	Phorate	86.4	91.8	P/P	41 - 129
2003743	Prometon	97.8	95.5	P/P	56 - 140
2003743	Prometryn	95.7	91.8	P/P	65 - 130
2003743	Simazine	101	93.0	P/P	54 - 148
2003743	Terbufos	98.2	94.1	P/P	53 - 126
2003743	Terbutylazine	93.4	89.1	P/P	73 - 114

Reference Method: EPA 8276
 Batch ID: P347710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003981	Chlordane	64.0	63.2	P/P	41 - 134
2003981	Toxaphene	51.2	51.6	P/P	39 - 158

Reference Method: EPA 8321B
 Batch ID: P347494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003557	Acesulfame K	139	134	P/P	40 - 140
2003557	AMPA	109	101	P/P	40 - 140
2003557	Endothall	90.3	86.7	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P347494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003557	Glufosinate	97.3	103	P/P	40 - 140
2003557	Glyphosate	67.3	70.5	P/P	40 - 140
2003557	Sucralose	110	127	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P347578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003556	3-Hydroxycarbofuran	83.0	79.8	P/P	40 - 150
2003556	Aldicarb	74.8	69.9	P/P	30 - 150
2003556	Aldicarb Sulfone	93.5	89.1	P/P	40 - 150
2003556	Aldicarb Sulfoxide	38.1	36.2	F/F	40 - 150
2003556	Carbaryl	61.6	62.6	P/P	40 - 150
2003556	Carbofuran	64.0	63.0	P/P	40 - 150
2003556	Methiocarb	61.8	53.8	P/P	40 - 150
2003556	Methomyl	80.6	80.7	P/P	40 - 150
2003556	Oxamyl	84.8	85.5	P/P	40 - 150
2003556	Propoxur	67.8	66.6	P/P	40 - 150
2003741	2,4-D	116	139	P/P	40 - 150
2003741	Acetaminophen	70.3	71.7	P/P	30 - 150
2003741	Bentazon	39.9	48.0	P/P	30 - 150
2003741	Carbamazepine	62.2	62.4	P/P	40 - 150
2003741	Diuron	51.4	53.0	P/P	40 - 150
2003741	Fenuron	58.1	59.0	P/P	40 - 150
2003741	Fluridone	75.2	78.2	P/P	40 - 150
2003741	Hydrocodone	63.4	61.6	P/P	40 - 150
2003741	Imazapyr	64.2	67.5	P/P	40 - 150
2003741	Imidacloprid	113	113	P/P	40 - 160
2003741	Linuron	52.4	53.6	P/P	40 - 150
2003741	MCPP	145	159	P/F	40 - 150
2003741	Primidone	60.5	67.4	P/P	40 - 150
2003741	Pyraclostrobin	80.6	78.3	P/P	40 - 150
2003741	Triclopyr	177	192	F/F	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P348101

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003664	Fluoride	98.1	97.6	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P348102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003915	Fluoride	104	104	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P348190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003669	Organic Carbon	96.5	98.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P347703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003727	Turbidity	3.98	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P347853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2004004	Calcium	1.38	Spike	P	0 - 20
2004004	Iron	1.72	Spike	P	0 - 20
2004004	Magnesium	1.65	Spike	P	0 - 20
2004004	Potassium	1.53	Spike	P	0 - 20
2004004	Sodium	2.43	Spike	P	0 - 20
2004004	Zinc	1.39	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P347853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2004004	Arsenic	1.06	Spike	P	0 - 20
2004004	Cadmium	0.367	Spike	P	0 - 20
2004004	Chromium	1.61	Spike	P	0 - 20
2004004	Copper	0.951	Spike	P	0 - 20
2004004	Lead	0.216	Spike	P	0 - 20
2004004	Nickel	1.49	Spike	P	0 - 20
2004004	Silver	0.148	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347951

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003710	Chloride	3.67	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P348265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003713	Ammonia-N	1.53	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348075

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003770	Kjeldahl Nitrogen	12.3	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2004969	Kjeldahl Nitrogen	1.31	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003756	NO2NO3-N	0.533	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347884

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003756	Total-P	0.197	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P347707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003715	O-Phosphate-P	0.785	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P347710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2004495	Aldrin	11.1	Spike	P	0 - 30
2004495	Alpha-BHC	0.0268	Spike	P	0 - 30
2004495	Alpha-Chlordane	17.7	Spike	P	0 - 30
2004495	Beta-BHC	11.9	Spike	P	0 - 30
2004495	Carbophenothion	16.6	Spike	P	0 - 30
2004495	Chlorothalonil	18.4	Spike	P	0 - 30
2004495	Cypermethrin	5.91	Spike	P	0 - 30
2004495	DDD-p,p'	12.0	Spike	P	0 - 30
2004495	DDE-p,p'	18.6	Spike	P	0 - 30
2004495	DDT-p,p'	2.12	Spike	P	0 - 30
2004495	Delta-BHC	12.3	Spike	P	0 - 30
2004495	Dicofol	3.85	Spike	P	0 - 30
2004495	Dieldrin	17.4	Spike	P	0 - 30
2004495	Endosulfan I	28.1	Spike	P	0 - 30
2004495	Endosulfan II	23.0	Spike	P	0 - 30
2004495	Endosulfan Sulfate	0.616	Spike	P	0 - 30
2004495	Endrin	10.3	Spike	P	0 - 30
2004495	Endrin Aldehyde	22.0	Spike	P	0 - 30
2004495	Endrin Ketone	1.92	Spike	P	0 - 30
2004495	Gamma-BHC	24.8	Spike	P	0 - 30
2004495	Gamma-Chlordane	16.9	Spike	P	0 - 30
2004495	Heptachlor	6.80	Spike	P	0 - 30
2004495	Heptachlor Epoxide	14.8	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P347710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2004495	Methoxychlor	3.85	Spike	P	0 - 30
2004495	Mirex	3.49	Spike	P	0 - 30
2004495	Permethrin	8.30	Spike	P	0 - 30
2004495	Trifluralin	4.20	Spike	P	0 - 30
LFB	Aldrin	1.05	LCS	P	0 - 30
LFB	Alpha-BHC	6.23	LCS	P	0 - 30
LFB	Alpha-Chlordane	5.80	LCS	P	0 - 30
LFB	Beta-BHC	31.5	LCS	F	0 - 30
LFB	Carbophenothion	0.118	LCS	P	0 - 30
LFB	Chlorothalonil	29.3	LCS	P	0 - 30
LFB	Cypermethrin	1.19	LCS	P	0 - 30
LFB	DDD-p,p'	0.240	LCS	P	0 - 30
LFB	DDE-p,p'	3.63	LCS	P	0 - 30
LFB	DDT-p,p'	4.20	LCS	P	0 - 30
LFB	Delta-BHC	25.9	LCS	P	0 - 30
LFB	Dicofol	0.362	LCS	P	0 - 30
LFB	Dieldrin	1.21	LCS	P	0 - 30
LFB	Endosulfan I	8.16	LCS	P	0 - 30
LFB	Endosulfan II	2.20	LCS	P	0 - 30
LFB	Endosulfan Sulfate	1.88	LCS	P	0 - 30
LFB	Endrin	0.737	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.08	LCS	P	0 - 30
LFB	Endrin Ketone	3.27	LCS	P	0 - 30
LFB	Gamma-BHC	9.44	LCS	P	0 - 30
LFB	Gamma-Chlordane	4.07	LCS	P	0 - 30
LFB	Heptachlor	9.06	LCS	P	0 - 30
LFB	Heptachlor Epoxide	5.43	LCS	P	0 - 30
LFB	Methoxychlor	8.83	LCS	P	0 - 30
LFB	Mirex	4.38	LCS	P	0 - 30
LFB	Permethrin	0.269	LCS	P	0 - 30
LFB	Trifluralin	9.09	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P347893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003743	Acetochlor	0.345	Spike	P	0 - 30
2003743	Alachlor	5.57	Spike	P	0 - 30
2003743	Ametryn	11.4	Spike	P	0 - 30
2003743	Atrazine	3.86	Spike	P	0 - 30
2003743	Atrazine Desethyl	15.8	Spike	P	0 - 30
2003743	Azinphos Methyl	1.57	Spike	P	0 - 30
2003743	Bromacil	15.5	Spike	P	0 - 30
2003743	Butylate	7.02	Spike	P	0 - 30
2003743	Chlorpyrifos Ethyl	0.384	Spike	P	0 - 30
2003743	Chlorpyrifos Methyl	0.147	Spike	P	0 - 30
2003743	Cyanazine	23.9	Spike	P	0 - 30
2003743	Demeton	2.00	Spike	P	0 - 30
2003743	Diazinon	6.24	Spike	P	0 - 30
2003743	Disulfoton	5.30	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P347893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003743	EPTC	9.37	Spike	P	0 - 30
2003743	Ethion	3.11	Spike	P	0 - 30
2003743	Ethoprop	8.63	Spike	P	0 - 30
2003743	Fenamiphos	34.8	Spike	F	0 - 30
2003743	Fipronil	9.46	Spike	P	0 - 30
2003743	Fipronil Sulfide	9.26	Spike	P	0 - 30
2003743	Fipronil Sulfone	17.3	Spike	P	0 - 30
2003743	Fonofos	1.83	Spike	P	0 - 30
2003743	Hexazinone	13.5	Spike	P	0 - 30
2003743	Malathion	2.96	Spike	P	0 - 30
2003743	Metalaxyl	4.31	Spike	P	0 - 30
2003743	Metolachlor	2.70	Spike	P	0 - 30
2003743	Metribuzin	3.72	Spike	P	0 - 30
2003743	Mevinphos	0.0651	Spike	P	0 - 30
2003743	Molinate	1.09	Spike	P	0 - 30
2003743	Norflurazon	22.6	Spike	P	0 - 30
2003743	Parathion Ethyl	7.10	Spike	P	0 - 30
2003743	Parathion Methyl	2.84	Spike	P	0 - 30
2003743	Pendimethalin	5.54	Spike	P	0 - 30
2003743	Phorate	6.07	Spike	P	0 - 30
2003743	Prometon	2.39	Spike	P	0 - 30
2003743	Prometryn	4.18	Spike	P	0 - 30
2003743	Simazine	8.21	Spike	P	0 - 30
2003743	Terbufos	4.19	Spike	P	0 - 30
2003743	Terbutylazine	4.62	Spike	P	0 - 30
LFB	Acetochlor	1.13	LCS	P	0 - 30
LFB	Alachlor	0.570	LCS	P	0 - 30
LFB	Ametryn	5.36	LCS	P	0 - 30
LFB	Atrazine	3.16	LCS	P	0 - 30
LFB	Atrazine Desethyl	1.17	LCS	P	0 - 30
LFB	Azinphos Methyl	2.35	LCS	P	0 - 30
LFB	Bromacil	2.47	LCS	P	0 - 30
LFB	Butylate	23.3	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	13.4	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	9.40	LCS	P	0 - 30
LFB	Cyanazine	1.20	LCS	P	0 - 30
LFB	Demeton	10.7	LCS	P	0 - 30
LFB	Diazinon	1.56	LCS	P	0 - 30
LFB	Disulfoton	1.95	LCS	P	0 - 30
LFB	EPTC	10.8	LCS	P	0 - 30
LFB	Ethion	5.97	LCS	P	0 - 30
LFB	Ethoprop	3.44	LCS	P	0 - 30
LFB	Fenamiphos	0.0315	LCS	P	0 - 30
LFB	Fipronil	4.42	LCS	P	0 - 30
LFB	Fipronil Sulfide	4.53	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.63	LCS	P	0 - 30
LFB	Fonofos	8.16	LCS	P	0 - 30
LFB	Hexazinone	9.51	LCS	P	0 - 30
LFB	Malathion	10.1	LCS	P	0 - 30
LFB	Metalaxyl	1.08	LCS	P	0 - 30
LFB	Metolachlor	0.804	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P347893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Metribuzin	20.7	LCS	P	0 - 30
LFB	Mevinphos	15.6	LCS	P	0 - 30
LFB	Molinate	11.5	LCS	P	0 - 30
LFB	Norflurazon	7.15	LCS	P	0 - 30
LFB	Parathion Ethyl	6.42	LCS	P	0 - 30
LFB	Parathion Methyl	6.93	LCS	P	0 - 30
LFB	Pendimethalin	4.38	LCS	P	0 - 30
LFB	Phorate	8.94	LCS	P	0 - 30
LFB	Prometon	1.87	LCS	P	0 - 30
LFB	Prometryn	0.938	LCS	P	0 - 30
LFB	Simazine	7.08	LCS	P	0 - 30
LFB	Terbufos	9.35	LCS	P	0 - 30
LFB	Terbutylazine	4.25	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P347710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003981	Chlordane	1.39	Spike	P	0 - 30
2003981	Toxaphene	0.816	Spike	P	0 - 30
LFB	Chlordane	9.87	LCS	P	0 - 30
LFB	Toxaphene	9.56	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P347494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003557	Acesulfame K	4.01	Spike	P	0 - 30
2003557	AMPA	8.26	Spike	P	0 - 30
2003557	Endothall	4.08	Spike	P	0 - 30
2003557	Glufosinate	6.14	Spike	P	0 - 30
2003557	Glyphosate	4.71	Spike	P	0 - 30
2003557	Sucralose	13.8	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P347578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003556	3-Hydroxycarbofuran	3.94	Spike	P	0 - 30
2003556	Aldicarb	6.67	Spike	P	0 - 30
2003556	Aldicarb Sulfone	4.86	Spike	P	0 - 30
2003556	Aldicarb Sulfoxide	5.29	Spike	P	0 - 30
2003556	Carbaryl	1.59	Spike	P	0 - 30
2003556	Carbofuran	1.54	Spike	P	0 - 30
2003556	Methiocarb	13.9	Spike	P	0 - 30
2003556	Methomyl	0.202	Spike	P	0 - 30
2003556	Oxamyl	0.754	Spike	P	0 - 30
2003556	Propoxur	1.82	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P347578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003741	2,4-D	17.7	Spike	P	0 - 30
2003741	Acetaminophen	1.92	Spike	P	0 - 30
2003741	Bentazon	18.4	Spike	P	0 - 30
2003741	Carbamazepine	0.334	Spike	P	0 - 30
2003741	Diuron	3.13	Spike	P	0 - 30
2003741	Fenuron	1.62	Spike	P	0 - 30
2003741	Fluridone	3.79	Spike	P	0 - 30
2003741	Hydrocodone	2.89	Spike	P	0 - 30
2003741	Imazapyr	4.06	Spike	P	0 - 30
2003741	Imidacloprid	0.103	Spike	P	0 - 30
2003741	Linuron	2.31	Spike	P	0 - 30
2003741	MCPP	9.22	Spike	P	0 - 30
2003741	Primidone	10.8	Spike	P	0 - 30
2003741	Pyraclostrobin	2.89	Spike	P	0 - 30
2003741	Triclopyr	8.06	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P347690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003752	Color (true)	0.556	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P348097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003664	Total Alkalinity	0.103	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P348098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003915	Total Alkalinity	0.730	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P347930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003764	TDS	1.54	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P348101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003664	Fluoride	0.472	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P348102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003915	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P348190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003669	Organic Carbon	1.49	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: 2003740
Field Sample ID: G1NE0860

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	45.7	P	30 - 160

Lab Sample ID: 2003741
Field Sample ID: G1NE0860

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	66.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.5	P	30 - 160
EPA 8321B	Diuron-d6	48.6	P	30 - 160
EPA 8321B	Endothall-d6	215	F	40 - 160
EPA 8321B	Endothall-d6	215	F	40 - 160
EPA 8321B	Glyphosate 13C 15N	130	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	130	P	40 - 160
EPA 8321B	Primidone-d5	57.8	P	30 - 160
EPA 8321B	Sucralose-d6	90.5	P	40 - 160
EPA 8321B	Sucralose-d6	90.5	P	40 - 160

Lab Sample ID: 2003742
Field Sample ID: G1NE0860

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	83.7	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	67.0	P	34 - 101
EPA 8276	Decachlorobiphenyl	80.6	P	31 - 108
EPA 8276	PCNB	101	P	62 - 142

Lab Sample ID: 2003743
Field Sample ID: G1NE0860

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	82.7	P	71 - 126
EPA 8270D	Terbufos-d10	83.0	P	59 - 149

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A84913

Included Lab Sample IDs: 2003732, 2003735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A84917

Included Lab Sample IDs: 2003732, 2003735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A84918

Included Lab Sample IDs: 2003734, 2003737

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	94.5	92.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A84938

Included Lab Sample IDs: 2003733, 2003736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.5	96.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A84988

Included Lab Sample IDs: 2003740

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	94.7	91.8	P/P	50 - 150
Acetaminophen	108	108	P/P	60 - 160
Aldicarb	117	107	P/P	60 - 150
Aldicarb Sulfone	95.6	89.3	P/P	50 - 150
Aldicarb Sulfoxide	101	101	P/P	50 - 150
Carbamazepine	97.8	105	P/P	60 - 160
Carbaryl	96.7	93.1	P/P	60 - 150
Carbofuran	96.2	95.5	P/P	50 - 150
Diuron	102	99.6	P/P	60 - 150
Fenuron	96.7	98.9	P/P	60 - 150
Fluridone	105	110	P/P	60 - 160
Hydrocodone	102	98.9	P/P	60 - 150
Imazapyr	92.8	80.0	P/P	50 - 150
Imidacloprid	92.0	92.3	P/P	60 - 150
Linuron	86.9	92.3	P/P	60 - 150
Methiocarb	84.0	89.2	P/P	50 - 150
Methomyl	98.6	98.3	P/P	50 - 150
Oxamyl	98.2	97.2	P/P	50 - 150
Primidone	90.6	94.7	P/P	60 - 150
Propoxur	96.5	96.4	P/P	50 - 150
Pyraclostrobin	106	102	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A84989
Included Lab Sample IDs: 2003741

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	109	100	P/P	60 - 160
Glufosinate	104	111	P/P	60 - 160
Glyphosate	78.3	92.3	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A85001
Included Lab Sample IDs: 2003732, 2003735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.8	105	P/P	90 - 110
Sulfate	96.5	106	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A85021
Included Lab Sample IDs: 2003744, 2003745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	102	P/P	90 - 110
Iron	102	100	P/P	90 - 110
Magnesium	103	101	P/P	90 - 110
Potassium	100	98.4	P/P	90 - 110
Sodium	102	101	P/P	90 - 110
Zinc	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A85029
Included Lab Sample IDs: 2003733, 2003736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	98.4	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A85064
Included Lab Sample IDs: 2003741

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endothall	114	118	P/P	60 - 150

Reference Method: EPA 8321B
Run ID: A85066
Included Lab Sample IDs: 2003741

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	106	109	P/P	60 - 150
Sucralose	121	71.2	P/P	60 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A85067
Included Lab Sample IDs: 2003744, 2003745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85067

Included Lab Sample IDs: 2003744, 2003745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.0	97.6	P/P	90 - 110
Cadmium	95.2	97.6	P/P	90 - 110
Chromium	96.9	97.5	P/P	90 - 110
Copper	98.8	97.0	P/P	90 - 110
Lead	95.3	95.8	P/P	90 - 110
Nickel	98.0	96.5	P/P	90 - 110
Silver	96.9	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A85085

Included Lab Sample IDs: 2003741

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	114	113	P/P	50 - 150
Bentazon	107	106	P/P	50 - 150
MCPP	110	124	P/P	50 - 150
Triclopyr	122	118	P/P	50 - 160

Reference Method: SM 2320 B-97

Run ID: A85091

Included Lab Sample IDs: 2003732, 2003735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	103	P/P	90 - 110
Total Alkalinity	104	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A85091

Included Lab Sample IDs: 2003732, 2003735

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110
Fluoride	101	101	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A85104

Included Lab Sample IDs: 2003742

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	94.3		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	90.9		P	80 - 120
Beta-BHC	93.8		P	80 - 120
Carbophenothion	89.2		P	80 - 120
Chlorothalonil	92.8		P	80 - 120
Cypermethrin	91.4		P	80 - 120
DDD-p,p'	98.3		P	80 - 120
DDE-p,p'	96.6		P	80 - 120
DDT-p,p'	111		P	80 - 120
Delta-BHC	97.0		P	80 - 120
Dicofol	112		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A85104

Included Lab Sample IDs: 2003742

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dieldrin	92.9		P	80 - 120
Endosulfan I	94.5		P	80 - 120
Endosulfan II	90.4		P	80 - 120
Endosulfan Sulfate	94.9		P	80 - 120
Endrin	92.6		P	80 - 120
Endrin Aldehyde	89.5		P	80 - 120
Endrin Ketone	97.2		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	91.1		P	80 - 120
Heptachlor	91.6		P	80 - 120
Heptachlor Epoxide	93.8		P	80 - 120
Methoxychlor	100		P	80 - 120
Mirex	97.7		P	80 - 120
Permethrin	105		P	80 - 120
Trifluralin	99.3		P	80 - 120

Reference Method: EPA 8276

Run ID: A85113

Included Lab Sample IDs: 2003742

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	86.4		P	80 - 120
Toxaphene	86.3		P	80 - 120

Reference Method: SM 5310 B-00

Run ID: A85128

Included Lab Sample IDs: 2003733, 2003736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	94.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85134

Included Lab Sample IDs: 2003733

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	96.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85152

Included Lab Sample IDs: 2003733, 2003736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85175

Included Lab Sample IDs: 2003736

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.8	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A85234

Included Lab Sample IDs: 2003743

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.5		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	99.7		P	80 - 120
Atrazine	96.7		P	80 - 120
Atrazine Desethyl	93.9		P	80 - 120
Azinphos Methyl	100		P	80 - 120
Bromacil	102		P	80 - 120
Butylate	97.2		P	80 - 120
Chlorpyrifos Ethyl	95.0		P	80 - 120
Chlorpyrifos Methyl	95.6		P	80 - 120
Cyanazine	93.7		P	80 - 120
Demeton	103		P	80 - 120
Diazinon	97.5		P	80 - 120
Disulfoton	97.7		P	80 - 120
EPTC	99.0		P	80 - 120
Ethion	95.5		P	80 - 120
Ethoprop	95.4		P	80 - 120
Fenamiphos	93.8		P	80 - 120
Fipronil	95.4		P	80 - 120
Fipronil Sulfide	94.7		P	80 - 120
Fipronil Sulfone	93.9		P	80 - 120
Fonofos	95.7		P	80 - 120
Hexazinone	96.4		P	80 - 120
Malathion	97.7		P	80 - 120
Metalaxyl	100		P	80 - 120
Metolachlor	103		P	80 - 120
Metribuzin	88.8		P	80 - 120
Mevinphos	96.7		P	80 - 120
Molinate	99.6		P	80 - 120
Norflurazon	95.3		P	80 - 120
Parathion Ethyl	94.0		P	80 - 120
Parathion Methyl	95.0		P	80 - 120
Pendimethalin	94.0		P	80 - 120
Phorate	96.4		P	80 - 120
Prometon	97.4		P	80 - 120
Prometryn	100		P	80 - 120
Simazine	95.3		P	80 - 120
Terbufos	94.0		P	80 - 120
Terbuthylazine	95.8		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							3.98	
EPA 200.7 Rev. 4.4	Calcium	108		99.5	106	104			1.38
	Iron	104		103	103	101			1.72
	Magnesium	108		101	106	104			1.65
	Potassium	102		101	105	103			1.53
	Sodium	104		100	104	100			2.43
	Zinc	99.9		99.2	101	99.8			1.39
EPA 200.8 Rev. 5.4	Arsenic	96.3		97.0	94.4	95.5			1.06
	Cadmium	95.8		100	95.8	96.2			0.367
	Chromium	93.6		93.6	94.1	95.7			1.61
	Copper	94.4		91.0	93.0	93.9			0.951
	Lead	92.3		92.0	93.2	93.4			0.216
	Nickel	96.1		94.5	94.9	96.4			1.49
	Silver	92.6		94.4	92.6	92.4			0.148
EPA 300.0 Rev. 2.1	Chloride	100		93.7				3.67	
	Sulfate	96.5		92.5					
EPA 350.1 Rev. 2.0	Ammonia-N	102		98.9	101				1.53
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	92.6		88.1	108				12.3
	Kjeldahl Nitrogen	104							1.31
EPA 353.2 Rev. 2.0	NO2NO3-N	96.0		95.5	96.5				0.533
EPA 365.1 Rev. 2.0	Total-P	96.6		94.7	94.9				0.197
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.1							0.785
EPA 8270D	Acetochlor	91.7	92.8	91.7	91.4	1.13			0.345
	Alachlor	92.1	92.6	98.8	93.4	0.570			5.57
	Aldrin	46.3	45.8	61.0	54.5	1.05			11.1
	Alpha-BHC	84.5	89.9	96.1	96.2	6.23			0.0268
	Alpha-Chlordane	66.8	70.8	81.4	68.2	5.80			17.7
	Ametryn	96.3	102	101	90.2	5.36			11.4
	Atrazine	90.6	93.5	102	97.7	3.16			3.86
	Atrazine Desethyl	88.2	87.1	73.9	63.1	1.17			15.8
	Azinphos Methyl	106	103	111	110	2.35			1.57
	Beta-BHC	116	84.6	116	103	31.5			11.9
	Bromacil	85.5	83.4	80.3	68.8	2.47			15.5
	Butylate	43.6	55.1	52.2	56.0	23.3			7.02
	Carbophenothion	59.5	59.4	75.1	63.5	0.118			16.6
	Chlorothalonil	66.4	49.5	47.6	39.6	29.3			18.4
	Chlorpyrifos Ethyl	79.1	90.6	89.0	89.3	13.4			0.384
	Chlorpyrifos Methyl	83.4	91.7	83.6	83.7	9.40			0.147
	Cyanazine	125	124	114	89.3	1.20			23.9
	Cypermethrin	76.1	75.2	96.8	91.2	1.19			5.91
	DDD-p,p'	87.6	87.4	96.0	85.2	0.240			12.0
	DDE-p,p'	74.9	72.2	85.9	71.3	3.63			18.6
	DDT-p,p'	86.2	82.7	98.0	95.9	4.20			2.12
	Delta-BHC	113	86.9	112	99.4	25.9			12.3
	Demeton	69.0	76.7	75.8	77.4	10.7			2.00
	Diazinon	99.4	101	107	101	1.56			6.24
	Dicofol	77.3	77.1	87.9	84.6	0.362			3.85
	Dieldrin	79.8	78.9	101	85.1	1.21			17.4
	Disulfoton	84.8	86.4	93.3	88.5	1.95			5.30
	Endosulfan I	79.1	72.9	89.9	67.8	8.16			28.1
	Endosulfan II	80.1	81.9	88.5	70.3	2.20			23.0
	Endosulfan Sulfate	83.2	81.6	85.7	86.3	1.88			0.616
	Endrin	83.3	83.9	87.5	79.0	0.737			10.3
	Endrin Aldehyde	79.5	80.4	83.2	66.7	1.08			22.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Endrin Ketone	83.6	86.4	99.4	97.5	3.27	1.92
	EPTC	42.5	47.4	47.3	52.0	10.8	9.37
	Ethion	78.6	74.1	69.9	67.8	5.97	3.11
	Ethoprop	76.2	78.9	90.2	82.8	3.44	8.63
	Fenamiphos	91.3	91.4	86.8	123	0.0315	34.8
	Fipronil	88.7	84.9	84.3	76.7	4.42	9.46
	Fipronil Sulfide	74.3	77.7	70.0	63.8	4.53	9.26
	Fipronil Sulfone	73.4	70.7	62.2	52.3	3.63	17.3
	Fonofos	82.6	89.6	97.0	95.3	8.16	1.83
	Gamma-BHC	106	96.6	120	93.6	9.44	24.8
	Gamma-Chlordane	64.6	67.3	78.4	66.1	4.07	16.9
	Heptachlor	61.4	56.1	65.2	60.9	9.06	6.80
	Heptachlor Epoxide	76.6	72.6	94.5	81.5	5.43	14.8
	Hexazinone	85.6	94.2	94.9	82.9	9.51	13.5
	Malathion	78.2	86.5	75.7	73.4	10.1	2.96
	Metalaxyl	89.9	90.9	89.5	85.7	1.08	4.31
	Methoxychlor	84.2	92.0	91.1	94.6	8.83	3.85
	Metolachlor	90.0	90.8	90.2	87.7	0.804	2.70
	Metribuzin	112	138	144	139	20.7	3.72
	Mevinphos	65.9	77.1	83.4	83.5	15.6	0.0651
	Mirex	62.5	65.3	79.4	76.7	4.38	3.49
	Molinate	53.7	60.3	66.5	67.2	11.5	1.09
	Norflurazon	87.7	81.7	66.7	53.1	7.15	22.6
	Parathion Ethyl	81.6	87.0	85.5	79.6	6.42	7.10
	Parathion Methyl	88.5	94.8	91.9	89.3	6.93	2.84
	Pendimethalin	101	105	112	106	4.38	5.54
	Permethrin	73.6	73.8	98.1	90.3	0.269	8.30
	Phorate	81.3	74.3	86.4	91.8	8.94	6.07
	Prometon	83.2	84.7	97.8	95.5	1.87	2.39
	Prometryn	89.1	89.9	95.7	91.8	0.938	4.18
	Simazine	90.9	97.6	101	93.0	7.08	8.21
	Terbufos	81.1	89.0	98.2	94.1	9.35	4.19
	Terbutylazine	85.1	88.8	93.4	89.1	4.25	4.62
	Trifluralin	70.3	77.0	80.4	83.8	9.09	4.20
EPA 8276	Chlordane	75.3	83.1	64.0	63.2	9.87	1.39
	Toxaphene	77.1	70.1	51.2	51.6	9.56	0.816
EPA 8321B	2,4-D	90.9		116	139		17.7
	3-Hydroxycarbofuran	84.0		83.0	79.8		3.94
	Acesulfame K	133		139	134		4.01
	Acetaminophen	87.7		70.3	71.7		1.92
	Aldicarb	83.1		74.8	69.9		6.67
	Aldicarb Sulfone	87.2		93.5	89.1		4.86
	Aldicarb Sulfoxide	87.8		38.1	36.2		5.29
	AMPA	94.5		109	101		8.26
	Bentazon	88.8		39.9	48.0		18.4
	Carbamazepine	90.0		62.2	62.4		0.334
	Carbaryl	74.9		61.6	62.6		1.59
	Carbofuran	76.2		64.0	63.0		1.54
	Diuron	80.7		51.4	53.0		3.13
	Endothall	66.7		90.3	86.7		4.08
	Fenuron	94.6		58.1	59.0		1.62
	Fluridone	93.7		75.2	78.2		3.79
	Glufosinate	102		97.3	103		6.14
	Glyphosate	84.9		67.3	70.5		4.71

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8321B	Hydrocodone	94.4	63.4	61.6		
	Imazapyr	82.4	64.2	67.5		
	Imidacloprid	95.7	113	113		
	Linuron	71.0	52.4	53.6		
	MCP	125	145	159		
	Methiocarb	64.5	61.8	53.8		
	Methomyl	91.5	80.6	80.7		
	Oxamyl	92.0	84.8	85.5		
	Primidone	86.0	60.5	67.4		
	Propoxur	79.4	67.8	66.6		
	Pyraclostrobin	77.2	80.6	78.3		
	Sucralose	108	110	127		
	Triclopyr	112	177	192		
SM 2120 B	Color (true)	101				0.556
SM 2320 B-97	Total Alkalinity	104				0.103
	Total Alkalinity	103				0.730
SM 2540 C-97	TDS					1.54
SM 4500 F-C-97	Fluoride	99.3	98.1	97.6		
	Fluoride	99.8	104	104		
SM 5310 B-00	Organic Carbon	96.2	96.5	98.0		

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2003732, 2003735
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2003744, 2003745
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2003744, 2003745
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2003732, 2003735
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2003732, 2003735
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2003733, 2003736
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2003733, 2003736
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2003733, 2003736
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2003733, 2003736
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2003734, 2003737
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2003742
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	2003743
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2003742
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2003740
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2003741
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2003741
SM 2120 B / E31780	True Color measured at 450 nm	2003732, 2003735
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2003732, 2003735
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2003732, 2003735

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2003732, 2003735
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2003732, 2003735
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2003733, 2003736

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	06/28/2018			06/28/2018 16:54	William L. Brown IV	2003732, 2003735
EPA 200.7 Rev. 4.4	06/28/2018	07/02/2018 17:35	Elliott D. Healy	07/03/2018 16:30	Betina Topolski	2003744
	06/28/2018	07/02/2018 17:35	Elliott D. Healy	07/03/2018 16:37	Betina Topolski	2003745
EPA 200.8 Rev. 5.4	06/28/2018	07/02/2018 17:35	Elliott D. Healy	07/06/2018 14:43	Robert K Palmer	2003744
	06/28/2018	07/02/2018 17:35	Elliott D. Healy	07/06/2018 14:53	Robert K Palmer	2003745
EPA 300.0 Rev. 2.1	06/28/2018			07/03/2018 22:34	Lipi Saha	2003732
	06/28/2018			07/03/2018 22:46	Lipi Saha	2003735
EPA 350.1 Rev. 2.0	06/28/2018			07/11/2018 14:56	Ping Hua	2003733
	06/28/2018			07/11/2018 14:57	Ping Hua	2003736
EPA 351.2 Rev. 2.0	06/28/2018	07/09/2018 18:30	Tanya Welborn	07/11/2018 09:25	Joseph Suarez	2003733
	06/28/2018	07/11/2018 10:45	Adrian Shelby	07/12/2018 12:23	Joseph Suarez	2003736
EPA 353.2 Rev. 2.0	06/28/2018			06/29/2018 11:19	Lauren Bottorf	2003733
	06/28/2018			06/29/2018 11:20	Lauren Bottorf	2003736
EPA 365.1 Rev. 2.0	06/28/2018	07/03/2018 10:50	Sima Feizi	07/05/2018 12:20	Beverly Y. Sanders	2003733
	06/28/2018	07/03/2018 10:50	Sima Feizi	07/05/2018 12:21	Beverly Y. Sanders	2003736
EPA 365.1 Rev. 2.0 dissolved	06/28/2018			06/28/2018 14:47	Megan Treadwell	2003734
	06/28/2018			06/28/2018 14:48	Megan Treadwell	2003737
EPA 8270D	06/28/2018	07/03/2018 06:31	Dinesh Mishra	07/11/2018 14:49	Vandana T. Nagar	2003743
	06/28/2018	07/03/2018 09:00	Fe-Val Siddell	07/09/2018 18:19	Dinesh Mishra	2003742
EPA 8276	06/28/2018	07/03/2018 09:00	Fe-Val Siddell	07/09/2018 22:15	Dinesh Mishra	2003742
EPA 8321B	06/28/2018	07/02/2018 13:00	Mohammad Ghaffari	07/02/2018 18:56	Mohammad Ghaffari	2003741
	06/28/2018	07/02/2018 13:00	Mohammad Ghaffari	07/06/2018 00:38	Mohammad Ghaffari	2003741
	06/28/2018	07/02/2018 13:00	Mohammad Ghaffari	07/07/2018 00:45	Mohammad Ghaffari	2003741
	06/28/2018	07/02/2018 14:30	Hoor Shaik	07/04/2018 12:04	Juyoung Kim	2003740
	06/28/2018	07/02/2018 14:30	Hoor Shaik	07/04/2018 14:57	Juyoung Kim	2003741
	06/28/2018	07/02/2018 14:30	Hoor Shaik	07/07/2018 12:07	Juyoung Kim	2003741
SM 2120 B	06/28/2018			06/28/2018 15:56	Tanya Welborn	2003732, 2003735
SM 2320 B-97	06/28/2018			07/07/2018 06:25	Dale L. Simmons	2003732
	06/28/2018			07/07/2018 08:00	Dale L. Simmons	2003735
SM 2540 C-97	06/28/2018			06/29/2018 16:30	William L. Brown IV	2003732, 2003735
SM 2540 D-97	06/28/2018			06/29/2018 16:30	William L. Brown IV	2003732, 2003735
SM 4500 F-C-97	06/28/2018			07/07/2018 06:25	Dale L. Simmons	2003732
	06/28/2018			07/07/2018 08:00	Dale L. Simmons	2003735
SM 5310 B-00	06/28/2018			07/10/2018 05:41	Megan Treadwell	2003733
	06/28/2018			07/10/2018 05:56	Megan Treadwell	2003736