

Chemical Analysis Report

WQ-ASSESS-2017-08-08-01

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

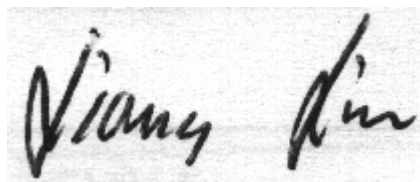
Event Description: **Bellows & Rocky**
Request ID: **RQ-2017-08-07-23**
Customer: **WQ-ASSESS**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
Division Of Water Facilities, FL DEP
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 30-AUG-2017 12:03

A handwritten signature in black ink, appearing to read "Liang Lin", 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: Bellows Lake

Collection Date/Time: 08/07/2017 09:25

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919711	EPA 180.1 Rev. 2.0	Turbidity	19	A	NTU	P329898	
	EPA 300.0 Rev. 2.1	Chloride	7.9	A	mg Cl/L	P329985	
		Sulfate	6.8	A	mg SO4/L	P329987	
	SM 2120 B	Color (true)	32	A	PCU	P329858	
	SM 2320 B-97	Total Alkalinity	51		mg CaCO3/L	P330090	
	SM 2540 C-97	TDS	111		mg/L	P330226	
	SM 2540 D-97	TSS	14		mg/L	P330234	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P330092	
1919712	EPA 350.1 Rev. 2.0	Ammonia-N	0.073		mg N/L	P330138	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.4		mg N/L	P330016	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P330212	
	EPA 365.1 Rev. 2.0	Total-P	0.087		mg P/L	P330036	
	SM 5310 B-00	Organic Carbon	24		mg C/L	P330165	
1919713	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P329847	
1919722	EPA 200.7 Rev. 4.4	Calcium	23.6		mg/L	P329942	
		Iron	55	I	ug/L	P329942	
		Magnesium	1.32		mg/L	P329942	
		Potassium	1.6		mg/L	P329942	
		Sodium	4.5		mg/L	P329942	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P329942	
		Arsenic	2.79		ug/L	P329942	
		Cadmium	0.020	U	ug/L	P329942	
		Chromium	0.40	U	ug/L	P329942	
		Copper	0.68	I	ug/L	P329942	
		Lead	0.27		ug/L	P329942	
		Nickel	0.24	I	ug/L	P329942	
		Silver	0.010	U	ug/L	P329942	

Ref. Method and Comment:

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

Sample Location: Bellows Lake

Collection Date/Time: 08/07/2017 09:25

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919717	EPA 8321B	Glyphosate**	0.50	U	ug/L	P329831	
		Pyraclostrobin**	0.0020	U	ug/L	P329718	
		Sucralose**	0.050		ug/L	P330308	MS, RPD
	USGS O-2060-01	2,4-D	0.30		ug/L	P329841	
		Diuron	0.0022	I	ug/L	P329841	
		Fenuron	0.0080	U	ug/L	P329841	
		Imidacloprid	0.0032		ug/L	P329841	
		Bentazon	8.0E-04	U	ug/L	P329841	MS
		Linuron	0.0040	U	ug/L	P329841	
		Acetaminophen**	0.0080	U	ug/L	P329841	

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919717	USGS O-2060-01	MCP	0.0031	I	ug/L	P329841	
		Carbamazepine**	4.0E-04	U	ug/L	P329841	
		Triclopyr**	0.0040	U	ug/L	P329841	
		Primidone**	0.0040	U	ug/L	P329841	
		Fluridone**	0.0091		ug/L	P329841	
1919720	EPA 8270D	Aldrin	4.5	U	ng/L	P329890	
		Alpha-BHC	2.2	U	ng/L	P329890	
		Beta-BHC	4.5	U	ng/L	P329890	
		Delta-BHC	4.5	U	ng/L	P329890	
		Gamma-BHC	4.5	U	ng/L	P329890	
		Carbophenothion	4.5	U	ng/L	P329890	
		Chlorothalonil	2.2	UJ	ng/L	P329890	MS, RPD
		Cypermethrin	22	U	ng/L	P329890	
		DDD-p,p'	3.3	U	ng/L	P329890	
		DDE-p,p'	3.3	U	ng/L	P329890	
		DDT-p,p'	3.3	U	ng/L	P329890	
		Dieldrin	4.5	U	ng/L	P329890	
		Endosulfan I	4.5	U	ng/L	P329890	
		Endosulfan II	4.5	U	ng/L	P329890	
		Endosulfan Sulfate	2.2	U	ng/L	P329890	
		Endrin	2.2	U	ng/L	P329890	
		Endrin Aldehyde	2.2	U	ng/L	P329890	
		Heptachlor	1.7	U	ng/L	P329890	
		Heptachlor Epoxide	2.2	U	ng/L	P329890	
		Methoxychlor	4.5	U	ng/L	P329890	
		Mirex	2.2	U	ng/L	P329890	
		Permethrin	11	U	ng/L	P329890	
		Trifluralin	1.1	U	ng/L	P329890	
		Alpha-Chlordane	1.1	U	ng/L	P329890	
		Gamma-Chlordane	1.1	U	ng/L	P329890	
		Endrin Ketone	2.2	U	ng/L	P329890	
		Dicofol	33	U	ng/L	P329890	
	EPA 8276	Chlordane**	2.8	U	ng/L	P329890	
		Toxaphene**	14	U	ng/L	P329890	
1919721	EPA 8270D	Alachlor	0.25	U	ng/L	P330082	
		Ametryn	0.32	U	ng/L	P330082	
		Atrazine	21		ng/L	P330082	
		Atrazine Desethyl	5.1	I	ng/L	P330082	
		Azinphos Methyl	2.2	U	ng/L	P330082	
		Bromacil	0.49	U	ng/L	P330082	
		Butylate	0.39	U	ng/L	P330082	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P330082	
		Chlorpyrifos Methyl	0.098	U	ng/L	P330082	
		Demeton	2.0	U	ng/L	P330082	
		Diazinon	0.12	U	ng/L	P330082	

Field ID: G1SW0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919721	EPA 8270D	Disulfoton	0.49	U	ng/L	P330082	
		EPTC	1.2	U	ng/L	P330082	
		Ethion	0.15	U	ng/L	P330082	
		Ethoprop	0.098	U	ng/L	P330082	
		Fenamiphos	0.25	U	ng/L	P330082	
		Fipronil	0.25	U	ng/L	P330082	
		Fipronil Sulfide	0.15	U	ng/L	P330082	
		Fipronil Sulfone	0.15	U	ng/L	P330082	
		Hexazinone	1.2	I	ng/L	P330082	
		Malathion	0.34	U	ng/L	P330082	
		Metribuzin	0.20	UJ	ng/L	P330082	CCV, LCS, MS, RPD
		Mevinphos	0.49	U	ng/L	P330082	
		Molinate	0.30	UJ	ng/L	P330082	LCS
		Norflurazon	0.49	U	ng/L	P330082	
		Pendimethalin	0.98	U	ng/L	P330082	
		Phorate	0.25	U	ng/L	P330082	
		Prometon	0.89	U	ng/L	P330082	
		Prometryn	0.20	U	ng/L	P330082	
		Simazine	0.49	U	ng/L	P330082	
		Terbufos	0.098	U	ng/L	P330082	
		Terbutylazine	0.42	U	ng/L	P330082	
		Fonofos	0.20	U	ng/L	P330082	
		Metalaxyl	0.20	U	ng/L	P330082	
		Metolachlor	0.25	U	ng/L	P330082	
		Acetochlor	0.25	U	ng/L	P330082	
		Cyanazine	0.49	UJ	ng/L	P330082	CCV
		Parathion Ethyl	0.25	U	ng/L	P330082	
		Parathion Methyl	0.25	U	ng/L	P330082	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

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.

Sample Location: Rocky Creek

Collection Date/Time: 08/07/2017 10:45

Field ID: G1SW0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919718	EPA 8321B	Sucralose**	2.8		ug/L	P330308	MS, RPD
	USGS O-2060-01	2,4-D	0.55		ug/L	P329841	
		Diuron	0.037		ug/L	P329841	
		Fenuron	0.0080	U	ug/L	P329841	
		Imidacloprid	0.088		ug/L	P329841	
		Bentazon	0.019		ug/L	P329841	MS
		Linuron	0.0040	U	ug/L	P329841	
		Acetaminophen**	0.0080	U	ug/L	P329841	

Field ID: G1SW0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1919718	USGS O-2060-01	MCP	0.0020	U	ug/L	P329841	
		Carbamazepine**	0.012		ug/L	P329841	
		Triclopyr**	0.0040	U	ug/L	P329841	
		Primidone**	0.0096	I	ug/L	P329841	
		Fluridone**	0.023		ug/L	P329841	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P329898

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P329942

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: P329942

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: P329985

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P329987

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330138

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330016

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330212

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330036

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329847

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

Reference Method: EPA 8270D
Batch ID: P329890

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D**Batch ID: P329890**

Component	Result	Code	Units
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

Reference Method: EPA 8270D**Batch ID: P330082**

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	0.20	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
Terbutylazine	0.42	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8276
Batch ID: P329890

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	12	U	ng/L

Reference Method: EPA 8321B
Batch ID: P329718

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P329831

Component	Result	Code	Units
Glyphosate	0.50	U	ug/L

Reference Method: EPA 8321B
Batch ID: P330308

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P329858

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P330090

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

Reference Method: SM 2540 C-97
Batch ID: P330226

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P330234

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P330092

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00

Batch ID: P330165

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

Reference Method: USGS O-2060-01

Batch ID: P329841

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P329942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	107		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	98.8		P	85 - 115
Sodium	100		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P329942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	104		P	85 - 115
Cadmium	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P329942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	99.2		P	85 - 115
Copper	97.7		P	85 - 115
Lead	96.4		P	85 - 115
Nickel	101		P	85 - 115
Silver	99.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329985

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329987

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330138

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: P330016

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	106		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330212

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330036

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	106		P	90 - 110

Reference Method: EPA 8270D
Batch ID: P329890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P329890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	44.9	48.3	P/P	26 - 88.0
Alpha-BHC	79.7	77.3	P/P	63 - 114
Alpha-Chlordane	77.0	72.9	P/P	56 - 117
Beta-BHC	75.5	88.4	P/P	57 - 138
Carbophenothion	97.7	76.4	P/P	36 - 148
Chlorothalonil	31.0	76.7	P/P	26 - 173
Cypermethrin	99.0	97.4	P/P	42 - 159
DDD-p,p'	80.7	79.1	P/P	62 - 126
DDE-p,p'	73.8	69.8	P/P	53 - 115
DDT-p,p'	81.7	77.2	P/P	54 - 117
Delta-BHC	97.0	105	P/P	68 - 158
Dicofol	42.8	36.1	P/P	25 - 114
Dieldrin	76.3	75.1	P/P	59 - 126
Endosulfan I	88.2	85.6	P/P	62 - 138
Endosulfan II	90.2	103	P/P	61 - 150
Endosulfan Sulfate	89.3	89.1	P/P	63 - 132
Endrin	81.7	80.2	P/P	49 - 148
Endrin Aldehyde	84.6	82.3	P/P	50 - 144
Endrin Ketone	82.8	81.4	P/P	66 - 122
Gamma-BHC	83.8	84.3	P/P	60 - 137
Gamma-Chlordane	72.2	70.4	P/P	54 - 113
Heptachlor	65.4	62.5	P/P	43 - 104
Heptachlor Epoxide	76.9	74.6	P/P	64 - 118
Methoxychlor	88.2	87.4	P/P	63 - 129
Mirex	72.0	62.5	P/P	39 - 93.0
Permethrin	83.1	82.7	P/P	51 - 123
Trifluralin	107	98.8	P/P	35 - 187

Reference Method: EPA 8270D

Batch ID: P330082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	89.0	91.7	P/P	78 - 118
Alachlor	92.6	93.9	P/P	77 - 119
Ametryn	109	101	P/P	61 - 136
Atrazine	103	105	P/P	73 - 120
Atrazine Desethyl	81.3	104	P/P	16 - 122
Azinphos Methyl	118	118	P/P	69 - 186
Bromacil	97.1	93.0	P/P	40 - 125
Butylate	37.0	37.9	P/P	32 - 87.0
Chlorpyrifos Ethyl	86.2	90.2	P/P	53 - 110
Chlorpyrifos Methyl	91.7	93.5	P/P	31 - 119
Cyanazine	174	191	P/P	36 - 224
Demeton	81.8	85.9	P/P	39 - 122
Diazinon	91.1	87.8	P/P	75 - 119
Disulfoton	122	101	P/P	42 - 139
EPTC	38.2	38.2	P/P	33 - 96.0
Ethion	80.8	88.3	P/P	63 - 127
Ethoprop	76.1	75.7	P/P	65 - 107
Fenamiphos	102	104	P/P	64 - 137
Fipronil	99.9	98.8	P/P	60 - 126
Fipronil Sulfide	88.3	91.2	P/P	58 - 124

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P330082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fipronil Sulfone	80.2	83.6	P/P	57 - 126
Fonofos	88.7	89.7	P/P	65 - 111
Hexazinone	90.2	90.7	P/P	46 - 151
Malathion	89.7	92.9	P/P	68 - 132
Metalaxyl	86.7	86.3	P/P	51 - 132
Metolachlor	89.8	89.9	P/P	78 - 119
Metribuzin	106	158	P/F	64 - 138
Mevinphos	69.4	73.7	P/P	34 - 128
Molinate	47.5	43.5	P/F	44 - 101
Norflurazon	94.7	96.3	P/P	63 - 129
Parathion Ethyl	89.1	87.3	P/P	80 - 109
Parathion Methyl	101	96.7	P/P	74 - 125
Pendimethalin	80.7	75.4	P/P	48 - 134
Phorate	82.4	83.3	P/P	52 - 119
Prometon	86.5	85.3	P/P	69 - 124
Prometryn	95.8	96.1	P/P	66 - 124
Simazine	95.4	98.1	P/P	61 - 134
Terbufos	84.4	88.6	P/P	58 - 115
Terbuthylazine	85.8	89.4	P/P	77 - 113

Reference Method: EPA 8276

Batch ID: P329890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	76.0	99.4	P/P	44 - 134
Toxaphene	85.6	109	P/P	36 - 147

Reference Method: EPA 8321B

Batch ID: P329718

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	71.2		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P329831

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	114		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P330308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	147		P	40 - 150

Reference Method: SM 2320 B-97

Batch ID: P330090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97

Batch ID: P330092

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Reference Method: SM 5310 B-00

Batch ID: P330165

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.3		P	85 - 115

Reference Method: USGS O-2060-01

Batch ID: P329841

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	103		P	40 - 150
Acetaminophen	76.0		P	30 - 150
Bentazon	101		P	40 - 150
Carbamazepine	88.2		P	40 - 150
Diuron	81.5		P	40 - 150
Fenuron	82.1		P	40 - 150
Fluridone	111		P	40 - 150
Imidacloprid	81.2		P	40 - 160
Linuron	83.1		P	40 - 150
MCPP	91.6		P	40 - 150
Primidone	84.5		P	40 - 150
Triclopyr	90.3		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P329942

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919722	Calcium	104		P	80 - 120
1919722	Iron	107	105	P/P	80 - 120
1919722	Magnesium	108	104	P/P	80 - 120
1919722	Potassium	97.7	95.8	P/P	80 - 120
1919722	Sodium	99.1		P	80 - 120
1919722	Zinc	105	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P329942

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919722	Arsenic	105	104	P/P	80 - 120
1919722	Cadmium	101	103	P/P	80 - 120
1919722	Chromium	99.6	97.0	P/P	80 - 120
1919722	Copper	97.9	96.1	P/P	80 - 120
1919722	Lead	98.0	96.3	P/P	80 - 120
1919722	Nickel	100	99.1	P/P	80 - 120
1919722	Silver	98.3	97.6	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P329985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919548	Chloride	99.0		P	90 - 110
1919711	Chloride	96.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P329987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919548	Sulfate	98.1		P	90 - 110
1919711	Sulfate	95.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P330138

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919561	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P330016

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919561	Kjeldahl Nitrogen	108	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P330212

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919712	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P330036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919797	Total-P	96.1	97.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P329847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919570	O-Phosphate-P	96.5	97.0	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P329890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919252	Aldrin	56.8	46.4	P/P	22 - 97.0
1919252	Alpha-BHC	81.2	72.8	P/P	43 - 132
1919252	Alpha-Chlordane	69.2	58.6	P/P	36 - 126
1919252	Beta-BHC	81.2	66.9	P/P	41 - 150
1919252	Carbophenothion	81.4	94.8	P/P	13 - 196
1919252	Chlorothalonil	10.2	2.51	P/F	10 - 266
1919252	Cypermethrin	113	96.8	P/P	37 - 161
1919252	DDD-p,p'	73.4	65.5	P/P	44 - 131

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P329890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919252	DDE-p,p'	64.3	55.7	P/P	32 - 127
1919252	DDT-p,p'	76.2	70.4	P/P	45 - 116
1919252	Delta-BHC	122	99.4	P/P	50 - 201
1919252	Dicofol	14.8	19.8	P/P	10 - 100
1919252	Dieldrin	68.5	59.1	P/P	39 - 142
1919252	Endosulfan I	86.9	69.0	P/P	51 - 139
1919252	Endosulfan II	100	79.5	P/P	49 - 155
1919252	Endosulfan Sulfate	82.7	70.7	P/P	54 - 136
1919252	Endrin	73.5	67.2	P/P	38 - 141
1919252	Endrin Aldehyde	63.3	52.3	P/P	14 - 152
1919252	Endrin Ketone	85.1	70.0	P/P	60 - 128
1919252	Gamma-BHC	103	89.6	P/P	48 - 157
1919252	Gamma-Chlordane	66.6	56.8	P/P	35 - 123
1919252	Heptachlor	64.1	58.1	P/P	25 - 112
1919252	Heptachlor Epoxide	73.3	59.7	P/P	48 - 125
1919252	Methoxychlor	89.8	75.9	P/P	52 - 127
1919252	Mirex	64.9	59.2	P/P	25 - 108
1919252	Permethrin	89.1	76.4	P/P	46 - 133
1919252	Trifluralin	138	135	P/P	29 - 254

Reference Method: EPA 8270D

Batch ID: P330082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920852	Acetochlor	96.0	88.6	P/P	74 - 123
1920852	Alachlor	99.4	95.4	P/P	73 - 124
1920852	Ametryn	121	112	P/P	56 - 149
1920852	Atrazine Desethyl	84.5	79.0	P/P	12 - 103
1920852	Azinphos Methyl	118	114	P/P	60 - 202
1920852	Bromacil	99.8	101	P/P	42 - 133
1920852	Butylate	27.9	23.2	P/P	10 - 85.0
1920852	Chlorpyrifos Ethyl	87.2	85.9	P/P	53 - 113
1920852	Chlorpyrifos Methyl	78.7	78.3	P/P	40 - 115
1920852	Cyanazine	161	167	P/P	22 - 210
1920852	Demeton	59.4	68.2	P/P	17 - 149
1920852	Diazinon	93.9	95.7	P/P	72 - 124
1920852	Disulfoton	98.5	97.3	P/P	43 - 139
1920852	EPTC	25.6	25.2	P/P	10 - 86.0
1920852	Ethion	84.8	80.7	P/P	65 - 131
1920852	Ethoprop	69.4	70.7	P/P	59 - 110
1920852	Fenamiphos	95.2	92.0	P/P	57 - 138
1920852	Fipronil	113	93.5	P/P	40 - 130
1920852	Fipronil Sulfide	86.8	78.3	P/P	36 - 128
1920852	Fipronil Sulfone	71.5	59.7	P/P	16 - 145
1920852	Fonofos	77.7	78.5	P/P	60 - 112
1920852	Hexazinone	87.6	87.0	P/P	69 - 142
1920852	Malathion	109	105	P/P	68 - 132
1920852	Metalaxyl	98.3	86.5	P/P	66 - 118
1920852	Metolachlor	99.6	91.2	P/P	71 - 124
1920852	Metribuzin	165	141	F/F	61 - 140
1920852	Mevinphos	61.1	61.1	P/P	38 - 130
1920852	Molinate	36.1	35.4	P/P	23 - 99.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P330082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1920852	Norflurazon	102	93.9	P/P	39 - 139
1920852	Parathion Ethyl	89.6	80.5	P/P	75 - 111
1920852	Parathion Methyl	94.7	96.3	P/P	64 - 130
1920852	Pendimethalin	79.5	74.7	P/P	26 - 173
1920852	Phorate	63.9	66.6	P/P	43 - 127
1920852	Prometon	102	102	P/P	50 - 144
1920852	Prometryn	106	95.2	P/P	69 - 126
1920852	Simazine	93.9	90.1	P/P	51 - 152
1920852	Terbufos	74.4	78.2	P/P	54 - 125
1920852	Terbutylazine	91.4	86.4	P/P	76 - 113

Reference Method: EPA 8276
 Batch ID: P329890

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919083	Chlordane	87.0	88.7	P/P	44 - 134
1919083	Toxaphene	103	104	P/P	36 - 147

Reference Method: EPA 8321B
 Batch ID: P329718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919077	Pyraclostrobin	68.3	66.4	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P329831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919717	Glyphosate	117	117	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P330308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919629	Sucralose	103	166	P/F	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P330092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919795	Fluoride	99.1	103	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P330165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919562	Organic Carbon	99.3	99.5	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P329841

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

Reference Method: USGS O-2060-01

Batch ID: P329841

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1919076	Acetaminophen	98.2	96.7	P/P	30 - 150
1919076	Bentazon	38.2	38.8	F/F	40 - 150
1919076	Carbamazepine	83.9	72.7	P/P	40 - 150
1919076	Diuron	48.5	53.8	P/P	40 - 150
1919076	Fenuron	73.4	64.3	P/P	40 - 150
1919076	Fluridone	67.7	55.6	P/P	40 - 150
1919076	Imidacloprid	139	123	P/P	40 - 160
1919076	Linuron	62.3	65.5	P/P	40 - 150
1919076	MCP	121	111	P/P	40 - 150
1919076	Primidone	102	80.3	P/P	40 - 150
1919076	Triclopyr	112	123	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P329898

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919711	Turbidity	1.58	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P329942

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919722	Calcium	0.417	Spike	P	0 - 20
1919722	Iron	1.74	Spike	P	0 - 20
1919722	Magnesium	2.32	Spike	P	0 - 20
1919722	Potassium	1.40	Spike	P	0 - 20
1919722	Sodium	0.489	Spike	P	0 - 20
1919722	Zinc	0.242	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P329942

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919722	Arsenic	1.21	Spike	P	0 - 20
1919722	Cadmium	1.40	Spike	P	0 - 20
1919722	Chromium	2.72	Spike	P	0 - 20
1919722	Copper	1.79	Spike	P	0 - 20
1919722	Lead	1.73	Spike	P	0 - 20
1919722	Nickel	1.31	Spike	P	0 - 20
1919722	Silver	0.697	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919711	Chloride	6.48	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919711	Sulfate	1.53	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919561	Ammonia-N	0.882	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919561	Kjeldahl Nitrogen	1.43	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919712	NO2NO3-N	0.962	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919797	Total-P	1.62	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919570	O-Phosphate-P	0.412	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P329890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919252	Aldrin	20.0	Spike	P	0 - 30
1919252	Alpha-BHC	10.9	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P329890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919252	Alpha-Chlordane	16.6	Spike	P	0 - 30
1919252	Beta-BHC	19.4	Spike	P	0 - 30
1919252	Carbophenothion	15.3	Spike	P	0 - 30
1919252	Chlorothalonil	121	Spike	F	0 - 30
1919252	Cypermethrin	15.2	Spike	P	0 - 30
1919252	DDD-p,p'	11.4	Spike	P	0 - 30
1919252	DDE-p,p'	14.3	Spike	P	0 - 30
1919252	DDT-p,p'	7.95	Spike	P	0 - 30
1919252	Delta-BHC	20.1	Spike	P	0 - 30
1919252	Dicofol	28.5	Spike	P	0 - 30
1919252	Dieldrin	14.7	Spike	P	0 - 30
1919252	Endosulfan I	22.9	Spike	P	0 - 30
1919252	Endosulfan II	23.0	Spike	P	0 - 30
1919252	Endosulfan Sulfate	15.7	Spike	P	0 - 30
1919252	Endrin	8.87	Spike	P	0 - 30
1919252	Endrin Aldehyde	19.1	Spike	P	0 - 30
1919252	Endrin Ketone	19.4	Spike	P	0 - 30
1919252	Gamma-BHC	13.7	Spike	P	0 - 30
1919252	Gamma-Chlordane	16.0	Spike	P	0 - 30
1919252	Heptachlor	9.91	Spike	P	0 - 30
1919252	Heptachlor Epoxide	20.5	Spike	P	0 - 30
1919252	Methoxychlor	16.8	Spike	P	0 - 30
1919252	Mirex	9.16	Spike	P	0 - 30
1919252	Permethrin	15.4	Spike	P	0 - 30
1919252	Trifluralin	2.41	Spike	P	0 - 30
LFB	Aldrin	7.24	LCS	P	0 - 30
LFB	Alpha-BHC	3.10	LCS	P	0 - 30
LFB	Alpha-Chlordane	5.44	LCS	P	0 - 30
LFB	Beta-BHC	15.8	LCS	P	0 - 30
LFB	Carbophenothion	24.5	LCS	P	0 - 30
LFB	Chlorothalonil	84.8	LCS	F	0 - 30
LFB	Cypermethrin	1.69	LCS	P	0 - 30
LFB	DDD-p,p'	2.06	LCS	P	0 - 30
LFB	DDE-p,p'	5.51	LCS	P	0 - 30
LFB	DDT-p,p'	5.72	LCS	P	0 - 30
LFB	Delta-BHC	8.08	LCS	P	0 - 30
LFB	Dicofol	16.9	LCS	P	0 - 30
LFB	Dieldrin	1.63	LCS	P	0 - 30
LFB	Endosulfan I	2.90	LCS	P	0 - 30
LFB	Endosulfan II	13.3	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.211	LCS	P	0 - 30
LFB	Endrin	1.79	LCS	P	0 - 30
LFB	Endrin Aldehyde	2.76	LCS	P	0 - 30
LFB	Endrin Ketone	1.73	LCS	P	0 - 30
LFB	Gamma-BHC	0.664	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.55	LCS	P	0 - 30
LFB	Heptachlor	4.69	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.09	LCS	P	0 - 30
LFB	Methoxychlor	0.899	LCS	P	0 - 30
LFB	Mirex	14.2	LCS	P	0 - 30
LFB	Permethrin	0.416	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P329890

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Trifluralin	8.07	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P330082

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1920852	Acetochlor	7.99	Spike	P	0 - 30
1920852	Alachlor	4.13	Spike	P	0 - 30
1920852	Ametryn	5.75	Spike	P	0 - 30
1920852	Atrazine	4.97	Spike	P	0 - 30
1920852	Atrazine Desethyl	4.96	Spike	P	0 - 30
1920852	Azinphos Methyl	3.26	Spike	P	0 - 30
1920852	Bromacil	1.65	Spike	P	0 - 30
1920852	Butylate	18.4	Spike	P	0 - 30
1920852	Chlorpyrifos Ethyl	1.49	Spike	P	0 - 30
1920852	Chlorpyrifos Methyl	0.435	Spike	P	0 - 30
1920852	Cyanazine	3.66	Spike	P	0 - 30
1920852	Demeton	13.9	Spike	P	0 - 30
1920852	Diazinon	1.92	Spike	P	0 - 30
1920852	Disulfoton	1.22	Spike	P	0 - 30
1920852	EPTC	1.66	Spike	P	0 - 30
1920852	Ethion	4.94	Spike	P	0 - 30
1920852	Ethoprop	1.75	Spike	P	0 - 30
1920852	Fenamiphos	3.46	Spike	P	0 - 30
1920852	Fipronil	18.7	Spike	P	0 - 30
1920852	Fipronil Sulfide	10.3	Spike	P	0 - 30
1920852	Fipronil Sulfone	14.5	Spike	P	0 - 30
1920852	Fonofos	1.04	Spike	P	0 - 30
1920852	Hexazinone	0.399	Spike	P	0 - 30
1920852	Malathion	3.81	Spike	P	0 - 30
1920852	Metalaxyl	12.8	Spike	P	0 - 30
1920852	Metolachlor	8.80	Spike	P	0 - 30
1920852	Metribuzin	15.8	Spike	P	0 - 30
1920852	Mevinphos	0.0736	Spike	P	0 - 30
1920852	Molinate	1.95	Spike	P	0 - 30
1920852	Norflurazon	7.80	Spike	P	0 - 30
1920852	Parathion Ethyl	10.7	Spike	P	0 - 30
1920852	Parathion Methyl	1.70	Spike	P	0 - 30
1920852	Pendimethalin	6.18	Spike	P	0 - 30
1920852	Phorate	4.19	Spike	P	0 - 30
1920852	Prometon	0.181	Spike	P	0 - 30
1920852	Prometryn	10.5	Spike	P	0 - 30
1920852	Simazine	3.15	Spike	P	0 - 30
1920852	Terbufos	4.95	Spike	P	0 - 30
1920852	Terbuthylazine	5.69	Spike	P	0 - 30
LFB	Acetochlor	2.99	LCS	P	0 - 30
LFB	Alachlor	1.38	LCS	P	0 - 30
LFB	Ametryn	8.07	LCS	P	0 - 30
LFB	Atrazine	1.89	LCS	P	0 - 30
LFB	Atrazine Desethyl	24.6	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D

Batch ID: P330082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Azinphos Methyl	0.718	LCS	P	0 - 30
LFB	Bromacil	4.26	LCS	P	0 - 30
LFB	Butylate	2.53	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	4.55	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.90	LCS	P	0 - 30
LFB	Cyanazine	9.18	LCS	P	0 - 30
LFB	Demeton	4.88	LCS	P	0 - 30
LFB	Diazinon	3.66	LCS	P	0 - 30
LFB	Disulfoton	18.5	LCS	P	0 - 30
LFB	EPTC	0.0736	LCS	P	0 - 30
LFB	Ethion	8.96	LCS	P	0 - 30
LFB	Ethoprop	0.520	LCS	P	0 - 30
LFB	Fenamiphos	2.15	LCS	P	0 - 30
LFB	Fipronil	1.07	LCS	P	0 - 30
LFB	Fipronil Sulfide	3.23	LCS	P	0 - 30
LFB	Fipronil Sulfone	4.14	LCS	P	0 - 30
LFB	Fonofos	1.12	LCS	P	0 - 30
LFB	Hexazinone	0.587	LCS	P	0 - 30
LFB	Malathion	3.47	LCS	P	0 - 30
LFB	Metalaxyl	0.465	LCS	P	0 - 30
LFB	Metolachlor	0.119	LCS	P	0 - 30
LFB	Metribuzin	39.9	LCS	F	0 - 30
LFB	Mevinphos	5.93	LCS	P	0 - 30
LFB	Molinate	8.69	LCS	P	0 - 30
LFB	Norflurazon	1.67	LCS	P	0 - 30
LFB	Parathion Ethyl	2.05	LCS	P	0 - 30
LFB	Parathion Methyl	4.75	LCS	P	0 - 30
LFB	Pendimethalin	6.72	LCS	P	0 - 30
LFB	Phorate	1.07	LCS	P	0 - 30
LFB	Prometon	1.42	LCS	P	0 - 30
LFB	Prometryn	0.294	LCS	P	0 - 30
LFB	Simazine	2.77	LCS	P	0 - 30
LFB	Terbufos	4.89	LCS	P	0 - 30
LFB	Terbuthylazine	4.03	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P329890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919083	Chlordane	1.87	Spike	P	0 - 30
1919083	Toxaphene	1.21	Spike	P	0 - 30
LFB	Chlordane	26.7	LCS	P	0 - 30
LFB	Toxaphene	24.0	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P329718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919077	Pyraclostrobin	2.88	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P329831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919717	Glyphosate	0.0515	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P330308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919629	Sucralose	41.8	Spike	F	0 - 30

Reference Method: SM 2120 B
Batch ID: P329858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919711	Color (true)	4.80	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P330090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919795	Total Alkalinity	0.115	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P330226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919732	TDS	3.02	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P330092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919795	Fluoride	2.40	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P330165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919562	Organic Carbon	0.194	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P329841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919076	2,4-D	0.984	Spike	P	0 - 30
1919076	Acetaminophen	1.46	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01

Batch ID: P329841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1919076	Bentazon	0.907	Spike	P	0 - 30
1919076	Carbamazepine	13.8	Spike	P	0 - 30
1919076	Diuron	7.89	Spike	P	0 - 30
1919076	Fenuron	13.2	Spike	P	0 - 30
1919076	Fluridone	11.9	Spike	P	0 - 30
1919076	Imidacloprid	9.50	Spike	P	0 - 30
1919076	Linuron	4.98	Spike	P	0 - 30
1919076	MCP	9.09	Spike	P	0 - 30
1919076	Primidone	24.0	Spike	P	0 - 30
1919076	Triclopyr	8.97	Spike	P	0 - 30

* 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: 1919717

Field Sample ID: G1SW0044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	83.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.4	P	30 - 160
EPA 8321B	Diuron-d6	59.9	P	30 - 160
EPA 8321B	Diuron-d6	69.3	P	30 - 160
EPA 8321B	Diuron-d6	59.9	P	30 - 160
EPA 8321B	Diuron-d6	69.3	P	30 - 160
EPA 8321B	Primidone-d5	72.5	P	30 - 160
EPA 8321B	Primidone-d5	72.5	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	40 - 160
EPA 8321B	Sucralose-d6	109	P	40 - 160
USGS O-2060-01	2,4-D-d3	135	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	83.7	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	70.4	P	30 - 160
USGS O-2060-01	Diuron-d6	59.9	P	30 - 160
USGS O-2060-01	Diuron-d6	69.3	P	30 - 160
USGS O-2060-01	Primidone-d5	72.5	P	30 - 160
USGS O-2060-01	Sucralose-d6	109	P	40 - 160

Lab Sample ID: 1919718

Field Sample ID: G1SW0053

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	93.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.8	P	30 - 160
EPA 8321B	Diuron-d6	69.0	P	30 - 160
EPA 8321B	Primidone-d5	77.4	P	30 - 160
EPA 8321B	Sucralose-d6	76.5	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1919718
Field Sample ID: G1SW0053

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
USGS O-2060-01	2,4-D-d3	142	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	93.7	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	77.8	P	30 - 160
USGS O-2060-01	Diuron-d6	69.0	P	30 - 160
USGS O-2060-01	Primidone-d5	77.4	P	30 - 160
USGS O-2060-01	Sucralose-d6	76.5	P	40 - 160

Lab Sample ID: 1919720
Field Sample ID: G1SW0044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	46.6	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	39.6	P	32 - 103
EPA 8276	Decachlorobiphenyl	46.6	P	31 - 100

Lab Sample ID: 1919721
Field Sample ID: G1SW0044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	64.2	P	53 - 135
EPA 8270D	Simazine-d10	81.6	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A78260
Included Lab Sample IDs: 1919713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	98.8	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A78262
Included Lab Sample IDs: 1919711

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	85 - 115

Reference Method: EPA 8321B
Run ID: A78269
Included Lab Sample IDs: 1919717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	97.0	97.0	P/P	60 - 150

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A78270
Included Lab Sample IDs: 1919711

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A78270

Included Lab Sample IDs: 1919711

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	103	P/P	90 - 110
Sulfate	99.8	103	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A78275

Included Lab Sample IDs: 1919711

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78333

Included Lab Sample IDs: 1919722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	99.5	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	95.6	96.8	P/P	90 - 110
Sodium	95.2	96.9	P/P	90 - 110
Zinc	98.2	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A78343

Included Lab Sample IDs: 1919711

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.5	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A78343

Included Lab Sample IDs: 1919711

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78345

Included Lab Sample IDs: 1919712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78363

Included Lab Sample IDs: 1919722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	101	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Chromium	99.1	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78363

Included Lab Sample IDs: 1919722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	100	98.9	P/P	90 - 110
Lead	96.4	96.2	P/P	90 - 110
Nickel	99.8	98.8	P/P	90 - 110
Silver	97.1	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78366

Included Lab Sample IDs: 1919712

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

Reference Method: SM 5310 B-00

Run ID: A78375

Included Lab Sample IDs: 1919712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78383

Included Lab Sample IDs: 1919712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	107	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A78403

Included Lab Sample IDs: 1919717, 1919718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	132	146	P/P	50 - 150
Acetaminophen	77.7	82.7	P/P	60 - 150
Acetaminophen	79.4	77.7	P/P	60 - 150
Bentazon	102	110	P/P	50 - 150
Bentazon	110	117	P/P	50 - 150
Carbamazepine	81.9	87.0	P/P	60 - 150
Carbamazepine	86.8	81.9	P/P	60 - 150
Diuron	79.9	86.2	P/P	60 - 150
Diuron	86.2	87.0	P/P	60 - 150
Fenuron	79.9	85.4	P/P	60 - 150
Fenuron	85.4	87.1	P/P	60 - 150
Fluridone	110	120	P/P	60 - 160
Fluridone	120	116	P/P	60 - 160
Imidacloprid	82.5	82.0	P/P	60 - 150
Imidacloprid	90.9	82.5	P/P	60 - 150
Linuron	117	87.0	P/P	60 - 150
Linuron	84.1	117	P/P	60 - 150
MCPP	93.0	114	P/P	50 - 150
MCPP	99.9	93.0	P/P	50 - 150
Primidone	100	105	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A78403

Included Lab Sample IDs: 1919717, 1919718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Primidone	92.6	100	P/P	60 - 150
Triclopyr	151	144	P/P	50 - 160
Triclopyr	96.4	151	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78407

Included Lab Sample IDs: 1919712

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A78420

Included Lab Sample IDs: 1919720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	104		P	80 - 120
Toxaphene	109		P	80 - 120

Reference Method: EPA 8321B

Run ID: A78449

Included Lab Sample IDs: 1919717, 1919718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	116	106	P/P	60 - 150

Reference Method: EPA 8270D

Run ID: A78472

Included Lab Sample IDs: 1919720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	96.5		P	80 - 120
Alpha-BHC	97.8		P	80 - 120
Alpha-Chlordane	99.8		P	80 - 120
Beta-BHC	101		P	80 - 120
Carbophenothion	84.1		P	80 - 120
Chlorothalonil	99.8		P	80 - 120
Cypermethrin	107		P	80 - 120
DDD-p,p'	97.9		P	80 - 120
DDE-p,p'	99.0		P	80 - 120
DDT-p,p'	108		P	80 - 120
Delta-BHC	90.6		P	80 - 120
Dicofol	106		P	80 - 120
Dieldrin	96.0		P	80 - 120
Endosulfan I	99.1		P	80 - 120
Endosulfan II	94.3		P	80 - 120
Endosulfan Sulfate	96.3		P	80 - 120
Endrin	99.4		P	80 - 120
Endrin Aldehyde	96.4		P	80 - 120
Endrin Ketone	97.7		P	80 - 120
Gamma-BHC	101		P	80 - 120

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270D

Run ID: A78472

Included Lab Sample IDs: 1919720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Gamma-Chlordane	99.0		P	80 - 120
Heptachlor	93.3		P	80 - 120
Heptachlor Epoxide	98.0		P	80 - 120
Methoxychlor	110		P	80 - 120
Mirex	99.3		P	80 - 120
Permethrin	98.4		P	80 - 120
Trifluralin	105		P	80 - 120

Reference Method: EPA 8270D

Run ID: A78497

Included Lab Sample IDs: 1919721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.8		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	99.7		P	80 - 120
Atrazine	112		P	80 - 120
Atrazine Desethyl	81.1		P	80 - 120
Azinphos Methyl	102		P	80 - 120
Bromacil	107		P	80 - 120
Butylate	99.5		P	80 - 120
Chlorpyrifos Ethyl	90.8		P	80 - 120
Chlorpyrifos Methyl	90.5		P	80 - 120
Cyanazine	66.3*		F	80 - 120
Demeton	95.1		P	80 - 120
Diazinon	93.2		P	80 - 120
Disulfoton	93.7		P	80 - 120
EPTC	99.8		P	80 - 120
Ethion	91.7		P	80 - 120
Ethoprop	91.7		P	80 - 120
Fenamiphos	99.4		P	80 - 120
Fipronil	99.3		P	80 - 120
Fipronil Sulfide	96.2		P	80 - 120
Fipronil Sulfone	97.3		P	80 - 120
Fonofos	99.0		P	80 - 120
Hexazinone	97.5		P	80 - 120
Malathion	96.5		P	80 - 120
Metaxyl	96.8		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	72.4*		F	80 - 120
Mevinphos	102		P	80 - 120
Molinate	87.7		P	80 - 120
Norflurazon	103		P	80 - 120
Parathion Ethyl	95.5		P	80 - 120
Parathion Methyl	99.1		P	80 - 120
Pendimethalin	83.0		P	80 - 120
Phorate	93.2		P	80 - 120
Prometon	107		P	80 - 120
Prometryn	110		P	80 - 120
Simazine	103		P	80 - 120
Terbufos	94.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A78497
Included Lab Sample IDs: 1919721

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Terbutylazine	96.3		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						1.58	
EPA 200.7 Rev. 4.4	Calcium	105		104				0.417
	Iron	107		107	105			1.74
	Magnesium	109		108	104			2.32
	Potassium	98.8		97.7	95.8			1.40
	Sodium	100		99.1				0.489
	Zinc	101		105	105			0.242
EPA 200.8 Rev. 5.4	Arsenic	104		105	104			1.21
	Cadmium	102		101	103			1.40
	Chromium	99.2		99.6	97.0			2.72
	Copper	97.7		97.9	96.1			1.79
	Lead	96.4		98.0	96.3			1.73
	Nickel	101		100	99.1			1.31
	Silver	99.0		98.3	97.6			0.697
EPA 300.0 Rev. 2.1	Chloride	100		96.3	99.0		6.48	
	Sulfate	99.2		95.5	98.1		1.53	
EPA 350.1 Rev. 2.0	Ammonia-N	102		103	104			0.882
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106		108	106			1.43
EPA 353.2 Rev. 2.0	NO2NO3-N	104		104	104			0.962
EPA 365.1 Rev. 2.0	Total-P	97.0		96.1	97.9			1.62
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	106		96.5	97.0			0.412
EPA 8270D	Acetochlor	89.0	91.7	96.0	88.6	2.99		7.99
	Alachlor	92.6	93.9	95.4	99.4	1.38		4.13
	Aldrin	44.9	48.3	56.8	46.4	7.24		20.0
	Alpha-BHC	79.7	77.3	81.2	72.8	3.10		10.9
	Alpha-Chlordane	77.0	72.9	69.2	58.6	5.44		16.6
	Ametryn	109	101	112	121	8.07		5.75
	Atrazine	103	105			1.89		4.97
	Atrazine Desethyl	81.3	104	84.5	79.0	24.6		4.96
	Azinphos Methyl	118	118	118	114	0.718		3.26
	Beta-BHC	75.5	88.4	81.2	66.9	15.8		19.4
	Bromacil	97.1	93.0	99.8	101	4.26		1.65
	Butylate	37.0	37.9	27.9	23.2	2.53		18.4
	Carbophenothion	97.7	76.4	81.4	94.8	24.5		15.3
	Chlorothalonil	31.0	76.7	10.2	2.51	84.8		121
	Chlorpyrifos Ethyl	86.2	90.2	87.2	85.9	4.55		1.49
	Chlorpyrifos Methyl	91.7	93.5	78.7	78.3	1.90		0.435
	Cyanazine	174	191	161	167	9.18		3.66
	Cypermethrin	99.0	97.4	113	96.8	1.69		15.2

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	DDD-p,p'	80.7	79.1	73.4	65.5	2.06	11.4
	DDE-p,p'	73.8	69.8	64.3	55.7	5.51	14.3
	DDT-p,p'	81.7	77.2	76.2	70.4	5.72	7.95
	Delta-BHC	97.0	105	122	99.4	8.08	20.1
	Demeton	81.8	85.9	68.2	59.4	4.88	13.9
	Diazinon	91.1	87.8	95.7	93.9	3.66	1.92
	Dicofol	42.8	36.1	14.8	19.8	16.9	28.5
	Dieldrin	76.3	75.1	68.5	59.1	1.63	14.7
	Disulfoton	122	101	97.3	98.5	18.5	1.22
	Endosulfan I	88.2	85.6	86.9	69.0	2.90	22.9
	Endosulfan II	90.2	103	100	79.5	13.3	23.0
	Endosulfan Sulfate	89.3	89.1	82.7	70.7	0.211	15.7
	Endrin	81.7	80.2	73.5	67.2	1.79	8.87
	Endrin Aldehyde	84.6	82.3	63.3	52.3	2.76	19.1
	Endrin Ketone	82.8	81.4	85.1	70.0	1.73	19.4
	EPTC	38.2	38.2	25.2	25.6	0.0736	1.66
	Ethion	80.8	88.3	80.7	84.8	8.96	4.94
	Ethoprop	76.1	75.7	70.7	69.4	0.520	1.75
	Fenamiphos	102	104	92.0	95.2	2.15	3.46
	Fipronil	99.9	98.8	93.5	113	1.07	18.7
	Fipronil Sulfide	88.3	91.2	78.3	86.8	3.23	10.3
	Fipronil Sulfone	80.2	83.6	59.7	71.5	4.14	14.5
	Fonofos	88.7	89.7	77.7	78.5	1.12	1.04
	Gamma-BHC	83.8	84.3	103	89.6	0.664	13.7
	Gamma-Chlordane	72.2	70.4	66.6	56.8	2.55	16.0
	Heptachlor	65.4	62.5	64.1	58.1	4.69	9.91
	Heptachlor Epoxide	76.9	74.6	73.3	59.7	3.09	20.5
	Hexazinone	90.2	90.7	87.0	87.6	0.587	0.399
	Malathion	89.7	92.9	105	109	3.47	3.81
	Metalaxyl	86.7	86.3	98.3	86.5	0.465	12.8
	Methoxychlor	88.2	87.4	89.8	75.9	0.899	16.8
	Metolachlor	89.8	89.9	99.6	91.2	0.119	8.80
	Metribuzin	106	158	141	165	39.9	15.8
	Mevinphos	69.4	73.7	61.1	61.1	5.93	0.0736
	Mirex	72.0	62.5	64.9	59.2	14.2	9.16
	Molinate	47.5	43.5	36.1	35.4	8.69	1.95
	Norflurazon	94.7	96.3	102	93.9	1.67	7.80
	Parathion Ethyl	89.1	87.3	89.6	80.5	2.05	10.7
	Parathion Methyl	101	96.7	94.7	96.3	4.75	1.70
	Pendimethalin	80.7	75.4	79.5	74.7	6.72	6.18
	Permethrin	83.1	82.7	89.1	76.4	0.416	15.4
	Phorate	82.4	83.3	63.9	66.6	1.07	4.19
	Prometon	86.5	85.3	102	102	1.42	0.181
	Prometryn	95.8	96.1	106	95.2	0.294	10.5
	Simazine	95.4	98.1	93.9	90.1	2.77	3.15
	Terbufos	84.4	88.6	74.4	78.2	4.89	4.95
	Terbutylazine	85.8	89.4	91.4	86.4	4.03	5.69
	Trifluralin	107	98.8	138	135	8.07	2.41
EPA 8276	Chlordane	76.0	99.4	87.0	88.7	26.7	1.87
	Toxaphene	85.6	109	103	104	24.0	1.21
EPA 8321B	Glyphosate	114		117	117		0.0515
	Pyraclostrobin	71.2		68.3	66.4		2.88
	Sucralose	147		103	166		41.8
SM 2120 B	Color (true)						4.80

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
					LCS	
SM 2320 B-97	Total Alkalinity	102			0.115	
SM 2540 C-97	TDS				3.02	
SM 4500 F-C-97	Fluoride	97.9	99.1	103		2.40
SM 5310 B-00	Organic Carbon	98.3	99.3	99.5		0.194
USGS O-2060-01	2,4-D	103				0.984
	Acetaminophen	76.0	96.7	98.2		1.46
	Bentazon	101	38.2	38.8		0.907
	Carbamazepine	88.2	83.9	72.7		13.8
	Diuron	81.5	48.5	53.8		7.89
	Fenuron	82.1	64.3	73.4		13.2
	Fluridone	111	67.7	55.6		11.9
	Imidacloprid	81.2	123	139		9.50
	Linuron	83.1	62.3	65.5		4.98
	MCP	91.6	121	111		9.09
	Primidone	84.5	80.3	102		24.0
	Triclopyr	90.3	112	123		8.97

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1919711
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1919722
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1919722
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1919711
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1919711
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1919712
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1919712
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1919712
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1919712
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1919713
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1919720
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1919721
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1919720
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1919717, 1919718
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1919717
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1919717
SM 2120 B / E31780	True Color measured at 450 nm	1919711
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1919711
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1919711
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1919711
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1919711
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1919712
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1919717, 1919718

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1919717, 1919718

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	08/08/2017			08/08/2017 17:09	DeAsia Armster	1919711
EPA 200.7 Rev. 4.4	08/08/2017	08/09/2017	Elliott D. Healy	08/10/2017	Betina Topolski	1919722
EPA 200.8 Rev. 5.4	08/08/2017	08/09/2017	Elliott D. Healy	08/11/2017	Nadine Brooks	1919722
EPA 300.0 Rev. 2.1	08/08/2017			08/09/2017	Julia Storbeck	1919711
EPA 350.1 Rev. 2.0	08/08/2017			08/10/2017	Sofia Elnemr	1919712
EPA 351.2 Rev. 2.0	08/08/2017	08/10/2017	Adrian Shelby	08/14/2017	Joseph Suarez	1919712
EPA 353.2 Rev. 2.0	08/08/2017			08/15/2017	Beverly Y. Sanders	1919712
EPA 365.1 Rev. 2.0	08/08/2017	08/10/2017	Sima Feizi	08/11/2017	Lipi Saha	1919712
EPA 365.1 Rev. 2.0 dissolved	08/08/2017			08/08/2017 15:17	Ping Hua	1919713
EPA 8270D	08/08/2017	08/10/2017	Fe-Val Siddell	08/14/2017	Marek Topolski	1919720
	08/08/2017	08/11/2017	John Kaba	08/15/2017	Irina Carbone	1919721
EPA 8276	08/08/2017	08/10/2017	Fe-Val Siddell	08/14/2017	John P. Burgos	1919720
EPA 8321B	08/08/2017	08/08/2017	Hoor Shaik	08/08/2017	Juyoung Kim	1919717
	08/08/2017	08/08/2017	Julie Michelle Frank	08/08/2017	Julie Michelle Frank	1919717
	08/08/2017	08/16/2017	Mohammad Ghaffari	08/16/2017	Julie Michelle Frank	1919717, 1919718
SM 2120 B	08/08/2017			08/08/2017 15:09	Tanya Welborn	1919711
SM 2320 B-97	08/08/2017			08/11/2017	Dale L. Simmons	1919711
SM 2540 C-97	08/08/2017			08/09/2017	Yijie Li	1919711
SM 2540 D-97	08/08/2017			08/09/2017	Yijie Li	1919711
SM 4500 F-C-97	08/08/2017			08/11/2017	Dale L. Simmons	1919711
SM 5310 B-00	08/08/2017			08/12/2017	Sofia Elnemr	1919712
USGS O-2060-01	08/08/2017	08/10/2017	Hoor Shaik	08/11/2017	Juyoung Kim	1919717, 1919718