

Chemical Analysis Report

SE-DIST-2021-06-23-02

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

Event Description: **SMP - IRC canals June**

Request ID: **RQ-2021-06-14-41**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

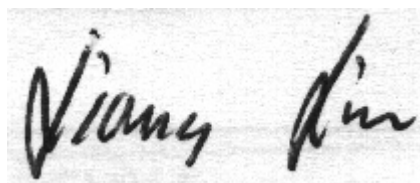
FL Dept. of Environmental Protection
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Attn: Drew Liddick

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 20-JUL-2021 10:10

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

Case Narrative

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

Results for the following analytical groups are included in this report: 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 by the Florida Department of Health Environmental Laboratory Certification Program 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: Vero North Canal @ 66th Ave

Collection Date/Time: 06/22/2021 10:30

Field ID: G5SE0069

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256483	EPA 8270E	Aldrin	0.73	U	ng/L	P400144	
		Alpha-BHC	0.11	U	ng/L	P400144	
		Alpha-Chlordane	0.22	U	ng/L	P400144	
		Beta-BHC	0.11	U	ng/L	P400144	
		Beta-Cyfluthrin**	1.4	U	ng/L	P400144	
		Bifenthrin**	0.96	I	ng/L	P400144	MS
		Carbophenothion	0.39	U	ng/L	P400144	
		Chlorothalonil	0.56	U	ng/L	P400144	
		Cis-Nonachlor**	0.22	U	ng/L	P400144	
		Cypermethrin	1.7	U	ng/L	P400144	
		Dacthal**	0.17	U	ng/L	P400144	
		DDD-p,p'	0.51	I	ng/L	P400144	
		DDE-p,p'	0.22	U	ng/L	P400144	
		DDT-p,p'	0.28	U	ng/L	P400144	
		Delta-BHC	0.45	U	ng/L	P400144	
		Deltamethrin**	1.4	U	ng/L	P400144	
		Dichlobenil**	0.11	U	ng/L	P400144	
		Dicofol	1.4	U	ng/L	P400144	
		Dieldrin	1.7	I	ng/L	P400144	
		Endosulfan I	0.45	U	ng/L	P400144	
		Endosulfan II	0.45	U	ng/L	P400144	
		Endosulfan Sulfate	0.34	U	ng/L	P400144	
		Endrin	0.45	U	ng/L	P400144	
		Endrin Aldehyde	0.84	U	ng/L	P400144	
		Endrin Ketone	0.45	U	ng/L	P400144	
		Esfenvalerate**	0.84	U	ng/L	P400144	
		Ethalfuralin**	0.17	U	ng/L	P400144	
		Fenpropathrin**	0.28	U	ng/L	P400144	
		Gamma-BHC	0.14	U	ng/L	P400144	
		Gamma-Chlordane	0.22	U	ng/L	P400144	
		Heptachlor	0.22	U	ng/L	P400144	
		Heptachlor Epoxide	0.28	U	ng/L	P400144	
		Hexachlorobenzene	1.1	U	ng/L	P400144	
		Kepone**	5.6	U	ng/L	P400144	
		Lambda-Cyhalothrin**	1.0	I	ng/L	P400144	MS
		Methoxychlor	0.34	U	ng/L	P400144	
		MGK-264**	0.22	U	ng/L	P400144	
		Mirex	0.34	U	ng/L	P400144	
		Permethrin	1.8	U	ng/L	P400144	
		Phenothrin**	1.0	U	ng/L	P400144	
		Piperonyl Butoxide**	0.47	I	ng/L	P400144	
		Prallethrin**	2.2	U	ng/L	P400144	
		Tau-Fluvalinate**	0.28	U	ng/L	P400144	
		Tetramethrin**	0.84	U	ng/L	P400144	RPD

Field ID: G5SE0069

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256483	EPA 8270E	Trans-Nonachlor**	0.22	U	ng/L	P400144	
		Triclosan Methyl**	0.17	U	ng/L	P400144	
		Trifluralin	0.22	U	ng/L	P400144	
	EPA 8276	Chlordane	5.6	U	ng/L	P400144	
		Toxaphene	34	U	ng/L	P400144	

Sample Location: North Canal @ US1

Collection Date/Time: 06/22/2021 10:50

Field ID: G5SE0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256484	EPA 8270E	Aldrin	0.73	U	ng/L	P400144	
		Alpha-BHC	0.11	U	ng/L	P400144	
		Alpha-Chlordane	0.23	U	ng/L	P400144	
		Beta-BHC	0.11	U	ng/L	P400144	
		Beta-Cyfluthrin**	1.4	U	ng/L	P400144	
		Bifenthrin**	0.60	I	ng/L	P400144	MS
		Carbophenothion	0.40	U	ng/L	P400144	
		Chlorothalonil	0.56	U	ng/L	P400144	
		Cis-Nonachlor**	0.23	U	ng/L	P400144	
		Cypermethrin	1.7	U	ng/L	P400144	
		Dacthal**	0.17	U	ng/L	P400144	
		DDD-p,p'	0.41	I	ng/L	P400144	
		DDE-p,p'	0.23	U	ng/L	P400144	
		DDT-p,p'	0.28	U	ng/L	P400144	
		Delta-BHC	0.45	U	ng/L	P400144	
		Deltamethrin**	1.4	U	ng/L	P400144	
		Dichlobenil**	0.11	U	ng/L	P400144	
		Dicofol	1.4	U	ng/L	P400144	
		Dieldrin	0.45	U	ng/L	P400144	
		Endosulfan I	0.45	U	ng/L	P400144	
		Endosulfan II	0.45	U	ng/L	P400144	
		Endosulfan Sulfate	0.34	U	ng/L	P400144	
		Endrin	0.45	U	ng/L	P400144	
		Endrin Aldehyde	0.85	U	ng/L	P400144	
		Endrin Ketone	0.45	U	ng/L	P400144	
		Esfenvalerate**	0.85	U	ng/L	P400144	
		Ethalfuralin**	0.17	U	ng/L	P400144	
		Fenpropathrin**	0.28	U	ng/L	P400144	
		Gamma-BHC	0.14	U	ng/L	P400144	
		Gamma-Chlordane	0.23	U	ng/L	P400144	
		Heptachlor	0.23	U	ng/L	P400144	
		Heptachlor Epoxide	0.28	U	ng/L	P400144	
		Hexachlorobenzene	1.1	U	ng/L	P400144	
		Kepone**	5.6	U	ng/L	P400144	
		Lambda-Cyhalothrin**	1.4	I	ng/L	P400144	MS
		Methoxychlor	0.34	U	ng/L	P400144	
		MGK-264**	0.23	U	ng/L	P400144	
		Mirex	0.34	U	ng/L	P400144	
		Permethrin	1.8	U	ng/L	P400144	
		Phenothrin**	1.0	U	ng/L	P400144	
		Piperonyl Butoxide**	0.35	I	ng/L	P400144	
		Prallethrin**	2.3	U	ng/L	P400144	
		Tau-Fluvalinate**	0.28	U	ng/L	P400144	
		Tetramethrin**	0.85	U	ng/L	P400144	RPD

Field ID: G5SE0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256484	EPA 8270E	Trans-Nonachlor**	0.23	U	ng/L	P400144	
		Triclosan Methyl**	0.17	U	ng/L	P400144	
		Trifluralin	0.23	U	ng/L	P400144	
	EPA 8276	Chlordane	5.6	U	ng/L	P400144	
		Toxaphene	34	U	ng/L	P400144	

Sample Location: South Canal @ US 1

Collection Date/Time: 06/22/2021 12:20

Field ID: G5SE0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256471	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P400134	
	EPA 300.0 Rev. 2.1	Chloride	290		mg Cl/L	P400551	
		Sulfate	79		mg SO4/L	P400554	
	SM 2120 B-2011	Color (true)	67	A	PCU	P400132	
	SM 2320 B-2011	Total Alkalinity	150		mg CaCO3/L	P400493	
	SM 2540 C-2011	TDS	816		mg/L	P400471	
	SM 2540 D-2011	TSS	5	I	mg/L	P400244	
	SM 4500 F-C-2011	Fluoride	0.36		mg F/L	P400495	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.085		mg N/L	P400572	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P400322	
2256472	EPA 353.2 Rev. 2.0	NO2NO3-N	0.082		mg N/L	P400149	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P400301	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P400532	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.11		mg P/L	P400130	
	dissolved						

Ref. Method and Comment:

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

SM 2540 D-2011: 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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400134

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400551

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400554

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400572

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400322

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400149

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400301

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400130

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

Reference Method: EPA 8270E
Batch ID: P400144

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-BHC	0.10	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P400144

Component	Result	Code	Units
Alpha-Chlordane	0.20	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Bifenthrin	0.50	U	ng/L
Carbophenothion	0.35	U	ng/L
Carbophenothion	0.35	U	ng/L
Chlorothalonil	0.50	U	ng/L
Chlorothalonil	0.50	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
DDT-p,p'	0.25	U	ng/L
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.10	U	ng/L
Dichlobenil	0.10	U	ng/L
Dicofol	1.2	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P400144

Component	Result	Code	Units
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Kepone	5.0	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.30	U	ng/L
Mirex	0.30	U	ng/L
Permethrin	1.6	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P400144

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: SM 2120 B-2011

Batch ID: P400132

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P400132

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P400493

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

Reference Method: SM 2540 C-2011
Batch ID: P400471

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P400244

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400495

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P400532

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P400551

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P400554

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P400572

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P400322

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P400149

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P400301

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P400130

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

Reference Method: EPA 8270E
 Batch ID: P400144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	23.3	22.8	P/P	20 - 150
Alpha-BHC	92.3	89.8	P/P	50 - 150
Alpha-Chlordane	84.5	82.2	P/P	50 - 150
Beta-BHC	97.4	99.4	P/P	50 - 150
Beta-Cyfluthrin	90.1	101	P/P	50 - 150
Bifenthrin	64.6	65.7	P/P	40 - 150
Carbophenothion	43.2	46.1	P/P	20 - 150
Chlorothalonil	134	130	P/P	20 - 150
Cis-Nonachlor	77.5	78.7	P/P	50 - 150
Cypermethrin	84.8	89.6	P/P	50 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P400144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dacthal	94.9	92.5	P/P	50 - 150
DDD-p,p'	74.8	75.3	P/P	50 - 150
DDE-p,p'	80.3	77.8	P/P	50 - 150
DDT-p,p'	74.5	75.7	P/P	50 - 150
Delta-BHC	109	109	P/P	50 - 150
Deltamethrin	115	115	P/P	50 - 150
Dichlobenil	69.7	68.8	P/P	40 - 150
Dicofol	79.3	96.0	P/P	50 - 150
Dieldrin	87.2	84.9	P/P	50 - 150
Endosulfan I	87.9	83.7	P/P	50 - 150
Endosulfan II	88.3	89.6	P/P	50 - 150
Endosulfan Sulfate	91.4	97.1	P/P	50 - 150
Endrin	81.1	83.1	P/P	50 - 150
Endrin Aldehyde	74.8	77.5	P/P	50 - 150
Endrin Ketone	90.8	92.7	P/P	50 - 150
Esfenvalerate	90.8	91.7	P/P	50 - 180
Ethalfuralin	84.0	81.6	P/P	50 - 150
Fenpropathrin	77.5	85.6	P/P	50 - 150
Gamma-BHC	96.0	93.2	P/P	50 - 150
Gamma-Chlordane	82.0	78.8	P/P	50 - 150
Heptachlor	78.3	76.5	P/P	50 - 150
Heptachlor Epoxide	88.5	83.4	P/P	50 - 150
Hexachlorobenzene	70.9	71.7	P/P	50 - 150
Kepone	91.3	99.1	P/P	30 - 180
Lambda-Cyhalothrin	85.8	85.0	P/P	50 - 200
Methoxychlor	88.6	92.8	P/P	50 - 150
MGK-264	52.0	49.8	P/P	30 - 150
Mirex	125	132	P/P	50 - 180
Permethrin	85.0	87.8	P/P	50 - 150
Phenothrin	32.2	34.1	P/P	20 - 150
Piperonyl Butoxide	88.2	84.9	P/P	50 - 150
Prallethrin	44.8	47.3	P/P	30 - 150
Tau-Fluvalinate	85.2	89.4	P/P	40 - 150
Tetramethrin	64.9	55.8	P/P	30 - 150
Trans-Nonachlor	81.5	77.9	P/P	50 - 150
Triclosan Methyl	86.9	82.7	P/P	50 - 150
Trifluralin	76.9	78.6	P/P	50 - 150

Reference Method: EPA 8276
Batch ID: P400144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	86.7	91.1	P/P	56 - 117
Toxaphene	88.8	93.5	P/P	45 - 116

Reference Method: SM 2120 B-2011
Batch ID: P400132

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P400493

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P400495

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P400532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400551

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256267	Chloride	97.7		P	90 - 110
2256634	Chloride	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400554

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256267	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256913	Ammonia-N	96.6	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256349	NO2NO3-N	97.8	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256630	Total-P	102	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256631	O-Phosphate-P	97.2	98.3	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P400144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256319	Aldrin	32.3	32.4	P/P	20 - 170
2256319	Alpha-BHC	92.7	93.1	P/P	50 - 170
2256319	Alpha-Chlordane	84.8	81.1	P/P	50 - 170
2256319	Beta-BHC	101	101	P/P	50 - 170
2256319	Beta-Cyfluthrin	106	77.8	P/P	50 - 170
2256319	Bifenthrin	47.3	37.2	P/F	40 - 170
2256319	Carbophenothion	70.6	57.6	P/P	20 - 170
2256319	Chlorothalonil	163	148	P/P	20 - 170
2256319	Cis-Nonachlor	88.6	78.0	P/P	50 - 170
2256319	Cypermethrin	116	96.8	P/P	50 - 170
2256319	Dacthal	97.5	85.6	P/P	50 - 170
2256319	DDD-p,p'	83.6	71.9	P/P	50 - 170
2256319	DDE-p,p'	80.5	77.3	P/P	50 - 170
2256319	DDT-p,p'	81.9	83.0	P/P	50 - 170
2256319	Delta-BHC	122	116	P/P	50 - 170

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P400144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256319	Deltamethrin	122	87.3	P/P	50 - 170
2256319	Dichlobenil	58.6	56.4	P/P	40 - 170
2256319	Dicofol	96.9	81.0	P/P	50 - 170
2256319	Dieldrin	94.7	84.4	P/P	50 - 170
2256319	Endosulfan I	89.9	84.4	P/P	50 - 170
2256319	Endosulfan II	102	84.4	P/P	50 - 170
2256319	Endosulfan Sulfate	108	86.0	P/P	50 - 170
2256319	Endrin	94.5	82.2	P/P	50 - 170
2256319	Endrin Aldehyde	83.7	70.2	P/P	50 - 170
2256319	Endrin Ketone	103	83.3	P/P	50 - 170
2256319	Esfenvalerate	94.7	71.8	P/P	50 - 180
2256319	Ethalfuralin	89.6	84.8	P/P	50 - 170
2256319	Fenpropathrin	98.1	79.8	P/P	50 - 170
2256319	Gamma-BHC	96.6	99.1	P/P	50 - 170
2256319	Gamma-Chlordane	76.1	70.0	P/P	50 - 170
2256319	Heptachlor	81.6	78.4	P/P	50 - 170
2256319	Heptachlor Epoxide	80.8	72.8	P/P	50 - 170
2256319	Hexachlorobenzene	75.8	79.2	P/P	50 - 170
2256319	Kepone	103	94.3	P/P	30 - 180
2256319	Lambda-Cyhalothrin	66.0	41.2	P/F	50 - 200
2256319	Methoxychlor	101	94.5	P/P	50 - 170
2256319	MGK-264	59.3	52.0	P/P	30 - 170
2256319	Mirex	144	129	P/P	50 - 180
2256319	Permethrin	109	91.8	P/P	50 - 170
2256319	Phenothrin	51.8	42.6	P/P	20 - 170
2256319	Piperonyl Butoxide	105	93.9	P/P	50 - 170
2256319	Prallethrin	52.9	48.0	P/P	30 - 170
2256319	Tau-Fluvalinate	109	88.7	P/P	40 - 170
2256319	Tetramethrin	81.9	57.9	P/P	30 - 170
2256319	Trans-Nonachlor	81.3	77.4	P/P	50 - 170
2256319	Triclosan Methyl	86.5	81.3	P/P	50 - 170
2256319	Trifluralin	83.4	81.5	P/P	50 - 170

Reference Method: EPA 8276

Batch ID: P400144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256690	Chlordane	103	96.5	P/P	47 - 128
2256690	Toxaphene	109	94.9	P/P	11 - 163

Reference Method: SM 4500 F-C-2011

Batch ID: P400495

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256634	Fluoride	99.4	101	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P400532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256635	Organic Carbon	95.5	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256448	Turbidity	5.59	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256267	Chloride	0.560	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256267	Sulfate	0.621	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256913	Ammonia-N	0.998	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256291	Kjeldahl Nitrogen	0.359	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256349	NO2NO3-N	0.418	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256630	Total-P	2.76	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256631	O-Phosphate-P	0.829	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P400144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256319	Aldrin	0.336	Spike	P	0 - 30
2256319	Alpha-BHC	0.392	Spike	P	0 - 30
2256319	Alpha-Chlordane	4.38	Spike	P	0 - 30
2256319	Beta-BHC	0.318	Spike	P	0 - 30
2256319	Beta-Cyfluthrin	23.9	Spike	P	0 - 30
2256319	Bifenthrin	13.7	Spike	P	0 - 30
2256319	Carbophenothion	20.3	Spike	P	0 - 30
2256319	Chlorothalonil	9.24	Spike	P	0 - 50
2256319	Cis-Nonachlor	12.8	Spike	P	0 - 30
2256319	Cypermethrin	18.4	Spike	P	0 - 30
2256319	Dacthal	13.0	Spike	P	0 - 30
2256319	DDD-p,p'	15.0	Spike	P	0 - 30
2256319	DDE-p,p'	4.06	Spike	P	0 - 30
2256319	DDT-p,p'	1.26	Spike	P	0 - 30
2256319	Delta-BHC	4.96	Spike	P	0 - 30
2256319	Deltamethrin	25.5	Spike	P	0 - 30
2256319	Dichlobenil	3.91	Spike	P	0 - 30
2256319	Dicofol	17.9	Spike	P	0 - 30
2256319	Dieldrin	7.03	Spike	P	0 - 30
2256319	Endosulfan I	6.25	Spike	P	0 - 30
2256319	Endosulfan II	19.3	Spike	P	0 - 30
2256319	Endosulfan Sulfate	22.3	Spike	P	0 - 30
2256319	Endrin	13.9	Spike	P	0 - 30
2256319	Endrin Aldehyde	17.6	Spike	P	0 - 30
2256319	Endrin Ketone	21.3	Spike	P	0 - 30
2256319	Esfenvalerate	21.1	Spike	P	0 - 30
2256319	Ethalfuralin	5.50	Spike	P	0 - 30
2256319	Fenpropathrin	20.6	Spike	P	0 - 30
2256319	Gamma-BHC	2.62	Spike	P	0 - 30
2256319	Gamma-Chlordane	7.57	Spike	P	0 - 30
2256319	Heptachlor	4.10	Spike	P	0 - 30
2256319	Heptachlor Epoxide	9.04	Spike	P	0 - 30
2256319	Hexachlorobenzene	4.43	Spike	P	0 - 30
2256319	Kepone	8.91	Spike	P	0 - 30
2256319	Lambda-Cyhalothrin	24.1	Spike	P	0 - 30
2256319	Methoxychlor	7.11	Spike	P	0 - 30
2256319	MGK-264	13.1	Spike	P	0 - 30
2256319	Mirex	11.2	Spike	P	0 - 30
2256319	Permethrin	16.7	Spike	P	0 - 30
2256319	Phenothrin	19.5	Spike	P	0 - 30
2256319	Piperonyl Butoxide	11.6	Spike	P	0 - 30
2256319	Prallethrin	9.74	Spike	P	0 - 30
2256319	Tau-Fluvalinate	20.5	Spike	P	0 - 30
2256319	Tetramethrin	34.4	Spike	F	0 - 30
2256319	Trans-Nonachlor	4.93	Spike	P	0 - 30
2256319	Triclosan Methyl	6.16	Spike	P	0 - 30
2256319	Trifluralin	2.31	Spike	P	0 - 30
LFB	Aldrin	2.18	LCS	P	0 - 30
LFB	Alpha-BHC	2.72	LCS	P	0 - 30
LFB	Alpha-Chlordane	2.71	LCS	P	0 - 30
LFB	Beta-BHC	2.07	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P400144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Beta-Cyfluthrin	11.8	LCS	P	0 - 30
LFB	Bifenthrin	1.75	LCS	P	0 - 30
LFB	Carbophenothion	6.50	LCS	P	0 - 30
LFB	Chlorothalonil	2.60	LCS	P	0 - 50
LFB	Cis-Nonachlor	1.52	LCS	P	0 - 30
LFB	Cypermethrin	5.53	LCS	P	0 - 30
LFB	Dacthal	2.56	LCS	P	0 - 30
LFB	DDD-p,p'	0.572	LCS	P	0 - 30
LFB	DDE-p,p'	3.08	LCS	P	0 - 30
LFB	DDT-p,p'	1.72	LCS	P	0 - 30
LFB	Delta-BHC	0.307	LCS	P	0 - 30
LFB	Deltamethrin	0.0788	LCS	P	0 - 30
LFB	Dichlobenil	1.27	LCS	P	0 - 30
LFB	Dicofol	19.0	LCS	P	0 - 30
LFB	Dieldrin	2.72	LCS	P	0 - 30
LFB	Endosulfan I	4.94	LCS	P	0 - 30
LFB	Endosulfan II	1.55	LCS	P	0 - 30
LFB	Endosulfan Sulfate	6.07	LCS	P	0 - 30
LFB	Endrin	2.43	LCS	P	0 - 30
LFB	Endrin Aldehyde	3.50	LCS	P	0 - 30
LFB	Endrin Ketone	2.03	LCS	P	0 - 30
LFB	Esfenvalerate	1.00	LCS	P	0 - 30
LFB	Ethalfuralin	2.99	LCS	P	0 - 30
LFB	Fenpropathrin	9.86	LCS	P	0 - 30
LFB	Gamma-BHC	3.00	LCS	P	0 - 30
LFB	Gamma-Chlordane	4.04	LCS	P	0 - 30
LFB	Heptachlor	2.40	LCS	P	0 - 30
LFB	Heptachlor Epoxide	5.86	LCS	P	0 - 30
LFB	Hexachlorobenzene	1.16	LCS	P	0 - 30
LFB	Kepone	8.11	LCS	P	0 - 30
LFB	Lambda-Cyhalothrin	0.904	LCS	P	0 - 30
LFB	Methoxychlor	4.64	LCS	P	0 - 30
LFB	MGK-264	4.36	LCS	P	0 - 30
LFB	Mirex	5.74	LCS	P	0 - 30
LFB	Permethrin	3.25	LCS	P	0 - 30
LFB	Phenothrin	5.58	LCS	P	0 - 30
LFB	Piperonyl Butoxide	3.78	LCS	P	0 - 30
LFB	Prallethrin	5.49	LCS	P	0 - 30
LFB	Tau-Fluvalinate	4.90	LCS	P	0 - 30
LFB	Tetramethrin	15.0	LCS	P	0 - 30
LFB	Trans-Nonachlor	4.51	LCS	P	0 - 30
LFB	Triclosan Methyl	5.04	LCS	P	0 - 30
LFB	Trifluralin	2.18	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P400144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256690	Chlordane	6.11	Spike	P	0 - 30
2256690	Toxaphene	14.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P400144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	4.96	LCS	P	0 - 30
LFB	Toxaphene	5.12	LCS	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P400132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256471	Color (true)	0.826	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P400493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256634	Total Alkalinity	1.67	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P400471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256288	TDS	6.20	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P400495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256634	Fluoride	0.953	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P400532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256635	Organic Carbon	0.640	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2256483
Field Sample ID: G5SE0069

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	96.5	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	67.4	P	30 - 110
EPA 8276	Decachlorobiphenyl	74.5	P	29 - 92.0
EPA 8276	PCNB	88.3	P	43 - 134

Lab Sample ID: 2256484
Field Sample ID: G5SE0043

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	88.7	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	70.9	P	30 - 110
EPA 8276	Decachlorobiphenyl	79.0	P	29 - 92.0
EPA 8276	PCNB	97.3	P	43 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106235

Included Lab Sample IDs: 2256473

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	98.0	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A106236

Included Lab Sample IDs: 2256471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	100	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106237

Included Lab Sample IDs: 2256471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106247

Included Lab Sample IDs: 2256472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A106333

Included Lab Sample IDs: 2256483, 2256484

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.2		P	80 - 120
Alpha-BHC	98.9		P	80 - 120
Alpha-Chlordane	100		P	80 - 120
Beta-BHC	95.2		P	80 - 120
Beta-Cyfluthrin	104		P	80 - 120
Bifenthrin	94.9		P	80 - 120
Carbophenothion	95.7		P	80 - 120
Chlorothalonil	113		P	80 - 120
Cis-Nonachlor	97.6		P	80 - 120
Cypermethrin	93.6		P	80 - 120
Dacthal	100		P	80 - 120
DDD-p,p'	95.4		P	80 - 120
DDE-p,p'	99.2		P	80 - 120
DDT-p,p'	101		P	80 - 120
Delta-BHC	101		P	80 - 120
Deltamethrin	106		P	80 - 120
Dichlobenil	105		P	80 - 120
Dicofol	94.4		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	100		P	80 - 120
Endosulfan II	97.8		P	80 - 120
Endosulfan Sulfate	95.4		P	80 - 120
Endrin	97.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A106333

Included Lab Sample IDs: 2256483, 2256484

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endrin Aldehyde	91.9		P	80 - 120
Endrin Ketone	91.3		P	80 - 120
Esfenvalerate	94.9		P	80 - 120
Ethalfuralin	99.7		P	80 - 120
Fenpropathrin	94.6		P	80 - 120
Gamma-BHC	97.6		P	80 - 120
Gamma-Chlordane	101		P	80 - 120
Heptachlor	102		P	80 - 120
Heptachlor Epoxide	101		P	80 - 120
Hexachlorobenzene	98.5		P	80 - 120
Kepone	89.2		P	80 - 120
Lambda-Cyhalothrin	100		P	80 - 120
Methoxychlor	100		P	80 - 120
MGK-264	98.7		P	80 - 120
Mirex	97.1		P	80 - 120
Permethrin	96.9		P	80 - 120
Phenothrin	98.9		P	80 - 120
Piperonyl Butoxide	90.0		P	80 - 120
Prallethrin	99.7		P	80 - 120
Tau-Fluvalinate	99.2		P	80 - 120
Tetramethrin	99.0		P	80 - 120
Trans-Nonachlor	99.4		P	80 - 120
Triclosan Methyl	98.9		P	80 - 120
Trifluralin	98.9		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106339

Included Lab Sample IDs: 2256472

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106395

Included Lab Sample IDs: 2256472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	103	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A106414

Included Lab Sample IDs: 2256483, 2256484

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.9		P	80 - 120
Toxaphene	84.9		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A106416

Included Lab Sample IDs: 2256471

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

Reference Method: SM 4500 F-C-2011

Run ID: A106416

Included Lab Sample IDs: 2256471

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106423

Included Lab Sample IDs: 2256471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Sulfate	99.6	99.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A106432

Included Lab Sample IDs: 2256472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	96.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106456

Included Lab Sample IDs: 2256472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	98.2	P/P	90 - 110

* 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	MS
							SMP	
EPA 180.1 Rev. 2.0	Turbidity						5.59	
EPA 300.0 Rev. 2.1	Chloride	101		97.7	97.8		0.560	
	Sulfate	100		98.2			0.621	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2		96.6	97.8			0.998
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107						0.359
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5		97.8	98.4			0.418
EPA 365.1 Rev. 2.0	Total-P	105		102	106			2.76
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		97.2	98.3			0.829
EPA 8270E	Aldrin	23.3	22.8	32.3	32.4	2.18		0.336
	Alpha-BHC	92.3	89.8	92.7	93.1	2.72		0.392
	Alpha-Chlordane	84.5	82.2	84.8	81.1	2.71		4.38
	Beta-BHC	97.4	99.4	101	101	2.07		0.318
	Beta-Cyfluthrin	90.1	101	106	77.8	11.8		23.9
	Bifenthrin	64.6	65.7	47.3	37.2	1.75		13.7
	Carbophenothion	43.2	46.1	70.6	57.6	6.50		20.3
	Chlorothalonil	134	130	163	148	2.60		9.24
	Cis-Nonachlor	77.5	78.7	88.6	78.0	1.52		12.8
	Cypermethrin	84.8	89.6	116	96.8	5.53		18.4
	Dacthal	94.9	92.5	97.5	85.6	2.56		13.0
	DDD-p,p'	74.8	75.3	83.6	71.9	0.572		15.0
	DDE-p,p'	80.3	77.8	80.5	77.3	3.08		4.06
	DDT-p,p'	74.5	75.7	81.9	83.0	1.72		1.26
	Delta-BHC	109	109	122	116	0.307		4.96
	Deltamethrin	115	115	122	87.3	0.0788		25.5
	Dichlobenil	69.7	68.8	58.6	56.4	1.27		3.91
	Dicofol	79.3	96.0	96.9	81.0	19.0		17.9
	Dieldrin	87.2	84.9	94.7	84.4	2.72		7.03
	Endosulfan I	87.9	83.7	89.9	84.4	4.94		6.25
	Endosulfan II	88.3	89.6	102	84.4	1.55		19.3
	Endosulfan Sulfate	91.4	97.1	108	86.0	6.07		22.3
	Endrin	81.1	83.1	94.5	82.2	2.43		13.9
	Endrin Aldehyde	74.8	77.5	83.7	70.2	3.50		17.6
	Endrin Ketone	90.8	92.7	103	83.3	2.03		21.3
	Esfenvalerate	90.8	91.7	94.7	71.8	1.00		21.1
	Ethalfuralin	84.0	81.6	89.6	84.8	2.99		5.50
	Fenpropathrin	77.5	85.6	98.1	79.8	9.86		20.6
	Gamma-BHC	96.0	93.2	96.6	99.1	3.00		2.62
	Gamma-Chlordane	82.0	78.8	76.1	70.0	4.04		7.57
	Heptachlor	78.3	76.5	81.6	78.4	2.40		4.10
	Heptachlor Epoxide	88.5	83.4	80.8	72.8	5.86		9.04
	Hexachlorobenzene	70.9	71.7	75.8	79.2	1.16		4.43
	Kepone	91.3	99.1	103	94.3	8.11		8.91
	Lambda-Cyhalothrin	85.8	85.0	66.0	41.2	0.904		24.1
	Methoxychlor	88.6	92.8	101	94.5	4.64		7.11
	MGK-264	52.0	49.8	59.3	52.0	4.36		13.1
	Mirex	125	132	144	129	5.74		11.2
	Permethrin	85.0	87.8	109	91.8	3.25		16.7
	Phenothrin	32.2	34.1	51.8	42.6	5.58		19.5
	Piperonyl Butoxide	88.2	84.9	105	93.9	3.78		11.6
	Prallethrin	44.8	47.3	52.9	48.0	5.49		9.74
	Tau-Fluvalinate	85.2	89.4	109	88.7	4.90		20.5
	Tetramethrin	64.9	55.8	81.9	57.9	15.0		34.4
	Trans-Nonachlor	81.5	77.9	81.3	77.4	4.51		4.93
	Triclosan Methyl	86.9	82.7	86.5	81.3	5.04		6.16

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270E	Trifluralin	76.9	78.6	83.4	81.5	2.18	2.31
EPA 8276	Chlordane	86.7	91.1	103	96.5	4.96	6.11
	Toxaphene	88.8	93.5	109	94.9	5.12	14.2
SM 2120 B-2011	Color (true)	102				0.826	
SM 2320 B-2011	Total Alkalinity	103				1.67	
SM 2540 C-2011	TDS					6.20	
SM 4500 F-C-2011	Fluoride	99.5		99.4	101		0.953
SM 5310 B-2011	Organic Carbon	94.8		95.5	96.4		0.640

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2256471
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2256471
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2256471
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2256472
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2256472
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2256472
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2256472
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2256473
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2256483, 2256484
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2256483, 2256484
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2256471
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2256471
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2256471
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2256471
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2256471
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2256472

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	06/23/2021			06/23/2021 15:19	Sarah A Nixon	2256471
EPA 300.0 Rev. 2.1	06/23/2021			07/02/2021 17:23	Lipi Saha	2256471
EPA 350.1 Rev. 2.0	06/23/2021			07/06/2021 12:10	Roberta Tatti	2256472
EPA 351.2 Rev. 2.0	06/23/2021	06/29/2021 12:58	Benjamin T. Nordmann	06/30/2021 17:24	Letuzia M De Oliveira	2256472
EPA 353.2 Rev. 2.0	06/23/2021			06/24/2021 09:47	Beverly Y. Sanders	2256472
EPA 365.1 Rev. 2.0	06/23/2021	06/28/2021 17:29	Madeline Gruver	06/29/2021 10:45	Shengyu Ding	2256472
EPA 365.1 Rev. 2.0 dissolved	06/23/2021			06/23/2021 14:49	Ping Hua	2256473
EPA 8270E	06/23/2021	06/24/2021 08:30	Rasheda Ghaffari	06/26/2021 00:39	Michael Poppell	2256483
	06/23/2021	06/24/2021 08:30	Rasheda Ghaffari	06/26/2021 01:08	Michael Poppell	2256484
EPA 8276	06/23/2021	06/24/2021 08:30	Rasheda Ghaffari	07/01/2021 09:30	Michael Poppell	2256483
	06/23/2021	06/24/2021 08:30	Rasheda Ghaffari	07/01/2021 10:26	Michael Poppell	2256484
SM 2120 B-2011	06/23/2021			06/23/2021 15:52	Benjamin T. Nordmann	2256471
SM 2320 B-2011	06/23/2021			07/01/2021 22:52	Patrick M. Roche	2256471
SM 2540 C-2011	06/23/2021			06/24/2021 14:15	Yijie Li	2256471
SM 2540 D-2011	06/23/2021			06/24/2021 14:15	Yijie Li	2256471
SM 4500 F-C-2011	06/23/2021			07/01/2021 22:52	Patrick M. Roche	2256471
SM 5310 B-2011	06/23/2021			07/01/2021 00:25	Madeline Gruver	2256472