Chemical Analysis Report

SE-DIST-2021-04-30-01

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

Event Description: **SMP - IRC canals + 3121/3107B + FB**
Request ID: **RQ-2021-04-19-36**
Customer: **SE-DIST**
Project ID: **SMP**

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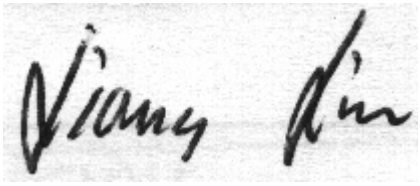
Certified by: Liang Lin, Environmental Administrator

Date Certified: 03-JUN-2021 12:18



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: FB **Collection Date/Time: 04/29/2021 12:05**

Field ID: FB_04292021 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244314	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P397497	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P398559	
		Sulfate	0.20	U	mg SO4/L	P398562	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P397501	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P398016	
	SM 2540 C-2011	TDS	15	U	mg/L	P397911	
	SM 2540 D-2011	TSS	2	U	mg/L	P397790	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P397577	
2244315	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P398153	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P397851	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397655	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P397968	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P397881	
2244316	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397486	
2244371	EPA 8270E	Aldrin	0.72	U	ng/L	P397459	
		Alpha-BHC	0.11	U	ng/L	P397459	
		Alpha-Chlordane	0.22	U	ng/L	P397459	
		Beta-BHC	0.11	U	ng/L	P397459	
		Beta-Cyfluthrin**	1.4	U	ng/L	P397459	
		Bifenthrin**	0.56	U	ng/L	P397459	
		Carbophenothion	0.39	U	ng/L	P397459	
		Chlorothalonil	0.56	U	ng/L	P397459	RPD
		Cis-Nonachlor**	0.22	U	ng/L	P397459	
		Cypermethrin	1.7	U	ng/L	P397459	
		Dacthal**	0.17	U	ng/L	P397459	
		DDD-p,p'	0.28	U	ng/L	P397459	
		DDE-p,p'	0.22	U	ng/L	P397459	
		DDT-p,p'	0.28	U	ng/L	P397459	
		Delta-BHC	0.44	U	ng/L	P397459	
		Deltamethrin**	1.4	U	ng/L	P397459	MS
		Dichlobenil**	0.11	U	ng/L	P397459	
		Dicofol	1.4	U	ng/L	P397459	
		Dieldrin	0.44	U	ng/L	P397459	
		Endosulfan I	0.44	U	ng/L	P397459	
		Endosulfan II	0.44	U	ng/L	P397459	
		Endosulfan Sulfate	0.33	U	ng/L	P397459	
		Endrin	0.44	U	ng/L	P397459	
		Endrin Aldehyde	0.83	U	ng/L	P397459	
		Endrin Ketone	0.44	U	ng/L	P397459	
		Esfenvalerate**	0.83	UJ	ng/L	P397459	LCS
		Ethalfluralin**	0.17	U	ng/L	P397459	
		Fenpropathrin**	0.28	U	ng/L	P397459	
		Gamma-BHC	0.14	U	ng/L	P397459	

Field ID: FB_04292021 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244371	EPA 8270E	Gamma-Chlordane	0.22	U	ng/L	P397459	
		Heptachlor	0.22	U	ng/L	P397459	
		Heptachlor Epoxide	0.28	U	ng/L	P397459	
		Hexachlorobenzene	1.1	U	ng/L	P397459	
		Kepone**	5.6	UJ	ng/L	P397459	LCS, RPD
		Lambda-Cyhalothrin**	0.83	UJ	ng/L	P397459	LCS
		Methoxychlor	0.33	U	ng/L	P397459	
		MGK-264**	0.22	U	ng/L	P397459	
		Mirex	0.33	UJ	ng/L	P397459	LCS
		Permethrin	1.8	U	ng/L	P397459	
		Phenothrin**	1.0	U	ng/L	P397459	
		Piperonyl Butoxide**	0.17	U	ng/L	P397459	
		Prallethrin**	2.2	U	ng/L	P397459	
		Tau-Fluvalinate**	0.28	U	ng/L	P397459	
		Tetramethrin**	0.83	U	ng/L	P397459	
		Trans-Nonachlor**	0.22	U	ng/L	P397459	
		Triclosan Methyl**	0.17	U	ng/L	P397459	
		Trifluralin	0.22	U	ng/L	P397459	
	EPA 8276	Chlordane	5.6	U	ng/L	P397459	
		Toxaphene	33	U	ng/L	P397459	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: The result was confirmed on 04/30/2021.
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.
EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: North Canal @US1 **Collection Date/Time: 04/29/2021 13:00**

Field ID: G5SE0043 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244369	EPA 8270E	Aldrin	0.69	U	ng/L	P397459	
		Alpha-BHC	0.11	U	ng/L	P397459	
		Alpha-Chlordane	0.21	U	ng/L	P397459	
		Beta-BHC	0.11	U	ng/L	P397459	
		Beta-Cyfluthrin**	1.3	U	ng/L	P397459	
		Bifenthrin**	0.53	U	ng/L	P397459	
		Carbophenothion	0.37	U	ng/L	P397459	
		Chlorothalonil	0.53	U	ng/L	P397459	RPD
		Cis-Nonachlor**	0.21	U	ng/L	P397459	
		Cypermethrin	1.6	U	ng/L	P397459	
		Dacthal**	0.16	U	ng/L	P397459	
		DDD-p,p'	0.27	U	ng/L	P397459	
		DDE-p,p'	0.21	U	ng/L	P397459	
		DDT-p,p'	0.27	U	ng/L	P397459	
		Delta-BHC	0.42	U	ng/L	P397459	
		Deltamethrin**	1.3	U	ng/L	P397459	MS
		Dichlobenil**	0.11	U	ng/L	P397459	
		Dicofol	1.3	U	ng/L	P397459	
		Dieldrin	0.42	U	ng/L	P397459	
		Endosulfan I	0.42	U	ng/L	P397459	
		Endosulfan II	0.42	U	ng/L	P397459	
		Endosulfan Sulfate	0.32	U	ng/L	P397459	
		Endrin	0.42	U	ng/L	P397459	
		Endrin Aldehyde	0.80	U	ng/L	P397459	
		Endrin Ketone	0.42	U	ng/L	P397459	
		Esfenvalerate**	0.80	UJ	ng/L	P397459	LCS
		Ethalfluralin**	0.16	U	ng/L	P397459	
		Fenpropathrin**	0.27	U	ng/L	P397459	
		Gamma-BHC	0.13	U	ng/L	P397459	
		Gamma-Chlordane	0.21	U	ng/L	P397459	
		Heptachlor	0.21	U	ng/L	P397459	
		Heptachlor Epoxide	0.27	U	ng/L	P397459	
		Hexachlorobenzene	1.1	U	ng/L	P397459	
		Kepone**	5.3	UJ	ng/L	P397459	LCS, RPD
		Lambda-Cyhalothrin**	0.80	UJ	ng/L	P397459	LCS
		Methoxychlor	0.32	U	ng/L	P397459	
		MGK-264**	0.21	U	ng/L	P397459	
		Mirex	0.32	UJ	ng/L	P397459	LCS
		Permethrin	1.7	U	ng/L	P397459	
		Phenothrin**	0.96	U	ng/L	P397459	
		Piperonyl Butoxide**	0.16	U	ng/L	P397459	
		Prallethrin**	2.1	U	ng/L	P397459	
		Tau-Fluvalinate**	0.27	U	ng/L	P397459	
		Tetramethrin**	0.80	U	ng/L	P397459	

Field ID: G5SE0043 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244369	EPA 8270E	Trans-Nonachlor**	0.21	U	ng/L	P397459	
		Triclosan Methyl**	0.16	U	ng/L	P397459	
		Trifluralin	0.21	U	ng/L	P397459	
	EPA 8276	Chlordane	5.3	U	ng/L	P397459	
		Toxaphene	32	U	ng/L	P397459	

Ref. Method and Comment:
EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Vero North Canal @ 66th Ave **Collection Date/Time: 04/29/2021 13:20**

Field ID: G5SE0069 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244370	EPA 8270E	Aldrin	0.69	U	ng/L	P397459	
		Alpha-BHC	0.11	U	ng/L	P397459	
		Alpha-Chlordane	0.21	U	ng/L	P397459	
		Beta-BHC	0.11	U	ng/L	P397459	
		Beta-Cyfluthrin**	1.3	U	ng/L	P397459	
		Bifenthrin**	0.53	U	ng/L	P397459	
		Carbophenothion	0.37	U	ng/L	P397459	
		Chlorothalonil	0.53	U	ng/L	P397459	RPD
		Cis-Nonachlor**	0.21	U	ng/L	P397459	
		Cypermethrin	1.6	U	ng/L	P397459	
		Dacthal**	0.16	U	ng/L	P397459	
		DDD-p,p'	0.42	I	ng/L	P397459	
		DDE-p,p'	0.21	U	ng/L	P397459	
		DDT-p,p'	0.27	U	ng/L	P397459	
		Delta-BHC	0.43	U	ng/L	P397459	
		Deltamethrin**	1.3	U	ng/L	P397459	MS
		Dichlobenil**	0.11	U	ng/L	P397459	
		Dicofol	1.3	U	ng/L	P397459	
		Dieldrin	0.43	U	ng/L	P397459	
		Endosulfan I	0.43	U	ng/L	P397459	
		Endosulfan II	0.43	U	ng/L	P397459	
		Endosulfan Sulfate	0.32	U	ng/L	P397459	
		Endrin	0.43	U	ng/L	P397459	
		Endrin Aldehyde	0.80	U	ng/L	P397459	
		Endrin Ketone	0.43	U	ng/L	P397459	
		Esfenvalerate**	0.80	UJ	ng/L	P397459	LCS
		Ethalfluralin**	0.16	U	ng/L	P397459	
		Fenpropathrin**	0.27	U	ng/L	P397459	
		Gamma-BHC	0.13	U	ng/L	P397459	
		Gamma-Chlordane	0.21	U	ng/L	P397459	
		Heptachlor	0.21	U	ng/L	P397459	
		Heptachlor Epoxide	0.27	U	ng/L	P397459	
		Hexachlorobenzene	1.1	U	ng/L	P397459	
		Kepone**	5.3	UJ	ng/L	P397459	LCS, RPD
		Lambda-Cyhalothrin**	0.80	UJ	ng/L	P397459	LCS
		Methoxychlor	0.32	U	ng/L	P397459	
		MGK-264**	0.21	U	ng/L	P397459	
		Mirex	0.32	UJ	ng/L	P397459	LCS
		Permethrin	1.7	U	ng/L	P397459	
		Phenothrin**	0.96	U	ng/L	P397459	
		Piperonyl Butoxide**	0.16	U	ng/L	P397459	
		Prallethrin**	2.1	U	ng/L	P397459	
		Tau-Fluvalinate**	0.27	U	ng/L	P397459	
		Tetramethrin**	0.80	U	ng/L	P397459	

Field ID: G5SE0069 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244370	EPA 8270E	Trans-Nonachlor**	0.21	U	ng/L	P397459	
		Triclosan Methyl**	0.16	U	ng/L	P397459	
		Trifluralin	0.21	U	ng/L	P397459	
	EPA 8276	Chlordane	5.3	U	ng/L	P397459	
		Toxaphene	32	U	ng/L	P397459	

Ref. Method and Comment:
EPA 8270E: Results confirm by re-extraction and re-analysis. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: South Canal @ US 1 **Collection Date/Time: 04/29/2021 15:50**

Field ID: G5SE0044 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244311	EPA 180.1 Rev. 2.0	Turbidity	5.1		NTU	P397497	
	EPA 300.0 Rev. 2.1	Chloride	360		mg Cl/L	P398559	
		Sulfate	100		mg SO4/L	P398562	
	SM 2120 B-2011	Color (true)	55		PCU	P397501	
	SM 2320 B-2011	Total Alkalinity	205		mg CaCO3/L	P398016	
	SM 2540 C-2011	TDS	908		mg/L	P397914	
	SM 2540 D-2011	TSS	2	I	mg/L	P397793	
	SM 4500 F-C-2011	Fluoride	0.66		mg F/L	P397577	
2244312	EPA 350.1 Rev. 2.0	Ammonia-N	0.053		mg N/L	P398153	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P397851	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P397553	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P397968	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P397881	
2244313	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.060		mg P/L	P397486	

Ref. Method and Comment:
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: P397497

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398559

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398562

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P398153

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397851

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397553

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397655

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397968

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397486

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P397459

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Carbophenothion	0.35	U	ng/L
Chlorothalonil	0.50	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.10	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfluralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.30	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276
Batch ID: P397459

Component	Result	Code	Units

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8276
Batch ID: P397459

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

Reference Method: SM 2120 B-2011
Batch ID: P397501

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P398016

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-2011
Batch ID: P397911

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P397914

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P397790

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P397793

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P397577

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P397881

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: P398559

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398562

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P398153

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397851

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397553

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397655

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397968

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397486

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

Reference Method: EPA 8270E
Batch ID: P397459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	72.1	65.4	P/P	20 - 150
Alpha-BHC	89.7	86.1	P/P	50 - 150
Alpha-Chlordane	78.9	92.3	P/P	50 - 150
Beta-BHC	88.0	96.1	P/P	50 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P397459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Beta-Cyfluthrin	122	143	P/P	50 - 150
Bifenthrin	81.0	80.4	P/P	40 - 150
Carbophenothion	41.2	50.5	P/P	20 - 150
Chlorothalonil	97.9	98.4	P/P	20 - 150
Cis-Nonachlor	82.0	95.1	P/P	50 - 150
Cypermethrin	119	141	P/P	50 - 150
Dacthal	89.8	91.2	P/P	50 - 150
DDD-p,p'	79.6	88.1	P/P	50 - 150
DDE-p,p'	72.3	82.9	P/P	50 - 150
DDT-p,p'	80.3	77.0	P/P	50 - 150
Delta-BHC	95.4	99.4	P/P	50 - 150
Deltamethrin	127	145	P/P	50 - 150
Dichlobenil	50.2	44.4	P/P	40 - 150
Dicofol	101	99.0	P/P	50 - 150
Dieldrin	76.7	83.6	P/P	50 - 150
Endosulfan I	80.5	82.8	P/P	50 - 150
Endosulfan II	78.4	83.7	P/P	50 - 150
Endosulfan Sulfate	87.5	102	P/P	50 - 150
Endrin	79.5	85.1	P/P	50 - 150
Endrin Aldehyde	91.3	96.8	P/P	50 - 150
Endrin Ketone	86.2	93.9	P/P	50 - 150
Esfenvalerate	145	181	P/F	50 - 150
Ethalfluralin	83.4	83.1	P/P	50 - 150
Fenpropathrin	91.6	96.5	P/P	50 - 150
Gamma-BHC	95.8	88.6	P/P	50 - 150
Gamma-Chlordane	82.3	89.7	P/P	50 - 150
Heptachlor	69.3	73.0	P/P	50 - 150
Heptachlor Epoxide	87.6	88.8	P/P	50 - 150
Hexachlorobenzene	74.9	71.6	P/P	50 - 150
Kepone	31.6	106	F/P	50 - 150
Lambda-Cyhalothrin	161	206	F/F	50 - 150
Methoxychlor	105	91.9	P/P	50 - 150
MGK-264	90.9	107	P/P	50 - 150
Mirex	140	155	P/F	50 - 150
Permethrin	120	135	P/P	50 - 150
Phenothrin	69.9	71.9	P/P	30 - 150
Piperonyl Butoxide	94.2	96.5	P/P	50 - 150
Prallethrin	59.1	66.8	P/P	40 - 150
Tau-Fluvalinate	88.0	98.2	P/P	40 - 150
Tetramethrin	80.9	67.3	P/P	40 - 150
Trans-Nonachlor	80.9	90.3	P/P	50 - 150
Triclosan Methyl	80.9	89.3	P/P	50 - 150
Trifluralin	82.1	79.2	P/P	50 - 150

Reference Method: EPA 8276
Batch ID: P397459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	96.4	94.9	P/P	56 - 117
Toxaphene	79.3	81.1	P/P	45 - 116

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P397501

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P398016

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P397577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.7		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P397881

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244181	Chloride	96.9		P	90 - 110
2244474	Chloride	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398562

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244181	Sulfate	96.2		P	90 - 110
2244474	Sulfate	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P398153

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244415	Ammonia-N	95.4	96.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397553

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244235	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244095	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243688	Total-P	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397486

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244180	O-Phosphate-P	93.2	94.5	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P397459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243931	Aldrin	62.8	63.5	P/P	20 - 170
2243931	Alpha-BHC	89.6	84.8	P/P	50 - 170
2243931	Alpha-Chlordane	81.6	67.6	P/P	50 - 170
2243931	Beta-BHC	108	98.8	P/P	50 - 170
2243931	Beta-Cyfluthrin	99.9	90.9	P/P	50 - 170
2243931	Bifenthrin	56.7	59.2	P/P	40 - 170
2243931	Carbophenothion	65.9	52.6	P/P	20 - 170
2243931	Chlorothalonil	68.3	40.3	P/P	20 - 170

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P397459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243931	Cis-Nonachlor	86.5	64.9	P/P	50 - 170
2243931	Cypermethrin	95.3	86.7	P/P	50 - 170
2243931	Dacthal	101	89.2	P/P	50 - 170
2243931	DDD-p,p'	80.7	64.4	P/P	50 - 170
2243931	DDE-p,p'	77.0	61.4	P/P	50 - 170
2243931	DDT-p,p'	72.7	63.1	P/P	50 - 170
2243931	Delta-BHC	112	98.0	P/P	50 - 170
2243931	Deltamethrin	40.2	49.7	F/F	50 - 170
2243931	Dichlobenil	47.5	49.2	P/P	40 - 170
2243931	Dicofol	93.7	83.4	P/P	50 - 170
2243931	Dieldrin	84.5	71.4	P/P	50 - 170
2243931	Endosulfan I	85.0	71.8	P/P	50 - 170
2243931	Endosulfan II	87.9	75.0	P/P	50 - 170
2243931	Endosulfan Sulfate	97.0	86.9	P/P	50 - 170
2243931	Endrin	85.0	69.8	P/P	50 - 170
2243931	Endrin Aldehyde	97.0	91.8	P/P	50 - 170
2243931	Endrin Ketone	97.0	90.6	P/P	50 - 170
2243931	Esfenvalerate	103	98.6	P/P	50 - 170
2243931	Ethalfluralin	76.3	71.9	P/P	50 - 170
2243931	Fenpropathrin	80.6	69.8	P/P	50 - 170
2243931	Gamma-BHC	94.7	88.9	P/P	50 - 170
2243931	Gamma-Chlordane	83.9	69.5	P/P	50 - 170
2243931	Heptachlor	62.8	57.1	P/P	50 - 170
2243931	Heptachlor Epoxide	92.1	78.2	P/P	50 - 170
2243931	Hexachlorobenzene	61.7	56.7	P/P	50 - 170
2243931	Kepone	107	90.3	P/P	50 - 170
2243931	Lambda-Cyhalothrin	111	110	P/P	50 - 170
2243931	Methoxychlor	88.9	92.6	P/P	50 - 170
2243931	MGK-264	114	107	P/P	50 - 170
2243931	Mirex	137	106	P/P	50 - 170
2243931	Permethrin	88.4	80.4	P/P	50 - 170
2243931	Phenothrin	70.3	59.7	P/P	30 - 170
2243931	Piperonyl Butoxide	96.4	90.3	P/P	50 - 170
2243931	Prallethrin	76.0	66.5	P/P	40 - 170
2243931	Tau-Fluvalinate	71.9	66.7	P/P	40 - 170
2243931	Tetramethrin	78.3	92.7	P/P	40 - 170
2243931	Trans-Nonachlor	82.4	66.6	P/P	50 - 170
2243931	Triclosan Methyl	88.0	73.6	P/P	50 - 170
2243931	Trifluralin	76.0	69.8	P/P	50 - 170

Reference Method: EPA 8276
Batch ID: P397459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243496	Chlordane	86.5	84.8	P/P	47 - 128
2243496	Toxaphene	77.2	72.9	P/P	11 - 163

Reference Method: SM 4500 F-C-2011
Batch ID: P397577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244187	Fluoride	102	103	P/P	94 - 107

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P397881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244011	Organic Carbon	100	104	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244178	Turbidity	1.47	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244181	Chloride	0.616	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244181	Sulfate	0.897	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P398153

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244415	Ammonia-N	0.915	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244179	Kjeldahl Nitrogen	4.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397553

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244235	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244095	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243688	Total-P	1.58	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244180	O-Phosphate-P	1.39	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243931	Aldrin	1.19	Spike	P	0 - 30
2243931	Alpha-BHC	5.42	Spike	P	0 - 30
2243931	Alpha-Chlordane	18.7	Spike	P	0 - 30
2243931	Beta-BHC	8.66	Spike	P	0 - 30
2243931	Beta-Cyfluthrin	9.44	Spike	P	0 - 30
2243931	Bifenthrin	4.32	Spike	P	0 - 30
2243931	Carbophenothion	22.4	Spike	P	0 - 30
2243931	Chlorothalonil	51.6	Spike	F	0 - 50
2243931	Cis-Nonachlor	28.6	Spike	P	0 - 30
2243931	Cypermethrin	9.36	Spike	P	0 - 30
2243931	Dacthal	12.2	Spike	P	0 - 30
2243931	DDD-p,p'	22.4	Spike	P	0 - 30
2243931	DDE-p,p'	22.5	Spike	P	0 - 30
2243931	DDT-p,p'	14.1	Spike	P	0 - 30
2243931	Delta-BHC	13.6	Spike	P	0 - 30
2243931	Deltamethrin	21.3	Spike	P	0 - 30
2243931	Dichlobenil	3.48	Spike	P	0 - 30
2243931	Dicofol	11.7	Spike	P	0 - 30
2243931	Dieldrin	16.8	Spike	P	0 - 30
2243931	Endosulfan I	16.9	Spike	P	0 - 30
2243931	Endosulfan II	15.8	Spike	P	0 - 30
2243931	Endosulfan Sulfate	11.0	Spike	P	0 - 30
2243931	Endrin	19.6	Spike	P	0 - 30
2243931	Endrin Aldehyde	5.50	Spike	P	0 - 30
2243931	Endrin Ketone	6.89	Spike	P	0 - 30
2243931	Esfenvalerate	4.71	Spike	P	0 - 30
2243931	Ethalfluralin	6.00	Spike	P	0 - 30
2243931	Fenpropathrin	14.3	Spike	P	0 - 30
2243931	Gamma-BHC	6.30	Spike	P	0 - 30
2243931	Gamma-Chlordane	18.7	Spike	P	0 - 30
2243931	Heptachlor	9.45	Spike	P	0 - 30
2243931	Heptachlor Epoxide	16.2	Spike	P	0 - 30
2243931	Hexachlorobenzene	8.44	Spike	P	0 - 30
2243931	Kepone	17.0	Spike	P	0 - 30
2243931	Lambda-Cyhalothrin	0.149	Spike	P	0 - 30
2243931	Methoxychlor	4.11	Spike	P	0 - 30
2243931	MGK-264	6.43	Spike	P	0 - 30
2243931	Mirex	25.8	Spike	P	0 - 30
2243931	Permethrin	9.56	Spike	P	0 - 30
2243931	Phenothrin	16.3	Spike	P	0 - 30
2243931	Piperonyl Butoxide	6.50	Spike	P	0 - 30
2243931	Prallethrin	13.3	Spike	P	0 - 30
2243931	Tau-Fluvalinate	7.51	Spike	P	0 - 30
2243931	Tetramethrin	16.8	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243931	Trans-Nonachlor	21.2	Spike	P	0 - 30
2243931	Triclosan Methyl	17.9	Spike	P	0 - 30
2243931	Trifluralin	8.46	Spike	P	0 - 30
LFB	Aldrin	9.68	LCS	P	0 - 30
LFB	Alpha-BHC	4.05	LCS	P	0 - 30
LFB	Alpha-Chlordane	15.7	LCS	P	0 - 30
LFB	Beta-BHC	8.88	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	16.2	LCS	P	0 - 30
LFB	Bifenthrin	0.780	LCS	P	0 - 30
LFB	Carbophenothion	20.3	LCS	P	0 - 30
LFB	Chlorothalonil	0.492	LCS	P	0 - 50
LFB	Cis-Nonachlor	14.7	LCS	P	0 - 30
LFB	Cypermethrin	16.7	LCS	P	0 - 30
LFB	Dacthal	1.54	LCS	P	0 - 30
LFB	DDD-p,p'	10.1	LCS	P	0 - 30
LFB	DDE-p,p'	13.7	LCS	P	0 - 30
LFB	DDT-p,p'	4.25	LCS	P	0 - 30
LFB	Delta-BHC	4.11	LCS	P	0 - 30
LFB	Deltamethrin	13.3	LCS	P	0 - 30
LFB	Dichlobenil	12.3	LCS	P	0 - 30
LFB	Dicofol	1.86	LCS	P	0 - 30
LFB	Dieldrin	8.57	LCS	P	0 - 30
LFB	Endosulfan I	2.83	LCS	P	0 - 30
LFB	Endosulfan II	6.52	LCS	P	0 - 30
LFB	Endosulfan Sulfate	15.5	LCS	P	0 - 30
LFB	Endrin	6.80	LCS	P	0 - 30
LFB	Endrin Aldehyde	5.88	LCS	P	0 - 30
LFB	Endrin Ketone	8.47	LCS	P	0 - 30
LFB	Esfenvalerate	22.4	LCS	P	0 - 30
LFB	Ethalfluralin	0.412	LCS	P	0 - 30
LFB	Fenpropathrin	5.15	LCS	P	0 - 30
LFB	Gamma-BHC	7.86	LCS	P	0 - 30
LFB	Gamma-Chlordane	8.58	LCS	P	0 - 30
LFB	Heptachlor	5.23	LCS	P	0 - 30
LFB	Heptachlor Epoxide	1.36	LCS	P	0 - 30
LFB	Hexachlorobenzene	4.47	LCS	P	0 - 30
LFB	Kepone	108	LCS	F	0 - 30
LFB	Lambda-Cyhalothrin	24.6	LCS	P	0 - 30
LFB	Methoxychlor	13.7	LCS	P	0 - 30
LFB	MGK-264	16.6	LCS	P	0 - 30
LFB	Mirex	10.3	LCS	P	0 - 30
LFB	Permethrin	12.1	LCS	P	0 - 30
LFB	Phenothrin	2.80	LCS	P	0 - 30
LFB	Piperonyl Butoxide	2.38	LCS	P	0 - 30
LFB	Prallethrin	12.3	LCS	P	0 - 30
LFB	Tau-Fluvalinate	10.9	LCS	P	0 - 30
LFB	Tetramethrin	18.4	LCS	P	0 - 30
LFB	Trans-Nonachlor	11.0	LCS	P	0 - 30
LFB	Triclosan Methyl	9.93	LCS	P	0 - 30
LFB	Trifluralin	3.60	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8276
Batch ID: P397459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243496	Chlordane	1.88	Spike	P	0 - 30
2243496	Toxaphene	5.67	Spike	P	0 - 30
LFB	Chlordane	1.57	LCS	P	0 - 30
LFB	Toxaphene	2.35	LCS	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P397501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244182	Color (true)	0.190	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P398016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244187	Total Alkalinity	1.31	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P397911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243771	TDS	2.55	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P397914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244178	TDS	5.37	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P397577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244187	Fluoride	0.929	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P397881

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244011	Organic Carbon	2.93	Spike	P	0 - 20

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2244369
Field Sample ID: G5SE0043

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	81.2	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	60.3	P	30 - 110
EPA 8276	Decachlorobiphenyl	56.9	P	29 - 92.0
EPA 8276	PCNB	79.0	P	43 - 134

Lab Sample ID: 2244370
Field Sample ID: G5SE0069

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	77.9	P	35 - 120
EPA 8270E	Decachlorobiphenyl	137	F	35 - 120
EPA 8270E	Tetrachloro-m-xylene	60.4	P	30 - 110
EPA 8270E	Tetrachloro-m-xylene	66.3	P	30 - 110
EPA 8276	Decachlorobiphenyl	61.2	P	29 - 92.0
EPA 8276	PCNB	77.6	P	43 - 134

Lab Sample ID: 2244371
Field Sample ID: FB_04292021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	69.3	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	70.8	P	30 - 110
EPA 8276	Decachlorobiphenyl	57.5	P	29 - 92.0
EPA 8276	PCNB	73.4	P	43 - 134

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A105108
Included Lab Sample IDs: 2244313, 2244316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A105114
Included Lab Sample IDs: 2244311, 2244314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.0	P/P	95 - 105

Reference Method: SM 2120 B-2011
Run ID: A105115
Included Lab Sample IDs: 2244311, 2244314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A105132
Included Lab Sample IDs: 2244312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.0	99.0	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A105140
Included Lab Sample IDs: 2244311, 2244314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A105180
Included Lab Sample IDs: 2244315

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

Reference Method: EPA 8276
Run ID: A105262
Included Lab Sample IDs: 2244369, 2244370, 2244371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	99.0		P	80 - 120
Toxaphene	89.7		P	80 - 120

Reference Method: SM 5310 B-2011
Run ID: A105278
Included Lab Sample IDs: 2244312, 2244315

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.4	99.8	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A105301
Included Lab Sample IDs: 2244312, 2244315

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	96.2	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A105305
Included Lab Sample IDs: 2244369, 2244370, 2244371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.5		P	80 - 120
Alpha-BHC	96.8		P	80 - 120
Alpha-Chlordane	99.2		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	95.1		P	80 - 120
Bifenthrin	95.0		P	80 - 120
Carbophenothion	103		P	80 - 120
Chlorothalonil	92.7		P	80 - 120
Cis-Nonachlor	104		P	80 - 120
Cypermethrin	91.1		P	80 - 120
Dacthal	99.5		P	80 - 120
DDD-p,p'	101		P	80 - 120
DDE-p,p'	101		P	80 - 120
DDT-p,p'	99.9		P	80 - 120
Delta-BHC	96.8		P	80 - 120
Deltamethrin	91.0		P	80 - 120
Dichlobenil	107		P	80 - 120
Dicofol	104		P	80 - 120
Dieldrin	98.8		P	80 - 120
Endosulfan I	95.9		P	80 - 120
Endosulfan II	95.3		P	80 - 120
Endosulfan Sulfate	105		P	80 - 120
Endrin	98.4		P	80 - 120
Endrin Aldehyde	106		P	80 - 120
Endrin Ketone	101		P	80 - 120
Esfenvalerate	94.6		P	80 - 120
Ethalfluralin	96.6		P	80 - 120
Fenpropathrin	103		P	80 - 120
Gamma-BHC	97.6		P	80 - 120
Gamma-Chlordane	102		P	80 - 120
Heptachlor	98.1		P	80 - 120
Heptachlor Epoxide	99.6		P	80 - 120
Hexachlorobenzene	100		P	80 - 120
Kepone	102		P	80 - 120
Lambda-Cyhalothrin	95.6		P	80 - 120
Methoxychlor	95.9		P	80 - 120
MGK-264	99.5		P	80 - 120
Mirex	98.2		P	80 - 120
Permethrin	98.3		P	80 - 120
Phenothrin	98.3		P	80 - 120
Piperonyl Butoxide	95.6		P	80 - 120
Prallethrin	97.2		P	80 - 120
Tau-Fluvalinate	96.1		P	80 - 120
Tetramethrin	91.4		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A105305
Included Lab Sample IDs: 2244369, 2244370, 2244371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Trans-Nonachlor	105		P	80 - 120
Triclosan Methyl	102		P	80 - 120
Trifluralin	98.7		P	80 - 120

Reference Method: SM 2320 B-2011
Run ID: A105344
Included Lab Sample IDs: 2244311, 2244314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A105367
Included Lab Sample IDs: 2244315

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A105378
Included Lab Sample IDs: 2244312

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A105414
Included Lab Sample IDs: 2244312, 2244315

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	97.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A105550
Included Lab Sample IDs: 2244311, 2244314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.7	P/P	90 - 110
Sulfate	99.6	98.7	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		Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.47	
EPA 300.0 Rev. 2.1	Chloride	100		96.9	97.8		0.616	
	Sulfate	98.9		96.2	96.8		0.897	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0		95.4	96.4			0.915
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100						4.49
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0		99.0	99.0			0.0
	NO2NO3-N	100		100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	106		104	106			1.58
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.1		93.2	94.5			1.39
EPA 8270E	Aldrin	65.4	72.1	62.8	63.5	9.68		1.19
	Alpha-BHC	86.1	89.7	89.6	84.8	4.05		5.42
	Alpha-Chlordane	92.3	78.9	81.6	67.6	15.7		18.7
	Beta-BHC	88.0	96.1	108	98.8	8.88		8.66
	Beta-Cyfluthrin	122	143	99.9	90.9	16.2		9.44
	Bifenthrin	81.0	80.4	56.7	59.2	0.780		4.32
	Carbophenothion	41.2	50.5	65.9	52.6	20.3		22.4
	Chlorothalonil	97.9	98.4	68.3	40.3	0.492		51.6
	Cis-Nonachlor	82.0	95.1	86.5	64.9	14.7		28.6
	Cypermethrin	141	119	95.3	86.7	16.7		9.36
	Dacthal	91.2	89.8	101	89.2	1.54		12.2
	DDD-p,p'	88.1	79.6	80.7	64.4	10.1		22.4
	DDE-p,p'	82.9	72.3	77.0	61.4	13.7		22.5
	DDT-p,p'	77.0	80.3	72.7	63.1	4.25		14.1
	Delta-BHC	99.4	95.4	112	98.0	4.11		13.6
	Deltamethrin	145	127	40.2	49.7	13.3		21.3
	Dichlobenil	44.4	50.2	47.5	49.2	12.3		3.48
	Dicofol	99.0	101	93.7	83.4	1.86		11.7
	Dieldrin	83.6	76.7	84.5	71.4	8.57		16.8
	Endosulfan I	82.8	80.5	85.0	71.8	2.83		16.9
	Endosulfan II	78.4	83.7	87.9	75.0	6.52		15.8
	Endosulfan Sulfate	102	87.5	97.0	86.9	15.5		11.0
	Endrin	85.1	79.5	85.0	69.8	6.80		19.6
	Endrin Aldehyde	96.8	91.3	97.0	91.8	5.88		5.50
	Endrin Ketone	93.9	86.2	97.0	90.6	8.47		6.89
	Esfenvalerate	181	145	103	98.6	22.4		4.71
	Ethalfluralin	83.1	83.4	76.3	71.9	0.412		6.00
	Fenpropathrin	96.5	91.6	80.6	69.8	5.15		14.3
	Gamma-BHC	88.6	95.8	94.7	88.9	7.86		6.30
	Gamma-Chlordane	89.7	82.3	83.9	69.5	8.58		18.7
	Heptachlor	73.0	69.3	62.8	57.1	5.23		9.45
	Heptachlor Epoxide	88.8	87.6	92.1	78.2	1.36		16.2
	Hexachlorobenzene	71.6	74.9	61.7	56.7	4.47		8.44
	Kepone	106	31.6	107	90.3	108		17.0
	Lambda-Cyhalothrin	206	161	111	110	24.6		0.149
	Methoxychlor	105	91.9	88.9	92.6	13.7		4.11
	MGK-264	90.9	107	114	107	16.6		6.43
	Mirex	140	155	137	106	10.3		25.8
	Permethrin	120	135	88.4	80.4	12.1		9.56
	Phenothrin	69.9	71.9	70.3	59.7	2.80		16.3
	Piperonyl Butoxide	94.2	96.5	96.4	90.3	2.38		6.50
	Prallethrin	59.1	66.8	76.0	66.5	12.3		13.3
	Tau-Fluvalinate	88.0	98.2	71.9	66.7	10.9		7.51
	Tetramethrin	80.9	67.3	78.3	92.7	18.4		16.8
	Trans-Nonachlor	80.9	90.3	82.4	66.6	11.0		21.2

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270E	Triclosan Methyl	80.9	89.3	88.0	73.6	9.93		17.9
	Trifluralin	82.1	79.2	76.0	69.8	3.60		8.46
EPA 8276	Chlordane	96.4	94.9	86.5	84.8	1.57		1.88
	Toxaphene	79.3	81.1	77.2	72.9	2.35		5.67
SM 2120 B-2011	Color (true)	99.7					0.190	
SM 2320 B-2011	Total Alkalinity	98.4					1.31	
SM 2540 C-2011	TDS						2.55	
	TDS						5.37	
SM 4500 F-C-2011	Fluoride	98.7		102	103			0.929
SM 5310 B-2011	Organic Carbon	97.2		100	104			2.93

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2244311, 2244314
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2244311, 2244314
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2244311, 2244314
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2244312, 2244315
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2244312, 2244315
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2244312, 2244315
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2244312, 2244315
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2244313, 2244316
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2244369, 2244370, 2244371
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2244369, 2244370, 2244371
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2244311, 2244314
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2244311, 2244314
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2244311, 2244314
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2244311, 2244314
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2244311, 2244314
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2244312, 2244315

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	04/30/2021			04/30/2021 16:21	Sarah A Nixon	2244311, 2244314
EPA 300.0 Rev. 2.1	04/30/2021			05/20/2021 17:01	Lipi Saha	2244311
	04/30/2021			05/20/2021 17:13	Lipi Saha	2244314
EPA 350.1 Rev. 2.0	04/30/2021			05/13/2021 13:29	Ping Hua	2244312
	04/30/2021			05/13/2021 13:35	Ping Hua	2244315
EPA 351.2 Rev. 2.0	04/30/2021	05/07/2021 18:29	Benjamin T. Nordmann	05/10/2021 13:34	Virginia P. Brown	2244312
	04/30/2021	05/07/2021 18:29	Benjamin T. Nordmann	05/10/2021 13:36	Virginia P. Brown	2244315
EPA 353.2 Rev. 2.0	04/30/2021			05/03/2021 13:54	Touraj Touran	2244312
	04/30/2021			05/05/2021 10:08	Beverly Y. Sanders	2244315
EPA 365.1 Rev. 2.0	04/30/2021	05/11/2021 14:29	Yen Ta	05/12/2021 10:07	Shengyu Ding	2244312
	04/30/2021	05/11/2021 14:29	Yen Ta	05/12/2021 12:09	Shengyu Ding	2244315
EPA 365.1 Rev. 2.0 dissolved	04/30/2021			04/30/2021 14:30	Lipi Saha	2244313
	04/30/2021			04/30/2021 14:31	Lipi Saha	2244316
EPA 8270E	04/30/2021	05/03/2021 08:00	Fe-Val Siddell	05/09/2021 01:15	Vandana T. Nagar	2244369
	04/30/2021	05/03/2021 08:00	Fe-Val Siddell	05/09/2021 01:44	Vandana T. Nagar	2244370
	04/30/2021	05/03/2021 08:00	Fe-Val Siddell	05/09/2021 02:13	Vandana T. Nagar	2244371
EPA 8276	04/30/2021	05/03/2021 08:00	Fe-Val Siddell	05/08/2021 10:17	Arthur Maknenko	2244369
	04/30/2021	05/03/2021 08:00	Fe-Val Siddell	05/08/2021 11:12	Arthur Maknenko	2244370
	04/30/2021	05/03/2021 08:00	Fe-Val Siddell	05/08/2021 12:08	Arthur Maknenko	2244371
SM 2120 B-2011	04/30/2021			04/30/2021 15:33	Madeline Gruver	2244311
	04/30/2021			04/30/2021 15:34	Madeline Gruver	2244314
SM 2320 B-2011	04/30/2021			05/11/2021 23:25	Dale L. Simmons	2244311
	04/30/2021			05/11/2021 23:31	Dale L. Simmons	2244314
SM 2540 C-2011	04/30/2021			05/04/2021 15:06	Yijie Li	2244311, 2244314
SM 2540 D-2011	04/30/2021			05/04/2021 15:06	Yijie Li	2244311, 2244314
SM 4500 F-C-2011	04/30/2021			05/04/2021 01:21	Dale L. Simmons	2244314
	04/30/2021			05/04/2021 01:46	Dale L. Simmons	2244311
SM 5310 B-2011	04/30/2021			05/07/2021 23:57	Madeline Gruver	2244312
	04/30/2021			05/08/2021 00:10	Madeline Gruver	2244315