

Chemical Analysis Report

NE-DIST-2021-04-22-01

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

Event Description: **Miramar 2021**
Request ID: **RQ-2021-04-19-27**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 12-MAY-2021 14:48

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

Case Narrative

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

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

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

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

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: Miramar at San Jose

Collection Date/Time: 04/21/2021 12:20

Field ID: G2NE1164

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2241426	EPA 180.1 Rev. 2.0	Turbidity	3.1	A	NTU	P397006	
	EPA 300.0 Rev. 2.1	Chloride	200		mg Cl/L	P397125	
		Sulfate	91		mg SO4/L	P397128	
	SM 2120 B-2011	Color (true)	25		PCU	P397002	
	SM 2320 B-2011	Total Alkalinity	89		mg CaCO3/L	P397193	
	SM 2540 C-2011	TDS	556		mg/L	P397416	
	SM 2540 D-2011	TSS	2	I	mg/L	P397164	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P397194	
2241427	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P397513	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P397111	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.1		mg N/L	P397400	
	EPA 365.1 Rev. 2.0	Total-P	0.098		mg P/L	P397095	
	SM 5310 B-2011	Organic Carbon	5.7		mg C/L	P397241	
2241428	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.040		mg P/L	P396999	
2241430	EPA 8270E	Aldrin	0.66	U	ng/L	P397215	
		Alpha-BHC	0.11	I	ng/L	P397215	
		Alpha-Chlordane	0.45	I	ng/L	P397215	
		Beta-BHC	0.25	I	ng/L	P397215	
		Beta-Cyfluthrin**	1.3	U	ng/L	P397215	
		Bifenthrin**	0.51	U	ng/L	P397215	
		Carbophenothion	0.36	UJ	ng/L	P397215	LCS
		Chlorothalonil	0.51	U	ng/L	P397215	
		Cis-Nonachlor**	0.20	U	ng/L	P397215	
		Cypermethrin	1.5	U	ng/L	P397215	
		Dacthal**	0.15	U	ng/L	P397215	
		DDD-p,p'	0.26	U	ng/L	P397215	
		DDE-p,p'	0.20	U	ng/L	P397215	
		DDT-p,p'	0.26	U	ng/L	P397215	
		Delta-BHC	0.41	U	ng/L	P397215	
		Deltamethrin**	1.3	U	ng/L	P397215	
		Dichlobenil**	0.10	U	ng/L	P397215	
		Dicofol	1.3	U	ng/L	P397215	MS
		Dieldrin	6.9		ng/L	P397215	
		Endosulfan I	0.41	U	ng/L	P397215	
		Endosulfan II	0.41	U	ng/L	P397215	
		Endosulfan Sulfate	0.31	U	ng/L	P397215	
		Endrin	0.41	U	ng/L	P397215	MS, RPD
		Endrin Aldehyde	0.77	U	ng/L	P397215	MS, RPD
		Endrin Ketone	0.70	I	ng/L	P397215	RPD
		Esfenvalerate**	0.77	U	ng/L	P397215	
		Ethalfuralin**	0.15	U	ng/L	P397215	
		Fenpropathrin**	0.26	U	ng/L	P397215	
		Gamma-BHC	0.13	U	ng/L	P397215	

Field ID: G2NE1164

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2241430	EPA 8270E	Gamma-Chlordane	0.34	I	ng/L	P397215	
		Heptachlor	0.20	U	ng/L	P397215	
		Heptachlor Epoxide	2.6		ng/L	P397215	
		Hexachlorobenzene	1.0	U	ng/L	P397215	
		Kepone**	5.1	U	ng/L	P397215	RPD
		Lambda-Cyhalothrin**	0.77	U	ng/L	P397215	
		Methoxychlor	0.31	U	ng/L	P397215	
		MGK-264**	0.20	UJ	ng/L	P397215	LCS, RPD
		Mirex	0.31	U	ng/L	P397215	
		Permethrin	1.6	U	ng/L	P397215	
		Phenothrin**	0.92	UJ	ng/L	P397215	LCS
		Piperonyl Butoxide**	0.19	I	ng/L	P397215	MS, RPD
		Prallethrin**	2.0	UJ	ng/L	P397215	LCS
		Tau-Fluvalinate**	0.26	U	ng/L	P397215	
		Tetramethrin**	0.77	UJ	ng/L	P397215	LCS, MS, RPD
		Trans-Nonachlor**	0.20	U	ng/L	P397215	
		Triclosan Methyl**	0.15	U	ng/L	P397215	
		Trifluralin	0.20	U	ng/L	P397215	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: Miramar CR @ Gadsen Rd.

Collection Date/Time: 04/21/2021 12:35

Field ID: 20030825

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2241431	EPA 8270E	Aldrin	0.69	U	ng/L	P397215	
		Alpha-BHC	0.11	U	ng/L	P397215	
		Alpha-Chlordane	0.21	U	ng/L	P397215	
		Beta-BHC	0.37	I	ng/L	P397215	
		Beta-Cyfluthrin**	1.3	U	ng/L	P397215	
		Bifenthrin**	0.53	U	ng/L	P397215	
		Carbophenothion	0.37	UJ	ng/L	P397215	LCS
		Chlorothalonil	0.53	U	ng/L	P397215	
		Cis-Nonachlor**	0.21	U	ng/L	P397215	
		Cypermethrin	1.6	U	ng/L	P397215	
		Dacthal**	0.16	U	ng/L	P397215	
		DDD-p,p'	0.27	U	ng/L	P397215	
		DDE-p,p'	0.21	U	ng/L	P397215	
		DDT-p,p'	0.27	U	ng/L	P397215	
		Delta-BHC	0.67	I	ng/L	P397215	
		Deltamethrin**	1.3	U	ng/L	P397215	
		Dichlobenil**	0.11	U	ng/L	P397215	
		Dicofol	1.3	U	ng/L	P397215	MS
		Dieldrin	2.0	I	ng/L	P397215	
		Endosulfan I	0.43	U	ng/L	P397215	
		Endosulfan II	0.43	U	ng/L	P397215	
		Endosulfan Sulfate	0.32	U	ng/L	P397215	
		Endrin	0.43	U	ng/L	P397215	MS, RPD
		Endrin Aldehyde	0.80	U	ng/L	P397215	MS, RPD
		Endrin Ketone	0.43	U	ng/L	P397215	RPD
		Esfenvalerate**	0.80	U	ng/L	P397215	
		Ethalfuralin**	0.16	U	ng/L	P397215	
		Fenpropathrin**	0.27	U	ng/L	P397215	
		Gamma-BHC	0.13	U	ng/L	P397215	
		Gamma-Chlordane	0.21	U	ng/L	P397215	
		Heptachlor	0.21	U	ng/L	P397215	
		Heptachlor Epoxide	1.4		ng/L	P397215	
		Hexachlorobenzene	1.1	U	ng/L	P397215	
		Kepone**	5.3	U	ng/L	P397215	RPD
		Lambda-Cyhalothrin**	0.80	U	ng/L	P397215	
		Methoxychlor	0.32	U	ng/L	P397215	
		MGK-264**	0.21	UJ	ng/L	P397215	LCS, RPD
		Mirex	0.32	U	ng/L	P397215	
		Permethrin	1.7	U	ng/L	P397215	
		Phenothrin**	0.96	UJ	ng/L	P397215	LCS
		Piperonyl Butoxide**	0.26	I	ng/L	P397215	MS, RPD
		Prallethrin**	2.1	UJ	ng/L	P397215	LCS
		Tau-Fluvalinate**	0.27	U	ng/L	P397215	

Field ID: 20030825

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2241431	EPA 8270E	Tetramethrin**	0.80	UJ	ng/L	P397215	LCS, MS, RPD
		Trans-Nonachlor**	0.21	U	ng/L	P397215	
		Triclosan Methyl**	0.16	U	ng/L	P397215	
		Trifluralin	0.21	U	ng/L	P397215	
2241432	EPA 200.7 Rev. 4.4	Barium	46.9		ug/L	P397699	
		Calcium	45.4		mg/L	P397699	
		Iron	1.45E+03		ug/L	P397699	
		Magnesium	10.9		mg/L	P397699	
		Manganese	88.3		ug/L	P397699	
		Potassium	2.8		mg/L	P397699	
		Sodium	23.2		mg/L	P397699	
		Zinc	7.1	I	ug/L	P397699	
	EPA 200.8 Rev. 5.4	Aluminum	34		ug/L	P397699	
		Antimony	0.11	I	ug/L	P397699	
		Arsenic	0.60		ug/L	P397699	
		Beryllium	0.052		ug/L	P397699	
		Boron**	54.1		ug/L	P397699	
		Cadmium	0.020	U	ug/L	P397699	
		Chromium	0.40	U	ug/L	P397699	
		Copper	4.44		ug/L	P397699	
		Lead	0.34	I	ug/L	P397699	
		Nickel	0.83	I	ug/L	P397699	
		Selenium	0.20	U	ug/L	P397699	
		Silver	0.010	U	ug/L	P397699	
		Thallium	0.10	U	ug/L	P397699	
	SM 2340B	Hardness	158		mg/L	P397699	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397006

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P397699

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/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: P397699

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397125

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397128

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397513

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397111

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397400

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397095

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P396999

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

Reference Method: EPA 8270E
Batch ID: P397215

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
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P397215

Component	Result	Code	Units
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: SM 2120 B-2011

Batch ID: P397002

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P397193

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

Reference Method: SM 2540 C-2011

Batch ID: P397416

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P397164

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P397194

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P397241

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P397699

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	109		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Manganese	104		P	85 - 115
Potassium	104		P	85 - 115
Sodium	110		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P397699

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	90.1		P	85 - 115
Antimony	99.2		P	85 - 115
Arsenic	91.4		P	85 - 115
Beryllium	91.9		P	85 - 115
Boron	94.9		P	85 - 115
Cadmium	92.5		P	85 - 115
Chromium	90.9		P	85 - 115
Copper	91.2		P	85 - 115
Lead	98.1		P	85 - 115
Nickel	89.3		P	85 - 115
Selenium	91.8		P	85 - 115
Silver	95.7		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397125

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397128

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397513

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397111

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.3		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397400

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397095

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: P396999

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.6		P	90 - 110

Reference Method: EPA 8270E
Batch ID: P397215

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	21.1	21.6	P/P	20 - 150
Alpha-BHC	96.9	95.6	P/P	50 - 150
Alpha-Chlordane	71.8	71.9	P/P	50 - 150
Beta-BHC	108	108	P/P	50 - 150
Beta-Cyfluthrin	62.3	62.4	P/P	50 - 150
Bifenthrin	46.7	47.6	P/P	40 - 150
Carbophenothion	21.1	19.5	P/F	20 - 150
Chlorothalonil	24.5	26.9	P/P	20 - 150
Cis-Nonachlor	68.5	69.5	P/P	50 - 150
Cypermethrin	58.3	66.9	P/P	50 - 150
Dacthal	90.9	89.3	P/P	50 - 150
DDD-p,p'	71.3	72.8	P/P	50 - 150
DDE-p,p'	67.6	66.5	P/P	50 - 150
DDT-p,p'	65.6	66.6	P/P	50 - 150
Delta-BHC	107	108	P/P	50 - 150
Deltamethrin	66.4	68.3	P/P	50 - 150
Dichlobenil	69.8	61.8	P/P	40 - 150
Dicofol	72.9	71.0	P/P	50 - 150
Dieldrin	75.1	74.4	P/P	50 - 150
Endosulfan I	74.4	73.7	P/P	50 - 150
Endosulfan II	78.6	79.6	P/P	50 - 150
Endosulfan Sulfate	89.1	86.5	P/P	50 - 150
Endrin	74.2	75.5	P/P	50 - 150
Endrin Aldehyde	92.0	91.1	P/P	50 - 150
Endrin Ketone	90.2	90.0	P/P	50 - 150
Esfenvalerate	66.0	69.7	P/P	50 - 150
Ethalfuralin	68.5	67.6	P/P	50 - 150
Fenpropathrin	56.4	57.8	P/P	50 - 150
Gamma-BHC	102	102	P/P	50 - 150
Gamma-Chlordane	64.4	65.8	P/P	50 - 150
Heptachlor	59.5	58.3	P/P	50 - 150
Heptachlor Epoxide	75.7	77.8	P/P	50 - 150
Hexachlorobenzene	59.2	57.8	P/P	50 - 150
Kepone	92.3	95.0	P/P	50 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P397215

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Lambda-Cyhalothrin	73.7	76.3	P/P	50 - 150
Methoxychlor	75.8	74.7	P/P	50 - 150
MGK-264	43.2	44.1	F/F	50 - 150
Mirex	100	102	P/P	50 - 150
Permethrin	62.5	63.7	P/P	50 - 150
Phenothrin	23.5	21.0	F/F	30 - 150
Piperonyl Butoxide	74.9	75.0	P/P	50 - 150
Prallethrin	29.0	30.3	F/F	40 - 150
Tau-Fluvalinate	47.8	49.0	P/P	40 - 150
Tetramethrin	36.0	36.3	F/F	40 - 150
Trans-Nonachlor	68.8	70.4	P/P	50 - 150
Triclosan Methyl	73.5	74.3	P/P	50 - 150
Trifluralin	66.9	67.6	P/P	50 - 150

Reference Method: SM 2120 B-2011

Batch ID: P397002

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

Reference Method: SM 2320 B-2011

Batch ID: P397193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P397194

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.8		P	90 - 106

Reference Method: SM 5310 B-2011

Batch ID: P397241

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P397699

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241376	Barium	100	101	P/P	80 - 120
2241376	Calcium	107	107	P/P	80 - 120
2241376	Iron	106	106	P/P	80 - 120
2241376	Magnesium	105	105	P/P	80 - 120
2241376	Manganese	102	103	P/P	80 - 120
2241376	Potassium	105	107	P/P	80 - 120
2241376	Sodium	107	106	P/P	80 - 120
2241376	Zinc	104	104	P/P	80 - 120
2241409	Barium	102		P	80 - 120
2241409	Calcium	105		P	80 - 120
2241409	Iron	105		P	80 - 120
2241409	Magnesium	104		P	80 - 120
2241409	Manganese	105		P	80 - 120
2241409	Potassium	105		P	80 - 120
2241409	Sodium	106		P	80 - 120
2241409	Zinc	107		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P397699

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241376	Aluminum	100	97.6	P/P	80 - 120
2241376	Antimony	103	104	P/P	80 - 120
2241376	Arsenic	97.4	98.0	P/P	80 - 120
2241376	Beryllium	94.5	92.3	P/P	80 - 120
2241376	Boron	103	100	P/P	80 - 120
2241376	Cadmium	102	101	P/P	80 - 120
2241376	Chromium	100	100	P/P	80 - 120
2241376	Copper	99.3	100	P/P	80 - 120
2241376	Lead	109	103	P/P	80 - 120
2241376	Nickel	96.8	97.9	P/P	80 - 120
2241376	Selenium	99.8	97.4	P/P	80 - 120
2241376	Silver	99.1	99.2	P/P	80 - 120
2241376	Thallium	105	105	P/P	80 - 120
2241409	Aluminum	86.8		P	80 - 120
2241409	Antimony	103		P	80 - 120
2241409	Arsenic	98.1		P	80 - 120
2241409	Beryllium	90.4		P	80 - 120
2241409	Boron	102		P	80 - 120
2241409	Cadmium	105		P	80 - 120
2241409	Chromium	101		P	80 - 120
2241409	Copper	97.4		P	80 - 120
2241409	Lead	108		P	80 - 120
2241409	Nickel	98.6		P	80 - 120
2241409	Selenium	97.5		P	80 - 120
2241409	Silver	100		P	80 - 120
2241409	Thallium	105		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P397125

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241460	Chloride	105	105	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241460	Sulfate	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397513

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241365	Ammonia-N	98.4	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241365	Kjeldahl Nitrogen	103	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241492	NO2NO3-N	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397095

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241492	Total-P	108	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P396999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241462	O-Phosphate-P	99.1	98.9	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P397215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242102	Aldrin	107	102	P/P	20 - 170
2242102	Alpha-BHC	89.2	92.8	P/P	50 - 170
2242102	Alpha-Chlordane	70.8	80.8	P/P	50 - 170
2242102	Beta-BHC	94.1	96.1	P/P	50 - 170
2242102	Beta-Cyfluthrin	85.2	83.4	P/P	50 - 170
2242102	Bifenthrin	56.5	62.8	P/P	40 - 170
2242102	Carbophenothion	48.7	51.7	P/P	20 - 170
2242102	Chlorothalonil	161	160	P/P	20 - 170
2242102	Cis-Nonachlor	72.7	83.3	P/P	50 - 170
2242102	Cypermethrin	77.1	72.9	P/P	50 - 170

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P397215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2242102	Dacthal	60.6	59.0	P/P	50 - 170
2242102	DDD-p,p'	77.8	71.8	P/P	50 - 170
2242102	DDE-p,p'	61.3	68.6	P/P	50 - 170
2242102	DDT-p,p'	63.5	70.5	P/P	50 - 170
2242102	Delta-BHC	121	115	P/P	50 - 170
2242102	Deltamethrin	87.8	80.1	P/P	50 - 170
2242102	Dichlobenil	52.9	63.2	P/P	40 - 170
2242102	Dicofol	59.3	47.5	P/F	50 - 170
2242102	Dieldrin	72.3	78.6	P/P	50 - 170
2242102	Endosulfan I	54.7	58.4	P/P	50 - 170
2242102	Endosulfan II	79.5	87.9	P/P	50 - 170
2242102	Endosulfan Sulfate	86.2	87.7	P/P	50 - 170
2242102	Endrin	76.5	23.7	P/F	50 - 170
2242102	Endrin Aldehyde	72.3	0.822	P/F	50 - 170
2242102	Endrin Ketone	93.7	165	P/P	50 - 170
2242102	Esfenvalerate	86.3	81.4	P/P	50 - 170
2242102	Ethalfuralin	61.2	73.1	P/P	50 - 170
2242102	Fenpropathrin	62.1	56.2	P/P	50 - 170
2242102	Gamma-BHC	95.0	95.2	P/P	50 - 170
2242102	Gamma-Chlordane	68.8	77.0	P/P	50 - 170
2242102	Heptachlor	70.6	84.1	P/P	50 - 170
2242102	Heptachlor Epoxide	59.3	60.4	P/P	50 - 170
2242102	Hexachlorobenzene	63.2	62.5	P/P	50 - 170
2242102	Kepone	65.2	139	P/P	50 - 170
2242102	Lambda-Cyhalothrin	102	89.7	P/P	50 - 170
2242102	Methoxychlor	68.0	79.8	P/P	50 - 170
2242102	MGK-264	93.6	69.0	P/P	50 - 170
2242102	Mirex	115	148	P/P	50 - 170
2242102	Permethrin	82.9	71.6	P/P	50 - 170
2242102	Phenothrin	87.2	95.0	P/P	30 - 170
2242102	Piperonyl Butoxide	92.1	0.440	P/F	50 - 170
2242102	Prallethrin	57.6	52.5	P/P	40 - 170
2242102	Tau-Fluvalinate	67.1	58.8	P/P	40 - 170
2242102	Tetramethrin	59.2	35.1	P/F	40 - 170
2242102	Trans-Nonachlor	61.5	72.8	P/P	50 - 170
2242102	Triclosan Methyl	71.3	75.1	P/P	50 - 170
2242102	Trifluralin	67.4	71.1	P/P	50 - 170

Reference Method: SM 4500 F-C-2011
Batch ID: P397194

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241721	Fluoride	100	98.1	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P397241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2241322	Organic Carbon	97.2	97.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P397006

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241426	Turbidity	8.31	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P397699

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241376	Barium	0.483	Spike	P	0 - 20
2241376	Calcium	0.230	Spike	P	0 - 20
2241376	Iron	0.376	Spike	P	0 - 20
2241376	Magnesium	0.116	Spike	P	0 - 20
2241376	Manganese	0.406	Spike	P	0 - 20
2241376	Potassium	2.38	Spike	P	0 - 20
2241376	Sodium	0.739	Spike	P	0 - 20
2241376	Zinc	0.196	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P397699

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241376	Aluminum	2.29	Spike	P	0 - 20
2241376	Antimony	0.374	Spike	P	0 - 20
2241376	Arsenic	0.597	Spike	P	0 - 20
2241376	Beryllium	2.30	Spike	P	0 - 20
2241376	Boron	2.10	Spike	P	0 - 20
2241376	Cadmium	0.856	Spike	P	0 - 20
2241376	Chromium	0.113	Spike	P	0 - 20
2241376	Copper	0.979	Spike	P	0 - 20
2241376	Lead	5.85	Spike	P	0 - 20
2241376	Nickel	1.16	Spike	P	0 - 20
2241376	Selenium	2.39	Spike	P	0 - 20
2241376	Silver	0.0470	Spike	P	0 - 20
2241376	Thallium	0.684	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P397125

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241460	Chloride	0.0233	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P397128

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241460	Sulfate	0.200	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P397513

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241365	Ammonia-N	0.406	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P397111

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241365	Kjeldahl Nitrogen	3.04	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P397400

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241492	NO2NO3-N	1.46	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P397095

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241492	Total-P	2.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P396999

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241462	O-Phosphate-P	0.202	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P397215

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242102	Aldrin	4.38	Spike	P	0 - 30
2242102	Alpha-BHC	3.91	Spike	P	0 - 30
2242102	Alpha-Chlordane	13.2	Spike	P	0 - 30
2242102	Beta-BHC	2.07	Spike	P	0 - 30
2242102	Beta-Cyfluthrin	2.17	Spike	P	0 - 30
2242102	Bifenthrin	10.4	Spike	P	0 - 30
2242102	Carbophenothion	6.04	Spike	P	0 - 30
2242102	Chlorothalonil	0.324	Spike	P	0 - 50
2242102	Cis-Nonachlor	13.7	Spike	P	0 - 30
2242102	Cypermethrin	5.61	Spike	P	0 - 30
2242102	Dacthal	2.68	Spike	P	0 - 30
2242102	DDD-p,p'	7.98	Spike	P	0 - 30
2242102	DDE-p,p'	11.2	Spike	P	0 - 30
2242102	DDT-p,p'	10.5	Spike	P	0 - 30
2242102	Delta-BHC	4.87	Spike	P	0 - 30
2242102	Deltamethrin	9.11	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P397215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2242102	Dichlobenil	17.8	Spike	P	0 - 30
2242102	Dicofol	22.1	Spike	P	0 - 30
2242102	Dieldrin	8.37	Spike	P	0 - 30
2242102	Endosulfan I	6.50	Spike	P	0 - 30
2242102	Endosulfan II	10.1	Spike	P	0 - 30
2242102	Endosulfan Sulfate	1.77	Spike	P	0 - 30
2242102	Endrin	105	Spike	F	0 - 30
2242102	Endrin Aldehyde	196	Spike	F	0 - 30
2242102	Endrin Ketone	55.1	Spike	F	0 - 30
2242102	Esfenvalerate	5.89	Spike	P	0 - 30
2242102	Ethalfuralin	17.7	Spike	P	0 - 30
2242102	Fenpropathrin	9.87	Spike	P	0 - 30
2242102	Gamma-BHC	0.210	Spike	P	0 - 30
2242102	Gamma-Chlordane	11.2	Spike	P	0 - 30
2242102	Heptachlor	17.4	Spike	P	0 - 30
2242102	Heptachlor Epoxide	1.88	Spike	P	0 - 30
2242102	Hexachlorobenzene	1.08	Spike	P	0 - 30
2242102	Kepone	72.4	Spike	F	0 - 30
2242102	Lambda-Cyhalothrin	12.5	Spike	P	0 - 30
2242102	Methoxychlor	16.0	Spike	P	0 - 30
2242102	MGK-264	30.3	Spike	F	0 - 30
2242102	Mirex	25.1	Spike	P	0 - 30
2242102	Permethrin	14.7	Spike	P	0 - 30
2242102	Phenothrin	8.62	Spike	P	0 - 30
2242102	Piperonyl Butoxide	198	Spike	F	0 - 30
2242102	Prallethrin	9.17	Spike	P	0 - 30
2242102	Tau-Fluvalinate	13.1	Spike	P	0 - 30
2242102	Tetramethrin	51.0	Spike	F	0 - 30
2242102	Trans-Nonachlor	16.8	Spike	P	0 - 30
2242102	Triclosan Methyl	5.28	Spike	P	0 - 30
2242102	Trifluralin	5.35	Spike	P	0 - 30
LFB	Aldrin	2.09	LCS	P	0 - 30
LFB	Alpha-BHC	1.36	LCS	P	0 - 30
LFB	Alpha-Chlordane	0.0858	LCS	P	0 - 30
LFB	Beta-BHC	0.0385	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	0.183	LCS	P	0 - 30
LFB	Bifenthrin	1.86	LCS	P	0 - 30
LFB	Carbophenothion	7.94	LCS	P	0 - 30
LFB	Chlorothalonil	9.36	LCS	P	0 - 50
LFB	Cis-Nonachlor	1.39	LCS	P	0 - 30
LFB	Cypermethrin	13.7	LCS	P	0 - 30
LFB	Dacthal	1.73	LCS	P	0 - 30
LFB	DDD-p,p'	2.17	LCS	P	0 - 30
LFB	DDE-p,p'	1.72	LCS	P	0 - 30
LFB	DDT-p,p'	1.60	LCS	P	0 - 30
LFB	Delta-BHC	0.590	LCS	P	0 - 30
LFB	Deltamethrin	2.74	LCS	P	0 - 30
LFB	Dichlobenil	12.2	LCS	P	0 - 30
LFB	Dicofol	2.58	LCS	P	0 - 30
LFB	Dieldrin	0.981	LCS	P	0 - 30
LFB	Endosulfan I	1.02	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P397215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endosulfan II	1.24	LCS	P	0 - 30
LFB	Endosulfan Sulfate	2.90	LCS	P	0 - 30
LFB	Endrin	1.74	LCS	P	0 - 30
LFB	Endrin Aldehyde	0.882	LCS	P	0 - 30
LFB	Endrin Ketone	0.260	LCS	P	0 - 30
LFB	Esfenvalerate	5.56	LCS	P	0 - 30
LFB	Ethalfuralin	1.28	LCS	P	0 - 30
LFB	Fenpropathrin	2.48	LCS	P	0 - 30
LFB	Gamma-BHC	0.365	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.13	LCS	P	0 - 30
LFB	Heptachlor	2.13	LCS	P	0 - 30
LFB	Heptachlor Epoxide	2.64	LCS	P	0 - 30
LFB	Hexachlorobenzene	2.34	LCS	P	0 - 30
LFB	Kepone	2.92	LCS	P	0 - 30
LFB	Lambda-Cyhalothrin	3.51	LCS	P	0 - 30
LFB	Methoxychlor	1.52	LCS	P	0 - 30
LFB	MGK-264	2.08	LCS	P	0 - 30
LFB	Mirex	1.53	LCS	P	0 - 30
LFB	Permethrin	1.89	LCS	P	0 - 30
LFB	Phenothrin	11.6	LCS	P	0 - 30
LFB	Piperonyl Butoxide	0.116	LCS	P	0 - 30
LFB	Prallethrin	4.65	LCS	P	0 - 30
LFB	Tau-Fluvalinate	2.65	LCS	P	0 - 30
LFB	Tetramethrin	0.775	LCS	P	0 - 30
LFB	Trans-Nonachlor	2.25	LCS	P	0 - 30
LFB	Triclosan Methyl	1.04	LCS	P	0 - 30
LFB	Trifluralin	0.997	LCS	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P397002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241515	Color (true)	2.35	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P397193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241721	Total Alkalinity	0.560	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P397416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241389	TDS	4.52	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P397194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241721	Fluoride	1.41	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P397241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2241322	Organic Carbon	0.226	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2241430
Field Sample ID: G2NE1164

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	66.7	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	49.1	P	30 - 110

Lab Sample ID: 2241431
Field Sample ID: 20030825

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	55.2	P	35 - 120
EPA 8270E	Tetrachloro-m-xylene	43.2	P	30 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A104869

Included Lab Sample IDs: 2241426

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.8	100	P/P	90 - 110
Sulfate	98.5	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A104915

Included Lab Sample IDs: 2241428

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

Reference Method: SM 2120 B-2011

Run ID: A104916

Included Lab Sample IDs: 2241426

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: A104918

Included Lab Sample IDs: 2241426

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	98.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104985

Included Lab Sample IDs: 2241427

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

Reference Method: SM 2320 B-2011

Run ID: A105004

Included Lab Sample IDs: 2241426

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A105004

Included Lab Sample IDs: 2241426

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

Reference Method: SM 5310 B-2011

Run ID: A105019

Included Lab Sample IDs: 2241427

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	95.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105021

Included Lab Sample IDs: 2241427

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.3	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105082

Included Lab Sample IDs: 2241427

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105117

Included Lab Sample IDs: 2241427

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	97.5	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A105126

Included Lab Sample IDs: 2241430, 2241431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	99.1		P	80 - 120
Alpha-BHC	100		P	80 - 120
Alpha-Chlordane	96.9		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	99.1		P	80 - 120
Bifenthrin	99.1		P	80 - 120
Carbophenothion	94.0		P	80 - 120
Chlorothalonil	85.0		P	80 - 120
Cis-Nonachlor	98.5		P	80 - 120
Cypermethrin	100		P	80 - 120
Dacthal	96.2		P	80 - 120
DDD-p,p'	100		P	80 - 120
DDE-p,p'	96.9		P	80 - 120
DDT-p,p'	99.6		P	80 - 120
Delta-BHC	98.8		P	80 - 120
Deltamethrin	97.7		P	80 - 120
Dichlobenil	82.6		P	80 - 120
Dicofol	93.0		P	80 - 120
Dieldrin	95.4		P	80 - 120
Endosulfan I	97.7		P	80 - 120
Endosulfan II	99.0		P	80 - 120
Endosulfan Sulfate	106		P	80 - 120
Endrin	99.9		P	80 - 120
Endrin Aldehyde	103		P	80 - 120
Endrin Ketone	96.7		P	80 - 120
Esfenvalerate	98.7		P	80 - 120
Ethalfuralin	99.7		P	80 - 120
Fenpropathrin	98.0		P	80 - 120
Gamma-BHC	101		P	80 - 120
Gamma-Chlordane	95.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A105126

Included Lab Sample IDs: 2241430, 2241431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Heptachlor	95.2		P	80 - 120
Heptachlor Epoxide	96.2		P	80 - 120
Hexachlorobenzene	96.6		P	80 - 120
Kepone	96.9		P	80 - 120
Lambda-Cyhalothrin	100		P	80 - 120
Methoxychlor	97.0		P	80 - 120
MGK-264	104		P	80 - 120
Mirex	101		P	80 - 120
Permethrin	99.5		P	80 - 120
Phenothrin	104		P	80 - 120
Piperonyl Butoxide	96.1		P	80 - 120
Prallethrin	97.5		P	80 - 120
Tau-Fluvalinate	97.7		P	80 - 120
Tetramethrin	96.5		P	80 - 120
Trans-Nonachlor	97.4		P	80 - 120
Triclosan Methyl	95.9		P	80 - 120
Trifluralin	101		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A105239

Included Lab Sample IDs: 2241432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	104	104	P/P	90 - 110
Calcium	103	102	P/P	90 - 110
Iron	101	103	P/P	90 - 110
Magnesium	100	102	P/P	90 - 110
Manganese	104	104	P/P	90 - 110
Potassium	103	105	P/P	90 - 110
Sodium	105	105	P/P	90 - 110
Zinc	105	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A105242

Included Lab Sample IDs: 2241432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	103	P/P	90 - 110
Antimony	105	105	P/P	90 - 110
Arsenic	99.6	98.8	P/P	90 - 110
Beryllium	99.5	98.6	P/P	90 - 110
Boron	103	104	P/P	90 - 110
Cadmium	103	102	P/P	90 - 110
Chromium	102	101	P/P	90 - 110
Copper	98.7	98.1	P/P	90 - 110
Nickel	99.2	99.4	P/P	90 - 110
Selenium	103	100	P/P	90 - 110
Silver	100	100	P/P	90 - 110
Thallium	102	102	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A105268

Included Lab Sample IDs: 2241432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	95.0	93.3	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							8.31	
EPA 200.7 Rev. 4.4	Barium	101		100	101	102			0.483
	Calcium	109		107	107	105			0.230
	Iron	105		106	106	105			0.376
	Magnesium	105		105	105	104			0.116
	Manganese	104		102	103	105			0.406
	Potassium	104		105	107	105			2.38
	Sodium	110		107	106	106			0.739
	Zinc	105		104	104	107			0.196
EPA 200.8 Rev. 5.4	Aluminum	90.1		100	97.6	86.8			2.29
	Antimony	99.2		103	104	103			0.374
	Arsenic	91.4		97.4	98.0	98.1			0.597
	Beryllium	91.9		94.5	92.3	90.4			2.30
	Boron	94.9		103	100	102			2.10
	Cadmium	92.5		102	101	105			0.856
	Chromium	90.9		100	100	101			0.113
	Copper	91.2		99.3	100	97.4			0.979
	Lead	98.1		109	103	108			5.85
	Nickel	89.3		96.8	97.9	98.6			1.16
	Selenium	91.8		99.8	97.4	97.5			2.39
	Silver	95.7		99.1	99.2	100			0.0470
	Thallium	100		105	105	105			0.684
EPA 300.0 Rev. 2.1	Chloride	105		105	105				0.0233
	Sulfate	102		100	101				0.200
EPA 350.1 Rev. 2.0	Ammonia-N	96.8		98.4	98.8				0.406
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.3		103	100				3.04
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102		102	104				1.46
EPA 365.1 Rev. 2.0	Total-P	105		108	105				2.53
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.6		99.1	98.9				0.202
EPA 8270E	Aldrin	21.1	21.6	107	102		2.09		4.38
	Alpha-BHC	96.9	95.6	89.2	92.8		1.36		3.91
	Alpha-Chlordane	71.8	71.9	70.8	80.8		0.0858		13.2
	Beta-BHC	108	108	94.1	96.1		0.0385		2.07
	Beta-Cyfluthrin	62.3	62.4	85.2	83.4		0.183		2.17
	Bifenthrin	46.7	47.6	56.5	62.8		1.86		10.4
	Carbophenothion	21.1	19.5	48.7	51.7		7.94		6.04
	Chlorothalonil	24.5	26.9	161	160		9.36		0.324
	Cis-Nonachlor	68.5	69.5	72.7	83.3		1.39		13.7
	Cypermethrin	58.3	66.9	77.1	72.9		13.7		5.61
	Dacthal	90.9	89.3	60.6	59.0		1.73		2.68
	DDD-p,p'	71.3	72.8	77.8	71.8		2.17		7.98
	DDE-p,p'	67.6	66.5	61.3	68.6		1.72		11.2
	DDT-p,p'	65.6	66.6	63.5	70.5		1.60		10.5
	Delta-BHC	107	108	121	115		0.590		4.87
	Deltamethrin	66.4	68.3	87.8	80.1		2.74		9.11
	Dichlobenil	69.8	61.8	52.9	63.2		12.2		17.8
	Dicofol	72.9	71.0	59.3	47.5		2.58		22.1
	Dieldrin	75.1	74.4	72.3	78.6		0.981		8.37
	Endosulfan I	74.4	73.7	54.7	58.4		1.02		6.50
	Endosulfan II	78.6	79.6	79.5	87.9		1.24		10.1
	Endosulfan Sulfate	89.1	86.5	86.2	87.7		2.90		1.77
	Endrin	74.2	75.5	76.5	23.7		1.74		105
	Endrin Aldehyde	92.0	91.1	72.3	0.822		0.882		196
	Endrin Ketone	90.2	90.0	93.7	165		0.260		55.1

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270E	Esfenvalerate	66.0	69.7	86.3	81.4	5.56	5.89
	Ethalfuralin	68.5	67.6	61.2	73.1	1.28	17.7
	Fenpropathrin	56.4	57.8	62.1	56.2	2.48	9.87
	Gamma-BHC	102	102	95.0	95.2	0.365	0.210
	Gamma-Chlordane	64.4	65.8	68.8	77.0	2.13	11.2
	Heptachlor	59.5	58.3	70.6	84.1	2.13	17.4
	Heptachlor Epoxide	75.7	77.8	59.3	60.4	2.64	1.88
	Hexachlorobenzene	59.2	57.8	63.2	62.5	2.34	1.08
	Kepone	92.3	95.0	65.2	139	2.92	72.4
	Lambda-Cyhalothrin	73.7	76.3	102	89.7	3.51	12.5
	Methoxychlor	75.8	74.7	68.0	79.8	1.52	16.0
	MGK-264	43.2	44.1	93.6	69.0	2.08	30.3
	Mirex	100	102	115	148	1.53	25.1
	Permethrin	62.5	63.7	82.9	71.6	1.89	14.7
	Phenothrin	23.5	21.0	87.2	95.0	11.6	8.62
	Piperonyl Butoxide	74.9	75.0	92.1	0.440	0.116	198
	Prallethrin	29.0	30.3	57.6	52.5	4.65	9.17
	Tau-Fluvalinate	47.8	49.0	67.1	58.8	2.65	13.1
	Tetramethrin	36.0	36.3	59.2	35.1	0.775	51.0
	Trans-Nonachlor	68.8	70.4	61.5	72.8	2.25	16.8
	Triclosan Methyl	73.5	74.3	71.3	75.1	1.04	5.28
	Trifluralin	66.9	67.6	67.4	71.1	0.997	5.35
SM 2120 B-2011	Color (true)	99.7					2.35
SM 2320 B-2011	Total Alkalinity	100					0.560
SM 2540 C-2011	TDS						4.52
SM 4500 F-C-2011	Fluoride	96.8		100	98.1		1.41
SM 5310 B-2011	Organic Carbon	96.1		97.2	97.6		0.226

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2241426
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2241432
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2241432
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2241426
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2241426
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2241427
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2241427
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2241427
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2241427
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2241428
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2241430, 2241431
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2241426
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2241426
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2241432
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2241426
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2241426
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2241426
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2241427

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	04/22/2021			04/22/2021 17:06	Yen Ta	2241426
EPA 200.7 Rev. 4.4	04/22/2021	05/05/2021 17:10	Elliott D. Healy	05/06/2021 22:16	Betina Topolski	2241432
EPA 200.8 Rev. 5.4	04/22/2021	05/05/2021 17:10	Elliott D. Healy	05/06/2021 20:54	McKinley C Carter	2241432
	04/22/2021	05/05/2021 17:10	Elliott D. Healy	05/08/2021 07:28	Alexander Thompson	2241432
EPA 300.0 Rev. 2.1	04/22/2021			04/24/2021 04:51	Lipi Saha	2241426
EPA 350.1 Rev. 2.0	04/22/2021			05/01/2021 12:20	Ping Hua	2241427
EPA 351.2 Rev. 2.0	04/22/2021	04/25/2021 14:48	Benjamin T. Nordmann	04/27/2021 14:25	Virginia P. Brown	2241427
EPA 353.2 Rev. 2.0	04/22/2021			04/29/2021 12:32	Beverly Y. Sanders	2241427
EPA 365.1 Rev. 2.0	04/22/2021	04/24/2021 18:49	Madeline Gruver	04/26/2021 14:09	Shengyu Ding	2241427
EPA 365.1 Rev. 2.0 dissolved	04/22/2021			04/22/2021 15:17	Patrick M. Roche	2241428
EPA 8270E	04/22/2021	04/28/2021 08:00	Rasheda Ghaffari	04/30/2021 23:36	Vandana T. Nagar	2241430
	04/22/2021	04/28/2021 08:00	Rasheda Ghaffari	05/01/2021 00:05	Vandana T. Nagar	2241431
SM 2120 B-2011	04/22/2021			04/22/2021 15:03	Madeline Gruver	2241426
SM 2320 B-2011	04/22/2021			04/26/2021 21:12	Dale L. Simmons	2241426
SM 2340B	04/22/2021			05/06/2021 22:16	Betina Topolski	2241432
SM 2540 C-2011	04/22/2021			04/23/2021 15:31	Yijie Li	2241426
SM 2540 D-2011	04/22/2021			04/23/2021 15:31	Yijie Li	2241426
SM 4500 F-C-2011	04/22/2021			04/26/2021 21:12	Dale L. Simmons	2241426
SM 5310 B-2011	04/22/2021			04/26/2021 21:35	Lauren Lees	2241427