

Chemical Analysis Report

NE-DIST-2022-08-04-01

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

Event Description: **LSJR South West 2022**
Request ID: **RQ-2022-07-04-21**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 26-AUG-2022 15:30



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: LITTLE BLACK CREEK AT SR 220

Collection Date/Time: 08/03/2022 11:00

Field ID: 20030667

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346303	EPA 8270E	Aldrin	0.67	U	ng/L	P417747	
		Alpha-BHC	0.10	U	ng/L	P417747	
		Alpha-Chlordane	0.21	I	ng/L	P417747	
		PCB-1016	2.1	U	ng/L	P417747	
		Beta-BHC	0.10	U	ng/L	P417747	
		PCB-1221	2.1	U	ng/L	P417747	
		Beta-Cyfluthrin	1.3	I	ng/L	P417747	
		PCB-1232	2.1	U	ng/L	P417747	
		Bifenthrin	0.51	U	ng/L	P417747	
		PCB-1242	2.1	U	ng/L	P417747	
		Carbophenothion	0.93	U	ng/L	P417747	
		PCB-1248	2.1	U	ng/L	P417747	
		Chlorothalonil	1.3	U	ng/L	P417747	
		PCB-1254	2.1	U	ng/L	P417747	
		Cis-Nonachlor	0.21	U	ng/L	P417747	
		PCB-1260	2.1	U	ng/L	P417747	
		Cypermethrin	2.1	I	ng/L	P417747	
		Dacthal	0.15	U	ng/L	P417747	
		DDD-p,p'	0.26	U	ng/L	P417747	
		DDE-p,p'	0.21	U	ng/L	P417747	
		DDT-p,p'	0.26	U	ng/L	P417747	
		Delta-BHC	0.41	U	ng/L	P417747	
		Deltamethrin	1.4	I	ng/L	P417747	
		Dichlobenil	0.26	U	ng/L	P417747	
		Dicofol	1.3	U	ng/L	P417747	
		Dieldrin	0.41	U	ng/L	P417747	
		Endosulfan I	0.41	U	ng/L	P417747	
		Endosulfan II	0.41	U	ng/L	P417747	
		Endosulfan Sulfate	0.31	U	ng/L	P417747	
		Endrin	0.41	U	ng/L	P417747	
		Endrin Aldehyde	0.77	U	ng/L	P417747	
		Endrin Ketone	0.41	U	ng/L	P417747	
		Esfenvalerate	0.81	I	ng/L	P417747	
		Ethalfuralin	0.15	U	ng/L	P417747	
		Fenpropathrin	0.26	U	ng/L	P417747	
		Gamma-BHC	0.13	U	ng/L	P417747	
		Gamma-Chlordane	0.21	U	ng/L	P417747	
		Heptachlor	0.21	U	ng/L	P417747	
		Heptachlor Epoxide	0.26	U	ng/L	P417747	
		Hexachlorobenzene**	1.0	U	ng/L	P417747	
		Kepone	5.1	UJ	ng/L	P417747	CCV
		Lambda-Cyhalothrin	0.77	U	ng/L	P417747	
		Methoprene	0.77	U	ng/L	P417747	
		Methoxychlor	0.31	U	ng/L	P417747	

Field ID: 20030667

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346303	EPA 8270E	MGK-264	0.21	U	ng/L	P417747	
		Mirex	0.36	U	ng/L	P417747	
		Oxychlordane	0.31	U	ng/L	P417747	
		Permethrin	1.6	U	ng/L	P417747	
		Phenothrin	0.93	U	ng/L	P417747	
		Piperonyl Butoxide	0.15	U	ng/L	P417747	
		Prallethrin	2.1	U	ng/L	P417747	
		Tau-Fluvalinate	0.26	U	ng/L	P417747	
		Tetramethrin	0.77	U	ng/L	P417747	
		Trans-Nonachlor	0.21	U	ng/L	P417747	
		Triclosan Methyl	0.15	U	ng/L	P417747	
		Trifluralin	0.21	U	ng/L	P417747	
	EPA 8276	Chlordane	2.7	I	ng/L	P417747	
		Toxaphene	15	U	ng/L	P417747	

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

Sample Location: Swimming Pen CR @ SR 220

Collection Date/Time: 08/03/2022 11:55

Field ID: 20030191

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346292	DEP SOP: NU-094-1	Color (true)	67		PCU	P417682	
	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P417670	
	EPA 300.0 Rev. 2.1	Chloride	1.8E+03		mg Cl/L	P418021	
		Sulfate	270		mg SO4/L	P418026	
	SM 2320 B-2011	Total Alkalinity	62		mg CaCO3/L	P418046	
	SM 2540 C-2011	TDS	3.72E+03		mg/L	P418183	
	SM 2540 D-2011	TSS	24		mg/L	P418227	
	SM 4500-F- C-2011	Fluoride	0.22		mg F/L	P418050	
2346293	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P417975	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.1		mg N/L	P418278	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417757	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P417924	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P417814	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Swimming Pen Creek at Eagles Creek Dr.

Collection Date/Time: 08/03/2022 12:15

Field ID: G2NE1188

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346307	EPA 200.7 Rev. 4.4	Calcium	18.1		mg/L	P417687	
		Iron	500		ug/L	P417687	
		Magnesium	2.77		mg/L	P417687	
		Potassium	2.5		mg/L	P417687	
		Sodium	15.7		mg/L	P417687	
		Strontium	107		ug/L	P417687	
		Tin	3.0	U	ug/L	P417687	
		Titanium	1.8	I	ug/L	P417687	
		Vanadium	2.0	U	ug/L	P417687	
		Zinc	5.0	U	ug/L	P417687	
	EPA 200.8 Rev. 5.4	Aluminum	100		ug/L	P417687	
		Antimony	0.15	I	ug/L	P417687	
		Arsenic	1.21		ug/L	P417687	
		Barium	26.0		ug/L	P417687	
		Beryllium	0.014	I	ug/L	P417687	
		Boron	42.0		ug/L	P417687	
		Cadmium	0.020	U	ug/L	P417687	
		Chromium	0.43	I	ug/L	P417687	
		Cobalt	0.168		ug/L	P417687	
		Copper	2.20		ug/L	P417687	
	SM 2340 B-2011	Lead	0.20	U	ug/L	P417687	
		Manganese	15.9		ug/L	P417687	
		Molybdenum	0.80		ug/L	P417687	
		Nickel	0.54	I	ug/L	P417687	
		Selenium	0.20	U	ug/L	P417687	
		Silver	0.010	U	ug/L	P417687	
		Thallium	0.10	U	ug/L	P417687	
		Hardness	56.6		mg/L	P417687	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: LITTLE BLACK CR AT SR 21

Collection Date/Time: 08/03/2022 11:20

Field ID: 20030629

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346304	EPA 8270E	Aldrin	0.67	U	ng/L	P417747	
		Alpha-BHC	0.10	U	ng/L	P417747	
		Alpha-Chlordane	0.21	U	ng/L	P417747	
		PCB-1016	2.1	U	ng/L	P417747	
		Beta-BHC	0.10	U	ng/L	P417747	
		PCB-1221	2.1	U	ng/L	P417747	
		Beta-Cyfluthrin	1.3	I	ng/L	P417747	
		PCB-1232	2.1	U	ng/L	P417747	
		Bifenthrin	0.52	U	ng/L	P417747	
		PCB-1242	2.1	U	ng/L	P417747	
		Carbophenothion	0.93	U	ng/L	P417747	
		PCB-1248	2.1	U	ng/L	P417747	
		Chlorothalonil	1.3	U	ng/L	P417747	
		PCB-1254	2.1	U	ng/L	P417747	
		Cis-Nonachlor	0.21	U	ng/L	P417747	
		PCB-1260	2.1	U	ng/L	P417747	
		Cypermethrin	2.3	I	ng/L	P417747	
		Dacthal	0.16	U	ng/L	P417747	
		DDD-p,p'	0.26	U	ng/L	P417747	
		DDE-p,p'	0.21	U	ng/L	P417747	
		DDT-p,p'	0.26	U	ng/L	P417747	
		Delta-BHC	0.41	U	ng/L	P417747	
		Deltamethrin	1.3	U	ng/L	P417747	
		Dichlobenil	0.26	U	ng/L	P417747	
		Dicofol	1.3	U	ng/L	P417747	
		Dieldrin	0.52	I	ng/L	P417747	
		Endosulfan I	0.41	U	ng/L	P417747	
		Endosulfan II	0.41	U	ng/L	P417747	
		Endosulfan Sulfate	0.31	U	ng/L	P417747	
		Endrin	0.41	U	ng/L	P417747	
		Endrin Aldehyde	0.78	U	ng/L	P417747	
		Endrin Ketone	0.41	U	ng/L	P417747	
		Esfenvalerate	0.78	U	ng/L	P417747	
		Ethalfuralin	0.16	U	ng/L	P417747	
		Fenpropathrin	0.26	U	ng/L	P417747	
		Gamma-BHC	0.13	U	ng/L	P417747	
		Gamma-Chlordane	0.21	U	ng/L	P417747	
		Heptachlor	0.21	U	ng/L	P417747	
		Heptachlor Epoxide	0.26	U	ng/L	P417747	
		Hexachlorobenzene**	1.0	U	ng/L	P417747	
		Kepone	5.2	UJ	ng/L	P417747	CCV
		Lambda-Cyhalothrin	0.78	U	ng/L	P417747	
		Methoprene	0.78	U	ng/L	P417747	
		Methoxychlor	0.31	U	ng/L	P417747	

Field ID: 20030629

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346304	EPA 8270E	MGK-264	0.21	U	ng/L	P417747	
		Mirex	0.36	U	ng/L	P417747	
		Oxychlordane	0.31	U	ng/L	P417747	
		Permethrin	3.4	I	ng/L	P417747	
		Phenothrin	0.93	U	ng/L	P417747	
		Piperonyl Butoxide	0.16	U	ng/L	P417747	
		Prallethrin	2.1	U	ng/L	P417747	
		Tau-Fluvalinate	0.26	U	ng/L	P417747	
		Tetramethrin	0.78	U	ng/L	P417747	
		Trans-Nonachlor	0.21	U	ng/L	P417747	
		Triclosan Methyl	0.16	U	ng/L	P417747	
		Trifluralin	0.21	U	ng/L	P417747	
	EPA 8276	Chlordane	2.6	U	ng/L	P417747	
		Toxaphene	16	U	ng/L	P417747	

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: DEP SOP: NU-094-1
Batch ID: P417682

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417670

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417687

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417687

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	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
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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: P418021

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418026

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417975

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418278

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417757

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417924

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

Reference Method: EPA 8270E
Batch ID: P417747

Component	Result	Code	Units
Aldrin	0.65	U	ng/L
Aldrin	0.65	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-BHC	0.10	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Alpha-Chlordane	0.20	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-BHC	0.10	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Beta-Cyfluthrin	1.2	U	ng/L
Bifenthrin	0.50	U	ng/L
Bifenthrin	0.50	U	ng/L
Carbophenothion	0.90	U	ng/L
Carbophenothion	0.90	U	ng/L
Chlorothalonil	1.2	U	ng/L
Chlorothalonil	1.2	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P417747

Component	Result	Code	Units
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
DDT-p,p'	0.25	U	ng/L
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.25	U	ng/L
Dichlobenil	0.25	U	ng/L
Dicofol	1.2	U	ng/L
Dicofol	1.2	U	ng/L
Dieldrin	0.40	U	ng/L
Dieldrin	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan I	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan II	0.40	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endosulfan Sulfate	0.30	U	ng/L
Endrin	0.40	U	ng/L
Endrin	0.40	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Aldehyde	0.75	U	ng/L
Endrin Ketone	0.40	U	ng/L
Endrin Ketone	0.40	U	ng/L
Esfenvalerate	0.75	U	ng/L
Esfenvalerate	0.75	U	ng/L
Ethalfuralin	0.15	U	ng/L
Ethalfuralin	0.15	U	ng/L
Fenpropathrin	0.25	U	ng/L
Fenpropathrin	0.25	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-BHC	0.12	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Gamma-Chlordane	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor	0.20	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Heptachlor Epoxide	0.25	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Hexachlorobenzene	1.0	U	ng/L
Kepone	5.0	U	ng/L
Kepone	5.0	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Lambda-Cyhalothrin	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoprene	0.75	U	ng/L
Methoxychlor	0.30	U	ng/L
Methoxychlor	0.30	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P417747

Component	Result	Code	Units
MGK-264	0.20	U	ng/L
MGK-264	0.20	U	ng/L
Mirex	0.35	U	ng/L
Mirex	0.35	U	ng/L
Oxychlordane	0.30	U	ng/L
Oxychlordane	0.30	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1016	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1221	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1232	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1242	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1248	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1254	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
PCB-1260	2.0	U	ng/L
Permethrin	1.6	U	ng/L
Permethrin	1.6	U	ng/L
Phenothrin	0.90	U	ng/L
Phenothrin	0.90	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Piperonyl Butoxide	0.15	U	ng/L
Prallethrin	2.0	U	ng/L
Prallethrin	2.0	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tau-Fluvalinate	0.25	U	ng/L
Tetramethrin	0.75	U	ng/L
Tetramethrin	0.75	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Trans-Nonachlor	0.20	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Triclosan Methyl	0.15	U	ng/L
Trifluralin	0.20	U	ng/L
Trifluralin	0.20	U	ng/L

Reference Method: EPA 8276

Batch ID: P417747

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Chlordane	2.5	U	ng/L
Toxaphene	15	U	ng/L
Toxaphene	15	U	ng/L

Reference Method: SM 2320 B-2011

Batch ID: P418046

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P418046

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

Reference Method: SM 2540 C-2011
Batch ID: P418183

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P418227

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P418050

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P417814

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P417682

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417670

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	109		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	107		P	85 - 115
Sodium	97.6		P	85 - 115
Strontium	106		P	85 - 115
Tin	102		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	104		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	94.6		P	80 - 120
Antimony	100		P	80 - 120
Arsenic	97.0		P	80 - 120
Barium	102		P	80 - 120
Beryllium	91.3		P	80 - 120
Boron	95.5		P	80 - 120
Cadmium	96.4		P	80 - 120
Chromium	96.3		P	80 - 120
Cobalt	94.7		P	80 - 120
Copper	92.2		P	80 - 120
Lead	93.3		P	80 - 120
Manganese	96.6		P	80 - 120
Molybdenum	94.3		P	80 - 120
Nickel	94.8		P	80 - 120
Selenium	95.0		P	80 - 120
Silver	97.0		P	80 - 120
Thallium	93.5		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418021

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417975

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418278

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417757

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: P417924

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

Reference Method: EPA 8270E
Batch ID: P417747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	50.7		P	10 - 92.0
Alpha-BHC	88.5		P	75 - 107
Alpha-Chlordane	64.5		P	50 - 108
Beta-BHC	110		P	36 - 138
Beta-Cyfluthrin	63.0		P	20 - 161
Bifenthrin	40.0		P	10 - 119
Carbophenothion	49.8		P	19 - 94.0
Chlorothalonil	91.7		P	26 - 186
Cis-Nonachlor	76.4		P	42 - 119
Cypermethrin	59.8		P	22 - 150
Dacthal	88.7		P	72 - 119
DDD-p,p'	76.8		P	45 - 107
DDE-p,p'	74.5		P	48 - 106
DDT-p,p'	69.7		P	48 - 110
Delta-BHC	125		P	54 - 140
Deltamethrin	73.5		P	22 - 189
Dichlobenil	93.9		P	36 - 117
Dicofol	82.3		P	46 - 155
Dieldrin	77.5		P	54 - 110
Endosulfan I	75.2		P	59 - 105
Endosulfan II	67.0		P	51 - 118
Endosulfan Sulfate	79.0		P	57 - 121

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P417747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Endrin	73.8		P	10 - 120
Endrin Aldehyde	83.3		P	34 - 118
Endrin Ketone	105		P	69 - 177
Esfenvalerate	57.4		P	23 - 168
Ethalfuralin	67.2		P	49 - 99.0
Fenpropathrin	63.6		P	34 - 117
Gamma-BHC	105		P	72 - 117
Gamma-Chlordane	69.2		P	43 - 106
Heptachlor	64.9		P	41 - 98.0
Heptachlor Epoxide	73.3		P	57 - 106
Hexachlorobenzene	68.9		P	36 - 99.0
Kepone	38.4		P	16 - 215
Lambda-Cyhalothrin	46.0		P	21 - 177
Methoprene	42.7		P	10 - 119
Methoxychlor	82.6		P	60 - 112
MGK-264	80.3		P	26 - 122
Mirex	46.2		P	10 - 169
Oxychlordane	66.4		P	43 - 105
PCB-1016	84.2		P	48 - 112
PCB-1260	85.9		P	44 - 118
Permethrin	60.6		P	24 - 148
Phenothrin	40.9		P	10 - 106
Piperonyl Butoxide	97.0		P	10 - 139
Prallethrin	84.3		P	17 - 109
Tau-Fluvalinate	49.1		P	13 - 131
Tetramethrin	78.6		P	10 - 132
Trans-Nonachlor	64.3		P	44 - 106
Triclosan Methyl	74.6		P	59 - 109
Trifluralin	67.7		P	44 - 101

Reference Method: EPA 8276

Batch ID: P417747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	99.0		P	61 - 116
Toxaphene	98.1		P	48 - 124

Reference Method: SM 2320 B-2011

Batch ID: P418046

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.2		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P418050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P417814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P417687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346296	Calcium	103		P	80 - 120
2346296	Iron	109	107	P/P	80 - 120
2346296	Magnesium	110	105	P/P	80 - 120
2346296	Potassium	101	96.9	P/P	80 - 120
2346296	Sodium	98.1		P	80 - 120
2346296	Strontium	101	99.6	P/P	80 - 120
2346296	Tin	103	102	P/P	80 - 120
2346296	Titanium	106	103	P/P	80 - 120
2346296	Vanadium	105	102	P/P	80 - 120
2346296	Zinc	103	100	P/P	80 - 120
2346340	Calcium	103		P	80 - 120
2346340	Iron	109		P	80 - 120
2346340	Magnesium	107		P	80 - 120
2346340	Sodium	101		P	80 - 120
2346340	Strontium	100		P	80 - 120
2346340	Tin	102		P	80 - 120
2346340	Titanium	105		P	80 - 120
2346340	Vanadium	104		P	80 - 120
2346340	Zinc	99.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346296	Aluminum	95.7	95.3	P/P	80 - 120
2346296	Antimony	101	102	P/P	80 - 120
2346296	Arsenic	98.6	98.7	P/P	80 - 120
2346296	Barium	102	101	P/P	80 - 120
2346296	Beryllium	94.4	93.1	P/P	80 - 120
2346296	Boron	96.5	95.6	P/P	80 - 120
2346296	Cadmium	97.4	96.5	P/P	80 - 120
2346296	Chromium	97.5	98.2	P/P	80 - 120
2346296	Cobalt	94.7	94.8	P/P	80 - 120
2346296	Copper	94.3	95.3	P/P	80 - 120
2346296	Lead	93.7	93.2	P/P	80 - 120
2346296	Manganese	97.6	97.9	P/P	80 - 120
2346296	Molybdenum	95.1	94.2	P/P	80 - 120
2346296	Nickel	93.7	94.8	P/P	80 - 120
2346296	Selenium	95.4	95.1	P/P	80 - 120
2346296	Silver	95.2	95.2	P/P	80 - 120
2346296	Thallium	96.1	95.9	P/P	80 - 120
2346340	Aluminum	99.2		P	80 - 120
2346340	Antimony	104		P	80 - 120
2346340	Arsenic	100		P	80 - 120
2346340	Barium	103		P	80 - 120
2346340	Beryllium	91.2		P	80 - 120
2346340	Cadmium	99.9		P	80 - 120
2346340	Chromium	100		P	80 - 120
2346340	Cobalt	97.7		P	80 - 120
2346340	Copper	94.2		P	80 - 120
2346340	Lead	95.5		P	80 - 120
2346340	Manganese	100		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346340	Molybdenum	99.3		P	80 - 120
2346340	Nickel	95.5		P	80 - 120
2346340	Selenium	97.2		P	80 - 120
2346340	Silver	96.6		P	80 - 120
2346340	Thallium	97.5		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P418021

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346156	Chloride	96.8		P	90 - 110
2346288	Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P418026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346156	Sulfate	91.9		P	90 - 110
2346288	Sulfate	93.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P417975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347403	Ammonia-N	103	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P417757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346289	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P417924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347303	Total-P	96.0	98.4	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P417747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345548	Aldrin	55.4	60.9	P/P	20 - 82.0
2345548	Alpha-BHC	91.1	88.4	P/P	71 - 109
2345548	Alpha-Chlordane	62.8	58.9	P/P	42 - 106
2345548	Beta-BHC	98.8	111	P/P	69 - 180
2345548	Beta-Cyfluthrin	89.7	125	P/P	18 - 175
2345548	Bifenthrin	77.1	79.3	P/P	21 - 128
2345548	Carbophenothion	70.3	81.0	P/P	10 - 126
2345548	Chlorothalonil	95.4	152	P/P	10 - 300
2345548	Cis-Nonachlor	69.9	85.6	P/P	34 - 106
2345548	Cypermethrin	83.9	108	P/P	22 - 158

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P417747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345548	Dacthal	94.8	93.9	P/P	54 - 116
2345548	DDD-p,p'	56.6	75.8	P/P	34 - 107
2345548	DDE-p,p'	60.9	62.5	P/P	33 - 110
2345548	DDT-p,p'	76.2	64.6	P/P	50 - 122
2345548	Delta-BHC	117	142	P/P	77 - 193
2345548	Deltamethrin	100	126	P/P	10 - 195
2345548	Dichlobenil	68.1	69.3	P/P	25 - 113
2345548	Dicofol	97.8	97.2	P/P	38 - 247
2345548	Dieldrin	72.0	76.9	P/P	45 - 118
2345548	Endosulfan I	73.1	81.2	P/P	51 - 106
2345548	Endosulfan II	63.4	79.8	P/P	37 - 122
2345548	Endosulfan Sulfate	76.2	94.7	P/P	43 - 132
2345548	Endrin	71.5	85.8	P/P	29 - 101
2345548	Endrin Aldehyde	64.3	71.4	P/P	19 - 110
2345548	Endrin Ketone	86.2	108	P/P	60 - 140
2345548	Esfenvalerate	81.6	118	P/P	26 - 199
2345548	Ethalfuralin	72.7	78.5	P/P	45 - 99.0
2345548	Fenpropathrin	86.9	91.2	P/P	35 - 120
2345548	Gamma-BHC	100	102	P/P	63 - 128
2345548	Gamma-Chlordane	69.8	65.8	P/P	40 - 104
2345548	Heptachlor	67.3	67.0	P/P	36 - 97.0
2345548	Heptachlor Epoxide	83.6	84.8	P/P	49 - 184
2345548	Hexachlorobenzene	77.9	62.6	P/P	39 - 96.0
2345548	Kepone	34.2	51.9	P/P	10 - 217
2345548	Lambda-Cyhalothrin	76.6	92.7	P/P	21 - 193
2345548	Methoprene	56.9	65.5	P/P	20 - 106
2345548	Methoxychlor	92.7	88.0	P/P	53 - 118
2345548	MGK-264	85.5	95.5	P/P	40 - 118
2345548	Mirex	53.6	57.7	P/P	26 - 92.0
2345548	Oxychlordane	79.6	72.9	P/P	44 - 99.0
2345548	Permethrin	82.4	104	P/P	33 - 182
2345548	Phenothrin	68.6	91.9	P/P	10 - 129
2345548	Piperonyl Butoxide	112	126	P/P	10 - 211
2345548	Prallethrin	80.6	95.1	P/P	24 - 113
2345548	Tau-Fluvalinate	77.7	66.5	P/P	14 - 149
2345548	Tetramethrin	83.0	122	P/P	17 - 151
2345548	Trans-Nonachlor	73.5	69.6	P/P	42 - 102
2345548	Triclosan Methyl	78.5	69.8	P/P	48 - 108
2345548	Trifluralin	74.6	74.2	P/P	47 - 96.0
2345564	PCB-1016	86.5	87.1	P/P	46 - 111
2345564	PCB-1260	84.3	82.1	P/P	45 - 114

Reference Method: EPA 8276
Batch ID: P417747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345564	Chlordane	108	101	P/P	53 - 126
2345564	Toxaphene	126	120	P/P	56 - 211

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P418050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346364	Fluoride	101	99.6	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P417814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346159	Organic Carbon	94.6	94.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P417682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346288	Color (true)	0.187	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346247	Turbidity	2.20	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346296	Calcium	3.17	Spike	P	0 - 20
2346296	Iron	1.74	Spike	P	0 - 20
2346296	Magnesium	2.86	Spike	P	0 - 20
2346296	Potassium	2.56	Spike	P	0 - 20
2346296	Sodium	3.36	Spike	P	0 - 20
2346296	Strontium	1.87	Spike	P	0 - 20
2346296	Tin	1.45	Spike	P	0 - 20
2346296	Titanium	2.43	Spike	P	0 - 20
2346296	Vanadium	2.71	Spike	P	0 - 20
2346296	Zinc	2.57	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346296	Aluminum	0.438	Spike	P	0 - 20
2346296	Antimony	1.14	Spike	P	0 - 20
2346296	Arsenic	0.0924	Spike	P	0 - 20
2346296	Barium	0.332	Spike	P	0 - 20
2346296	Beryllium	1.29	Spike	P	0 - 20
2346296	Boron	0.652	Spike	P	0 - 20
2346296	Cadmium	0.950	Spike	P	0 - 20
2346296	Chromium	0.642	Spike	P	0 - 20
2346296	Cobalt	0.0197	Spike	P	0 - 20
2346296	Copper	1.11	Spike	P	0 - 20
2346296	Lead	0.480	Spike	P	0 - 20
2346296	Manganese	0.299	Spike	P	0 - 20
2346296	Molybdenum	0.928	Spike	P	0 - 20
2346296	Nickel	1.13	Spike	P	0 - 20
2346296	Selenium	0.282	Spike	P	0 - 20
2346296	Silver	0.0216	Spike	P	0 - 20
2346296	Thallium	0.275	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346156	Chloride	0.269	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346156	Sulfate	0.0297	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347403	Ammonia-N	1.39	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346293	Kjeldahl Nitrogen	0.848	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346289	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347303	Total-P	2.44	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P417747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345548	Aldrin	9.43	Spike	P	0 - 41
2345548	Alpha-BHC	2.91	Spike	P	0 - 25
2345548	Alpha-Chlordane	5.63	Spike	P	0 - 33
2345548	Beta-BHC	11.3	Spike	P	0 - 36
2345548	Beta-Cyfluthrin	33.3	Spike	P	0 - 42
2345548	Bifenthrin	2.83	Spike	P	0 - 53
2345548	Carbophenothion	14.1	Spike	P	0 - 30
2345548	Chlorothalonil	45.7	Spike	P	0 - 71
2345548	Cis-Nonachlor	20.2	Spike	P	0 - 29

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P417747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345548	Cypermethrin	25.1	Spike	P	0 - 40
2345548	Dacthal	0.913	Spike	P	0 - 26
2345548	DDD-p,p'	25.6	Spike	P	0 - 39
2345548	DDE-p,p'	2.15	Spike	P	0 - 33
2345548	DDT-p,p'	15.4	Spike	P	0 - 40
2345548	Delta-BHC	19.0	Spike	P	0 - 37
2345548	Deltamethrin	22.9	Spike	P	0 - 100
2345548	Dichlobenil	1.77	Spike	P	0 - 40
2345548	Dicofol	0.682	Spike	P	0 - 31
2345548	Dieldrin	5.38	Spike	P	0 - 27
2345548	Endosulfan I	10.6	Spike	P	0 - 23
2345548	Endosulfan II	22.8	Spike	P	0 - 28
2345548	Endosulfan Sulfate	21.7	Spike	P	0 - 38
2345548	Endrin	18.2	Spike	P	0 - 63
2345548	Endrin Aldehyde	10.4	Spike	P	0 - 60
2345548	Endrin Ketone	22.6	Spike	P	0 - 37
2345548	Esfenvalerate	36.5	Spike	P	0 - 52
2345548	Ethalfuralin	7.66	Spike	P	0 - 23
2345548	Fenpropathrin	4.91	Spike	P	0 - 32
2345548	Gamma-BHC	1.98	Spike	P	0 - 17
2345548	Gamma-Chlordane	5.38	Spike	P	0 - 40
2345548	Heptachlor	0.323	Spike	P	0 - 29
2345548	Heptachlor Epoxide	1.41	Spike	P	0 - 25
2345548	Hexachlorobenzene	21.7	Spike	P	0 - 36
2345548	Kepone	25.5	Spike	P	0 - 93
2345548	Lambda-Cyhalothrin	19.0	Spike	P	0 - 55
2345548	Methoprene	14.0	Spike	P	0 - 53
2345548	Methoxychlor	5.16	Spike	P	0 - 29
2345548	MGK-264	11.0	Spike	P	0 - 35
2345548	Mirex	7.44	Spike	P	0 - 46
2345548	Oxychlordane	8.87	Spike	P	0 - 29
2345548	Permethrin	22.9	Spike	P	0 - 44
2345548	Phenothrin	29.1	Spike	P	0 - 56
2345548	Piperonyl Butoxide	11.4	Spike	P	0 - 100
2345548	Prallethrin	16.5	Spike	P	0 - 42
2345548	Tau-Fluvalinate	15.6	Spike	P	0 - 54
2345548	Tetramethrin	38.1	Spike	P	0 - 51
2345548	Trans-Nonachlor	5.49	Spike	P	0 - 37
2345548	Triclosan Methyl	11.7	Spike	P	0 - 31
2345548	Trifluralin	0.508	Spike	P	0 - 30
2345564	PCB-1016	0.723	Spike	P	0 - 32
2345564	PCB-1260	2.61	Spike	P	0 - 31

Reference Method: EPA 8276
Batch ID: P417747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345564	Chlordane	6.89	Spike	P	0 - 25
2345564	Toxaphene	5.48	Spike	P	0 - 26

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P418046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346364	Total Alkalinity	1.24	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P418183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346156	TDS	4.15	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P418227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346156	TSS	7.41	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P418050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346364	Fluoride	0.953	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P417814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346159	Organic Carbon	0.207	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2346303
Field Sample ID: 20030667

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	101	P	29 - 130
EPA 8270E	Decachlorobiphenyl	60.9	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	60.9	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	68.8	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	78.3	P	30 - 101
EPA 8276	PCNB	81.7	P	48 - 121

Lab Sample ID: 2346304
Field Sample ID: 20030629

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	107	P	29 - 130
EPA 8270E	Decachlorobiphenyl	80.2	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	66.8	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	64.3	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	82.2	P	30 - 101
EPA 8276	PCNB	75.5	P	48 - 121

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113916

Included Lab Sample IDs: 2346292

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

Reference Method: DEP SOP: NU-094-1

Run ID: A113919

Included Lab Sample IDs: 2346292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113942

Included Lab Sample IDs: 2346307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	102	P/P	90 - 110
Iron	105	103	P/P	90 - 110
Magnesium	106	104	P/P	90 - 110
Potassium	104	100	P/P	90 - 110
Sodium	101	98.5	P/P	90 - 110
Strontium	101	97.5	P/P	90 - 110
Tin	98.8	99.0	P/P	90 - 110
Titanium	101	101	P/P	90 - 110
Vanadium	101	100	P/P	90 - 110
Zinc	97.4	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113955

Included Lab Sample IDs: 2346293

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113980

Included Lab Sample IDs: 2346293

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114030

Included Lab Sample IDs: 2346293

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114034

Included Lab Sample IDs: 2346293

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114034

Included Lab Sample IDs: 2346293

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114048

Included Lab Sample IDs: 2346292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	102	P/P	90 - 110
Sulfate	102	99.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A114059

Included Lab Sample IDs: 2346292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.5	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114059

Included Lab Sample IDs: 2346292

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

Reference Method: EPA 8270E

Run ID: A114073

Included Lab Sample IDs: 2346303, 2346304

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	106		P	80 - 120
Alpha-BHC	102		P	80 - 120
Alpha-Chlordane	93.5		P	80 - 120
Beta-BHC	101		P	80 - 120
Beta-Cyfluthrin	102		P	80 - 120
Bifenthrin	97.3		P	80 - 120
Carbophenothion	101		P	80 - 120
Chlorothalonil	115		P	80 - 120
Cis-Nonachlor	104		P	80 - 120
Cypermethrin	83.4		P	80 - 120
Dacthal	101		P	80 - 120
DDD-p,p'	104		P	80 - 120
DDE-p,p'	110		P	80 - 120
DDT-p,p'	99.3		P	80 - 120
Delta-BHC	120		P	80 - 120
Deltamethrin	101		P	80 - 120
Dichlobenil	92.9		P	80 - 120
Dicofol	100		P	80 - 120
Dieldrin	109		P	80 - 120
Endosulfan I	109		P	80 - 120
Endosulfan II	99.0		P	80 - 120
Endosulfan Sulfate	99.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A114073

Included Lab Sample IDs: 2346303, 2346304

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endrin	97.3		P	80 - 120
Endrin Aldehyde	112		P	80 - 120
Endrin Ketone	106		P	80 - 120
Esfenvalerate	104		P	80 - 120
Ethalfuralin	97.9		P	80 - 120
Fenpropathrin	108		P	80 - 120
Gamma-BHC	114		P	80 - 120
Gamma-Chlordane	118		P	80 - 120
Heptachlor	114		P	80 - 120
Heptachlor Epoxide	111		P	80 - 120
Hexachlorobenzene	97.5		P	80 - 120
Kepone	75.2*		F	80 - 120
Lambda-Cyhalothrin	97.5		P	80 - 120
Methoprene	106		P	80 - 120
Methoxychlor	97.0		P	80 - 120
MGK-264	106		P	80 - 120
Mirex	92.2		P	80 - 120
Oxychlordane	95.4		P	80 - 120
Permethrin	96.1		P	80 - 120
Phenothrin	91.5		P	80 - 120
Piperonyl Butoxide	96.2		P	80 - 120
Prallethrin	107		P	80 - 120
Tau-Fluvalinate	101		P	80 - 120
Tetramethrin	95.5		P	80 - 120
Trans-Nonachlor	105		P	80 - 120
Triclosan Methyl	97.4		P	80 - 120
Trifluralin	102		P	80 - 120

Reference Method: EPA 8276

Run ID: A114079

Included Lab Sample IDs: 2346303, 2346304

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	101		P	80 - 120
Toxaphene	109		P	80 - 120

Reference Method: EPA 8270E

Run ID: A114080

Included Lab Sample IDs: 2346303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	97.5		P	80 - 120
PCB-1260	97.1		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A114134

Included Lab Sample IDs: 2346307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	96.4	P/P	90 - 110
Antimony	99.7	99.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A114134

Included Lab Sample IDs: 2346307

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	99.7	P/P	90 - 110
Barium	99.4	98.6	P/P	90 - 110
Beryllium	94.0	94.4	P/P	90 - 110
Boron	101	96.8	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Chromium	101	99.5	P/P	90 - 110
Cobalt	98.3	98.0	P/P	90 - 110
Copper	97.9	96.5	P/P	90 - 110
Lead	94.1	93.0	P/P	90 - 110
Manganese	101	100	P/P	90 - 110
Molybdenum	97.0	95.8	P/P	90 - 110
Nickel	97.3	96.9	P/P	90 - 110
Selenium	102	98.6	P/P	90 - 110
Silver	97.7	96.8	P/P	90 - 110
Thallium	98.6	97.0	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A114143

Included Lab Sample IDs: 2346304

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	98.1		P	80 - 120
PCB-1260	101		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114262

Included Lab Sample IDs: 2346293

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	103	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
DEP SOP: NU-094-1	Color (true)	104					0.187	
EPA 180.1 Rev. 2.0	Turbidity	96.5					2.20	
EPA 200.7 Rev. 4.4	Calcium	104	103	103				3.17
	Iron	109	109	107	109			1.74
	Magnesium	112	110	105	107			2.86
	Potassium	107	101	96.9				2.56
	Sodium	97.6	98.1	101				3.36
	Strontium	106	101	99.6	100			1.87
	Tin	102	103	102	102			1.45
	Titanium	106	106	103	105			2.43
	Vanadium	104	105	102	104			2.71
	Zinc	101	103	100	99.9			2.57
EPA 200.8 Rev. 5.4	Aluminum	94.6	95.7	95.3	99.2			0.438
	Antimony	100	101	102	104			1.14
	Arsenic	97.0	98.6	98.7	100			0.0924
	Barium	102	102	101	103			0.332
	Beryllium	91.3	94.4	93.1	91.2			1.29
	Boron	95.5	96.5	95.6				0.652
	Cadmium	96.4	97.4	96.5	99.9			0.950
	Chromium	96.3	97.5	98.2	100			0.642
	Cobalt	94.7	94.7	94.8	97.7			0.0197
	Copper	92.2	94.3	95.3	94.2			1.11
	Lead	93.3	93.7	93.2	95.5			0.480
	Manganese	96.6	97.6	97.9	100			0.299
	Molybdenum	94.3	95.1	94.2	99.3			0.928
	Nickel	94.8	93.7	94.8	95.5			1.13
	Selenium	95.0	95.4	95.1	97.2			0.282
	Silver	97.0	95.2	95.2	96.6			0.0216
	Thallium	93.5	97.5	96.1	95.9			0.275
EPA 300.0 Rev. 2.1	Chloride	102	96.8	96.8			0.269	
	Sulfate	98.8	91.9	93.7			0.0297	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	103	105				1.39
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103						0.848
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	100				0.0
EPA 365.1 Rev. 2.0	Total-P	103	96.0	98.4				2.44
EPA 8270E	Aldrin	50.7	55.4	60.9				9.43
	Alpha-BHC	88.5	91.1	88.4				2.91
	Alpha-Chlordane	64.5	62.8	58.9				5.63
	Beta-BHC	110	98.8	111				11.3
	Beta-Cyfluthrin	63.0	89.7	125				33.3
	Bifenthrin	40.0	77.1	79.3				2.83
	Carbophenothion	49.8	70.3	81.0				14.1
	Chlorothalonil	91.7	95.4	152				45.7
	Cis-Nonachlor	76.4	69.9	85.6				20.2
	Cypermethrin	59.8	83.9	108				25.1
	Dacthal	88.7	94.8	93.9				0.913
	DDD-p,p'	76.8	56.6	75.8				25.6
	DDE-p,p'	74.5	60.9	62.5				2.15
	DDT-p,p'	69.7	76.2	64.6				15.4
	Delta-BHC	125	117	142				19.0
	Deltamethrin	73.5	100	126				22.9
	Dichlobenil	93.9	68.1	69.3				1.77
	Dicofol	82.3	97.8	97.2				0.682
	Dieldrin	77.5	72.0	76.9				5.38

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Endosulfan I	75.2	73.1	81.2			10.6
	Endosulfan II	67.0	63.4	79.8			22.8
	Endosulfan Sulfate	79.0	76.2	94.7			21.7
	Endrin	73.8	71.5	85.8			18.2
	Endrin Aldehyde	83.3	64.3	71.4			10.4
	Endrin Ketone	105	86.2	108			22.6
	Esfenvalerate	57.4	118	81.6			36.5
	Ethalfuralin	67.2	78.5	72.7			7.66
	Fenpropathrin	63.6	91.2	86.9			4.91
	Gamma-BHC	105	102	100			1.98
	Gamma-Chlordane	69.2	65.8	69.8			5.38
	Heptachlor	64.9	67.0	67.3			0.323
	Heptachlor Epoxide	73.3	84.8	83.6			1.41
	Hexachlorobenzene	68.9	62.6	77.9			21.7
	Kepone	38.4	51.9	34.2			25.5
	Lambda-Cyhalothrin	46.0	92.7	76.6			19.0
	Methoprene	42.7	65.5	56.9			14.0
	Methoxychlor	82.6	88.0	92.7			5.16
	MGK-264	80.3	95.5	85.5			11.0
	Mirex	46.2	57.7	53.6			7.44
	Oxychlordane	66.4	72.9	79.6			8.87
	PCB-1016	84.2	86.5	87.1			0.723
	PCB-1260	85.9	84.3	82.1			2.61
	Permethrin	60.6	104	82.4			22.9
	Phenothrin	40.9	91.9	68.6			29.1
	Piperonyl Butoxide	97.0	126	112			11.4
	Prallethrin	84.3	95.1	80.6			16.5
	Tau-Fluvalinate	49.1	66.5	77.7			15.6
	Tetramethrin	78.6	122	83.0			38.1
	Trans-Nonachlor	64.3	69.6	73.5			5.49
	Triclosan Methyl	74.6	69.8	78.5			11.7
	Trifluralin	67.7	74.2	74.6			0.508
EPA 8276	Chlordane	99.0	108	101			6.89
	Toxaphene	98.1	126	120			5.48
SM 2320 B-2011	Total Alkalinity	99.2				1.24	
SM 2540 C-2011	TDS					4.15	
SM 2540 D-2011	TSS					7.41	
SM 4500-F- C-2011	Fluoride	100	101	99.6			0.953
SM 5310 B-2011	Organic Carbon	99.0	94.6	94.2			0.207

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2346292
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2346292
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2346307
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2346307
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2346292
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2346292
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2346293
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2346293

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2346293
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2346293
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2346303, 2346304
EPA 8270E	PCBs in water matrices by GC/MS/MS	2346303, 2346304
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2346303, 2346304
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2346292
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2346307
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2346292
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2346292
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2346292
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2346293

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	08/04/2022			08/04/2022 15:49	Blanca Fach	2346292
EPA 180.1 Rev. 2.0	08/04/2022			08/04/2022 14:26	Anna M. Plaviak	2346292
EPA 200.7 Rev. 4.4	08/04/2022	08/05/2022 09:45	Mackenzie Hunt	08/05/2022 22:10	McKinley C Carter	2346307
EPA 200.8 Rev. 5.4	08/04/2022	08/05/2022 09:45	Mackenzie Hunt	08/16/2022 18:15	Emily M Philpot	2346307
EPA 300.0 Rev. 2.1	08/04/2022			08/11/2022 22:30	Anna M. Plaviak	2346292
EPA 350.1 Rev. 2.0	08/04/2022			08/11/2022 12:21	Ping Hua	2346293
EPA 351.2 Rev. 2.0	08/04/2022	08/19/2022 10:09	Samantha L Bates	08/22/2022 11:42	Alexandra J Mattheus	2346293
EPA 353.2 Rev. 2.0	08/04/2022			08/08/2022 11:01	Beverly Y. Sanders	2346293
EPA 365.1 Rev. 2.0	08/04/2022	08/10/2022 16:53	Adam P Silver	08/11/2022 11:01	James L Waggerby	2346293
EPA 8270E	08/04/2022	08/08/2022 08:30	Rasheda Ghaffari	08/10/2022 20:00	Vandana T. Nagar	2346303
	08/04/2022	08/08/2022 08:30	Rasheda Ghaffari	08/10/2022 20:30	Vandana T. Nagar	2346304
	08/04/2022	08/08/2022 08:30	Rasheda Ghaffari	08/12/2022 02:17	Julie Wi	2346303
	08/04/2022	08/08/2022 08:30	Rasheda Ghaffari	08/16/2022 19:36	Julie Wi	2346304
EPA 8276	08/04/2022	08/08/2022 08:30	Rasheda Ghaffari	08/12/2022 09:35	Arthur Maknenko	2346303
	08/04/2022	08/08/2022 08:30	Rasheda Ghaffari	08/12/2022 10:31	Arthur Maknenko	2346304
SM 2320 B-2011	08/04/2022			08/12/2022 06:13	Dale L. Simmons	2346292
SM 2340 B-2011	08/04/2022			08/05/2022 22:10	McKinley C Carter	2346307
SM 2540 C-2011	08/04/2022			08/09/2022 15:22	Yijie Li	2346292
SM 2540 D-2011	08/04/2022			08/09/2022 15:22	Yijie Li	2346292
SM 4500-F- C-2011	08/04/2022			08/12/2022 06:13	Dale L. Simmons	2346292
SM 5310 B-2011	08/04/2022			08/09/2022 04:01	Khloe J Berg	2346293