

Chemical Analysis Report

SE-DIST-2023-04-11-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Highlands Run**
Request ID: **RQ-2023-04-10-29**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Jordan Skaggs

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Certified by: Colin Wright, Program Administrator

Date Certified: 03-MAY-2023 08:53

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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: INDIAN PRAIRIE CANAL UPSTREAM OF SR 70 Collection Date/Time: 04/10/2023 09:20

Field ID: G4SE0152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2399528	EPA 8270E	Aldrin	0.67	U	ng/L	P428300	
		Alpha-BHC	0.10	U	ng/L	P428300	
		Alpha-Chlordane	0.20	U	ng/L	P428300	
		PCB-1016	2.0	U	ng/L	P428300	
		Beta-BHC	0.10	U	ng/L	P428300	
		PCB-1221	2.0	U	ng/L	P428300	
		Beta-Cyfluthrin	1.3	U	ng/L	P428300	
		PCB-1232	2.0	U	ng/L	P428300	
		Bifenthrin	0.51	U	ng/L	P428300	
		PCB-1242	2.0	U	ng/L	P428300	
		PCB-1248	2.0	U	ng/L	P428300	
		Chlorothalonil	3.7	U	ng/L	P428300	
		PCB-1254	2.0	U	ng/L	P428300	
		Cis-Nonachlor	0.20	U	ng/L	P428300	
		PCB-1260	2.0	U	ng/L	P428300	
		Cypermethrin	1.5	U	ng/L	P428300	
		Dacthal	0.15	U	ng/L	P428300	
		DDD-p,p'	0.26	U	ng/L	P428300	
		DDE-p,p'	0.20	U	ng/L	P428300	
		DDT-p,p'	0.26	U	ng/L	P428300	
		Delta-BHC	0.41	U	ng/L	P428300	
		Deltamethrin	1.3	U	ng/L	P428300	
		Dichlobenil	0.26	U	ng/L	P428300	
		Dicofol	1.3	U	ng/L	P428300	
		Dieldrin	0.41	U	ng/L	P428300	
		Endosulfan I	0.41	U	ng/L	P428300	
		Endosulfan II	0.41	U	ng/L	P428300	
		Endosulfan Sulfate	0.31	U	ng/L	P428300	
		Endrin	0.41	U	ng/L	P428300	
		Endrin Aldehyde	0.77	U	ng/L	P428300	
		Endrin Ketone	0.41	U	ng/L	P428300	
		Esfenvalerate	0.77	U	ng/L	P428300	
		Ethalfuralin	0.15	U	ng/L	P428300	
		Fenpropathrin	0.26	U	ng/L	P428300	
		Gamma-BHC	0.13	U	ng/L	P428300	
		Gamma-Chlordane	0.29	I	ng/L	P428300	
		Heptachlor	0.20	U	ng/L	P428300	
		Heptachlor Epoxide	0.26	U	ng/L	P428300	
		Hexachlorobenzene**	1.0	U	ng/L	P428300	RPD
		Kepone	5.1	U	ng/L	P428300	MS
		Lambda-Cyhalothrin	0.77	U	ng/L	P428300	
		Methoprene	0.77	U	ng/L	P428300	
		Methoxychlor	0.31	U	ng/L	P428300	
		MGK-264	0.20	U	ng/L	P428300	

Field ID: G4SE0152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2399528	EPA 8270E	Mirex	0.36	U	ng/L	P428300	
		Oxychlordane	0.31	U	ng/L	P428300	
		Permethrin	1.6	U	ng/L	P428300	
		Phenothrin	1.4	I	ng/L	P428300	
		Piperonyl Butoxide	0.22	I	ng/L	P428300	
		Prallethrin	2.0	U	ng/L	P428300	
		Tau-Fluvalinate	0.26	U	ng/L	P428300	
		Tetramethrin	0.77	U	ng/L	P428300	
		Trans-Nonachlor	0.20	U	ng/L	P428300	
		Triclosan Methyl	0.15	U	ng/L	P428300	
		Trifluralin	0.20	U	ng/L	P428300	
		Chlordane	2.0	U	ng/L	P428300	
		Toxaphene	15	U	ng/L	P428300	
2399537	EPA 200.7 Rev. 4.4	Calcium	30.6		mg/L	P428369	
		Iron	240		ug/L	P428369	
		Magnesium	13.7		mg/L	P428369	
		Potassium	6.1		mg/L	P428369	
		Sodium	43.4		mg/L	P428369	
		Strontium	2.42E+03		ug/L	P428369	
		Tin	3.0	U	ug/L	P428369	
		Titanium	0.75	U	ug/L	P428369	
		Vanadium	2.0	U	ug/L	P428369	
		Zinc	5.0	U	ug/L	P428369	
	EPA 200.8 Rev. 5.4	Aluminum	72		ug/L	P428369	
		Antimony	0.085	I	ug/L	P428369	
		Arsenic	0.76		ug/L	P428369	
		Barium	30.4		ug/L	P428369	
		Beryllium	0.015	I	ug/L	P428369	
		Boron	39.7		ug/L	P428369	
		Cadmium	0.020	U	ug/L	P428369	
		Chromium	0.40	U	ug/L	P428369	
		Cobalt	0.100		ug/L	P428369	
		Copper	0.66	I	ug/L	P428369	
		Lead	0.20	U	ug/L	P428369	
		Manganese	13.4		ug/L	P428369	
		Molybdenum	0.23	I	ug/L	P428369	
		Nickel	0.50	U	ug/L	P428369	
		Selenium	0.20	U	ug/L	P428369	
	SM 2340 B-2011	Silver	0.010	U	ug/L	P428369	
		Thallium	0.10	U	ug/L	P428369	
		Hardness	133		mg/L	P428369	

Sample Location: JACKSON CREEK NORTH OF SR 66

Collection Date/Time: 04/10/2023 10:40

Field ID: G4SE0151

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2399507	DEP SOP: NU-094-1	Color (true)	51		PCU	P428336	
	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P428330	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P428576	
		Sulfate	18		mg SO4/L	P428579	
	SM 2320 B-2011	Total Alkalinity	5.3		mg CaCO3/L	P428508	
	SM 2540 C-2015	TDS	69		mg/L	P428904	
	SM 2540 D-2015	TSS	4	I	mg/L	P428821	
	SM 4500-F- C-2011	Fluoride	0.035	I	mg F/L	P428730	
2399509	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P428376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61	J	mg N/L	P428681	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.69		mg N/L	P428686	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P428343	
	SM 5310 B-2011	Organic Carbon	8.9		mg C/L	P428481	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: ARBUCKLE CREEK AT US HWY 98

Collection Date/Time: 04/10/2023 11:25

Field ID: G4SE0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2399508	DEP SOP: NU-094-1	Color (true)	91		PCU	P428336	
	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P428330	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P428576	
		Sulfate	29		mg SO4/L	P428579	
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P428508	
	SM 2540 C-2015	TDS	112		mg/L	P428904	
	SM 2540 D-2015	TSS	11		mg/L	P428821	
2399510	SM 4500-F- C-2011	Fluoride	0.072	I	mg F/L	P428731	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P428457	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P428681	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.51		mg N/L	P428773	
	EPA 365.1 Rev. 2.0	Total-P	0.074		mg P/L	P428343	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P428481	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: ARBUCKLE BRANCH AT ARBUCKLE CREEK RD

Collection Date/Time: 04/10/2023 11:50

Field ID: G4SE0149

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2399511	DEP SOP: NU-094-1	Color (true)	49	A	PCU	P428337	
	EPA 180.1 Rev. 2.0	Turbidity	9.0	A	NTU	P428331	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P428764	
		Sulfate	30		mg SO4/L	P428767	
	SM 2320 B-2011	Total Alkalinity	3.4		mg CaCO3/L	P428508	
	SM 2540 C-2015	TDS	140		mg/L	P428904	
	SM 2540 D-2015	TSS	20		mg/L	P428821	
2399512	SM 4500-F- C-2011	Fluoride	0.041	I	mg F/L	P428731	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P428457	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P428681	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P428773	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P428343	
2399536	SM 5310 B-2011	Organic Carbon	18		mg C/L	P428481	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P428313	
		Acesulfame K	0.10	U	ug/L	P428312	
		2,4,5-T	0.0040	U	ug/L	P428313	
		AMPA	0.10	U	ug/L	P428312	
		Acetaminophen	0.0080	U	ug/L	P428313	
		Acetamiprid	0.0020	U	ug/L	P428313	
		Endothall	0.25	U	ug/L	P428312	
		Glufosinate	0.10	U	ug/L	P428312	
		Glyphosate	0.10	U	ug/L	P428312	
		Afidopyropen	0.0020	U	ug/L	P428313	
		Bentazon	0.0013	I	ug/L	P428313	
		Sucralose	0.066		ug/L	P428312	
		Benzovindiflupyr	0.0020	U	ug/L	P428313	
		Carbamazepine	8.0E-04	U	ug/L	P428313	
		Clothianidin	0.0020	U	ug/L	P428313	
		Dinotefuran	0.0020	U	ug/L	P428313	
		Diuron	0.0020	U	ug/L	P428313	
		Fenuron	0.032	U	ug/L	P428313	
		Fluridone	8.0E-04	U	ug/L	P428313	
		Imazapyr	0.0040	U	ug/L	P428313	
		Hydrocodone	0.0020	U	ug/L	P428313	
		Ibuprofen	0.080	U	ug/L	P428313	
		Imidacloprid	0.0020	U	ug/L	P428313	
		Linuron	0.0040	U	ug/L	P428313	
		Mandestrobin	0.0020	U	ug/L	P428313	
		MCP	0.0020	U	ug/L	P428313	
		Naproxen	0.0080	U	ug/L	P428313	
		Primidone	0.0040	U	ug/L	P428313	
		Pyraclostrobin	0.0020	U	ug/L	P428313	
		Silvex	0.0040	U	ug/L	P428313	

Field ID: G4SE0149

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2399536	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P428313	
		Tolfenpyrad	0.0020	U	ug/L	P428313	
		Triclopyr	0.0040	U	ug/L	P428313	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P428336

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P428337

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428330

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428331

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428369

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: P428369

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428369

Component	Result	Code	Units
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: P428576

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428579

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428764

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428767

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428376

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428457

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428681

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428686

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428773

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428343

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

Reference Method: EPA 8270E
Batch ID: P428300

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
Chlorothalonil	3.6	U	ng/L
Chlorothalonil	3.6	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cis-Nonachlor	0.20	U	ng/L
Cypermethrin	1.5	U	ng/L
Cypermethrin	1.5	U	ng/L
Dacthal	0.15	U	ng/L
Dacthal	0.15	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDD-p,p'	0.25	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDE-p,p'	0.20	U	ng/L
DDT-p,p'	0.25	U	ng/L
DDT-p,p'	0.25	U	ng/L
Delta-BHC	0.40	U	ng/L
Delta-BHC	0.40	U	ng/L
Deltamethrin	1.2	U	ng/L
Deltamethrin	1.2	U	ng/L
Dichlobenil	0.25	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P428300

Component	Result	Code	Units
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
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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P428300

Component	Result	Code	Units
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: P428300

Component	Result	Code	Units
Chlordane	2.0	U	ng/L
Chlordane	2.0	U	ng/L
Toxaphene	15	U	ng/L
Toxaphene	15	U	ng/L

Reference Method: EPA 8321B

Batch ID: P428312

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P428313

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P428313

Component	Result	Code	Units
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P428508

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

Reference Method: SM 2540 C-2015

Batch ID: P428904

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P428821

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P428730

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011

Batch ID: P428731

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P428481

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: P428336

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P428337

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428330

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.6		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	100		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	99.5		P	85 - 115
Sodium	104		P	85 - 115
Strontium	100		P	85 - 115
Tin	100		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	99.2		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	106		P	85 - 115
Arsenic	102		P	85 - 115
Barium	104		P	85 - 115
Beryllium	99.4		P	85 - 115
Boron	104		P	85 - 115
Cadmium	106		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	104		P	85 - 115
Copper	101		P	85 - 115
Lead	105		P	85 - 115
Manganese	103		P	85 - 115
Molybdenum	102		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Nickel	102		P	85 - 115
Selenium	100		P	85 - 115
Silver	104		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428576

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428579

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428767

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428376

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428457

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428681

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428686

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	108		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P428773

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: P428343

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

Reference Method: EPA 8270E

Batch ID: P428300

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	57.0		P	10 - 92.0
Alpha-BHC	98.2		P	75 - 107
Alpha-Chlordane	91.4		P	50 - 108
Beta-BHC	85.5		P	36 - 138
Beta-Cyfluthrin	81.9		P	20 - 161
Bifenthrin	46.4		P	10 - 119
Chlorothalonil	84.4		P	26 - 186
Cis-Nonachlor	88.3		P	42 - 119
Cypermethrin	69.6		P	22 - 150
Dacthal	94.7		P	72 - 119
DDD-p,p'	83.6		P	45 - 107
DDE-p,p'	83.7		P	48 - 106
DDT-p,p'	78.9		P	48 - 110
Delta-BHC	94.7		P	54 - 140
Deltamethrin	90.8		P	22 - 189
Dichlobenil	100		P	36 - 117
Dicofol	93.4		P	46 - 155
Dieldrin	85.9		P	54 - 110
Endosulfan I	90.2		P	59 - 105
Endosulfan II	115		P	51 - 118
Endosulfan Sulfate	88.0		P	57 - 121
Endrin	92.3		P	10 - 120
Endrin Aldehyde	83.5		P	34 - 118
Endrin Ketone	91.9		P	69 - 177
Esfenvalerate	76.1		P	23 - 168
Ethalfuralin	79.2		P	49 - 99.0
Fenpropathrin	92.6		P	34 - 117
Gamma-BHC	74.5		P	72 - 117
Gamma-Chlordane	94.6		P	43 - 106
Heptachlor	73.5		P	41 - 98.0
Heptachlor Epoxide	77.4		P	57 - 106
Hexachlorobenzene	70.5		P	36 - 99.0
Kepone	209		P	16 - 215
Lambda-Cyhalothrin	65.9		P	21 - 177
Methoprene	69.8		P	10 - 119
Methoxychlor	111		P	60 - 112
MGK-264	76.2		P	26 - 122
Mirex	63.2		P	10 - 169
Oxychlordane	87.2		P	43 - 105
PCB-1016	64.8		P	48 - 112

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P428300

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
PCB-1260	67.2		P	44 - 118
Permethrin	75.6		P	24 - 148
Phenothrin	63.2		P	10 - 106
Piperonyl Butoxide	82.9		P	10 - 139
Prallethrin	97.9		P	17 - 109
Tau-Fluvalinate	67.1		P	13 - 131
Tetramethrin	77.4		P	10 - 132
Trans-Nonachlor	98.7		P	44 - 106
Triclosan Methyl	88.7		P	59 - 109
Trifluralin	83.7		P	44 - 101

Reference Method: EPA 8276
Batch ID: P428300

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	76.1		P	61 - 116
Toxaphene	85.9		P	48 - 124

Reference Method: EPA 8321B
Batch ID: P428312

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	98.8		P	40 - 150
AMPA	118		P	40 - 150
Endothall	89.3		P	40 - 150
Glufosinate	98.7		P	40 - 150
Glyphosate	124		P	40 - 150
Sucralose	112		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P428313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	114		P	40 - 150
2,4,5-T	111		P	40 - 150
Acetaminophen	89.5		P	30 - 150
Acetamiprid	84.0		P	40 - 150
Afidopyropen	65.9		P	30 - 150
Bentazon	90.5		P	30 - 150
Benzovindiflupyr	88.8		P	40 - 150
Carbamazepine	91.6		P	40 - 150
Clothianidin	96.3		P	40 - 150
Dinotefuran	102		P	40 - 150
Diuron	99.2		P	40 - 150
Fenuron	90.1		P	40 - 150
Fluridone	69.6		P	40 - 150
Hydrocodone	90.7		P	40 - 150
Ibuprofen	76.2		P	40 - 150
Imazapyr	94.8		P	40 - 150
Imidacloprid	90.8		P	40 - 150
Linuron	79.6		P	40 - 150
Mandestrobin	94.2		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P428313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
MCP	111		P	40 - 150
Naproxen	65.4		P	40 - 150
Primidone	91.0		P	40 - 150
Pyraclostrobin	83.6		P	40 - 150
Silvex	117		P	40 - 150
Thiamethoxam	90.1		P	40 - 150
Tolfenpyrad	57.1		P	30 - 150
Triclopyr	117		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P428508

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.6		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P428904

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

Reference Method: SM 2540 D-2015
Batch ID: P428821

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	99.0		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P428730

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

Reference Method: SM 4500-F- C-2011
Batch ID: P428731

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P428481

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428369

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399397	Calcium	100		P	80 - 120
2399397	Iron	101	99.2	P/P	80 - 120
2399397	Magnesium	101	99.9	P/P	80 - 120
2399397	Potassium	99.2	98.0	P/P	80 - 120
2399397	Sodium	102		P	80 - 120
2399397	Strontium	100	100	P/P	80 - 120
2399397	Tin	101	99.6	P/P	80 - 120
2399397	Titanium	101	102	P/P	80 - 120
2399397	Vanadium	100	102	P/P	80 - 120
2399397	Zinc	101	101	P/P	80 - 120
2399553	Calcium	98.7		P	80 - 120
2399553	Iron	98.8		P	80 - 120
2399553	Magnesium	99.6		P	80 - 120
2399553	Potassium	97.3		P	80 - 120
2399553	Sodium	98.5		P	80 - 120
2399553	Strontium	98.0		P	80 - 120
2399553	Tin	96.8		P	80 - 120
2399553	Titanium	99.4		P	80 - 120
2399553	Vanadium	96.2		P	80 - 120
2399553	Zinc	97.6		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428369

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399397	Aluminum	105	101	P/P	80 - 120
2399397	Antimony	103	104	P/P	80 - 120
2399397	Arsenic	100	100	P/P	80 - 120
2399397	Barium	103	103	P/P	80 - 120
2399397	Beryllium	98.0	96.2	P/P	80 - 120
2399397	Boron	105	105	P/P	80 - 120
2399397	Cadmium	104	104	P/P	80 - 120
2399397	Chromium	99.8	100	P/P	80 - 120
2399397	Cobalt	102	103	P/P	80 - 120
2399397	Copper	98.6	99.2	P/P	80 - 120
2399397	Lead	105	105	P/P	80 - 120
2399397	Manganese	104	105	P/P	80 - 120
2399397	Molybdenum	101	99.8	P/P	80 - 120
2399397	Nickel	101	101	P/P	80 - 120
2399397	Selenium	99.6	99.0	P/P	80 - 120
2399397	Silver	102	103	P/P	80 - 120
2399397	Thallium	104	105	P/P	80 - 120
2399553	Aluminum	102		P	80 - 120
2399553	Antimony	105		P	80 - 120
2399553	Arsenic	99.6		P	80 - 120
2399553	Barium	102		P	80 - 120
2399553	Beryllium	95.3		P	80 - 120
2399553	Boron	106		P	80 - 120
2399553	Cadmium	102		P	80 - 120
2399553	Chromium	99.9		P	80 - 120
2399553	Cobalt	101		P	80 - 120
2399553	Copper	97.1		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428369

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399553	Lead	105		P	80 - 120
2399553	Manganese	102		P	80 - 120
2399553	Molybdenum	100		P	80 - 120
2399553	Nickel	98.1		P	80 - 120
2399553	Selenium	98.5		P	80 - 120
2399553	Silver	101		P	80 - 120
2399553	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399498	Chloride	97.7		P	90 - 110
2399499	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399498	Sulfate	95.8		P	90 - 110
2399499	Sulfate	98.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399545	Chloride	100		P	90 - 110
2399662	Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428767

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399545	Sulfate	99.6		P	90 - 110
2399662	Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399465	Ammonia-N	96.8	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399362	Ammonia-N	99.8	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428681

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428681

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399509	Kjeldahl Nitrogen	112	119	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399469	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399546	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399546	Total-P	99.0	100	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P428300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399489	PCB-1016	73.9	70.6	P/P	46 - 111
2399489	PCB-1260	68.8	70.2	P/P	45 - 114
2399580	Aldrin	66.0	53.0	P/P	20 - 82.0
2399580	Alpha-BHC	100	107	P/P	71 - 109
2399580	Alpha-Chlordane	88.6	77.6	P/P	42 - 106
2399580	Beta-BHC	95.5	109	P/P	69 - 180
2399580	Beta-Cyfluthrin	89.1	104	P/P	18 - 175
2399580	Bifenthrin	55.4	52.1	P/P	21 - 128
2399580	Chlorothalonil	105	128	P/P	10 - 300
2399580	Cis-Nonachlor	97.2	84.8	P/P	34 - 106
2399580	Cypermethrin	76.7	72.9	P/P	22 - 158
2399580	Dacthal	100	91.2	P/P	54 - 116
2399580	DDD-p,p'	90.8	74.5	P/P	34 - 107
2399580	DDE-p,p'	86.0	77.2	P/P	33 - 110
2399580	DDT-p,p'	82.6	82.8	P/P	50 - 122
2399580	Delta-BHC	105	140	P/P	77 - 193
2399580	Deltamethrin	113	91.2	P/P	10 - 195
2399580	Dichlobenil	74.5	73.5	P/P	25 - 113
2399580	Dicofol	83.8	84.4	P/P	38 - 247
2399580	Dieldrin	74.1	68.9	P/P	45 - 118
2399580	Endosulfan I	93.2	83.5	P/P	51 - 106
2399580	Endosulfan II	106	95.3	P/P	37 - 122
2399580	Endosulfan Sulfate	76.5	99.6	P/P	43 - 132
2399580	Endrin	88.8	78.5	P/P	29 - 101
2399580	Endrin Aldehyde	62.3	56.4	P/P	19 - 110
2399580	Endrin Ketone	75.4	89.0	P/P	60 - 140
2399580	Esfenvalerate	94.8	86.9	P/P	26 - 199
2399580	Ethalfuralin	83.6	97.5	P/P	45 - 99.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P428300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399580	Fenpropathrin	85.3	79.5	P/P	35 - 120
2399580	Gamma-BHC	83.5	98.6	P/P	63 - 128
2399580	Gamma-Chlordane	87.8	74.2	P/P	40 - 104
2399580	Heptachlor	85.8	64.4	P/P	36 - 97.0
2399580	Heptachlor Epoxide	68.8	79.1	P/P	49 - 184
2399580	Hexachlorobenzene	81.6	49.1	P/P	39 - 96.0
2399580	Kepone	172	278	P/F	10 - 217
2399580	Lambda-Cyhalothrin	86.5	82.8	P/P	21 - 193
2399580	Methoprene	85.3	57.5	P/P	20 - 106
2399580	Methoxychlor	104	114	P/P	53 - 118
2399580	MGK-264	91.9	88.1	P/P	40 - 118
2399580	Mirex	67.7	50.6	P/P	26 - 92.0
2399580	Oxychlordane	86.8	80.9	P/P	44 - 99.0
2399580	Permethrin	88.2	91.2	P/P	33 - 182
2399580	Phenothrin	72.1	95.9	P/P	10 - 129
2399580	Piperonyl Butoxide	97.0	85.3	P/P	10 - 211
2399580	Prallethrin	112	105	P/P	24 - 113
2399580	Tau-Fluvalinate	96.0	102	P/P	14 - 149
2399580	Tetramethrin	93.0	80.0	P/P	17 - 151
2399580	Trans-Nonachlor	102	84.3	P/P	42 - 102
2399580	Triclosan Methyl	101	80.8	P/P	48 - 108
2399580	Trifluralin	85.6	79.7	P/P	47 - 96.0

Reference Method: EPA 8276
Batch ID: P428300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399489	Chlordane	70.7	58.4	P/P	53 - 126
2399489	Toxaphene	73.4	66.6	P/P	56 - 211

Reference Method: EPA 8321B
Batch ID: P428312

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399392	Acesulfame K	93.0	93.7	P/P	40 - 150
2399392	AMPA	118	117	P/P	40 - 150
2399392	Endothall	96.7	98.9	P/P	40 - 150
2399392	Glufosinate	95.9	99.4	P/P	40 - 150
2399392	Glyphosate	110	107	P/P	40 - 150
2399392	Sucralose	97.5	93.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P428313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399795	2,4-D	85.0	101	P/P	40 - 150
2399795	2,4,5-T	99.1	105	P/P	40 - 150
2399795	Acetaminophen	92.8	92.5	P/P	30 - 150
2399795	Acetamiprid	53.1	62.9	P/P	40 - 150
2399795	Afidopyropen	69.4	74.8	P/P	30 - 150
2399795	Bentazon	30.3	34.8	P/P	30 - 150
2399795	Benzovindiflupyr	74.6	80.1	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P428313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399795	Carbamazepine	60.2	64.2	P/P	40 - 150
2399795	Clothianidin	78.8	88.0	P/P	40 - 150
2399795	Dinotefuran	62.6	59.5	P/P	40 - 150
2399795	Diuron	67.3	74.0	P/P	40 - 150
2399795	Fenuron	46.8	51.7	P/P	40 - 150
2399795	Fluridone	56.6	57.6	P/P	40 - 150
2399795	Hydrocodone	49.8	51.6	P/P	40 - 150
2399795	Ibuprofen	57.4	69.4	P/P	40 - 150
2399795	Imazapyr	69.1	75.3	P/P	40 - 150
2399795	Linuron	62.3	68.5	P/P	40 - 150
2399795	Mandestrobin	76.8	77.0	P/P	40 - 150
2399795	MCPP	95.8	109	P/P	40 - 150
2399795	Naproxen	70.4	80.0	P/P	40 - 150
2399795	Primidone	78.3	78.2	P/P	40 - 150
2399795	Pyraclostrobin	68.1	72.9	P/P	40 - 150
2399795	Silvex	92.1	94.1	P/P	40 - 150
2399795	Thiamethoxam	64.6	70.3	P/P	40 - 150
2399795	Tolfenpyrad	46.3	47.6	P/P	30 - 150
2399795	Triclopyr	105	120	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P428730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399380	Fluoride	104	104	P/P	94 - 104

Reference Method: SM 4500-F- C-2011

Batch ID: P428731

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399659	Fluoride	102	102	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P428481

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399465	Organic Carbon	94.6	94.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P428336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399468	Color (true)	2.80	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P428337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399511	Color (true)	1.17	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428330

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399361	Turbidity	5.06	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399511	Turbidity	2.11	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399397	Calcium	0.0253	Spike	P	0 - 20
2399397	Iron	1.02	Spike	P	0 - 20
2399397	Magnesium	0.435	Spike	P	0 - 20
2399397	Potassium	0.684	Spike	P	0 - 20
2399397	Sodium	0.0566	Spike	P	0 - 20
2399397	Strontium	0.196	Spike	P	0 - 20
2399397	Tin	1.86	Spike	P	0 - 20
2399397	Titanium	1.63	Spike	P	0 - 20
2399397	Vanadium	1.44	Spike	P	0 - 20
2399397	Zinc	0.124	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399397	Aluminum	2.54	Spike	P	0 - 20
2399397	Antimony	0.343	Spike	P	0 - 20
2399397	Arsenic	0.282	Spike	P	0 - 20
2399397	Barium	0.322	Spike	P	0 - 20
2399397	Beryllium	1.74	Spike	P	0 - 20
2399397	Boron	0.0975	Spike	P	0 - 20
2399397	Cadmium	0.110	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428369

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399397	Chromium	0.419	Spike	P	0 - 20
2399397	Cobalt	0.435	Spike	P	0 - 20
2399397	Copper	0.622	Spike	P	0 - 20
2399397	Lead	0.0719	Spike	P	0 - 20
2399397	Manganese	0.706	Spike	P	0 - 20
2399397	Molybdenum	0.789	Spike	P	0 - 20
2399397	Nickel	0.559	Spike	P	0 - 20
2399397	Selenium	0.594	Spike	P	0 - 20
2399397	Silver	0.924	Spike	P	0 - 20
2399397	Thallium	0.792	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P428576

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399498	Chloride	0.676	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P428579

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399498	Sulfate	0.128	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P428764

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399545	Chloride	1.37	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P428767

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399545	Sulfate	1.58	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P428376

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399465	Ammonia-N	2.47	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P428457

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399362	Ammonia-N	0.235	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399509	Kjeldahl Nitrogen	4.26	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399469	NO2NO3-N	0.962	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399546	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399546	Total-P	0.892	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P428300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399489	PCB-1016	4.53	Spike	P	0 - 32
2399489	PCB-1260	1.97	Spike	P	0 - 31
2399580	Aldrin	21.9	Spike	P	0 - 41
2399580	Alpha-BHC	6.43	Spike	P	0 - 25
2399580	Alpha-Chlordane	13.3	Spike	P	0 - 33
2399580	Beta-BHC	12.8	Spike	P	0 - 36
2399580	Beta-Cyfluthrin	15.6	Spike	P	0 - 42
2399580	Bifenthrin	6.20	Spike	P	0 - 53
2399580	Chlorothalonil	20.3	Spike	P	0 - 71
2399580	Cis-Nonachlor	13.6	Spike	P	0 - 29
2399580	Cypermethrin	5.08	Spike	P	0 - 40
2399580	Dacthal	9.53	Spike	P	0 - 26
2399580	DDD-p,p'	19.7	Spike	P	0 - 39
2399580	DDE-p,p'	10.8	Spike	P	0 - 33
2399580	DDT-p,p'	0.299	Spike	P	0 - 40
2399580	Delta-BHC	28.7	Spike	P	0 - 37

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P428300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399580	Deltamethrin	21.0	Spike	P	0 - 100
2399580	Dichlobenil	1.25	Spike	P	0 - 40
2399580	Dicofol	0.682	Spike	P	0 - 31
2399580	Dieldrin	6.23	Spike	P	0 - 27
2399580	Endosulfan I	10.9	Spike	P	0 - 23
2399580	Endosulfan II	10.4	Spike	P	0 - 28
2399580	Endosulfan Sulfate	26.3	Spike	P	0 - 38
2399580	Endrin	12.3	Spike	P	0 - 63
2399580	Endrin Aldehyde	9.93	Spike	P	0 - 60
2399580	Endrin Ketone	16.5	Spike	P	0 - 37
2399580	Esfenvalerate	8.72	Spike	P	0 - 52
2399580	Ethalfuralin	13.8	Spike	P	0 - 23
2399580	Fenpropathrin	7.07	Spike	P	0 - 32
2399580	Gamma-BHC	16.6	Spike	P	0 - 17
2399580	Gamma-Chlordane	15.4	Spike	P	0 - 40
2399580	Heptachlor	28.5	Spike	P	0 - 29
2399580	Heptachlor Epoxide	11.6	Spike	P	0 - 25
2399580	Hexachlorobenzene	49.8	Spike	F	0 - 36
2399580	Kepone	47.3	Spike	P	0 - 93
2399580	Lambda-Cyhalothrin	4.46	Spike	P	0 - 55
2399580	Methoprene	38.9	Spike	P	0 - 53
2399580	Methoxychlor	8.96	Spike	P	0 - 29
2399580	MGK-264	4.25	Spike	P	0 - 35
2399580	Mirex	28.9	Spike	P	0 - 46
2399580	Oxychlordane	7.10	Spike	P	0 - 29
2399580	Permethrin	3.44	Spike	P	0 - 44
2399580	Phenothrin	28.3	Spike	P	0 - 56
2399580	Piperonyl Butoxide	12.9	Spike	P	0 - 100
2399580	Prallethrin	6.71	Spike	P	0 - 42
2399580	Tau-Fluvalinate	5.72	Spike	P	0 - 54
2399580	Tetramethrin	15.0	Spike	P	0 - 51
2399580	Trans-Nonachlor	18.7	Spike	P	0 - 37
2399580	Triclosan Methyl	22.0	Spike	P	0 - 31
2399580	Trifluralin	7.11	Spike	P	0 - 30

Reference Method: EPA 8276
Batch ID: P428300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399489	Chlordane	19.1	Spike	P	0 - 25
2399489	Toxaphene	9.67	Spike	P	0 - 26

Reference Method: EPA 8321B
Batch ID: P428312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399392	Acesulfame K	0.734	Spike	P	0 - 30
2399392	AMPA	0.933	Spike	P	0 - 30
2399392	Endothall	2.21	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P428312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399392	Glufosinate	3.67	Spike	P	0 - 30
2399392	Glyphosate	2.04	Spike	P	0 - 30
2399392	Sucralose	3.51	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P428313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399795	2,4-D	16.4	Spike	P	0 - 30
2399795	2,4,5-T	5.66	Spike	P	0 - 30
2399795	Acetaminophen	0.350	Spike	P	0 - 30
2399795	Acetamiprid	16.9	Spike	P	0 - 30
2399795	Afidopyropen	7.44	Spike	P	0 - 30
2399795	Bentazon	7.34	Spike	P	0 - 30
2399795	Benzovindiflupyr	7.04	Spike	P	0 - 30
2399795	Carbamazepine	6.52	Spike	P	0 - 30
2399795	Clothianidin	7.45	Spike	P	0 - 30
2399795	Dinotefuran	5.12	Spike	P	0 - 30
2399795	Diuron	7.62	Spike	P	0 - 30
2399795	Fenuron	9.98	Spike	P	0 - 30
2399795	Fluridone	1.34	Spike	P	0 - 30
2399795	Hydrocodone	3.70	Spike	P	0 - 30
2399795	Ibuprofen	19.0	Spike	P	0 - 30
2399795	Imazapyr	7.77	Spike	P	0 - 30
2399795	Imidacloprid	6.98	Spike	P	0 - 30
2399795	Linuron	9.44	Spike	P	0 - 30
2399795	Mandestrobin	0.216	Spike	P	0 - 30
2399795	MCP	12.5	Spike	P	0 - 30
2399795	Naproxen	12.8	Spike	P	0 - 30
2399795	Primidone	0.109	Spike	P	0 - 30
2399795	Pyraclostrobin	6.82	Spike	P	0 - 30
2399795	Silvex	2.18	Spike	P	0 - 30
2399795	Thiamethoxam	5.49	Spike	P	0 - 30
2399795	Tolfenpyrad	2.66	Spike	P	0 - 30
2399795	Triclopyr	13.8	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P428508

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399501	Total Alkalinity	1.02	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P428904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399464	TDS	5.71	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P428730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399380	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P428731

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399659	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P428481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399465	Organic Carbon	0.175	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2399528

Field Sample ID: G4SE0152

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	88.3	P	29 - 130
EPA 8270E	Decachlorobiphenyl	118	P	30 - 118
EPA 8270E	Tetrachloro-m-xylene	62.3	P	29 - 104
EPA 8270E	Tetrachloro-m-xylene	72.5	P	30 - 97.0
EPA 8276	Decachlorobiphenyl	74.9	P	30 - 101
EPA 8276	PCNB	89.4	P	48 - 121

Lab Sample ID: 2399536

Field Sample ID: G4SE0149

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.9	P	30 - 160
EPA 8321B	Diuron-d6	62.8	P	30 - 160
EPA 8321B	Endothall-d6	94.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	89.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.2	P	30 - 160
EPA 8321B	Primidone-d5	79.7	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118504

Included Lab Sample IDs: 2399507, 2399508, 2399511

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: A118508

Included Lab Sample IDs: 2399507, 2399508, 2399511

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.1	99.4	P/P	90 - 110
Color (true)	99.4	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118531

Included Lab Sample IDs: 2399509

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118547

Included Lab Sample IDs: 2399510

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118553

Included Lab Sample IDs: 2399509, 2399512

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118557

Included Lab Sample IDs: 2399510, 2399512

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.4	97.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118564

Included Lab Sample IDs: 2399537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.4	101	P/P	90 - 110
Antimony	104	104	P/P	90 - 110
Arsenic	99.9	98.4	P/P	90 - 110
Barium	99.2	99.4	P/P	90 - 110
Beryllium	99.2	98.0	P/P	90 - 110
Boron	98.5	101	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Chromium	98.1	97.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118564

Included Lab Sample IDs: 2399537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cobalt	100	99.2	P/P	90 - 110
Copper	95.9	95.7	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Manganese	102	101	P/P	90 - 110
Molybdenum	98.6	98.1	P/P	90 - 110
Nickel	97.5	96.7	P/P	90 - 110
Selenium	99.7	101	P/P	90 - 110
Silver	101	100	P/P	90 - 110
Thallium	102	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118566

Included Lab Sample IDs: 2399509, 2399510, 2399512

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.1	99.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A118577

Included Lab Sample IDs: 2399507, 2399508, 2399511

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.1	94.6	P/P	90 - 110
Total Alkalinity	94.6	97.4	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A118595

Included Lab Sample IDs: 2399528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	101		P	80 - 120
Alpha-BHC	104		P	80 - 120
Alpha-Chlordane	101		P	80 - 120
Beta-BHC	102		P	80 - 120
Beta-Cyfluthrin	112		P	80 - 120
Bifenthrin	98.5		P	80 - 120
Chlorothalonil	106		P	80 - 120
Cis-Nonachlor	117		P	80 - 120
Cypermethrin	95.6		P	80 - 120
Dacthal	116		P	80 - 120
DDD-p,p'	103		P	80 - 120
DDE-p,p'	91.4		P	80 - 120
DDT-p,p'	103		P	80 - 120
Delta-BHC	103		P	80 - 120
Deltamethrin	107		P	80 - 120
Dichlobenil	118		P	80 - 120
Dicofol	105		P	80 - 120
Dieldrin	91.4		P	80 - 120
Endosulfan I	103		P	80 - 120
Endosulfan II	113		P	80 - 120
Endosulfan Sulfate	107		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A118595
Included Lab Sample IDs: 2399528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endrin	107		P	80 - 120
Endrin Aldehyde	96.2		P	80 - 120
Endrin Ketone	100		P	80 - 120
Esfenvalerate	99.1		P	80 - 120
Ethalfuralin	94.4		P	80 - 120
Fenpropathrin	106		P	80 - 120
Gamma-BHC	104		P	80 - 120
Gamma-Chlordane	103		P	80 - 120
Heptachlor	101		P	80 - 120
Heptachlor Epoxide	103		P	80 - 120
Hexachlorobenzene	103		P	80 - 120
Kepone	104		P	80 - 120
Lambda-Cyhalothrin	106		P	80 - 120
Methoprene	107		P	80 - 120
Methoxychlor	106		P	80 - 120
MGK-264	96.3		P	80 - 120
Mirex	106		P	80 - 120
Oxychlordane	107		P	80 - 120
Permethrin	111		P	80 - 120
Phenothrin	108		P	80 - 120
Piperonyl Butoxide	98.2		P	80 - 120
Prallethrin	105		P	80 - 120
Tau-Fluvalinate	102		P	80 - 120
Tetramethrin	91.5		P	80 - 120
Trans-Nonachlor	116		P	80 - 120
Triclosan Methyl	104		P	80 - 120
Trifluralin	83.3		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A118603
Included Lab Sample IDs: 2399507, 2399508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.4	101	P/P	90 - 110
Sulfate	98.6	99.5	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A118606
Included Lab Sample IDs: 2399536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	99.5	P/P	60 - 160
Sucralose	89.0	90.3	P/P	60 - 160

Reference Method: EPA 8270E
Run ID: A118624
Included Lab Sample IDs: 2399528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	97.6		P	80 - 120
PCB-1260	99.3		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A118625
Included Lab Sample IDs: 2399536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	119	120	P/P	60 - 160
Endothall	94.7	98.5	P/P	60 - 160
Glufosinate	102	106	P/P	60 - 160
Glyphosate	98.8	116	P/P	60 - 160

Reference Method: EPA 8276
Run ID: A118638
Included Lab Sample IDs: 2399528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	94.7		P	80 - 120
Toxaphene	88.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A118641
Included Lab Sample IDs: 2399511

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	95.1	96.2	P/P	90 - 110
Sulfate	96.7	97.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A118643
Included Lab Sample IDs: 2399537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	96.6	95.5	P/P	90 - 110
Iron	96.6	95.2	P/P	90 - 110
Magnesium	95.7	94.5	P/P	90 - 110
Potassium	97.0	95.1	P/P	90 - 110
Sodium	98.1	96.0	P/P	90 - 110
Strontium	98.5	99.3	P/P	90 - 110
Tin	97.5	95.4	P/P	90 - 110
Titanium	98.2	97.8	P/P	90 - 110
Vanadium	97.1	95.5	P/P	90 - 110
Zinc	97.0	96.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A118653
Included Lab Sample IDs: 2399509

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A118673
Included Lab Sample IDs: 2399507, 2399508, 2399511

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118686

Included Lab Sample IDs: 2399510, 2399512

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118695

Included Lab Sample IDs: 2399509, 2399510, 2399512

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.5	99.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A118768

Included Lab Sample IDs: 2399536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.5	92.8	P/P	50 - 150
2,4,5-T	95.3	99.7	P/P	50 - 150
Acetaminophen	101	101	P/P	60 - 160
Acetamiprid	105	107	P/P	50 - 150
Afidopyropen	100	86.5	P/P	50 - 150
Bentazon	108	106	P/P	50 - 160
Benzovindiflupyr	97.8	101	P/P	50 - 150
Carbamazepine	106	102	P/P	60 - 150
Clothianidin	103	102	P/P	60 - 150
Dinotefuran	118	112	P/P	50 - 150
Diuron	115	123	P/P	60 - 160
Fenuron	102	100	P/P	60 - 150
Fluridone	87.7	98.2	P/P	60 - 160
Hydrocodone	111	116	P/P	60 - 150
Ibuprofen	117	103	P/P	50 - 160
Imazapyr	96.5	106	P/P	50 - 150
Imidacloprid	99.2	99.8	P/P	60 - 150
Linuron	97.5	110	P/P	60 - 150
Mandestrobin	102	108	P/P	50 - 150
MCPP	96.8	99.2	P/P	50 - 150
Naproxen	89.7	64.4	P/P	50 - 160
Primidone	102	97.1	P/P	60 - 150
Pyraclostrobin	105	103	P/P	60 - 150
Silvex	102	102	P/P	50 - 150
Thiamethoxam	105	105	P/P	50 - 150
Tolfenpyrad	99.1	97.5	P/P	60 - 150
Triclopyr	96.3	95.3	P/P	50 - 150

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	98.8				2.80	
	Color (true)	100				1.17	
EPA 180.1 Rev. 2.0	Turbidity	100				5.06	
	Turbidity	99.6				2.11	
EPA 200.7 Rev. 4.4	Calcium	101	100	98.7			0.0253
	Iron	100	101	99.2	98.8		1.02
	Magnesium	102	101	99.9	99.6		0.435
	Potassium	99.5	99.2	98.0	97.3		0.684
	Sodium	104	102	98.5			0.0566
	Strontium	100	100	100	98.0		0.196
	Tin	100	101	99.6	96.8		1.86
	Titanium	102	101	102	99.4		1.63
	Vanadium	99.2	100	102	96.2		1.44
	Zinc	100	101	101	97.6		0.124
EPA 200.8 Rev. 5.4	Aluminum	102	105	101	102		2.54
	Antimony	106	103	104	105		0.343
	Arsenic	102	100	100	99.6		0.282
	Barium	104	103	103	102		0.322
	Beryllium	99.4	98.0	96.2	95.3		1.74
	Boron	104	105	105	106		0.0975
	Cadmium	106	104	104	102		0.110
	Chromium	102	99.8	100	99.9		0.419
	Cobalt	104	102	103	101		0.435
	Copper	101	98.6	99.2	97.1		0.622
	Lead	105	105	105	105		0.0719
	Manganese	103	104	105	102		0.706
	Molybdenum	102	101	99.8	100		0.789
	Nickel	102	101	101	98.1		0.559
	Selenium	100	99.6	99.0	98.5		0.594
	Silver	104	102	103	101		0.924
	Thallium	101	104	105	103		0.792
EPA 300.0 Rev. 2.1	Chloride	101	97.7	100		0.676	
	Chloride	99.9	100	98.8		1.37	
	Sulfate	99.0	95.8	98.5		0.128	
	Sulfate	100	99.6	99.2		1.58	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	96.8	99.4			2.47
	Ammonia-N	95.2	99.8	99.4			0.235
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	112	119			4.26
EPA 353.2 Rev. 2.0	NO2NO3-N	108	104	104			0.962
	NO2NO3-N	102	103	103			0.0
EPA 365.1 Rev. 2.0	Total-P	97.9	99.0	100			0.892
EPA 8270E	Aldrin	57.0	66.0	53.0			21.9
	Alpha-BHC	98.2	100	107			6.43
	Alpha-Chlordane	91.4	88.6	77.6			13.3
	Beta-BHC	85.5	95.5	109			12.8
	Beta-Cyfluthrin	81.9	89.1	104			15.6
	Bifenthrin	46.4	55.4	52.1			6.20
	Chlorothalonil	84.4	105	128			20.3
	Cis-Nonachlor	88.3	97.2	84.8			13.6
	Cypermethrin	69.6	76.7	72.9			5.08
	Dacthal	94.7	100	91.2			9.53
	DDD-p,p'	83.6	90.8	74.5			19.7
	DDE-p,p'	83.7	86.0	77.2			10.8
	DDT-p,p'	78.9	82.6	82.8			0.299

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Delta-BHC	94.7	105	140			28.7
	Deltamethrin	90.8	113	91.2			21.0
	Dichlobenil	100	74.5	73.5			1.25
	Dicofol	93.4	83.8	84.4			0.682
	Dieldrin	85.9	74.1	68.9			6.23
	Endosulfan I	90.2	93.2	83.5			10.9
	Endosulfan II	115	106	95.3			10.4
	Endosulfan Sulfate	88.0	76.5	99.6			26.3
	Endrin	92.3	88.8	78.5			12.3
	Endrin Aldehyde	83.5	62.3	56.4			9.93
	Endrin Ketone	91.9	75.4	89.0			16.5
	Esfenvalerate	76.1	94.8	86.9			8.72
	Ethalfuralin	79.2	83.6	97.5			13.8
	Fenpropathrin	92.6	85.3	79.5			7.07
	Gamma-BHC	74.5	83.5	98.6			16.6
	Gamma-Chlordane	94.6	87.8	74.2			15.4
	Heptachlor	73.5	85.8	64.4			28.5
	Heptachlor Epoxide	77.4	68.8	79.1			11.6
	Hexachlorobenzene	70.5	81.6	49.1			49.8
	Kepone	209	172	278			47.3
	Lambda-Cyhalothrin	65.9	86.5	82.8			4.46
	Methoprene	69.8	85.3	57.5			38.9
	Methoxychlor	111	104	114			8.96
	MGK-264	76.2	91.9	88.1			4.25
	Mirex	63.2	67.7	50.6			28.9
	Oxychlordane	87.2	86.8	80.9			7.10
	PCB-1016	64.8	73.9	70.6			4.53
	PCB-1260	67.2	68.8	70.2			1.97
	Permethrin	75.6	88.2	91.2			3.44
	Phenothrin	63.2	72.1	95.9			28.3
	Piperonyl Butoxide	82.9	97.0	85.3			12.9
	Prallethrin	97.9	112	105			6.71
	Tau-Fluvalinate	67.1	96.0	102			5.72
	Tetramethrin	77.4	93.0	80.0			15.0
	Trans-Nonachlor	98.7	102	84.3			18.7
	Triclosan Methyl	88.7	101	80.8			22.0
	Trifluralin	83.7	85.6	79.7			7.11
EPA 8276	Chlordane	76.1	70.7	58.4			19.1
	Toxaphene	85.9	73.4	66.6			9.67
EPA 8321B	2,4-D	114	85.0	101			16.4
	2,4,5-T	111	99.1	105			5.66
	Acesulfame K	98.8	93.0	93.7			0.734
	Acetaminophen	89.5	92.8	92.5			0.350
	Acetamiprid	84.0	53.1	62.9			16.9
	Afidopyropen	65.9	69.4	74.8			7.44
	AMPA	118	118	117			0.933
	Bentazon	90.5	30.3	34.8			7.34
	Benzovindiflupyr	88.8	74.6	80.1			7.04
	Carbamazepine	91.6	60.2	64.2			6.52
	Clothianidin	96.3	78.8	88.0			7.45
	Dinotefuran	102	62.6	59.5			5.12
	Diuron	99.2	67.3	74.0			7.62
	Endothall	89.3	96.7	98.9			2.21
	Fenuron	90.1	46.8	51.7			9.98

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Fluridone	69.6	56.6	57.6			1.34
	Glufosinate	98.7	95.9	99.4			3.67
	Glyphosate	124	110	107			2.04
	Hydrocodone	90.7	49.8	51.6			3.70
	Ibuprofen	76.2	57.4	69.4			19.0
	Imazapyr	94.8	69.1	75.3			7.77
	Imidacloprid	90.8					6.98
	Linuron	79.6	62.3	68.5			9.44
	Mandestrobin	94.2	76.8	77.0			0.216
	MCPP	111	95.8	109			12.5
	Naproxen	65.4	70.4	80.0			12.8
	Primidone	91.0	78.3	78.2			0.109
	Pyraclostrobin	83.6	68.1	72.9			6.82
	Silvex	117	92.1	94.1			2.18
	Sucralose	112	97.5	93.3			3.51
	Thiamethoxam	90.1	64.6	70.3			5.49
	Tolfenpyrad	57.1	46.3	47.6			2.66
	Triclopyr	117	105	120			13.8
SM 2320 B-2011	Total Alkalinity	94.6				1.02	
SM 2540 C-2015	TDS	103				5.71	
SM 2540 D-2015	TSS	99.0					
SM 4500-F- C-2011	Fluoride	100	104	104			0.0
	Fluoride	101	102	102			0.0
SM 5310 B-2011	Organic Carbon	98.5	94.6	94.4			0.175

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2399507, 2399508, 2399511
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2399507, 2399508, 2399511
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2399537
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2399537
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2399507, 2399508, 2399511
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2399507, 2399508, 2399511
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2399509, 2399510, 2399512
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2399509, 2399510, 2399512
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2399509, 2399510, 2399512
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2399509, 2399510, 2399512
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2399528
EPA 8270E	PCBs in water matrices by GC/MS/MS	2399528
EPA 8276	Chlordane and Toxaphene in water matrices by GC/MS with Negative Chemical Ionization	2399528
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2399536
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2399507, 2399508, 2399511
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2399537
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2399507, 2399508, 2399511
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2399507, 2399508, 2399511
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2399507, 2399508, 2399511
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2399509, 2399510, 2399512

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	04/11/2023			04/11/2023 15:21	Anna M. Plaviak	2399507
	04/11/2023			04/11/2023 15:22	Anna M. Plaviak	2399508
	04/11/2023			04/11/2023 15:26	Anna M. Plaviak	2399511
EPA 180.1 Rev. 2.0	04/11/2023			04/11/2023 13:27	Chandler E Cox	2399507, 2399508
	04/11/2023			04/11/2023 13:36	Chandler E Cox	2399511
EPA 200.7 Rev. 4.4	04/11/2023	04/12/2023 11:15	George D Taylor	04/18/2023 23:06	McKinley C Carter	2399537
EPA 200.8 Rev. 5.4	04/11/2023	04/12/2023 11:15	George D Taylor	04/13/2023 18:13	Conrad Hartmann	2399537
EPA 300.0 Rev. 2.1	04/11/2023			04/15/2023 09:05	Anna M. Plaviak	2399507
	04/11/2023			04/15/2023 09:20	Anna M. Plaviak	2399508
	04/11/2023			04/19/2023 14:49	James L Waggeberby	2399511
EPA 350.1 Rev. 2.0	04/11/2023			04/12/2023 14:20	Ping Hua	2399509
	04/11/2023			04/13/2023 14:12	Khloe J Berg	2399510
	04/11/2023			04/13/2023 14:14	Khloe J Berg	2399512
EPA 351.2 Rev. 2.0	04/11/2023	04/19/2023 11:19	Dana G. Hughes	04/20/2023 12:55	Ping Hua	2399509
	04/11/2023	04/19/2023 11:19	Dana G. Hughes	04/20/2023 12:59	Ping Hua	2399510
	04/11/2023	04/19/2023 11:19	Dana G. Hughes	04/20/2023 13:01	Ping Hua	2399512
EPA 353.2 Rev. 2.0	04/11/2023			04/19/2023 10:31	Beverly Y. Sanders	2399509
	04/11/2023			04/20/2023 10:06	Beverly Y. Sanders	2399510
	04/11/2023			04/20/2023 10:08	Beverly Y. Sanders	2399512
EPA 365.1 Rev. 2.0	04/11/2023	04/12/2023 12:30	Simonne.V. Calhoun	04/13/2023 10:08	James L Waggeberby	2399510
	04/11/2023	04/12/2023 12:30	Simonne.V. Calhoun	04/13/2023 11:58	James L Waggeberby	2399509
	04/11/2023	04/12/2023 12:30	Simonne.V. Calhoun	04/13/2023 11:59	James L Waggeberby	2399512
EPA 8270E	04/11/2023	04/12/2023 09:00	Fe-Val Siddell	04/14/2023 22:34	Michael Poppell	2399528
	04/11/2023	04/12/2023 09:00	Fe-Val Siddell	04/14/2023 22:52	Julie Wi	2399528
EPA 8276	04/11/2023	04/12/2023 09:00	Fe-Val Siddell	04/15/2023 16:21	Lipi Saha	2399528
EPA 8321B	04/11/2023	04/13/2023 09:00	Hoor Shaik	04/18/2023 01:39	Juyoung Kim	2399536
	04/11/2023	04/14/2023 10:00	Manjita Shrestha	04/14/2023 12:49	Manjita Shrestha	2399536
	04/11/2023	04/14/2023 10:00	Manjita Shrestha	04/15/2023 06:10	Manjita Shrestha	2399536
SM 2320 B-2011	04/11/2023			04/13/2023 20:35	Dale L. Simmons	2399507
	04/11/2023			04/13/2023 21:11	Dale L. Simmons	2399508
	04/11/2023			04/13/2023 21:19	Dale L. Simmons	2399511
SM 2340 B-2011	04/11/2023			04/18/2023 23:06	McKinley C Carter	2399537
SM 2540 C-2015	04/11/2023			04/14/2023 15:46	Yijie Li	2399507, 2399508, 2399511
SM 2540 D-2015	04/11/2023			04/14/2023 15:46	Yijie Li	2399507, 2399508, 2399511
SM 4500-F- C-2011	04/11/2023			04/20/2023 01:19	Dale L. Simmons	2399507
	04/11/2023			04/20/2023 02:05	Dale L. Simmons	2399508
	04/11/2023			04/20/2023 02:10	Dale L. Simmons	2399511
SM 5310 B-2011	04/11/2023			04/13/2023 21:35	Elise M. Gillis	2399509
	04/11/2023			04/13/2023 21:48	Elise M. Gillis	2399510
	04/11/2023			04/13/2023 22:02	Elise M. Gillis	2399512