

Chemical Analysis Report

NW-DIST-2022-04-13-01

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

Event Description: **Navarre Run**
Request ID: **RQ-2022-04-11-29**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 03-MAY-2022 11:34



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: Tom King Creek

Collection Date/Time: 04/12/2022 11:05

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318687	DEP SOP: NU-094-1	Color (true)**	63	A	PCU	P412344	
	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P412330	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P412719	
		Sulfate	7.2		mg SO4/L	P412720	
	SM 2320 B-2011	Total Alkalinity	6.6		mg CaCO3/L	P412680	
	SM 2540 C-2011	TDS	76		mg/L	P412850	
	SM 2540 D-2011	TSS	3	I	mg/L	P412854	
2318688	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P412684	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P412543	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23		mg N/L	P412317	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.47		mg N/L	P412481	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P412451	
2318702	SM 5310 B-2011	Organic Carbon	6.5		mg C/L	P412476	
	EPA 8270E	Aldrin	0.69	U	ng/L	P412358	
		Alpha-BHC	0.11	U	ng/L	P412358	
		Alpha-Chlordane	0.21	U	ng/L	P412358	
		PCB-1016	2.1	U	ng/L	P412358	
		Beta-BHC	0.11	U	ng/L	P412358	
		PCB-1221	2.1	U	ng/L	P412358	
		Beta-Cyfluthrin**	1.3	U	ng/L	P412358	
		PCB-1232	2.1	U	ng/L	P412358	
		Bifenthrin**	0.53	U	ng/L	P412358	
		PCB-1242	2.1	U	ng/L	P412358	
		Carbophenothion	0.96	U	ng/L	P412358	
		PCB-1248	2.1	U	ng/L	P412358	
		Chlorothalonil	1.3	U	ng/L	P412358	
		PCB-1254	2.1	U	ng/L	P412358	
		Cis-Nonachlor**	0.21	U	ng/L	P412358	
		PCB-1260	2.1	U	ng/L	P412358	
		Cypermethrin	1.6	U	ng/L	P412358	
		Dacthal**	0.16	U	ng/L	P412358	
		DDD-p,p'	0.27	U	ng/L	P412358	
		DDE-p,p'	0.21	U	ng/L	P412358	
		DDT-p,p'	0.27	U	ng/L	P412358	
		Delta-BHC	0.43	U	ng/L	P412358	
		Deltamethrin**	1.3	U	ng/L	P412358	
		Dichlobenil**	0.27	U	ng/L	P412358	
		Dicofol	1.3	U	ng/L	P412358	
		Dieldrin	0.43	U	ng/L	P412358	
		Endosulfan I	0.43	U	ng/L	P412358	
		Endosulfan II	0.43	U	ng/L	P412358	
		Endosulfan Sulfate	0.32	U	ng/L	P412358	
		Endrin	0.43	U	ng/L	P412358	
		Endrin Aldehyde	0.80	U	ng/L	P412358	

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318702	EPA 8270E	Endrin Ketone	0.43	U	ng/L	P412358	
		Esfenvalerate**	0.80	U	ng/L	P412358	
		Ethalfuralin**	0.16	U	ng/L	P412358	
		Fenpropathrin**	0.27	U	ng/L	P412358	
		Gamma-BHC	0.13	U	ng/L	P412358	
		Gamma-Chlordane	0.21	U	ng/L	P412358	
		Heptachlor	0.21	U	ng/L	P412358	
		Heptachlor Epoxide	0.27	U	ng/L	P412358	
		Hexachlorobenzene**	1.1	U	ng/L	P412358	
		Kepone**	5.3	U	ng/L	P412358	
		Lambda-Cyhalothrin**	0.80	U	ng/L	P412358	
		Methoprene**	0.80	U	ng/L	P412358	
		Methoxychlor	0.32	U	ng/L	P412358	
		MGK-264**	0.21	U	ng/L	P412358	
		Mirex	0.75	U	ng/L	P412358	
		Oxychlordane**	0.32	U	ng/L	P412358	
		Permethrin	1.7	U	ng/L	P412358	
		Phenothrin**	0.96	U	ng/L	P412358	
		Piperonyl Butoxide**	0.16	I	ng/L	P412358	
		Prallethrin**	2.1	U	ng/L	P412358	
		Tau-Fluvalinate**	0.27	U	ng/L	P412358	
		Tetramethrin**	0.80	U	ng/L	P412358	
		Trans-Nonachlor**	0.21	U	ng/L	P412358	
		Triclosan Methyl**	0.16	U	ng/L	P412358	
		Trifluralin	0.21	U	ng/L	P412358	
	EPA 8276	Chlordane	2.7	U	ng/L	P412358	
		Toxaphene	16	U	ng/L	P412358	
		2,4-D	0.053		ug/L	P412370	
2318703	EPA 8321B	Acesulfame K	0.24	I	ug/L	P412352	
		2,4,5-T	0.0040	U	ug/L	P412370	
		AMPA	0.10	U	ug/L	P412352	
		Acetaminophen	0.0080	U	ug/L	P412370	
		Acetamiprid	0.0020	U	ug/L	P412370	
		Endothall	0.25	U	ug/L	P412352	
		Glufosinate	0.10	U	ug/L	P412352	
		Glyphosate	0.10	U	ug/L	P412352	
		Afidopyropen	0.0020	U	ug/L	P412370	
		Bentazon	0.0020	I	ug/L	P412370	
		Sucralose	2.8		ug/L	P412352	
		Benzovindiflupyr	0.0020	U	ug/L	P412370	
		Carbamazepine	8.2E-04	I	ug/L	P412370	
		Clothianidin	0.0089		ug/L	P412370	
		Dinotefuran	0.0020	U	ug/L	P412370	
		Diuron	0.0020	U	ug/L	P412370	
		Fenuron	0.032	U	ug/L	P412370	

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318703	EPA 8321B	Fluridone	8.0E-04	U	ug/L	P412370	
		Imazapyr	0.0040	U	ug/L	P412370	
		Hydrocodone	0.0020	U	ug/L	P412370	
		Ibuprofen	0.097		ug/L	P412370	
		Imidacloprid	0.025		ug/L	P412370	MS
		Linuron	0.0040	U	ug/L	P412370	
		Mandestrobin	0.0020	U	ug/L	P412370	
		MCPP	0.027		ug/L	P412370	
		Naproxen	0.0080	U	ug/L	P412370	
		Primidone	0.0040	U	ug/L	P412370	MS, RPD
		Pyraclostrobin	0.0020	U	ug/L	P412370	
		Silvex	0.0040	U	ug/L	P412370	
		Thiamethoxam	0.0020	U	ug/L	P412370	MS
		Tolfenpyrad	0.0020	U	ug/L	P412370	
		Triclopyr	0.0040	U	ug/L	P412370	

**Sample Location: Discharge from Tiger Point Golf Course at
Maplewood Drive**

Collection Date/Time: 04/12/2022 10:20

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318689	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P412330	
	SM 2320 B-2011	Total Alkalinity	36		mg CaCO3/L	P412680	
	SM 2540 D-2011	TSS	3	I	mg/L	P412856	
	SM 4500-F- C-2011	Fluoride	0.049	I	mg F/L	P412684	
2318690	EPA 350.1 Rev. 2.0	Ammonia-N	0.36		mg N/L	P412543	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P412826	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P412481	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P412451	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P412476	
2318704	EPA 8321B	2,4-D	0.0020	U	ug/L	P412370	
		Acesulfame K	0.10	U	ug/L	P412352	
		2,4,5-T	0.0040	U	ug/L	P412370	
		AMPA	0.21	I	ug/L	P412352	
		Acetaminophen	0.0080	U	ug/L	P412370	
		Acetamiprid	0.0020	U	ug/L	P412370	
		Endothall	0.25	U	ug/L	P412352	
		Glufosinate	0.10	U	ug/L	P412352	
		Glyphosate	0.23	I	ug/L	P412352	
		Afidopyropen	0.0020	U	ug/L	P412370	
		Bentazon	0.0060		ug/L	P412370	
		Sucralose	10		ug/L	P412352	
		Benzovindiflupyr	0.0020	U	ug/L	P412370	
		Carbamazepine	0.022		ug/L	P412370	
		Clothianidin	0.0076	I	ug/L	P412370	
		Dinotefuran	0.0041	I	ug/L	P412370	
		Diuron	0.0020	U	ug/L	P412370	
		Fenuron	0.032	U	ug/L	P412370	
		Fluridone	8.0E-04	U	ug/L	P412370	
		Imazapyr	0.0093	I	ug/L	P412370	
		Hydrocodone	0.0020	U	ug/L	P412370	
		Ibuprofen	0.020	U	ug/L	P412370	
		Imidacloprid	0.0063	I	ug/L	P412370	MS
		Linuron	0.0040	U	ug/L	P412370	
		Mandestrobin	0.0020	U	ug/L	P412370	
		MCP	0.0082	I	ug/L	P412370	
		Naproxen	0.0080	U	ug/L	P412370	
		Primidone	0.096		ug/L	P412370	MS, RPD
		Pyraclostrobin	0.0020	U	ug/L	P412370	
		Silvex	0.0040	U	ug/L	P412370	
		Thiamethoxam	0.0020	U	ug/L	P412370	MS
		Tolfenpyrad	0.0020	U	ug/L	P412370	
		Triclopyr	0.0040	U	ug/L	P412370	
2318716	EPA 200.7 Rev. 4.4	Calcium	9.39		mg/L	P412467	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318716	EPA 200.7 Rev. 4.4	Iron	280		ug/L	P412467	
		Magnesium	4.36		mg/L	P412467	
		Potassium	3.6		mg/L	P412467	
		Sodium	17.3		mg/L	P412467	
		Strontium	37.5		ug/L	P412467	
		Tin	3.0	U	ug/L	P412467	
		Titanium	1.3	I	ug/L	P412467	
		Vanadium	2.0	U	ug/L	P412467	
		Zinc	5.0	U	ug/L	P412467	
	EPA 200.8 Rev. 5.4	Aluminum	207		ug/L	P412467	
		Antimony	0.056	I	ug/L	P412467	
		Arsenic	2.91		ug/L	P412467	
		Barium	5.64		ug/L	P412467	
		Beryllium	0.010	U	ug/L	P412467	
		Boron**	79.9		ug/L	P412467	
		Cadmium	0.020	U	ug/L	P412467	
		Chromium	0.60	I	ug/L	P412467	
		Cobalt	0.079	I	ug/L	P412467	
		Copper	2.43		ug/L	P412467	
	SM 2340 B-2011	Lead	0.20	U	ug/L	P412467	
		Manganese	10.9		ug/L	P412467	
		Molybdenum	0.15	U	ug/L	P412467	
		Nickel	0.68	I	ug/L	P412467	
		Selenium	0.26	I	ug/L	P412467	
		Silver	0.010	U	ug/L	P412467	
		Thallium	0.10	U	ug/L	P412467	
		Hardness	41.4		mg/L	P412467	

Ref. Method and Comment:

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

Sample Location: Williams Creek upstream of Hwy 98

Collection Date/Time: 04/12/2022 12:40

Field ID: G4NW0531

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2318691	DEP SOP: NU-094-1	Color (true)**	76		PCU	P412344	
	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P412330	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P412719	
		Sulfate	7.4		mg SO4/L	P412720	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P412680	
	SM 2540 C-2011	TDS	91		mg/L	P412850	
	SM 2540 D-2011	TSS	2	I	mg/L	P412854	
2318692	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P412684	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P412543	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P412735	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.39		mg N/L	P412481	
	EPA 365.1 Rev. 2.0	Total-P	0.27		mg P/L	P412451	
2318717	SM 5310 B-2011	Organic Carbon	7.7		mg C/L	P412581	
	EPA 200.7 Rev. 4.4	Calcium	4.85		mg/L	P412467	
		Iron	560		ug/L	P412467	
		Magnesium	1.52		mg/L	P412467	
		Potassium	3.2		mg/L	P412467	
		Sodium	21.1		mg/L	P412467	
		Strontium	29.4		ug/L	P412467	
		Tin	3.0	U	ug/L	P412467	
		Titanium	1.7	I	ug/L	P412467	
		Vanadium	2.0	U	ug/L	P412467	
		Zinc	6.8	I	ug/L	P412467	
	EPA 200.8 Rev. 5.4	Aluminum	268		ug/L	P412467	
		Antimony	0.11	I	ug/L	P412467	
		Arsenic	0.67		ug/L	P412467	
		Barium	7.69		ug/L	P412467	
		Beryllium	0.018	I	ug/L	P412467	
		Boron**	88.0		ug/L	P412467	
		Cadmium	0.020	U	ug/L	P412467	
		Chromium	0.40	U	ug/L	P412467	
		Cobalt	0.092		ug/L	P412467	
		Copper	1.12		ug/L	P412467	
		Lead	0.22	I	ug/L	P412467	
		Manganese	6.83		ug/L	P412467	
		Molybdenum	0.15	U	ug/L	P412467	
		Nickel	0.55	I	ug/L	P412467	
		Selenium	0.22	I	ug/L	P412467	
		Silver	0.010	U	ug/L	P412467	
		Thallium	0.10	U	ug/L	P412467	
	SM 2340 B-2011	Hardness	18.4		mg/L	P412467	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P412344

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412330

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412467

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: P412467

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: P412719

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: P412720

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412543

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412317

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412735

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412826

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412481

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412451

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

Reference Method: EPA 8270E
Batch ID: P412358

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P412358

Component	Result	Code	Units
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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P412358

Component	Result	Code	Units
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	0.70	U	ng/L
Mirex	0.70	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8276

Batch ID: P412358

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: EPA 8321B

Batch ID: P412352

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: P412370

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
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	0.020	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	0.0040	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: P412680

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P412680

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

Reference Method: SM 2540 C-2011
Batch ID: P412850

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P412854

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P412856

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P412684

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P412476

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

Reference Method: SM 5310 B-2011
Batch ID: P412581

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: P412344

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412330

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.6		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412467

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	110		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	105		P	85 - 115
Sodium	102		P	85 - 115
Strontium	102		P	85 - 115
Tin	103		P	85 - 115
Titanium	104		P	85 - 115
Vanadium	97.7		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P412467

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.0		P	85 - 115
Antimony	98.1		P	85 - 115
Arsenic	99.0		P	85 - 115
Barium	103		P	85 - 115
Beryllium	94.6		P	85 - 115
Boron	101		P	85 - 115
Cadmium	98.7		P	85 - 115
Chromium	96.6		P	85 - 115
Cobalt	97.1		P	85 - 115
Copper	96.3		P	85 - 115
Lead	94.2		P	85 - 115
Manganese	98.2		P	85 - 115
Molybdenum	98.5		P	85 - 115
Nickel	97.1		P	85 - 115
Selenium	95.3		P	85 - 115
Silver	99.0		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412719

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.4		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412543

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412317

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412735

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412826

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412481

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412451

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

Reference Method: EPA 8270E
Batch ID: P412358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	42.4		P	10 - 93.0
Alpha-BHC	90.3		P	75 - 106
Alpha-Chlordane	67.1		P	50 - 109
Beta-BHC	103		P	36 - 138
Beta-Cyfluthrin	65.2		P	23 - 167
Bifenthrin	65.3		P	11 - 123
Carbophenothion	52.4		P	18 - 96.0
Chlorothalonil	164		P	27 - 190
Cis-Nonachlor	74.0		P	40 - 111
Cypermethrin	60.4		P	25 - 155

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P412358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dacthal	90.4		P	72 - 119
DDD-p,p'	67.5		P	47 - 108
DDE-p,p'	63.9		P	48 - 107
DDT-p,p'	62.6		P	49 - 111
Delta-BHC	111		P	54 - 138
Deltamethrin	73.4		P	22 - 189
Dichlobenil	84.1		P	32 - 113
Dicofol	58.7		P	50 - 108
Dieldrin	73.2		P	56 - 110
Endosulfan I	75.4		P	60 - 105
Endosulfan II	78.5		P	50 - 120
Endosulfan Sulfate	91.4		P	55 - 121
Endrin	75.7		P	31 - 119
Endrin Aldehyde	69.3		P	36 - 116
Endrin Ketone	71.1		P	69 - 177
Esfenvalerate	68.4		P	10 - 179
Ethalfuralin	66.8		P	49 - 99.0
Fenpropathrin	72.7		P	35 - 119
Gamma-BHC	93.9		P	69 - 120
Gamma-Chlordane	66.5		P	45 - 107
Heptachlor	59.4		P	41 - 100
Heptachlor Epoxide	60.5		P	58 - 106
Hexachlorobenzene	62.5		P	39 - 100
Kepone	75.0		P	10 - 191
Lambda-Cyhalothrin	59.5		P	21 - 206
Methoprene	58.8		P	10 - 129
Methoxychlor	90.7		P	61 - 111
MGK-264	73.2		P	20 - 123
Mirex	47.5		P	10 - 182
Oxychlordane	62.4		P	39 - 110
PCB-1016	90.8		P	49 - 111
PCB-1260	85.0		P	42 - 116
Permethrin	62.5		P	26 - 152
Phenothrin	54.3		P	10 - 109
Piperonyl Butoxide	95.1		P	19 - 147
Prallethrin	70.7		P	14 - 109
Tau-Fluvalinate	64.4		P	16 - 134
Tetramethrin	121		P	10 - 125
Trans-Nonachlor	70.4		P	45 - 107
Triclosan Methyl	77.8		P	60 - 110
Trifluralin	64.6		P	44 - 101

Reference Method: EPA 8276
Batch ID: P412358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	94.5		P	61 - 118
Toxaphene	119		P	51 - 122

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P412352

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	86.5		P	40 - 150
AMPA	99.5		P	40 - 150
Endothall	114		P	40 - 150
Glufosinate	109		P	40 - 150
Glyphosate	127		P	40 - 150
Sucralose	78.2		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P412370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	40 - 150
2,4,5-T	99.3		P	40 - 150
Acetaminophen	65.5		P	30 - 150
Acetamiprid	95.4		P	40 - 150
Afidopyropen	61.6		P	40 - 150
Bentazon	101		P	30 - 150
Benzovindiflupyr	82.8		P	40 - 150
Carbamazepine	95.2		P	40 - 150
Clothianidin	102		P	40 - 150
Dinotefuran	80.8		P	40 - 150
Diuron	90.1		P	40 - 150
Fenuron	84.4		P	40 - 150
Fluridone	77.8		P	40 - 150
Hydrocodone	92.8		P	40 - 150
Ibuprofen	149		P	40 - 150
Imazapyr	132		P	40 - 150
Imidacloprid	91.3		P	40 - 150
Linuron	86.9		P	40 - 150
Mandestrobin	82.7		P	40 - 150
MCPP	106		P	40 - 150
Naproxen	119		P	40 - 150
Primidone	124		P	40 - 150
Pyraclostrobin	72.7		P	40 - 150
Silvex	106		P	40 - 150
Thiamethoxam	97.5		P	40 - 150
Tolfenpyrad	40.3		P	30 - 150
Triclopyr	95.5		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P412680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.8		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P412684

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P412476

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.5		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P412581

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P412467

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319008	Calcium	104		P	80 - 120
2319008	Iron	109		P	80 - 120
2319008	Magnesium	108		P	80 - 120
2319008	Potassium	105		P	80 - 120
2319008	Sodium	108		P	80 - 120
2319008	Strontium	104		P	80 - 120
2319008	Tin	108		P	80 - 120
2319008	Titanium	106		P	80 - 120
2319008	Vanadium	101		P	80 - 120
2319008	Zinc	106		P	80 - 120
2319245	Calcium	106		P	80 - 120
2319245	Iron	111	110	P/P	80 - 120
2319245	Magnesium	111	111	P/P	80 - 120
2319245	Potassium	112	112	P/P	80 - 120
2319245	Sodium	104		P	80 - 120
2319245	Strontium	104	103	P/P	80 - 120
2319245	Tin	105	102	P/P	80 - 120
2319245	Titanium	105	104	P/P	80 - 120
2319245	Vanadium	99.8	99.1	P/P	80 - 120
2319245	Zinc	105	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P412467

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319008	Aluminum	97.1		P	80 - 120
2319008	Antimony	99.3		P	80 - 120
2319008	Arsenic	96.1		P	80 - 120
2319008	Barium	101		P	80 - 120
2319008	Beryllium	93.8		P	80 - 120
2319008	Boron	104		P	80 - 120
2319008	Cadmium	99.2		P	80 - 120
2319008	Chromium	98.2		P	80 - 120
2319008	Cobalt	96.4		P	80 - 120
2319008	Copper	94.6		P	80 - 120
2319008	Lead	93.9		P	80 - 120
2319008	Manganese	100		P	80 - 120
2319008	Molybdenum	99.3		P	80 - 120
2319008	Nickel	96.8		P	80 - 120
2319008	Selenium	92.8		P	80 - 120
2319008	Silver	98.3		P	80 - 120
2319008	Thallium	101		P	80 - 120
2319245	Aluminum	102	102	P/P	80 - 120
2319245	Antimony	97.7	97.4	P/P	80 - 120
2319245	Arsenic	98.4	98.0	P/P	80 - 120
2319245	Barium	102	102	P/P	80 - 120
2319245	Beryllium	90.4	90.8	P/P	80 - 120
2319245	Boron	101	99.7	P/P	80 - 120
2319245	Cadmium	97.9	97.9	P/P	80 - 120
2319245	Chromium	96.4	96.1	P/P	80 - 120
2319245	Cobalt	96.5	97.1	P/P	80 - 120
2319245	Copper	97.7	97.8	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P412467

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319245	Lead	94.0	93.6	P/P	80 - 120
2319245	Manganese	97.3	97.7	P/P	80 - 120
2319245	Molybdenum	99.0	98.3	P/P	80 - 120
2319245	Nickel	97.4	98.3	P/P	80 - 120
2319245	Selenium	95.7	96.9	P/P	80 - 120
2319245	Silver	97.4	97.3	P/P	80 - 120
2319245	Thallium	102	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412719

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318848	Chloride	96.2		P	90 - 110
2318862	Chloride	93.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318848	Sulfate	97.4		P	90 - 110
2318862	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412543

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318624	Ammonia-N	95.4	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412317

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318561	Kjeldahl Nitrogen	94.1	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412735

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318562	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412826

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318061	Kjeldahl Nitrogen	107	95.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412481

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318788	NO2NO3-N	99.2	97.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P412451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318692	Total-P	96.4	94.2	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P412358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319199	Aldrin	50.0	49.1	P/P	10 - 89.0
2319199	Alpha-BHC	87.9	89.0	P/P	71 - 105
2319199	Alpha-Chlordane	71.0	65.6	P/P	43 - 107
2319199	Beta-BHC	111	107	P/P	57 - 152
2319199	Beta-Cyfluthrin	70.5	60.7	P/P	29 - 186
2319199	Bifenthrin	71.2	58.1	P/P	19 - 119
2319199	Carbophenothion	55.3	48.8	P/P	19 - 107
2319199	Chlorothalonil	201	198	P/P	10 - 245
2319199	Cis-Nonachlor	74.3	64.8	P/P	36 - 110
2319199	Cypermethrin	66.5	58.0	P/P	24 - 169
2319199	Dacthal	95.7	90.6	P/P	62 - 115
2319199	DDD-p,p'	69.7	63.4	P/P	36 - 109
2319199	DDE-p,p'	69.7	64.4	P/P	30 - 114
2319199	DDT-p,p'	64.9	59.9	P/P	42 - 108
2319199	Delta-BHC	122	119	P/P	60 - 164
2319199	Deltamethrin	72.1	38.2	P/P	10 - 210
2319199	Dichlobenil	85.9	85.2	P/P	23 - 108
2319199	Dicofol	59.0	57.2	P/P	44 - 109
2319199	Dieldrin	75.6	69.2	P/P	37 - 119
2319199	Endosulfan I	78.8	72.7	P/P	52 - 105
2319199	Endosulfan II	77.0	70.1	P/P	35 - 127
2319199	Endosulfan Sulfate	92.2	82.2	P/P	39 - 130
2319199	Endrin	77.9	67.1	P/P	30 - 116
2319199	Endrin Aldehyde	59.4	46.2	P/P	20 - 110
2319199	Endrin Ketone	70.3	75.6	P/P	48 - 134
2319199	Esfenvalerate	73.2	61.1	P/P	10 - 199
2319199	Ethalfuralin	69.5	65.1	P/P	48 - 95.0
2319199	Fenpropathrin	74.0	63.2	P/P	37 - 121
2319199	Gamma-BHC	96.2	97.3	P/P	61 - 126
2319199	Gamma-Chlordane	67.9	59.6	P/P	39 - 105
2319199	Heptachlor	60.6	52.6	P/P	38 - 96.0
2319199	Heptachlor Epoxide	57.3	56.8	P/P	42 - 114
2319199	Hexachlorobenzene	67.6	65.2	P/P	39 - 93.0
2319199	Kepone	77.9	81.0	P/P	10 - 215
2319199	Lambda-Cyhalothrin	62.0	50.9	P/P	10 - 204
2319199	Methoprene	56.9	45.8	P/P	17 - 108
2319199	Methoxychlor	90.6	82.4	P/P	56 - 115
2319199	MGK-264	75.7	75.3	P/P	35 - 120
2319199	Mirex	61.2	52.3	P/P	10 - 178
2319199	Oxychlordane	61.0	56.0	P/P	47 - 91.0
2319199	Permethrin	68.4	59.0	P/P	27 - 170
2319199	Phenothrin	51.9	47.4	P/P	10 - 133
2319199	Piperonyl Butoxide	92.2	77.0	P/P	23 - 150
2319199	Prallethrin	71.7	68.1	P/P	21 - 113
2319199	Tau-Fluvalinate	65.8	54.6	P/P	16 - 158
2319199	Tetramethrin	126	120	P/P	22 - 132

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P412358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319199	Trans-Nonachlor	74.9	68.5	P/P	43 - 102
2319199	Triclosan Methyl	78.6	74.6	P/P	49 - 109
2319199	Trifluralin	70.0	63.6	P/P	48 - 93.0
2319300	PCB-1016	86.8	84.4	P/P	46 - 110
2319300	PCB-1260	75.7	67.7	P/P	42 - 111

Reference Method: EPA 8276

Batch ID: P412358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2319300	Chlordane	87.1	77.6	P/P	55 - 128
2319300	Toxaphene	117	107	P/P	57 - 211

Reference Method: EPA 8321B

Batch ID: P412352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318391	Acesulfame K	95.8	101	P/P	40 - 150
2318391	AMPA	80.2	91.9	P/P	40 - 150
2318391	Endothall	115	122	P/P	40 - 150
2318391	Glufosinate	110	112	P/P	40 - 150
2318391	Glyphosate	101	117	P/P	40 - 150
2318391	Sucralose	74.2	81.7	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P412370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318635	2,4-D	117	116	P/P	40 - 150
2318635	2,4,5-T	106	115	P/P	40 - 150
2318635	Acetaminophen	85.5	95.5	P/P	30 - 150
2318635	Acetamiprid	112	113	P/P	40 - 150
2318635	Afidopyropen	88.4	75.9	P/P	40 - 150
2318635	Bentazon	52.9	77.1	P/P	30 - 150
2318635	Benzovindiflupyr	91.0	81.7	P/P	40 - 150
2318635	Carbamazepine	112	121	P/P	40 - 150
2318635	Clothianidin	112	118	P/P	40 - 150
2318635	Dinotefuran	121	121	P/P	40 - 150
2318635	Diuron	72.1	66.9	P/P	40 - 150
2318635	Fenuron	80.2	82.5	P/P	40 - 150
2318635	Fluridone	87.0	71.3	P/P	40 - 150
2318635	Hydrocodone	92.4	105	P/P	40 - 150
2318635	Ibuprofen	94.5	95.9	P/P	40 - 150
2318635	Imazapyr	90.8	100	P/P	40 - 150
2318635	Imidacloprid	183	167	F/F	40 - 150
2318635	Linuron	71.4	78.1	P/P	40 - 150
2318635	Mandestrobin	90.6	98.8	P/P	40 - 150
2318635	MCPP	120	111	P/P	40 - 150
2318635	Naproxen	116	90.3	P/P	40 - 150
2318635	Primidone	189	118	F/P	40 - 150
2318635	Pyraclostrobin	79.9	76.5	P/P	40 - 150
2318635	Silvex	104	126	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P412370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318635	Thiamethoxam	173	165	F/F	40 - 150
2318635	Tolfenpyrad	59.3	60.5	P/P	30 - 150
2318635	Triclopyr	103	103	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P412684

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318994	Fluoride	98.2	98.2	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P412476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318688	Organic Carbon	96.3	99.2	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P412581

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2318692	Organic Carbon	99.8	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P412344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318687	Color (true)	0.557	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412330

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318623	Turbidity	6.67	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P412467

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319245	Calcium	1.61	Spike	P	0 - 20
2319245	Iron	0.252	Spike	P	0 - 20
2319245	Magnesium	0.326	Spike	P	0 - 20
2319245	Potassium	0.330	Spike	P	0 - 20
2319245	Sodium	2.54	Spike	P	0 - 20
2319245	Strontium	1.59	Spike	P	0 - 20
2319245	Tin	2.33	Spike	P	0 - 20
2319245	Titanium	0.956	Spike	P	0 - 20
2319245	Vanadium	0.672	Spike	P	0 - 20
2319245	Zinc	0.732	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P412467

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319245	Aluminum	0.316	Spike	P	0 - 20
2319245	Antimony	0.399	Spike	P	0 - 20
2319245	Arsenic	0.342	Spike	P	0 - 20
2319245	Barium	0.138	Spike	P	0 - 20
2319245	Beryllium	0.394	Spike	P	0 - 20
2319245	Boron	1.11	Spike	P	0 - 20
2319245	Cadmium	0.0310	Spike	P	0 - 20
2319245	Chromium	0.308	Spike	P	0 - 20
2319245	Cobalt	0.618	Spike	P	0 - 20
2319245	Copper	0.0385	Spike	P	0 - 20
2319245	Lead	0.438	Spike	P	0 - 20
2319245	Manganese	0.361	Spike	P	0 - 20
2319245	Molybdenum	0.752	Spike	P	0 - 20
2319245	Nickel	0.905	Spike	P	0 - 20
2319245	Selenium	1.23	Spike	P	0 - 20
2319245	Silver	0.145	Spike	P	0 - 20
2319245	Thallium	0.427	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318848	Chloride	0.671	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P412720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318848	Sulfate	1.95	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412543

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318624	Ammonia-N	0.628	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318561	Kjeldahl Nitrogen	5.31	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412735

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318562	Kjeldahl Nitrogen	0.469	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P412826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318061	Kjeldahl Nitrogen	8.67	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318788	NO2NO3-N	1.45	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318692	Total-P	1.40	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P412358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319199	Aldrin	1.75	Spike	P	0 - 37
2319199	Alpha-BHC	1.27	Spike	P	0 - 16
2319199	Alpha-Chlordane	7.82	Spike	P	0 - 28
2319199	Beta-BHC	4.10	Spike	P	0 - 32
2319199	Beta-Cyfluthrin	15.0	Spike	P	0 - 41
2319199	Bifenthrin	20.1	Spike	P	0 - 36
2319199	Carbophenothion	12.4	Spike	P	0 - 30
2319199	Chlorothalonil	1.80	Spike	P	0 - 54
2319199	Cis-Nonachlor	13.6	Spike	P	0 - 33
2319199	Cypermethrin	13.7	Spike	P	0 - 38
2319199	Dacthal	5.52	Spike	P	0 - 23
2319199	DDD-p,p'	9.43	Spike	P	0 - 35
2319199	DDE-p,p'	7.78	Spike	P	0 - 27
2319199	DDT-p,p'	8.00	Spike	P	0 - 31
2319199	Delta-BHC	2.09	Spike	P	0 - 30
2319199	Deltamethrin	61.4	Spike	P	0 - 76
2319199	Dichlobenil	0.769	Spike	P	0 - 33
2319199	Dicofol	3.03	Spike	P	0 - 24
2319199	Dieldrin	8.80	Spike	P	0 - 35
2319199	Endosulfan I	8.04	Spike	P	0 - 25
2319199	Endosulfan II	9.39	Spike	P	0 - 31
2319199	Endosulfan Sulfate	11.5	Spike	P	0 - 38
2319199	Endrin	14.8	Spike	P	0 - 53
2319199	Endrin Aldehyde	25.0	Spike	P	0 - 81
2319199	Endrin Ketone	7.26	Spike	P	0 - 33
2319199	Esfenvalerate	17.9	Spike	P	0 - 46
2319199	Ethalfuralin	6.52	Spike	P	0 - 22
2319199	Fenpropathrin	15.7	Spike	P	0 - 29
2319199	Gamma-BHC	1.14	Spike	P	0 - 17
2319199	Gamma-Chlordane	13.0	Spike	P	0 - 28
2319199	Heptachlor	14.0	Spike	P	0 - 28
2319199	Heptachlor Epoxide	1.01	Spike	P	0 - 23
2319199	Hexachlorobenzene	3.65	Spike	P	0 - 22
2319199	Kepone	3.98	Spike	P	0 - 61
2319199	Lambda-Cyhalothrin	19.6	Spike	P	0 - 52
2319199	Methoprene	21.6	Spike	P	0 - 38
2319199	Methoxychlor	9.44	Spike	P	0 - 29
2319199	MGK-264	0.534	Spike	P	0 - 41
2319199	Mirex	15.7	Spike	P	0 - 39
2319199	Oxychlordane	8.60	Spike	P	0 - 33
2319199	Permethrin	14.9	Spike	P	0 - 39
2319199	Phenothrin	8.95	Spike	P	0 - 52
2319199	Piperonyl Butoxide	18.0	Spike	P	0 - 91
2319199	Prallethrin	5.18	Spike	P	0 - 34
2319199	Tau-Fluvalinate	18.6	Spike	P	0 - 41
2319199	Tetramethrin	4.56	Spike	P	0 - 43
2319199	Trans-Nonachlor	8.96	Spike	P	0 - 31
2319199	Triclosan Methyl	5.25	Spike	P	0 - 24
2319199	Trifluralin	9.52	Spike	P	0 - 23
2319300	PCB-1016	2.72	Spike	P	0 - 32
2319300	PCB-1260	11.1	Spike	P	0 - 31

Quality Assurance Report Precision

Reference Method: EPA 8276

Batch ID: P412358

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2319300	Chlordane	11.5	Spike	P	0 - 25
2319300	Toxaphene	9.05	Spike	P	0 - 24

Reference Method: EPA 8321B

Batch ID: P412352

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318391	Acesulfame K	4.94	Spike	P	0 - 30
2318391	AMPA	12.5	Spike	P	0 - 30
2318391	Endothall	5.70	Spike	P	0 - 30
2318391	Glufosinate	1.81	Spike	P	0 - 30
2318391	Glyphosate	14.5	Spike	P	0 - 30
2318391	Sucralose	9.25	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P412370

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318635	2,4-D	0.113	Spike	P	0 - 30
2318635	2,4,5-T	7.72	Spike	P	0 - 30
2318635	Acetaminophen	11.1	Spike	P	0 - 30
2318635	Acetamiprid	1.04	Spike	P	0 - 30
2318635	Afidopyropen	15.2	Spike	P	0 - 30
2318635	Bentazon	22.1	Spike	P	0 - 30
2318635	Benzovindiflupyr	10.7	Spike	P	0 - 30
2318635	Carbamazepine	7.34	Spike	P	0 - 30
2318635	Clothianidin	5.34	Spike	P	0 - 30
2318635	Dinotefuran	0.630	Spike	P	0 - 30
2318635	Diuron	7.49	Spike	P	0 - 30
2318635	Fenuron	2.87	Spike	P	0 - 30
2318635	Fluridone	14.6	Spike	P	0 - 30
2318635	Hydrocodone	12.4	Spike	P	0 - 30
2318635	Ibuprofen	1.45	Spike	P	0 - 30
2318635	Imazapyr	7.20	Spike	P	0 - 30
2318635	Imidacloprid	8.73	Spike	P	0 - 30
2318635	Linuron	8.98	Spike	P	0 - 30
2318635	Mandestrobin	8.70	Spike	P	0 - 30
2318635	MCPP	7.89	Spike	P	0 - 30
2318635	Naproxen	25.0	Spike	P	0 - 30
2318635	Primidone	46.2	Spike	F	0 - 30
2318635	Pyraclostrobin	4.37	Spike	P	0 - 30
2318635	Silvex	19.4	Spike	P	0 - 30
2318635	Thiamethoxam	4.96	Spike	P	0 - 30
2318635	Tolfenpyrad	1.99	Spike	P	0 - 30
2318635	Triclopyr	0.0367	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P412680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318994	Total Alkalinity	0.105	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P412850

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318559	TDS	0.656	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P412854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318559	TSS	5.37	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P412684

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318994	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P412476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318688	Organic Carbon	2.26	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P412581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2318692	Organic Carbon	0.145	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2318702

Field Sample ID: G4NW0193

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	81.8	P	38 - 115
EPA 8270E	Decachlorobiphenyl	46.9	P	31 - 118
EPA 8270E	Tetrachloro-m-xylene	60.7	P	29 - 98.0
EPA 8270E	Tetrachloro-m-xylene	55.9	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	89.0	P	30 - 97.0
EPA 8276	PCNB	74.7	P	45 - 119

Lab Sample ID: 2318703

Field Sample ID: G4NW0193

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	113	P	30 - 160
EPA 8321B	Diuron-d6	47.2	P	30 - 160
EPA 8321B	Endothall-d6	97.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	65.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	153	P	30 - 160
EPA 8321B	Primidone-d5	94.1	P	30 - 160
EPA 8321B	Sucralose-d6	71.7	P	30 - 160

Lab Sample ID: 2318704

Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	127	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	136	P	30 - 160
EPA 8321B	Diuron-d6	72.4	P	30 - 160
EPA 8321B	Endothall-d6	89.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	92.8	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	71.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A111457

Included Lab Sample IDs: 2318687, 2318689, 2318691

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

Reference Method: DEP SOP: NU-094-1

Run ID: A111462

Included Lab Sample IDs: 2318687, 2318691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	100	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111507

Included Lab Sample IDs: 2318688, 2318690, 2318692

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

Reference Method: SM 5310 B-2011

Run ID: A111518

Included Lab Sample IDs: 2318688, 2318690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	96.5	P/P	90 - 110
Organic Carbon	99.0	98.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111541

Included Lab Sample IDs: 2318716, 2318717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.7	99.3	P/P	90 - 110
Antimony	99.6	100	P/P	90 - 110
Arsenic	99.9	98.1	P/P	90 - 110
Barium	99.4	98.8	P/P	90 - 110
Beryllium	95.5	95.5	P/P	90 - 110
Boron	97.1	99.7	P/P	90 - 110
Cadmium	99.1	99.8	P/P	90 - 110
Chromium	98.5	99.7	P/P	90 - 110
Cobalt	98.9	96.8	P/P	90 - 110
Copper	98.2	94.4	P/P	90 - 110
Lead	93.4	94.6	P/P	90 - 110
Manganese	99.5	101	P/P	90 - 110
Molybdenum	97.9	97.3	P/P	90 - 110
Nickel	99.2	97.0	P/P	90 - 110
Selenium	99.5	99.7	P/P	90 - 110
Silver	99.8	100	P/P	90 - 110
Thallium	98.7	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111551

Included Lab Sample IDs: 2318688, 2318690, 2318692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	98.4	P/P	90 - 110
Ammonia-N	99.3	98.0	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A111566

Included Lab Sample IDs: 2318692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A111591

Included Lab Sample IDs: 2318687, 2318689, 2318691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.4	96.3	P/P	90 - 110
Total Alkalinity	97.0	96.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A111591

Included Lab Sample IDs: 2318687, 2318689, 2318691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	102	P/P	90 - 110
Fluoride	101	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111604

Included Lab Sample IDs: 2318703, 2318704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	83.0	81.5	P/P	60 - 160
Sucralose	70.7	77.2	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A111607

Included Lab Sample IDs: 2318703, 2318704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	89.3	86.3	P/P	60 - 160
Endothall	104	101	P/P	60 - 160
Glufosinate	95.4	83.9	P/P	60 - 160
Glyphosate	104	105	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A111609

Included Lab Sample IDs: 2318687, 2318691

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.7	98.2	P/P	90 - 110
Sulfate	98.3	99.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111611

Included Lab Sample IDs: 2318688

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

Reference Method: EPA 8276

Run ID: A111620

Included Lab Sample IDs: 2318702

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	100		P	80 - 120
Toxaphene	105		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111625

Included Lab Sample IDs: 2318690, 2318692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	96.2	P/P	90 - 110
Total-P	96.2	98.4	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A111633

Included Lab Sample IDs: 2318702

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
PCB-1016	102		P	80 - 120
PCB-1260	99.9		P	80 - 120

Reference Method: EPA 8321B

Run ID: A111642

Included Lab Sample IDs: 2318703, 2318704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.8	101	P/P	50 - 150
2,4,5-T	102	93.4	P/P	50 - 150
Acetaminophen	90.5	81.8	P/P	60 - 160
Acetamiprid	103	108	P/P	50 - 150
Afidopyropen	117	113	P/P	50 - 150
Bentazon	87.7	108	P/P	50 - 160
Benzovindiflupyr	105	105	P/P	50 - 150
Carbamazepine	94.2	83.9	P/P	60 - 150
Clothianidin	105	110	P/P	60 - 150
Dinotefuran	94.4	85.9	P/P	50 - 150
Diuron	97.3	99.0	P/P	60 - 160
Fenuron	92.2	89.0	P/P	60 - 150
Fluridone	92.9	94.8	P/P	60 - 160
Hydrocodone	98.9	90.0	P/P	60 - 150
Ibuprofen	142	139	P/P	50 - 160
Imazapyr	103	125	P/P	50 - 150
Imidacloprid	95.0	89.3	P/P	60 - 150
Linuron	80.8	84.0	P/P	60 - 150
Mandestrobin	103	95.9	P/P	50 - 150
MCPP	109	112	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A111642

Included Lab Sample IDs: 2318703, 2318704

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Naproxen	73.3	92.9	P/P	50 - 160
Primidone	62.8	88.6	P/P	60 - 150
Pyraclostrobin	91.1	97.3	P/P	60 - 150
Silvex	107	106	P/P	50 - 150
Thiamethoxam	100	102	P/P	50 - 150
Tolfenpyrad	113	64.8	P/P	60 - 150
Triclopyr	83.4	111	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111645

Included Lab Sample IDs: 2318688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.8	101	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111657

Included Lab Sample IDs: 2318716, 2318717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	99.3	P/P	90 - 110
Iron	103	102	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	103	101	P/P	90 - 110
Sodium	99.5	98.1	P/P	90 - 110
Strontium	102	99.1	P/P	90 - 110
Tin	99.8	99.5	P/P	90 - 110
Titanium	101	99.7	P/P	90 - 110
Vanadium	102	100	P/P	90 - 110
Zinc	103	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111674

Included Lab Sample IDs: 2318692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	109	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A111682

Included Lab Sample IDs: 2318702

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	98.1		P	80 - 120
Alpha-BHC	96.8		P	80 - 120
Alpha-Chlordane	96.8		P	80 - 120
Beta-BHC	99.7		P	80 - 120
Beta-Cyfluthrin	98.8		P	80 - 120
Bifenthrin	104		P	80 - 120
Carbophenothion	104		P	80 - 120
Chlorothalonil	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A111682
Included Lab Sample IDs: 2318702

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cis-Nonachlor	104		P	80 - 120
Cypermethrin	96.1		P	80 - 120
Dacthal	100		P	80 - 120
DDD-p,p'	95.5		P	80 - 120
DDE-p,p'	97.1		P	80 - 120
DDT-p,p'	101		P	80 - 120
Delta-BHC	103		P	80 - 120
Deltamethrin	101		P	80 - 120
Dichlobenil	101		P	80 - 120
Dicofol	109		P	80 - 120
Dieldrin	99.7		P	80 - 120
Endosulfan I	98.5		P	80 - 120
Endosulfan II	96.4		P	80 - 120
Endosulfan Sulfate	103		P	80 - 120
Endrin	99.5		P	80 - 120
Endrin Aldehyde	98.2		P	80 - 120
Endrin Ketone	101		P	80 - 120
Esfenvalerate	98.1		P	80 - 120
Ethalfuralin	97.2		P	80 - 120
Fenpropathrin	104		P	80 - 120
Gamma-BHC	97.9		P	80 - 120
Gamma-Chlordane	97.6		P	80 - 120
Heptachlor	99.2		P	80 - 120
Heptachlor Epoxide	100		P	80 - 120
Hexachlorobenzene	102		P	80 - 120
Kepone	87.3		P	80 - 120
Lambda-Cyhalothrin	96.1		P	80 - 120
Methoprene	93.5		P	80 - 120
Methoxychlor	116		P	80 - 120
MGK-264	91.8		P	80 - 120
Mirex	98.7		P	80 - 120
Oxychlordane	94.8		P	80 - 120
Permethrin	96.1		P	80 - 120
Phenothrin	94.1		P	80 - 120
Piperonyl Butoxide	93.9		P	80 - 120
Prallethrin	113		P	80 - 120
Tau-Fluvalinate	99.8		P	80 - 120
Tetramethrin	101		P	80 - 120
Trans-Nonachlor	106		P	80 - 120
Triclosan Methyl	101		P	80 - 120
Trifluralin	98.5		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A111752
Included Lab Sample IDs: 2318690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	98.9	P/P	90 - 110

Quality Assurance Report

Calibration Verification

* 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)	100					0.557	
EPA 180.1 Rev. 2.0	Turbidity	96.6					6.67	
EPA 200.7 Rev. 4.4	Calcium	104	104	106				1.61
	Iron	110	109	111	110			0.252
	Magnesium	110	108	111	111			0.326
	Potassium	105	105	112	112			0.330
	Sodium	102	104	108				2.54
	Strontium	102	104	104	103			1.59
	Tin	103	108	105	102			2.33
	Titanium	104	106	105	104			0.956
	Vanadium	97.7	101	99.8	99.1			0.672
	Zinc	103	106	105	104			0.732
EPA 200.8 Rev. 5.4	Aluminum	99.0	102	102	97.1			0.316
	Antimony	98.1	97.7	97.4	99.3			0.399
	Arsenic	99.0	98.4	98.0	96.1			0.342
	Barium	103	102	102	101			0.138
	Beryllium	94.6	90.4	90.8	93.8			0.394
	Boron	101	101	99.7	104			1.11
	Cadmium	98.7	97.9	97.9	99.2			0.0310
	Chromium	96.6	96.4	96.1	98.2			0.308
	Cobalt	97.1	96.5	97.1	96.4			0.618
	Copper	96.3	97.7	97.8	94.6			0.0385
	Lead	94.2	94.0	93.6	93.9			0.438
	Manganese	98.2	97.3	97.7	100			0.361
	Molybdenum	98.5	99.0	98.3	99.3			0.752
	Nickel	97.1	97.4	98.3	96.8			0.905
	Selenium	95.3	95.7	96.9	92.8			1.23
	Silver	99.0	97.4	97.3	98.3			0.145
	Thallium	101	102	103	101			0.427
EPA 300.0 Rev. 2.1	Chloride	96.4	96.2	93.0			0.671	
	Sulfate	96.9	97.4	96.9			1.95	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	95.4	96.2				0.628
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.9	94.1	99.2				5.31
	Kjeldahl Nitrogen	107	106	106				0.469
	Kjeldahl Nitrogen	94.0	107	95.6				8.67
EPA 353.2 Rev. 2.0	NO2NO3-N	101	99.2	97.2				1.45
EPA 365.1 Rev. 2.0	Total-P	100	96.4	94.2				1.40
EPA 8270E	Aldrin	42.4	50.0	49.1				1.75
	Alpha-BHC	90.3	87.9	89.0				1.27
	Alpha-Chlordane	67.1	71.0	65.6				7.82
	Beta-BHC	103	111	107				4.10
	Beta-Cyfluthrin	65.2	70.5	60.7				15.0
	Bifenthrin	65.3	71.2	58.1				20.1
	Carbophenothion	52.4	55.3	48.8				12.4
	Chlorothalonil	164	201	198				1.80
	Cis-Nonachlor	74.0	74.3	64.8				13.6
	Cypermethrin	60.4	66.5	58.0				13.7
	Dacthal	90.4	95.7	90.6				5.52
	DDD-p,p'	67.5	69.7	63.4				9.43
	DDE-p,p'	63.9	69.7	64.4				7.78
	DDT-p,p'	62.6	64.9	59.9				8.00
	Delta-BHC	111	122	119				2.09
	Deltamethrin	73.4	72.1	38.2				61.4
	Dichlobenil	84.1	85.9	85.2				0.769

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Dicofol	58.7	59.0	57.2		3.03
	Dieldrin	73.2	75.6	69.2		8.80
	Endosulfan I	75.4	78.8	72.7		8.04
	Endosulfan II	78.5	77.0	70.1		9.39
	Endosulfan Sulfate	91.4	92.2	82.2		11.5
	Endrin	75.7	77.9	67.1		14.8
	Endrin Aldehyde	69.3	59.4	46.2		25.0
	Endrin Ketone	71.1	70.3	75.6		7.26
	Esfenvalerate	68.4	73.2	61.1		17.9
	Ethalfuralin	66.8	69.5	65.1		6.52
	Fenpropathrin	72.7	74.0	63.2		15.7
	Gamma-BHC	93.9	96.2	97.3		1.14
	Gamma-Chlordane	66.5	67.9	59.6		13.0
	Heptachlor	59.4	60.6	52.6		14.0
	Heptachlor Epoxide	60.5	57.3	56.8		1.01
	Hexachlorobenzene	62.5	67.6	65.2		3.65
	Kepone	75.0	77.9	81.0		3.98
	Lambda-Cyhalothrin	59.5	62.0	50.9		19.6
	Methoprene	58.8	56.9	45.8		21.6
	Methoxychlor	90.7	90.6	82.4		9.44
	MGK-264	73.2	75.7	75.3		0.534
	Mirex	47.5	61.2	52.3		15.7
	Oxychlordane	62.4	61.0	56.0		8.60
	PCB-1016	90.8	86.8	84.4		2.72
	PCB-1260	85.0	75.7	67.7		11.1
	Permethrin	62.5	68.4	59.0		14.9
	Phenothrin	54.3	51.9	47.4		8.95
	Piperonyl Butoxide	95.1	92.2	77.0		18.0
	Prallethrin	70.7	71.7	68.1		5.18
	Tau-Fluvalinate	64.4	65.8	54.6		18.6
	Tetramethrin	121	126	120		4.56
	Trans-Nonachlor	70.4	74.9	68.5		8.96
	Triclosan Methyl	77.8	78.6	74.6		5.25
	Trifluralin	64.6	70.0	63.6		9.52
EPA 8276	Chlordane	94.5	87.1	77.6		11.5
	Toxaphene	119	117	107		9.05
EPA 8321B	2,4-D	111	117	116		0.113
	2,4,5-T	99.3	106	115		7.72
	Acesulfame K	86.5	95.8	101		4.94
	Acetaminophen	65.5	85.5	95.5		11.1
	Acetamiprid	95.4	112	113		1.04
	Afidopyropen	61.6	88.4	75.9		15.2
	AMPA	99.5	80.2	91.9		12.5
	Bentazon	101	52.9	77.1		22.1
	Benzovindiflupyr	82.8	91.0	81.7		10.7
	Carbamazepine	95.2	112	121		7.34
	Clothianidin	102	112	118		5.34
	Dinotefuran	80.8	121	121		0.630
	Diuron	90.1	72.1	66.9		7.49
	Endothall	114	115	122		5.70
	Fenuron	84.4	80.2	82.5		2.87
	Fluridone	77.8	87.0	71.3		14.6
	Glufosinate	109	110	112		1.81
	Glyphosate	127	101	117		14.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	92.8	92.4	105		12.4
	Ibuprofen	149	94.5	95.9		1.45
	Imazapyr	132	90.8	100		7.20
	Imidacloprid	91.3	183	167		8.73
	Linuron	86.9	71.4	78.1		8.98
	Mandestrobin	82.7	90.6	98.8		8.70
	MCCP	106	120	111		7.89
	Naproxen	119	116	90.3		25.0
	Primidone	124	189	118		46.2
	Pyraclostrobin	72.7	79.9	76.5		4.37
	Silvex	106	104	126		19.4
	Sucralose	78.2	74.2	81.7		9.25
	Thiamethoxam	97.5	173	165		4.96
	Tolfenpyrad	40.3	59.3	60.5		1.99
	Triclopyr	95.5	103	103		0.0367
SM 2320 B-2011	Total Alkalinity	97.8			0.105	
SM 2540 C-2011	TDS				0.656	
SM 2540 D-2011	TSS				5.37	
SM 4500-F- C-2011	Fluoride	98.5	98.2	98.2		0.0
SM 5310 B-2011	Organic Carbon	96.5	96.3	99.2		2.26
	Organic Carbon	96.0	99.8	100		0.145

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2318687, 2318691
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2318687, 2318689, 2318691
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2318716, 2318717
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2318716, 2318717
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2318687, 2318691
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2318687, 2318691
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2318688, 2318690, 2318692
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2318688, 2318690, 2318692
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2318688, 2318690, 2318692
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2318688, 2318690, 2318692
EPA 8270E	Organochlorine pesticides, pyrethroids and tracers in water matrices by GC/MS/MS	2318702
EPA 8270E	PCBs in water matrices by GC/MS/MS	2318702
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2318702
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2318703, 2318704
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2318687, 2318689, 2318691
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2318716, 2318717
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2318687, 2318691
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2318687, 2318689, 2318691
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2318687, 2318689, 2318691
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2318688, 2318690, 2318692

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	04/13/2022			04/13/2022 17:45	Anna M. Plaviak	2318687, 2318691
EPA 180.1 Rev. 2.0	04/13/2022			04/13/2022 14:16	Khloe J Berg	2318687
	04/13/2022			04/13/2022 14:17	Khloe J Berg	2318689
	04/13/2022			04/13/2022 14:19	Khloe J Berg	2318691
EPA 200.7 Rev. 4.4	04/13/2022	04/18/2022 10:25	Megan Whitefoot	04/22/2022 20:33	Josef B Mick	2318716
	04/13/2022	04/18/2022 10:25	Megan Whitefoot	04/22/2022 20:41	Josef B Mick	2318717
EPA 200.8 Rev. 5.4	04/13/2022	04/18/2022 10:25	Megan Whitefoot	04/19/2022 02:23	Emily M Philpot	2318716
	04/13/2022	04/18/2022 10:25	Megan Whitefoot	04/19/2022 02:32	Emily M Philpot	2318717
EPA 300.0 Rev. 2.1	04/13/2022			04/20/2022 14:07	Anna M. Plaviak	2318687
	04/13/2022			04/20/2022 14:19	Anna M. Plaviak	2318691
EPA 350.1 Rev. 2.0	04/13/2022			04/19/2022 11:31	Ping Hua	2318690
	04/13/2022			04/19/2022 11:32	Ping Hua	2318692
	04/13/2022			04/19/2022 13:11	Ping Hua	2318688
EPA 351.2 Rev. 2.0	04/13/2022	04/21/2022 14:20	Samantha L Bates	04/22/2022 14:03	Alexandra J Mattheus	2318688
	04/13/2022	04/22/2022 08:58	Samantha L Bates	04/25/2022 15:30	Samantha L Bates	2318692
	04/13/2022	04/26/2022 16:44	Samantha L Bates	04/27/2022 13:51	Samantha L Bates	2318690
EPA 353.2 Rev. 2.0	04/13/2022			04/15/2022 18:47	Nathaniel J Jones	2318688
	04/13/2022			04/15/2022 19:01	Nathaniel J Jones	2318690
	04/13/2022			04/15/2022 19:03	Nathaniel J Jones	2318692
EPA 365.1 Rev. 2.0	04/13/2022	04/19/2022 14:35	Simonne.V. Calhoun	04/20/2022 19:30	Sarah A Nixon	2318692
	04/13/2022	04/19/2022 14:35	Simonne.V. Calhoun	04/20/2022 19:39	Sarah A Nixon	2318690
	04/13/2022	04/19/2022 14:35	Simonne.V. Calhoun	04/21/2022 15:10	James L Waggeberby	2318688
EPA 8270E	04/13/2022	04/19/2022 08:00	Fe-Val Siddell	04/21/2022 00:21	Vandana T. Nagar	2318702
	04/13/2022	04/19/2022 08:00	Fe-Val Siddell	04/21/2022 22:51	Julie Wi	2318702
EPA 8276	04/13/2022	04/19/2022 08:00	Fe-Val Siddell	04/21/2022 14:23	Arthur Maknenko	2318702
EPA 8321B	04/13/2022	04/14/2022 11:00	Manjita Shrestha	04/15/2022 21:41	Manjita Shrestha	2318703
	04/13/2022	04/14/2022 11:00	Manjita Shrestha	04/15/2022 21:56	Manjita Shrestha	2318704
	04/13/2022	04/14/2022 11:00	Manjita Shrestha	04/16/2022 07:20	Manjita Shrestha	2318703
	04/13/2022	04/14/2022 11:00	Manjita Shrestha	04/16/2022 07:33	Manjita Shrestha	2318704
	04/13/2022	04/15/2022 08:30	Hoor Shaik	04/16/2022 23:21	Juyoung Kim	2318703
	04/13/2022	04/15/2022 08:30	Hoor Shaik	04/16/2022 23:56	Juyoung Kim	2318704
SM 2320 B-2011	04/13/2022			04/20/2022 11:41	Dale L. Simmons	2318687
	04/13/2022			04/20/2022 11:54	Dale L. Simmons	2318689
	04/13/2022			04/20/2022 12:35	Dale L. Simmons	2318691
SM 2340 B-2011	04/13/2022			04/22/2022 20:33	Josef B Mick	2318716
	04/13/2022			04/22/2022 20:41	Josef B Mick	2318717
SM 2540 C-2011	04/13/2022			04/18/2022 15:45	Yijie Li	2318687, 2318691
SM 2540 D-2011	04/13/2022			04/18/2022 15:45	Yijie Li	2318687, 2318689, 2318691
SM 4500-F- C-2011	04/13/2022			04/20/2022 11:41	Dale L. Simmons	2318687
	04/13/2022			04/20/2022 11:54	Dale L. Simmons	2318689

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500-F- C-2011	04/13/2022			04/20/2022 12:35	Dale L. Simmons	2318691
SM 5310 B-2011	04/13/2022			04/15/2022 15:17	Judith K. Clark	2318688
	04/13/2022			04/15/2022 21:41	Judith K. Clark	2318690
	04/13/2022			04/18/2022 16:29	Khloe J Berg	2318692