

Chemical Analysis Report

NE-DIST-2021-03-30-01

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

Event Description: **Suwannee Spring 2021**
Request ID: **RQ-2021-02-22-13**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 21-APR-2021 09:25



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: Cow Creek at SR 138

Collection Date/Time: 03/29/2021 09:55

Field ID: 21030086

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2234539	EPA 8276	Chlordane	5.1	U	ng/L	P395926	
		Toxaphene	31	U	ng/L	P395926	

Sample Location: Twin Spring at Vent

Collection Date/Time: 03/29/2021 10:35

Field ID: G1NE0943

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2234531	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P395695	
	EPA 300.0 Rev. 2.1	Chloride	6.3		mg Cl/L	P395935	
		Sulfate	12		mg SO4/L	P395939	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P395687	
	SM 2320 B-2011	Total Alkalinity	137		mg CaCO3/L	P395786	
	SM 2540 C-2011	TDS	176	A	mg/L	P396194	
	SM 2540 D-2011	TSS	2	UA	mg/L	P396186	
	SM 4500 F-C-2011	Fluoride	0.077	I	mg F/L	P396094	
2234532	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P395919	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.092	I	mg N/L	P395967	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.9		mg N/L	P395707	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P396160	
	SM 5310 B-2011	Organic Carbon	0.58	I	mg C/L	P395843	
2234533	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.037		mg P/L	P395681	
2234541	EPA 8321B	2,4-D	0.0020	U	ug/L	P395714	
		Acesulfame K	0.10	U	ug/L	P395638	MS
		2,4,5-T	0.0040	U	ug/L	P395714	
		AMPA	0.10	U	ug/L	P395638	
		Sucralose	0.011	I	ug/L	P395638	
		Acetaminophen	0.0080	U	ug/L	P395714	MS
		Acetamiprid	0.0020	U	ug/L	P395714	
		Endothall	0.25	U	ug/L	P395638	
		Glufosinate	0.10	U	ug/L	P395638	
		Glyphosate	0.10	U	ug/L	P395638	MS
		Afidopyropen	0.0020	U	ug/L	P395714	
		Bentazon	8.0E-04	U	ug/L	P395714	
		Benzovindiflupyr	0.0020	U	ug/L	P395714	
		Carbamazepine	8.0E-04	U	ug/L	P395714	
		Clothianidin	0.0020	U	ug/L	P395714	
		Dinotefuran	0.0020	U	ug/L	P395714	
		Diuron	0.0020	U	ug/L	P395714	
		Fenuron	0.016	U	ug/L	P395714	
		Fluridone	8.0E-04	U	ug/L	P395714	
		Imazapyr	0.0040	U	ug/L	P395714	
		Hydrocodone	0.0020	U	ug/L	P395714	
		Ibuprofen	0.020	U	ug/L	P395714	
		Imidacloprid	0.0020	U	ug/L	P395714	
		Linuron	0.0040	U	ug/L	P395714	
		Mandestrobin	0.0020	U	ug/L	P395714	
		MCP	0.0020	U	ug/L	P395714	
		Naproxen	0.0080	U	ug/L	P395714	
		Primidone	0.0040	U	ug/L	P395714	
		Pyraclostrobin	0.0020	U	ug/L	P395714	

Field ID: G1NE0943

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2234541	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P395714	
		Tolfenpyrad	0.0020	U	ug/L	P395714	
		Triclopyr	0.0040	U	ug/L	P395714	
2234715		2,4-D	0.0020	U	ug/L	P395714	
		Acesulfame K	0.10	U	ug/L	P395638	MS
		2,4,5-T	0.0040	U	ug/L	P395714	
		AMPA	0.10	U	ug/L	P395638	
		Sucralose	0.016	I	ug/L	P395638	
		Acetaminophen	0.0080	U	ug/L	P395714	MS
		Acetamiprid	0.0020	U	ug/L	P395714	
		Endothall	0.25	U	ug/L	P395638	
		Glufosinate	0.10	U	ug/L	P395638	
		Glyphosate	0.10	U	ug/L	P395638	MS
		Afidopyropen	0.0020	U	ug/L	P395714	
		Bentazon	8.0E-04	U	ug/L	P395714	
		Benzovindiflupyr	0.0020	U	ug/L	P395714	
		Carbamazepine	8.0E-04	U	ug/L	P395714	
		Clothianidin	0.0020	U	ug/L	P395714	
		Dinotefuran	0.0020	U	ug/L	P395714	
		Diuron	0.0020	U	ug/L	P395714	
		Fenuron	0.016	U	ug/L	P395714	
		Fluridone	8.0E-04	U	ug/L	P395714	
		Imazapyr	0.0040	U	ug/L	P395714	
		Hydrocodone	0.0020	U	ug/L	P395714	
		Ibuprofen	0.020	U	ug/L	P395714	
		Imidacloprid	0.0020	U	ug/L	P395714	
		Linuron	0.0040	U	ug/L	P395714	
		Mandestrobin	0.0020	U	ug/L	P395714	
		MCPP	0.0020	U	ug/L	P395714	
		Naproxen	0.0080	U	ug/L	P395714	
		Primidone	0.0040	U	ug/L	P395714	
		Pyraclostrobin	0.0020	U	ug/L	P395714	
		Thiamethoxam	0.0020	U	ug/L	P395714	
		Tolfenpyrad	0.0020	U	ug/L	P395714	
		Triclopyr	0.0040	U	ug/L	P395714	

Ref. Method and Comment:

SM 2120 B-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries and relative percent difference are unavailable because of analytical difficulties.

Sample Location: FB_03292021

Collection Date/Time: 03/29/2021 10:40

Field ID: FB_03292021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2234534	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P395695	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P395935	
		Sulfate	0.20	U	mg SO4/L	P395939	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P395687	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P395786	
	SM 2540 C-2011	TDS	15	U	mg/L	P396193	
	SM 2540 D-2011	TSS	2	U	mg/L	P396185	
2234535	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P396094	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P395919	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P395967	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P395707	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P395734	
2234536	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P395843	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P395681	
2234540	EPA 8276	Chlordane	5.4	UQ	ng/L	P396268	
		Toxaphene	32	UQ	ng/L	P396268	
2234542	EPA 200.7 Rev. 4.4	Barium	1.0	U	ug/L	P395741	
		Calcium	0.075	U	mg/L	P395741	
		Iron	30	U	ug/L	P395741	
		Magnesium	0.040	U	mg/L	P395741	
		Manganese	1.0	U	ug/L	P395741	
		Potassium	0.30	U	mg/L	P395741	
		Sodium	0.50	U	mg/L	P395741	
		Zinc	5.0	U	ug/L	P395741	
		Aluminum	5.0	U	ug/L	P395741	
		Antimony	0.050	U	ug/L	P395741	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P395741	
		Beryllium	0.010	U	ug/L	P395741	
		Boron**	2.0	U	ug/L	P395741	
		Cadmium	0.020	U	ug/L	P395741	
		Chromium	0.40	U	ug/L	P395741	
		Copper	0.40	U	ug/L	P395741	
		Lead	0.20	U	ug/L	P395741	
		Nickel	0.50	U	ug/L	P395741	
		Selenium	0.20	U	ug/L	P395741	
		Silver	0.010	U	ug/L	P395741	
		Thallium	0.10	U	ug/L	P395741	

Ref. Method and Comment:

SM 2120 B-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries and relative percent difference are unavailable because of analytical difficulties.

EPA 8276: Sample expired for preparation due to need for re-extraction.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P395695

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P395741

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P395741

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395935

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395939

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395919

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395967

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395707

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395734

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P396160

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395681

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

Reference Method: EPA 8276
Batch ID: P395926

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

Reference Method: EPA 8276
Batch ID: P396268

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

Reference Method: EPA 8321B
Batch ID: P395638

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P395714

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.034		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	0.016	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	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B-2011

Batch ID: P395687

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P395786

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

Reference Method: SM 2540 C-2011

Batch ID: P396193

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011

Batch ID: P396194

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P396185

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P396186

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P396094

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P395843

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P395741

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	104		P	85 - 115
Iron	105		P	85 - 115
Magnesium	100		P	85 - 115
Manganese	103		P	85 - 115
Potassium	105		P	85 - 115
Sodium	108		P	85 - 115
Zinc	106		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P395741

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	95.9		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	102		P	85 - 115
Beryllium	91.8		P	85 - 115
Boron	97.5		P	85 - 115
Cadmium	99.4		P	85 - 115
Chromium	97.4		P	85 - 115
Copper	99.2		P	85 - 115
Lead	100		P	85 - 115
Nickel	99.3		P	85 - 115
Selenium	100		P	85 - 115
Silver	101		P	85 - 115
Thallium	105		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395935

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395939

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395919

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P395967

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395707

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395734

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P396160

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395681

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

Reference Method: EPA 8276
Batch ID: P395926

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	112	87.2	P/P	56 - 117
Toxaphene	112	83.3	P/P	45 - 116

Reference Method: EPA 8276
Batch ID: P396268

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	101	103	P/P	56 - 117
Toxaphene	83.4	81.1	P/P	45 - 116

Reference Method: EPA 8321B
Batch ID: P395638

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	117		P	40 - 150
AMPA	96.4		P	40 - 150
Endothall	74.0		P	40 - 150
Glufosinate	100		P	40 - 150
Glyphosate	116		P	40 - 140
Sucralose	96.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P395714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	30 - 160
2,4,5-T	96.1		P	30 - 160
Acetaminophen	114		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P395714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetamiprid	89.5		P	30 - 160
Afidopyropen	31.0		P	30 - 160
Bentazon	93.5		P	30 - 160
Benzovindiflupyr	88.2		P	30 - 160
Carbamazepine	100		P	30 - 160
Clothianidin	95.6		P	30 - 160
Dinotefuran	94.0		P	30 - 160
Diuron	73.9		P	30 - 160
Fenuron	99.2		P	30 - 160
Fluridone	86.7		P	30 - 160
Hydrocodone	97.5		P	30 - 160
Ibuprofen	84.4		P	30 - 160
Imazapyr	91.0		P	30 - 160
Imidacloprid	107		P	30 - 160
Linuron	79.8		P	30 - 160
Mandestrobin	99.3		P	30 - 160
MCPP	102		P	30 - 160
Naproxen	76.3		P	30 - 160
Primidone	94.9		P	30 - 160
Pyraclostrobin	81.4		P	30 - 160
Thiamethoxam	104		P	30 - 160
Tolfenpyrad	52.9		P	30 - 160
Triclopyr	101		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P395687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P395786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.7		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P396094

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P395843

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P395741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234759	Barium	102		P	80 - 120
2234759	Calcium	107		P	80 - 120
2234759	Iron	105		P	80 - 120
2234759	Magnesium	105		P	80 - 120
2234759	Manganese	106		P	80 - 120
2234759	Potassium	107		P	80 - 120
2234759	Sodium	111		P	80 - 120
2234759	Zinc	109		P	80 - 120
2234846	Barium	102	98.9	P/P	80 - 120
2234846	Calcium	101		P	80 - 120
2234846	Iron	107	103	P/P	80 - 120
2234846	Magnesium	99.2		P	80 - 120
2234846	Manganese	103	99.6	P/P	80 - 120
2234846	Potassium	108	103	P/P	80 - 120
2234846	Sodium	114	107	P/P	80 - 120
2234846	Zinc	107	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P395741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234759	Aluminum	96.6		P	80 - 120
2234759	Antimony	101		P	80 - 120
2234759	Arsenic	99.8		P	80 - 120
2234759	Beryllium	93.5		P	80 - 120
2234759	Boron	99.4		P	80 - 120
2234759	Cadmium	101		P	80 - 120
2234759	Chromium	97.6		P	80 - 120
2234759	Copper	100		P	80 - 120
2234759	Lead	101		P	80 - 120
2234759	Nickel	98.1		P	80 - 120
2234759	Selenium	98.4		P	80 - 120
2234759	Silver	101		P	80 - 120
2234759	Thallium	107		P	80 - 120
2234846	Aluminum	90.4	86.5	P/P	80 - 120
2234846	Antimony	102	99.3	P/P	80 - 120
2234846	Arsenic	101	98.3	P/P	80 - 120
2234846	Beryllium	93.6	91.1	P/P	80 - 120
2234846	Boron	99.2	96.1	P/P	80 - 120
2234846	Cadmium	101	100	P/P	80 - 120
2234846	Chromium	99.8	97.2	P/P	80 - 120
2234846	Copper	98.8	95.9	P/P	80 - 120
2234846	Lead	101	99.4	P/P	80 - 120
2234846	Nickel	98.1	94.4	P/P	80 - 120
2234846	Selenium	99.3	97.1	P/P	80 - 120
2234846	Silver	102	101	P/P	80 - 120
2234846	Thallium	107	107	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395935

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234461	Chloride	101		P	90 - 110
2234562	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395939

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234461	Sulfate	99.6		P	90 - 110
2234562	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395919

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234532	Ammonia-N	97.6	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234499	NO2NO3-N	95.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234498	Total-P	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P396160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2236843	Total-P	106	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395681

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234533	O-Phosphate-P	97.6	99.7	P/P	90 - 110

Reference Method: EPA 8276
Batch ID: P395926

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234590	Chlordane	83.8	83.4	P/P	47 - 128
2234590	Toxaphene	98.7	97.7	P/P	11 - 163

Reference Method: EPA 8276
Batch ID: P396268

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2238383	Chlordane	110	112	P/P	47 - 128

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P396268

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2238383	Toxaphene	77.7	73.9	P/P	11 - 163

Reference Method: EPA 8321B
Batch ID: P395638

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234101	Acesulfame K	192	203	F/F	40 - 150
2234101	AMPA	108	112	P/P	40 - 150
2234101	Endothall	101	84.7	P/P	40 - 150
2234101	Glufosinate	119	104	P/P	40 - 150
2234101	Glyphosate	64.8	176	P/F	40 - 140
2234101	Sucralose	113	112	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P395714

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234529	2,4-D	90.2	94.4	P/P	30 - 160
2234529	2,4,5-T	75.9	79.2	P/P	30 - 160
2234529	Acetaminophen	15.2	15.1	F/F	30 - 160
2234529	Acetamiprid	86.5	93.2	P/P	30 - 160
2234529	Afidopyrophen	75.0	85.4	P/P	30 - 160
2234529	Bentazon	51.4	56.1	P/P	30 - 160
2234529	Benzovindiflupyr	85.4	88.1	P/P	30 - 160
2234529	Carbamazepine	84.2	85.3	P/P	30 - 160
2234529	Clothianidin	96.8	106	P/P	30 - 160
2234529	Dinotefuran	108	116	P/P	30 - 160
2234529	Diuron	53.4	53.3	P/P	30 - 160
2234529	Fenuron	76.6	80.5	P/P	30 - 160
2234529	Fluridone	81.2	82.9	P/P	30 - 160
2234529	Hydrocodone	98.7	108	P/P	30 - 160
2234529	Ibuprofen	68.3	80.4	P/P	30 - 160
2234529	Imazapyr	105	104	P/P	30 - 160
2234529	Imidacloprid	147	157	P/P	30 - 160
2234529	Linuron	64.9	69.0	P/P	30 - 160
2234529	Mandestrobin	88.1	95.1	P/P	30 - 160
2234529	MCP	86.0	86.7	P/P	30 - 160
2234529	Naproxen	63.0	68.7	P/P	30 - 160
2234529	Primidone	98.6	103	P/P	30 - 160
2234529	Pyraclostrobin	82.1	87.3	P/P	30 - 160
2234529	Thiamethoxam	137	144	P/P	30 - 160
2234529	Tolfenpyrad	50.3	58.4	P/P	30 - 160
2234529	Triclopyr	82.9	90.5	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P396094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235473	Fluoride	98.0	99.1	P/P	94 - 107

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P395843

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2233860	Organic Carbon	95.3	94.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P395695

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234553	Turbidity	2.70	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P395741

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234846	Barium	2.97	Spike	P	0 - 20
2234846	Calcium	1.19	Spike	P	0 - 20
2234846	Iron	2.73	Spike	P	0 - 20
2234846	Magnesium	2.86	Spike	P	0 - 20
2234846	Manganese	2.74	Spike	P	0 - 20
2234846	Potassium	4.05	Spike	P	0 - 20
2234846	Sodium	4.16	Spike	P	0 - 20
2234846	Zinc	1.62	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P395741

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234846	Aluminum	2.68	Spike	P	0 - 20
2234846	Antimony	2.75	Spike	P	0 - 20
2234846	Arsenic	2.20	Spike	P	0 - 20
2234846	Beryllium	2.60	Spike	P	0 - 20
2234846	Boron	2.76	Spike	P	0 - 20
2234846	Cadmium	1.25	Spike	P	0 - 20
2234846	Chromium	2.55	Spike	P	0 - 20
2234846	Copper	3.02	Spike	P	0 - 20
2234846	Lead	1.52	Spike	P	0 - 20
2234846	Nickel	3.79	Spike	P	0 - 20
2234846	Selenium	2.16	Spike	P	0 - 20
2234846	Silver	0.991	Spike	P	0 - 20
2234846	Thallium	0.542	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395935

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234461	Chloride	0.196	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395939

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234461	Sulfate	0.191	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P395919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234532	Ammonia-N	1.93	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234499	NO2NO3-N	0.525	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234498	Total-P	1.02	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P396160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2236843	Total-P	2.64	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234533	O-Phosphate-P	1.54	Spike	P	0 - 20

Reference Method: EPA 8276
Batch ID: P395926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234590	Chlordane	0.467	Spike	P	0 - 30
2234590	Toxaphene	1.06	Spike	P	0 - 30
LFB	Chlordane	24.9	LCS	P	0 - 30
LFB	Toxaphene	29.4	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P396268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2238383	Chlordane	1.66	Spike	P	0 - 30
2238383	Toxaphene	5.02	Spike	P	0 - 30
LFB	Chlordane	2.07	LCS	P	0 - 30
LFB	Toxaphene	2.80	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P395638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234101	Acesulfame K	5.43	Spike	P	0 - 30
2234101	AMPA	2.77	Spike	P	0 - 30
2234101	Endothall	17.9	Spike	P	0 - 30
2234101	Glufosinate	14.3	Spike	P	0 - 30
2234101	Glyphosate	15.7	Spike	P	0 - 30
2234101	Sucralose	1.37	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P395714

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234529	2,4-D	4.60	Spike	P	0 - 30
2234529	2,4,5-T	4.28	Spike	P	0 - 30
2234529	Acetaminophen	0.137	Spike	P	0 - 30
2234529	Acetamiprid	7.46	Spike	P	0 - 30
2234529	Afidopyropen	12.9	Spike	P	0 - 30
2234529	Bentazon	4.85	Spike	P	0 - 30
2234529	Benzovindiflupyr	3.21	Spike	P	0 - 30
2234529	Carbamazepine	1.33	Spike	P	0 - 30
2234529	Clothianidin	9.41	Spike	P	0 - 30
2234529	Dinotefuran	7.29	Spike	P	0 - 30
2234529	Diuron	0.238	Spike	P	0 - 30
2234529	Fenuron	4.90	Spike	P	0 - 30
2234529	Fluridone	2.04	Spike	P	0 - 30
2234529	Hydrocodone	9.34	Spike	P	0 - 30
2234529	Ibuprofen	16.3	Spike	P	0 - 30
2234529	Imazapyr	0.841	Spike	P	0 - 30
2234529	Imidacloprid	7.06	Spike	P	0 - 30
2234529	Linuron	6.00	Spike	P	0 - 30
2234529	Mandestrobin	7.61	Spike	P	0 - 30
2234529	MCPP	0.768	Spike	P	0 - 30
2234529	Naproxen	8.53	Spike	P	0 - 30
2234529	Primidone	3.95	Spike	P	0 - 30
2234529	Pyraclostrobin	6.15	Spike	P	0 - 30
2234529	Thiamethoxam	4.84	Spike	P	0 - 30
2234529	Tolfenpyrad	15.0	Spike	P	0 - 30
2234529	Triclopyr	8.77	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P395786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234518	Total Alkalinity	1.47	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P396193

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

Reference Method: SM 2540 C-2011
Batch ID: P396193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234477	TDS	2.30	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P396194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234531	TDS	5.13	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P396094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235473	Fluoride	0.943	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P395843

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2233860	Organic Carbon	0.760	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2234539

Field Sample ID: 21030086

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	66.3	P	29 - 92.0
EPA 8276	PCNB	85.6	P	43 - 134

Lab Sample ID: 2234540

Field Sample ID: FB_03292021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	48.9	P	29 - 92.0
EPA 8276	Decachlorobiphenyl	63.9	P	29 - 92.0
EPA 8276	PCNB	80.8	P	43 - 134
EPA 8276	PCNB	69.5	P	43 - 134

Lab Sample ID: 2234541

Field Sample ID: G1NE0943

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	108	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.7	P	30 - 160
EPA 8321B	Diuron-d6	77.7	P	30 - 160
EPA 8321B	Endothall-d6	109	P	40 - 160
EPA 8321B	Endothall-d6	109	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	127	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	127	P	40 - 160
EPA 8321B	Ibuprofen-d3	73.3	P	30 - 160
EPA 8321B	Primidone-d5	90.1	P	30 - 160
EPA 8321B	Sucralose-d6	93.0	P	30 - 160
EPA 8321B	Sucralose-d6	93.0	P	30 - 160

Lab Sample ID: 2234715

Field Sample ID: G1NE0943

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	113	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.3	P	30 - 160
EPA 8321B	Diuron-d6	77.2	P	30 - 160
EPA 8321B	Endothall-d6	95.5	P	40 - 160
EPA 8321B	Endothall-d6	95.5	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	66.7	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	66.7	P	40 - 160
EPA 8321B	Ibuprofen-d3	78.5	P	30 - 160
EPA 8321B	Primidone-d5	92.9	P	30 - 160
EPA 8321B	Sucralose-d6	96.3	P	30 - 160
EPA 8321B	Sucralose-d6	96.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A104369

Included Lab Sample IDs: 2234533, 2234536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.2	99.5	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A104373

Included Lab Sample IDs: 2234531, 2234534

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.9	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A104374

Included Lab Sample IDs: 2234531, 2234534

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A104384

Included Lab Sample IDs: 2234532, 2234535

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

Reference Method: EPA 8321B

Run ID: A104387

Included Lab Sample IDs: 2234541, 2234715

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	114	125	P/P	40 - 160
Acesulfame K	125	126	P/P	40 - 160
AMPA	119	113	P/P	40 - 160
AMPA	120	119	P/P	40 - 160
Endothall	63.6	72.4	P/P	40 - 160
Endothall	72.4	72.8	P/P	40 - 160
Glufosinate	100	101	P/P	40 - 160
Glufosinate	101	100	P/P	40 - 160
Glyphosate	119	137	P/P	40 - 160
Glyphosate	159	119	P/P	40 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A104389

Included Lab Sample IDs: 2234531, 2234534

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.6	98.3	P/P	90 - 110
Sulfate	96.8	97.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A104421

Included Lab Sample IDs: 2234531, 2234534

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A104436

Included Lab Sample IDs: 2234542

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.6	99.6	P/P	90 - 110
Antimony	97.0	97.2	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Beryllium	98.8	97.9	P/P	90 - 110
Boron	94.5	97.2	P/P	90 - 110
Cadmium	97.5	98.7	P/P	90 - 110
Chromium	97.9	99.4	P/P	90 - 110
Copper	99.7	100	P/P	90 - 110
Lead	99.2	99.6	P/P	90 - 110
Nickel	99.6	101	P/P	90 - 110
Selenium	98.5	99.9	P/P	90 - 110
Silver	97.0	97.1	P/P	90 - 110
Thallium	105	106	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A104442

Included Lab Sample IDs: 2234532, 2234535

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104454

Included Lab Sample IDs: 2234535

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A104467

Included Lab Sample IDs: 2234532, 2234535

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A104508

Included Lab Sample IDs: 2234541, 2234715

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	92.5	96.4	P/P	60 - 160
Sucralose	96.4	98.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A104509

Included Lab Sample IDs: 2234532

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A104529

Included Lab Sample IDs: 2234535

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	103	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A104549

Included Lab Sample IDs: 2234531, 2234534

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

Reference Method: EPA 8321B

Run ID: A104573

Included Lab Sample IDs: 2234541, 2234715

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	110	P/P	50 - 150
2,4-D	110	96.1	P/P	50 - 150
2,4,5-T	110	105	P/P	50 - 150
2,4,5-T	111	110	P/P	50 - 150
Acetaminophen	110	105	P/P	60 - 160
Acetaminophen	111	110	P/P	60 - 160
Acetamiprid	107	107	P/P	50 - 150
Acetamiprid	107	101	P/P	50 - 150
Afidopyropen	117	115	P/P	50 - 150
Afidopyropen	120	117	P/P	50 - 150
Bentazon	110	106	P/P	50 - 160
Bentazon	100	110	P/P	50 - 160
Benzovindiflupyr	108	108	P/P	50 - 160
Benzovindiflupyr	113	108	P/P	50 - 160
Carbamazepine	105	104	P/P	60 - 150
Carbamazepine	112	105	P/P	60 - 150
Clothianidin	104	104	P/P	60 - 150
Clothianidin	105	104	P/P	60 - 150
Dinotefuran	100	93.4	P/P	50 - 150
Dinotefuran	93.4	101	P/P	50 - 150
Diuron	107	109	P/P	60 - 160
Diuron	109	101	P/P	60 - 160
Fenuron	106	106	P/P	60 - 150
Fenuron	106	96.3	P/P	60 - 150
Fluridone	108	109	P/P	60 - 160
Fluridone	110	108	P/P	60 - 160
Hydrocodone	107	110	P/P	60 - 150
Hydrocodone	110	104	P/P	60 - 150
Ibuprofen	107	88.5	P/P	50 - 160
Ibuprofen	88.5	122	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A104573

Included Lab Sample IDs: 2234541, 2234715

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	101	101	P/P	50 - 160
Imazapyr	101	103	P/P	50 - 160
Imidacloprid	99.4	99.5	P/P	60 - 150
Imidacloprid	99.5	94.3	P/P	60 - 150
Linuron	104	107	P/P	60 - 150
Linuron	107	104	P/P	60 - 150
Mandestrobin	112	112	P/P	50 - 150
Mandestrobin	112	112	P/P	50 - 150
MCPP	102	103	P/P	50 - 150
MCPP	106	102	P/P	50 - 150
Naproxen	107	114	P/P	50 - 160
Naproxen	114	101	P/P	50 - 160
Primidone	107	95.6	P/P	60 - 150
Primidone	95.6	100	P/P	60 - 150
Pyraclostrobin	103	104	P/P	60 - 150
Pyraclostrobin	110	103	P/P	60 - 150
Thiamethoxam	105	107	P/P	50 - 150
Thiamethoxam	107	101	P/P	50 - 150
Tolfenpyrad	102	97.4	P/P	60 - 150
Tolfenpyrad	97.4	106	P/P	60 - 150
Triclopyr	102	104	P/P	50 - 150
Triclopyr	104	97.3	P/P	50 - 150

Reference Method: EPA 8276

Run ID: A104598

Included Lab Sample IDs: 2234539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	99.1		P	80 - 120
Toxaphene	102		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104627

Included Lab Sample IDs: 2234532

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A104741

Included Lab Sample IDs: 2234542

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	100	99.6	P/P	90 - 110
Calcium	102	103	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Manganese	103	104	P/P	90 - 110
Potassium	105	106	P/P	90 - 110
Sodium	104	105	P/P	90 - 110
Zinc	104	109	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276

Run ID: A104811

Included Lab Sample IDs: 2234540

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	99.6		P	80 - 120
Toxaphene	104		P	80 - 120

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						2.70	
EPA 200.7 Rev. 4.4	Barium	101		102	102	98.9		2.97
	Calcium	104		107	101			1.19
	Iron	105		105	107	103		2.73
	Magnesium	100		105	99.2			2.86
	Manganese	103		106	103	99.6		2.74
	Potassium	105		107	108	103		4.05
	Sodium	108		111	114	107		4.16
	Zinc	106		109	107	105		1.62
EPA 200.8 Rev. 5.4	Aluminum	95.9		90.4	86.5	96.6		2.68
	Antimony	100		102	99.3	101		2.75
	Arsenic	102		101	98.3	99.8		2.20
	Beryllium	91.8		93.6	91.1	93.5		2.60
	Boron	97.5		99.2	96.1	99.4		2.76
	Cadmium	99.4		101	100	101		1.25
	Chromium	97.4		99.8	97.2	97.6		2.55
	Copper	99.2		98.8	95.9	100		3.02
	Lead	100		101	99.4	101		1.52
	Nickel	99.3		98.1	94.4	98.1		3.79
	Selenium	100		99.3	97.1	98.4		2.16
	Silver	101		102	101	101		0.991
	Thallium	105		107	107	107		0.542
EPA 300.0 Rev. 2.1	Chloride	100		101	98.6		0.196	
	Sulfate	99.5		99.6	98.2		0.191	
EPA 350.1 Rev. 2.0	Ammonia-N	101		97.6	99.6			1.93
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103						
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5		95.5				0.525
EPA 365.1 Rev. 2.0	Total-P	106		104	103			1.02
	Total-P	99.8		106	103			2.64
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		97.6	99.7			1.54
EPA 8276	Chlordane	112	87.2	83.8	83.4	24.9		0.467
	Chlordane	101	103	110	112	2.07		1.66
	Toxaphene	112	83.3	98.7	97.7	29.4		1.06
	Toxaphene	83.4	81.1	77.7	73.9	2.80		5.02
EPA 8321B	2,4-D	111		90.2	94.4			4.60
	2,4,5-T	96.1		75.9	79.2			4.28
	Acesulfame K	117		192	203			5.43
	Acetaminophen	114		15.2	15.1			0.137
	Acetamiprid	89.5		86.5	93.2			7.46
	Afidopyropen	31.0		75.0	85.4			12.9
	AMPA	96.4		108	112			2.77
	Bentazon	93.5		51.4	56.1			4.85
	Benzovindiflupyr	88.2		85.4	88.1			3.21
	Carbamazepine	100		84.2	85.3			1.33
	Clothianidin	95.6		96.8	106			9.41
	Dinotefuran	94.0		108	116			7.29
	Diuron	73.9		53.4	53.3			0.238
	Endothall	74.0		101	84.7			17.9
	Fenuron	99.2		76.6	80.5			4.90
	Fluridone	86.7		81.2	82.9			2.04
	Glufosinate	100		119	104			14.3
	Glyphosate	116		64.8	176			15.7
	Hydrocodone	97.5		98.7	108			9.34
	Ibuprofen	84.4		68.3	80.4			16.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Imazapyr	91.0	105	104		0.841
	Imidacloprid	107	147	157		7.06
	Linuron	79.8	64.9	69.0		6.00
	Mandestrobin	99.3	88.1	95.1		7.61
	MCCP	102	86.0	86.7		0.768
	Naproxen	76.3	63.0	68.7		8.53
	Primidone	94.9	98.6	103		3.95
	Pyraclostrobin	81.4	82.1	87.3		6.15
	Sucralose	96.0	113	112		1.37
	Thiamethoxam	104	137	144		4.84
	Tolfenpyrad	52.9	50.3	58.4		15.0
	Triclopyr	101	82.9	90.5		8.77
SM 2120 B-2011	Color (true)	99.0				
SM 2320 B-2011	Total Alkalinity	99.7			1.47	
SM 2540 C-2011	TDS				2.30	
	TDS				5.13	
SM 4500 F-C-2011	Fluoride	99.3	98.0	99.1		0.943
SM 5310 B-2011	Organic Carbon	96.1	95.3	94.3		0.760

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2234531, 2234534
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2234542
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2234542
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2234531, 2234534
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2234531, 2234534
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2234532, 2234535
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2234532, 2234535
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2234532, 2234535
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2234532, 2234535
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2234533, 2234536
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2234539, 2234540
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2234541, 2234715
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2234541, 2234715
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2234531, 2234534
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2234531, 2234534
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2234531, 2234534
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2234531, 2234534
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2234531, 2234534
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2234532, 2234535

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	03/30/2021			03/30/2021 15:20	Yen Ta	2234531, 2234534
EPA 200.7 Rev. 4.4	03/30/2021	03/31/2021 15:50	Elliott D. Healy	04/14/2021 23:00	Betina Topolski	2234542
EPA 200.8 Rev. 5.4	03/30/2021	03/31/2021 15:50	Elliott D. Healy	04/01/2021 19:21	Alexander Thompson	2234542
EPA 300.0 Rev. 2.1	03/30/2021			04/02/2021 14:55	Lipi Saha	2234531
	03/30/2021			04/02/2021 15:07	Lipi Saha	2234534
EPA 350.1 Rev. 2.0	03/30/2021			04/04/2021 11:47	Ping Hua	2234532
	03/30/2021			04/04/2021 12:00	Ping Hua	2234535
EPA 351.2 Rev. 2.0	03/30/2021	04/05/2021 09:18	Yen Ta	04/06/2021 12:42	Virginia P. Brown	2234532
	03/30/2021	04/05/2021 09:18	Yen Ta	04/06/2021 15:55	Virginia P. Brown	2234535
EPA 353.2 Rev. 2.0	03/30/2021			03/31/2021 09:41	Beverly Y. Sanders	2234532
	03/30/2021			03/31/2021 09:42	Beverly Y. Sanders	2234535
EPA 365.1 Rev. 2.0	03/30/2021	03/31/2021 13:21	Yen Ta	04/02/2021 14:14	Shengyu Ding	2234535
	03/30/2021	04/08/2021 18:10	Madeline Gruver	04/09/2021 15:25	Shengyu Ding	2234532
EPA 365.1 Rev. 2.0 dissolved	03/30/2021			03/30/2021 13:54	Lipi Saha	2234533
	03/30/2021			03/30/2021 13:56	Lipi Saha	2234536
EPA 8276	03/30/2021	04/01/2021 08:30	Rasheda Ghaffari	04/07/2021 01:21	Julie Wi	2234539
	03/30/2021	04/13/2021 08:00	Fe-Val Siddell	04/16/2021 05:29	Chiran X. Ghimire	2234540
EPA 8321B	03/30/2021	03/30/2021 14:35	Rebecca Ware	03/30/2021 15:23	Rebecca Ware	2234541
	03/30/2021	03/30/2021 14:35	Rebecca Ware	03/30/2021 16:04	Rebecca Ware	2234715
	03/30/2021	03/30/2021 14:35	Rebecca Ware	04/05/2021 21:45	Rebecca Ware	2234541
	03/30/2021	03/30/2021 14:35	Rebecca Ware	04/05/2021 22:20	Rebecca Ware	2234715
	03/30/2021	04/01/2021 12:00	Hoor Shaik	04/02/2021 02:28	Juyoung Kim	2234541
	03/30/2021	04/01/2021 12:00	Hoor Shaik	04/02/2021 04:12	Juyoung Kim	2234715
SM 2120 B-2011	03/30/2021			03/30/2021 15:50	Benjamin T. Nordmann	2234531, 2234534
SM 2320 B-2011	03/30/2021			03/31/2021 19:53	Dale L. Simmons	2234531
	03/30/2021			03/31/2021 20:01	Dale L. Simmons	2234534
SM 2540 C-2011	03/30/2021			04/02/2021 15:25	Yijie Li	2234531, 2234534
SM 2540 D-2011	03/30/2021			04/02/2021 15:25	Yijie Li	2234531, 2234534
SM 4500 F-C-2011	03/30/2021			04/07/2021 12:42	Dale L. Simmons	2234531
	03/30/2021			04/07/2021 12:47	Dale L. Simmons	2234534
SM 5310 B-2011	03/30/2021			03/31/2021 21:22	Madeline Gruver	2234532
	03/30/2021			03/31/2021 21:31	Madeline Gruver	2234535