

Chemical Analysis Report

NE-DIST-2021-06-15-01

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

Event Description: **Nassauwannee Lakes**
Request ID: **RQ-2021-05-24-11**
Customer: **NE-DIST**
Project ID: **SMP**

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8800 Baymeadows Way West
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 08-JUL-2021 11:09

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Palestine Lake Center

Collection Date/Time: 06/14/2021 12:30

Field ID: 19010044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255012	EPA 180.1 Rev. 2.0	Turbidity	7.2		NTU	P399733	
	EPA 300.0 Rev. 2.1	Chloride	9.2		mg Cl/L	P399908	
		Sulfate	4.1		mg SO4/L	P399910	
	SM 2120 B-2011	Color (true)	96		PCU	P399727	
	SM 2320 B-2011	Total Alkalinity	0.83	I	mg CaCO3/L	P399965	
	SM 2540 C-2011	TDS	50		mg/L	P400230	
	SM 2540 D-2011	TSS	3	I	mg/L	P400045	
	SM 4500 F-C-2011	Fluoride	0.036	I	mg F/L	P399969	MS
	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P400177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P400010	
2255013	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P399763	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P400186	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P400250	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P399724	
	dissolved						
2255020	EPA 8321B	2,4-D	0.0020	U	ug/L	P399742	
		Acesulfame K	0.10	U	ug/L	P399865	
		AMPA	0.10	U	ug/L	P399865	
		2,4,5-T	0.0040	U	ug/L	P399742	MS
		Acetaminophen	0.0080	U	ug/L	P399742	
		Acetamiprid	0.0020	U	ug/L	P399742	
		Endothall	0.25	U	ug/L	P399865	
		Glufosinate	0.10	U	ug/L	P399865	
		Glyphosate	0.10	U	ug/L	P399865	
		Afidopyrophen	0.0020	U	ug/L	P399742	
		Bentazon	8.0E-04	U	ug/L	P399742	
		Sucralose	0.010	U	ug/L	P399865	
		Benzovindiflupyr	0.0020	U	ug/L	P399742	
		Carbamazepine	8.0E-04	U	ug/L	P399742	
		Clothianidin	0.0020	U	ug/L	P399742	
		Dinotefuran	0.0020	U	ug/L	P399742	
		Diuron	0.0020	U	ug/L	P399742	
		Fenuron	0.016	U	ug/L	P399742	
		Fluridone	8.0E-04	U	ug/L	P399742	
		Imazapyr	0.0048	I	ug/L	P399742	
		Hydrocodone	0.0020	U	ug/L	P399742	
		Ibuprofen	0.020	U	ug/L	P399742	
		Imidacloprid	0.0020	U	ug/L	P399742	MS
		Linuron	0.0040	U	ug/L	P399742	
		Mandestrobin	0.0020	U	ug/L	P399742	
		MCP	0.0020	U	ug/L	P399742	MS
		Naproxen	0.0080	U	ug/L	P399742	
		Primidone	0.0040	U	ug/L	P399742	
		Pyraclostrobin	0.0020	U	ug/L	P399742	

Field ID: 19010044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255020	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P399742	
		Tolfenpyrad	0.0020	U	ug/L	P399742	
		Triclopyr	0.0040	U	ug/L	P399742	MS
2255021	EPA 200.7 Rev. 4.4	Barium	11.5		ug/L	P399769	
		Calcium	2.07		mg/L	P399769	
		Iron	270		ug/L	P399769	
		Magnesium	1.36		mg/L	P399769	
		Manganese	23.5		ug/L	P399769	
		Potassium	0.42	I	mg/L	P399769	
		Sodium	5.5		mg/L	P399769	
		Zinc	5.0	U	ug/L	P399769	
	EPA 200.8 Rev. 5.4	Aluminum	208		ug/L	P399769	
		Antimony	0.11	I	ug/L	P399769	
		Arsenic	0.40		ug/L	P399769	
		Beryllium	0.010	U	ug/L	P399769	
		Boron**	25.0		ug/L	P399769	
		Cadmium	0.020	U	ug/L	P399769	
		Chromium	0.40	U	ug/L	P399769	
		Copper	0.40	U	ug/L	P399769	
		Lead	0.71		ug/L	P399769	
		Nickel	0.50	U	ug/L	P399769	
		Selenium	0.20	U	ug/L	P399769	
		Silver	0.010	U	ug/L	P399769	
		Thallium	0.10	U	ug/L	P399769	
	SM 2340B	Hardness	10.8		mg/L	P399769	

Ref. Method and Comment:

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 are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 06/21/2021.

Sample Location: Ocean Pond Center

Collection Date/Time: 06/14/2021 13:25

Field ID: 21010011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2255015	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P399733	
	EPA 300.0 Rev. 2.1	Chloride	8.3		mg Cl/L	P399908	
		Sulfate	1.8		mg SO4/L	P399910	
		Color (true)	100		PCU	P399727	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P399965	
	SM 2540 C-2011	TDS	40		mg/L	P400230	
	SM 2540 D-2011	TSS	2	I	mg/L	P400045	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P399969	MS
2255016	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P400177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P400010	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P399763	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P400186	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P400250	
2255017	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P399724	
2255022	EPA 200.7 Rev. 4.4	Barium	9.3		ug/L	P399769	
		Calcium	1.61		mg/L	P399769	
		Iron	580		ug/L	P399769	
		Magnesium	0.80		mg/L	P399769	
		Manganese	24.3		ug/L	P399769	
		Potassium	0.30	U	mg/L	P399769	
		Sodium	4.7		mg/L	P399769	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P399769	
		Aluminum	321		ug/L	P399769	
		Antimony	0.079	I	ug/L	P399769	
		Arsenic	0.52		ug/L	P399769	
		Beryllium	0.025	I	ug/L	P399769	
		Boron**	18.8		ug/L	P399769	
		Cadmium	0.020	U	ug/L	P399769	
		Chromium	0.40	U	ug/L	P399769	
		Copper	0.75	I	ug/L	P399769	
		Lead	0.75		ug/L	P399769	
		Nickel	0.50	U	ug/L	P399769	
		Selenium	0.20	U	ug/L	P399769	
		Silver	0.010	U	ug/L	P399769	
		Thallium	0.10	U	ug/L	P399769	
		Hardness	7.3		mg/L	P399769	

Ref. Method and Comment:

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 are unavailable because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 06/21/2021.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P399733

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P399769

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: P399769

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: P399908

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399910

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400177

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: P400010

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P399763

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P400186

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P399724

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

Reference Method: EPA 8321B
 Batch ID: P399742

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	0.016	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P399865

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: SM 2120 B-2011

Batch ID: P399727

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P399965

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

Reference Method: SM 2540 C-2011

Batch ID: P400230

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P400045

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P399969

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P400250

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: P399769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	92.7		P	80 - 120
Calcium	95.7		P	80 - 120
Iron	97.2		P	80 - 120
Magnesium	97.9		P	80 - 120
Manganese	92.2		P	80 - 120
Potassium	93.0		P	80 - 120
Sodium	95.8		P	80 - 120
Zinc	91.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P399769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.9		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	104		P	85 - 115
Beryllium	97.2		P	85 - 115
Boron	98.6		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	97.5		P	85 - 115
Copper	104		P	85 - 115
Lead	109		P	85 - 115
Nickel	102		P	85 - 115
Selenium	103		P	85 - 115
Silver	101		P	85 - 115
Thallium	106		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399908

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400177

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400010

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: P399763

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400186

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P399724

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

Reference Method: EPA 8321B

Batch ID: P399742

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	106		P	30 - 160
2,4,5-T	99.3		P	30 - 160
Acetaminophen	60.6		P	30 - 150
Acetamiprid	78.4		P	30 - 160
Afidopyropen	73.3		P	30 - 160
Bentazon	39.2		P	30 - 150
Benzovindiflupyr	78.0		P	30 - 160
Carbamazepine	76.5		P	30 - 160
Clothianidin	77.5		P	30 - 160
Dinotefuran	68.1		P	30 - 160
Diuron	66.8		P	30 - 160
Fenuron	85.5		P	30 - 160
Fluridone	83.2		P	30 - 160
Hydrocodone	81.6		P	30 - 160
Ibuprofen	65.1		P	30 - 160
Imazapyr	91.7		P	30 - 160
Imidacloprid	72.3		P	30 - 160
Linuron	59.6		P	30 - 160
Mandestrobin	88.0		P	30 - 160
MCPP	147		P	30 - 160
Naproxen	81.4		P	30 - 160
Primidone	86.5		P	30 - 160
Pyraclostrobin	62.0		P	30 - 160
Thiamethoxam	52.4		P	30 - 160
Tolfenpyrad	47.0		P	30 - 160
Triclopyr	112		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P399865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	80.5		P	40 - 150
AMPA	99.4		P	40 - 150
Endothall	71.4		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P399865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glufosinate	101		P	40 - 150
Glyphosate	103		P	40 - 150
Sucralose	102		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P399727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.9		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P399965

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P399969

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P400250

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P399769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254909	Barium	97.1		P	80 - 120
2254909	Calcium	99.0		P	80 - 120
2254909	Iron	103		P	80 - 120
2254909	Magnesium	102		P	80 - 120
2254909	Manganese	96.7		P	80 - 120
2254909	Potassium	99.0		P	80 - 120
2254909	Sodium	101		P	80 - 120
2254909	Zinc	96.0		P	80 - 120
2255047	Barium	94.9	92.2	P/P	80 - 120
2255047	Calcium	99.0		P	80 - 120
2255047	Iron	103	98.7	P/P	80 - 120
2255047	Magnesium	98.3	91.9	P/P	80 - 120
2255047	Manganese	94.9	92.6	P/P	80 - 120
2255047	Potassium	97.6	95.4	P/P	80 - 120
2255047	Sodium	98.6	95.6	P/P	80 - 120
2255047	Zinc	91.0	88.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P399769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254909	Aluminum	97.7		P	80 - 120
2254909	Antimony	104		P	80 - 120
2254909	Arsenic	103		P	80 - 120
2254909	Beryllium	87.6		P	80 - 120
2254909	Boron	99.2		P	80 - 120
2254909	Cadmium	108		P	80 - 120
2254909	Chromium	93.8		P	80 - 120
2254909	Copper	97.5		P	80 - 120
2254909	Lead	110		P	80 - 120
2254909	Nickel	95.9		P	80 - 120
2254909	Selenium	96.2		P	80 - 120
2254909	Silver	103		P	80 - 120
2254909	Thallium	111		P	80 - 120
2255047	Aluminum	99.2	98.6	P/P	80 - 120
2255047	Antimony	104	102	P/P	80 - 120
2255047	Arsenic	105	103	P/P	80 - 120
2255047	Beryllium	98.7	94.6	P/P	80 - 120
2255047	Boron	98.4	97.6	P/P	80 - 120
2255047	Cadmium	105	103	P/P	80 - 120
2255047	Chromium	102	98.3	P/P	80 - 120
2255047	Copper	102	100	P/P	80 - 120
2255047	Lead	109	108	P/P	80 - 120
2255047	Nickel	102	98.9	P/P	80 - 120
2255047	Selenium	102	99.3	P/P	80 - 120
2255047	Silver	102	99.2	P/P	80 - 120
2255047	Thallium	109	108	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P399908

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: P399908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254844	Chloride	97.4		P	90 - 110
2255034	Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254844	Sulfate	98.1		P	90 - 110
2255034	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255013	Ammonia-N	94.8	96.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399763

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254876	NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254971	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254900	O-Phosphate-P	100	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P399742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254386	2,4-D	127	139	P/P	30 - 160
2254386	2,4,5-T	150	161	P/F	30 - 160
2254386	Acetaminophen	48.3	51.9	P/P	30 - 150
2254386	Acetamiprid	90.4	85.9	P/P	30 - 160
2254386	Afidopyropen	81.3	86.6	P/P	30 - 160
2254386	Benzovindiflupyr	73.8	78.6	P/P	30 - 160
2254386	Carbamazepine	77.5	70.6	P/P	30 - 160
2254386	Clothianidin	109	101	P/P	30 - 160
2254386	Dinotefuran	97.4	98.4	P/P	30 - 160
2254386	Diuron	69.0	64.6	P/P	30 - 160
2254386	Fenuron	79.8	81.6	P/P	30 - 160
2254386	Fluridone	86.1	82.8	P/P	30 - 160
2254386	Hydrocodone	83.6	87.4	P/P	30 - 160
2254386	Ibuprofen	65.0	85.4	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P399742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254386	Imidacloprid	157	162	P/F	30 - 160
2254386	Linuron	74.5	80.2	P/P	30 - 160
2254386	Mandestrobin	92.8	97.3	P/P	30 - 160
2254386	MCPP	199	213	F/F	30 - 160
2254386	Naproxen	94.0	101	P/P	30 - 160
2254386	Primidone	104	85.9	P/P	30 - 160
2254386	Pyraclostrobin	74.7	65.6	P/P	30 - 160
2254386	Thiamethoxam	119	116	P/P	30 - 160
2254386	Tolfenpyrad	48.4	64.3	P/P	30 - 160
2254386	Triclopyr	155	161	P/F	30 - 160

Reference Method: EPA 8321B

Batch ID: P399865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255020	Acesulfame K	84.0	86.4	P/P	40 - 150
2255020	AMPA	95.1	97.3	P/P	40 - 150
2255020	Endothall	70.2	82.7	P/P	40 - 150
2255020	Glufosinate	103	105	P/P	40 - 150
2255020	Glyphosate	106	111	P/P	40 - 150
2255020	Sucralose	99.7	103	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P399969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255065	Fluoride	108	107	F/F	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P400250

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2254932	Organic Carbon	93.9	95.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P399733

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254928	Turbidity	4.95	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P399769

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255047	Barium	2.81	Spike	P	0 - 20
2255047	Calcium	1.98	Spike	P	0 - 20
2255047	Iron	3.74	Spike	P	0 - 20
2255047	Magnesium	3.74	Spike	P	0 - 20
2255047	Manganese	2.41	Spike	P	0 - 20
2255047	Potassium	2.11	Spike	P	0 - 20
2255047	Sodium	2.12	Spike	P	0 - 20
2255047	Zinc	3.27	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P399769

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255047	Aluminum	0.577	Spike	P	0 - 20
2255047	Antimony	2.56	Spike	P	0 - 20
2255047	Arsenic	1.46	Spike	P	0 - 20
2255047	Beryllium	4.20	Spike	P	0 - 20
2255047	Boron	0.785	Spike	P	0 - 20
2255047	Cadmium	1.97	Spike	P	0 - 20
2255047	Chromium	3.22	Spike	P	0 - 20
2255047	Copper	2.33	Spike	P	0 - 20
2255047	Lead	0.914	Spike	P	0 - 20
2255047	Nickel	3.40	Spike	P	0 - 20
2255047	Selenium	2.22	Spike	P	0 - 20
2255047	Silver	2.67	Spike	P	0 - 20
2255047	Thallium	0.627	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P399908

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254844	Chloride	0.164	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P399910

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254844	Sulfate	1.13	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400177

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255013	Ammonia-N	1.53	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400010

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2253749	Kjeldahl Nitrogen	3.91	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P399763

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254876	NO2NO3-N	0.509	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400186

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254971	Total-P	0.131	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P399724

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254900	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P399742

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254386	2,4-D	8.10	Spike	P	0 - 30
2254386	2,4,5-T	7.63	Spike	P	0 - 30
2254386	Acetaminophen	5.02	Spike	P	0 - 30
2254386	Acetamiprid	5.13	Spike	P	0 - 30
2254386	Afidopyropen	6.35	Spike	P	0 - 30
2254386	Bentazon	11.4	Spike	P	0 - 30
2254386	Benzovindiflupyr	6.22	Spike	P	0 - 30
2254386	Carbamazepine	4.66	Spike	P	0 - 30
2254386	Clothianidin	7.29	Spike	P	0 - 30
2254386	Dinotefuran	1.06	Spike	P	0 - 30
2254386	Diuron	6.65	Spike	P	0 - 30
2254386	Fenuron	2.17	Spike	P	0 - 30
2254386	Fluridone	2.03	Spike	P	0 - 30
2254386	Hydrocodone	4.45	Spike	P	0 - 30
2254386	Ibuprofen	27.1	Spike	P	0 - 30
2254386	Imazapyr	2.51	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P399742

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254386	Imidacloprid	3.25	Spike	P	0 - 30
2254386	Linuron	7.30	Spike	P	0 - 30
2254386	Mandestrobin	4.70	Spike	P	0 - 30
2254386	MCP	6.70	Spike	P	0 - 30
2254386	Naproxen	7.41	Spike	P	0 - 30
2254386	Primidone	11.6	Spike	P	0 - 30
2254386	Pyraclostrobin	13.0	Spike	P	0 - 30
2254386	Thiamethoxam	3.17	Spike	P	0 - 30
2254386	Tolfenpyrad	28.3	Spike	P	0 - 30
2254386	Triclopyr	3.84	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P399865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255020	Acesulfame K	2.82	Spike	P	0 - 30
2255020	AMPA	2.28	Spike	P	0 - 30
2255020	Endothall	16.3	Spike	P	0 - 30
2255020	Glufosinate	1.33	Spike	P	0 - 30
2255020	Glyphosate	4.62	Spike	P	0 - 30
2255020	Sucralose	2.76	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P399727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254970	Color (true)	0.450	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P399965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255065	Total Alkalinity	0.0720	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P400230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254930	TDS	6.57	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P399969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255065	Fluoride	0.462	Spike	P	0 - 2.1

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P400250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2254932	Organic Carbon	0.935	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2255020

Field Sample ID: 19010044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	148	P	30 - 160
EPA 8321B	Acetaminophen-d4	79.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.3	P	30 - 160
EPA 8321B	Diuron-d6	73.0	P	30 - 160
EPA 8321B	Endothall-d6	60.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	109	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.4	P	30 - 160
EPA 8321B	Primidone-d5	96.4	P	30 - 160
EPA 8321B	Sucralose-d6	91.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106081

Included Lab Sample IDs: 2255014, 2255017

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	98.2	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A106082

Included Lab Sample IDs: 2255012, 2255015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	99.6	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106084

Included Lab Sample IDs: 2255012, 2255015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106098

Included Lab Sample IDs: 2255013, 2255016

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106105

Included Lab Sample IDs: 2255012, 2255015

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106153

Included Lab Sample IDs: 2255021, 2255022

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106155

Included Lab Sample IDs: 2255021, 2255022

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106155

Included Lab Sample IDs: 2255021, 2255022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	104	104	P/P	90 - 110
Arsenic	105	105	P/P	90 - 110
Beryllium	93.4	93.7	P/P	90 - 110
Cadmium	105	105	P/P	90 - 110
Chromium	94.8	93.8	P/P	90 - 110
Copper	98.9	98.6	P/P	90 - 110
Nickel	98.0	96.8	P/P	90 - 110
Selenium	102	102	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Thallium	102	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106179

Included Lab Sample IDs: 2255021, 2255022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	95.3	98.1	P/P	90 - 110
Lead	105	107	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106182

Included Lab Sample IDs: 2255012, 2255015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.9	98.2	P/P	90 - 110
Total Alkalinity	99.8	96.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106182

Included Lab Sample IDs: 2255012, 2255015

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

Reference Method: EPA 8321B

Run ID: A106190

Included Lab Sample IDs: 2255020

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	99.2	97.2	P/P	60 - 160
Glufosinate	98.0	95.5	P/P	60 - 160
Glyphosate	100	99.1	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A106192

Included Lab Sample IDs: 2255020

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	84.2	77.2	P/P	60 - 160
Endothall	75.8	75.7	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106192
Included Lab Sample IDs: 2255020

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	110	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A106199
Included Lab Sample IDs: 2255020

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.6	87.7	P/P	50 - 150
2,4,5-T	95.9	102	P/P	50 - 150
Acetaminophen	78.4	79.2	P/P	60 - 160
Acetamiprid	98.2	101	P/P	50 - 150
Afidopyropen	107	127	P/P	50 - 150
Bentazon	81.6	102	P/P	50 - 160
Benzovindiflupyr	93.9	106	P/P	50 - 160
Carbamazepine	106	115	P/P	60 - 150
Clothianidin	88.1	104	P/P	60 - 150
Dinotefuran	89.5	87.7	P/P	50 - 150
Diuron	109	104	P/P	60 - 160
Fenuron	98.1	99.6	P/P	60 - 150
Fluridone	114	126	P/P	60 - 160
Hydrocodone	102	104	P/P	60 - 150
Ibuprofen	79.5	71.3	P/P	50 - 160
Imazapyr	61.0	106	P/P	50 - 150
Imidacloprid	91.6	87.7	P/P	60 - 150
Linuron	102	124	P/P	60 - 150
Mandestrobin	108	113	P/P	50 - 150
MCPP	99.4	116	P/P	50 - 150
Naproxen	99.2	119	P/P	50 - 160
Primidone	103	112	P/P	60 - 150
Pyraclostrobin	89.4	90.6	P/P	60 - 150
Thiamethoxam	71.6	93.9	P/P	50 - 150
Tolfenpyrad	110	115	P/P	60 - 150
Triclopyr	93.9	105	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A106261
Included Lab Sample IDs: 2255013, 2255016

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	98.7	P/P	90 - 110
Ammonia-N	98.7	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A106277
Included Lab Sample IDs: 2255013, 2255016

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	97.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A106304

Included Lab Sample IDs: 2255013, 2255016

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.1	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106366

Included Lab Sample IDs: 2255013, 2255016

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	95.0	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						4.95	
EPA 200.7 Rev. 4.4	Barium	92.7	97.1	94.9	92.2			2.81
	Calcium	95.7	99.0	99.0				1.98
	Iron	97.2	103	103	98.7			3.74
	Magnesium	97.9	102	98.3	91.9			3.74
	Manganese	92.2	96.7	94.9	92.6			2.41
	Potassium	93.0	99.0	97.6	95.4			2.11
	Sodium	95.8	101	98.6	95.6			2.12
	Zinc	91.7	96.0	91.0	88.0			3.27
EPA 200.8 Rev. 5.4	Aluminum	98.9	99.2	98.6	97.7			0.577
	Antimony	101	104	102	104			2.56
	Arsenic	104	105	103	103			1.46
	Beryllium	97.2	98.7	94.6	87.6			4.20
	Boron	98.6	98.4	97.6	99.2			0.785
	Cadmium	102	105	103	108			1.97
	Chromium	97.5	102	98.3	93.8			3.22
	Copper	104	102	100	97.5			2.33
	Lead	109	109	108	110			0.914
	Nickel	102	102	98.9	95.9			3.40
	Selenium	103	102	99.3	96.2			2.22
	Silver	101	102	99.2	103			2.67
	Thallium	106	109	108	111			0.627
EPA 300.0 Rev. 2.1	Chloride	99.4	97.4	98.8			0.164	
	Sulfate	95.9	98.1	96.9			1.13	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	94.8	96.4				1.53
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103						3.91
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	98.5	98.0				0.509
EPA 365.1 Rev. 2.0	Total-P	104	105	105				0.131
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.6	100	100				0.0
EPA 8321B	2,4-D	106	127	139				8.10
	2,4,5-T	99.3	150	161				7.63
	Acesulfame K	80.5	84.0	86.4				2.82
	Acetaminophen	60.6	48.3	51.9				5.02
	Acetamiprid	78.4	90.4	85.9				5.13
	Afidopyropen	73.3	81.3	86.6				6.35
	AMPA	99.4	95.1	97.3				2.28
	Bentazon	39.2						11.4
	Benzovindiflupyr	78.0	73.8	78.6				6.22
	Carbamazepine	76.5	77.5	70.6				4.66
	Clothianidin	77.5	109	101				7.29
	Dinotefuran	68.1	97.4	98.4				1.06
	Diuron	66.8	69.0	64.6				6.65
	Endothall	71.4	70.2	82.7				16.3
	Fenuron	85.5	79.8	81.6				2.17
	Fluridone	83.2	86.1	82.8				2.03
	Glufosinate	101	103	105				1.33
	Glyphosate	103	106	111				4.62
	Hydrocodone	81.6	83.6	87.4				4.45
	Ibuprofen	65.1	65.0	85.4				27.1
	Imazapyr	91.7						2.51
	Imidacloprid	72.3	157	162				3.25
	Linuron	59.6	74.5	80.2				7.30
	Mandestrobin	88.0	92.8	97.3				4.70
	MCPP	147	199	213				6.70

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Naproxen	81.4	94.0	101		7.41
	Primidone	86.5	104	85.9		11.6
	Pyraclostrobin	62.0	74.7	65.6		13.0
	Sucralose	102	99.7	103		2.76
	Thiamethoxam	52.4	119	116		3.17
	Tolfenpyrad	47.0	48.4	64.3		28.3
	Triclopyr	112	155	161		3.84
SM 2120 B-2011	Color (true)	97.9			0.450	
SM 2320 B-2011	Total Alkalinity	101			0.0720	
SM 2540 C-2011	TDS				6.57	
SM 4500 F-C-2011	Fluoride	101	108	107		0.462
SM 5310 B-2011	Organic Carbon	96.2	93.9	95.2		0.935

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2255012, 2255015
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2255021, 2255022
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2255021, 2255022
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2255012, 2255015
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2255012, 2255015
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2255013, 2255016
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2255013, 2255016
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2255013, 2255016
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2255013, 2255016
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2255014, 2255017
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2255020
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2255012, 2255015
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2255012, 2255015
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2255021, 2255022
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2255012, 2255015
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2255012, 2255015
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2255012, 2255015
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2255013, 2255016

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	06/15/2021			06/15/2021 15:51	Sarah A Nixon	2255012, 2255015
EPA 200.7 Rev. 4.4	06/15/2021	06/16/2021 12:15	Elliott D. Healy	06/17/2021 18:46	Betina Topolski	2255021
	06/15/2021	06/16/2021 12:15	Elliott D. Healy	06/17/2021 18:54	Betina Topolski	2255022
EPA 200.8 Rev. 5.4	06/15/2021	06/16/2021 12:15	Elliott D. Healy	06/18/2021 01:46	Alexander Thompson	2255021
	06/15/2021	06/16/2021 12:15	Elliott D. Healy	06/18/2021 01:56	Alexander Thompson	2255022
	06/15/2021	06/16/2021 12:15	Elliott D. Healy	06/18/2021 17:19	Alexander Thompson	2255021
	06/15/2021	06/16/2021 12:15	Elliott D. Healy	06/18/2021 17:25	Alexander Thompson	2255022
EPA 300.0 Rev. 2.1	06/15/2021			06/17/2021 22:57	Lipi Saha	2255012
	06/15/2021			06/17/2021 23:09	Lipi Saha	2255015
EPA 350.1 Rev. 2.0	06/15/2021			06/24/2021 13:47	Roberta Tatti	2255016
	06/15/2021			06/24/2021 14:12	Roberta Tatti	2255013
EPA 351.2 Rev. 2.0	06/15/2021	06/21/2021 14:57	Benjamin T. Nordmann	06/24/2021 16:17	Letuzia M De Oliveira	2255013
	06/15/2021	06/21/2021 14:57	Benjamin T. Nordmann	06/24/2021 16:18	Letuzia M De Oliveira	2255016
EPA 353.2 Rev. 2.0	06/15/2021			06/16/2021 09:23	Beverly Y. Sanders	2255013
	06/15/2021			06/16/2021 09:24	Beverly Y. Sanders	2255016
EPA 365.1 Rev. 2.0	06/15/2021	06/24/2021 16:53	Madeline Gruver	06/30/2021 10:04	Shengyu Ding	2255013
	06/15/2021	06/24/2021 16:53	Madeline Gruver	06/30/2021 10:05	Shengyu Ding	2255016
EPA 365.1 Rev. 2.0 dissolved	06/15/2021			06/15/2021 15:29	Ping Hua	2255014
	06/15/2021			06/15/2021 15:30	Ping Hua	2255017
EPA 8321B	06/15/2021	06/16/2021 08:30	Hoor Shaik	06/21/2021 06:17	Juyoung Kim	2255020
	06/15/2021	06/18/2021 11:00	Juyoung Kim	06/18/2021 13:44	Juyoung Kim	2255020
	06/15/2021	06/18/2021 11:00	Juyoung Kim	06/18/2021 21:36	Juyoung Kim	2255020
SM 2120 B-2011	06/15/2021			06/15/2021 16:38	Sarah A Nixon	2255012
	06/15/2021			06/15/2021 16:39	Sarah A Nixon	2255015
SM 2320 B-2011	06/15/2021			06/19/2021 07:41	Dale L. Simmons	2255012
	06/15/2021			06/19/2021 08:25	Dale L. Simmons	2255015
SM 2340B	06/15/2021			06/17/2021 18:46	Betina Topolski	2255021
	06/15/2021			06/17/2021 18:54	Betina Topolski	2255022
SM 2540 C-2011	06/15/2021			06/18/2021 15:41	Yijie Li	2255012, 2255015
SM 2540 D-2011	06/15/2021			06/18/2021 15:41	Yijie Li	2255012, 2255015
SM 4500 F-C-2011	06/15/2021			06/19/2021 07:41	Dale L. Simmons	2255012
	06/15/2021			06/19/2021 08:25	Dale L. Simmons	2255015
SM 5310 B-2011	06/15/2021			06/24/2021 02:33	Madeline Gruver	2255013
	06/15/2021			06/24/2021 02:46	Madeline Gruver	2255016