

Chemical Analysis Report

SO-DIST-2020-07-09-01

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

Event Description: **2020 SMP : Highlands Cricks**

Request ID: **RQ-2020-07-06-51**

Customer: **SO-DIST**

Project ID: **SMP**

Send Reports to:

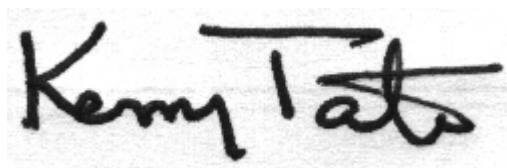
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 29-JUL-2020 10:40

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: JacksonCreek@SkipperRd

Collection Date/Time: 07/08/2020 10:10

Field ID: G4SD0182

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181902	EPA 180.1 Rev. 2.0	Turbidity	3.9	A	NTU	P384313	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P384897	
		Sulfate	16		mg SO4/L	P384901	
		Color (true)	170		PCU	P384321	
	SM 2320 B-2011	Total Alkalinity	3.2		mg CaCO3/L	P384612	
	SM 2540 C-2011	TDS	99		mg/L	P384837	
	SM 2540 D-2011	TSS	2	U	mg/L	P384576	
	SM 4500 F-C-2011	Fluoride	0.037	I	mg F/L	P384925	
2181903	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P384447	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P384349	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.48		mg N/L	P384500	
	EPA 365.1 Rev. 2.0	Total-P	0.080		mg P/L	P384506	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P384466	
2181904	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.050		mg P/L	P384299	
2181915	EPA 200.7 Rev. 4.4	Barium	13.4		ug/L	P384495	
		Calcium	7.59		mg/L	P384495	
		Iron	310		ug/L	P384495	
		Magnesium	3.14		mg/L	P384495	
		Potassium	2.9		mg/L	P384495	
		Sodium	6.2		mg/L	P384495	
		Zinc	5.0	U	ug/L	P384495	
	EPA 200.8 Rev. 5.4	Aluminum	415		ug/L	P384495	
		Antimony	0.050	U	ug/L	P384495	
		Arsenic	0.88		ug/L	P384495	
		Boron**	32.3		ug/L	P384495	
		Cadmium	0.020	U	ug/L	P384495	
		Chromium	0.50	I	ug/L	P384495	
		Copper	0.40	U	ug/L	P384495	
		Lead	0.20	U	ug/L	P384495	
		Nickel	0.50	U	ug/L	P384495	
		Selenium	0.20	U	ug/L	P384495	
		Silver	0.010	U	ug/L	P384495	
		Thallium	0.10	U	ug/L	P384495	
	SM 2340B	Hardness	31.9		mg/L	P384495	

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: GrassyCreek@LakeAthorpe

Collection Date/Time: 07/08/2020 09:30

Field ID: G4SD0184

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181905	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P384313	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P384897	
		Sulfate	23		mg SO4/L	P384901	
	SM 2120 B-2011	Color (true)	33		PCU	P384321	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P384612	
	SM 2540 C-2011	TDS	105		mg/L	P384837	
	SM 2540 D-2011	TSS	2	U	mg/L	P384576	
	SM 4500 F-C-2011	Fluoride	0.045	I	mg F/L	P384925	
2181906	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P384447	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P384349	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.41		mg N/L	P384500	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P384506	
	SM 5310 B-2011	Organic Carbon	8.9		mg C/L	P384466	
2181907	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384299	
2181914	EPA 8321B	2,4-D	0.038		ug/L	P384331	
		Acesulfame K**	0.10	U	ug/L	P384329	
		AMPA**	0.43		ug/L	P384329	
		Sucralose**	0.61		ug/L	P384329	
		Acetaminophen**	0.0080	U	ug/L	P384331	
		Acetamiprid**	0.0020	U	ug/L	P384331	
		Endothall**	0.25	U	ug/L	P384329	
		Glufosinate**	0.10	U	ug/L	P384329	
		Glyphosate**	2.0		ug/L	P384329	
		Afidopyropen**	0.0020	U	ug/L	P384331	
		Bentazon	0.0082		ug/L	P384331	
		Benzovindiflupyr**	0.0020	U	ug/L	P384331	
		Carbamazepine**	8.0E-04	U	ug/L	P384331	
		Clothianidin**	0.0061	I	ug/L	P384331	
		Dinotefuran**	0.0020	U	ug/L	P384331	
		Diuron	0.0056	I	ug/L	P384331	
		Fenuron	0.016	U	ug/L	P384331	
		Fluridone**	0.0054		ug/L	P384331	
		Imazapyr**	0.0040	U	ug/L	P384331	
		Hydrocodone**	0.0020	U	ug/L	P384331	
		Ibuprofen**	0.020	U	ug/L	P384331	
		Imidacloprid	0.064		ug/L	P384331	
		Linuron	0.0040	U	ug/L	P384331	
		Mandestrobin**	0.0020	U	ug/L	P384331	
		MCP	0.0020	U	ug/L	P384331	
		Naproxen**	0.0080	U	ug/L	P384331	
		Primidone**	0.0065	I	ug/L	P384331	
		Pyraclostrobin**	0.0020	U	ug/L	P384331	
		Thiamethoxam**	0.010		ug/L	P384331	

Field ID: G4SD0184

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181914	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P384331	
		Triclopyr**	0.0040	U	ug/L	P384331	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384313

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P384495

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
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: P384495

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	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: P384897

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384901

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384447

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: P384349

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384500

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384506

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384299

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

Reference Method: EPA 8321B
Batch ID: P384329

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: P384331

Component	Result	Code	Units
2,4-D	0.0020	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P384331

Component	Result	Code	Units
Mandestrobin	0.0020	U	ug/L
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclastrobin	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: P384321

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P384612

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

Reference Method: SM 2540 C-2011
Batch ID: P384837

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P384576

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P384925

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P384466

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: P384495

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	106		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	105		P	85 - 115
Sodium	106		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384495

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.5		P	85 - 115
Antimony	98.3		P	85 - 115
Arsenic	105		P	85 - 115
Boron	99.9		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	98.8		P	85 - 115
Copper	107		P	85 - 115
Lead	99.6		P	85 - 115
Nickel	103		P	85 - 115
Selenium	103		P	85 - 115
Silver	100		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384897

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384447

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: P384349

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384500

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384506

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384299

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

Reference Method: EPA 8321B
Batch ID: P384329

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	61.3		P	40 - 150
AMPA	71.2		P	40 - 150
Endothall	101		P	40 - 150
Glufosinate	88.4		P	40 - 150
Glyphosate	86.3		P	40 - 140
Sucralose	85.7		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P384331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.4		P	30 - 160
Acetaminophen	78.5		P	30 - 160
Acetamiprid	75.3		P	30 - 160
Afidopyropen	75.1		P	30 - 160
Bentazon	54.6		P	30 - 160
Benzovindiflupyr	66.2		P	30 - 160
Carbamazepine	66.8		P	30 - 160
Clothianidin	78.9		P	30 - 160
Dinotefuran	94.2		P	30 - 160
Diuron	51.3		P	30 - 160
Fenuron	91.7		P	30 - 160
Fluridone	90.2		P	30 - 160
Hydrocodone	88.4		P	30 - 160
Ibuprofen	81.4		P	30 - 160
Imazapyr	66.6		P	30 - 160
Imidacloprid	94.5		P	30 - 160
Linuron	53.9		P	30 - 160
Mandestrobin	76.5		P	30 - 160
MCPP	90.2		P	30 - 160
Naproxen	54.3		P	30 - 160
Primidone	75.6		P	30 - 160
Pyraclostrobin	64.6		P	30 - 160
Thiamethoxam	89.1		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P384331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Tolfenpyrad	47.3		P	30 - 160
Triclopyr	72.2		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P384321

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

Reference Method: SM 2320 B-2011
Batch ID: P384612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P384925

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

Reference Method: SM 5310 B-2011
Batch ID: P384466

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P384495

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181167	Barium	105		P	80 - 120
2181167	Calcium	103		P	80 - 120
2181167	Iron	108		P	80 - 120
2181167	Magnesium	108		P	80 - 120
2181167	Potassium	106		P	80 - 120
2181167	Sodium	104		P	80 - 120
2181167	Zinc	107		P	80 - 120
2182024	Barium	104	104	P/P	80 - 120
2182024	Calcium	110	107	P/P	80 - 120
2182024	Iron	108	106	P/P	80 - 120
2182024	Magnesium	108	106	P/P	80 - 120
2182024	Potassium	106	104	P/P	80 - 120
2182024	Sodium	105	101	P/P	80 - 120
2182024	Zinc	107	107	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384495

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181167	Aluminum	111		P	80 - 120
2181167	Antimony	95.3		P	80 - 120
2181167	Arsenic	102		P	80 - 120
2181167	Boron	102		P	80 - 120
2181167	Cadmium	103		P	80 - 120
2181167	Chromium	95.8		P	80 - 120
2181167	Copper	97.1		P	80 - 120
2181167	Lead	101		P	80 - 120
2181167	Nickel	101		P	80 - 120
2181167	Selenium	97.7		P	80 - 120
2181167	Silver	99.5		P	80 - 120
2181167	Thallium	104		P	80 - 120
2182024	Aluminum	96.9	97.1	P/P	80 - 120
2182024	Antimony	97.1	97.5	P/P	80 - 120
2182024	Arsenic	102	103	P/P	80 - 120
2182024	Boron	97.5	99.2	P/P	80 - 120
2182024	Cadmium	102	100	P/P	80 - 120
2182024	Chromium	100	100	P/P	80 - 120
2182024	Copper	101	100	P/P	80 - 120
2182024	Lead	98.9	99.6	P/P	80 - 120
2182024	Nickel	100	99.0	P/P	80 - 120
2182024	Selenium	97.3	99.3	P/P	80 - 120
2182024	Silver	99.7	99.9	P/P	80 - 120
2182024	Thallium	102	104	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384897

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181746	Chloride	99.9		P	90 - 110
2181902	Chloride	98.0		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181746	Sulfate	98.5		P	90 - 110
2181902	Sulfate	95.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384447

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181977	Ammonia-N	99.8	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384349

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181849	Kjeldahl Nitrogen	106	93.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384500

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181871	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181903	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384299

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181754	O-Phosphate-P	94.4	95.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P384329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181880	Acesulfame K	41.4	41.2	P/P	40 - 150
2181880	AMPA	82.0	77.8	P/P	40 - 150
2181880	Endothall	110	110	P/P	40 - 150
2181880	Glufosinate	84.9	80.0	P/P	40 - 150
2181880	Glyphosate	65.3	65.4	P/P	40 - 140
2181880	Sucralose	96.5	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P384331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181914	2,4-D	82.2	74.0	P/P	30 - 160
2181914	Acetaminophen	81.7	78.6	P/P	30 - 160
2181914	Acetamiprid	70.7	71.6	P/P	30 - 160
2181914	Afidopyropen	72.3	65.4	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P384331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181914	Benzovindiflupyr	67.2	63.5	P/P	30 - 160
2181914	Carbamazepine	61.0	55.7	P/P	30 - 160
2181914	Clothianidin	71.7	68.4	P/P	30 - 160
2181914	Dinotefuran	88.2	84.9	P/P	30 - 160
2181914	Diuron	51.2	50.5	P/P	30 - 160
2181914	Fenuron	76.1	70.1	P/P	30 - 160
2181914	Fluridone	89.5	85.4	P/P	30 - 160
2181914	Hydrocodone	71.5	65.3	P/P	30 - 160
2181914	Ibuprofen	68.0	66.0	P/P	30 - 160
2181914	Imazapyr	81.9	73.0	P/P	30 - 160
2181914	Imidacloprid	113	107	P/P	30 - 160
2181914	Linuron	56.5	53.5	P/P	30 - 160
2181914	Mandestrobin	76.9	70.7	P/P	30 - 160
2181914	MCPP	86.8	81.7	P/P	30 - 160
2181914	Naproxen	70.1	58.0	P/P	30 - 160
2181914	Primidone	67.1	69.8	P/P	30 - 160
2181914	Pyraclostrobin	62.5	57.8	P/P	30 - 160
2181914	Thiamethoxam	86.8	83.3	P/P	30 - 160
2181914	Tolfenpyrad	41.5	43.8	P/P	30 - 160
2181914	Triclopyr	58.8	60.9	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P384925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182007	Fluoride	104	105	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P384466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181849	Organic Carbon	99.2	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181902	Turbidity	8.70	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P384495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182024	Barium	0.418	Spike	P	0 - 20
2182024	Calcium	1.60	Spike	P	0 - 20
2182024	Iron	1.80	Spike	P	0 - 20
2182024	Magnesium	1.56	Spike	P	0 - 20
2182024	Potassium	1.49	Spike	P	0 - 20
2182024	Sodium	1.76	Spike	P	0 - 20
2182024	Zinc	0.286	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182024	Aluminum	0.185	Spike	P	0 - 20
2182024	Antimony	0.397	Spike	P	0 - 20
2182024	Arsenic	0.492	Spike	P	0 - 20
2182024	Boron	1.40	Spike	P	0 - 20
2182024	Cadmium	1.20	Spike	P	0 - 20
2182024	Chromium	0.122	Spike	P	0 - 20
2182024	Copper	0.429	Spike	P	0 - 20
2182024	Lead	0.705	Spike	P	0 - 20
2182024	Nickel	1.20	Spike	P	0 - 20
2182024	Selenium	2.10	Spike	P	0 - 20
2182024	Silver	0.283	Spike	P	0 - 20
2182024	Thallium	2.26	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384897

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181746	Chloride	0.912	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181746	Sulfate	0.414	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384447

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181977	Ammonia-N	1.58	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384349

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181849	Kjeldahl Nitrogen	6.76	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181871	NO2NO3-N	0.496	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181903	Total-P	0.966	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384299

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181754	O-Phosphate-P	0.749	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P384329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181880	Acesulfame K	0.514	Spike	P	0 - 30
2181880	AMPA	5.21	Spike	P	0 - 30
2181880	Endothall	0.582	Spike	P	0 - 30
2181880	Glufosinate	5.93	Spike	P	0 - 30
2181880	Glyphosate	0.211	Spike	P	0 - 30
2181880	Sucralose	6.30	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P384331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181914	2,4-D	6.48	Spike	P	0 - 30
2181914	Acetaminophen	3.94	Spike	P	0 - 30
2181914	Acetamiprid	1.28	Spike	P	0 - 30
2181914	Afidopyropen	9.95	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P384331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181914	Bentazon	8.60	Spike	P	0 - 30
2181914	Benzovindiflupyr	5.73	Spike	P	0 - 30
2181914	Carbamazepine	9.04	Spike	P	0 - 30
2181914	Clothianidin	4.15	Spike	P	0 - 30
2181914	Dinotefuran	3.83	Spike	P	0 - 30
2181914	Diuron	1.16	Spike	P	0 - 30
2181914	Fenuron	8.17	Spike	P	0 - 30
2181914	Fluridone	3.56	Spike	P	0 - 30
2181914	Hydrocodone	8.98	Spike	P	0 - 30
2181914	Ibuprofen	3.08	Spike	P	0 - 30
2181914	Imazapyr	11.5	Spike	P	0 - 30
2181914	Imidacloprid	3.14	Spike	P	0 - 30
2181914	Linuron	5.34	Spike	P	0 - 30
2181914	Mandestrobin	8.38	Spike	P	0 - 30
2181914	MCPP	6.04	Spike	P	0 - 30
2181914	Naproxen	19.0	Spike	P	0 - 30
2181914	Primidone	3.54	Spike	P	0 - 30
2181914	Pyraclostrobin	7.80	Spike	P	0 - 30
2181914	Thiamethoxam	3.60	Spike	P	0 - 30
2181914	Tolfenpyrad	5.59	Spike	P	0 - 30
2181914	Triclopyr	3.54	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P384321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181735	Color (true)	0.650	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P384612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181423	Total Alkalinity	0.0372	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P384837

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181734	TDS	1.64	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P384925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182007	Fluoride	0.983	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P384466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181849	Organic Carbon	0.886	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2181914
Field Sample ID: G4SD0184

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	71.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	53.1	P	30 - 160
EPA 8321B	Diuron-d6	53.3	P	30 - 160
EPA 8321B	Endothall-d6	116	P	30 - 160
EPA 8321B	Endothall-d6	116	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	65.9	P	30 - 160
EPA 8321B	Primidone-d5	74.2	P	30 - 160
EPA 8321B	Sucralose-d6	72.7	P	30 - 160
EPA 8321B	Sucralose-d6	72.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99772

Included Lab Sample IDs: 2181904, 2181907

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.4	94.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99774

Included Lab Sample IDs: 2181902, 2181905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A99775

Included Lab Sample IDs: 2181902, 2181905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	90 - 115
Color (true)	102	104	P/P	90 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99810

Included Lab Sample IDs: 2181903, 2181906

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

Reference Method: SM 5310 B-2011

Run ID: A99817

Included Lab Sample IDs: 2181903, 2181906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.9	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99827

Included Lab Sample IDs: 2181903, 2181906

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

Reference Method: EPA 8321B

Run ID: A99830

Included Lab Sample IDs: 2181914

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	64.8	66.2	P/P	60 - 160
Endothall	112	127	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99846

Included Lab Sample IDs: 2181914

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

Reference Method: EPA 8321B

Run ID: A99846

Included Lab Sample IDs: 2181914

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	84.0	94.0	P/P	50 - 150
Acetaminophen	110	113	P/P	60 - 160
Acetamiprid	107	108	P/P	50 - 150
Afidopyropen	121	118	P/P	50 - 150
Bentazon	113	117	P/P	50 - 160
Benzovindiflupyr	84.9	86.8	P/P	50 - 150
Carbamazepine	102	105	P/P	60 - 150
Clothianidin	100	94.9	P/P	60 - 150
Dinotefuran	105	101	P/P	50 - 150
Diuron	105	105	P/P	60 - 160
Fenuron	94.0	94.7	P/P	60 - 150
Fluridone	104	104	P/P	60 - 160
Hydrocodone	120	116	P/P	60 - 150
Ibuprofen	100	107	P/P	50 - 160
Imazapyr	76.6	86.1	P/P	50 - 150
Imidacloprid	96.0	97.4	P/P	60 - 150
Linuron	89.8	91.0	P/P	60 - 150
Mandestrobin	99.2	93.5	P/P	50 - 150
MCPP	88.4	95.1	P/P	50 - 150
Naproxen	97.8	98.6	P/P	50 - 160
Primidone	86.0	91.3	P/P	60 - 150
Pyraclostrobin	86.8	88.6	P/P	60 - 150
Thiamethoxam	116	117	P/P	50 - 150
Tolfenpyrad	102	108	P/P	60 - 150
Triclopyr	76.6	79.8	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99850

Included Lab Sample IDs: 2181903, 2181906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.5	92.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99851

Included Lab Sample IDs: 2181914

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	72.8	74.6	P/P	60 - 160
Glufosinate	87.7	98.6	P/P	60 - 160
Glyphosate	91.6	96.0	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99862

Included Lab Sample IDs: 2181903

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A99871

Included Lab Sample IDs: 2181915

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	101	102	P/P	90 - 110
Iron	101	103	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Potassium	98.5	100	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99876

Included Lab Sample IDs: 2181906

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

Reference Method: SM 2320 B-2011

Run ID: A99877

Included Lab Sample IDs: 2181902, 2181905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.3	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99878

Included Lab Sample IDs: 2181914

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	90.3	87.4	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99923

Included Lab Sample IDs: 2181915

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.5	101	P/P	90 - 110
Antimony	96.5	95.1	P/P	90 - 110
Arsenic	102	101	P/P	90 - 110
Boron	98.2	102	P/P	90 - 110
Cadmium	99.4	98.8	P/P	90 - 110
Lead	99.1	99.3	P/P	90 - 110
Nickel	99.7	97.7	P/P	90 - 110
Selenium	100	100	P/P	90 - 110
Silver	97.5	97.4	P/P	90 - 110
Thallium	98.2	98.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99978

Included Lab Sample IDs: 2181902, 2181905

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99978

Included Lab Sample IDs: 2181902, 2181905

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110
Sulfate	99.8	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99979

Included Lab Sample IDs: 2181915

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	96.4	95.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99986

Included Lab Sample IDs: 2181902, 2181905

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99999

Included Lab Sample IDs: 2181915

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	97.5	97.3	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						8.70	
EPA 200.7 Rev. 4.4	Barium	100	105	104	104			0.418
	Calcium	106	103	110	107			1.60
	Iron	105	108	108	106			1.80
	Magnesium	105	108	108	106			1.56
	Potassium	105	106	106	104			1.49
	Sodium	106	104	105	101			1.76
	Zinc	102	107	107	107			0.286
EPA 200.8 Rev. 5.4	Aluminum	98.5	96.9	97.1	111			0.185
	Antimony	98.3	97.1	97.5	95.3			0.397
	Arsenic	105	102	103	102			0.492
	Boron	99.9	97.5	99.2	102			1.40
	Cadmium	102	102	100	103			1.20
	Chromium	98.8	100	100	95.8			0.122
	Copper	107	101	100	97.1			0.429
	Lead	99.6	98.9	99.6	101			0.705
	Nickel	103	100	99.0	101			1.20
	Selenium	103	97.3	99.3	97.7			2.10
	Silver	100	99.7	99.9	99.5			0.283
	Thallium	103	102	104	104			2.26
EPA 300.0 Rev. 2.1	Chloride	99.6	99.9	98.0			0.912	
	Sulfate	98.3	98.5	95.0			0.414	
EPA 350.1 Rev. 2.0	Ammonia-N	101	99.8	102				1.58
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	106	93.7				6.76
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	101	100				0.496
EPA 365.1 Rev. 2.0	Total-P	105	102	101				0.966
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0	94.4	95.3				0.749
EPA 8321B	2,4-D	81.4	82.2	74.0				6.48
	Acesulfame K	61.3	41.4	41.2				0.514
	Acetaminophen	78.5	81.7	78.6				3.94
	Acetamiprid	75.3	70.7	71.6				1.28
	Afidopyropen	75.1	72.3	65.4				9.95
	AMPA	71.2	82.0	77.8				5.21
	Bentazon	54.6						8.60
	Benzovindiflupyr	66.2	67.2	63.5				5.73
	Carbamazepine	66.8	61.0	55.7				9.04
	Clothianidin	78.9	71.7	68.4				4.15
	Dinotefuran	94.2	88.2	84.9				3.83
	Diuron	51.3	51.2	50.5				1.16
	Endothall	101	110	110				0.582
	Fenuron	91.7	76.1	70.1				8.17
	Fluridone	90.2	89.5	85.4				3.56
	Glufosinate	88.4	84.9	80.0				5.93
	Glyphosate	86.3	65.3	65.4				0.211
	Hydrocodone	88.4	71.5	65.3				8.98
	Ibuprofen	81.4	68.0	66.0				3.08
	Imazapyr	66.6	81.9	73.0				11.5
	Imidacloprid	94.5	113	107				3.14
	Linuron	53.9	56.5	53.5				5.34
	Mandestrobin	76.5	76.9	70.7				8.38
	MCPP	90.2	86.8	81.7				6.04
	Naproxen	54.3	70.1	58.0				19.0
	Primidone	75.6	67.1	69.8				3.54
	Pyraclostrobin	64.6	62.5	57.8				7.80

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Sucralose	85.7	96.5	103		6.30
	Thiamethoxam	89.1	86.8	83.3		3.60
	Tolfenpyrad	47.3	41.5	43.8		5.59
	Triclopyr	72.2	58.8	60.9		3.54
SM 2120 B-2011	Color (true)	101			0.650	
SM 2320 B-2011	Total Alkalinity	99.1			0.0372	
SM 2540 C-2011	TDS				1.64	
SM 4500 F-C-2011	Fluoride	99.3	104	105		0.983
SM 5310 B-2011	Organic Carbon	101	99.2	100		0.886

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2181902, 2181905
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2181915
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2181915
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2181902, 2181905
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2181902, 2181905
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2181903, 2181906
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2181903, 2181906
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2181903, 2181906
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2181903, 2181906
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2181904, 2181907
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2181914
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2181914
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2181902, 2181905
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2181902, 2181905
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2181915
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2181902, 2181905
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2181902, 2181905
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2181902, 2181905
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2181903, 2181906

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	07/09/2020			07/09/2020 15:38	Yen Ta	2181902, 2181905
EPA 200.7 Rev. 4.4	07/09/2020	07/13/2020 14:40	Elliott D. Healy	07/14/2020 19:26	Betina Topolski	2181915
EPA 200.8 Rev. 5.4	07/09/2020	07/13/2020 14:40	Elliott D. Healy	07/16/2020 20:41	Alexander Thompson	2181915
	07/09/2020	07/13/2020 14:40	Elliott D. Healy	07/17/2020 15:04	Alexander Thompson	2181915
	07/09/2020	07/13/2020 14:40	Elliott D. Healy	07/21/2020 18:42	Alexander Thompson	2181915
EPA 300.0 Rev. 2.1	07/09/2020			07/17/2020 03:18	Julia Storbeck	2181902
	07/09/2020			07/17/2020 05:06	Julia Storbeck	2181905
EPA 350.1 Rev. 2.0	07/09/2020			07/12/2020 12:51	Ping Hua	2181903
	07/09/2020			07/12/2020 12:53	Ping Hua	2181906
EPA 351.2 Rev. 2.0	07/09/2020	07/10/2020 10:20	Sima Feizi	07/13/2020 21:03	Jhamieka S. Greenwood	2181903
	07/09/2020	07/10/2020 10:20	Sima Feizi	07/13/2020 21:05	Jhamieka S. Greenwood	2181906
EPA 353.2 Rev. 2.0	07/09/2020			07/13/2020 11:25	Beverly Y. Sanders	2181903
	07/09/2020			07/13/2020 11:26	Beverly Y. Sanders	2181906
EPA 365.1 Rev. 2.0	07/09/2020	07/13/2020 14:29	Yen Ta	07/14/2020 15:02	Benjamin T. Nordmann	2181903
	07/09/2020	07/13/2020 14:29	Yen Ta	07/15/2020 09:21	Lipi Saha	2181906
EPA 365.1 Rev. 2.0 dissolved	07/09/2020			07/09/2020 13:43	Samantha Davila	2181904
	07/09/2020			07/09/2020 13:44	Samantha Davila	2181907
EPA 8321B	07/09/2020	07/10/2020 09:15	Rebecca Ware	07/10/2020 14:09	Rebecca Ware	2181914
	07/09/2020	07/10/2020 09:15	Rebecca Ware	07/13/2020 15:12	Rebecca Ware	2181914
	07/09/2020	07/10/2020 09:15	Rebecca Ware	07/14/2020 23:39	Rebecca Ware	2181914
	07/09/2020	07/13/2020 08:30	Hoor Shaik	07/14/2020 05:20	Juyoung Kim	2181914
SM 2120 B-2011	07/09/2020			07/09/2020 16:13	Benjamin T. Nordmann	2181905
	07/09/2020			07/09/2020 16:43	Benjamin T. Nordmann	2181902
SM 2320 B-2011	07/09/2020			07/14/2020 05:23	Dale L. Simmons	2181902
	07/09/2020			07/14/2020 05:36	Dale L. Simmons	2181905
SM 2340B	07/09/2020			07/14/2020 19:26	Betina Topolski	2181915
SM 2540 C-2011	07/09/2020			07/10/2020 19:47	Madeline Gruver	2181902, 2181905
SM 2540 D-2011	07/09/2020			07/10/2020 19:47	Madeline Gruver	2181902, 2181905
SM 4500 F-C-2011	07/09/2020			07/20/2020 22:11	Samantha Davila	2181902
	07/09/2020			07/20/2020 22:16	Samantha Davila	2181905
SM 5310 B-2011	07/09/2020			07/11/2020 00:09	David Boose	2181903
	07/09/2020			07/11/2020 00:21	David Boose	2181906