

Chemical Analysis Report

SE-DIST-2020-10-02-01

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

Event Description: **SMP- Fort Drum Area**
Request ID: **RQ-2020-09-28-58**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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2199 South Rock Road
Fort Pierce, FL 34945
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 26-OCT-2020 09:23

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: 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: Fort Drum Marsh Conservation Area Northeast Entrance **Collection Date/Time: 10/01/2020 11:00**

Field ID: G3SE0052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2199593	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P388163	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P388514	
		Sulfate	0.20	U	mg SO4/L	P388516	
	SM 2120 B-2011	Color (true)	250	A	PCU	P388259	
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P388248	
	SM 2540 C-2011	TDS	115		mg/L	P388622	
	SM 2540 D-2011	TSS	2	U	mg/L	P388617	
	SM 4500 F-C-2011	Fluoride	0.067	I	mg F/L	P388252	
2199596	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P388180	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P388753	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P388217	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P388227	
	SM 5310 B-2011	Organic Carbon	28		mg C/L	P388300	
2199599	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.014		mg P/L	P388167	

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: Padgett Branch @ 441

Collection Date/Time: 10/01/2020 11:20

Field ID: G3SE0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2199594	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P388163	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P388514	
		Sulfate	1.4		mg SO4/L	P388516	
	SM 2120 B-2011	Color (true)	420		PCU	P388259	
	SM 2320 B-2011	Total Alkalinity	16		mg CaCO3/L	P388248	
	SM 2540 C-2011	TDS	146		mg/L	P388622	
	SM 2540 D-2011	TSS	2	I	mg/L	P388617	
	SM 4500 F-C-2011	Fluoride	0.062	I	mg F/L	P388252	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P388180	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P388753	
2199597	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P388217	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P388227	
	SM 5310 B-2011	Organic Carbon	38		mg C/L	P388300	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.030		mg P/L	P388167	
	dissolved						
2199600	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.030		mg P/L	P388167	

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: Sweetwater Branch @ 441

Collection Date/Time: 10/01/2020 11:40

Field ID: G3SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2199595	EPA 180.1 Rev. 2.0	Turbidity	20	A	NTU	P388163	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P388514	
		Sulfate	2.4		mg SO4/L	P388516	
	SM 2120 B-2011	Color (true)	180	A	PCU	P388262	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P388248	
	SM 2540 C-2011	TDS	93		mg/L	P388622	
	SM 2540 D-2011	TSS	17		mg/L	P388617	
	SM 4500 F-C-2011	Fluoride	0.046	I	mg F/L	P388252	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.083		mg N/L	P388180	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P388753	
2199598	EPA 353.2 Rev. 2.0	NO2NO3-N	0.030		mg N/L	P388217	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P388227	
	SM 5310 B-2011	Organic Carbon	23		mg C/L	P388300	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.050		mg P/L	P388167	
	dissolved						
2199601	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.050		mg P/L	P388167	

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: Fort Drum Creek @ 441

Collection Date/Time: 10/01/2020 11:50

Field ID: G3SE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2199602	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P388163	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P388514	
		Sulfate	0.29	I	mg SO4/L	P388516	
	SM 2120 B-2011	Color (true)	470		PCU	P388260	
	SM 2320 B-2011	Total Alkalinity	4.4		mg CaCO3/L	P388248	
	SM 2540 C-2011	TDS	103		mg/L	P388622	
	SM 2540 D-2011	TSS	2	I	mg/L	P388617	
2199603	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P388252	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P388180	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P388753	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P388217	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P388228	
2199604	SM 5310 B-2011	Organic Carbon	37		mg C/L	P388300	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.083		mg P/L	P388167	
2199640	EPA 8321B	2,4-D	0.0020	U	ug/L	P388291	
		Acesulfame K**	0.10	U	ug/L	P388205	
		AMPA**	0.10	U	ug/L	P388205	
		Sucralose**	0.018	I	ug/L	P388205	
		Acetaminophen**	0.026	I	ug/L	P388291	
		Acetamiprid**	0.0020	U	ug/L	P388291	
		Endothall**	0.25	U	ug/L	P388205	
		Glufosinate**	0.10	U	ug/L	P388205	
		Glyphosate**	0.10	U	ug/L	P388205	
		Afidopyropen**	0.0020	U	ug/L	P388291	MS
		Bentazon	8.0E-04	U	ug/L	P388291	
		Benzovindiflupyr**	0.0020	U	ug/L	P388291	
		Carbamazepine**	8.0E-04	U	ug/L	P388291	
		Clothianidin**	0.0020	U	ug/L	P388291	
		Dinotefuran**	0.0020	U	ug/L	P388291	
		Diuron	0.0020	U	ug/L	P388291	
		Fenuron	0.016	U	ug/L	P388291	
		Fluridone**	8.0E-04	U	ug/L	P388291	
		Imazapyr**	0.0040	U	ug/L	P388291	
		Hydrocodone**	0.0020	U	ug/L	P388291	
		Ibuprofen**	0.020	U	ug/L	P388291	
		Imidacloprid	0.0020	U	ug/L	P388291	
		Linuron	0.0040	U	ug/L	P388291	
		Mandestrobin**	0.0020	U	ug/L	P388291	
		MCP	0.0020	U	ug/L	P388291	
		Naproxen**	0.0080	U	ug/L	P388291	
		Primidone**	0.0040	U	ug/L	P388291	
		Pyraclostrobin**	0.0020	U	ug/L	P388291	
		Thiamethoxam**	0.0020	U	ug/L	P388291	

Field ID: G3SE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2199640	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P388291	
		Triclopyr**	0.0040	U	ug/L	P388291	

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: Fort Drum Creek @ 441

Collection Date/Time: 10/01/2020 11:55

Field ID: FB_10012020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2199605	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P388163	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P388514	
		Sulfate	0.20	U	mg SO4/L	P388516	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P388260	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P388248	
	SM 2540 C-2011	TDS	15	U	mg/L	P388621	
	SM 2540 D-2011	TSS	2	U	mg/L	P388616	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P388252	
2199606	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P388182	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P388753	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P388217	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P388228	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P388300	
2199607	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P388167	
2199641	EPA 8321B	2,4-D	0.0020	U	ug/L	P388291	
		Acesulfame K**	0.10	U	ug/L	P388205	
		AMPA**	0.10	U	ug/L	P388205	
		Sucralose**	0.010	U	ug/L	P388205	
		Acetaminophen**	0.0080	U	ug/L	P388291	
		Acetamiprid**	0.0020	U	ug/L	P388291	
		Endothall**	0.25	U	ug/L	P388205	
		Glufosinate**	0.10	U	ug/L	P388205	
		Glyphosate**	0.10	U	ug/L	P388205	
		Afidopyropen**	0.0020	U	ug/L	P388291	MS
		Bentazon	8.0E-04	U	ug/L	P388291	
		Benzovindiflupyr**	0.0020	U	ug/L	P388291	
		Carbamazepine**	8.0E-04	U	ug/L	P388291	
		Clothianidin**	0.0020	U	ug/L	P388291	
		Dinotefuran**	0.0020	U	ug/L	P388291	
		Diuron	0.0020	U	ug/L	P388291	
		Fenuron	0.016	U	ug/L	P388291	
		Fluridone**	8.0E-04	U	ug/L	P388291	
		Imazapyr**	0.0040	U	ug/L	P388291	
		Hydrocodone**	0.0020	U	ug/L	P388291	
		Ibuprofen**	0.020	U	ug/L	P388291	
		Imidacloprid	0.0020	U	ug/L	P388291	
		Linuron	0.0040	U	ug/L	P388291	
		Mandestrobin**	0.0020	U	ug/L	P388291	
		MCP	0.0020	U	ug/L	P388291	
		Naproxen**	0.0080	U	ug/L	P388291	
		Primidone**	0.0040	U	ug/L	P388291	
		Pyraclostrobin**	0.0020	U	ug/L	P388291	
		Thiamethoxam**	0.0020	U	ug/L	P388291	

Field ID: FB_10012020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2199641	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P388291	
		Triclopyr**	0.0040	U	ug/L	P388291	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P388163

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388514

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388516

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388180

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388182

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388753

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388217

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388227

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388228

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388167

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

Reference Method: EPA 8321B
Batch ID: P388205

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: P388291

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
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: P388259

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P388260

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P388262

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P388248

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

Reference Method: SM 2540 C-2011
Batch ID: P388621

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P388622

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P388616

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P388617

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P388252

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P388300

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388514

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388516

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388180

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388182

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388753

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388217

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: P388227

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388228

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.3		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P388205

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	144		P	40 - 150
AMPA	107		P	40 - 150
Endothall	84.3		P	40 - 150
Glufosinate	106		P	40 - 150
Glyphosate	103		P	40 - 140
Sucralose	109		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P388291

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	47.3		P	30 - 160
Acetaminophen	74.2		P	30 - 160
Acetamiprid	68.9		P	30 - 160
Afidopyropen	57.7		P	30 - 160
Bentazon	91.4		P	30 - 160
Benzovindiflupyr	74.9		P	30 - 160
Carbamazepine	52.3		P	30 - 160
Clothianidin	51.9		P	30 - 160
Dinotefuran	72.6		P	30 - 160
Diuron	30.6		P	30 - 160
Fenuron	90.5		P	30 - 160
Fluridone	89.7		P	30 - 160
Hydrocodone	75.7		P	30 - 160
Ibuprofen	124		P	30 - 160
Imazapyr	120		P	30 - 160
Imidacloprid	82.1		P	30 - 160
Linuron	73.1		P	30 - 160
Mandestrobin	93.6		P	30 - 160
MCPP	157		P	30 - 160
Naproxen	63.5		P	30 - 160
Primidone	71.8		P	30 - 160
Pyraclostrobin	90.0		P	30 - 160
Thiamethoxam	63.8		P	30 - 160
Tolfenpyrad	48.7		P	30 - 160
Triclopyr	134		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P388259

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.1		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P388260

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.5		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P388262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.8		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P388248

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P388252

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P388300

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388514

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199572	Chloride	104		P	90 - 110
2199602	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199572	Sulfate	99.2		P	90 - 110
2199602	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388180

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199579	Ammonia-N	99.6	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199694	Ammonia-N	99.8	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199597	Kjeldahl Nitrogen	103	91.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199596	NO2NO3-N	96.5	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388227

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199578	Total-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388228

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199603	Total-P	109	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199599	O-Phosphate-P	97.1	96.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P388205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199640	Acesulfame K	138	137	P/P	40 - 150
2199640	AMPA	105	99.3	P/P	40 - 150
2199640	Endothall	102	116	P/P	40 - 150
2199640	Glufosinate	95.3	93.1	P/P	40 - 150
2199640	Glyphosate	77.4	81.1	P/P	40 - 140
2199640	Sucralose	106	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P388291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199564	2,4-D	49.5	50.0	P/P	30 - 160
2199564	Acetaminophen	80.5	83.7	P/P	30 - 160
2199564	Acetamiprid	66.2	59.1	P/P	30 - 160
2199564	Afidopyropen	32.5	28.4	P/F	30 - 160
2199564	Bentazon	34.8	36.3	P/P	30 - 160
2199564	Benzovindiflupyr	56.7	63.0	P/P	30 - 160
2199564	Carbamazepine	44.5	46.2	P/P	30 - 160
2199564	Clothianidin	63.8	59.5	P/P	30 - 160
2199564	Dinotefuran	78.5	80.9	P/P	30 - 160
2199564	Diuron	37.7	37.0	P/P	30 - 160
2199564	Fenuron	57.5	59.0	P/P	30 - 160
2199564	Fluridone	66.2	63.7	P/P	30 - 160
2199564	Hydrocodone	56.1	60.7	P/P	30 - 160
2199564	Ibuprofen	57.7	51.2	P/P	30 - 160
2199564	Imazapyr	49.9	55.0	P/P	30 - 160
2199564	Imidacloprid	112	112	P/P	30 - 160
2199564	Linuron	76.7	81.3	P/P	30 - 160
2199564	Mandestrobin	60.6	67.1	P/P	30 - 160
2199564	MCP	55.0	57.5	P/P	30 - 160
2199564	Naproxen	40.5	46.4	P/P	30 - 160
2199564	Primidone	75.6	73.4	P/P	30 - 160
2199564	Pyraclostrobin	69.1	70.8	P/P	30 - 160
2199564	Thiamethoxam	68.6	68.8	P/P	30 - 160
2199564	Tolfenpyrad	41.8	40.5	P/P	30 - 160
2199564	Triclopyr	49.8	58.5	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P388252

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199690	Fluoride	98.6	98.6	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P388300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199722	Organic Carbon	101		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P388163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199595	Turbidity	0.976	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199572	Chloride	0.0611	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199572	Sulfate	0.141	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388180

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199579	Ammonia-N	0.324	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199694	Ammonia-N	2.79	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199597	Kjeldahl Nitrogen	6.47	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199596	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199578	Total-P	0.705	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199603	Total-P	0.573	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199599	O-Phosphate-P	0.720	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P388205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199640	Acesulfame K	0.656	Spike	P	0 - 30
2199640	AMPA	5.12	Spike	P	0 - 30
2199640	Endothall	12.6	Spike	P	0 - 30
2199640	Glufosinate	2.34	Spike	P	0 - 30
2199640	Glyphosate	4.67	Spike	P	0 - 30
2199640	Sucralose	2.00	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P388291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199564	2,4-D	1.00	Spike	P	0 - 30
2199564	Acetaminophen	3.87	Spike	P	0 - 30
2199564	Acetamiprid	11.4	Spike	P	0 - 30
2199564	Afidopyropen	13.2	Spike	P	0 - 30
2199564	Bentazon	4.28	Spike	P	0 - 30
2199564	Benzovindiflupyr	10.5	Spike	P	0 - 30
2199564	Carbamazepine	3.82	Spike	P	0 - 30
2199564	Clothianidin	7.01	Spike	P	0 - 30
2199564	Dinotefuran	3.07	Spike	P	0 - 30
2199564	Diuron	2.06	Spike	P	0 - 30
2199564	Fenuron	2.56	Spike	P	0 - 30
2199564	Fluridone	3.77	Spike	P	0 - 30
2199564	Hydrocodone	7.94	Spike	P	0 - 30
2199564	Ibuprofen	11.9	Spike	P	0 - 30
2199564	Imazapyr	4.09	Spike	P	0 - 30
2199564	Imidacloprid	0.0777	Spike	P	0 - 30
2199564	Linuron	5.86	Spike	P	0 - 30
2199564	Mandestrobin	10.3	Spike	P	0 - 30
2199564	MCPP	4.33	Spike	P	0 - 30
2199564	Naproxen	13.5	Spike	P	0 - 30
2199564	Primidone	2.98	Spike	P	0 - 30
2199564	Pyraclostrobin	2.47	Spike	P	0 - 30
2199564	Thiamethoxam	0.231	Spike	P	0 - 30
2199564	Tolfenpyrad	3.27	Spike	P	0 - 30
2199564	Triclopyr	16.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
Batch ID: P388259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199593	Color (true)	3.28	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P388260

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199669	Color (true)	0.300	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P388262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199595	Color (true)	1.96	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P388248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199690	Total Alkalinity	0.418	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P388621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199574	TDS	5.71	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P388622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199672	TDS	2.11	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P388616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199574	TSS	7.41	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P388252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199690	Fluoride	0.0	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P388300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199722	Organic Carbon	1.96	Sample	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2199640
Field Sample ID: G3SE0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	69.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.0	P	30 - 160
EPA 8321B	Diuron-d6	57.2	P	30 - 160
EPA 8321B	Endothall-d6	126	P	30 - 160
EPA 8321B	Endothall-d6	126	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	99.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	99.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.4	P	30 - 160
EPA 8321B	Primidone-d5	64.4	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160

Lab Sample ID: 2199641
Field Sample ID: FB_10012020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	60.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	58.8	P	30 - 160
EPA 8321B	Diuron-d6	49.6	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	129	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	129	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.2	P	30 - 160
EPA 8321B	Primidone-d5	81.1	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A101339

Included Lab Sample IDs: 2199593, 2199594, 2199595, 2199602, 2199605

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A101341

Included Lab Sample IDs: 2199599, 2199600, 2199601, 2199604, 2199607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	99.7	P/P	90 - 110
O-Phosphate-P	99.7	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A101344

Included Lab Sample IDs: 2199596, 2199597, 2199598, 2199603, 2199606

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.5	P/P	90 - 110
Ammonia-N	90.6	97.0	P/P	90 - 110
Ammonia-N	92.4	90.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101362

Included Lab Sample IDs: 2199596, 2199597, 2199598, 2199603, 2199606

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

Reference Method: EPA 8321B

Run ID: A101371

Included Lab Sample IDs: 2199640, 2199641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	108	P/P	60 - 160
AMPA	111	101	P/P	60 - 160
Glufosinate	104	99.3	P/P	60 - 160
Glufosinate	99.3	99.1	P/P	60 - 160
Glyphosate	95.6	98.6	P/P	60 - 160
Glyphosate	100	95.6	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A101373

Included Lab Sample IDs: 2199593, 2199594, 2199595, 2199602, 2199605

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A101373

Included Lab Sample IDs: 2199593, 2199594, 2199595, 2199602, 2199605

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A101377

Included Lab Sample IDs: 2199593, 2199594, 2199595, 2199602, 2199605

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.4	98.7	P/P	90 - 115
Color (true)	98.8	99.6	P/P	90 - 115
Color (true)	99.6	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101385

Included Lab Sample IDs: 2199597, 2199598

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	102	P/P	90 - 110
Total-P	99.4	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101387

Included Lab Sample IDs: 2199640, 2199641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	101	114	P/P	60 - 160
Acesulfame K	159	101	P/P	60 - 160
Endothall	109	109	P/P	60 - 160
Endothall	111	109	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A101393

Included Lab Sample IDs: 2199596, 2199597, 2199598, 2199603, 2199606

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	96.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A101398

Included Lab Sample IDs: 2199593, 2199594, 2199595, 2199602, 2199605

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.8	99.8	P/P	90 - 110
Chloride	99.8	101	P/P	90 - 110
Sulfate	96.1	97.1	P/P	90 - 110
Sulfate	97.1	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101406

Included Lab Sample IDs: 2199596, 2199606

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.0	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101412

Included Lab Sample IDs: 2199603

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101412

Included Lab Sample IDs: 2199603

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

Reference Method: EPA 8321B

Run ID: A101479

Included Lab Sample IDs: 2199640, 2199641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	110	109	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A101563

Included Lab Sample IDs: 2199640, 2199641

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.5	91.9	P/P	50 - 150
Acetaminophen	102	101	P/P	60 - 160
Acetamiprid	102	102	P/P	50 - 150
Afidopyropen	83.3	82.9	P/P	50 - 150
Bentazon	99.4	140	P/P	50 - 160
Benzovindiflupyr	93.3	101	P/P	50 - 150
Carbamazepine	102	104	P/P	60 - 150
Clothianidin	86.0	88.6	P/P	60 - 150
Dinotefuran	91.2	88.2	P/P	50 - 150
Diuron	103	95.8	P/P	60 - 160
Fenuron	94.2	92.2	P/P	60 - 150
Fluridone	96.6	101	P/P	60 - 160
Hydrocodone	102	101	P/P	60 - 150
Ibuprofen	86.8	109	P/P	50 - 160
Imazapyr	83.9	72.4	P/P	50 - 160
Imidacloprid	104	101	P/P	60 - 150
Linuron	104	121	P/P	60 - 150
Mandestrobin	99.9	101	P/P	50 - 150
MCPP	105	96.9	P/P	50 - 150
Naproxen	100	73.8	P/P	50 - 160
Primidone	89.3	87.6	P/P	60 - 150
Pyraclostrobin	99.0	94.8	P/P	60 - 150
Thiamethoxam	96.9	95.3	P/P	50 - 150
Tolfenpyrad	86.2	84.3	P/P	60 - 150
Triclopyr	98.0	111	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A101659

Included Lab Sample IDs: 2199596, 2199597, 2199598, 2199603, 2199606

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.6	101	P/P	90 - 110
Kjeldahl Nitrogen	98.1	96.6	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.976	
EPA 300.0 Rev. 2.1	Chloride	102	104	102		0.0611	
	Sulfate	98.8	99.2	98.2		0.141	
EPA 350.1 Rev. 2.0	Ammonia-N	93.7	99.6	100			0.324
	Ammonia-N	100	99.8	96.8			2.79
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	103	91.4			6.47
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	96.5	96.5			0.0
EPA 365.1 Rev. 2.0	Total-P	107	102	103			0.705
	Total-P	108	109	108			0.573
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.3	97.1	96.3			0.720
EPA 8321B	2,4-D	47.3	49.5	50.0			1.00
	Acesulfame K	144	138	137			0.656
	Acetaminophen	74.2	80.5	83.7			3.87
	Acetamiprid	68.9	66.2	59.1			11.4
	Afidopyropen	57.7	32.5	28.4			13.2
	AMPA	107	105	99.3			5.12
	Bentazon	91.4	34.8	36.3			4.28
	Benzovindiflupyr	74.9	56.7	63.0			10.5
	Carbamazepine	52.3	44.5	46.2			3.82
	Clothianidin	51.9	63.8	59.5			7.01
	Dinotefuran	72.6	78.5	80.9			3.07
	Diuron	30.6	37.7	37.0			2.06
	Endothall	84.3	102	116			12.6
	Fenuron	90.5	57.5	59.0			2.56
	Fluridone	89.7	66.2	63.7			3.77
	Glufosinate	106	95.3	93.1			2.34
	Glyphosate	103	77.4	81.1			4.67
	Hydrocodone	75.7	56.1	60.7			7.94
	Ibuprofen	124	57.7	51.2			11.9
	Imazapyr	120	49.9	55.0			4.09
	Imidacloprid	82.1	112	112			0.0777
	Linuron	73.1	76.7	81.3			5.86
	Mandestrobin	93.6	60.6	67.1			10.3
	MCPP	157	55.0	57.5			4.33
	Naproxen	63.5	40.5	46.4			13.5
	Primidone	71.8	75.6	73.4			2.98
	Pyraclostrobin	90.0	69.1	70.8			2.47
	Sucralose	109	106	108			2.00
	Thiamethoxam	63.8	68.6	68.8			0.231
	Tolfenpyrad	48.7	41.8	40.5			3.27
	Triclopyr	134	49.8	58.5			16.1
SM 2120 B-2011	Color (true)	96.1				3.28	
	Color (true)	96.5				0.300	
	Color (true)	97.8				1.96	
SM 2320 B-2011	Total Alkalinity	103				0.418	
SM 2540 C-2011	TDS					5.71	
	TDS					2.11	
SM 2540 D-2011	TSS					7.41	
SM 4500 F-C-2011	Fluoride	99.8	98.6	98.6			0.0
SM 5310 B-2011	Organic Carbon	99.2	101			1.96	

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2199593, 2199594, 2199595, 2199602, 2199605
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2199593, 2199594, 2199595, 2199602, 2199605
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2199593, 2199594, 2199595, 2199602, 2199605
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2199596, 2199597, 2199598, 2199603, 2199606
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2199596, 2199597, 2199598, 2199603, 2199606
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2199596, 2199597, 2199598, 2199603, 2199606
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2199596, 2199597, 2199598, 2199603, 2199606
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2199599, 2199600, 2199601, 2199604, 2199607
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2199640, 2199641
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2199640, 2199641
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2199593, 2199594, 2199595, 2199602, 2199605
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2199593, 2199594, 2199595, 2199602, 2199605
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2199593, 2199594, 2199595, 2199602, 2199605
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2199593, 2199594, 2199595, 2199602, 2199605
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2199593, 2199594, 2199595, 2199602, 2199605
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2199596, 2199597, 2199598, 2199603, 2199606

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	10/02/2020			10/02/2020 15:55	Yen Ta	2199593, 2199594, 2199595, 2199602, 2199605
EPA 300.0 Rev. 2.1	10/02/2020			10/10/2020 01:44	Lipi Saha	2199602
	10/02/2020			10/10/2020 03:28	Lipi Saha	2199593
	10/02/2020			10/10/2020 03:41	Lipi Saha	2199594
	10/02/2020			10/10/2020 04:20	Lipi Saha	2199595
	10/02/2020			10/10/2020 04:33	Lipi Saha	2199605
EPA 350.1 Rev. 2.0	10/02/2020			10/04/2020 11:42	Ping Hua	2199596
	10/02/2020			10/04/2020 11:51	Ping Hua	2199597
	10/02/2020			10/04/2020 11:53	Ping Hua	2199598
	10/02/2020			10/04/2020 11:54	Ping Hua	2199603
	10/02/2020			10/04/2020 12:42	Ping Hua	2199606
EPA 351.2 Rev. 2.0	10/02/2020	10/15/2020 13:30	David Boose	10/20/2020 19:56	Julia Storbeck	2199597
	10/02/2020	10/15/2020 13:30	David Boose	10/20/2020 20:09	Julia Storbeck	2199596
	10/02/2020	10/15/2020 13:30	David Boose	10/20/2020 20:10	Julia Storbeck	2199598
	10/02/2020	10/15/2020 13:30	David Boose	10/20/2020 20:12	Julia Storbeck	2199603
	10/02/2020	10/15/2020 13:30	David Boose	10/20/2020 20:15	Julia Storbeck	2199606
EPA 353.2 Rev. 2.0	10/02/2020			10/05/2020 11:32	Beverly Y. Sanders	2199596
	10/02/2020			10/05/2020 11:42	Beverly Y. Sanders	2199597
	10/02/2020			10/05/2020 11:43	Beverly Y. Sanders	2199598
	10/02/2020			10/05/2020 11:44	Beverly Y. Sanders	2199603
	10/02/2020			10/05/2020 11:45	Beverly Y. Sanders	2199606
EPA 365.1 Rev. 2.0	10/02/2020	10/05/2020 12:59	Yen Ta	10/06/2020 13:12	Benjamin T. Nordmann	2199597
	10/02/2020	10/05/2020 12:59	Yen Ta	10/06/2020 13:15	Benjamin T. Nordmann	2199598
	10/02/2020	10/05/2020 12:59	Yen Ta	10/07/2020 11:23	Lipi Saha	2199596
	10/02/2020	10/05/2020 12:59	Yen Ta	10/07/2020 11:25	Lipi Saha	2199606
	10/02/2020	10/05/2020 12:59	Yen Ta	10/07/2020 13:27	Benjamin T. Nordmann	2199603
EPA 365.1 Rev. 2.0 dissolved	10/02/2020			10/02/2020 15:34	Blanca Fach	2199599
	10/02/2020			10/02/2020 15:37	Blanca Fach	2199600
	10/02/2020			10/02/2020 15:38	Blanca Fach	2199601
	10/02/2020			10/02/2020 15:39	Blanca Fach	2199604
	10/02/2020			10/02/2020 15:45	Blanca Fach	2199607
EPA 8321B	10/02/2020	10/05/2020 12:45	Rebecca Ware	10/05/2020 14:30	Rebecca Ware	2199640
	10/02/2020	10/05/2020 12:45	Rebecca Ware	10/05/2020 15:15	Rebecca Ware	2199641
	10/02/2020	10/05/2020 12:45	Rebecca Ware	10/06/2020 11:39	Rebecca Ware	2199640
	10/02/2020	10/05/2020 12:45	Rebecca Ware	10/06/2020 12:48	Rebecca Ware	2199641
	10/02/2020	10/05/2020 12:45	Rebecca Ware	10/12/2020 18:17	Rebecca Ware	2199640
	10/02/2020	10/05/2020 12:45	Rebecca Ware	10/12/2020 18:52	Rebecca Ware	2199641
	10/02/2020	10/07/2020 13:00	Hoor Shaik	10/10/2020 01:13	Juyoung Kim	2199640
	10/02/2020	10/07/2020 13:00	Hoor Shaik	10/10/2020 01:48	Juyoung Kim	2199641

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B-2011	10/02/2020			10/02/2020 17:34	Benjamin T. Nordmann	2199605
	10/02/2020			10/02/2020 18:03	Benjamin T. Nordmann	2199594
	10/02/2020			10/02/2020 18:05	Benjamin T. Nordmann	2199602
	10/02/2020			10/02/2020 18:13	Benjamin T. Nordmann	2199595
	10/02/2020			10/02/2020 18:14	Benjamin T. Nordmann	2199593
SM 2320 B-2011	10/02/2020			10/06/2020 00:08	Dale L. Simmons	2199593
	10/02/2020			10/06/2020 00:20	Dale L. Simmons	2199594
	10/02/2020			10/06/2020 00:33	Dale L. Simmons	2199595
	10/02/2020			10/06/2020 00:45	Dale L. Simmons	2199602
	10/02/2020			10/06/2020 00:54	Dale L. Simmons	2199605
SM 2540 C-2011	10/02/2020			10/06/2020 13:14	Yijie Li	2199593, 2199594, 2199595, 2199602, 2199605
SM 2540 D-2011	10/02/2020			10/06/2020 13:14	Yijie Li	2199593, 2199594, 2199595, 2199602, 2199605
SM 4500 F-C-2011	10/02/2020			10/06/2020 00:08	Dale L. Simmons	2199593
	10/02/2020			10/06/2020 00:20	Dale L. Simmons	2199594
	10/02/2020			10/06/2020 00:33	Dale L. Simmons	2199595
	10/02/2020			10/06/2020 00:45	Dale L. Simmons	2199602
	10/02/2020			10/06/2020 00:54	Dale L. Simmons	2199605
SM 5310 B-2011	10/02/2020			10/07/2020 04:26	Madeline Gruver	2199596
	10/02/2020			10/07/2020 04:38	Madeline Gruver	2199597
	10/02/2020			10/07/2020 04:49	Madeline Gruver	2199598
	10/02/2020			10/07/2020 05:00	Madeline Gruver	2199603
	10/02/2020			10/07/2020 05:14	Madeline Gruver	2199606