

Chemical Analysis Report

SW-DIST-2020-10-08-01

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

Event Description: **Run 10: Tadpole Creek, Bellows, SIMS**
Request ID: **RQ-2020-10-05-11**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 28-OCT-2020 11:18

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: Tadpole Creek @ Caraway Spice Ave

Collection Date/Time: 10/07/2020 11:40

Field ID: G1SW0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2200693	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P388406	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P388734	
		Sulfate	25		mg SO4/L	P388737	
	SM 2120 B-2011	Color (true)	130		PCU	P388418	
	SM 2320 B-2011	Total Alkalinity	56		mg CaCO3/L	P388574	
	SM 2540 C-2011	TDS	185	A	mg/L	P389035	
	SM 2540 D-2011	TSS	4	IA	mg/L	P388898	
2200695	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P388577	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.35		mg N/L	P388498	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P388462	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.38		mg N/L	P388519	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P388454	MS
2200697	SM 5310 B-2011	Organic Carbon	19		mg C/L	P388563	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.048		mg P/L	P388413	

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.

Sample Location: Tadpole Creek @ Caraway Spice Ave

Collection Date/Time: 10/07/2020 11:40

Field ID: G1SW0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2200723	EPA 8321B	2,4-D	0.080		ug/L	P388526	
		Acesulfame K**	0.10	U	ug/L	P388355	
		AMPA**	0.46		ug/L	P388355	
		Sucralose**	0.31		ug/L	P388355	
		Acetaminophen**	0.0095	I	ug/L	P388526	
		Acetamiprid**	0.0020	U	ug/L	P388526	
		Endothall**	0.25	U	ug/L	P388355	
		Glufosinate**	0.10	U	ug/L	P388355	
		Glyphosate**	0.72		ug/L	P388355	
		Afidopyropen**	0.0020	U	ug/L	P388526	
		Bentazon	0.17		ug/L	P388526	
		Benzovindiflupyr**	0.0020	U	ug/L	P388526	
		Carbamazepine**	8.0E-04	U	ug/L	P388526	
		Clothianidin**	0.0061	I	ug/L	P388526	
		Dinotefuran**	0.0028	I	ug/L	P388526	
		Diuron	0.012		ug/L	P388526	
		Fenuron	0.016	U	ug/L	P388526	
		Fluridone**	8.0E-04	U	ug/L	P388526	
		Imazapyr**	0.21		ug/L	P388526	
		Hydrocodone**	0.0020	U	ug/L	P388526	
		Ibuprofen**	0.020	U	ug/L	P388526	
		Imidacloprid	0.041		ug/L	P388526	
		Linuron	0.0040	U	ug/L	P388526	
		Mandestrobin**	0.0020	U	ug/L	P388526	
		MCPP	0.0020	U	ug/L	P388526	
		Naproxen**	0.0080	U	ug/L	P388526	
		Primidone**	0.0040	U	ug/L	P388526	
		Pyraclostrobin**	0.0020	U	ug/L	P388526	
		Thiamethoxam**	0.0020	U	ug/L	P388526	
		Tolfenpyrad**	0.0020	U	ug/L	P388526	
		Triclopyr**	0.0040	U	ug/L	P388526	

Sample Location: Sims Branch @ Port Redwing

Collection Date/Time: 10/07/2020 12:10

Field ID: G1SW0056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2200699	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P388406	
	EPA 300.0 Rev. 2.1	Bromide	50		mg Br/L	P388512	
	SM 2320 B-2011	Total Alkalinity	111		mg CaCO3/L	P388940	
	SM 2540 D-2011	TSS	4	IA	mg/L	P388926	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P388776	
2200700	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P388499	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P388459	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P388690	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P388527	
	SM 5310 B-2011	Organic Carbon	4.8		mg C/L	P388726	
2200701	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P388414	

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: Sims Branch @ Port Redwing

Collection Date/Time: 10/07/2020 12:10

Field ID: G1SW0056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2200724	EPA 8321B	2,4-D	0.0056	I	ug/L	P388526	
		Acesulfame K**	0.10	UJ	ug/L	P388355	SUR
		AMPA**	1.0	U	ug/L	P388355	
		Sucralose**	1.0		ug/L	P388355	
		Acetaminophen**	0.010	I	ug/L	P388526	
		Acetamiprid**	0.0020	U	ug/L	P388526	
		Endothall**	0.25	UJ	ug/L	P388355	SUR
		Glufosinate**	1.0	U	ug/L	P388355	
		Glyphosate**	1.0	U	ug/L	P388355	
		Afidopyropen**	0.0020	U	ug/L	P388526	
		Bentazon	0.0032		ug/L	P388526	
		Benzovindiflupyr**	0.0020	U	ug/L	P388526	
		Carbamazepine**	8.0E-04	U	ug/L	P388526	
		Clothianidin**	0.0020	U	ug/L	P388526	
		Dinotefuran**	0.0020	U	ug/L	P388526	
		Diuron	0.0020	U	ug/L	P388526	
		Fenuron	0.016	U	ug/L	P388526	
		Fluridone**	0.0027	I	ug/L	P388526	
		Imazapyr**	0.015	I	ug/L	P388526	
		Hydrocodone**	0.0020	U	ug/L	P388526	
		Ibuprofen**	0.020	U	ug/L	P388526	
		Imidacloprid	0.0032	I	ug/L	P388526	
		Linuron	0.0040	U	ug/L	P388526	
		Mandestrobin**	0.0020	U	ug/L	P388526	
		MCPP	0.0020	U	ug/L	P388526	
		Naproxen**	0.0080	U	ug/L	P388526	
		Primidone**	0.0040	U	ug/L	P388526	
		Pyraclostrobin**	0.0020	U	ug/L	P388526	
		Thiamethoxam**	0.0020	U	ug/L	P388526	
		Tolfenpyrad**	0.0020	U	ug/L	P388526	
		Triclopyr**	0.0040	U	ug/L	P388526	

Ref. Method and Comment:

EPA 8321B: MDL for some parameters elevated due to matrix interference. Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Bellows Lake Outlet @ Danny Bryan Rd

Collection Date/Time: 10/07/2020 10:50

Field ID: G1SW0111

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2200694	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P388406	
	EPA 300.0 Rev. 2.1	Chloride	34		mg Cl/L	P388734	
		Sulfate	21		mg SO4/L	P388737	
	SM 2120 B-2011	Color (true)	40	A	PCU	P388418	
	SM 2320 B-2011	Total Alkalinity	106	A	mg CaCO3/L	P388574	
	SM 2540 C-2011	TDS	226		mg/L	P389035	
	SM 2540 D-2011	TSS	5	I	mg/L	P388898	
	SM 4500 F-C-2011	Fluoride	0.20		mg F/L	P388577	
2200696	EPA 350.1 Rev. 2.0	Ammonia-N	0.53		mg N/L	P388498	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P388462	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.38		mg N/L	P388519	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P388454	MS
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P388563	
2200698	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.042		mg P/L	P388413	

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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P388406

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388512

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388734

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388737

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388498

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388499

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388459

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388462

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388519

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388690

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388454

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388527

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388413

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388414

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

Reference Method: EPA 8321B
Batch ID: P388355

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: P388526

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P388526

Component	Result	Code	Units
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: P388418

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P388574

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

Reference Method: SM 2320 B-2011
Batch ID: P388940

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

Reference Method: SM 2540 C-2011
Batch ID: P389035

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P388898

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P388926

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P388577

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P388776

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P388563

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

Reference Method: SM 5310 B-2011
Batch ID: P388726

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: P388512

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388734

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388737

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388498

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388499

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388459

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388462

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388519

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388690

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	102		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388454

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388527

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388413

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388414

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

Reference Method: EPA 8321B
Batch ID: P388355

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	125		P	40 - 150
AMPA	78.8		P	40 - 150
Endothall	92.8		P	40 - 150
Glufosinate	85.4		P	40 - 150
Glyphosate	93.1		P	40 - 140
Sucralose	105		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P388526

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	78.5		P	30 - 160
Acetaminophen	78.5		P	30 - 160
Acetamiprid	66.7		P	30 - 160
Afidopyropen	42.2		P	30 - 160
Bentazon	43.0		P	30 - 160
Benzovindiflupyr	59.2		P	30 - 160
Carbamazepine	52.3		P	30 - 160
Clothianidin	71.0		P	30 - 160
Dinotefuran	77.1		P	30 - 160
Diuron	38.8		P	30 - 160
Fenuron	79.9		P	30 - 160
Fluridone	66.4		P	30 - 160
Hydrocodone	67.8		P	30 - 160
Ibuprofen	67.4		P	30 - 160
Imazapyr	74.3		P	30 - 160
Imidacloprid	83.3		P	30 - 160
Linuron	61.6		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P388526

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mandestrobin	68.4		P	30 - 160
MCP	75.5		P	30 - 160
Naproxen	42.5		P	30 - 160
Primidone	76.3		P	30 - 160
Pyraclostrobin	58.3		P	30 - 160
Thiamethoxam	72.8		P	30 - 160
Tolfenpyrad	44.7		P	30 - 160
Triclopyr	64.0		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P388418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.0		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P388574

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.8		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P388940

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

Reference Method: SM 4500 F-C-2011
Batch ID: P388577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P388776

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P388563

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P388726

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200711	Bromide	98.4	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199814	Chloride	101		P	90 - 110
2200681	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199814	Sulfate	98.2		P	90 - 110
2200681	Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388498

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2201169	Ammonia-N	105	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200166	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200283	Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200780	NO2NO3-N	97.6	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200700	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388454

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200644	Total-P	110	112	P/F	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P388527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200282	Total-P	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P388413

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200685	O-Phosphate-P	97.6	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P388414

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200713	O-Phosphate-P	97.4	97.7	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P388355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2199834	Acesulfame K	77.6	73.6	P/P	40 - 150
2199834	AMPA	121	120	P/P	40 - 150
2199834	Endothall	89.0	92.2	P/P	40 - 150
2199834	Glufosinate	80.7	87.4	P/P	40 - 150
2199834	Glyphosate	83.1	82.8	P/P	40 - 140
2199834	Sucralose	90.2	87.2	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P388526

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200724	2,4-D	57.0	61.8	P/P	30 - 160
2200724	Acetaminophen	99.9	99.2	P/P	30 - 160
2200724	Acetamiprid	67.4	71.8	P/P	30 - 160
2200724	Afidopyropen	34.2	35.2	P/P	30 - 160
2200724	Bentazon	32.2	40.2	P/P	30 - 160
2200724	Benzovindiflupyr	52.9	55.8	P/P	30 - 160
2200724	Carbamazepine	48.3	53.1	P/P	30 - 160
2200724	Clothianidin	74.4	74.2	P/P	30 - 160
2200724	Dinotefuran	80.8	82.1	P/P	30 - 160
2200724	Diuron	34.4	37.4	P/P	30 - 160
2200724	Fenuron	64.6	68.7	P/P	30 - 160
2200724	Fluridone	54.1	62.4	P/P	30 - 160
2200724	Hydrocodone	60.3	63.8	P/P	30 - 160
2200724	Ibuprofen	53.5	44.7	P/P	30 - 160
2200724	Imazapyr	78.2	82.8	P/P	30 - 160
2200724	Imidacloprid	97.8	105	P/P	30 - 160
2200724	Linuron	48.9	54.8	P/P	30 - 160
2200724	Mandestrobin	57.4	61.1	P/P	30 - 160
2200724	MCCP	55.7	60.0	P/P	30 - 160
2200724	Naproxen	57.3	70.7	P/P	30 - 160
2200724	Primidone	64.7	62.6	P/P	30 - 160
2200724	Pyraclostrobin	49.3	54.2	P/P	30 - 160
2200724	Thiamethoxam	82.7	86.0	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P388526

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200724	Tolfenpyrad	38.6	37.6	P/P	30 - 160
2200724	Triclopyr	51.8	51.6	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P388577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200694	Fluoride	98.1	98.8	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P388776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200169	Fluoride	101	101	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P388563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2200696	Organic Carbon	103	103	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P388726

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2201436	Organic Carbon	95.5	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P388406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200682	Turbidity	7.92	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200711	Bromide	1.38	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200681	Chloride	0.849	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200681	Sulfate	0.477	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2201169	Ammonia-N	0.220	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200166	Ammonia-N	0.540	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200283	Kjeldahl Nitrogen	0.749	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200695	Kjeldahl Nitrogen	5.90	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200780	NO2NO3-N	0.359	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P388690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200700	NO2NO3-N	0.466	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200644	Total-P	2.50	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200282	Total-P	1.98	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388413

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200685	O-Phosphate-P	0.853	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P388414

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200713	O-Phosphate-P	0.165	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P388355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2199834	Acesulfame K	5.35	Spike	P	0 - 30
2199834	AMPA	1.24	Spike	P	0 - 30
2199834	Endothall	3.49	Spike	P	0 - 30
2199834	Glufosinate	7.97	Spike	P	0 - 30
2199834	Glyphosate	0.362	Spike	P	0 - 30
2199834	Sucralose	3.06	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P388526

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200724	2,4-D	7.29	Spike	P	0 - 30
2200724	Acetaminophen	0.616	Spike	P	0 - 30
2200724	Acetamiprid	6.25	Spike	P	0 - 30
2200724	Afidopyropen	2.81	Spike	P	0 - 30
2200724	Bentazon	10.4	Spike	P	0 - 30
2200724	Benzovindiflupyr	5.25	Spike	P	0 - 30
2200724	Carbamazepine	9.44	Spike	P	0 - 30
2200724	Clothianidin	0.220	Spike	P	0 - 30
2200724	Dinotefuran	1.54	Spike	P	0 - 30
2200724	Diuron	8.21	Spike	P	0 - 30
2200724	Fenuron	6.21	Spike	P	0 - 30
2200724	Fluridone	11.6	Spike	P	0 - 30
2200724	Hydrocodone	5.69	Spike	P	0 - 30
2200724	Ibuprofen	17.9	Spike	P	0 - 30
2200724	Imazapyr	4.58	Spike	P	0 - 30
2200724	Imidacloprid	7.21	Spike	P	0 - 30
2200724	Linuron	11.3	Spike	P	0 - 30
2200724	Mandestrobin	6.21	Spike	P	0 - 30
2200724	MCPP	7.32	Spike	P	0 - 30
2200724	Naproxen	21.0	Spike	P	0 - 30
2200724	Primidone	3.35	Spike	P	0 - 30
2200724	Pyraclostrobin	9.50	Spike	P	0 - 30
2200724	Thiamethoxam	3.84	Spike	P	0 - 30
2200724	Tolfenpyrad	2.50	Spike	P	0 - 30
2200724	Triclopyr	0.475	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P388418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200694	Color (true)	0.985	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P388574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200694	Total Alkalinity	1.20	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P388940

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2201247	Total Alkalinity	1.94	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P389035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200693	TDS	0.0	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P388577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200694	Fluoride	0.467	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P388776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200169	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P388563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2200696	Organic Carbon	0.157	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P388726

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2201436	Organic Carbon	5.53	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2200723
Field Sample ID: G1SW0112

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	63.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	39.7	P	30 - 160
EPA 8321B	Diuron-d6	35.8	P	30 - 160
EPA 8321B	Endothall-d6	133	P	30 - 160
EPA 8321B	Endothall-d6	133	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	89.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	89.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	61.2	P	30 - 160
EPA 8321B	Primidone-d5	50.1	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160

Lab Sample ID: 2200724
Field Sample ID: G1SW0056

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	77.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	81.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	49.8	P	30 - 160
EPA 8321B	Diuron-d6	45.7	P	30 - 160
EPA 8321B	Endothall-d6	1100	F	30 - 160
EPA 8321B	Endothall-d6	1100	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	40.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	40.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	71.9	P	30 - 160
EPA 8321B	Primidone-d5	63.6	P	30 - 160
EPA 8321B	Sucralose-d6	90.2	P	30 - 160
EPA 8321B	Sucralose-d6	90.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A101391

Included Lab Sample IDs: 2200699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	103	106	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A101431

Included Lab Sample IDs: 2200693, 2200694, 2200699

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A101435

Included Lab Sample IDs: 2200697, 2200698, 2200701

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	100	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A101436

Included Lab Sample IDs: 2200693, 2200694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A101451

Included Lab Sample IDs: 2200723, 2200724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	125	61.4	P/P	60 - 160
Endothall	108	113	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A101460

Included Lab Sample IDs: 2200695, 2200696, 2200700

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101468

Included Lab Sample IDs: 2200695, 2200696

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A101474

Included Lab Sample IDs: 2200695, 2200696, 2200700

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A101474

Included Lab Sample IDs: 2200695, 2200696, 2200700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.6	P/P	90 - 110
Kjeldahl Nitrogen	97.9	97.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101475

Included Lab Sample IDs: 2200723, 2200724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	69.4	61.2	P/P	60 - 160
AMPA	92.3	69.4	P/P	60 - 160
Glufosinate	76.8	89.5	P/P	60 - 160
Glufosinate	89.0	76.8	P/P	60 - 160
Glyphosate	99.4	104	P/P	60 - 160
Glyphosate	99.7	99.4	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101478

Included Lab Sample IDs: 2200695, 2200696

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

Reference Method: EPA 8321B

Run ID: A101479

Included Lab Sample IDs: 2200723, 2200724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	106	109	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A101484

Included Lab Sample IDs: 2200695, 2200696

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

Reference Method: SM 2320 B-2011

Run ID: A101486

Included Lab Sample IDs: 2200693, 2200694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A101486

Included Lab Sample IDs: 2200693, 2200694

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A101493

Included Lab Sample IDs: 2200693, 2200694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	99.6	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101519

Included Lab Sample IDs: 2200700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101527

Included Lab Sample IDs: 2200700

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

Reference Method: SM 5310 B-2011

Run ID: A101541

Included Lab Sample IDs: 2200700

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	104	106	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A101554

Included Lab Sample IDs: 2200699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	97.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101588

Included Lab Sample IDs: 2200723, 2200724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.9	90.5	P/P	50 - 150
2,4-D	90.5	86.7	P/P	50 - 150
Acetaminophen	101	99.7	P/P	60 - 160
Acetaminophen	102	101	P/P	60 - 160
Acetamiprid	104	101	P/P	50 - 150
Acetamiprid	106	104	P/P	50 - 150
Afidopyropen	81.0	93.0	P/P	50 - 150
Afidopyropen	88.7	81.0	P/P	50 - 150
Bentazon	103	88.4	P/P	50 - 160
Bentazon	98.1	65.9	P/P	50 - 160
Benzovindiflupyr	92.9	90.0	P/P	50 - 150
Benzovindiflupyr	98.1	92.9	P/P	50 - 150
Carbamazepine	103	99.3	P/P	60 - 150
Carbamazepine	103	103	P/P	60 - 150
Clothianidin	101	90.5	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A101588

Included Lab Sample IDs: 2200723, 2200724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Clothianidin	90.5	86.9	P/P	60 - 150
Dinotefuran	89.6	86.3	P/P	50 - 150
Dinotefuran	90.1	89.6	P/P	50 - 150
Diuron	104	102	P/P	60 - 160
Diuron	99.6	104	P/P	60 - 160
Fenuron	118	115	P/P	60 - 150
Fenuron	119	118	P/P	60 - 150
Fluridone	111	108	P/P	60 - 160
Fluridone	115	111	P/P	60 - 160
Hydrocodone	100	102	P/P	60 - 150
Hydrocodone	102	98.2	P/P	60 - 150
Ibuprofen	100	97.6	P/P	50 - 160
Ibuprofen	122	100	P/P	50 - 160
Imazapyr	80.8	82.7	P/P	50 - 160
Imazapyr	97.8	80.8	P/P	50 - 160
Imidacloprid	89.9	86.0	P/P	60 - 150
Imidacloprid	94.0	89.9	P/P	60 - 150
Linuron	83.8	103	P/P	60 - 150
Linuron	91.9	83.8	P/P	60 - 150
Mandestrobin	100	99.6	P/P	50 - 150
Mandestrobin	99.6	98.1	P/P	50 - 150
MCPP	83.6	79.1	P/P	50 - 150
MCPP	91.7	83.6	P/P	50 - 150
Naproxen	109	112	P/P	50 - 160
Naproxen	112	90.5	P/P	50 - 160
Primidone	90.2	90.3	P/P	60 - 150
Primidone	90.3	87.1	P/P	60 - 150
Pyraclostrobin	101	95.1	P/P	60 - 150
Pyraclostrobin	95.1	94.2	P/P	60 - 150
Thiamethoxam	95.1	96.2	P/P	50 - 150
Thiamethoxam	99.6	95.1	P/P	50 - 150
Tolfenpyrad	109	97.8	P/P	60 - 150
Tolfenpyrad	97.8	95.6	P/P	60 - 150
Triclopyr	70.5	78.1	P/P	50 - 150
Triclopyr	84.5	70.5	P/P	50 - 150

Reference Method: SM 2320 B-2011

Run ID: A101630

Included Lab Sample IDs: 2200699

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	97.8	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					7.92	
EPA 300.0 Rev. 2.1	Bromide	107	98.4	101			1.38
	Chloride	102	102	101		0.849	
	Sulfate	100	97.9	98.2		0.477	
EPA 350.1 Rev. 2.0	Ammonia-N	101	105	105			0.220
	Ammonia-N	104	103	104			0.540
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	105	104			0.749
	Kjeldahl Nitrogen	105					5.90
EPA 353.2 Rev. 2.0	NO2NO3-N	102	97.6	97.0			0.359
	NO2NO3-N	102	102	101			0.466
EPA 365.1 Rev. 2.0	Total-P	108	110	112			2.50
	Total-P	109	101	103			1.98
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5	97.6	98.8			0.853
	O-Phosphate-P	98.9	97.4	97.7			0.165
EPA 8321B	2,4-D	78.5	57.0	61.8			7.29
	Acesulfame K	125	77.6	73.6			5.35
	Acetaminophen	78.5	99.9	99.2			0.616
	Acetamiprid	66.7	67.4	71.8			6.25
	Afidopyropen	42.2	34.2	35.2			2.81
	AMPA	78.8	121	120			1.24
	Bentazon	43.0	32.2	40.2			10.4
	Benzovindiflupyr	59.2	52.9	55.8			5.25
	Carbamazepine	52.3	48.3	53.1			9.44
	Clothianidin	71.0	74.4	74.2			0.220
	Dinotefuran	77.1	80.8	82.1			1.54
	Diuron	38.8	34.4	37.4			8.21
	Endothall	92.8	89.0	92.2			3.49
	Fenuron	79.9	64.6	68.7			6.21
	Fluridone	66.4	54.1	62.4			11.6
	Glufosinate	85.4	80.7	87.4			7.97
	Glyphosate	93.1	83.1	82.8			0.362
	Hydrocodone	67.8	60.3	63.8			5.69
	Ibuprofen	67.4	53.5	44.7			17.9
	Imazapyr	74.3	78.2	82.8			4.58
	Imidacloprid	83.3	97.8	105			7.21
	Linuron	61.6	48.9	54.8			11.3
	Mandestrobin	68.4	57.4	61.1			6.21
	MCPP	75.5	55.7	60.0			7.32
	Naproxen	42.5	57.3	70.7			21.0
	Primidone	76.3	64.7	62.6			3.35
	Pyraclostrobin	58.3	49.3	54.2			9.50
	Sucralose	105	90.2	87.2			3.06
	Thiamethoxam	72.8	82.7	86.0			3.84
	Tolfenpyrad	44.7	38.6	37.6			2.50
	Triclopyr	64.0	51.8	51.6			0.475
SM 2120 B-2011	Color (true)	98.0				0.985	
SM 2320 B-2011	Total Alkalinity	99.8				1.20	
	Total Alkalinity	101				1.94	
SM 2540 C-2011	TDS					0.0	
SM 4500 F-C-2011	Fluoride	99.4	98.1	98.8			0.467
	Fluoride	96.1	101	101			0.0
SM 5310 B-2011	Organic Carbon	102	103	103			0.157
	Organic Carbon	102	95.5	102			5.53

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2200693, 2200694, 2200699
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2200699
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2200693, 2200694
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2200693, 2200694
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2200695, 2200696, 2200700
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2200695, 2200696, 2200700
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2200695, 2200696, 2200700
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2200695, 2200696, 2200700
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2200697, 2200698, 2200701
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2200723, 2200724
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2200723, 2200724
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2200693, 2200694
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2200693, 2200694, 2200699
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2200693, 2200694
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2200693, 2200694, 2200699
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2200693, 2200694, 2200699
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2200695, 2200696, 2200700

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	10/08/2020			10/08/2020 15:41	Yen Ta	2200693, 2200694, 2200699
EPA 300.0 Rev. 2.1	10/08/2020			10/09/2020 14:03	Lipi Saha	2200699
	10/08/2020			10/14/2020 16:58	Lipi Saha	2200693
	10/08/2020			10/14/2020 17:11	Lipi Saha	2200694
EPA 350.1 Rev. 2.0	10/08/2020			10/10/2020 13:24	Ping Hua	2200700
	10/08/2020			10/10/2020 13:30	Ping Hua	2200695
	10/08/2020			10/10/2020 13:42	Ping Hua	2200696
EPA 351.2 Rev. 2.0	10/08/2020	10/09/2020 12:48	David Boose	10/12/2020 12:49	Virginia P. Brown	2200700
	10/08/2020	10/09/2020 12:50	David Boose	10/12/2020 14:07	Virginia P. Brown	2200695
	10/08/2020	10/09/2020 12:50	David Boose	10/12/2020 14:12	Virginia P. Brown	2200696
EPA 353.2 Rev. 2.0	10/08/2020			10/12/2020 10:04	Beverly Y. Sanders	2200695
	10/08/2020			10/12/2020 10:05	Beverly Y. Sanders	2200696
	10/08/2020			10/14/2020 10:01	Beverly Y. Sanders	2200700
EPA 365.1 Rev. 2.0	10/08/2020	10/09/2020 12:35	Yen Ta	10/12/2020 14:17	Lipi Saha	2200695
	10/08/2020	10/09/2020 12:35	Yen Ta	10/12/2020 14:18	Lipi Saha	2200696
	10/08/2020	10/12/2020 12:20	Yen Ta	10/13/2020 13:23	Lipi Saha	2200700
EPA 365.1 Rev. 2.0 dissolved	10/08/2020			10/08/2020 15:31	Virginia P. Brown	2200697
	10/08/2020			10/08/2020 15:32	Virginia P. Brown	2200698
	10/08/2020			10/08/2020 15:37	Virginia P. Brown	2200701
EPA 8321B	10/08/2020	10/08/2020 15:30	Rebecca Ware	10/08/2020 19:31	Rebecca Ware	2200723
	10/08/2020	10/08/2020 15:30	Rebecca Ware	10/08/2020 19:45	Rebecca Ware	2200724
	10/08/2020	10/08/2020 15:30	Rebecca Ware	10/09/2020 15:56	Rebecca Ware	2200723
	10/08/2020	10/08/2020 15:30	Rebecca Ware	10/09/2020 17:13	Rebecca Ware	2200724
	10/08/2020	10/08/2020 15:30	Rebecca Ware	10/12/2020 15:38	Rebecca Ware	2200723
	10/08/2020	10/08/2020 15:30	Rebecca Ware	10/12/2020 15:50	Rebecca Ware	2200724
	10/08/2020	10/13/2020 09:00	Hoor Shaik	10/17/2020 02:41	Juyoung Kim	2200724
	10/08/2020	10/13/2020 09:00	Hoor Shaik	10/17/2020 05:34	Juyoung Kim	2200723
	10/08/2020	10/13/2020 09:00	Hoor Shaik	10/19/2020 09:52	Juyoung Kim	2200723
SM 2120 B-2011	10/08/2020			10/08/2020 17:07	Benjamin T. Nordmann	2200694
	10/08/2020			10/08/2020 17:08	Benjamin T. Nordmann	2200693
SM 2320 B-2011	10/08/2020			10/13/2020 06:14	Lauren Lees	2200694
	10/08/2020			10/13/2020 06:34	Lauren Lees	2200693
	10/08/2020			10/19/2020 16:32	Samantha Davila	2200699
SM 2540 C-2011	10/08/2020			10/09/2020 19:52	Madeline Gruver	2200693, 2200694
SM 2540 D-2011	10/08/2020			10/09/2020 18:07	Madeline Gruver	2200693, 2200694
	10/08/2020			10/13/2020 15:11	Yijie Li	2200699
SM 4500 F-C-2011	10/08/2020			10/13/2020 06:03	Lauren Lees	2200694
	10/08/2020			10/13/2020 06:34	Lauren Lees	2200693
	10/08/2020			10/16/2020 06:45	Lauren Lees	2200699
SM 5310 B-2011	10/08/2020			10/13/2020 01:12	Madeline Gruver	2200696

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	10/08/2020			10/13/2020 03:02	Madeline Gruver	2200695
	10/08/2020			10/15/2020 11:47	Madeline Gruver	2200700