

Chemical Analysis Report

SW-DIST-2020-07-08-02

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

Event Description: **Mizelle, Owens, McDonald, Chito, Gilley**

Request ID: **RQ-2020-06-22-08**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

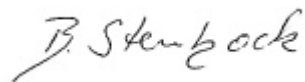
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Date Certified: 28-JUL-2020 18:12



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: Owens Branch in Park

Collection Date/Time: 07/07/2020 09:55

Field ID: G2SW0132

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181422	EPA 180.1 Rev. 2.0	Turbidity	6.2	A	NTU	P384250	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P384527	
		Sulfate	61		mg SO4/L	P384531	
	SM 2120 B-2011	Color (true)	130		PCU	P384256	
	SM 2320 B-2011	Total Alkalinity	28		mg CaCO3/L	P384612	
	SM 2540 C-2011	TDS	168		mg/L	P384799	
	SM 2540 D-2011	TSS	4	I	mg/L	P384806	
	SM 4500 F-C-2011	Fluoride	0.40		mg F/L	P384925	
2181424	EPA 350.1 Rev. 2.0	Ammonia-N	0.097		mg N/L	P384440	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P384350	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P384497	
	EPA 365.1 Rev. 2.0	Total-P	0.48		mg P/L	P384409	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P384347	
2181426	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.37		mg P/L	P384242	
2181434	EPA 8321B	2,4-D	0.0020	U	ug/L	P384189	
		Acesulfame K**	0.10	UJ	ug/L	P384231	MS
		AMPA**	0.10	I	ug/L	P384231	
		Sucralose**	0.018	I	ug/L	P384231	
		Acetaminophen**	0.016	I	ug/L	P384189	
		Acetamiprid**	0.0020	U	ug/L	P384189	
		Endothall**	0.25	U	ug/L	P384231	
		Glufosinate**	0.10	U	ug/L	P384231	
		Glyphosate**	0.10	U	ug/L	P384231	
		Afidopyrophen**	0.0020	U	ug/L	P384189	
		Bentazon	8.0E-04	U	ug/L	P384189	
		Benzovindiflupyr**	0.0020	U	ug/L	P384189	
		Carbamazepine**	8.0E-04	U	ug/L	P384189	
		Clothianidin**	0.0020	U	ug/L	P384189	
		Dinotefuran**	0.0020	U	ug/L	P384189	
		Diuron	0.0054	I	ug/L	P384189	
		Fenuron	0.016	U	ug/L	P384189	
		Fluridone**	8.0E-04	U	ug/L	P384189	
		Imazapyr**	0.11		ug/L	P384189	
		Hydrocodone**	0.0020	U	ug/L	P384189	
		Ibuprofen**	0.020	U	ug/L	P384189	
		Imidacloprid	0.010		ug/L	P384189	
		Linuron	0.0040	U	ug/L	P384189	
		Mandestrobin**	0.0020	U	ug/L	P384189	
		MCP	0.0020	U	ug/L	P384189	
		Naproxen**	0.0080	U	ug/L	P384189	
		Primidone**	0.0040	U	ug/L	P384189	
		Pyraclostrobin**	0.0020	U	ug/L	P384189	
		Thiamethoxam**	0.0020	U	ug/L	P384189	

Field ID: G2SW0132

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181434	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P384189	
		Triclopyr**	0.0040	U	ug/L	P384189	

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 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Mizelle Creek in Park

Collection Date/Time: 07/07/2020 09:35

Field ID: G2SW0131

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181423	EPA 180.1 Rev. 2.0	Turbidity	8.2		NTU	P384250	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P384527	
		Sulfate	16		mg SO4/L	P384531	
	SM 2120 B-2011	Color (true)	92		PCU	P384256	
	SM 2320 B-2011	Total Alkalinity	96	A	mg CaCO3/L	P384612	
	SM 2540 C-2011	TDS	168	A	mg/L	P384799	
	SM 2540 D-2011	TSS	6	IA	mg/L	P384806	
	SM 4500 F-C-2011	Fluoride	0.95		mg F/L	P384925	
2181425	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P384440	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P384350	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.39		mg N/L	P384497	
	EPA 365.1 Rev. 2.0	Total-P	0.54		mg P/L	P384409	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P384347	
2181427	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.38		mg P/L	P384242	
2181435	EPA 8321B	2,4-D	0.0020	U	ug/L	P384189	
		Acesulfame K**	0.10	U	ug/L	P384231	MS
		AMPA**	0.23	I	ug/L	P384231	
		Sucralose**	0.058		ug/L	P384231	
		Acetaminophen**	0.0080	U	ug/L	P384189	
		Acetamiprid**	0.0020	U	ug/L	P384189	
		Endothall**	0.25	U	ug/L	P384231	
		Glufosinate**	0.10	U	ug/L	P384231	
		Glyphosate**	0.16	I	ug/L	P384231	
		Afidopyropen**	0.0020	U	ug/L	P384189	
		Bentazon	8.0E-04	U	ug/L	P384189	
		Benzovindiflupyr**	0.0020	U	ug/L	P384189	
		Carbamazepine**	8.0E-04	U	ug/L	P384189	
		Clothianidin**	0.0020	U	ug/L	P384189	
		Dinotefuran**	0.0020	U	ug/L	P384189	
		Diuron	0.0039	I	ug/L	P384189	
		Fenuron	0.016	U	ug/L	P384189	
		Fluridone**	8.0E-04	U	ug/L	P384189	
		Imazapyr**	0.11		ug/L	P384189	
		Hydrocodone**	0.0020	U	ug/L	P384189	
		Ibuprofen**	0.020	U	ug/L	P384189	
		Imidacloprid	0.0020	U	ug/L	P384189	
		Linuron	0.0040	U	ug/L	P384189	
		Mandestrobin**	0.0020	U	ug/L	P384189	
		MCP	0.0020	U	ug/L	P384189	
		Naproxen**	0.0080	U	ug/L	P384189	
		Primidone**	0.0040	U	ug/L	P384189	
		Pyraclostrobin**	0.0020	U	ug/L	P384189	
		Thiamethoxam**	0.0020	U	ug/L	P384189	

Field ID: G2SW0131

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2181435	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P384189	
		Triclopyr**	0.0040	U	ug/L	P384189	

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 2,4-D 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: P384250

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384527

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384531

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384440

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384350

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384497

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384409

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384242

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

Reference Method: EPA 8321B
Batch ID: P384189

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P384189

Component	Result	Code	Units
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: EPA 8321B
Batch ID: P384231

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B-2011
Batch ID: P384256

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 CaCO3/L

Reference Method: SM 2540 C-2011
Batch ID: P384799

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P384806

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: P384347

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: P384527

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384531

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384440

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: P384350

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.9		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384497

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: P384409

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: P384242

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.1		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P384189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	112		P	30 - 160
Acetaminophen	78.8		P	30 - 160
Acetamiprid	81.8		P	30 - 160
Afidopyropen	71.4		P	30 - 160
Bentazon	69.9		P	30 - 160
Benzovindiflupyr	75.6		P	30 - 160
Carbamazepine	71.9		P	30 - 160
Clothianidin	82.2		P	30 - 160
Dinotefuran	94.0		P	30 - 160
Diuron	62.6		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P384189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	99.8		P	30 - 160
Fluridone	104		P	30 - 160
Hydrocodone	86.7		P	30 - 160
Ibuprofen	90.7		P	30 - 160
Imazapyr	84.0		P	30 - 160
Imidacloprid	102		P	30 - 160
Linuron	59.7		P	30 - 160
Mandestrobin	84.9		P	30 - 160
MCPP	105		P	30 - 160
Naproxen	75.5		P	30 - 160
Primidone	74.3		P	30 - 160
Pyraclostrobin	75.4		P	30 - 160
Thiamethoxam	88.1		P	30 - 160
Tolfenpyrad	51.7		P	30 - 160
Triclopyr	78.9		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P384231

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	66.1		P	40 - 150
AMPA	81.0		P	40 - 150
Endothall	102		P	40 - 150
Glufosinate	95.5		P	40 - 150
Glyphosate	90.1		P	40 - 140
Sucralose	89.4		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P384256

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		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: P384347

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181410	Chloride	102		P	90 - 110
2181584	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181410	Sulfate	100		P	90 - 110
2181584	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384440

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181543	Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384350

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181543	Kjeldahl Nitrogen	97.5	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384497

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181527	NO2NO3-N	97.6	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181397	Total-P	106	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181588	O-Phosphate-P	97.2	97.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P384189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180960	Acetaminophen	67.9	68.0	P/P	30 - 160
2180960	Acetamiprid	57.2	56.1	P/P	30 - 160
2180960	Afidopropen	61.6	63.3	P/P	30 - 160
2180960	Bentazon	39.6	35.4	P/P	30 - 160
2180960	Benzovindiflupyr	67.1	69.4	P/P	30 - 160
2180960	Carbamazepine	48.1	49.1	P/P	30 - 160
2180960	Clothianidin	53.6	50.5	P/P	30 - 160
2180960	Dinotefuran	69.5	63.5	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P384189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180960	Diuron	41.0	41.0	P/P	30 - 160
2180960	Fenuron	55.3	55.1	P/P	30 - 160
2180960	Fluridone	100	98.6	P/P	30 - 160
2180960	Hydrocodone	58.6	56.8	P/P	30 - 160
2180960	Ibuprofen	76.2	69.6	P/P	30 - 160
2180960	Imazapyr	94.3	77.8	P/P	30 - 160
2180960	Imidacloprid	95.8	93.2	P/P	30 - 160
2180960	Linuron	49.1	53.3	P/P	30 - 160
2180960	Mandestrobin	75.0	73.9	P/P	30 - 160
2180960	MCP	86.6	80.7	P/P	30 - 160
2180960	Naproxen	61.5	67.1	P/P	30 - 160
2180960	Primidone	63.5	67.9	P/P	30 - 160
2180960	Pyraclostrobin	71.6	71.6	P/P	30 - 160
2180960	Thiamethoxam	68.1	66.8	P/P	30 - 160
2180960	Tolfenpyrad	61.3	62.6	P/P	30 - 160
2180960	Triclopyr	74.7	60.6	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P384231

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181434	Acesulfame K	39.0	42.0	F/P	40 - 150
2181434	AMPA	78.8	78.4	P/P	40 - 150
2181434	Endothall	112	116	P/P	40 - 150
2181434	Glufosinate	83.2	92.7	P/P	40 - 150
2181434	Glyphosate	86.9	91.3	P/P	40 - 140
2181434	Sucralose	51.7	55.4	P/P	40 - 150

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: P384347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181543	Organic Carbon	94.2	94.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181422	Turbidity	3.08	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181584	Chloride	0.823	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181584	Sulfate	0.587	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384440

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181543	Ammonia-N	1.54	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384350

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181543	Kjeldahl Nitrogen	2.67	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181527	NO2NO3-N	0.990	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181397	Total-P	2.99	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181588	O-Phosphate-P	0.451	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P384189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180960	2,4-D	5.32	Spike	P	0 - 30
2180960	Acetaminophen	0.148	Spike	P	0 - 30
2180960	Acetamiprid	1.98	Spike	P	0 - 30
2180960	Afidopyropen	2.72	Spike	P	0 - 30
2180960	Bentazon	5.86	Spike	P	0 - 30
2180960	Benzovindiflupyr	3.40	Spike	P	0 - 30
2180960	Carbamazepine	1.67	Spike	P	0 - 30
2180960	Clothianidin	5.38	Spike	P	0 - 30
2180960	Dinotefuran	9.03	Spike	P	0 - 30
2180960	Diuron	0.0735	Spike	P	0 - 30
2180960	Fenuron	0.424	Spike	P	0 - 30
2180960	Fluridone	1.35	Spike	P	0 - 30
2180960	Hydrocodone	3.00	Spike	P	0 - 30
2180960	Ibuprofen	9.15	Spike	P	0 - 30
2180960	Imazapyr	10.7	Spike	P	0 - 30
2180960	Imidacloprid	2.59	Spike	P	0 - 30
2180960	Linuron	8.26	Spike	P	0 - 30
2180960	Mandestrobin	1.40	Spike	P	0 - 30
2180960	MCPP	7.09	Spike	P	0 - 30
2180960	Naproxen	8.72	Spike	P	0 - 30
2180960	Primidone	6.62	Spike	P	0 - 30
2180960	Pyraclostrobin	0.0440	Spike	P	0 - 30
2180960	Thiamethoxam	1.90	Spike	P	0 - 30
2180960	Tolfenpyrad	2.17	Spike	P	0 - 30
2180960	Triclopyr	20.8	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P384231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181434	Acesulfame K	7.39	Spike	P	0 - 30
2181434	AMPA	0.485	Spike	P	0 - 30
2181434	Endothall	3.58	Spike	P	0 - 30
2181434	Glufosinate	10.8	Spike	P	0 - 30
2181434	Glyphosate	4.87	Spike	P	0 - 30
2181434	Sucralose	6.82	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P384256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181391	Color (true)	4.96	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

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P384799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181423	TDS	3.57	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

Reference Method: SM 5310 B-2011
Batch ID: P384347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2181543	Organic Carbon	0.0603	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2181434
Field Sample ID: G2SW0132

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	150	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.1	P	30 - 160
EPA 8321B	Diuron-d6	83.2	P	30 - 160
EPA 8321B	Endothall-d6	99.5	P	30 - 160
EPA 8321B	Endothall-d6	99.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	102	P	30 - 160
EPA 8321B	Primidone-d5	102	P	30 - 160
EPA 8321B	Sucralose-d6	57.1	P	30 - 160
EPA 8321B	Sucralose-d6	57.1	P	30 - 160

Lab Sample ID: 2181435
Field Sample ID: G2SW0131

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	100	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	54.2	P	30 - 160
EPA 8321B	Diuron-d6	54.8	P	30 - 160
EPA 8321B	Endothall-d6	98.9	P	30 - 160
EPA 8321B	Endothall-d6	98.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	90.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	90.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.2	P	30 - 160
EPA 8321B	Primidone-d5	72.7	P	30 - 160
EPA 8321B	Sucralose-d6	72.9	P	30 - 160
EPA 8321B	Sucralose-d6	72.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99747

Included Lab Sample IDs: 2181426, 2181427

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	94.9	90.7	P/P	90 - 110
O-Phosphate-P	94.9	94.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99748

Included Lab Sample IDs: 2181422, 2181423

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

Reference Method: SM 2120 B-2011

Run ID: A99749

Included Lab Sample IDs: 2181422, 2181423

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

Reference Method: EPA 8321B

Run ID: A99760

Included Lab Sample IDs: 2181434, 2181435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	79.1	81.4	P/P	60 - 160
Glufosinate	101	94.9	P/P	60 - 160
Glyphosate	106	116	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A99787

Included Lab Sample IDs: 2181424, 2181425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.6	94.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99793

Included Lab Sample IDs: 2181434, 2181435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	65.6	74.9	P/P	60 - 160
Endothall	100	110	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99809

Included Lab Sample IDs: 2181424, 2181425

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99824

Included Lab Sample IDs: 2181424, 2181425

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99827

Included Lab Sample IDs: 2181424, 2181425

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

Reference Method: EPA 8321B

Run ID: A99828

Included Lab Sample IDs: 2181434, 2181435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.1	103	P/P	50 - 150
Acetaminophen	112	107	P/P	60 - 160
Acetamiprid	111	107	P/P	50 - 150
Afidopyropen	119	105	P/P	50 - 150
Bentazon	143	132	P/P	50 - 160
Benzovindiflupyr	89.0	88.2	P/P	50 - 150
Carbamazepine	107	106	P/P	60 - 150
Clothianidin	89.8	95.7	P/P	60 - 150
Dinotefuran	92.9	95.9	P/P	50 - 150
Diuron	110	111	P/P	60 - 160
Fenuron	91.2	75.3	P/P	60 - 150
Fluridone	124	113	P/P	60 - 160
Hydrocodone	118	115	P/P	60 - 150
Ibuprofen	94.9	66.7	P/P	50 - 160
Imazapyr	73.5	84.2	P/P	50 - 150
Imidacloprid	95.3	97.4	P/P	60 - 150
Linuron	93.8	92.8	P/P	60 - 150
Mandestrobin	104	102	P/P	50 - 150
MCP	96.9	87.0	P/P	50 - 150
Naproxen	85.3	87.5	P/P	50 - 160
Primidone	91.8	85.2	P/P	60 - 150
Pyraclostrobin	97.8	98.9	P/P	60 - 150
Thiamethoxam	108	108	P/P	50 - 150
Tolfenpyrad	97.6	109	P/P	60 - 150
Triclopyr	88.6	82.7	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99836

Included Lab Sample IDs: 2181422, 2181423

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99850

Included Lab Sample IDs: 2181424, 2181425

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.4	93.1	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A99877

Included Lab Sample IDs: 2181422, 2181423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.3	103	P/P	90 - 110
Total Alkalinity	99.6	99.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99878

Included Lab Sample IDs: 2181434, 2181435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	90.0	89.5	P/P	60 - 160

Reference Method: SM 4500 F-C-2011

Run ID: A99986

Included Lab Sample IDs: 2181422, 2181423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	100	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					3.08	
EPA 300.0 Rev. 2.1	Chloride	102	103	102		0.823	
	Sulfate	101	101	100		0.587	
EPA 350.1 Rev. 2.0	Ammonia-N	101	103	101			1.54
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.9	97.5	102			2.67
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	97.6	98.6			0.990
EPA 365.1 Rev. 2.0	Total-P	105	106	103			2.99
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.1	97.2	97.9			0.451
EPA 8321B	2,4-D	112					5.32
	Acesulfame K	66.1	39.0	42.0			7.39
	Acetaminophen	78.8	67.9	68.0			0.148
	Acetamiprid	81.8	57.2	56.1			1.98
	Afidopyropen	71.4	63.3	61.6			2.72
	AMPA	81.0	78.8	78.4			0.485
	Bentazon	69.9	35.4	39.6			5.86
	Benzovindiflupyr	75.6	69.4	67.1			3.40
	Carbamazepine	71.9	49.1	48.1			1.67
	Clothianidin	82.2	53.6	50.5			5.38
	Dinotefuran	94.0	69.5	63.5			9.03
	Diuron	62.6	41.0	41.0			0.0735
	Endothall	102	112	116			3.58
	Fenuron	99.8	55.3	55.1			0.424
	Fluridone	104	98.6	100			1.35
	Glufosinate	95.5	83.2	92.7			10.8
	Glyphosate	90.1	86.9	91.3			4.87
	Hydrocodone	86.7	58.6	56.8			3.00
	Ibuprofen	90.7	69.6	76.2			9.15
	Imazapyr	84.0	77.8	94.3			10.7
	Imidacloprid	102	95.8	93.2			2.59
	Linuron	59.7	53.3	49.1			8.26
	Mandestrobin	84.9	73.9	75.0			1.40
	MCPP	105	80.7	86.6			7.09
	Naproxen	75.5	67.1	61.5			8.72
	Primidone	74.3	63.5	67.9			6.62
	Pyraclostrobin	75.4	71.6	71.6			0.0440
	Sucralose	89.4	51.7	55.4			6.82
	Thiamethoxam	88.1	68.1	66.8			1.90
	Tolfenpyrad	51.7	62.6	61.3			2.17
	Triclopyr	78.9	60.6	74.7			20.8
SM 2120 B-2011	Color (true)	102				4.96	
SM 2320 B-2011	Total Alkalinity	99.1				0.0372	
SM 2540 C-2011	TDS					3.57	
SM 4500 F-C-2011	Fluoride	99.3	104	105			0.983
SM 5310 B-2011	Organic Carbon	97.8	94.2	94.1			0.0603

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2181422, 2181423
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2181422, 2181423
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2181422, 2181423
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2181424, 2181425
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2181424, 2181425

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2181424, 2181425
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2181424, 2181425
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2181426, 2181427
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2181434, 2181435
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2181434, 2181435
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2181422, 2181423
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2181422, 2181423
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2181422, 2181423
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2181422, 2181423
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2181422, 2181423
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2181424, 2181425

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	07/08/2020			07/08/2020 17:06	Yen Ta	2181422, 2181423
EPA 300.0 Rev. 2.1	07/08/2020			07/10/2020 15:54	Julia Storbeck	2181422
	07/08/2020			07/10/2020 16:06	Julia Storbeck	2181423
EPA 350.1 Rev. 2.0	07/08/2020			07/11/2020 20:09	Ping Hua	2181424
	07/08/2020			07/11/2020 20:11	Ping Hua	2181425
EPA 351.2 Rev. 2.0	07/08/2020	07/10/2020 09:30	Sima Feizi	07/13/2020 18:59	Jhamieka S. Greenwood	2181424
	07/08/2020	07/10/2020 09:30	Sima Feizi	07/13/2020 19:01	Jhamieka S. Greenwood	2181425
EPA 353.2 Rev. 2.0	07/08/2020			07/13/2020 10:13	Beverly Y. Sanders	2181424
	07/08/2020			07/13/2020 10:14	Beverly Y. Sanders	2181425
EPA 365.1 Rev. 2.0	07/08/2020	07/10/2020 13:26	Yen Ta	07/13/2020 09:57	Benjamin T. Nordmann	2181424
	07/08/2020	07/10/2020 13:26	Yen Ta	07/13/2020 09:58	Benjamin T. Nordmann	2181425
EPA 365.1 Rev. 2.0 dissolved	07/08/2020			07/08/2020 16:36	Jhamieka S. Greenwood	2181426
	07/08/2020			07/08/2020 16:41	Jhamieka S. Greenwood	2181427
EPA 8321B	07/08/2020	07/08/2020 17:00	Rebecca Ware	07/08/2020 20:32	Rebecca Ware	2181434
	07/08/2020	07/08/2020 17:00	Rebecca Ware	07/08/2020 20:43	Rebecca Ware	2181435
	07/08/2020	07/08/2020 17:00	Rebecca Ware	07/09/2020 21:13	Rebecca Ware	2181434
	07/08/2020	07/08/2020 17:00	Rebecca Ware	07/09/2020 21:27	Rebecca Ware	2181435
	07/08/2020	07/08/2020 17:00	Rebecca Ware	07/14/2020 16:59	Rebecca Ware	2181434
	07/08/2020	07/08/2020 17:00	Rebecca Ware	07/14/2020 17:11	Rebecca Ware	2181435
	07/08/2020	07/09/2020 09:00	Hoor Shaik	07/11/2020 23:40	Juyoung Kim	2181434
	07/08/2020	07/09/2020 09:00	Hoor Shaik	07/12/2020 00:15	Juyoung Kim	2181435
SM 2120 B-2011	07/08/2020			07/08/2020 17:37	Madeline Gruver	2181422
	07/08/2020			07/08/2020 17:38	Madeline Gruver	2181423
SM 2320 B-2011	07/08/2020			07/14/2020 02:02	Dale L. Simmons	2181423
	07/08/2020			07/14/2020 03:52	Dale L. Simmons	2181422
SM 2540 C-2011	07/08/2020			07/13/2020 14:46	Yijie Li	2181422, 2181423
SM 2540 D-2011	07/08/2020			07/13/2020 15:21	Yijie Li	2181422, 2181423
SM 4500 F-C-2011	07/08/2020			07/20/2020 23:17	Samantha Davila	2181422
	07/08/2020			07/20/2020 23:22	Samantha Davila	2181423
SM 5310 B-2011	07/08/2020			07/10/2020 06:29	David Boose	2181424
	07/08/2020			07/10/2020 06:42	David Boose	2181425