

Chemical Analysis Report

SW-DIST-2020-11-04-01

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

Event Description: **Tadpole Creek**
Request ID: **RQ-2020-11-02-54**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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13051 N. Telecom Parkway
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 25-NOV-2020 11:00



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: 11/03/2020 12:00

Field ID: G1SW0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2206343	EPA 180.1 Rev. 2.0	Turbidity	7.2	A	NTU	P389753	
	EPA 300.0 Rev. 2.1	Chloride	34		mg Cl/L	P389956	
		Sulfate	30		mg SO4/L	P389958	
	SM 2120 B-2011	Color (true)	150		PCU	P389757	
	SM 2320 B-2011	Total Alkalinity	60		mg CaCO3/L	P389921	
	SM 2540 C-2011	TDS	221		mg/L	P390169	
	SM 2540 D-2011	TSS	4	I	mg/L	P390146	
	SM 4500 F-C-2011	Fluoride	0.089	I	mg F/L	P390099	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.78		mg N/L	P389893	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P389838	
2206344	EPA 353.2 Rev. 2.0	NO2NO3-N	0.65		mg N/L	P389860	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P389802	
	SM 5310 B-2011	Organic Carbon	22		mg C/L	P389907	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.051		mg P/L	P389764	
	dissolved						
2206345	EPA 8321B	2,4-D	0.0020	U	ug/L	P389732	
2206349		Acesulfame K**	0.10	U	ug/L	P389773	MS
		AMPA**	0.42		ug/L	P389773	
		Sucralose**	0.13		ug/L	P389773	
		Acetaminophen**	0.0080	U	ug/L	P389732	
		Acetamiprid**	0.0020	U	ug/L	P389732	
		Endothall**	0.25	U	ug/L	P389773	
		Glufosinate**	0.10	U	ug/L	P389773	
		Glyphosate**	0.56		ug/L	P389773	
		Afidopyropen**	0.0020	U	ug/L	P389732	
		Bentazon	0.28		ug/L	P389732	
		Benzovindiflupyr**	0.0020	U	ug/L	P389732	
		Carbamazepine**	8.0E-04	U	ug/L	P389732	
		Clothianidin**	0.0020	U	ug/L	P389732	
		Dinotefuran**	0.0020	U	ug/L	P389732	
		Diuron	0.024		ug/L	P389732	
		Fenuron	0.016	U	ug/L	P389732	
		Fluridone**	0.11		ug/L	P389732	
		Imazapyr**	0.25		ug/L	P389732	
		Hydrocodone**	0.0020	U	ug/L	P389732	
		Ibuprofen**	0.020	U	ug/L	P389732	
		Imidacloprid	0.015		ug/L	P389732	
		Linuron	0.0040	U	ug/L	P389732	
		Mandestrobin**	0.0020	U	ug/L	P389732	
		MCP	0.0020	U	ug/L	P389732	
		Naproxen**	0.0080	U	ug/L	P389732	
		Primidone**	0.0040	U	ug/L	P389732	
		Pyraclostrobin**	0.0020	U	ug/L	P389732	
		Thiamethoxam**	0.0020	U	ug/L	P389732	

Field ID: G1SW0112

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2206349	EPA 8321B	Tolfenpyrad**	0.0020	UJ	ug/L	P389732	CCV
		Triclopyr**	0.0040	U	ug/L	P389732	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P389753

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389956

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389958

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389893

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389838

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389860

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389802

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389764

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

Reference Method: EPA 8321B
Batch ID: P389732

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: P389732

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: P389773

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: P389757

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P389921

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

Reference Method: SM 2540 C-2011
Batch ID: P390169

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P390146

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P390099

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P389907

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: P389956

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389958

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389893

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389838

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389860

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389802

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P389732

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	60.8		P	30 - 160
Acetaminophen	54.2		P	30 - 160
Acetamiprid	71.9		P	30 - 160
Afidopyropen	51.4		P	30 - 160
Bentazon	41.8		P	30 - 160
Benzovindiflupyr	56.7		P	30 - 160
Carbamazepine	62.2		P	30 - 160
Clothianidin	88.4		P	30 - 160
Dinotefuran	82.3		P	30 - 160
Diuron	53.8		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P389732

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	112		P	30 - 160
Fluridone	66.7		P	30 - 160
Hydrocodone	64.6		P	30 - 160
Ibuprofen	81.1		P	30 - 160
Imazapyr	78.6		P	30 - 160
Imidacloprid	86.5		P	30 - 160
Linuron	68.9		P	30 - 160
Mandestrobin	64.2		P	30 - 160
MCPP	65.9		P	30 - 160
Naproxen	48.6		P	30 - 160
Primidone	85.8		P	30 - 160
Pyraclostrobin	47.3		P	30 - 160
Thiamethoxam	83.2		P	30 - 160
Tolfenpyrad	33.7		P	30 - 160
Triclopyr	64.1		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P389773

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	102		P	40 - 150
AMPA	90.6		P	40 - 150
Endothall	89.2		P	40 - 150
Glufosinate	90.7		P	40 - 150
Glyphosate	102		P	40 - 140
Sucralose	102		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P389757

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P389921

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P390099

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.4		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P389907

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205350	Chloride	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389958

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2205350	Sulfate	96.0		P	90 - 110
2206213	Sulfate	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206386	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206280	Kjeldahl Nitrogen	99.9	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389860

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206226	NO2NO3-N	96.7	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389802

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206252	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206163	O-Phosphate-P	97.0	97.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P389732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206319	2,4-D	55.3	55.1	P/P	30 - 160
2206319	Acetaminophen	34.5	40.1	P/P	30 - 160
2206319	Acetamiprid	56.1	47.3	P/P	30 - 160
2206319	Afidopyropen	43.5	35.2	P/P	30 - 160
2206319	Benzovindiflupyr	54.1	53.0	P/P	30 - 160
2206319	Carbamazepine	54.0	47.3	P/P	30 - 160
2206319	Clothianidin	56.5	59.6	P/P	30 - 160
2206319	Dinotefuran	47.2	53.9	P/P	30 - 160
2206319	Diuron	36.5	35.9	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P389732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206319	Fenuron	60.4	57.8	P/P	30 - 160
2206319	Fluridone	61.3	56.5	P/P	30 - 160
2206319	Hydrocodone	55.6	62.6	P/P	30 - 160
2206319	Ibuprofen	68.0	55.2	P/P	30 - 160
2206319	Imazapyr	78.7	72.7	P/P	30 - 160
2206319	Linuron	65.8	63.1	P/P	30 - 160
2206319	Mandestrobin	59.1	58.4	P/P	30 - 160
2206319	MCPP	59.4	56.3	P/P	30 - 160
2206319	Naproxen	45.4	50.3	P/P	30 - 160
2206319	Primidone	66.7	72.9	P/P	30 - 160
2206319	Pyraclostrobin	48.5	47.3	P/P	30 - 160
2206319	Thiamethoxam	75.7	72.9	P/P	30 - 160
2206319	Tolfenpyrad	47.7	41.2	P/P	30 - 160
2206319	Triclopyr	47.7	51.8	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P389773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206287	Acesulfame K	19.8	19.6	F/F	40 - 150
2206287	AMPA	75.0	73.1	P/P	40 - 150
2206287	Endothall	92.7	94.1	P/P	40 - 150
2206287	Glufosinate	89.9	85.8	P/P	40 - 150
2206287	Glyphosate	82.5	81.6	P/P	40 - 140
2206287	Sucralose	116	105	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P390099

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206538	Fluoride	97.6	98.8	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P389907

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2206165	Organic Carbon	103	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P389753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206343	Turbidity	6.99	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205350	Chloride	0.739	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2205350	Sulfate	0.680	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206386	Ammonia-N	0.613	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206280	Kjeldahl Nitrogen	3.73	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389860

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206226	NO2NO3-N	1.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206252	Total-P	0.949	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206163	O-Phosphate-P	0.821	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P389732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206319	2,4-D	0.336	Spike	P	0 - 30
2206319	Acetaminophen	15.0	Spike	P	0 - 30
2206319	Acetamiprid	17.1	Spike	P	0 - 30
2206319	Afidopyropen	21.2	Spike	P	0 - 30
2206319	Benzovindiflupyr	2.13	Spike	P	0 - 30
2206319	Carbamazepine	9.73	Spike	P	0 - 30
2206319	Clothianidin	5.22	Spike	P	0 - 30
2206319	Dinotefuran	10.7	Spike	P	0 - 30
2206319	Diuron	1.69	Spike	P	0 - 30
2206319	Fenuron	4.43	Spike	P	0 - 30
2206319	Fluridone	6.37	Spike	P	0 - 30
2206319	Hydrocodone	11.9	Spike	P	0 - 30
2206319	Ibuprofen	20.7	Spike	P	0 - 30
2206319	Imazapyr	4.46	Spike	P	0 - 30
2206319	Imidacloprid	7.08	Spike	P	0 - 30
2206319	Linuron	4.08	Spike	P	0 - 30
2206319	Mandestrobin	1.23	Spike	P	0 - 30
2206319	MCPP	5.42	Spike	P	0 - 30
2206319	Naproxen	10.2	Spike	P	0 - 30
2206319	Primidone	6.47	Spike	P	0 - 30
2206319	Pyraclostrobin	2.60	Spike	P	0 - 30
2206319	Thiamethoxam	3.86	Spike	P	0 - 30
2206319	Tolfenpyrad	14.6	Spike	P	0 - 30
2206319	Triclopyr	8.26	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P389773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206287	Acesulfame K	0.976	Spike	P	0 - 30
2206287	AMPA	1.82	Spike	P	0 - 30
2206287	Endothall	1.45	Spike	P	0 - 30
2206287	Glufosinate	4.72	Spike	P	0 - 30
2206287	Glyphosate	0.575	Spike	P	0 - 30
2206287	Sucralose	9.43	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P389757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206383	Color (true)	0.0387	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P389921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206519	Total Alkalinity	0.478	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P390169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206164	TDS	7.85	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P390099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206538	Fluoride	0.984	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P389907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2206165	Organic Carbon	0.0990	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2206349

Field Sample ID: G1SW0112

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	53.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	39.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	49.2	P	30 - 160
EPA 8321B	Diuron-d6	38.0	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	61.9	P	30 - 160
EPA 8321B	Primidone-d5	57.9	P	30 - 160
EPA 8321B	Sucralose-d6	46.4	P	30 - 160
EPA 8321B	Sucralose-d6	46.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A101959

Included Lab Sample IDs: 2206343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	97.0	97.0	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A101960

Included Lab Sample IDs: 2206343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	106	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A101961

Included Lab Sample IDs: 2206345

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

Reference Method: EPA 8321B

Run ID: A102008

Included Lab Sample IDs: 2206349

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	106	114	P/P	50 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102010

Included Lab Sample IDs: 2206344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102019

Included Lab Sample IDs: 2206344

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102027

Included Lab Sample IDs: 2206344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102028

Included Lab Sample IDs: 2206344

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A102035

Included Lab Sample IDs: 2206344

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

Reference Method: EPA 8321B

Run ID: A102036

Included Lab Sample IDs: 2206349

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	100	104	P/P	50 - 150
Acetaminophen	109	109	P/P	60 - 160
Acetamiprid	107	114	P/P	50 - 150
Afidopyropen	88.1	81.5	P/P	50 - 150
Bentazon	85.4	96.2	P/P	50 - 160
Benzovindiflupyr	105	108	P/P	50 - 150
Carbamazepine	92.1	93.0	P/P	60 - 150
Clothianidin	102	114	P/P	60 - 150
Dinotefuran	101	99.5	P/P	50 - 150
Diuron	80.8	87.0	P/P	60 - 160
Fenuron	111	113	P/P	60 - 150
Fluridone	99.1	99.5	P/P	60 - 160
Hydrocodone	109	109	P/P	60 - 150
Ibuprofen	87.2	97.9	P/P	50 - 160
Imazapyr	106	103	P/P	50 - 160
Imidacloprid	101	85.2	P/P	60 - 150
Linuron	89.6	100	P/P	60 - 150
Mandestrobin	95.5	97.2	P/P	50 - 150
MCPP	98.2	90.7	P/P	50 - 150
Naproxen	90.9	130	P/P	50 - 160
Primidone	102	109	P/P	60 - 150
Pyraclostrobin	105	111	P/P	60 - 150
Thiamethoxam	108	104	P/P	50 - 150
Tolfenpyrad	150	151*	P/F	60 - 150
Triclopyr	86.7	93.3	P/P	50 - 150

Reference Method: SM 2320 B-2011

Run ID: A102049

Included Lab Sample IDs: 2206343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A102055

Included Lab Sample IDs: 2206349

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	93.2	88.6	P/P	50 - 160
Glufosinate	94.8	95.9	P/P	50 - 160
Glyphosate	101	105	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A102056

Included Lab Sample IDs: 2206349

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	122	101	P/P	50 - 160
Endothall	102	102	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102065

Included Lab Sample IDs: 2206343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.5	100	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A102147

Included Lab Sample IDs: 2206343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	96.5	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	Precision		
				LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				6.99	
EPA 300.0 Rev. 2.1	Chloride	100	99.1		0.739	
	Sulfate	101	96.0 99.1		0.680	
EPA 350.1 Rev. 2.0	Ammonia-N	102	103 104			0.613
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	99.9 106			3.73
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5	96.7 98.2			1.54
EPA 365.1 Rev. 2.0	Total-P	104	104 105			0.949
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	97.0 97.8			0.821
EPA 8321B	2,4-D	60.8	55.3 55.1			0.336
	Acesulfame K	102	19.8 19.6			0.976
	Acetaminophen	54.2	40.1 34.5			15.0
	Acetamiprid	71.9	47.3 56.1			17.1
	Afidopyropen	51.4	43.5 35.2			21.2
	AMPA	90.6	75.0 73.1			1.82
	Bentazon	41.8				
	Benzovindiflupyr	56.7	54.1 53.0			2.13
	Carbamazepine	62.2	47.3 54.0			9.73
	Clothianidin	88.4	59.6 56.5			5.22
	Dinotefuran	82.3	53.9 47.2			10.7
	Diuron	53.8	36.5 35.9			1.69
	Endothall	89.2	92.7 94.1			1.45
	Fenuron	112	57.8 60.4			4.43
	Fluridone	66.7	61.3 56.5			6.37
	Glufosinate	90.7	89.9 85.8			4.72
	Glyphosate	102	82.5 81.6			0.575
	Hydrocodone	64.6	62.6 55.6			11.9
	Ibuprofen	81.1	68.0 55.2			20.7
	Imazapyr	78.6	78.7 72.7			4.46
	Imidacloprid	86.5				7.08
	Linuron	68.9	65.8 63.1			4.08
	Mandestrobin	64.2	59.1 58.4			1.23
	MCPP	65.9	59.4 56.3			5.42
	Naproxen	48.6	45.4 50.3			10.2
	Primidone	85.8	72.9 66.7			6.47
	Pyraclostrobin	47.3	48.5 47.3			2.60
	Sucralose	102	116 105			9.43
	Thiamethoxam	83.2	72.9 75.7			3.86
	Tolfenpyrad	33.7	47.7 41.2			14.6
	Triclopyr	64.1	47.7 51.8			8.26
SM 2120 B-2011	Color (true)	103			0.0387	
SM 2320 B-2011	Total Alkalinity	99.9			0.478	
SM 2540 C-2011	TDS				7.85	
SM 4500 F-C-2011	Fluoride	94.4	97.6 98.8			0.984
SM 5310 B-2011	Organic Carbon	101	103 103			0.0990

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2206343
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2206343
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2206343
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2206344
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2206344

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2206344
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2206344
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2206345
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2206349
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2206349
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2206343
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2206343
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2206343
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2206343
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2206343
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2206344

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	11/04/2020			11/04/2020 15:13	Yen Ta	2206343
EPA 300.0 Rev. 2.1	11/04/2020			11/10/2020 06:55	Lipi Saha	2206343
EPA 350.1 Rev. 2.0	11/04/2020			11/07/2020 13:41	Ping Hua	2206344
EPA 351.2 Rev. 2.0	11/04/2020	11/05/2020 14:28	David Boose	11/07/2020 16:03	Elliott Rodriguez	2206344
EPA 353.2 Rev. 2.0	11/04/2020			11/06/2020 10:21	Beverly Y. Sanders	2206344
EPA 365.1 Rev. 2.0	11/04/2020	11/05/2020 12:58	Yen Ta	11/06/2020 15:17	Benjamin T. Nordmann	2206344
EPA 365.1 Rev. 2.0 dissolved	11/04/2020			11/04/2020 17:49	Ping Hua	2206345
EPA 8321B	11/04/2020	11/05/2020 09:00	Hoor Shaik	11/06/2020 12:16	Juyoung Kim	2206349
	11/04/2020	11/05/2020 09:00	Hoor Shaik	11/06/2020 21:30	Juyoung Kim	2206349
	11/04/2020	11/05/2020 10:00	Rebecca Ware	11/05/2020 14:40	Rebecca Ware	2206349
	11/04/2020	11/05/2020 10:00	Rebecca Ware	11/06/2020 14:25	Rebecca Ware	2206349
	11/04/2020	11/05/2020 10:00	Rebecca Ware	11/06/2020 19:05	Rebecca Ware	2206349
SM 2120 B-2011	11/04/2020			11/04/2020 16:45	Benjamin T. Nordmann	2206343
SM 2320 B-2011	11/04/2020			11/07/2020 01:57	Dale L. Simmons	2206343
SM 2540 C-2011	11/04/2020			11/09/2020 13:51	Yijie Li	2206343
SM 2540 D-2011	11/04/2020			11/09/2020 13:51	Yijie Li	2206343
SM 4500 F-C-2011	11/04/2020			11/13/2020 17:46	Dale L. Simmons	2206343
SM 5310 B-2011	11/04/2020			11/06/2020 18:28	Touraj Touran	2206344