

Chemical Analysis Report

TLH-ROC-2020-10-22-02

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

Event Description: **Run 3**
Request ID: **RQ-2020-09-14-43**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-NOV-2020 13:30

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

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: Bailey Mill Creek @ Wilson Rd.

Collection Date/Time: 10/22/2020 11:20

Field ID: G1TLHR0081

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2204426	EPA 180.1 Rev. 2.0	Turbidity	2.3	A	NTU	P389193	
	EPA 300.0 Rev. 2.1	Chloride	6.2		mg Cl/L	P389474	
		Sulfate	0.20	U	mg SO4/L	P389477	
	SM 2120 B-2011	Color (true)	230		PCU	P389182	
	SM 2320 B-2011	Total Alkalinity	53		mg CaCO3/L	P389451	
	SM 2540 C-2011	TDS	131		mg/L	P389605	
	SM 2540 D-2011	TSS	5	IA	mg/L	P389602	
	SM 4500 F-C-2011	Fluoride	0.062	I	mg F/L	P389455	
2204427	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P389213	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.9		mg N/L	P389327	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P389304	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P389403	
	SM 5310 B-2011	Organic Carbon	29		mg C/L	P389296	
2204428	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P389122	
2204431	EPA 8321B	2,4-D	0.0020	U	ug/L	P389104	
		Acesulfame K**	0.10	U	ug/L	P389220	MS
		AMPA**	0.10	U	ug/L	P389220	
		Sucralose**	0.010	U	ug/L	P389220	
		Acetaminophen**	0.0080	U	ug/L	P389104	
		Acetamiprid**	0.0020	U	ug/L	P389104	
		Endothall**	0.25	U	ug/L	P389220	
		Glufosinate**	0.10	U	ug/L	P389220	
		Glyphosate**	0.10	U	ug/L	P389220	
		Afidopyropen**	0.0020	U	ug/L	P389104	
		Bentazon	8.0E-04	U	ug/L	P389104	
		Benzovindiflupyr**	0.0020	U	ug/L	P389104	
		Carbamazepine**	8.0E-04	U	ug/L	P389104	
		Clothianidin**	0.0020	U	ug/L	P389104	
		Dinotefuran**	0.0020	U	ug/L	P389104	
		Diuron	0.0020	U	ug/L	P389104	
		Fenuron	0.016	U	ug/L	P389104	
		Fluridone**	8.0E-04	U	ug/L	P389104	
		Imazapyr**	0.016		ug/L	P389104	
		Hydrocodone**	0.0020	U	ug/L	P389104	
		Ibuprofen**	0.020	U	ug/L	P389104	
		Imidacloprid	0.0020	U	ug/L	P389104	
		Linuron	0.0040	U	ug/L	P389104	
		Mandestrobin**	0.0020	U	ug/L	P389104	
		MCP	0.0020	U	ug/L	P389104	
		Naproxen**	0.0080	U	ug/L	P389104	
		Primidone**	0.0040	U	ug/L	P389104	
		Pyraclostrobin**	0.0020	U	ug/L	P389104	
		Thiamethoxam**	0.0020	U	ug/L	P389104	

Field ID: G1TLHR0081

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2204431	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P389104	
		Triclopyr**	0.0040	U	ug/L	P389104	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: 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: P389193

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389474

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389477

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389213

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389327

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389304

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389403

Component	Result	Code	Units
Total-P	0.005	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389122

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

Reference Method: EPA 8321B
Batch ID: P389104

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: P389104

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: P389220

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: P389182

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P389451

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

Reference Method: SM 2540 C-2011
Batch ID: P389605

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P389602

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P389455

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P389296

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: P389474

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P389477

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P389213

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P389327

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P389304

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: P389403

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: P389122

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.0		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P389104

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	71.8		P	30 - 160
Acetaminophen	51.6		P	30 - 160
Acetamiprid	55.2		P	30 - 160
Afidopyropen	43.0		P	30 - 160
Bentazon	53.7		P	30 - 160
Benzovindiflupyr	66.9		P	30 - 160
Carbamazepine	49.2		P	30 - 160
Clothianidin	83.6		P	30 - 160
Dinotefuran	71.2		P	30 - 160
Diuron	55.1		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P389104

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	102		P	30 - 160
Fluridone	73.8		P	30 - 160
Hydrocodone	99.9		P	30 - 160
Ibuprofen	86.3		P	30 - 160
Imazapyr	100		P	30 - 160
Imidacloprid	82.2		P	30 - 160
Linuron	61.8		P	30 - 160
Mandestrobin	75.2		P	30 - 160
MCPP	74.1		P	30 - 160
Naproxen	81.1		P	30 - 160
Primidone	93.1		P	30 - 160
Pyraclostrobin	55.5		P	30 - 160
Thiamethoxam	95.5		P	30 - 160
Tolfenpyrad	53.4		P	30 - 160
Triclopyr	61.0		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P389220

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	136		P	40 - 150
AMPA	96.6		P	40 - 150
Endothall	83.5		P	40 - 150
Glufosinate	97.6		P	40 - 150
Glyphosate	99.4		P	40 - 140
Sucralose	113		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P389182

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P389451

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P389455

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P389296

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389474

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204421	Chloride	102		P	90 - 110
2204498	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204421	Sulfate	103		P	90 - 110
2204498	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204422	Ammonia-N	98.1	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389327

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204422	Kjeldahl Nitrogen	113	99.5	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2203947	NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389403

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204422	Total-P	109	110	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P389104

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2203654	2,4-D	78.3	68.1	P/P	30 - 160
2203654	Acetaminophen	64.4	64.2	P/P	30 - 160
2203654	Acetamiprid	67.5	61.5	P/P	30 - 160
2203654	Afidopyropen	49.5	42.6	P/P	30 - 160
2203654	Bentazon	50.8	45.7	P/P	30 - 160
2203654	Benzovindiflupyr	66.5	68.4	P/P	30 - 160
2203654	Carbamazepine	59.8	55.9	P/P	30 - 160
2203654	Clothianidin	92.2	83.9	P/P	30 - 160
2203654	Dinotefuran	80.8	76.1	P/P	30 - 160
2203654	Diuron	54.4	53.1	P/P	30 - 160
2203654	Fenuron	38.5	40.5	P/P	30 - 160
2203654	Fluridone	70.5	80.0	P/P	30 - 160
2203654	Hydrocodone	112	113	P/P	30 - 160
2203654	Ibuprofen	75.3	74.9	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P389104

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2203654	Imazapyr	108	101	P/P	30 - 160
2203654	Imidacloprid	99.0	103	P/P	30 - 160
2203654	Linuron	62.0	70.6	P/P	30 - 160
2203654	Mandestrobin	72.4	78.8	P/P	30 - 160
2203654	MCPP	91.1	92.8	P/P	30 - 160
2203654	Naproxen	66.7	56.6	P/P	30 - 160
2203654	Primidone	86.9	87.3	P/P	30 - 160
2203654	Pyraclostrobin	59.8	63.4	P/P	30 - 160
2203654	Thiamethoxam	93.0	117	P/P	30 - 160
2203654	Tolfenpyrad	53.7	54.2	P/P	30 - 160
2203654	Triclopyr	69.6	66.8	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P389220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204274	Acesulfame K	31.6	34.4	F/F	40 - 150
2204274	AMPA	92.5	97.1	P/P	40 - 150
2204274	Endothall	83.0	95.1	P/P	40 - 150
2204274	Glufosinate	90.6	92.1	P/P	40 - 150
2204274	Glyphosate	77.5	95.9	P/P	40 - 140
2204274	Sucralose	66.2	56.8	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P389455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204444	Fluoride	105	105	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P389296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2204495	Organic Carbon	106		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P389193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204426	Turbidity	2.62	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204498	Chloride	0.530	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P389477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204498	Sulfate	0.369	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P389213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204422	Ammonia-N	0.275	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P389327

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204422	Kjeldahl Nitrogen	10.8	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P389304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2203947	NO2NO3-N	0.180	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P389403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204422	Total-P	0.206	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P389122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204251	O-Phosphate-P	0.339	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P389104

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2203654	2,4-D	14.0	Spike	P	0 - 30
2203654	Acetaminophen	0.237	Spike	P	0 - 30
2203654	Acetamiprid	9.32	Spike	P	0 - 30
2203654	Afidopyropen	15.0	Spike	P	0 - 30
2203654	Bentazon	10.6	Spike	P	0 - 30
2203654	Benzovindiflupyr	2.72	Spike	P	0 - 30
2203654	Carbamazepine	6.84	Spike	P	0 - 30
2203654	Clothianidin	9.37	Spike	P	0 - 30
2203654	Dinotefuran	5.95	Spike	P	0 - 30
2203654	Diuron	2.38	Spike	P	0 - 30
2203654	Fenuron	2.16	Spike	P	0 - 30
2203654	Fluridone	12.6	Spike	P	0 - 30
2203654	Hydrocodone	1.05	Spike	P	0 - 30
2203654	Ibuprofen	0.506	Spike	P	0 - 30
2203654	Imazapyr	6.11	Spike	P	0 - 30
2203654	Imidacloprid	3.59	Spike	P	0 - 30
2203654	Linuron	12.9	Spike	P	0 - 30
2203654	Mandestrobin	8.48	Spike	P	0 - 30
2203654	MCPP	1.89	Spike	P	0 - 30
2203654	Naproxen	16.5	Spike	P	0 - 30
2203654	Primidone	0.499	Spike	P	0 - 30
2203654	Pyraclostrobin	5.85	Spike	P	0 - 30
2203654	Thiamethoxam	22.8	Spike	P	0 - 30
2203654	Tolfenpyrad	0.880	Spike	P	0 - 30
2203654	Triclopyr	4.15	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P389220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204274	Acesulfame K	8.69	Spike	P	0 - 30
2204274	AMPA	3.48	Spike	P	0 - 30
2204274	Endothall	13.6	Spike	P	0 - 30
2204274	Glufosinate	1.62	Spike	P	0 - 30
2204274	Glyphosate	18.0	Spike	P	0 - 30
2204274	Sucralose	14.9	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P389182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204439	Color (true)	6.43	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P389451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204444	Total Alkalinity	1.90	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P389605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204242	TDS	1.04	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P389455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204444	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P389296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2204495	Organic Carbon	1.42	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2204431

Field Sample ID: G1TLHR0081

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	89.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	41.1	P	30 - 160
EPA 8321B	Diuron-d6	33.2	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.3	P	30 - 160
EPA 8321B	Primidone-d5	55.2	P	30 - 160
EPA 8321B	Sucralose-d6	74.1	P	30 - 160
EPA 8321B	Sucralose-d6	74.1	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A101695

Included Lab Sample IDs: 2204428

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

Reference Method: SM 2120 B-2011

Run ID: A101730

Included Lab Sample IDs: 2204426

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A101733

Included Lab Sample IDs: 2204426

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.5	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A101740

Included Lab Sample IDs: 2204427

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	95.4	94.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A101781

Included Lab Sample IDs: 2204427

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101784

Included Lab Sample IDs: 2204427

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101788

Included Lab Sample IDs: 2204431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	120	120	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A101797

Included Lab Sample IDs: 2204431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.4	107	P/P	50 - 150
Acetaminophen	115	108	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A101797
 Included Lab Sample IDs: 2204431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetamiprid	111	111	P/P	50 - 150
Afidopyropen	82.3	93.7	P/P	50 - 150
Bentazon	98.9	96.4	P/P	50 - 160
Benzovindiflupyr	89.0	92.3	P/P	50 - 150
Carbamazepine	71.5	80.2	P/P	60 - 150
Clothianidin	99.8	91.5	P/P	60 - 150
Dinotefuran	84.1	77.9	P/P	50 - 150
Diuron	71.0	83.1	P/P	60 - 160
Fenuron	103	100	P/P	60 - 150
Fluridone	93.4	85.3	P/P	60 - 160
Hydrocodone	120	110	P/P	60 - 150
Ibuprofen	123	73.3	P/P	50 - 160
Imazapyr	120	106	P/P	50 - 160
Imidacloprid	93.3	93.8	P/P	60 - 150
Linuron	68.6	73.5	P/P	60 - 150
Mandestrobin	94.9	93.6	P/P	50 - 150
MCP	87.4	91.6	P/P	50 - 150
Naproxen	64.4	114	P/P	50 - 160
Primidone	102	81.8	P/P	60 - 150
Pyraclostrobin	93.6	93.1	P/P	60 - 150
Thiamethoxam	109	109	P/P	50 - 150
Tolfenpyrad	110	116	P/P	60 - 150
Triclopyr	92.5	83.8	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1
 Run ID: A101798
 Included Lab Sample IDs: 2204426

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A101810
 Included Lab Sample IDs: 2204431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	107	P/P	50 - 160
Glufosinate	103	98.3	P/P	50 - 160
Glyphosate	103	99.5	P/P	50 - 160

Reference Method: EPA 8321B
 Run ID: A101811
 Included Lab Sample IDs: 2204431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	128	134	P/P	50 - 160
Endothall	93.3	100	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A101820

Included Lab Sample IDs: 2204427

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

Reference Method: SM 2320 B-2011

Run ID: A101852

Included Lab Sample IDs: 2204426

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.6	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A101852

Included Lab Sample IDs: 2204426

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101879

Included Lab Sample IDs: 2204427

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	102	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					2.62	
EPA 300.0 Rev. 2.1	Chloride	102	103	102		0.530	
	Sulfate	101	102	103		0.369	
EPA 350.1 Rev. 2.0	Ammonia-N	97.7	98.1	98.4			0.275
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	113	99.5			10.8
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	98.0				0.180
EPA 365.1 Rev. 2.0	Total-P	105	109	110			0.206
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0					0.339
EPA 8321B	2,4-D	71.8	78.3	68.1			14.0
	Acesulfame K	136	31.6	34.4			8.69
	Acetaminophen	51.6	64.4	64.2			0.237
	Acetamiprid	55.2	67.5	61.5			9.32
	Afidopyropen	43.0	49.5	42.6			15.0
	AMPA	96.6	92.5	97.1			3.48
	Bentazon	53.7	50.8	45.7			10.6
	Benzovindiflupyr	66.9	66.5	68.4			2.72
	Carbamazepine	49.2	59.8	55.9			6.84
	Clothianidin	83.6	92.2	83.9			9.37
	Dinotefuran	71.2	80.8	76.1			5.95
	Diuron	55.1	54.4	53.1			2.38
	Endothall	83.5	83.0	95.1			13.6
	Fenuron	102	38.5	40.5			2.16
	Fluridone	73.8	70.5	80.0			12.6
	Glufosinate	97.6	90.6	92.1			1.62
	Glyphosate	99.4	77.5	95.9			18.0
	Hydrocodone	99.9	112	113			1.05
	Ibuprofen	86.3	75.3	74.9			0.506
	Imazapyr	100	108	101			6.11
	Imidacloprid	82.2	99.0	103			3.59
	Linuron	61.8	62.0	70.6			12.9
	Mandestrobin	75.2	72.4	78.8			8.48
	MCPP	74.1	91.1	92.8			1.89
	Naproxen	81.1	66.7	56.6			16.5
	Primidone	93.1	86.9	87.3			0.499
	Pyraclostrobin	55.5	59.8	63.4			5.85
	Sucralose	113	66.2	56.8			14.9
	Thiamethoxam	95.5	93.0	117			22.8
	Tolfenpyrad	53.4	53.7	54.2			0.880
	Triclopyr	61.0	69.6	66.8			4.15
SM 2120 B-2011	Color (true)	99.0				6.43	
SM 2320 B-2011	Total Alkalinity	99.3				1.90	
SM 2540 C-2011	TDS					1.04	
SM 4500 F-C-2011	Fluoride	102	105	105			0.0
SM 5310 B-2011	Organic Carbon	100	106				1.42

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2204426
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2204426
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2204426
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2204427
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2204427

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2204427
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2204427
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2204428
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2204431
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2204431
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2204426
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2204426
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2204426
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2204426
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2204426
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2204427

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	10/22/2020			10/23/2020 18:02	Samantha Davila	2204426
EPA 300.0 Rev. 2.1	10/22/2020			10/28/2020 22:54	Lipi Saha	2204426
EPA 350.1 Rev. 2.0	10/22/2020			10/25/2020 15:00	Ping Hua	2204427
EPA 351.2 Rev. 2.0	10/22/2020	10/27/2020 13:07	David Boose	10/28/2020 11:45	Elliott Rodriguez	2204427
EPA 353.2 Rev. 2.0	10/22/2020			10/27/2020 08:51	Beverly Y. Sanders	2204427
EPA 365.1 Rev. 2.0	10/22/2020	10/28/2020 13:34	Yen Ta	10/30/2020 12:52	Benjamin T. Nordmann	2204427
EPA 365.1 Rev. 2.0 dissolved	10/22/2020			10/22/2020 16:30	Virginia P. Brown	2204428
EPA 8321B	10/22/2020	10/23/2020 12:00	Hoor Shaik	10/24/2020 14:16	Juyoung Kim	2204431
	10/22/2020	10/26/2020 10:00	Rebecca Ware	10/26/2020 19:22	Rebecca Ware	2204431
	10/22/2020	10/26/2020 10:00	Rebecca Ware	10/27/2020 14:40	Rebecca Ware	2204431
	10/22/2020	10/26/2020 10:00	Rebecca Ware	10/27/2020 18:19	Rebecca Ware	2204431
SM 2120 B-2011	10/22/2020			10/23/2020 16:34	Benjamin T. Nordmann	2204426
SM 2320 B-2011	10/22/2020			10/29/2020 01:15	Samantha Davila	2204426
SM 2540 C-2011	10/22/2020			10/23/2020 17:40	Madeline Gruver	2204426
SM 2540 D-2011	10/22/2020			10/27/2020 19:45	Madeline Gruver	2204426
SM 4500 F-C-2011	10/22/2020			10/29/2020 01:15	Samantha Davila	2204426
SM 5310 B-2011	10/22/2020			10/26/2020 18:56	Lauren Lees	2204427