

Chemical Analysis Report

TLH-ROC-2021-06-23-03

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

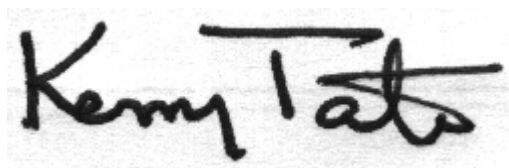
Event Description: **Run 16**
Request ID: **RQ-2021-03-15-60**
Customer: **TLH-ROC**
Project ID: **SMP**

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

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 19-JUL-2021 11:31

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the "T" and a long horizontal stroke at the end.

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: Crooked Creek @ Aspalaga Rd

Collection Date/Time: 06/23/2021 11:35

Field ID: G2TLHR0010

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256765	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P400136	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P400552	
		Sulfate	1.2		mg SO4/L	P400555	
	SM 2120 B-2011	Color (true)	71	J	PCU	P400133	
	SM 2320 B-2011	Total Alkalinity	7.5		mg CaCO3/L	P400616	
	SM 2540 C-2011	TDS	37		mg/L	P400604	
	SM 2540 D-2011	TSS	20		mg/L	P400607	
	SM 4500 F-C-2011	Fluoride	0.067	I	mg F/L	P400620	
2256766	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P400461	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P400473	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P400234	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P400336	
	SM 5310 B-2011	Organic Carbon	6.4		mg C/L	P400533	
2256767	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.082		mg P/L	P400131	
2256772	EPA 8321B	2,4-D	0.0020	U	ug/L	P399973	
		Acesulfame K	0.10	U	ug/L	P400090	RPD
		2,4,5-T	0.0040	U	ug/L	P399973	
		AMPA	0.10	U	ug/L	P400090	
		Acetaminophen	0.0086	I	ug/L	P399973	
		Acetamiprid	0.0020	U	ug/L	P399973	
		Endothall	0.25	U	ug/L	P400090	
		Glufosinate	0.10	U	ug/L	P400090	
		Glyphosate	0.10	U	ug/L	P400090	
		Afidopyropen	0.0020	U	ug/L	P399973	MS, RPD
		Bentazon	8.0E-04	U	ug/L	P399973	
		Sucralose	0.020	I	ug/L	P400090	
		Benzovindiflupyr	0.0020	U	ug/L	P399973	
		Carbamazepine	8.0E-04	U	ug/L	P399973	
		Clothianidin	0.0020	U	ug/L	P399973	
		Dinotefuran	0.0020	U	ug/L	P399973	
		Diuron	0.0020	U	ug/L	P399973	
		Fenuron	0.016	U	ug/L	P399973	
		Fluridone	8.0E-04	U	ug/L	P399973	
		Imazapyr	0.0040	U	ug/L	P399973	
		Hydrocodone	0.0020	U	ug/L	P399973	
		Ibuprofen	0.020	U	ug/L	P399973	
		Imidacloprid	0.0020	U	ug/L	P399973	
		Linuron	0.0040	U	ug/L	P399973	
		Mandestrobin	0.0020	U	ug/L	P399973	
		MCPD	0.0020	U	ug/L	P399973	
		Naproxen	0.0080	U	ug/L	P399973	
		Primidone	0.0040	U	ug/L	P399973	
		Pyraclostrobin	0.0020	U	ug/L	P399973	

Field ID: G2TLHR0010

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256772	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P399973	
		Tolfenpyrad	0.0020	U	ug/L	P399973	
		Triclopyr	0.0040	U	ug/L	P399973	

Ref. Method and Comment:
SM 2120 B-2011: The result may be biased high because of matrix interference.
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: P400136

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400552

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400555

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400461

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400473

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400234

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400336

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400131

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

Reference Method: EPA 8321B
Batch ID: P399973

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P399973

Component	Result	Code	Units
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P400090

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: P400133

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P400616

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

Reference Method: SM 2540 C-2011

Batch ID: P400604

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P400607

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400620

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P400533

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: P400552

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400555

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400461

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400473

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400234

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400336

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400131

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

Reference Method: EPA 8321B
Batch ID: P399973

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	104		P	30 - 160
2,4,5-T	98.0		P	30 - 160
Acetaminophen	78.3		P	30 - 160
Acetamiprid	75.5		P	30 - 160
Afidopyropen	71.5		P	30 - 160
Bentazon	76.8		P	30 - 160
Benzovindiflupyr	84.2		P	30 - 160
Carbamazepine	88.8		P	30 - 160
Clothianidin	81.4		P	30 - 160
Dinotefuran	88.5		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P399973

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	79.9		P	30 - 160
Fenuron	89.1		P	30 - 160
Fluridone	90.7		P	30 - 160
Hydrocodone	78.0		P	30 - 160
Ibuprofen	77.0		P	30 - 160
Imazapyr	110		P	30 - 160
Imidacloprid	81.6		P	30 - 160
Linuron	72.2		P	30 - 160
Mandestrobin	101		P	30 - 160
MCPP	101		P	30 - 160
Naproxen	101		P	30 - 160
Primidone	90.5		P	30 - 160
Pyraclostrobin	78.0		P	30 - 160
Thiamethoxam	90.2		P	30 - 160
Tolfenpyrad	52.3		P	30 - 160
Triclopyr	93.3		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P400090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	83.9		P	40 - 150
AMPA	97.9		P	40 - 150
Endothall	72.9		P	40 - 150
Glufosinate	96.7		P	40 - 150
Glyphosate	102		P	40 - 140
Sucralose	92.1		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P400133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P400616

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P400620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P400533

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400552

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256665	Chloride	99.6		P	90 - 110
2256775	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400555

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256665	Sulfate	99.6		P	90 - 110
2256775	Sulfate	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256766	Ammonia-N	94.8	96.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256744	Kjeldahl Nitrogen	109	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256756	NO2NO3-N	94.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256776	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400131

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256704	O-Phosphate-P	92.0	97.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P399973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255827	2,4,5-T	104	87.5	P/P	30 - 160
2255827	Acetaminophen	97.1	89.2	P/P	30 - 160
2255827	Acetamiprid	77.8	58.4	P/P	30 - 160
2255827	Afidopyrophen	67.5	6.62	P/F	30 - 160
2255827	Bentazon	64.4	59.5	P/P	30 - 160
2255827	Benzovindiflupyr	89.4	78.1	P/P	30 - 160
2255827	Carbamazepine	97.2	89.8	P/P	30 - 160
2255827	Clothianidin	95.7	99.6	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P399973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255827	Dinotefuran	114	93.7	P/P	30 - 160
2255827	Diuron	77.8	71.8	P/P	30 - 160
2255827	Fenuron	88.0	84.8	P/P	30 - 160
2255827	Fluridone	91.5	81.3	P/P	30 - 160
2255827	Hydrocodone	111	86.8	P/P	30 - 160
2255827	Ibuprofen	91.3	82.4	P/P	30 - 160
2255827	Imazapyr	158	140	P/P	30 - 160
2255827	Imidacloprid	127	116	P/P	30 - 160
2255827	Linuron	72.1	61.6	P/P	30 - 160
2255827	Mandestrobin	107	88.5	P/P	30 - 160
2255827	MCPP	104	93.8	P/P	30 - 160
2255827	Naproxen	80.3	97.0	P/P	30 - 160
2255827	Primidone	103	98.0	P/P	30 - 160
2255827	Pyraclostrobin	80.6	75.0	P/P	30 - 160
2255827	Thiamethoxam	128	117	P/P	30 - 160
2255827	Tolfenpyrad	54.2	48.1	P/P	30 - 160
2255827	Triclopyr	105	93.6	P/P	30 - 160

Reference Method: EPA 8321B

Batch ID: P400090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256374	Acesulfame K	105	77.0	P/P	40 - 150
2256374	AMPA	79.8	84.1	P/P	40 - 150
2256374	Endothall	102	99.8	P/P	40 - 150
2256374	Glufosinate	94.5	100	P/P	40 - 150
2256374	Glyphosate	100	100	P/P	40 - 140
2256374	Sucralose	94.2	101	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P400620

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256854	Fluoride	101	101	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P400533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256776	Organic Carbon	95.9	95.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P400136

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256755	Turbidity	0.826	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400552

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256665	Chloride	0.827	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400555

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256665	Sulfate	1.15	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400461

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256766	Ammonia-N	1.29	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400473

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256744	Kjeldahl Nitrogen	1.51	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400234

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256756	NO2NO3-N	0.193	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400336

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256776	Total-P	1.61	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400131

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256704	O-Phosphate-P	5.29	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P399973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255827	2,4-D	7.19	Spike	P	0 - 30
2255827	2,4,5-T	17.4	Spike	P	0 - 30
2255827	Acetaminophen	8.47	Spike	P	0 - 30
2255827	Acetamiprid	28.4	Spike	P	0 - 30
2255827	Afidopyropen	164	Spike	F	0 - 30
2255827	Bentazon	8.00	Spike	P	0 - 30
2255827	Benzovindiflupyr	13.5	Spike	P	0 - 30
2255827	Carbamazepine	7.89	Spike	P	0 - 30
2255827	Clothianidin	3.92	Spike	P	0 - 30
2255827	Dinotefuran	19.4	Spike	P	0 - 30
2255827	Diuron	8.07	Spike	P	0 - 30
2255827	Fenuron	3.65	Spike	P	0 - 30
2255827	Fluridone	11.8	Spike	P	0 - 30
2255827	Hydrocodone	24.1	Spike	P	0 - 30
2255827	Ibuprofen	10.3	Spike	P	0 - 30
2255827	Imazapyr	11.2	Spike	P	0 - 30
2255827	Imidacloprid	8.80	Spike	P	0 - 30
2255827	Linuron	15.8	Spike	P	0 - 30
2255827	Mandestrobin	19.3	Spike	P	0 - 30
2255827	MCP	10.4	Spike	P	0 - 30
2255827	Naproxen	18.8	Spike	P	0 - 30
2255827	Primidone	4.52	Spike	P	0 - 30
2255827	Pyraclostrobin	7.11	Spike	P	0 - 30
2255827	Thiamethoxam	8.77	Spike	P	0 - 30
2255827	Tolfenpyrad	11.9	Spike	P	0 - 30
2255827	Triclopyr	11.8	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P400090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256374	Acesulfame K	31.2	Spike	F	0 - 30
2256374	AMPA	5.21	Spike	P	0 - 30
2256374	Endothall	1.71	Spike	P	0 - 30
2256374	Glufosinate	5.98	Spike	P	0 - 30
2256374	Glyphosate	0.0759	Spike	P	0 - 30
2256374	Sucralose	6.69	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P400133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256701	Color (true)	0.210	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P400616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P400616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256854	Total Alkalinity	3.03	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P400604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256890	TDS	8.70	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P400620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256854	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P400533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256776	Organic Carbon	0.323	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2256772

Field Sample ID: G2TLHR0010

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	102	P	30 - 160
EPA 8321B	Diuron-d6	87.3	P	30 - 160
EPA 8321B	Endothall-d6	87.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.7	P	40 - 160
EPA 8321B	Ibuprofen-d3	72.7	P	30 - 160
EPA 8321B	Primidone-d5	85.3	P	30 - 160
EPA 8321B	Sucralose-d6	92.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106235

Included Lab Sample IDs: 2256767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	97.9	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A106236

Included Lab Sample IDs: 2256765

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106237

Included Lab Sample IDs: 2256765

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106296

Included Lab Sample IDs: 2256766

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

Reference Method: EPA 8321B

Run ID: A106300

Included Lab Sample IDs: 2256772

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	99.7	98.4	P/P	60 - 160
Glufosinate	101	104	P/P	60 - 160
Glyphosate	101	105	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A106301

Included Lab Sample IDs: 2256772

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	90.0	83.9	P/P	60 - 160
Endothall	86.2	74.9	P/P	60 - 160
Sucralose	94.1	95.9	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A106322

Included Lab Sample IDs: 2256772

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.3	95.4	P/P	50 - 150
2,4,5-T	121	97.3	P/P	50 - 150
Acetaminophen	102	98.4	P/P	60 - 160
Acetamiprid	98.7	105	P/P	50 - 150
Afidopyropen	113	108	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106322
Included Lab Sample IDs: 2256772

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	87.8	88.1	P/P	50 - 160
Benzovindiflupyr	100	93.7	P/P	50 - 160
Carbamazepine	101	99.6	P/P	60 - 150
Clothianidin	100	112	P/P	60 - 150
Dinotefuran	118	103	P/P	50 - 150
Diuron	111	100	P/P	60 - 160
Fenuron	98.4	96.0	P/P	60 - 150
Fluridone	103	107	P/P	60 - 160
Hydrocodone	103	89.7	P/P	60 - 150
Ibuprofen	97.8	86.0	P/P	50 - 160
Imazapyr	119	129	P/P	50 - 160
Imidacloprid	93.8	93.7	P/P	60 - 150
Linuron	93.1	68.5	P/P	60 - 150
Mandestrobin	117	122	P/P	50 - 150
MCPP	109	99.8	P/P	50 - 150
Naproxen	110	134	P/P	50 - 160
Primidone	94.8	98.9	P/P	60 - 150
Pyraclostrobin	97.8	96.2	P/P	60 - 150
Thiamethoxam	102	93.3	P/P	50 - 150
Tolfenpyrad	94.5	99.5	P/P	60 - 150
Triclopyr	113	97.6	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A106368
Included Lab Sample IDs: 2256766

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A106396
Included Lab Sample IDs: 2256766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.4	96.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A106423
Included Lab Sample IDs: 2256765

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

Reference Method: SM 5310 B-2011
Run ID: A106432
Included Lab Sample IDs: 2256766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106468

Included Lab Sample IDs: 2256766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.3	100	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106477

Included Lab Sample IDs: 2256765

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.5	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106477

Included Lab Sample IDs: 2256765

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	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					0.826	
EPA 300.0 Rev. 2.1	Chloride	102	99.6	100		0.827	
	Sulfate	100	99.6	98.0		1.15	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2	94.8	96.6			1.29
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.9	109	107			1.51
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	94.0				0.193
EPA 365.1 Rev. 2.0	Total-P	103	104	105			1.61
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	92.0	97.0			5.29
EPA 8321B	2,4-D	104					7.19
	2,4,5-T	98.0	104	87.5			17.4
	Acesulfame K	83.9	105	77.0			31.2
	Acetaminophen	78.3	97.1	89.2			8.47
	Acetamiprid	75.5	77.8	58.4			28.4
	Afidopyropen	71.5	67.5	6.62			164
	AMPA	97.9	79.8	84.1			5.21
	Bentazon	76.8	64.4	59.5			8.00
	Benzovindiflupyr	84.2	89.4	78.1			13.5
	Carbamazepine	88.8	97.2	89.8			7.89
	Clothianidin	81.4	95.7	99.6			3.92
	Dinotefuran	88.5	114	93.7			19.4
	Diuron	79.9	77.8	71.8			8.07
	Endothall	72.9	102	99.8			1.71
	Fenuron	89.1	88.0	84.8			3.65
	Fluridone	90.7	91.5	81.3			11.8
	Glufosinate	96.7	94.5	100			5.98
	Glyphosate	102	100	100			0.0759
	Hydrocodone	78.0	111	86.8			24.1
	Ibuprofen	77.0	91.3	82.4			10.3
	Imazapyr	110	158	140			11.2
	Imidacloprid	81.6	127	116			8.80
	Linuron	72.2	72.1	61.6			15.8
	Mandestrobin	101	107	88.5			19.3
	MCP	101	104	93.8			10.4
	Naproxen	101	80.3	97.0			18.8
	Primidone	90.5	103	98.0			4.52
	Pyraclostrobin	78.0	80.6	75.0			7.11
	Sucralose	92.1	94.2	101			6.69
	Thiamethoxam	90.2	128	117			8.77
	Tolfenpyrad	52.3	54.2	48.1			11.9
	Triclopyr	93.3	105	93.6			11.8
SM 2120 B-2011	Color (true)	101				0.210	
SM 2320 B-2011	Total Alkalinity	102				3.03	
SM 2540 C-2011	TDS					8.70	
SM 4500 F-C-2011	Fluoride	98.5	101	101			0.0
SM 5310 B-2011	Organic Carbon	95.9	95.9	95.5			0.323

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2256765
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2256765
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2256765
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2256766

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2256766
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2256766
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2256766
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2256767
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2256772
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2256765
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2256765
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2256765
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2256765
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2256765
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2256766

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	06/23/2021			06/23/2021 15:19	Sarah A Nixon	2256765
EPA 300.0 Rev. 2.1	06/23/2021			07/02/2021 23:13	Lipi Saha	2256765
EPA 350.1 Rev. 2.0	06/23/2021			07/01/2021 14:13	Roberta Tatti	2256766
EPA 351.2 Rev. 2.0	06/23/2021	07/01/2021 14:00	Benjamin T. Nordmann	07/06/2021 18:53	Letuzia M De Oliveira	2256766
EPA 353.2 Rev. 2.0	06/23/2021			06/25/2021 09:08	Beverly Y. Sanders	2256766
EPA 365.1 Rev. 2.0	06/23/2021	06/29/2021 13:16	Madeline Gruver	06/30/2021 10:55	Shengyu Ding	2256766
EPA 365.1 Rev. 2.0 dissolved	06/23/2021			06/23/2021 15:20	Ping Hua	2256767
EPA 8321B	06/23/2021	06/23/2021 15:00	Hoor Shaik	06/26/2021 01:29	Juyoung Kim	2256772
	06/23/2021	06/25/2021 08:00	Pramila Ghimire	06/25/2021 13:23	Juyoung Kim	2256772
	06/23/2021	06/25/2021 08:00	Pramila Ghimire	06/25/2021 21:53	Pramila Ghimire	2256772
SM 2120 B-2011	06/23/2021			06/23/2021 16:06	Benjamin T. Nordmann	2256765
SM 2320 B-2011	06/23/2021			07/06/2021 23:28	Patrick M. Roche	2256765
SM 2540 C-2011	06/23/2021			06/28/2021 14:25	Yijie Li	2256765
SM 2540 D-2011	06/23/2021			06/28/2021 14:25	Yijie Li	2256765
SM 4500 F-C-2011	06/23/2021			07/06/2021 23:28	Patrick M. Roche	2256765
SM 5310 B-2011	06/23/2021			07/01/2021 06:34	Madeline Gruver	2256766