

Chemical Analysis Report

NW-DIST-2021-02-26-01

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

Event Description: **Milton East Run**
Request ID: **RQ-2021-02-01-61**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Colin Wright, Program Administrator

Date Certified: 22-MAR-2021 11:09

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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: Collins Mill Creek Upstream Of Conecuh Street Collection Date/Time: 02/25/2021 12:55

Field ID: G4NW0507

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2227873	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P394280	
	EPA 300.0 Rev. 2.1	Chloride	5.4		mg Cl/L	P394554	
		Sulfate	1.8		mg SO4/L	P394555	
	SM 2120 B-2011	Color (true)	6.8	A	PCU	P394288	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P394513	
	SM 2540 C-2011	TDS	46		mg/L	P394805	
	SM 2540 D-2011	TSS	2	U	mg/L	P394826	
2227874	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P394516	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P394442	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.13	I	mg N/L	P394539	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.54		mg N/L	P394457	
	EPA 365.1 Rev. 2.0	Total-P	0.005		mg P/L	P394370	
2227875	SM 5310 B-2011	Organic Carbon	1.4		mg C/L	P394896	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P394283	
2227883	EPA 8321B	2,4-D	0.0020	U	ug/L	P394255	
		Acesulfame K	0.10	U	ug/L	P394312	
		2,4,5-T	0.0040	U	ug/L	P394255	
		AMPA	0.10	U	ug/L	P394312	
		Sucralose	0.55		ug/L	P394312	
		Acetaminophen	0.13		ug/L	P394255	
		Acetamiprid	0.0020	U	ug/L	P394255	
		Endothall	0.25	U	ug/L	P394312	
		Glufosinate	0.10	U	ug/L	P394312	
		Glyphosate	0.10	U	ug/L	P394312	
		Afidopyropen	0.0020	U	ug/L	P394255	
		Bentazon	0.0050		ug/L	P394255	
		Benzovindiflupyr	0.0020	U	ug/L	P394255	
		Carbamazepine	8.0E-04	U	ug/L	P394255	
		Clothianidin	0.0020	U	ug/L	P394255	
		Dinotefuran	0.0020	U	ug/L	P394255	
		Diuron	0.0020	U	ug/L	P394255	
		Fenuron	0.016	U	ug/L	P394255	
		Fluridone	8.0E-04	U	ug/L	P394255	
		Imazapyr	0.0040	U	ug/L	P394255	
		Hydrocodone	0.0020	U	ug/L	P394255	
		Ibuprofen	0.020	U	ug/L	P394255	
		Imidacloprid	0.036		ug/L	P394255	
		Linuron	0.0040	U	ug/L	P394255	
		Mandestrobin	0.0020	U	ug/L	P394255	
		MCPP	0.0020	U	ug/L	P394255	
		Naproxen	0.0080	U	ug/L	P394255	
		Primidone	0.0040	U	ug/L	P394255	
		Pyraclostrobin	0.0020	U	ug/L	P394255	

Field ID: G4NW0507

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2227883	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P394255	
		Tolfenpyrad	0.0020	U	ug/L	P394255	
		Triclopyr	0.0040	U	ug/L	P394255	

Ref. Method and Comment:

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

SM 4500 F-C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MS accuracy for bentazon 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: P394280

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394554

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394555

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394442

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394539

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394457

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394370

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394283

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

Reference Method: EPA 8321B
Batch ID: P394255

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: P394255

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: P394312

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: P394288

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P394513

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

Reference Method: SM 2540 C-2011

Batch ID: P394805

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P394826

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P394516

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P394896

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: P394554

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394555

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394442

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394539

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394457

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394370

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: P394283

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

Reference Method: EPA 8321B
Batch ID: P394255

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	129		P	30 - 160
2,4,5-T	106		P	30 - 160
Acetaminophen	138		P	30 - 160
Acetamiprid	90.7		P	30 - 160
Afidopyropen	72.0		P	30 - 160
Bentazon	88.6		P	30 - 160
Benzovindiflupyr	96.6		P	30 - 160
Carbamazepine	124		P	30 - 160
Clothianidin	125		P	30 - 160
Dinotefuran	109		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P394255

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	73.9		P	30 - 160
Fenuron	110		P	30 - 160
Fluridone	101		P	30 - 160
Hydrocodone	110		P	30 - 160
Ibuprofen	77.9		P	30 - 160
Imazapyr	115		P	30 - 160
Imidacloprid	133		P	30 - 160
Linuron	97.6		P	30 - 160
Mandestrobin	102		P	30 - 160
MCPP	129		P	30 - 160
Naproxen	77.1		P	30 - 160
Primidone	130		P	30 - 160
Pyraclostrobin	92.7		P	30 - 160
Thiamethoxam	122		P	30 - 160
Tolfenpyrad	63.3		P	30 - 160
Triclopyr	111		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P394312

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	105		P	40 - 150
AMPA	99.0		P	40 - 150
Endothall	96.7		P	40 - 150
Glufosinate	105		P	40 - 150
Glyphosate	70.8		P	40 - 140
Sucralose	118		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P394288

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P394513

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	93.6		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P394516

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P394896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394554

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227613	Chloride	99.5		P	90 - 110
2227994	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394555

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227613	Sulfate	96.1		P	90 - 110
2227994	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394442

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227874	Ammonia-N	99.6	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394539

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227924	Kjeldahl Nitrogen	104	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227929	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227614	Total-P	108	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227875	O-Phosphate-P	99.0	103	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P394255

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227432	2,4-D	83.5	84.2	P/P	30 - 160
2227432	2,4,5-T	73.1	68.7	P/P	30 - 160
2227432	Acetaminophen	92.5	104	P/P	30 - 160
2227432	Acetamiprid	87.6	92.6	P/P	30 - 160
2227432	Afidopyrophen	78.4	73.5	P/P	30 - 160
2227432	Benzovindiflupyr	70.1	73.0	P/P	30 - 160
2227432	Carbamazepine	85.1	91.6	P/P	30 - 160
2227432	Clothianidin	96.3	102	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P394255

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227432	Dinotefuran	119	126	P/P	30 - 160
2227432	Diuron	39.7	38.3	P/P	30 - 160
2227432	Fenuron	72.8	63.4	P/P	30 - 160
2227432	Fluridone	79.6	78.2	P/P	30 - 160
2227432	Hydrocodone	98.0	101	P/P	30 - 160
2227432	Ibuprofen	63.4	67.5	P/P	30 - 160
2227432	Imazapyr	60.2	62.0	P/P	30 - 160
2227432	Imidacloprid	152	150	P/P	30 - 160
2227432	Linuron	72.8	71.5	P/P	30 - 160
2227432	Mandestrobin	83.8	86.9	P/P	30 - 160
2227432	MCP	91.9	88.5	P/P	30 - 160
2227432	Naproxen	71.4	57.7	P/P	30 - 160
2227432	Primidone	94.5	89.4	P/P	30 - 160
2227432	Pyraclostrobin	82.0	77.9	P/P	30 - 160
2227432	Thiamethoxam	133	141	P/P	30 - 160
2227432	Tolfenpyrad	58.5	58.0	P/P	30 - 160
2227432	Triclopyr	83.1	76.9	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P394312

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227562	Acesulfame K	131	147	P/P	40 - 150
2227562	AMPA	110	120	P/P	40 - 150
2227562	Endothall	129	103	P/P	40 - 150
2227562	Glufosinate	96.3	106	P/P	40 - 150
2227562	Glyphosate	54.7	61.0	P/P	40 - 140
2227562	Sucralose	127	129	P/P	40 - 150

Reference Method: SM 5310 B-2011
Batch ID: P394896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2227925	Organic Carbon	95.4	93.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P394280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227931	Turbidity	2.63	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227613	Chloride	1.11	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227613	Sulfate	1.09	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227874	Ammonia-N	0.389	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P394539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227924	Kjeldahl Nitrogen	2.72	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P394457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227929	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P394370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227614	Total-P	0.137	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P394283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227875	O-Phosphate-P	4.15	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P394255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227432	2,4-D	0.711	Spike	P	0 - 30
2227432	2,4,5-T	6.15	Spike	P	0 - 30
2227432	Acetaminophen	12.1	Spike	P	0 - 30
2227432	Acetamiprid	5.54	Spike	P	0 - 30
2227432	Afidopyropen	6.53	Spike	P	0 - 30
2227432	Bentazon	5.93	Spike	P	0 - 30
2227432	Benzovindiflupyr	4.08	Spike	P	0 - 30
2227432	Carbamazepine	7.35	Spike	P	0 - 30
2227432	Clothianidin	5.34	Spike	P	0 - 30
2227432	Dinotefuran	6.11	Spike	P	0 - 30
2227432	Diuron	3.27	Spike	P	0 - 30
2227432	Fenuron	13.8	Spike	P	0 - 30
2227432	Fluridone	1.20	Spike	P	0 - 30
2227432	Hydrocodone	3.20	Spike	P	0 - 30
2227432	Ibuprofen	6.31	Spike	P	0 - 30
2227432	Imazapyr	1.49	Spike	P	0 - 30
2227432	Imidacloprid	1.07	Spike	P	0 - 30
2227432	Linuron	1.71	Spike	P	0 - 30
2227432	Mandestrobin	3.64	Spike	P	0 - 30
2227432	MCPP	3.74	Spike	P	0 - 30
2227432	Naproxen	21.3	Spike	P	0 - 30
2227432	Primidone	5.58	Spike	P	0 - 30
2227432	Pyraclostrobin	5.10	Spike	P	0 - 30
2227432	Thiamethoxam	5.73	Spike	P	0 - 30
2227432	Tolfenpyrad	0.950	Spike	P	0 - 30
2227432	Triclopyr	7.75	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P394312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227562	Acesulfame K	11.4	Spike	P	0 - 30
2227562	AMPA	9.24	Spike	P	0 - 30
2227562	Endothall	23.0	Spike	P	0 - 30
2227562	Glufosinate	9.82	Spike	P	0 - 30
2227562	Glyphosate	10.8	Spike	P	0 - 30
2227562	Sucralose	1.64	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P394288

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227873	Color (true)	1.06	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P394513

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: P394513

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227604	Total Alkalinity	0.101	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P394805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227923	TDS	4.35	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P394516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227604	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P394896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2227925	Organic Carbon	0.939	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2227883

Field Sample ID: G4NW0507

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	104	P	30 - 160
EPA 8321B	Acetaminophen-d4	92.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.0	P	30 - 160
EPA 8321B	Diuron-d6	71.5	P	30 - 160
EPA 8321B	Endothall-d6	92.0	P	40 - 160
EPA 8321B	Endothall-d6	92.0	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	89.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	89.3	P	40 - 160
EPA 8321B	Ibuprofen-d3	67.7	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103799

Included Lab Sample IDs: 2227873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A103801

Included Lab Sample IDs: 2227875

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	98.9	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A103804

Included Lab Sample IDs: 2227873

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A103842

Included Lab Sample IDs: 2227873

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

Reference Method: EPA 8321B

Run ID: A103843

Included Lab Sample IDs: 2227883

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	61.9	79.7	P/P	60 - 160
AMPA	97.4	96.5	P/P	60 - 160
Endothall	144	110	P/P	60 - 160
Glufosinate	85.0	116	P/P	60 - 160
Glyphosate	134	132	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A103858

Included Lab Sample IDs: 2227874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103867

Included Lab Sample IDs: 2227874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A103873
 Included Lab Sample IDs: 2227883

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	91.0	P/P	50 - 150
2,4,5-T	83.5	83.4	P/P	50 - 150
Acetaminophen	98.7	99.0	P/P	60 - 160
Acetamiprid	108	107	P/P	50 - 150
Afidopyropen	106	99.6	P/P	50 - 150
Bentazon	113	107	P/P	50 - 160
Benzovindiflupyr	100	94.9	P/P	50 - 160
Carbamazepine	114	107	P/P	60 - 150
Clothianidin	102	99.7	P/P	60 - 150
Dinotefuran	99.5	108	P/P	50 - 150
Diuron	84.7	84.4	P/P	60 - 160
Fenuron	99.1	97.0	P/P	60 - 150
Fluridone	124	107	P/P	60 - 160
Hydrocodone	103	105	P/P	60 - 150
Ibuprofen	82.9	80.3	P/P	50 - 160
Imazapyr	103	83.5	P/P	50 - 160
Imidacloprid	102	99.7	P/P	60 - 150
Linuron	116	108	P/P	60 - 150
Mandestrobin	109	107	P/P	50 - 150
MCPP	106	105	P/P	50 - 150
Naproxen	83.7	85.6	P/P	50 - 160
Primidone	94.2	110	P/P	60 - 150
Pyraclostrobin	111	107	P/P	60 - 150
Thiamethoxam	103	97.4	P/P	50 - 150
Tolfenpyrad	120	113	P/P	60 - 150
Triclopyr	103	92.7	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0
 Run ID: A103879
 Included Lab Sample IDs: 2227874

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

Reference Method: SM 2320 B-2011
 Run ID: A103902
 Included Lab Sample IDs: 2227873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	91.5	98.0	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
 Run ID: A103902
 Included Lab Sample IDs: 2227873

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A103914
Included Lab Sample IDs: 2227883

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	118	117	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A103951
Included Lab Sample IDs: 2227874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.6	95.9	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A104035
Included Lab Sample IDs: 2227874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.7	95.4	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					2.63	
EPA 300.0 Rev. 2.1	Chloride	100	99.5	101		1.11	
	Sulfate	99.7	96.1	100		1.09	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	99.6	100			0.389
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	104	98.5			2.72
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	105	108	107			0.137
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.1	99.0	103			4.15
EPA 8321B	2,4-D	129	83.5	84.2			0.711
	2,4,5-T	106	73.1	68.7			6.15
	Acesulfame K	105	131	147			11.4
	Acetaminophen	138	92.5	104			12.1
	Acetamiprid	90.7	87.6	92.6			5.54
	Afidopyropen	72.0	78.4	73.5			6.53
	AMPA	99.0	110	120			9.24
	Bentazon	88.6					5.93
	Benzovindiflupyr	96.6	70.1	73.0			4.08
	Carbamazepine	124	85.1	91.6			7.35
	Clothianidin	125	96.3	102			5.34
	Dinotefuran	109	119	126			6.11
	Diuron	73.9	39.7	38.3			3.27
	Endothall	96.7	129	103			23.0
	Fenuron	110	72.8	63.4			13.8
	Fluridone	101	79.6	78.2			1.20
	Glufosinate	105	96.3	106			9.82
	Glyphosate	70.8	54.7	61.0			10.8
	Hydrocodone	110	98.0	101			3.20
	Ibuprofen	77.9	63.4	67.5			6.31
	Imazapyr	115	60.2	62.0			1.49
	Imidacloprid	133	152	150			1.07
	Linuron	97.6	72.8	71.5			1.71
	Mandestrobin	102	83.8	86.9			3.64
	MCPP	129	91.9	88.5			3.74
	Naproxen	77.1	71.4	57.7			21.3
	Primidone	130	94.5	89.4			5.58
	Pyraclostrobin	92.7	82.0	77.9			5.10
	Sucralose	118	127	129			1.64
	Thiamethoxam	122	133	141			5.73
	Tolfenpyrad	63.3	58.5	58.0			0.950
	Triclopyr	111	83.1	76.9			7.75
SM 2120 B-2011	Color (true)	100				1.06	
SM 2320 B-2011	Total Alkalinity	93.6				0.101	
SM 2540 C-2011	TDS					4.35	
SM 4500 F-C-2011	Fluoride	97.1					0.0
SM 5310 B-2011	Organic Carbon	94.6	95.4	93.8			0.939

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2227873
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2227873
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2227873
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2227874

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2227874
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2227874
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2227874
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2227875
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2227883
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2227883
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2227873
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2227873
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2227873
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2227873
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2227873
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2227874

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	02/26/2021			02/26/2021 17:09	Yen Ta	2227873
EPA 300.0 Rev. 2.1	02/26/2021			03/03/2021 16:51	Lipi Saha	2227873
EPA 350.1 Rev. 2.0	02/26/2021			03/03/2021 16:59	Ping Hua	2227874
EPA 351.2 Rev. 2.0	02/26/2021	03/05/2021 12:30	Benjamin T. Nordmann	03/08/2021 12:35	Virginia P. Brown	2227874
EPA 353.2 Rev. 2.0	02/26/2021			03/04/2021 09:15	Beverly Y. Sanders	2227874
EPA 365.1 Rev. 2.0	02/26/2021	03/02/2021 12:03	Shengyu Ding	03/03/2021 12:31	Shengyu Ding	2227874
EPA 365.1 Rev. 2.0 dissolved	02/26/2021			02/26/2021 15:43	Samantha Davila	2227875
EPA 8321B	02/26/2021	03/01/2021 10:00	Rebecca Ware	03/01/2021 22:27	Rebecca Ware	2227883
	02/26/2021	03/01/2021 10:00	Rebecca Ware	03/04/2021 23:10	Rebecca Ware	2227883
	02/26/2021	03/02/2021 09:00	Hoor Shaik	03/03/2021 07:19	Juyoung Kim	2227883
SM 2120 B-2011	02/26/2021			02/26/2021 17:58	Benjamin T. Nordmann	2227873
SM 2320 B-2011	02/26/2021			03/04/2021 03:56	Dale L. Simmons	2227873
SM 2540 C-2011	02/26/2021			03/03/2021 13:35	Yijie Li	2227873
SM 2540 D-2011	02/26/2021			03/03/2021 13:35	Yijie Li	2227873
SM 4500 F-C-2011	02/26/2021			03/04/2021 03:56	Dale L. Simmons	2227873
SM 5310 B-2011	02/26/2021			03/11/2021 23:36	Madeline Gruver	2227874