

Chemical Analysis Report

SO-DIST-2021-06-03-02

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

Event Description: **2021 SMP: Tri-County Fair**

Request ID: **RQ-2021-05-31-49**

Customer: **SO-DIST**

Project ID: **SMP**

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FLDEP South District Office
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 29-JUN-2021 10:27



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: C-139 Annex @ Deer Fence Canal Rd

Collection Date/Time: 06/02/2021 10:00

Field ID: G1SD0076

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2252014	EPA 180.1 Rev. 2.0	Turbidity	4.9		NTU	P399181	
	EPA 300.0 Rev. 2.1	Chloride	40		mg Cl/L	P399478	
		Sulfate	7.6		mg SO4/L	P399481	
		Color (true)	78		PCU	P399179	
	SM 2320 B-2011	Total Alkalinity	200		mg CaCO3/L	P399338	
	SM 2540 C-2011	TDS	322		mg/L	P399751	
	SM 2540 D-2011	TSS	5	I	mg/L	P399648	
	SM 4500 F-C-2011	Fluoride	0.33		mg F/L	P399342	
2252015	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P399414	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P399324	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P399290	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P399287	
	SM 5310 B-2011	Organic Carbon	21		mg C/L	P399730	
2252016	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.084		mg P/L	P399172	
2252027	EPA 8276	Chlordane	5.2	U	ng/L	P399210	
		Toxaphene	31	U	ng/L	P399210	

Ref. Method and Comment:

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

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Oak Creek @ Oak Creek Preserve

Collection Date/Time: 06/02/2021 12:20

Field ID: G1SD0050

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2252011	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P399181	
	EPA 300.0 Rev. 2.1	Chloride	54		mg Cl/L	P399478	
		Sulfate	20		mg SO4/L	P399481	
	SM 2120 B-2011	Color (true)	26		PCU	P399179	
	SM 2320 B-2011	Total Alkalinity	293		mg CaCO3/L	P399338	
	SM 2540 C-2011	TDS	441		mg/L	P399751	
	SM 2540 D-2011	TSS	11		mg/L	P399648	
	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P399342	
2252012	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P399414	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P399324	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P399290	
	EPA 365.1 Rev. 2.0	Total-P	0.31		mg P/L	P399287	
	SM 5310 B-2011	Organic Carbon	9.4		mg C/L	P399730	
2252013	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.088		mg P/L	P399172	
2252030	EPA 8321B	2,4-D	0.0049	I	ug/L	P399076	
		Acesulfame K	0.10	U	ug/L	P399276	
		2,4,5-T	0.0040	U	ug/L	P399076	
		AMPA	3.7		ug/L	P399276	
		Acetaminophen	0.0080	U	ug/L	P399076	
		Acetamiprid	0.0020	U	ug/L	P399076	
		Endothall	0.25	U	ug/L	P399276	
		Glufosinate	0.10	U	ug/L	P399276	
		Glyphosate	14		ug/L	P399276	
		Afidopyropen	0.0020	U	ug/L	P399076	
		Bentazon	0.15		ug/L	P399076	
		Sucralose	0.052		ug/L	P399276	
		Benzovindiflupyr	0.0020	U	ug/L	P399076	
		Carbamazepine	8.0E-04	U	ug/L	P399076	
		Clothianidin	0.033		ug/L	P399076	
		Dinotefuran	0.0020	U	ug/L	P399076	
		Diuron	0.0020	U	ug/L	P399076	
		Fenuron	0.016	U	ug/L	P399076	
		Fluridone	0.033		ug/L	P399076	
		Imazapyr	0.13		ug/L	P399076	
		Hydrocodone	0.0020	U	ug/L	P399076	
		Ibuprofen	0.020	U	ug/L	P399076	
		Imidacloprid	0.0074	I	ug/L	P399076	
		Linuron	0.0040	U	ug/L	P399076	
		Mandestrobin	0.0020	U	ug/L	P399076	
		MCP	0.0020	U	ug/L	P399076	
		Naproxen	0.0080	U	ug/L	P399076	
		Primidone	0.0040	U	ug/L	P399076	
		Pyraclostrobin	0.0020	U	ug/L	P399076	

Field ID: G1SD0050

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2252030	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P399076	
		Tolfenpyrad	0.0020	U	ug/L	P399076	
		Triclopyr	0.0040	U	ug/L	P399076	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: 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: P399181

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399478

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399481

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399414

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399324

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399290

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399287

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399172

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

Reference Method: EPA 8276
Batch ID: P399210

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P399076

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
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: P399276

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: P399179

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P399338

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P399751

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P399648

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P399342

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P399730

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: P399478

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399481

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399414

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399324

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399290

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399287

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399172

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

Reference Method: EPA 8276
Batch ID: P399210

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	82.9	81.1	P/P	56 - 117
Toxaphene	101	98.7	P/P	45 - 116

Reference Method: EPA 8321B
Batch ID: P399076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	97.1		P	40 - 150
2,4,5-T	103		P	40 - 150
Acetaminophen	62.1		P	30 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P399076

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetamiprid	88.6		P	40 - 150
Afidopyropen	80.4		P	40 - 150
Bentazon	110		P	30 - 150
Benzovindiflupyr	96.8		P	40 - 150
Carbamazepine	91.1		P	40 - 150
Clothianidin	76.1		P	40 - 150
Dinotefuran	71.4		P	40 - 150
Diuron	88.2		P	40 - 150
Fenuron	103		P	40 - 150
Fluridone	89.3		P	40 - 150
Hydrocodone	78.7		P	40 - 150
Ibuprofen	82.6		P	40 - 150
Imazapyr	97.3		P	40 - 150
Imidacloprid	78.0		P	40 - 150
Linuron	81.4		P	40 - 150
Mandestrobin	99.1		P	40 - 150
MCPP	105		P	40 - 150
Naproxen	84.6		P	40 - 150
Primidone	95.2		P	40 - 150
Pyraclostrobin	90.2		P	40 - 150
Thiamethoxam	82.0		P	40 - 150
Tolfenpyrad	57.3		P	30 - 150
Triclopyr	96.0		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P399276

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	76.3		P	40 - 150
AMPA	96.4		P	40 - 150
Endothall	88.4		P	40 - 150
Glufosinate	102		P	40 - 150
Glyphosate	108		P	40 - 150
Sucralose	93.9		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P399179

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

Reference Method: SM 2320 B-2011

Batch ID: P399338

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.1		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P399342

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P399730

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251761	Chloride	96.5		P	90 - 110
2251977	Chloride	94.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399481

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251761	Sulfate	96.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399414

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251939	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399290

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251979	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399287

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251813	Total-P	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399172

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251935	O-Phosphate-P	99.4	101	P/P	90 - 110

Reference Method: EPA 8276
Batch ID: P399210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2252329	Chlordane	83.6	92.9	P/P	47 - 128
2252329	Toxaphene	103	117	P/P	11 - 163

Reference Method: EPA 8321B
Batch ID: P399076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251243	2,4-D	122	128	P/P	40 - 150
2251243	2,4,5-T	107	105	P/P	40 - 150
2251243	Acetaminophen	89.9	81.9	P/P	30 - 150
2251243	Acetamiprid	103	94.5	P/P	40 - 150
2251243	Afidopyrophen	92.5	79.5	P/P	40 - 150
2251243	Bentazon	102	94.0	P/P	30 - 150
2251243	Benzovindiflupyr	98.2	97.1	P/P	40 - 150
2251243	Carbamazepine	103	102	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P399076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251243	Clothianidin	97.1	90.4	P/P	40 - 150
2251243	Dinotefuran	92.2	85.7	P/P	40 - 150
2251243	Diuron	79.8	75.4	P/P	40 - 150
2251243	Fenuron	102	104	P/P	40 - 150
2251243	Fluridone	85.2	80.8	P/P	40 - 150
2251243	Hydrocodone	88.8	94.3	P/P	40 - 150
2251243	Ibuprofen	80.6	79.1	P/P	40 - 150
2251243	Imazapyr	117	103	P/P	40 - 150
2251243	Imidacloprid	130	116	P/P	40 - 150
2251243	Linuron	74.9	79.9	P/P	40 - 150
2251243	Mandestrobin	98.8	95.5	P/P	40 - 150
2251243	MCPP	121	119	P/P	40 - 150
2251243	Naproxen	106	78.9	P/P	40 - 150
2251243	Primidone	124	99.4	P/P	40 - 150
2251243	Pyraclostrobin	98.9	96.1	P/P	40 - 150
2251243	Thiamethoxam	122	108	P/P	40 - 150
2251243	Tolfenpyrad	56.5	59.9	P/P	30 - 150
2251243	Triclopyr	119	113	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P399276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251952	Acesulfame K	88.6	95.7	P/P	40 - 150
2251952	AMPA	104	106	P/P	40 - 150
2251952	Endothall	113	118	P/P	40 - 150
2251952	Glufosinate	113	116	P/P	40 - 150
2251952	Glyphosate	118	121	P/P	40 - 150
2251952	Sucralose	94.9	99.9	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P399342

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251710	Fluoride	98.8	98.8	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P399730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2251927	Organic Carbon	98.6	98.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P399181

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251978	Turbidity	1.00	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251761	Chloride	1.35	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P399481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251761	Sulfate	1.71	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399414

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251939	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P399324

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2252015	Kjeldahl Nitrogen	4.19	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P399290

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251979	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P399287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251813	Total-P	0.609	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P399172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251935	O-Phosphate-P	1.20	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8276
 Batch ID: P399210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2252329	Chlordane	10.6	Spike	P	0 - 30
2252329	Toxaphene	12.2	Spike	P	0 - 30
LFB	Chlordane	2.29	LCS	P	0 - 30
LFB	Toxaphene	2.31	LCS	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P399076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251243	2,4-D	4.60	Spike	P	0 - 30
2251243	2,4,5-T	1.50	Spike	P	0 - 30
2251243	Acetaminophen	9.36	Spike	P	0 - 30
2251243	Acetamiprid	8.91	Spike	P	0 - 30
2251243	Afidopyropen	15.1	Spike	P	0 - 30
2251243	Bentazon	8.47	Spike	P	0 - 30
2251243	Benzovindiflupyr	1.20	Spike	P	0 - 30
2251243	Carbamazepine	0.696	Spike	P	0 - 30
2251243	Clothianidin	7.13	Spike	P	0 - 30
2251243	Dinotefuran	7.30	Spike	P	0 - 30
2251243	Diuron	5.56	Spike	P	0 - 30
2251243	Fenuron	2.56	Spike	P	0 - 30
2251243	Fluridone	5.29	Spike	P	0 - 30
2251243	Hydrocodone	5.95	Spike	P	0 - 30
2251243	Ibuprofen	1.86	Spike	P	0 - 30
2251243	Imazapyr	7.71	Spike	P	0 - 30
2251243	Imidacloprid	12.1	Spike	P	0 - 30
2251243	Linuron	6.44	Spike	P	0 - 30
2251243	Mandestrobin	3.39	Spike	P	0 - 30
2251243	MCPP	1.91	Spike	P	0 - 30
2251243	Naproxen	29.7	Spike	P	0 - 30
2251243	Primidone	21.9	Spike	P	0 - 30
2251243	Pyraclostrobin	2.81	Spike	P	0 - 30
2251243	Thiamethoxam	12.3	Spike	P	0 - 30
2251243	Tolfenpyrad	5.84	Spike	P	0 - 30
2251243	Triclopyr	5.64	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P399276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251952	Acesulfame K	7.77	Spike	P	0 - 30
2251952	AMPA	2.10	Spike	P	0 - 30
2251952	Endothall	3.74	Spike	P	0 - 30
2251952	Glufosinate	2.06	Spike	P	0 - 30
2251952	Glyphosate	3.11	Spike	P	0 - 30
2251952	Sucralose	4.32	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
Batch ID: P399179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251977	Color (true)	0.343	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P399338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251710	Total Alkalinity	1.18	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P399751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251978	TDS	3.57	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P399342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251710	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P399730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2251927	Organic Carbon	0.0454	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2252027
Field Sample ID: G1SD0076

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	62.4	P	29 - 92.0
EPA 8276	PCNB	69.6	P	43 - 134

Lab Sample ID: 2252030
Field Sample ID: G1SD0050

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.9	P	30 - 160
EPA 8321B	Diuron-d6	58.9	P	30 - 160
EPA 8321B	Endothall-d6	43.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	118	P	30 - 160
EPA 8321B	Ibuprofen-d3	65.9	P	30 - 160
EPA 8321B	Primidone-d5	81.4	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A105855

Included Lab Sample IDs: 2252013, 2252016

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.7	98.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A105856

Included Lab Sample IDs: 2252011, 2252014

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.0	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A105857

Included Lab Sample IDs: 2252011, 2252014

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105912

Included Lab Sample IDs: 2252012, 2252015

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

Reference Method: EPA 8321B

Run ID: A105919

Included Lab Sample IDs: 2252030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	146	120	P/P	60 - 160
Endothall	105	90.1	P/P	60 - 160
Sucralose	112	123	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A105927

Included Lab Sample IDs: 2252030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	104	107	P/P	60 - 160
Glufosinate	96.4	116	P/P	60 - 160
Glyphosate	104	117	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A105930

Included Lab Sample IDs: 2252011, 2252014

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.7	96.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A105930

Included Lab Sample IDs: 2252011, 2252014

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105954

Included Lab Sample IDs: 2252012, 2252015

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A105956

Included Lab Sample IDs: 2252011, 2252014

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	99.6	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105961

Included Lab Sample IDs: 2252012, 2252015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105971

Included Lab Sample IDs: 2252012, 2252015

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	93.0	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A106022

Included Lab Sample IDs: 2252027

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.4		P	80 - 120
Toxaphene	106		P	80 - 120

Reference Method: EPA 8321B

Run ID: A106040

Included Lab Sample IDs: 2252030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	82.9	98.7	P/P	50 - 150
2,4,5-T	119	115	P/P	50 - 150
Acetaminophen	91.7	92.3	P/P	60 - 160
Acetamiprid	105	107	P/P	50 - 150
Afidopyropen	122	81.5	P/P	50 - 150
Benzovindiflupyr	109	113	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106040
Included Lab Sample IDs: 2252030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carbamazepine	108	109	P/P	60 - 150
Clothianidin	99.7	103	P/P	60 - 150
Dinotefuran	97.6	102	P/P	50 - 150
Diuron	101	112	P/P	60 - 160
Fenuron	91.3	92.4	P/P	60 - 150
Fluridone	106	103	P/P	60 - 160
Hydrocodone	94.2	93.8	P/P	60 - 150
Ibuprofen	95.4	87.1	P/P	50 - 160
Imazapyr	123	113	P/P	50 - 150
Imidacloprid	91.3	93.8	P/P	60 - 150
Linuron	95.6	99.6	P/P	60 - 150
Mandestrobin	96.7	104	P/P	50 - 150
MCPP	121	126	P/P	50 - 150
Naproxen	102	111	P/P	50 - 160
Primidone	113	105	P/P	60 - 150
Pyraclostrobin	107	104	P/P	60 - 150
Thiamethoxam	99.3	99.0	P/P	50 - 150
Tolfenpyrad	97.9	100	P/P	60 - 150
Triclopyr	103	115	P/P	50 - 150

Reference Method: SM 5310 B-2011
Run ID: A106083
Included Lab Sample IDs: 2252012, 2252015

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

Reference Method: EPA 8321B
Run ID: A106199
Included Lab Sample IDs: 2252030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	89.2	106	P/P	50 - 160

* 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						1.00	
EPA 300.0 Rev. 2.1	Chloride	98.1		96.5	94.0		1.35	
	Sulfate	98.1		96.5			1.71	
EPA 350.1 Rev. 2.0	Ammonia-N	100		100	100			0.0
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.8						4.19
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102		100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	100		105	104			0.609
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0		99.4	101			1.20
EPA 8276	Chlordane	82.9	81.1	83.6	92.9	2.29		10.6
	Toxaphene	101	98.7	103	117	2.31		12.2
EPA 8321B	2,4-D	97.1		128	122			4.60
	2,4,5-T	103		107	105			1.50
	Acesulfame K	76.3		88.6	95.7			7.77
	Acetaminophen	62.1		81.9	89.9			9.36
	Acetamiprid	88.6		94.5	103			8.91
	Afidopyropen	80.4		79.5	92.5			15.1
	AMPA	96.4		104	106			2.10
	Bentazon	110		102	94.0			8.47
	Benzovindiflupyr	96.8		97.1	98.2			1.20
	Carbamazepine	91.1		102	103			0.696
	Clothianidin	76.1		90.4	97.1			7.13
	Dinotefuran	71.4		85.7	92.2			7.30
	Diuron	88.2		75.4	79.8			5.56
	Endothall	88.4		113	118			3.74
	Fenuron	103		104	102			2.56
	Fluridone	89.3		80.8	85.2			5.29
	Glufosinate	102		113	116			2.06
	Glyphosate	108		118	121			3.11
	Hydrocodone	78.7		94.3	88.8			5.95
	Ibuprofen	82.6		80.6	79.1			1.86
	Imazapyr	97.3		103	117			7.71
	Imidacloprid	78.0		116	130			12.1
	Linuron	81.4		79.9	74.9			6.44
	Mandestrobin	99.1		95.5	98.8			3.39
	MCPP	105		119	121			1.91
	Naproxen	84.6		78.9	106			29.7
	Primidone	95.2		99.4	124			21.9
	Pyraclostrobin	90.2		96.1	98.9			2.81
	Sucralose	93.9		94.9	99.9			4.32
	Thiamethoxam	82.0		108	122			12.3
	Tolfenpyrad	57.3		59.9	56.5			5.84
	Triclopyr	96.0		113	119			5.64
SM 2120 B-2011	Color (true)	101					0.343	
SM 2320 B-2011	Total Alkalinity	98.1					1.18	
SM 2540 C-2011	TDS						3.57	
SM 4500 F-C-2011	Fluoride	99.5		98.8	98.8			0.0
SM 5310 B-2011	Organic Carbon	99.9		98.6	98.7			0.0454

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2252011, 2252014
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2252011, 2252014

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2252011, 2252014
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2252012, 2252015
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2252012, 2252015
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2252012, 2252015
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2252012, 2252015
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2252013, 2252016
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2252027
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2252030
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2252011, 2252014
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2252011, 2252014
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2252011, 2252014
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2252011, 2252014
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2252011, 2252014
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2252012, 2252015

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	06/03/2021			06/03/2021 15:20	Yen Ta	2252011, 2252014
EPA 300.0 Rev. 2.1	06/03/2021			06/10/2021 02:35	Lipi Saha	2252011
	06/03/2021			06/10/2021 02:47	Lipi Saha	2252014
EPA 350.1 Rev. 2.0	06/03/2021			06/08/2021 13:28	Ping Hua	2252012
	06/03/2021			06/08/2021 13:30	Ping Hua	2252015
EPA 351.2 Rev. 2.0	06/03/2021	06/07/2021 13:44	Benjamin T. Nordmann	06/09/2021 14:35	Virginia P. Brown	2252012
	06/03/2021	06/07/2021 13:44	Benjamin T. Nordmann	06/09/2021 14:36	Virginia P. Brown	2252015
EPA 353.2 Rev. 2.0	06/03/2021			06/07/2021 10:35	Beverly Y. Sanders	2252012
	06/03/2021			06/07/2021 10:36	Beverly Y. Sanders	2252015
EPA 365.1 Rev. 2.0	06/03/2021	06/07/2021 13:53	Yen Ta	06/07/2021 16:42	Shengyu Ding	2252012
	06/03/2021	06/07/2021 13:53	Yen Ta	06/07/2021 16:45	Shengyu Ding	2252015
EPA 365.1 Rev. 2.0 dissolved	06/03/2021			06/03/2021 15:03	Blanca Fach	2252013
	06/03/2021			06/03/2021 15:04	Blanca Fach	2252016
EPA 8276	06/03/2021	06/07/2021 08:00	Rasheda Ghaffari	06/11/2021 02:22	Chiran X. Ghimire	2252027
EPA 8321B	06/03/2021	06/07/2021 08:00	Pramila Ghimire	06/07/2021 12:47	Juyoung Kim	2252030
	06/03/2021	06/07/2021 08:00	Pramila Ghimire	06/07/2021 13:38	Pramila Ghimire	2252030
	06/03/2021	06/07/2021 09:00	Hoor Shaik	06/12/2021 06:25	Juyoung Kim	2252030
	06/03/2021	06/07/2021 09:00	Hoor Shaik	06/19/2021 19:04	Juyoung Kim	2252030
SM 2120 B-2011	06/03/2021			06/03/2021 15:51	Sarah A Nixon	2252011, 2252014
SM 2320 B-2011	06/03/2021			06/08/2021 01:28	Dale L. Simmons	2252011
	06/03/2021			06/08/2021 01:44	Dale L. Simmons	2252014
SM 2540 C-2011	06/03/2021			06/08/2021 14:56	Yijie Li	2252011, 2252014
SM 2540 D-2011	06/03/2021			06/08/2021 14:56	Yijie Li	2252011, 2252014
SM 4500 F-C-2011	06/03/2021			06/08/2021 01:28	Dale L. Simmons	2252011
	06/03/2021			06/08/2021 01:44	Dale L. Simmons	2252014
SM 5310 B-2011	06/03/2021			06/15/2021 06:57	Madeline Gruver	2252012
	06/03/2021			06/15/2021 07:12	Madeline Gruver	2252015