

Chemical Analysis Report

SO-DIST-2023-03-15-02

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

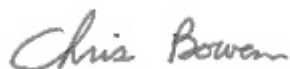
Event Description: **2023 SMP : Lee Branch**
Request ID: **RQ-2023-03-06-32**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: William Mullen

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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 04-APR-2023 12:29



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: LeeBranchAtRailroad

Collection Date/Time: 03/14/2023 08:40

Field ID: G3SD0212

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2393982	EPA 180.1 Rev. 2.0	Turbidity	8.1		NTU	P427201	
	SM 2320 B-2011	Total Alkalinity	116		mg CaCO3/L	P427349	RPD
	SM 2540 D-2015	TSS	6	I	mg/L	P427538	
	SM 4500-F- C-2011	Fluoride	0.64		mg F/L	P427356	
2393983	EPA 350.1 Rev. 2.0	Ammonia-N	0.084		mg N/L	P427758	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P427434	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.063		mg N/L	P427699	
	EPA 365.1 Rev. 2.0	Total-P	0.51		mg P/L	P427301	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P427625	
2393990	EPA 8321B	Acesulfame K	0.12	I	ug/L	P427212	
		2,4-D	0.0020	U	ug/L	P427187	
		AMPA	1.0	U	ug/L	P427212	
		2,4,5-T	0.0040	U	ug/L	P427187	
		Acetaminophen	0.0080	U	ug/L	P427187	
		Endothall	0.25	U	ug/L	P427212	
		Acetamiprid	0.0020	U	ug/L	P427187	
		Glufosinate	1.0	U	ug/L	P427212	
		Glyphosate	1.0	U	ug/L	P427212	
		Afidopyropen	0.0020	U	ug/L	P427187	
		Sucralose	0.44		ug/L	P427212	
		Bentazon	0.0016	I	ug/L	P427187	
		Benzovindiflupyr	0.0020	U	ug/L	P427187	
		Carbamazepine	0.0015	I	ug/L	P427187	
		Clothianidin	0.0020	I	ug/L	P427187	
		Dinotefuran	0.0020	U	ug/L	P427187	
		Diuron	0.0020	U	ug/L	P427187	
		Fenuron	0.032	U	ug/L	P427187	
		Fluridone	8.0E-04	U	ug/L	P427187	
		Imazapyr	0.020		ug/L	P427187	
		Hydrocodone	0.0020	U	ug/L	P427187	
		Ibuprofen	0.080	U	ug/L	P427187	
		Imidacloprid	0.0058	I	ug/L	P427187	
		Linuron	0.0040	U	ug/L	P427187	
		Mandestrobin	0.0020	U	ug/L	P427187	
		MCPP	0.0020	U	ug/L	P427187	
		Naproxen	0.0080	U	ug/L	P427187	
		Primidone	0.0040	U	ug/L	P427187	
		Pyraclostrobin	0.0020	U	ug/L	P427187	
		Silvex	0.0040	U	ug/L	P427187	
		Thiamethoxam	0.0039	I	ug/L	P427187	
		Tolfenpyrad	0.0020	U	ug/L	P427187	
		Triclopyr	0.0040	U	ug/L	P427187	

Ref. Method and Comment:

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

EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427201

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427758

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427434

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427699

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427301

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

Reference Method: EPA 8321B
Batch ID: P427187

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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P427187

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	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: P427212

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 2320 B-2011

Batch ID: P427349

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

Reference Method: SM 2540 D-2015

Batch ID: P427538

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P427356

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P427625

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427201

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427758

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427434

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427699

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427301

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

Reference Method: EPA 8321B
Batch ID: P427187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	99.8		P	40 - 150
2,4,5-T	105		P	40 - 150
Acetaminophen	93.7		P	30 - 150
Acetamiprid	86.9		P	40 - 150
Afidopyropen	69.4		P	30 - 150
Bentazon	93.1		P	30 - 150
Benzovindiflupyr	83.3		P	40 - 150
Carbamazepine	92.9		P	40 - 150
Clothianidin	92.9		P	40 - 150
Dinotefuran	97.3		P	40 - 150
Diuron	81.1		P	40 - 150
Fenuron	91.2		P	40 - 150
Fluridone	73.4		P	40 - 150
Hydrocodone	99.7		P	40 - 150
Ibuprofen	72.1		P	40 - 150
Imazapyr	95.8		P	40 - 150
Imidacloprid	86.2		P	40 - 150
Linuron	75.5		P	40 - 150
Mandestrobin	85.9		P	40 - 150
MCPP	104		P	40 - 150
Naproxen	97.3		P	40 - 150
Primidone	83.1		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P427187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	74.4		P	40 - 150
Silvex	99.0		P	40 - 150
Thiamethoxam	92.8		P	40 - 150
Tolfenpyrad	49.7		P	30 - 150
Triclopyr	92.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P427212

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	96.8		P	40 - 150
AMPA	136		P	40 - 150
Endothall	96.2		P	40 - 150
Glufosinate	98.1		P	40 - 150
Glyphosate	126		P	40 - 150
Sucralose	99.9		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P427349

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.8		P	94 - 106

Reference Method: SM 2540 D-2015
Batch ID: P427538

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	97.9		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P427356

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P427625

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P427758

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2395976	Ammonia-N	101	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P427434

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2394011	Kjeldahl Nitrogen	97.4	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P427699

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393782	NO2NO3-N	99.6	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P427301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393952	Total-P	97.1	96.8	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P427187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393469	2,4-D	108	107	P/P	40 - 150
2393469	2,4,5-T	103	114	P/P	40 - 150
2393469	Acetaminophen	96.7	90.7	P/P	30 - 150
2393469	Acetamiprid	75.5	80.2	P/P	40 - 150
2393469	Afidopyropen	71.6	62.4	P/P	30 - 150
2393469	Bentazon	60.8	66.5	P/P	30 - 150
2393469	Benzovindiflupyr	78.7	82.1	P/P	40 - 150
2393469	Carbamazepine	69.7	75.9	P/P	40 - 150
2393469	Clothianidin	106	103	P/P	40 - 150
2393469	Dinotefuran	99.2	99.0	P/P	40 - 150
2393469	Diuron	62.2	67.5	P/P	40 - 150
2393469	Fenuron	68.6	71.9	P/P	40 - 150
2393469	Fluridone	76.8	62.8	P/P	40 - 150
2393469	Hydrocodone	95.2	95.3	P/P	40 - 150
2393469	Ibuprofen	60.7	72.3	P/P	40 - 150
2393469	Imazapyr	121	102	P/P	40 - 150
2393469	Imidacloprid	138	136	P/P	40 - 150
2393469	Linuron	77.1	71.5	P/P	40 - 150
2393469	Mandestrobin	84.4	85.2	P/P	40 - 150
2393469	MCP	115	116	P/P	40 - 150
2393469	Naproxen	74.3	59.0	P/P	40 - 150
2393469	Primidone	96.6	93.5	P/P	40 - 150
2393469	Pyraclostrobin	77.9	76.0	P/P	40 - 150
2393469	Silvex	122	108	P/P	40 - 150
2393469	Thiamethoxam	111	113	P/P	40 - 150
2393469	Tolfenpyrad	49.7	51.9	P/P	30 - 150
2393469	Triclopyr	111	111	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P427212

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393680	Acesulfame K	101	99.4	P/P	40 - 150
2393680	AMPA	89.6	83.5	P/P	40 - 150
2393680	Endothall	100	98.2	P/P	40 - 150
2393680	Glufosinate	72.6	71.3	P/P	40 - 150
2393680	Glyphosate	119	105	P/P	40 - 150
2393680	Sucralose	90.6	95.2	P/P	40 - 150

Reference Method: SM 5310 B-2011
Batch ID: P427625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393846	Organic Carbon	94.0	94.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393841	Turbidity	15.8	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427758

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2395976	Ammonia-N	1.89	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2394011	Kjeldahl Nitrogen	3.06	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427699

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393782	NO2NO3-N	0.482	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393952	Total-P	0.313	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P427187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393469	2,4-D	0.488	Spike	P	0 - 30
2393469	2,4,5-T	10.2	Spike	P	0 - 30
2393469	Acetaminophen	6.42	Spike	P	0 - 30
2393469	Acetamiprid	6.01	Spike	P	0 - 30
2393469	Afidopyropen	13.7	Spike	P	0 - 30
2393469	Bentazon	6.82	Spike	P	0 - 30
2393469	Benzovindiflupyr	4.17	Spike	P	0 - 30
2393469	Carbamazepine	8.42	Spike	P	0 - 30
2393469	Clothianidin	2.82	Spike	P	0 - 30
2393469	Dinotefuran	0.222	Spike	P	0 - 30
2393469	Diuron	8.15	Spike	P	0 - 30
2393469	Fenuron	4.69	Spike	P	0 - 30
2393469	Fluridone	8.41	Spike	P	0 - 30
2393469	Hydrocodone	0.133	Spike	P	0 - 30
2393469	Ibuprofen	17.4	Spike	P	0 - 30
2393469	Imazapyr	10.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P427187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393469	Imidacloprid	0.901	Spike	P	0 - 30
2393469	Linuron	7.52	Spike	P	0 - 30
2393469	Mandestrobin	0.856	Spike	P	0 - 30
2393469	MCP	0.873	Spike	P	0 - 30
2393469	Naproxen	22.8	Spike	P	0 - 30
2393469	Primidone	3.25	Spike	P	0 - 30
2393469	Pyraclostrobin	2.50	Spike	P	0 - 30
2393469	Silvex	11.6	Spike	P	0 - 30
2393469	Thiamethoxam	1.74	Spike	P	0 - 30
2393469	Tolfenpyrad	4.22	Spike	P	0 - 30
2393469	Triclopyr	0.274	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P427212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393680	Acesulfame K	1.54	Spike	P	0 - 30
2393680	AMPA	7.08	Spike	P	0 - 30
2393680	Endothall	1.89	Spike	P	0 - 30
2393680	Glufosinate	1.80	Spike	P	0 - 30
2393680	Glyphosate	11.5	Spike	P	0 - 30
2393680	Sucralose	3.61	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P427349

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2394010	Total Alkalinity	3.92	Sample	F	0 - 3.8

Reference Method: SM 2540 D-2015
Batch ID: P427538

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393842	TSS	3.43	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P427356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2394010	Fluoride	0.989	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P427625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393846	Organic Carbon	0.266	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2393990
Field Sample ID: G3SD0212

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	104	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	69.1	P	30 - 160
EPA 8321B	Diuron-d6	54.6	P	30 - 160
EPA 8321B	Endothall-d6	83.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	51.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.7	P	30 - 160
EPA 8321B	Primidone-d5	86.1	P	30 - 160
EPA 8321B	Sucralose-d6	99.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118016

Included Lab Sample IDs: 2393982

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118068

Included Lab Sample IDs: 2393983

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

Reference Method: EPA 8321B

Run ID: A118070

Included Lab Sample IDs: 2393990

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	106	105	P/P	60 - 160
Endothall	100	99.4	P/P	60 - 160
Glufosinate	93.2		P	60 - 160
Glyphosate	99.6	83.9	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A118077

Included Lab Sample IDs: 2393982

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.1	94.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118077

Included Lab Sample IDs: 2393982

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	104	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118158

Included Lab Sample IDs: 2393983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.8	98.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118179

Included Lab Sample IDs: 2393983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	96.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118209

Included Lab Sample IDs: 2393983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118236

Included Lab Sample IDs: 2393983

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.2	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A118309

Included Lab Sample IDs: 2393990

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.2	96.9	P/P	50 - 150
2,4,5-T	101	101	P/P	50 - 150
Acetaminophen	96.3	96.6	P/P	60 - 160
Acetamiprid	107	115	P/P	50 - 150
Afidopyropen	91.3	86.1	P/P	50 - 150
Bentazon	108	118	P/P	50 - 160
Benzovindiflupyr	103	107	P/P	50 - 150
Carbamazepine	105	113	P/P	60 - 150
Clothianidin	107	105	P/P	60 - 150
Dinotefuran	107	112	P/P	50 - 150
Diuron	104	117	P/P	60 - 160
Fenuron	104	107	P/P	60 - 150
Fluridone	92.4	88.8	P/P	60 - 160
Hydrocodone	118	115	P/P	60 - 150
Ibuprofen	89.0	91.2	P/P	50 - 160
Imazapyr	103	101	P/P	50 - 150
Imidacloprid	94.7	99.9	P/P	60 - 150
Linuron	122	92.1	P/P	60 - 150
Mandestrobin	107	98.8	P/P	50 - 150
MCPP	106	103	P/P	50 - 150
Naproxen	117	81.1	P/P	50 - 160
Primidone	104	92.7	P/P	60 - 150
Pyraclostrobin	103	106	P/P	60 - 150
Silvex	92.4	80.0	P/P	50 - 150
Thiamethoxam	112	119	P/P	50 - 150
Tolfenpyrad	105	104	P/P	60 - 150
Triclopyr	97.5	122	P/P	50 - 150

* 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	100				15.8	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	101	104			1.89
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	97.4	101			3.06
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103	99.6	99.2			0.482
EPA 365.1 Rev. 2.0	Total-P	101	97.1	96.8			0.313
EPA 8321B	2,4-D	99.8	107	108			0.488
	2,4,5-T	105	114	103			10.2
	Acesulfame K	96.8	101	99.4			1.54
	Acetaminophen	93.7	90.7	96.7			6.42
	Acetamiprid	86.9	80.2	75.5			6.01
	Afidopyropen	69.4	62.4	71.6			13.7
	AMPA	136	89.6	83.5			7.08
	Bentazon	93.1	66.5	60.8			6.82
	Benzovindiflupyr	83.3	82.1	78.7			4.17
	Carbamazepine	92.9	75.9	69.7			8.42
	Clothianidin	92.9	103	106			2.82
	Dinotefuran	97.3	99.0	99.2			0.222
	Diuron	81.1	67.5	62.2			8.15
	Endothall	96.2	100	98.2			1.89
	Fenuron	91.2	71.9	68.6			4.69
	Fluridone	73.4	62.8	76.8			8.41
	Glufosinate	98.1	72.6	71.3			1.80
	Glyphosate	126	119	105			11.5
	Hydrocodone	99.7	95.3	95.2			0.133
	Ibuprofen	72.1	60.7	72.3			17.4
	Imazapyr	95.8	102	121			10.7
	Imidacloprid	86.2	136	138			0.901
	Linuron	75.5	71.5	77.1			7.52
	Mandestrobin	85.9	85.2	84.4			0.856
	MCPP	104	116	115			0.873
	Naproxen	97.3	59.0	74.3			22.8
	Primidone	83.1	93.5	96.6			3.25
	Pyraclostrobin	74.4	76.0	77.9			2.50
	Silvex	99.0	108	122			11.6
	Sucralose	99.9	90.6	95.2			3.61
	Thiamethoxam	92.8	113	111			1.74
	Tolfenpyrad	49.7	51.9	49.7			4.22
	Triclopyr	92.6	111	111			0.274
SM 2320 B-2011	Total Alkalinity	95.8				3.92	
SM 2540 D-2015	TSS	97.9				3.43	
SM 4500-F- C-2011	Fluoride	103					0.989
SM 5310 B-2011	Organic Carbon	94.8	94.0	94.3			0.266

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2393982
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2393983
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2393983
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2393983
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2393983
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2393990
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2393982

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2393982
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2393982
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2393983

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	03/15/2023			03/15/2023 16:12	Anna M. Plaviak	2393982
EPA 350.1 Rev. 2.0	03/15/2023			03/28/2023 11:44	Khloe J Berg	2393983
EPA 351.2 Rev. 2.0	03/15/2023	03/22/2023 10:42	Simonne.V. Calhoun	03/23/2023 11:48	Judith K. Clark	2393983
EPA 353.2 Rev. 2.0	03/15/2023			03/27/2023 11:43	Beverly Y. Sanders	2393983
EPA 365.1 Rev. 2.0	03/15/2023	03/17/2023 15:18	Adam P Silver	03/17/2023 18:25	James L Waggeberby	2393983
EPA 8321B	03/15/2023	03/16/2023 09:00	Hoor Shaik	03/29/2023 23:12	Juyoung Kim	2393990
	03/15/2023	03/17/2023 07:21	Manjita Shrestha	03/17/2023 19:16	Manjita Shrestha	2393990
	03/15/2023	03/17/2023 07:21	Manjita Shrestha	03/17/2023 22:46	Manjita Shrestha	2393990
	03/15/2023	03/17/2023 07:21	Manjita Shrestha	03/18/2023 15:01	Manjita Shrestha	2393990
SM 2320 B-2011	03/15/2023			03/18/2023 12:46	Dale L. Simmons	2393982
SM 2540 D-2015	03/15/2023			03/17/2023 15:51	Yijie Li	2393982
SM 4500-F- C-2011	03/15/2023			03/18/2023 12:46	Dale L. Simmons	2393982
SM 5310 B-2011	03/15/2023			03/23/2023 20:45	Elise M. Gillis	2393983